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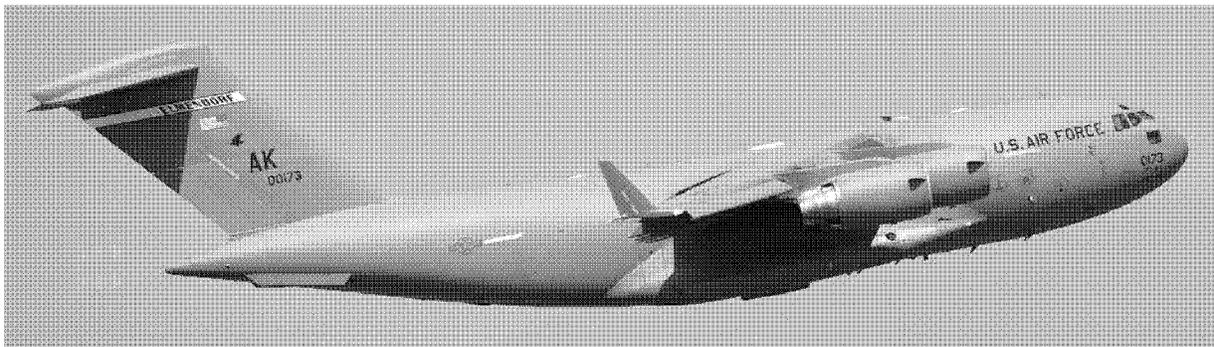
**UNITED STATES AIR FORCE**  
**AIRCRAFT ACCIDENT INVESTIGATION**  
**BOARD REPORT**



**C-17A, T/N 00-0173**

**3<sup>RD</sup> WING**

**JOINT BASE ELMENDORF-RICHARDSON, ALASKA**



**LOCATION: JOINT BASE ELMENDORF-RICHARDSON,  
ALASKA**

**DATE OF ACCIDENT: 28 JULY 2010**

**BOARD PRESIDENT: BRIG GEN CARLTON D. EVERHART II  
CONDUCTED IAW AIR FORCE INSTRUCTION 51-503**

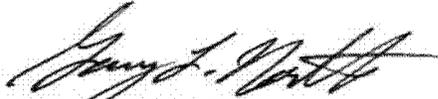


DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES

NOV 22 2010

ACTION OF THE CONVENING AUTHORITY

The report of the accident investigation board, conducted under the provisions of AFI 51-503, *Aerospace Accident Investigations*, that investigated the 28 July 2010 mishap at Joint Base Elmendorf-Richardson, Alaska, involving C-17A, T/N 00-0173, assigned to the 3rd Wing, JBER, complies with applicable regulatory and statutory guidance. Accordingly, the report is approved.

  
GARY L. NORTH  
General, USAF  
Commander

## **EXECUTIVE SUMMARY**

### **AIRCRAFT ACCIDENT INVESTIGATION**

**C-17A, T/N 00-0173**

**JOINT BASE ELMENDORF-RICHARDSON, ALASKA**

**28 JULY 2010**

On 28 July 2010, at approximately 1822 hours local time (L), a C-17A, Tail Number 00-0173, executed a takeoff from Runway 06 to practice maneuvers for the upcoming 31 Jul 10 Arctic Thunder Airshow at Joint Base Elmendorf-Richardson. After the initial climbout and left turn, the mishap pilot executed an aggressive right turn. As the aircraft banked, the stall warning system activated to alert the crew of an impending stall. Instead of implementing stall recovery procedures, the pilot continued the turn as planned, and the aircraft entered a stall from which recovery was not possible. Although the pilot eventually attempted to recover the aircraft, he employed incorrect procedures, and there was not sufficient altitude to regain controlled flight. The aircraft impacted wooded terrain northwest of the airfield, damaged a portion of the Alaskan Railroad, and was destroyed.

The mishap aircraft was assigned to the 3rd Wing based at Joint Base Elmendorf-Richardson, Alaska. The mishap crew was an integrated crew with members from both the 249th and 517th Airlift Squadrons. The mishap crew consisted of the mishap pilot, the mishap copilot, the mishap safety observer and the mishap loadmaster. All four aircrew members died instantly. The mishap aircraft was valued at \$184,570,581. The impact also damaged Alaskan Railroad train tracks that transect the base. There were no civilian casualties.

The board president found clear and convincing evidence that the cause of the mishap was pilot error. The mishap pilot violated regulatory provisions and multiple flight manual procedures, placing the aircraft outside established flight parameters at an attitude and altitude where recovery was not possible. Furthermore, the mishap copilot and mishap safety observer did not realize the developing dangerous situation and failed to make appropriate inputs. In addition to multiple procedural errors, the board president found sufficient evidence that the crew on the flight deck ignored cautions and warnings and failed to respond to various challenge and reply items. The board also found channelized attention, overconfidence, expectancy, misplaced motivation, procedural guidance, and program oversight substantially contributed to the mishap.

**Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.**

**SUMMARY OF FACTS AND STATEMENT OF OPINION**  
**C-17A, T/N 00-0173**  
**28 JULY 2010**

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## COMMONLY USED ACRONYMS AND ABBREVIATIONS

3 WG	3rd Wing	ERCC	Engine Running Crew Change
623	Air Force Form 623, On-the-Job Training Record	FAR	Federal Aviation Regulation
797	Air Force Form 797, Job Qualification Standard Continuation	FCC	Flight Control Computer
A1	Alpha One	FDP	Flight Duty Period
ADC	Air Data Computer	FDR	Flight Data Recorder
AETC	Air Education and Training Command	FEF	Flight Evaluation Folder
AF	Air Force	FS	Flight Surgeon
AFB	Air Force Base	FTU	Flying Training Unit
AFH	Air Force Handbook	G	Force of Gravity
AFI	Air Force Instruction	GO81	CAMS For Mobility
AFIP	Air Force Institute of Pathology	GRIP	Global Reach Improvement Plan
AFPAM	Air Force Pamphlet	HSC	Home Station Check
AFPET	Air Force Petroleum Office	HUD	Heads up Display
AFTO	Air Force Technical Order	IAW	In Accordance With
AFTTP	Air Force Tactics, Techniques and Procedures	IFE	In-Flight Emergency
AGL	Above Ground Level	IMDS	Integrated Maintenance Data System
AGE	Aerospace Ground Equipment	IP	Instructor Pilot
AIB	Aircraft Investigation Board	JBER	Joint Base Elmendorf-Richardson
AK	Alaska	K	Thousand
ALS	Angle of Attack Limiter System	kts	Knots
AMU	Aircraft Maintenance Unit	L	Local
AMXS	Aircraft Maintenance Squadron	LACM	Left Additional Crewmember
ANG	Air National Guard	Lt Col	Lieutenant Colonel
AOA	Angle of Attack	MA	Mishap Aircraft
APDMC	Air Propulsion Data Management Computer	Maj	Major
AS	Airlift Squadron	MAJCOM	Major Command
ATC	Air Traffic Controller	MC	Mishap Crew
AUX	Auxiliary	MCP	Mishap Co-Pilot
AWACS	Airborne Warning and Control System	MDG	Medical Group
BETTY	Computer Generated Voice	MISCAP	Mission Capability
C2	Command and Control	MLM	Mishap Loadmaster
CAMS	Computer Automated Maintenance System	MOC	Maintenance Operations Center
Capt	Captain	MP	Mishap Pilot
CIP	Core Integrated Processor	MS	Mishap Sortie
CMSgt	Chief Master Sergeant	MSL	Mean Sea Level
Col	Colonel	MSO	Mishap Safety Officer
COMMS	Communications	MXG	Maintenance Group
CRACM	Crew Rest Additional Crew Member	NCO	Noncommissioned Officer
CVR	Cockpit Voice Recorder	NCOIC	Noncommissioned Officer in Charge
Dash-1	A.F.T.O. 1C-17A-1 Flight Manual	NM	Nautical Miles
DO	Director of Operations	NOTAMS	Notices to Airmen
DoD	Department of Defense	OG	Operations Group
DSN	Defense Switch Network	OH	Ohio
EDP	Engine Driven Hydraulic Pump	“On Speed”	At a certain speed
EP	Emergency Procedures	OPR	Officer Performance Report
EPE	Emergency Procedures Evaluation	Ops Tempo	Operations Tempo
EPR	Engine Pressure Ratio	ORM	Operational Risk Management
ER	Exceptional Release	P&W	Pratt & Whitney
		PA	Public Affairs
		PACAF	Pacific Air Forces
		PACOM	Pacific Command
		PCS	Permanent Change of Station

PF	Pilot Flying	SOF	Supervisor of Flying
PHA	Physical Health Assessment	Sortie	Flight
PIT	Pilot Instructor Training	STAN EVAL	Standardization and Evaluation
PM	Pilot Monitoring	TACAN	Tactical Air Navigation
PR	Preflight Inspection	TCTO	Time Compliance Technical Order
PRO SUPER	Production Supervisor	TDY	Temporary Duty
PSI	Pounds Per Square Inch	Tech School	Technical School
PT	Physical Training	TFI	Total Force Integration
QA	Quality Assurance	TH	Thru-Flight
QC	Quality Check	T/N	Tail Number
QUAL	Qualification	TO	Technical Order
RACM	Right Additional Crewmember	TMS	Training Management System
RAP	Ready Aircrew Program	TSgt	Technical Sergeant
RED X	Safety of Flight	U.S.	United States
RPM	Revolutions per Minute	USAF	United States Air Force
SAR	Search and Rescue	VFR	Visual Flight Rules
SCEFC	Spoiler Controller/Electronic Flap Computer	V <sub>mco</sub>	Minimum Climbout Speed
SEFE	Standardization Evaluation Flight Examiner	V <sub>mfr</sub>	Minimum Flap Retract Speed
SFDR	Standard Flight Data Recorder	V <sub>msr</sub>	Minimum Slat Retract Speed
SIM	Simulator	Vol.	Volume
S/N	Serial Number	WCC	Warning & Caution Computer
		Z	Zulu or Greenwich Mean Time

The above list was compiled from the Summary of Facts, the Statement of Opinion, the Index of Tabs, and Witness Testimony (Tab V).

## SUMMARY OF FACTS

### 1. AUTHORITY AND PURPOSE

#### a. Authority

On 4 August 2010, General Gary L. North, Commander, Pacific Air Forces (PACAF), appointed Brigadier General Carlton D. Everhart II, to conduct an aircraft accident investigation of a mishap that occurred on 28 July 2010, involving a C-17A Globemaster III aircraft, tail number (T/N) 00-0173, at Joint Base Elmendorf-Richardson (JBER), Alaska (AK). The investigation was conducted at JBER, from 28 August 2010 through 27 September 2010. Technical advisors were [AIB Pilot Member], [AIB Maintenance Officer Member], [AIB Legal Advisor], [AIB Medical Advisor], [AIB Maintenance Enlisted Member], [AIB Recorder], and [AIB Court Reporter]. (Tab Y)

#### b. Purpose

This is a legal investigation convened to inquire into the facts surrounding the aircraft or aerospace accident, to prepare a publicly-releasable report, and to gather and preserve all available evidence for use in litigation, claims, disciplinary actions, administrative proceedings, and for other purposes.

### 2. ACCIDENT SUMMARY

At 1822 hours local time (L), 28 July 2010, the mishap aircraft (MA), a C-17A, T/N 00-0173, departed JBER to practice for the upcoming Arctic Thunder Airshow. The mishap crew (MC) consisted of the mishap pilot (MP), the mishap copilot (MCP), the mishap safety officer (MSO), and the mishap loadmaster (MLM). The MP performed a maximum power takeoff at 40 degrees nose high attitude. The MA leveled off at approximately 850 feet above ground level (AGL). The MP then executed a left-hand 80-degree turn, continued outbound for seven seconds, and then initiated a right 260-degree reversal turn. Five seconds into the right turn, the stall warning system activated. As the MP continued the maneuver, the MA's bank angle increased to 62 degrees. The MP utilized full right rudder and pulled the control stick aft, which stalled the aircraft. The aircraft ultimately reached a bank angle of 82 degrees and a descent rate of 9,000 feet per minute. The MA impacted wooded terrain northwest of the airfield and was destroyed. Additional damage occurred to Alaskan Railroad train tracks. The MA was valued at \$184,570,581. All four aircrew members died instantly. There were no civilian casualties.

### 3. BACKGROUND

The MA belonged to the 3rd Wing at JBER. It was operated by both the 517th Airlift Squadron (AS) and the Alaska Air National Guard (AK ANG) squadron, the 249th AS. The mishap crew (MC) included three Air National Guard (ANG) members, the MP, MLM, and

MSO, and one active duty member, the MCP. The MA took off from the JBER airfield and impacted approximately two miles north of the runway.

#### **a. Pacific Air Forces**

Pacific Air Forces' (PACAF) primary mission is to provide ready air and space power to promote US interests in the Asia-Pacific region during peacetime, through crisis and war. The command's vision is to be the most respected air warrior team employing the full spectrum of air and space power, with our Asia-Pacific partners, to ensure peace and advance freedom. PACAF's area of responsibility extends from the west coast of the United States to the east coast of Africa and from the Arctic to the Antarctic, more than 100 million square miles. The area is home to nearly two billion people who live in 44 countries. PACAF maintains a forward presence to help ensure stability in the region. (Tab FF-3)



#### **b. Air National Guard**



As provided under the United States Constitution, the ANG has a federal and state mission. Its federal mission is to provide a well-trained, well-equipped force available for prompt mobilization during national emergencies as well as supporting contingency operations. The Air National Guard provides almost half of the Air Force's tactical airlift support, combat communications functions, aeromedical evacuations, and aerial refueling, as well as being responsible for providing the total air defense of the entire United States. (Tab FF-6)

#### **c. Alaska Air National Guard**



The AK ANG has two flying wings, which includes the 176th Wing at Joint Reserve Base Elmendorf-Richardson, as well as a Space Warning Squadron. It has 1,900 members, and the headquarters is located at Camp Denali in Anchorage, AK. Most of the units are gained by PACAF when performing their federal missions. (Tab FF-9)

#### **d. Unit Information**

##### **(1) 11th Air Force, Joint Base Elmendorf-Richardson, Alaska**

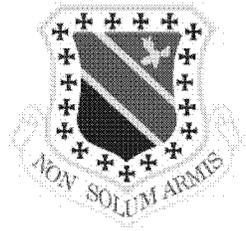
The 11th Air Force plans, conducts, controls and coordinates air operations in accordance with (IAW) the tasks assigned by the PACAF commander, and is the force provider for Alaskan Command, the Alaskan Aerospace Defense Command Region, and other unified commands. Its units provide a network of critical air surveillance and command, control



and communications functions necessary to perform tactical warning and attack assessment in defense of Alaska. (Tab FF-12)

### **(2) 3rd Wing, Joint Base Elmendorf-Richardson, Alaska**

The 3rd Wing is a composite wing composed of two groups and five flying squadrons operating the C-12, C-17, E-3, and F-22. It is located on JBER in Anchorage, AK. Its mission is to support and defend U.S. interests in the Asia Pacific region and around the world by providing units who are ready for worldwide air power projection and a base that is capable of meeting the Pacific Command's theater staging and throughput requirements. (Tab FF-14)



### **(3) 176th Wing, Joint Base Elmendorf-Richardson, Alaska**



The 176th Wing is part of the AK ANG, and is also a composite wing composed of four groups and five flying squadrons operating the C-17, HC-130, HH-60, and E-3. Its units are located on Kulis Air National Guard Base and JBER, both of which are in Anchorage, AK, as well as Eielson Air Force Base (AFB) outside of Fairbanks, AK. Its mission includes search and rescue, tactical and strategic airlift, air control, and rescue coordination. (Tab FF-18)

### **(4) 517th Airlift Squadron**

The 517 AS is part of the 3rd Wing, and it operates the C-17 and C-12 out of JBER. The squadron's primary missions are to support worldwide airlift, airdrop, and airland requirements while providing airlift for theater deployed forces and resupply of remote Alaskan long-range radar sites in support of the U.S. Pacific Command, the North American Aerospace Defense Command, and the U.S. Transportation Command. Its associate unit is the 249 AS, meaning that the two units utilize the same aircraft and mix aircrews for missions. The two units keep independent chains of command but share resources. (Tab FF-21)



### **(5) 249th Airlift Squadron**



In September 2009 the 249 AS was officially activated by the Department of Defense as a squadron of the 176th Wing of the AK ANG. It is the associate unit of the 517 AS on JBER, and its members operate the C-17 inter-mixed with members of the 517 AS. Specifically, the 249 AS's mission is to recruit, train and provide combat-ready C-17 aircrews for global mobility missions that supply and sustain America's armed forces. (Tab FF-23)

#### e. C-17A – Globemaster III

The C-17 is capable of rapid strategic delivery of troops and all types of cargo to main operating bases or directly to forward bases in the deployment area. The aircraft can perform tactical airlift and airdrop missions and can also transport litters and ambulatory patients during aeromedical evacuations when required. (Tab FF-24)



The C-17 is approximately 174 feet long and has a wingspan of 169 feet, 10 inches, and its maximum takeoff weight is 585,000 pounds. It is powered by four, fully reversible F117-PW-100 (Pratt & Whitney PW2040) engines, each producing 40,440 pounds of thrust. The C-17 can cruise at 450 knots (kts), and its range is global with in-flight refueling.

The C-17 is crewed by a pilot, copilot, and loadmaster. The aircraft can perform missions as diverse as airdrop of 102 paratroopers or aeromedical transport of 54 patients. (Tab FF-24)

## 4. SEQUENCE OF EVENTS

### a. Mission

The mishap sortie (MS) was a practice flight for the JBER Arctic Thunder Airshow, scheduled for the weekend of 31 July 2010. (Tab AA-5, AA-6) The sortie was authorized by the 176th Wing, in coordination with the 3rd Wing, and involved ANG and active duty Airmen from JBER. It was planned and briefed as an aerial demonstration proficiency and currency flight, involving one C-17A aircraft, Callsign Sitka 43. (Tab K-4) C-17 aerial demonstration flights typically consists of a single aircraft, which conducts a series of practice demonstration maneuvers, defined by Air Force Instruction (AFI) 11-246, Vol. 6, as “profiles”. There are four distinct profiles, the first three ranging from six to twelve minutes in length. The fourth incorporates an airdrop demonstration, where personnel or cargo are released from the aircraft via parachutes. For this particular flight, the mishap crew (MC) planned to fly the Profile 3, known as the 12-minute profile. (Tab BB-4 through BB-12)

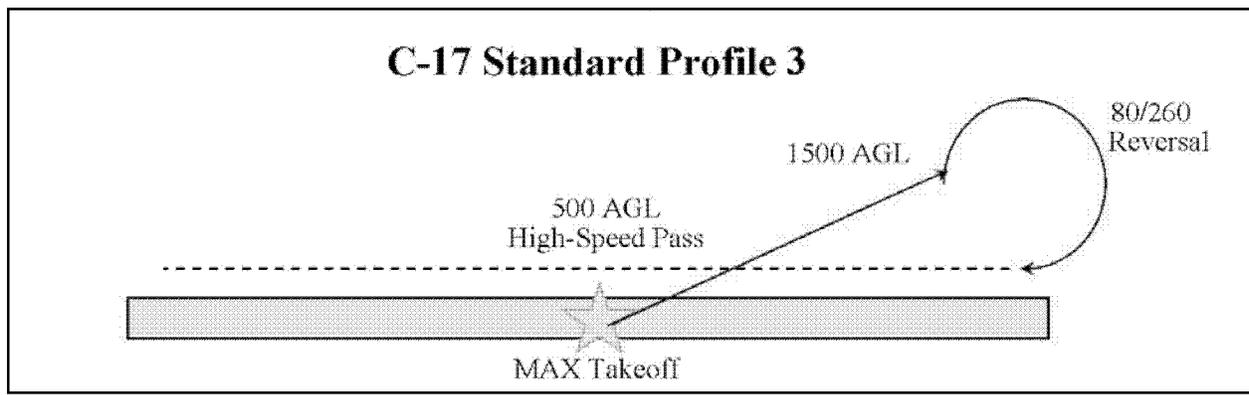
#### (1) Aerial Demonstration Profile – Profile 3 (12-minute Profile)

The relevant components of Profile 3 as related to this mishap were: maximum performance climb to 1,500 feet AGL, 80/260-degree reversal turn, and the 500-foot AGL high-speed pass. (Tab BB-6)

The maximum performance climb requires the pilot to pitch the aircraft nose upward to achieve minimum climbout speed, defined as  $V_{mco}$ .  $V_{mco}$  is the speed required to clear an

obstacle if the C-17 only has three of the four engines operating. This speed demonstrates the climb-capability of the aircraft. (Tab BB-6)

After climbout, the aircraft utilizes an 80/260-degree reversal turn to transition the aircraft from the original outbound direction in order to align with the runway and perform a high-speed pass. The demonstration pilot will perform the reversal turn in three segments. First, an 80-degree turn away from the initial heading establishes an outbound leg. Second, the aircraft flies to a safe distance from the runway. Third, a 260-degree reversal turn towards the runway. (Tab BB-4 through BB-12)



Profile 3 (Abbreviated)

The 500-foot AGL high-speed pass is accomplished by descending from 1,500 feet to 500 feet AGL during the 80/260-degree reversal turn. Upon reaching 500 feet, the aircraft accelerates to 250 kts, flying past the spectators at "show center" (the center of the viewing area; represented by the star in the diagram). (Tab BB-6)

## (2) C-17 Aircrew Positions

The MP was the aircraft commander, and the pilot flying (PF) during the flight. He was in the left front seat during the MS. The MCP, also known as the pilot monitoring (PM), was in the right front seat. The MSO was in the right additional crew member (RACM) seat, and had a view of most of the flight deck displays and switches. (Tab N-5) The MLM was seated in the right-rear area of the cargo compartment. (Tab N-12)



### **(3) Airspace Considerations**

The MS was flown in airspace controlled by Elmendorf Air Traffic Control Tower. The MC maintained radio contact with, and remained in sight of the tower throughout the flight. For safety purposes, Elmendorf airspace was only open to Sitka 43. (Tab N-21) Airfield operations published a Notice to Airman (NOTAM), to inform all aircraft operators of the planned demonstration practice. (Tab K-7)

#### **b. Planning**

The day prior to the mishap, between 0930 and 1100L, the MP, MCP, and MSO utilized the simulator (sim) to practice several aerial demonstration profiles, including Profile 3. (Tab V-77) Afterwards, the crewmembers completed their mission planning for the next day's aerial demonstration practice.

#### **c. Preflight**

On 28 July 2010, the MC arrived at the consolidated 517 / 249 AS building. The MP arrived at 0800, the MCP at 0901L, and the MSO and MLM at 1430L. The crew used Operational Risk Management (ORM) to evaluate mission risk. ORM is a decision-making process to systematically evaluate possible courses of action, identify risks and benefits, and determine the best course of action for any given situation. The ORM category for the mission was in the "Caution" range based on aircraft commander and squadron assessments. The "Caution" score was due to the complex and demanding nature of the mission. All crewmembers determined they were safe and prepared to fly the planned mission. (Tab AA-8)

Prior to the mission briefing, the Assistant Director of Operations informed the MC that they would accomplish an Engine Running Crew Change (ERCC) due to unscheduled maintenance on their originally assigned aircraft. (Tab V-44) During an ERCC, the incoming crew boards the aircraft and receives an aircraft status brief from the outgoing crew. The pilot and copilot positions are swapped-out one at a time, to ensure a qualified pilot is always at the controls. This is a commonly practiced procedure.

The MC briefed for the practice flight from approximately 1515 to 1615L. (Tabs V-400, AA-10, AA-11) Based on recovered documents, the crew reviewed and discussed NOTAMS, the weather forecast, and other pertinent safety of flight information. (Tabs F-7, K-6) The MP filed a Visual Flight Rules (VFR) flight plan, and planned to remain within 20 nautical miles of the airfield. (Tab K-3)

The crew arrived at the MA at approximately 1720L, and took control of the aircraft from the outgoing crew. During the ERCC, the outgoing crew briefed the aircraft had no malfunctions. (Tab V-401 through V-429)

#### **d. Summary of Accident**

##### **(1) Weather Observation Flight**

Thirty minutes prior to the mishap sortie, the MC flew the MA in the local area to observe the weather. The purpose of this flight was to determine if the weather was acceptable for their demonstration practice. During the nine-minute flight, the MC evaluated winds and observed flight conditions around the airfield. The MA flew normally and the weather was within limits. (Tab V-401 through V-429)

##### **(2) Aerial Demonstration Practice Flight (Mishap Sortie)**

After the weather observation flight, the MC landed and waited approximately 30 minutes to begin their aerial demonstration practice. (Tab V-401 through V-429) Once they received clearance, the MP aligned the aircraft on the runway and released brakes at 1821:31L. During the takeoff sequence, the MP “rotated” (raised the nose of the aircraft) and attained a maximum pitch angle of 40 degrees nose-high. (Tab L-3)

The target climbout airspeed was 133 kts. The highest airspeed attained during the climbout was 107 kts. As the aircraft passed 800 feet AGL, the MP initiated the first segment of the 80/260-degree reversal turn. He turned the aircraft left at 57 degrees of bank to a heading of 340 degrees and leveled-off at 852 feet AGL. After completing the turn, the MCP initiated flap retraction when the airspeed reached 151 kts. The minimum flap retraction speed ( $V_{mfr}$ ) was 150 kts. The MP continued outbound for seven seconds as the flaps completed retraction. (Tab L-3)

The MP turned right at an initial bank angle of 53 degrees to begin the third segment of the 80/260-degree reversal turn. The MCP initiated slat retraction when the airspeed reached 188 kts. The minimum slat retraction speed ( $V_{msr}$ ) was 193 kts. Five seconds into the right turn, the stall warning system activated. At this time, the MA’s configuration was full right rudder, the control stick aft, and slats retracting. The airspeed was 199 kts, 6 kts below stall airspeed. (Tabs L-3, CC-3 through CC-27, CC-60 through CC-68, DD-21)

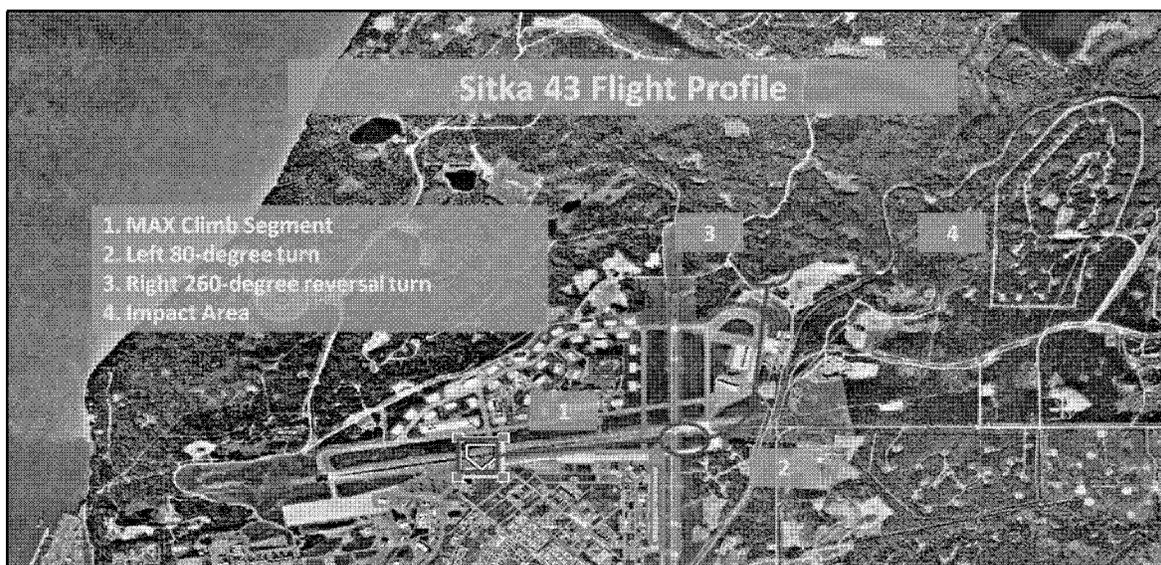
When the stall warning occurred, the MCP responded “acknowledged crew . . . temperature, altitude lookin’ good.” (Tabs L-3, N-18, CC-3 through CC-27) The MP continued the turn using full right rudder, which increased the MA’s bank angle to 62 degrees. The maximum allowable bank angle for the C-17 is 60 degrees. (Tab BB-3) The MP also continued

to apply control stick pressure, which increased the force of gravity on the aircraft to a factor of 2.4. (Tabs L-3, CC-3 through CC-27)

Approximately 62 seconds into the mishap sortie, the MA stalled. By this time, the deep stall protection system (the Angle of Attack Limiter System (ALS)) was active, but was overcome by the MP's rapid and aggressive maneuvers. (Tabs L-3, BB-3, CC-3 through CC-27) Within seconds, the MA's bank angle increased to a maximum of 82 degrees. The aircraft began to descend and ultimately reached a descent rate of 9,000 feet per minute, as airspeed decayed to 184 kts. (Tabs L-3, CC-3 through CC-27, CC-60 through CC-68, DD-21)

One-and-a-half seconds into the stall, several events occurred simultaneously: the MCP said "not so tight, brother"; the MSO said "watch your bank" three times; and the MP moved the control stick full left, applied left rudder, but maintained constant control stick pressure. (Tabs L-3, N-18, CC-3 through CC-27)

Five seconds prior to impact, the slats fully retracted. Approximately two seconds prior to impact, the MP was able to initiate a left roll of the aircraft, however, the roll rate was minimal due to the stall. (Tab L-3, CC-3 through CC-27) The stall protection system remained active until impact.



#### **e. Impact**

The MA impacted wooded terrain northwest of the airfield at 63.6 degrees of right bank, 16.9 degrees nose-low at 184 kts on 28 July 2010 at 1822L. (Tabs L-3, CC-15) The MA exploded, burned for approximately 36 hours and was destroyed. (Tab H-4)

#### **f. Egress and Aircrew Flight Equipment**

All life support equipment on board the MA was inspected prior to takeoff and deemed serviceable by both aircrews. (Tab V-401) Due to the immediate destruction of the aircraft upon impact, there was no opportunity for the MC to use survival gear or life support equipment. (Tab H-6)

#### **g. Search and Rescue (SAR)**

At 1822L, JBER Fire Dispatch Center received notification of a C-17 crash. Emergency vehicles responded immediately. Battalion 2 (Command & Control Vehicle) and Engine 3 were the first units to arrive. Access to the site was extremely limited, with debris and fire scattered over a large area. Battalion 2 took initial command and directed other arriving vehicles into the crash area. Rescue personnel arrived in seven minutes and immediately began searching for potential survivors. No survivors were found. (Tab DD-8)

#### **h. Recovery of Remains**

Crash, fire, and rescue personnel were pivotal to recovery efforts. Remains were recovered from 30 July 2010 to 1 August 2010 and transferred to JBER Mortuary Affairs. (Tab DD-8 through DD-20)

### **5. MAINTENANCE**

#### **a. Forms Documentation**

The 3rd Maintenance Group, 703rd Aircraft Maintenance Squadron, JBER, maintained the aircraft forms for the MA. All maintenance was documented on Air Force Technical Order (AFTO) 781 forms and in GO81 (Core Automated Maintenance System for Mobility). The purpose of AFTO 781 series forms is to document various maintenance actions. They are maintained in a binder specifically assigned to each aircraft. GO81 is an automated database of aircraft discrepancies, maintenance repair actions and flying history. The current AFTO 781 series forms were aboard the MA and destroyed in the crash. The historical AFTO 781 series forms revealed minor documentation errors, commonly found in maintenance forms. These minor errors were previously reconciled. A detailed 90-day review of records and forms revealed no evidence of mechanical, structural or electrical failure, which could have contributed to the mishap. (Tabs D-3, U-8 through U-82, U-111)

A comprehensive review of all AFTO 781 series forms and GO81 was accomplished to determine airworthiness of the MA. (Tab EE-3)

Time Compliance Technical Orders (TCTOs) are inspections or maintenance procedures required before specific dates or flight. The AFTO 781 series forms and GO81 track compliance times and dates. No TCTO's restricted the MA from flying. Historical records showed all TCTOs were accomplished IAW applicable guidance. TCTO non-compliance did not contribute to the accident. (Tabs D-3, U-8 through U-82, U-116)

Prior to the mishap sortie, the MA's total aircraft time was 13,361.6 hours. All four engines were Pratt and Whitney (P&W) F117-PW-100 turbofan engines. The #1 engine (left outboard engine), serial number (S/N) 00PW170316, had 11,619.7 hours total engine operating time with 9,836 operating cycles. The #2 engine (left inboard engine), S/N 00PW170333, had 9,523.6 hours total engine operating time with 7,883 operating cycles. The #3 engine (right inboard engine), S/N 00PW170049, had 14,300.2 hours total engine operating time with 10,627 operating cycles. The #4 engine (right outboard engine), S/N 00PW170348, had 11,276.7 hours total engine operating time with 5,875 operating cycles. (Tabs D-3, U-93, U-110)

The MA flew 126 flights, for a total of 302.9 hours, within 90 days of the mishap. There were no major maintenance discrepancies that would have prevented the MA from accomplishing the aerial demonstration mission on 28 July 2010. Also, historical records did not reveal any recurring maintenance problems. (Tabs D-3, U-3 through U-82)

## **b. Inspections**

### **(1) Mishap Aircraft**

Global Reach Improvement Program / Heavy Fleet Maintenance (GRIP) is a periodic cycle of in-depth inspections. These inspections usually coincide with the paint cycle of the aircraft. The C-17A GRIP cycle is every five years. The GRIP inspections are performed IAW Technical Order (TO) 00-20-1. The most recent GRIP inspection was completed 21 September 2007. The next inspection was due in 2012. (Tab D-3) The GRIP inspection was current and not contributory to the mishap. (Tab EE-3)

Home Station Checks (HSC) are periodic inspections performed in 180-day increments, encompassing a 720-day cycle. The HSC inspections are performed IAW TO 00-20-1. These on-site inspections are performed to ensure the airworthiness of the aircraft. The most recent HSC performed was completed on 15 April 2010. The next scheduled HSC was due on 12 October 2010. (Tab D-3) The HSC inspection was current and not contributory to the mishap. (Tab EE-3)

A Pre-Flight (PR) is a flight preparedness inspection performed prior to flight and is a valid inspection for 72 hours once completed. The PR inspections are performed IAW TO 00-20-1. The purpose of this inspection is to visually inspect and operationally checkout various areas and systems of the aircraft in preparation for a flying period. The most recent PR was performed on 26 July 2010, at 2200L, approximately 45 hours and 30 minutes prior to the incident. (Tab D-3) The PR inspection was current and not contributory to the mishap. (Tab EE-3)

A Thru-Flight (TH) inspection is a flight preparedness inspection performed between scheduled flights, when a new PR is not required. A TH is not required unless there is more than 6 hours ground time between scheduled flights. TH inspections are performed IAW TO 00-20-1. A TH was performed at 0430L, 28 July 2010, approximately 14 hours prior to the mishap. (Tab U-3) The TH inspection was current and not contributory to the mishap. (Tab EE-3)

## **(2) Mishap Engines**

A bore scope inspection is a thorough inspection of the internal portions of each engine, using a flexible or rigid precision optical instrument. This procedure allows an inspection of the internal components without engine removal or disassembly. The #1, 2 and 3 engine bore scopes were performed 15 April 2010, with no defects noted. The number 4 engine, installed on the aircraft 25 June 2010, was disassembled, inspected, repaired, reassembled and tested per Pratt & Whitney specification on 28 October 2009. (Tab U-93 through U-110) The inspection cycles for all four engines were current and not contributory to the mishap.

### **c. Maintenance Procedures**

The most-recent significant procedure performed on the MA was the exchange of the #4 engine on 25 June 2010. The engine had accumulated 99.1 hours since installation. Minor maintenance actions were performed on the aircraft prior to the mishap. There were no maintenance-related issues that contributed to the mishap. (Tabs U-8 through U-82, EE-3)

The MA flew a mission the morning of the mishap. At 1317L, the MA landed with no discrepancies. (Tabs U-3 through U-7, Tab V-21, V-110) The day-shift crew recovered the aircraft, refueled it according to second scheduled mission requirements, and subsequently launched the aircraft. No TH inspection was required. The second mission departed at 1537 hours. (Tab U-3 through U-7) When the MA landed, the second mission crew and the MC performed an ERCC. During the ERCC, no maintenance was required. (Tab V-19, V-20, V-401)

### **d. Maintenance Personnel and Supervision**

All pre-mission activities were normal and all personnel involved in the recovery, refuel and launch of the MA were highly experienced and competent. A thorough review of maintenance training records (AF Form 623's and AF Form 797's) revealed all involved personnel were properly trained and qualified. (Tab V-16, V-17, V-109, V-110)

### **e. Fuel, Hydraulic and Oil Inspection Analyses**

The 673rd Logistics Readiness Squadron, Fuels Laboratory, sent fuel samples from the two trucks that refueled the MA to the Air Force Petroleum Agency, Wright-Patterson AFB, OH for testing IAW TO 42B-1-1. All fuel samples were within limits and free of contamination. An additional sample was taken from the crash site and also tested by the Air Force Petroleum Agency. The results were inconclusive due to post-mishap contamination from clay particles. (Tab CC-29 though CC-41, CC-43 through CC-47)

The interim safety board collected hydraulic fluid samples from the wreckage, which Boeing analyzed. Boeing determined the fluid samples were “fairly typical for a sample of in-service fluid.” They also noted water contamination in the samples due to exposure to the environment and fire fighting measures. (Tab CC-42)

Engine oil samples were not obtained from the MA post-impact. The impact destroyed all four engine oil reservoirs and gearboxes. No viable samples were obtained. All four engines were performing properly throughout the flight, warranting no further investigation. (Tab L-3)

#### **f. Unscheduled Maintenance**

There was no unscheduled maintenance. (Tab V-21, V-112)

## **6. AIRFRAME, MISSILE, OR SPACE VEHICLE SYSTEMS**

### **a. Structures and Systems**

The AIB performed a thorough inspection of all aircraft systems and concluded all systems performed normally up to the time of impact. Analysis was verified by both Boeing and flight test experts. Various systems and aircraft computers were recovered, including: engines, flight control surfaces (portions of the right aileron surface, rudder surfaces, elevator surfaces, and their respective actuators), two Flight Control Computers (FCC), one Warning & Caution Computer (WCC), one Air Data Computer (ADC), one Spoiler Control / Electronic Flight Control Computer (SCEFC), one Core Integrated Processor (CIP) and one Air Propulsion Data Management Computer (APDMC). Inspection by component manufacturers and Boeing, as well as the Standard Flight Data Recorder (SFDR), confirmed each unit functioned normally prior to impact. (Tab CC-3 through CC-27, CC-48)

### **b. Evaluations and Analyses**

#### **(1) Engine Performance**

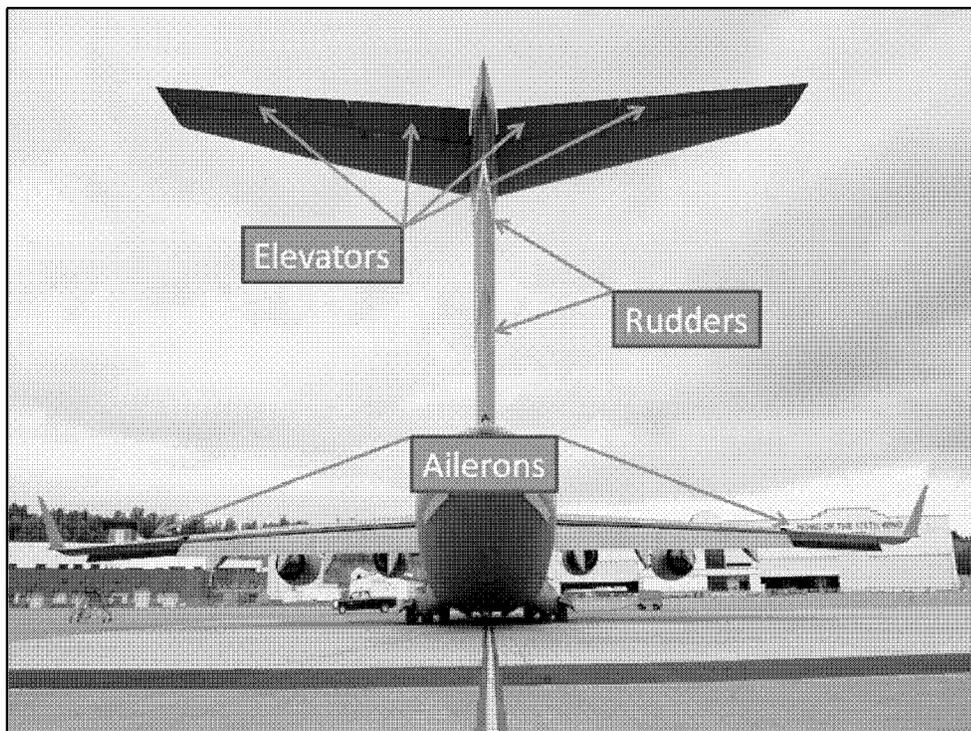
During the mishap sortie, all four engines were set to maximum thrust and remained so throughout the flight. All four engines maintained 92.5% High Pressure Compressor Revolutions per Minute (N2 RPM). This is the typical indication expected from a maximum thrust setting. The Engine Pressure Ratio (EPR) is an indication of the pressure of air exiting engine compared to the pressure of air entering the engine. This is an indication of the performance levels of each engine. EPR indications may vary in small levels due to atmospheric conditions, altitudes and the angle of attack (AOA) of the aircraft, limiting the amount of air available for utilization. The EPR indications of the MA were all stable throughout the flight, indicating there was no measureable lack of propulsion from the engines. All other temperature and fuel flow indications also support the viability of all four engines installed on the MA. A visual inspection of all engines was performed, indicating substantial damage from impact. There were no visual indications of engine malfunctions. (Tabs L-3, EE-3)

## (2) Hydraulic Systems Performance

The C-17A has four independent hydraulic systems operating at 4,000 pounds per square inch (PSI). Each system is powered by engine driven hydraulic pumps (EDP). For redundancy, there is a primary and a secondary EDP installed on each respective engine. If primary EDP pressure drops below 3,400 PSI, the secondary EDP will engage to augment system pressure. A third electrically driven hydraulic pump augments each system, if needed. These pumps provide triple redundancy in each respective hydraulic system. All four hydraulic systems operating pressures were tracked and recorded on the SFDR. The data was analyzed to ensure proper systems operation. Pressures varied due to demand, but never fell below 3,536 PSI. This is well within the typical operating parameters. All four systems properly performed throughout the flight. (Tabs L-3, EE-3)

## (3) Flight Control Systems Performance

The flight control system of the C-17A are separated into two categories: primary and secondary flight control surfaces. The primary flight control surfaces include the ailerons, elevators and rudders. (Tab EE-3)

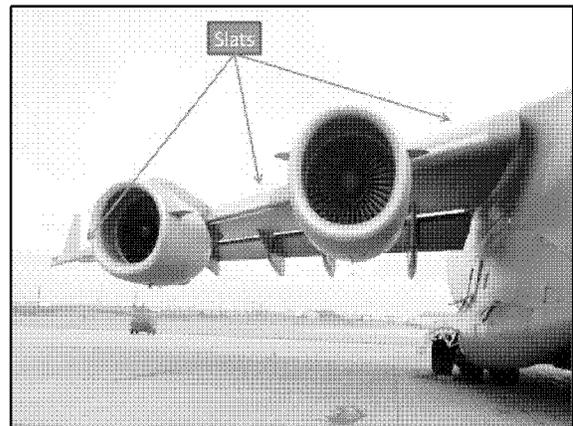
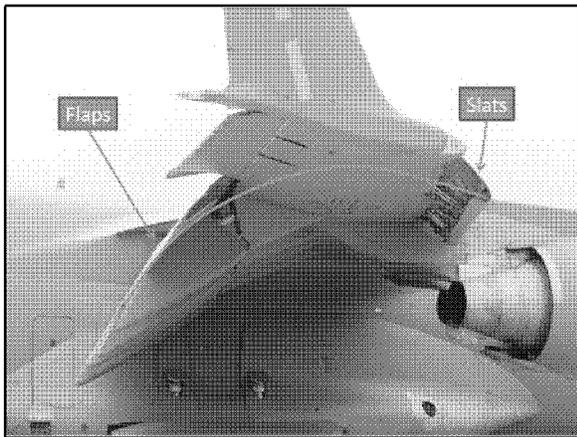


Primary Flight Controls

The ailerons control roll around the longitudinal axis (a theoretical line running from the nose to the tail of the aircraft). There are two ailerons, each one located towards the end of each wing. The elevators control rotation around the pitch axis (a theoretical line running from wingtip to wingtip), to raise and lower the nose of the aircraft. There are four elevators located

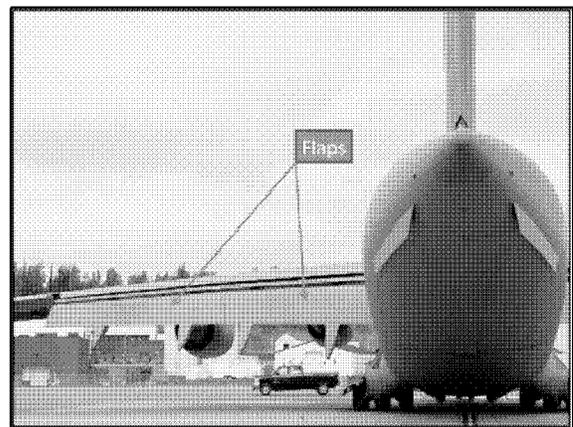
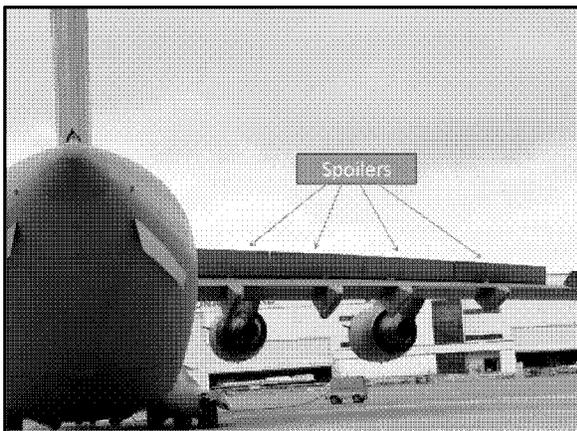
on the aft edge of the horizontal portion of the T-tail. The rudders control rotation around the vertical axis (a theoretical line running vertically through the center of the fuselage of the aircraft), moving the nose of the aircraft left or right. There are two rudders attached to the aft edge of the vertical stabilizer (the bottom or I portion of the T-tail). (Tab EE-3)

The secondary flight control surfaces assist the primary flight controls, and include the flaps, slats and spoilers. The purpose of the flaps and slats is to increase the surface area of the wing, forward to aft. The increased wing surface area provides substantially more lift. The additional surface area allows for slower airspeeds during takeoff and landing. (Tab EE-3)



Secondary Flight Controls (front and side views)

Slats extend from the leading edge (front) of the wing surfaces. Flaps extend from the aft edge of the wing surfaces. The spoilers are attached to the top of the wing surfaces, immediately forward of the flaps. One function of the spoilers in flight is to assist the ailerons in rotating the aircraft around the roll axis. (Tab EE-3)



Secondary Flight Controls (rear views)

All primary and secondary flight controls, except the spoilers, have two hydraulic actuators per surface. For redundancy, each actuator receives hydraulic pressure from separate systems. The system can sustain a complete hydraulic system failure with no noticeable effect upon flight characteristics. Additionally, each actuator is independently, mechanically linked to the flight control surfaces. (Tab EE-3)

Portions of the right aileron surface and actuator, both rudder surfaces, and all four elevator surfaces were recovered. The AIB maintenance advisors inspected all surfaces and verified the integrity of the actuators and actuator/surface attachment points. Various pictures of the actuators and attachment points are attached in this report. (Tab Z-4 through Z-9) There was no indication of structural or mechanical failure in any areas reviewed. (Tab EE-3)

A combination of visual verification of the integrity of the flight control surfaces, actuators and attachment points, SFDR data validating the flight control actuator positions throughout the flight, and video footage of the incident provide overwhelming evidence that all flight control systems were operating properly throughout the entire flight. (Tabs CC-3 through CC-27, EE-3)

#### **(4) Stall Protection System: Stall Warning System and Angle of Attack Limiter System (ALS)**

The stall warning system is designed to alert aircrew of an impending stall. It receives inputs from the engines and various aircraft sensors. The aircraft computer systems analyze these inputs, including: engine thrust settings, the number of engines running, AOA, sideslip angle, flap position, slat position, airspeed, altitude, pitch/roll rates and other parameters to determine the current stall speed. (Tab BB-3)

The stall warning system provides stick shaker and aural "STALL" alerts to the pilots. This system is continuously active and provides stall warning to the pilot when flight conditions approach a predetermined speed range, which is a function of flight conditions and aircraft configuration. In the event of invalid aircraft angle of attack (AOA) and/or aircraft configuration signals, a warning message is displayed in the cockpit when stall warning is not fully functional. (Tab BB-3)

The aircraft also has a deep stall protection system called the ALS. The purpose of the ALS is to preclude the aircraft from attaining AOA attitudes that could result in a deep stall from which the aircraft is not recoverable. ALS operates by limiting commanded nose up elevator position. A warning message is displayed in the cockpit when the ALS is not fully functional. (Tab BB-3)

As the ALS system became active, elevator surface outputs decreased, lessening the results from the MP's full aft stick inputs. This output, combined with a full left stick input resulted in an indicated return towards level flight, prior to impact.

A combination of SFDR data validating the flight control positions, video footage of the incident and the CVR provided overwhelming evidence that the stall protection system was

operating properly throughout the entire flight. (Tabs V-401 through V-429, CC-60 through CC-68, DD-21)

## **7. WEATHER**

### **a. Forecast Weather**

The weather requirement for a 3rd Wing aerial demonstration flight is a ceiling of 2,500 feet and visibility of five miles. (Tab O-7) The weather forecast for 28 July, 2010 predicted a broken cloud layer at 2,500 feet, and an overcast cloud layer at 5,000 feet. (Tab F-7) The term “broken” means clouds cover more than 62% to 87% of the sky, and “overcast” means the sky is totally covered with clouds. (Tab EE-16) The forecasted weather was as follows: visibility at six miles with light showers and rain; winds from 240 degrees at nine 9 kts; minimum altimeter setting 29.99 inches of mercury, and flight-level winds were not a factor. (Tab F-7)

### **b. Observed Weather**

Observed weather prior to mishap sortie was within demonstration limits. (Tab F-5) Just prior to takeoff, the winds were 240 degrees at 4 kts, temperature 55 degrees Fahrenheit, and ceiling broken at 2,500 feet AGL with 10 miles of visibility and remained unchanged after the mishap. (Tabs N-20)

### **c. Space Environment**

Not applicable.

### **d. Operations**

Based on the forecast, the weather was within limits for the MS. (Tabs F-7, O-7) Weather did not contribute to the mishap.

## **8. CREW QUALIFICATIONS**

### **a. Mishap Aircraft Commander (MP)**

The MP was a current and qualified Evaluator Pilot with 3,251.6 total C-17 hours, including 974 instructor hours, and 124 evaluator hours. (Tab G-52)

Regulations require certification paperwork to be included in a member’s Flight Evaluation Folder (FEF). The FEF is a permanent record of aircrew qualifications. The MP’s FEF did not contain a certification letter, however the board was able to verify that proper training was accomplished. The MP completed initial demonstration training as a safety officer in December 2007. Subsequently, the MP completed demonstration pilot upgrade training in April 2008. (Tab G-3 through G-62, T-3 through T-6)

The MP's flight time during the 90 days before the mishap is as follows:

	Hours
Last 30 Days	16.7
Last 60 Days	19.2
Last 90 Days	26.8

(Tab G-53)

### **b. Mishap Copilot (MCP)**

The MCP was a current and qualified Instructor Pilot (IP) with 1,913 total hours. These hours include 865.6 C-17 hours, and 1,048 hours in the T-1 training aircraft. He had 750 instructor hours, 49 of which were in the C-17. (Tab G-152)

The MCP completed demonstration training on 13 July 2010. The MCP's FEF did not contain a certification letter, however the board was able to verify that proper training was accomplished. (Tab G-125 through G-165, T-7).

The MCP's flight time during the 90 days before the mishap is as follows:

	Hours
Last 30 Days	26.1
Last 60 Days	26.1
Last 90 Days	41.6

(Tab G-153)

### **c. Mishap Safety Observer (MSO)**

The MSO was a current and qualified IP with 1,874 total hours. These hours include 862.9 C-17 hours, 923 F-16 hours, and 25 AT-38 hours. (Tab G-109, G-110)

The MSO completed initial demonstration training on 21 September 2009. He was qualified as a demonstration safety observer and copilot. He completed demonstration pilot upgrade training on 13 July 2010. The MSO's FEF did not contain a certification letter, however the board was able to verify that proper training was accomplished. (Tab G-64 through G-124, T-8)

The MSO's flight time during the 90 days before the mishap is as follows:

	Hours
Last 30 Days	5.4
Last 60 Days	22.2
Last 90 Days	44.5

(Tab G-111)

#### **d. Mishap Loadmaster (MLM)**

The MLM was a current and qualified evaluator loadmaster with 5,398 total hours. These hours consisted of 1,163.7 C-17 hours, 2,868 hours in multiple C-130 variants, and 1,366 hours in the C-141B. As a C-17 loadmaster, he had 99 instructor hours, and 91 evaluator hours. (Tab G-210)

The MLM completed demonstration training on 9 July 2010. The MLM's FEF did not contain a certification letter, and no training was documented in the Training Management System (TMS). However, the board was able to determine that proper training was received. (Tab DD-5 through DD-7)

The MLM's flight time during the 90 days before the mishap is as follows:

	Hours
Last 30 Days	2.0
Last 60 Days	54.0
Last 90 Days	144.3

(Tab G-211)

Crew qualifications were not a factor in this mishap.

## **9. MEDICAL**

### **a. Qualifications**

#### **(1) Mishap Pilot**

The MP was medically qualified for flight and worldwide duty per review of his medical record. His most recent annual flight physical and Periodic Health Assessment (PHA) were both performed on 17 July 2010. He also possessed a waiver for a minor medical condition. This waiver had an expiration date of 31 July 2013. (Tab EE-14, EE-15)

#### **(2) Mishap Co-Pilot**

The MCP was medically qualified for flight and limited worldwide duty. On 24 May 2010 the MCP presented to his local Flight Medicine Clinic for his annual flight physical and PHA. The PHA was completed, but due to a minor illness (for which he held a waiver) he was temporarily grounded. On 7 July 2010, he was returned to flying status. (Tab EE-14, EE-15)

#### **(3) Mishap Safety Observer**

The MSO was medically qualified for flight and worldwide duty per review of his medical record. His most recent annual flight physical was performed on 25 March 2010 and his most recent PHA was performed on 22 March 2010. No waivers were identified. (Tab EE-14, EE-15)

#### **(4) Mishap Load Master**

The MLM was medically qualified for flight and worldwide duty per review of his medical record. His most recent annual flight physical and PHA were performed on 7 December 2009. No waivers were identified. (Tab EE-14, EE-15)

##### **b. Health**

Medical records and individual histories revealed all individuals were in good health and had no recent performance-limiting illnesses prior to the mishap. After thoroughly reviewing the material described above, there was no evidence that any medical condition contributed to this mishap. (Tab EE-14, EE-15)

##### **c. Pathology**

The remains of the MC were recovered and positively identified. Injuries sustained by the MC were consistent with the nature of the mishap. All four crewmembers died instantly upon impact.

Toxicology testing was performed on the MC and 18 ground support personnel. Samples were submitted to the Armed Services Institute of Pathology for analysis. All results were negative with the exception of one maintenance member who tested positive for one substance. Further investigation revealed that this individual held a valid prescription and appropriate diagnosis for the medication detected during testing and was not a factor in the mishap. (Tab EE-15)

##### **d. Lifestyle**

No lifestyle factors were found to be relevant to the mishap.

##### **e. Crew Rest and Crew Duty Time**

All Air Force pilots are required to have “crew rest” IAW AFI 11-202, Vol. 3, prior to performing in-flight duties. AFI 11-202 states, in part, “Air Force aircrews require at least 10 hours of continuous restful activities including an opportunity for at least 8 hours of uninterrupted sleep during the 12 hours immediately prior to the FDP [(Flight Duty Period)]”. “The crew rest period is normally a minimum 12-hour non-duty period before the FDP begins. Its purpose is to ensure the aircrew member is adequately rested before performing flight or flight related duties. Crew rest is free time, which includes time for meals, transportation, and rest. Rest is defined as a condition that allows an individual the opportunity to sleep”.

There is no evidence to suggest that inadequate crew rest was a factor in this mishap.

## 10. OPERATIONS AND SUPERVISION

### a. Operations

#### (1) Total Force Integration (TFI)

JBER units practice TFI, which encourages cooperation and enhances efficiency between active duty and guard units. Both 249 AS and 517 AS execute the TFI concept to its fullest, regularly integrating aircraft and crew. The MC was a TFI crew. The MP, MSO and MLM were members of 249 AS, and the MCP was a member of 517 AS. At JBER, TFI has a positive influence on mission and people. (Tabs R-26, R-44, V-302)

#### (2) Operations Tempo

Personnel demonstrated exceptional commitment to the mobility mission. Although both squadrons maintain a relatively high operations tempo, overtasking was not a factor in this mishap. (Tab R-13, R-21, R-66)

### b. Supervision

The primary responsibility for supervision and execution of the aerial demonstration program at JBER is the 3 OG/OGV. (Tab O-5, O-6) There was confusion among demonstration program managers regarding the certification process and procedural guidance, and proper use of checklists. (Tab V-117, V-118, V-346)

The mishap crew utilized an unapproved document, which closely resembled the actual Technical Order checklist, but included several major modifications. Unapproved checklist use was widespread among 3rd Wing demonstration crewmembers in direct violation of Air Force regulations. The deviation did not contribute to the mishap. (Tabs AA-4, EE-7)

## 11. HUMAN FACTORS

### a. Introduction

Human Factors contributing to this mishap were evaluated using the Department of Defense (DoD) Human Factors Analysis and Classification System (DoD-HFACS). (Tab BB-14 through BB-48) This guide is designed for use as a comprehensive event/mishap, human error investigation, data identification, analysis and classification tool. It is designed for use by *all members* of an investigation board in order to accurately capture and recreate the complex layers of human error in context with the individual, environment, team and mishap or event.

The DoD-HFACS classification taxonomy describes four main tiers of human factors that may contribute to a mishap. These four divisions include: *Acts, Pre-Conditions, Supervision, and Organizational Influences*. (Tab BB-17)

*Acts* are those factors that are most closely tied to the mishap, and can be described as active failures or actions committed by the operator that result in human error or unsafe situations. (Tab BB-19)

*Preconditions* are factors in a mishap if active and/or latent preconditions such as conditions of the operators, environmental or personnel factors affect practices, conditions or actions of individuals and result in human error or an unsafe situation. (Tab BB-20)

*Supervision* is a factor in a mishap if the methods, decisions or policies of the supervisory chain of command directly affect practices, conditions, or actions of individual and result in human error or an unsafe situation. (Tab BB-23)

*Organizational Influences* are factors in a mishap if the communications, actions, omissions or policies of upper-level management directly or indirectly affect supervisory practices, conditions or actions of the operator(s) and result in system failure, human error or an unsafe situation. (Tab BB-24)

The Board reviewed a substantial amount of evidence during its proceedings to include, but not limited to, cockpit voice recorder transcripts, flight data recorder information, video recordings, and witness interviews. Numerous human factors were relevant to the mishap, and the MC's actions during the mishap sortie were highly uncharacteristic of their experience level and reputation.

## **b. Causal**

### **(1) AE103 Procedural Error.**

Procedural Error is a factor when a procedure is accomplished in the wrong sequence or using the wrong technique or when the wrong control or switch is used. This also captures errors in navigation, calculation or operation of automated systems. (Tab BB-27)

The MP committed two procedural errors during the mishap sortie. He replaced aerial demonstration procedures with his own techniques; and failed to implement proper stall recovery procedures. (Tabs BB-4 through B-12, EE-16)

### **(A) Incorrect Combination of Aerial Demonstration Techniques (Energy Management)**

The basic concept of energy management (i.e., maintaining sufficient speed and altitude for a specific aircraft configuration in order to sustain controlled flight) is paramount. Without proper energy management, an aircraft can enter a low energy state and depart controlled flight.

The MP committed pilot error by executing the demonstration profile using the following techniques:

- Attempted 60-degree bank turns, instead of the prescribed 45 degrees.

- A climbout to approximately 850 feet AGL instead of the AFI-directed altitude of 1,500 feet AGL.
- A climbout pitch angle of 40 degrees, instead of climbing out at a minimum climbout speed.
- Maintained full right rudder and control stick pressure to facilitate the 80/260 reversal turn.

These actions resulted in a low energy state that was insufficient to sustain controlled flight. Depending on conditions, these techniques, in and of themselves, may not be unsafe. However, when combined, they will diminish flight safety margins.

The stated purpose of the C-17 Aerial Demonstration program is to demonstrate aircraft capabilities, not to achieve maximum performance of the aircraft (“Max Perform”). (Tab BB-4 through BB-12) When flown IAW AFI 11-246, the profile results in an energy state sufficient to sustain safe flight. The MP’s execution of Profile 3 “max performed” the aircraft at the threshold of a stall. Flying at the threshold of a stall is the very definition of a low energy state.

The MP planned an aggressive and unsafe profile based on 60-degree bank turns in an effort to keep the aircraft as close to the show center as possible. (Tabs R-12, V-9, V-54, V-77, V-98, V-99, V-102, V-120, V-148, V-194, V-200, V-208) This plan forced him to minimize his timing on his outbound segments, and left him no alternative but to use 60 degrees of bank, fly through stall warnings, maintain control stick pressure, and use full rudder, in order not to cross the extended show centerline. (Tab V-28, V-29, V-31, V-54, V-79 through V-81, V-130, V-145, V-171, V-180, V-202, V-203, V-211, V-240)

During the mishap sortie, the MP used 40 degrees of pitch angle on initial takeoff without considering the minimum climbout speed ( $V_{mco}$ ). He leveled-off at approximately 850 feet AGL, 26 kts below  $V_{mco}$ . This low altitude and airspeed led to an initially low energy state. Although the MA accelerated during the first and second segments of the 80/260-degree reversal turn, the MA’s overall energy state remained low. The configuration change, coupled with 60 degrees of bank, full right rudder and control stick pressure, further decreased the energy state, which led to the departure from controlled flight. (Tab CC-3 through CC-27, CC-60 through CC-68, CC-69, CC-70)

### **(B) MP Failed To Employ Proper Stall Recovery Procedure**

The C-17 stall recovery procedure is: 1) apply forward stick pressure; 2) apply maximum available thrust; and 3) return to or maintain a level flight attitude. Large rudder inputs should be avoided. (Tab EE-16)

Despite numerous stall warnings during the mishap sortie, the MP continued to aggressively execute the 260-degree reversal turn. The MP failed to employ proper stall recovery procedures. Even when the MA stalled, the MP maintained control stick pressure, which did not sufficiently reduce the angle of attack to recover controlled flight. As a result, the

MA remained in a stall until impact. (Tabs V-401 through V-424, Tab CC-60 through CC-68, CC-69, CC-70)

## **(2) PC211 Overaggressive**

Overaggressive is a factor when an individual or crew is excessive in the manner in which they conduct a mission.

The MC planned, briefed, and flew the mishap sortie Air Show Demonstration Profile with bank angles, altitudes, timing, and use of rudder beyond the procedures in AFI 11-246. (Tabs V-28, V-29, V-31, V-54, V-79 through V-81, V-92, V-94, V-98, v-102, V-120, V-130, V-142, V-145, V-171, V-175, V-180, V-200 through V-203, V-208, V-210, V-240, AA-12, AA-13, BB-14 through BB-23, CC-60 through CC-68, CC-69, CC-70, EE-9 through EE-12). Once certified as a demonstration pilot, the MP manipulated the standard profile to enhance the airshow performance. He planned and regularly flew 60 degrees of bank for the 80/260-degree maneuver with full rudder to minimize the turn radius and displacement from crowd. (Tabs V-9, V-29, V-31, V-54, V-77, V-98, V-99, V-102, V-120, V-148, V-194, V-200, V-202, V-208, V-210, V-240, AA-12, AA-13) During his upgrade training, an instructor counseled him for being “aggressive” to keep the turns “tighter to the runway”. (Tab V-148) The MP “was also very intent on crisp turns, roll in, roll out efficiently . . . providing a good show to the spectators”. (Tab V-208) In previous performances, the MP continued to execute his 260-degree reversal turn despite lengthy stall warnings. (Tabs O-44, V-55, V-68, V-71, V-97, V-188, V-277, EE-9 through EE-12)

On the day of the mishap sortie, the MP’s techniques diminished flight safety margins, and caused the aircraft to stall. Specifically, he planned for an initial climbout altitude range of 1,000 to 1,500 feet AGL at 35 to 40-degree nose high attitude, while disregarding minimum climbout speed. During climbout, the MP achieved a 40-degree nose-high attitude, and flew 26 kts below a safe climbout speed. (Tabs AA-12, AA-13, CC-60 through CC-68) An average nose-high attitude for the initial climbout is 25-35 degrees. (Tab V-33, V-236) Executing maneuvers below the minimum climbout speed is a safety-of-flight issue, and is not advised. Additionally, the MP disregarded the stall warning when it activated during the 260-degree reversal turn. It remained active until impact; a total of 12 seconds. (Tab CC-3 through CC-27) The MP’s overaggressive actions also caused the mishap.

### **c. Contributory**

#### **(1) AE205 Caution/Warning – Ignored and PP108 Challenge and Reply.**

*Caution/Warning – Ignored* is a factor when a caution or warning is perceived and understood by the individual but is ignored by the individual leading to an unsafe situation.

*Challenge and reply* is a factor when communications did not include supportive feedback or acknowledgement to ensure that personnel correctly understood announcements or directives.

As the lead C-17 aerial demonstration pilot for JBER, the MP routinely instructed and planned to ignore stall warnings during aerial demonstrations. Five seconds into 260-degree reversal turn, the stall warning system activated. In response, the MCP said “Acknowledged Crew . . . Temperature, altitude lookin’ good.” Although the warnings continued, the MP neither replied nor adjusted his control inputs, and continued the turn. The MP made no attempt to implement stall recovery procedures, and neither MCP nor MSO directed recovery until the MA stalled. (Tabs V-401 through 429, CC-60 through CC-68)

The MP also routinely instructed demonstration co-pilots to retract flaps and slats “on speed” automatically, without a challenge or reply. (Tab V-33, V-95, V-171, V-240, V-344) During this mishap sortie, the MCP automatically retracted flaps and slats, as trained. This resulted in the MCP retracting the slats five kts below  $V_{msr}$ . There is no indication that the MP or MSO understood the configuration of the MA. (Tabs V-401 through V-429, CC-60 through CC-68) Automatically configuring the aircraft does not provide supportive feedback or acknowledgement to ensure situational awareness.

## **(2) PC102 Channelized Attention**

*Channelized Attention* is a factor when the individual is focusing all conscious attention on a limited number of environmental cues to the **exclusion** of others of a subjectively equal or higher or more immediate priority, leading to an unsafe situation. May be described as a tight focus of attention that leads to the exclusion of comprehensive situational information.

The MP displayed two instances of channelized attention. First, the MP continued to aggressively turn the MA in a low energy state, while ignoring the stall warning system. The MP intended to fly crisp, tight, aggressive maneuvers, in an attempt to keep the aircraft close to show center. (Tabs V-9, V-29, V-31, V-54, V-77, V-98, V-99, V-102, V-120, V-148, V-194, V-200, V-202, V-208, V-210, V-240, AA-12, AA-13) Second, when the stall occurred, the MP moved the control stick full left. However, the MP maintained control stick pressure and applied left rudder. Maintaining these control inputs did not sufficiently reduce the angle of attack to recover controlled flight. As a result, the MA remained in a stall until impact. (Tabs V-401 through V-429, CC-60 through CC-70)

## **(3) PC206 Overconfidence**

*Overconfidence* is a factor when the individual overvalues or overestimates personal capability, the capability of others or the capability of aircraft/vehicles or equipment and this creates an unsafe situation.

During simulator training, the MP taught stall warnings were an “anomaly.” The warnings were considered inaccurate and transitory due to aggressive aerial demonstration maneuvers. The MP “was not concerned” about stalling in the profile. The MP also believed these warnings would cease at completion of the turns and not adversely affect the aircraft. (Tab V-205, V-207) He flew numerous aerial demonstrations in the aircraft with the stall warnings active and without incident. (Tabs V-55, V-68, V-71, V-97, V-188, V-277, EE-9 through EE-12) The MP’s overconfidence in both his abilities and the C-17 capabilities led to the stall.

#### (4) PC210 Misplaced Motivation

*Misplaced Motivation* is a factor when an individual or unit replaces the primary goal of a mission with a personal goal.

The MP wanted to “put on a good airshow,” keeping his turns crisp, tight, and aggressive. The MP planned a compressed profile based on timing and 60-degree bank turns. The MP utilized unsafe techniques in an effort to keep the aircraft as close to the airfield as possible, impress the crowd, and improve the airshow. (Tabs V-9, V-29, V-31, V-54, V-77, V-98, V-99, V-102, V-120, V-148, V-194, V-200, V-202, V-208, V-210, V-240, AA-12, AA-13) As previously stated, the purpose of the C-17 Aerial Demonstration program is to demonstrate aircraft capabilities, not to max perform the aircraft. (Tab BB-4 through BB-12) The MP’s enthusiasm “to put on a good show” for the spectators benefit led him to plan an aggressive and unsafe profile.

#### (5) PC506 Expectancy

*Expectancy* is a factor when the individual expects to perceive a certain reality and those expectations are strong enough to create a false perception of the expectation.

The MC consistently planned, practiced and flew the profile, with the stall warnings activated during the 260-degree maneuver. (Tabs V-55, V-68, V-71, V-97, V-188, V-277, EE-9 through EE-12) Additionally, the MP taught aerial demonstration pilots that the stall warning was an anomaly or otherwise transient. (Tab V-205, V-207) He believed these warnings would cease at some point during the maneuver and not adversely affect the aircraft. (Tabs V-55, V-68, V-71, V-97, V-188, V-277, EE-9 through EE-12) When the MC experienced the same warnings during the mishap sortie, they responded as trained. The MC falsely perceived the aircraft would not stall.

#### (6) OP003 Procedural Guidance/Publications

*Procedural Guidance/Publications* is a factor when written direction, checklists, graphic depictions, tables, charts or other published guidance is inadequate, misleading or inappropriate and this creates an unsafe situation.

**Air Force Policy Directive (AFPD) 11-2, *Aircraft Rules and Procedures***, para. 1 states:

*“The Air Force establishes rules and procedures that meet global interoperability requirements for the full range of aircraft operations. **Adherence to prescribed rules and procedures is mandatory for all personnel involved in aircraft operations.**” (Emphasis added.)*

AFI 11-246, Vol. 6, Chp. 3, describes the Air Show Demonstration profiles for the C-17 aircraft. The AFI states in the *General Instructions*:

*“Aircrews from all MAJCOMS will adhere to the flying procedures in Profiles 1 through 4. Profiles 1, 2 and 3 are demonstrations of Aircraft High Performance Maneuvering.”* (Tabs O-30, BB-4 through BB-12, Emphasis added.)

In or around April 2008, the MP underwent aerial demonstration upgrade training and was recommended as a safety observer. (Tab T-3 through T-6) The MP’s initial instructor taught crews “to start lowering the nose at 1000 feet while continuing to climb to 1500 feet AGL” on the initial take-off. Additionally, he taught to make the initial 80-degree turn at a speed 15 kts above flap retract speed. He taught that the use of rudder was a technique, but “always taught that there was no requirement for use of the rudder on this airplane.” The instructor stressed AFI 11-246, Vol. 6, Chp. 3 is “procedure,” not technique. (Tab V-158 through V-160, V-164)

In or around December 2008, the MP completed upgrade training as a demonstration pilot. (Tab T-3 through T-6) During this training, his upgrade instructor emphasized adherence to AFI 11-246. He also taught MP to “level off at 1500 feet” on the initial climbout; the use of a longer outbound segment allows for greater airspeed and displacement from the runway; the use of bank angles and rudder to avoid overshooting the “extended runway centerline” for safety reasons. (Tab V-141, V-142, V-145)

Once certified as a demonstration pilot, the MP manipulated the standard profile to enhance the airshow performances. Specifically, he planned for an initial climbout altitude range of 1,000 to 1,500 feet AGL at 35 to 40 degree nose high attitude, while disregarding minimum climbout speed. He also planned and regularly flew 60 degrees of bank for the 80/260-degree maneuver with full rudder to minimize the turn radius and displacement from crowd. (Tabs V-9, V-29, V-31, V-54, V-77, V-98, V-99, V-102, V-120, V-148, V-174, V-194, V-200, V-202, V-208, V-210, V-240, AA-12, AA-13, EE-9 through EE-12)

Although the first paragraph on page 3 in AFI 11-246, Vol. 6, Chp. 3 states, “The procedures in these profiles are general guidelines”, it also directs that “Aircrews will not deviate from the mission plan except for safety considerations.” (Tabs O-32, BB-13, Emphasis added) The MP’s aerial demonstration technique violated the intent of the AFI. They are inappropriate and created an unsafe situation.

#### **(7) OP006 Program Oversight/Program Management**

*Program Oversight/Program Management is a factor when programs are implemented without sufficient support, oversight or planning and this leads to an unsafe situation.*

The MP had a reputation in both squadrons of being an extremely precise and knowledgeable aviator. His extensive experience as a simulator instructor and his 3,251 total C-17 hours garnered him the utmost respect from squadron leadership and his peers. (Tabs

R-12, R-27, V-53, V-149, V-222, V-262, V-263, V-298, V-394, DD-3, DD-4) They also held his instructor abilities in the highest of esteem. (Tabs R-12, R-27, R-44, R-45, V-394)

Because he was an accomplished aviator, leadership allowed him to operate independently with little or no oversight. Prior to the mishap, 3 OG Commander took a vested interest in the C-17 aerial demonstration program for the upcoming airshow. He was scheduled to fly onboard the MA in order to evaluate the performance of the MC. However, due to a last minute F-22A fighter aircraft emergency, he could not attend the scheduled flight. (Tab V-220, V-221) 176 OG Commander also intended to observe demonstration flights, but was TDY during the times they practiced. (Tab V-396)

From the time of the MP's certification as a demonstration pilot to this mishap, his supervisors assumed he was within regulatory compliance, and did not inquire or review the MP's techniques or performances. (Tabs R-27, R-45, V-292, V-311 through V-313, V-370) Without checks and balances, the MP's aerial demonstration techniques evolved into an unsafe program.

## **12. GOVERNING DIRECTIVES AND PUBLICATIONS**

### **a. Available Directives and Publications Relevant to the Mishap**

- (1) Air Force Policy Directive (AFPD) 11-2, *Aircraft Rules and Procedures*, 14 January 2005
- (2) Air Force Instruction (AFI) 90-901, *Command Policy*, 1 April 2000
- (3) AFI 11-202, Volume 3, *General Flight Rules, Flying Operations*, 5 April 2006
- (4) AFI 11-209, *Aerial Event Policy And Procedures, Flying Operations*, 4 May 2006
- (5) AFI 11-209, *Aerial Event Policy And Procedures, Flying Operations*, 4 May 2006, Pacific Air Forces Command, Supplement
- (6) AFI 11-209, *Aerial Event Policy And Procedures, Flying Operations*, 4 May 2006, Air National Guard, Supplement
- (7) AFI 11-246, Volume 6, *Air Force Aircraft Demonstrations (C-17, C-130, C-141, C/KC/NKC-135, UH-1)*, 20 April 2004
- (8) AFI 11-2C-17, Volume 3, *C-17 Operations Procedures, Flying Operations*, 15 December 2005
- (9) AFI 90-901, *Operational Risk Management, Command Policy*, 1 April 2000
- (10) PACAF Concept of Operations implementing AFI 11-246, Volume 6, *Air Force Aircraft Demonstrations (C-17, C-130, C/KC/NKC-135, UH-1)*, 1 April 2007

### **b. Other Directives and Publications Relevant to the Mishap**

- (1) AETC Handout, *Flying Training, Introduction to Aerodynamics*, January 2002
- (2) Air Force Handbook 203, Volume 1, *Flying Operations, Weather for Aircrews*, 1 March 1997
- (3) AFTTP 3-3.C-17, *Combat Aircraft Fundamentals – C-17, Tactical Doctrine*, 21 May 2007
- (4) TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, And Procedures*, 30 April 2003, Change 4 - 1 September 2006

- (5) TO 1C-17A-1, *Flight Manual*, C-17A Aircraft, 15 March 2010
- (6) TO 1C-17A1-1, *Performance Data*, C-17A Aircraft, 15 August 2008
- (7) TO 1C-17A-1CL-1-1, *C-17A Pilot's Fanfold Checklist Rev. 34*, 15 March 2010
- (8) TO 1C-17A-1-2, *Mission Computer*, C-17A Aircraft, 15 March 2010
- (9) TO 1C-17A-2-71GS-00-1, *General Systems, Organizational Maintenance, Power Plant*, 1 June 1995, Change 35 - 29 April 2010
- (10) TO 1C-17A-2-29GS-00-1, *General Systems, Organizational Maintenance, Hydraulic Power*, 1 November 1995, Change 26 - 1 March 2010
- (11) TO 1C-17A-2-27GS-00-1, *General Systems, Organizational Maintenance, Flight Controls*, 1 April 2010
- (12) TO 1C-17A-2-00GV-00-1, *General Systems, Organizational Maintenance, General Vehicle Manual*, 1 November 1995, Change 36 - 4 March 2010
- (13) Department of Defense Human Factors Analysis and Classification System, 11 January 2005

**NOTICE:** The AFIs listed above are available digitally on the AF Departmental Publishing Office internet site at: <http://www.e-publishing.af.mil>.

**c. Known or Suspected Deviations from Directives or Publications**

- (1) AFI 11-246, Volume 6, *Flying Operations*, 20 April 2004
- (2) TO 1C-17A-1CL-1-1, *C-17A Pilot's Fanfold Checklist Rev. 34*, 15 March 2010

### 13. ADDITIONAL AREAS OF CONCERN

**a. 3 WG Aerial Demonstration Checklist**

The MC utilized an “3 WG Aerial Demonstration Checklist”, which is unapproved. (Tab V-401 through V-429) The document resembled the official Dash-1 Fanfold (TO 1C-17A-1CL-1-1) with the following modifications: inserted sub-checklists, order of precedence and sequencing changes, and reassigned challenge and response items between the MCP and MSO. Although the unapproved document contained some potentially valid aerial demonstration techniques, several steps required by the official Dash-1 Fanfold were minimized or modified.

**b. AFI 11-246, Vol. 6, Chp. 3, *Standard Profiles***

When asked whether AFI 11-246 contained guidelines or procedures, most JBER C-17 aerial demonstration aircrews answered that they are “guidelines” or could not remember. (Tab V-96, V-133, V-177, V-203, V-334, V-345) AFI 11-246, Vol. 6, Chp. 1, states “MAJCOMS operating these aircraft to perform aircraft demonstrations **will adhere to the Standard Profiles** in Chp. 3.” (Tabs O-30, BB-4 through BB-12, Emphasis added.) Although the first paragraph

on page 3 states, “The procedures in these profiles are general guidelines”, Air Mobility Command Standardization and Evaluations (AMC/A3V) emphasized that “crews flying demonstration profiles are to follow the mission plan as described, deviating only for safety considerations.” (Tab BB-13)

27 September 2010



CARLTON D. EVERHART II, Brig Gen, USAF  
President, Accident Investigation Board

## STATEMENT OF OPINION

### C-17A, T/N 00-0173 JOINT BASE ELMENDORF-RICHARDSON, ALASKA 28 JULY 2010

*Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.*

#### 1. OPINION SUMMARY

By clear and convincing evidence, I find the cause of the mishap was pilot error. The mishap pilot (MP) violated regulatory provisions and multiple flight manual procedures, placing the aircraft outside established flight parameters and capabilities. During the mishap sortie, the MP aggressively flew the aircraft, resulting in a stall. Finally, the MP failed to initiate mandatory stall recovery procedures ultimately leading to the loss of the aircraft and all crewmembers.

On 28 July 2010, at 1822L, a C-17A, T/N 00-0173, departed JBER Runway 06 to practice for the upcoming Arctic Thunder Airshow. During the takeoff sequence, The MP performed a maximum power takeoff and attained a pitch angle of 40 degrees nose high. The target climb out airspeed was 133 knots (kts); however, the highest airspeed attained during the climb was 107 knots. As the aircraft passed 800 feet above ground level (AGL), the MP initiated an 80/260-degree reversal turn maneuver with 57 degrees left bank and utilized full left rudder. The mishap aircraft (MA) eventually leveled off to approximately 850 feet AGL versus the mandated 1,500 feet AGL. With the turn complete, the mishap copilot (MCP) initiated flap retraction and the MA continued outbound for seven seconds. (Tabs L-3, CC-3 through CC-27, CC-60 through CC-68, DD-21)

During the outbound segment, the flaps completed retraction. The MA then began a right 260-degree reversal turn with an initial bank angle of 53 degrees. Almost immediately, the MCP initiated slat retraction at 188 kts. The minimum slat retraction speed was 193 kts. Five seconds into the turn with the MA's airspeed six kts below stall speed, the stall warning system activated. Despite the warning, the MP continued maneuvering the MA, failing to initiate stall recovery procedures. Bank angle increased to 62 degrees while the MP maintained 2.4Gs with full right rudder. Additionally, the MCP and mishap safety officer (MSO) did not recognize the developing dangerous situation, and allowed the pilot to continue with the flight profile. (Tabs L-3, CC-3 through CC-27, CC-60 through CC-68, DD-21)

Approximately 62 seconds into the mishap sortie, the MA stalled. Throughout the stall condition, the MP failed to relinquish control stick pressure. As the stall deepened, the MA's bank angle increased rapidly to a maximum of 82 degrees causing it to descend as airspeed decayed to 184 kts. The aircraft ultimately reached a descent rate of 9,000 feet per minute.

Although the pilot eventually executed partial stall recovery procedures, there was insufficient altitude to recover controlled flight. The stall protection system remained active until impact. (Tabs L-3, CC-3 through CC-27, CC-60 through CC-68)

The aircraft impacted wooded terrain northwest of the airfield, damaged a portion of the Alaskan Railroad, and was destroyed. All four crewmembers died instantly.

I developed my opinion by analyzing factual data from historical records, Air Force directives and guidance, engineering analysis, witness testimony, and information provided by technical experts. In addition, the AIB obtained an animation provided by an Aeronautical Systems Center Studies & Analysis technician. (Tab DD-21) I used the animation in conjunction with Boeing engineering analysis and Standard Flight Data Recorder (SFDR) data to determine the mishap sequence of events.

## **2. DISCUSSION OF OPINION**

### **a. Cause: Pilot Error**

#### **(1) Procedural Error and Overaggressive.**

MP flew the aircraft in a manner that violated regulatory provisions and flight manual guidance. His aggressive flying placed the aircraft outside viable flight parameters at an altitude and attitude where recovery was not possible. The MP applied a series of procedural errors (improper techniques) that, when combined, resulted in a stall beyond the pilot's recovery capability. Additionally, he flew aggressive aerial demonstration profiles while max performing the aircraft. (Tabs L-3, V-401 through V-429, AA-12, AA-13, BB-4 through BB-13, CC-3 through CC-27, CC-60 through CC-68, EE-16)

- Executed climbout to 850 feet AGL instead of 1,500 feet AGL
- The MP focused on a climb pitch angle of 40 degrees instead of a minimum climbout speed
- Exceeded 60-degree bank turns instead of prescribed 45 degrees
- Failed to execute stall recovery procedures
- Maintained control stick pressure and rudder during stall condition

The MP's errors diminished flight safety margins, and caused the aircraft to stall. First, he executed a level off at approximately 850 feet despite Air Force Instruction (AFI) requirements of 1,500 feet. Second, the MP climbed in a 40-degree nose high attitude, and disregarded minimum climbout speed. He flew the climbout 26 kts below the  $V_{mco}$ , greatly reducing his safety margin. Third, he planned and executed the profile at 60 degrees of bank in violation of AFI 11-246. Fourth, the MP failed to execute stall recovery procedures when the stall warning activated. Fifth, after the aircraft stalled, the MP maintained control stick pressure and rudder, making recovery impossible. (Tabs L-3, V-401 through V-429, AA-12, AA-13, BB-4 through BB-12, CC-3 through CC-27, CC-60 through CC-68, EE-16)

## **(2) MP Failed To Employ Proper Stall Recovery Procedure.**

IAW the C-17 flight manual, the stall recovery procedure is: 1) apply forward stick pressure 2) apply maximum available thrust; and 3) return to or maintain a level flight attitude. Large rudder inputs should be avoided. (Tab EE-16) Failure to follow flight manual procedures resulted in the loss of the aircraft and crew.

### **b. Contributing Factors.**

Numerous additional factors substantially contributed to this mishap, including:

#### **(1) Caution and Warning Ignored/Challenge and Reply.**

As the lead C-17 aerial demonstration pilot for JBER, the MP routinely planned to ignore stall warnings during aerial demonstrations. During the mishap sortie, this became apparent once the stall warning system activated. The MP neither replied nor adjusted his control inputs, continued the turn, and failed to implement stall recovery procedures. Additionally, neither MCP nor MSO directed recovery until the MA actually stalled. (Tab V-401 through V-429)

The MP also instructed demonstration aircrew members to utilize “silent” checklist procedures. Flaps and slats were retracted automatically “on speed,” without a challenge or reply. The use of these procedures eliminates supportive feedback and acknowledgement to ensure situational awareness. (Tabs V-401 through V-429, CC-60 through CC-68) During the mishap sortie, the MCP retracted the slats five kts below  $V_{msr}$ . There are no indications the MP or MSO understood the MA’s configuration. (Tabs L-3, V-401 through V-429)

#### **(2) Channelized Attention**

The MP displayed two instances of channelized attention. First, during the 260-degree reversal turn, the MP aggressively continued turning the MA and ignored the stall warning system. Second, when the stall occurred, the MP moved the control stick full left and applied left rudder. He never applied forward control stick pressure to reduce the angle of attack and recover controlled flight. The MP channelized his attention on accomplishing the turn rather than stall recovery. (Tabs L-3, V-401 through V-429, CC-3 through CC-27, CC-69, CC-70)

#### **(3) Overconfidence and Expectancy**

During simulator training, the MP taught everyone stall warnings were an “anomaly.” He considered the warnings inaccurate and transitory due to aggressive aerial demonstration maneuvers. The MP also believed these warnings would cease at completion of the turns and not adversely affect the aircraft. He flew numerous aerial demonstrations in the aircraft with the stall warnings active and without incident. At times, the MP would even “tickle” in and out of the stall warning during the 80/260 degree maneuver; reinforcing a sense of overconfidence and invulnerability. Finally, the MP’s overconfidence in both his abilities and the capabilities C-17s, as well as his false perception that the aircraft would not stall, contributed to the mishap. (Tabs V-42, V-55, V-68, V-71, V-97, V-188, V-277, V-352, EE-9 through EE-12)

#### **(4) Misplaced Motivation**

The MP constantly wanted to “put on a good airshow,” keeping his turns crisp, tight, and as aggressive as possible. In order to achieve this goal, he utilized unsafe techniques in an effort to keep the aircraft as close to the airfield as possible, impress the crowd, and improve the airshow. (Tabs V-9, V-29, V-31, V-54, V-77, V-98, V-99, V-102, V-120, V-148, V-194, V-200, V-202, V-208, V-210, V-240, AA-12, AA-13) The purpose of the C-17 Aerial Demonstration program is to demonstrate aircraft capabilities, not to max perform the aircraft. (Tab BB-4 through BB-12) The MP’s misplaced motivation led to an aggressive behavior endangering both aircraft and crew.

#### **(5) Procedural Guidance/Publications**

The prescribed procedures in AFI 11-246, Vol. 6, Chp. 3 for flying the demonstration profiles are clear, and if flown according to those procedures, the demonstration profiles are safe. The General Instructions section in AFI 11-246 clearly states that crews will adhere to the prescribed procedures for the demonstration profiles. AFI 11-246, Vol. 6, Chp. 3 further directs that “Aircrews will not deviate from the mission plan except for safety considerations.” However, AMC/A3V determined the first paragraph on page 3 in AFI 11-246, Vol. 6, Chp. 3 created an ambiguity with the language, “The procedures in these profiles are general guidelines,” and this ambiguity resulted in an unsafe situation. (Tabs O-30 through O-32, BB-4 through BB-13, Emphasis added)

#### **(6) Program Oversight/Program Management**

The JBER C-17 Aerial Demonstration program’s office of primary responsibility is the 3 OG/OGV Standardization and Evaluation (Stan/Eval) office. (Tab O-5, O-6) Testimony revealed the Stan/Eval staff lacked an adequate understanding of AFI 11-246, Vol. 6, Chp. 3 regulations concerning airshow profiles execution. This lack of understanding prevented adequate supervision of the program. Without supervision, the MP manipulated Profile 3 and routinely flew outside the prescribed parameters. (Tabs V-28, V-29, V-31, V-54, V-79 through V-81, V-92, V-94, V-98, V-102, V-120, V-130, V-142, V-145, V-171, V-175, V-180, V-200 through V-203, V-208, V-210, V-240, AA-12, AA-13, BB-4 through BB-12, CC-60 through CC-68, CC-69, CC-70, EE-9 through EE-12)

In addition, there was little oversight by 3 OG/OGV regarding the MP’s instruction of crewmembers, and the aerial demonstration training program. (Tab V-117, V-118, V-346) The MP alone trained the MCP and MSO to fly an unsafe profile. (Tab T-7, T-8) As a result, “checks and balances” within this program were insufficient.

I find by clear and convincing evidence pilot error caused mishap. The MP's combination of procedural errors resulted in a departure from controlled flight. These actions ultimately resulted in the destruction of the aircraft and loss of four aircrew members.

27 September 2010



CARLTON D. EVERHART II, Brig Gen, USAF  
President, Accident Investigation Board

*Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report, if any, may not be considered as evidence in any civil or criminal proceeding arising from the accident, nor may such information be considered an admission of liability of the United States or by any person referred to in those conclusions or statements.*

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**TAB A**

**DISTRIBUTION LETTER AND SAFETY INVESTIGATOR INFORMATION**

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**A1. DISTRIBUTION MEMORANDUM**



DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES  
HEADQUARTERS 673D AIR BASE WING  
JOINT BASE ELMENDORF-RICHARDSON ALASKA

27 Aug 10

MEMORANDUM FOR SEE DISTRIBUTION

FROM: Safety Investigation Board

SUBJECT: Class A Mishap Final Report, C-17A, S/N 00-0173, 28 July 2010, Elmendorf AFB, AK.

1. The Safety Investigation Board (SIB) forwards this report IAW AFI 91-204.
2. The SIB provided the originals for the material found in Part 1 of the report to the AFI 51-503 Accident Investigation Board President.
3. I have retained one copy for briefing purposes and certify that the copies listed below are the only copies produced by the SIB.

JOSEPH K. KIM, Brigadier General, USAF  
Safety Investigation Board President

Distribution:  
AFSC/SEF

**A2. ORDERS APPOINTING SIB**

DEPARTMENT OF THE AIR FORCE  
 HEADQUARTERS PACIFIC AIR FORCES  
 25 E STREET, SUITE A305  
 HICKAM AIR FORCE BASE, HAWAII 96853-5403

**SPECIAL ORDER  
 AE-004**

Pursuant to AFI 91-204, para 2.4.1 and the authority of COMPACAF to convene aircraft safety investigations under that instruction, the following named individuals, organization indicated, are appointed as Safety Investigation Board members to investigate the Class A aircraft mishap involving a C-17A aircraft, Tail# 00173, that occurred on 28 July 2010 at Elmendorf AFB, Alaska. They will determine the cause(s) of the mishap, make recommendations to prevent recurrence, and prepare a formal mishap report as prescribed by AFI 91-204. Board duties imposed on these individuals will take precedence until the investigation is complete. The investigation is complete when the board is released by COMPACAF.

<u>NAME</u>	<u>SSAN</u>	<u>OFFICE SYMBOL</u>	<u>TITLE</u>
BRIG-GEN JOSEPH KIM Hickam AFB, Hawaii		HQ 154 WG/CC	Board President
		65 AS/DOP	Investigating Officer
		535 AS/SME	Medical Member
		35 MSG/CCB	Maintenance Member
		154 MXS/QA	Maintenance Member
		204 AS/ADO	Pilot Member
		HQ AFSC/SEF	AFSC Representative
		HQ AFSC/SEF	AFSC Representative
		673 MSDD/SGSD	Recorder
		18 AMDS/SGPT	Human Factors
		535 AS/DOT	Additional Crewmember

  
 Col. SSAT  
 Director of Safety

DISTRIBUTION  
 1 - Each Mishap Board Member  
 1 - HQ PACAF/SE

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DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES

MEMORANDUM FOR SEE DISTRIBUTION

FROM: PACAF/CC  
25 E Street, Suite G214  
Hickam AFB HI 96833

*26 July 10*

SUBJECT: Safety Investigation Board (SIB) Members for C-17A Class A Mishap

1. The individuals listed below are appointed to serve as members of a SIB for a C-17A Class A mishap that occurred on 28 July 2010 at Elmendorf AFB, AK. SIB members will be relieved of all duties while performing official functions of the investigation board.

Board President	Brig Gen Joseph Kim	154 WG/CC, Hickam AFB
Investigating Officer		65 AS/DOP, Hickam AFB
AFSC Representative		HQ AFSC/SEE, Kirtland AFB
AFSC Representative		HQ AFSE/SEFF, Kirtland AFB
Pilot Member		204 AS/ADO, Hawaii ANG
Maintenance Member		35 MXG/CCE, Misawa AB
Maintenance Member		154 MXS/OA, Hawaii ANG
Medical Member		535 AS/SME, Hickam AFB
Recorder		3 AWG/SEP, Elmendorf AFB
Additional Crewmember		535 AS/DOT, Hickam AFB
Human Factors Consultant		18 AMDS/SGPT, Kadena AB

2. The host base has appointed an Interim Safety Board to perform initial recovery actions and safeguard evidence. IAW AFI91-201, paragraph 2.7.2, the host base will assist with logistical and administrative support.

3. Direct additional questions to PACAF/SE at

*[Signature]*  
GARY L. NORTH  
General, USAF  
Commander

DISTRIBUTION:  
HQ AFSC/CC  
HQ PACAF/SE

**A3 GUIDANCE TO INVESTIGATORS ON CONTROLLING INFORMATION**



DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES  
HEADQUARTERS 673D AIR BASE WING  
JOINT BASE ELMENDORF-RICHARDSON ALASKA

2 Aug 10

MEMORANDUM FOR FILE

FROM: Safety Investigation Board

SUBJECT: Class A Mishap Guidance to Investigators on Controlling Information, C-17A, S/N 00-0173, 28 Jul 10, Elmendorf AFB, AK.

1. The members, whose names and signatures appear below, of the safety team formed to investigate the mishap on 28 Jul 10 involving (aircraft/vehicle/equipment/etc.) have been advised by Brigadier General Joseph Kim of the following:

- a. This investigation is being conducted under the provisions of AFI 91-204 for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent future mishaps.
- b. It is very important that the investigating team avoid: tainting potential witnesses for this or any subsequent investigation; contributing to speculation about mishap causes; or releasing potentially offensive images to friends and/or families of those involved in a mishap.
- c. All information, privileged or not, collected by safety investigators, will not be released outside safety channels except in accordance with AFI 91-204 or upon approval of the convening authority. The SIB president is the final point of release for all information (including electronic/digital media, photographs, etc.) from the safety investigation.

2. We understand and acknowledge the guidelines for controlling information collected by safety investigators.

*[Signature]*  
\_\_\_\_\_

Investigating Officer

*[Signature]*  
\_\_\_\_\_

Medical Member

*[Signature]*  
\_\_\_\_\_

Pilot Member

*[Signature]*  
\_\_\_\_\_

Medical Member

*[Signature]*  
\_\_\_\_\_

Aircrew Member

*[Signature]*  
\_\_\_\_\_

Maintenance Member

AFSC Representative

Maintenance Member

AFSC Representative

Recorder

**A4. CONTACT INFORMATION FOR SIB MEMBERS AND ADVISORS**

<b>SIB Role</b>	<b>Name</b>	<b>Contact Information</b>
President	Brig Gen Joseph Kim	DSN: COMM: E-Mail:
Investigating Officer		DSN: COMM: E-Mail:
Pilot Member		DSN: COMM: E-Mail:
AFSC Representative		DSN: COMM: E-Mail:
AFSC Representative		DSN: COMM: E-Mail:
Medical Member		DSN: COMM: E-Mail:
Human Factor Consultant		DSN: COMM: E-Mail:
Maintenance Member		DSN: COMM: E-Mail:
Maintenance Member		DSN: COMM: E-Mail:
Aircrew member		DSN: COMM: E-Mail:
Recorder		DSN: COMM: E-Mail:

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**TAB D**

**MAINTENANCE REPORT, RECORDS, AND DATA**

**D1. AIRCRAFT MAINTENANCE AND MATERIEL REPORT, AF FORM 711C ..... 3**

**D2. AIRCRAFT AFTO 781 FORMS..... 5**

**D3. ADDITIONAL AIRCRAFT MANTENANCE RECORDS..... 8**

**D4. MAINTENANCE RECORDS FROM OTHER INVOLVED EQUIPMENT ..... 76**

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**D2. AIRCRAFT AFTO 781 FORMS**

The AFTO 781 Forms were onboard the mishap aircraft and non-recoverable due to damage and wreckage configuration. Forms were transcribed and placed in the jacket file the day prior to the mishap. All existing aircraft AFTO 781 series forms were reviewed for accuracy and completeness. This information, along with information gained from GO81, was used to determine the overall mechanical condition of the mishap aircraft in the 6 months prior to the mishap. The AFTO Form 781 A, *Maintenance Data Discrepancy* and Work Document, AFTO 781 H, *Aerospace Vehicle Flight Status and Maintenance* were reviewed. A thorough review of the complete aircraft historical file, to include TCTO status, AFTO Form 95's, major inspection packages and archived data within the GO81 was accomplished.

The aircraft flew 6 local sorties, not including the mishap sortie, and two off-station missions from 29 June to 28 July.

There were 12 open 781 A Discrepancies for the day of the mishap.

<b>Symbol</b>	<b>Job Control Number</b>	<b>Discrepancy</b>
/	0536802	Water deactivated for cold weather operations
/	1526845	2431PS001 + 2431PS002 not compliant with TCTO 1777
-	1585331	CEI MC0622D Serial 0128C00186 removed by user MAC0DRS at base DKFX
/	1616812	T/R blocker door lower fairing at 6 o'clock position broken and mangled, FAI until depot mx IAW ED2009L0036
-	1821684	ELEN every 10 yrs from hydrostatic test date replace (4 ea) engine fire extinguisher container for hydrostatic test PN 472555-2 LOC: 02 DUE: 2010243
-	1831686	ELEN every 10 yrs from hydrostatic test date replace (4 ea) engine fire extinguisher container for hydrostatic test PN 472555-2 LOC: 01 DUE: 2010243
-	1831687	ELEN every 10 yrs from hydrostatic test date replace (4 ea) engine fire extinguisher container for hydrostatic test PN 472555-2 LOC: 03 DUE: 2010243

/	1926824	Inboard x panel 1 ea screw pulled through
-	2091639	21-101Mod IFF Mode 4 check is due
/	2096804	VHF Intermittent
/	2026816	2 ea C/B collared for cold weather protection
/	3666805	Acft is prohibited from dual row airdrop regardless of TCTO 1933 status IAW AMC/A3V FCIF 08-12-XX

There were 11 open discrepancies in AFTO Form 781K as of 27 July. See attached AFTO Form 781K in Tab D2.

There were no overdue Time Change items.

Aircraft Time Compliance Technical Orders active at this location were not overdue (TCTO 1777 in the open discrepancies list is not active due to lack of kit availability at this location).

Aircraft Home Station Checks (HSC) are completed on a 180-day cycle. The last HSC for the mishap aircraft was a #2 HSC, completed 114 days ago on 15 April 2010.

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**D3. ADDITIONAL AIRCRAFT MAINTENANCE RECORDS**

The transcribed 781A, informational notes and 781H are included below. A G081 maintenance history dating back to January 2010 is included as an attachment to this tab:

A0173 History Jan 10.xls

ALTO FORMS ATTACHED: 78111 7811 7811 7811

TRANSCRIBED BY: [Signature] (BANK NAME & EMPLOYEE #)

FROM DATE: [Date] TO: [Date]

DISCREPANCIES NOTED BELOW:

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[Signature]

DATE: 07/27/10 [YYYYMMDD]

SECTION CHIEF REVIEW: [Signature] (PRINT NAME, BANK & EMPLOYEE #)

[Signature]

DATE: 07/27/10 [YYYYMMDD]



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<p>DESCRIPTION OF WORK PERFORMED</p> <p>82. [Illegible]</p> <p>83. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>84. [Illegible]</p> <p>85. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>86. [Illegible]</p> <p>87. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>88. [Illegible]</p> <p>89. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>90. [Illegible]</p> <p>91. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>92. [Illegible]</p> <p>93. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>94. [Illegible]</p> <p>95. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>96. [Illegible]</p> <p>97. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>98. [Illegible]</p> <p>99. [Illegible]</p>							
<p>DESCRIPTION OF WORK PERFORMED</p> <p>100. [Illegible]</p>							





DATE FORM: 200715		FORM: 1000		SERIAL NUMBER: 000001		PAGE: 1 OF 1	
NAME: [Handwritten]		TITLE: [Handwritten]		ORGANIZATION: [Handwritten]		DATE: 200715	
IDENTIFICATION: 3331AA01		CLASSIFICATION: [Handwritten]		CONTROLLED BY: [Handwritten]		EMPLOYEE NO: [Handwritten]	
DESCRIPTION: [Handwritten]		FUNCTION: [Handwritten]		OPERATIONAL: [Handwritten]		EMPLOYEE NO: [Handwritten]	
IDENTIFICATION: [Handwritten]		CLASSIFICATION: [Handwritten]		CONTROLLED BY: [Handwritten]		EMPLOYEE NO: [Handwritten]	
NAME: [Handwritten]		TITLE: [Handwritten]		ORGANIZATION: [Handwritten]		DATE: 200715	
IDENTIFICATION: [Handwritten]		CLASSIFICATION: [Handwritten]		CONTROLLED BY: [Handwritten]		EMPLOYEE NO: [Handwritten]	
DESCRIPTION: [Handwritten]		FUNCTION: [Handwritten]		OPERATIONAL: [Handwritten]		EMPLOYEE NO: [Handwritten]	
IDENTIFICATION: [Handwritten]		CLASSIFICATION: [Handwritten]		CONTROLLED BY: [Handwritten]		EMPLOYEE NO: [Handwritten]	
NAME: [Handwritten]		TITLE: [Handwritten]		ORGANIZATION: [Handwritten]		DATE: [Handwritten]	
IDENTIFICATION: [Handwritten]		CLASSIFICATION: [Handwritten]		CONTROLLED BY: [Handwritten]		EMPLOYEE NO: [Handwritten]	
DESCRIPTION: [Handwritten]		FUNCTION: [Handwritten]		OPERATIONAL: [Handwritten]		EMPLOYEE NO: [Handwritten]	
IDENTIFICATION: [Handwritten]		CLASSIFICATION: [Handwritten]		CONTROLLED BY: [Handwritten]		EMPLOYEE NO: [Handwritten]	

DATE ENTERED	BY	DATE ENTERED	DESCRIPTION OF THE INCIDENT	NO. THIS	NO. OF THIS	DATE COMPLETED
12/15/09	100	12/15/09	...	0	0	12/15/09
DESCRIPTION OF INCIDENT			...			
DISSEMINATED BY (NAME)			DISSEMINATED BY			
DATE ENTERED			DATE ENTERED			
DESCRIPTION OF THE INCIDENT			DESCRIPTION OF THE INCIDENT			
NO. THIS			NO. OF THIS			
DATE ENTERED			DATE ENTERED			
DESCRIPTION OF THE INCIDENT			DESCRIPTION OF THE INCIDENT			
DISSEMINATED BY (NAME)			DISSEMINATED BY			
DATE ENTERED			DATE ENTERED			
DESCRIPTION OF THE INCIDENT			DESCRIPTION OF THE INCIDENT			
DISSEMINATED BY (NAME)			DISSEMINATED BY			
DATE ENTERED			DATE ENTERED			
DESCRIPTION OF THE INCIDENT			DESCRIPTION OF THE INCIDENT			
DISSEMINATED BY (NAME)			DISSEMINATED BY			

DATE SENT	NO.	ORG. DESIGN.	MONTH	YEAR	NO.	PAGES
17 JUL 2010	1730	AFSAS	07	10	01	07
RECEIVED DESTINATION		DATE REC'D	TIME REC'D	BY WHOM	REMARKS	
DESCRIPTION		HAND: AIRCRAFT ENGINE REPAIR NAME: [REDACTED] DATE: [REDACTED]				
CLASS:		[REDACTED]				
DISTRIBUTION BY (PRINT)		[REDACTED]				
DUPES OF THIS DOC SENT TO (PRINT)		[REDACTED]				
<input checked="" type="checkbox"/>	NO.	DATE SENT	TIME SENT	BY WHOM	REMARKS	
<input checked="" type="checkbox"/>	1730	17 JUL 2010	1400	[REDACTED]	[REDACTED]	
RECEIVED DESTINATION		DATE REC'D	TIME REC'D	BY WHOM	REMARKS	
DESCRIPTION		HAND: AIRCRAFT ENGINE REPAIR NAME: [REDACTED] DATE: [REDACTED]				
CLASS:		[REDACTED]				
DISTRIBUTION BY (PRINT)		[REDACTED]				
DUPES OF THIS DOC SENT TO (PRINT)		[REDACTED]				
<input checked="" type="checkbox"/>	NO.	DATE SENT	TIME SENT	BY WHOM	REMARKS	
<input checked="" type="checkbox"/>	1730	17 JUL 2010	1400	[REDACTED]	[REDACTED]	
RECEIVED DESTINATION		DATE REC'D	TIME REC'D	BY WHOM	REMARKS	
DESCRIPTION		HAND: AIRCRAFT ENGINE REPAIR NAME: [REDACTED] DATE: [REDACTED]				
CLASS:		[REDACTED]				
DISTRIBUTION BY (PRINT)		[REDACTED]				
DUPES OF THIS DOC SENT TO (PRINT)		[REDACTED]				





DATE WHEN	ISSUE	ISSUE TYPE	ISSUE NUMBER	ISSUE STATUS	ISSUE CATEGORY	ISSUE PRIORITY
<input checked="" type="checkbox"/>	10/10/09	10/10/09	10/10/09	10/10/09	10/10/09	10/10/09
ISSUE DESCRIPTION			ISSUE ACTION			
DISCREPANCY			DISCREPANCY			
NAME OF THE UNIT THAT MADE THE REPORT			NAME OF THE UNIT THAT MADE THE REPORT			
ISSUE BY			ISSUE BY			
EMPLOYER OF REPORTER			EMPLOYER OF REPORTER			
ISSUE FOR THE YEAR			ISSUE FOR THE YEAR			
<input checked="" type="checkbox"/>	10/10/09	10/10/09	10/10/09	10/10/09	10/10/09	10/10/09
ISSUE DESCRIPTION			ISSUE ACTION			
DISCREPANCY			DISCREPANCY			
NAME OF THE UNIT THAT MADE THE REPORT			NAME OF THE UNIT THAT MADE THE REPORT			
ISSUE BY			ISSUE BY			
EMPLOYER OF REPORTER			EMPLOYER OF REPORTER			
ISSUE FOR THE YEAR			ISSUE FOR THE YEAR			
<input checked="" type="checkbox"/>	10/10/09	10/10/09	10/10/09	10/10/09	10/10/09	10/10/09
ISSUE DESCRIPTION			ISSUE ACTION			
DISCREPANCY			DISCREPANCY			
NAME OF THE UNIT THAT MADE THE REPORT			NAME OF THE UNIT THAT MADE THE REPORT			
ISSUE BY			ISSUE BY			
EMPLOYER OF REPORTER			EMPLOYER OF REPORTER			
ISSUE FOR THE YEAR			ISSUE FOR THE YEAR			

DATE FROM	TO	DATE FROM	TO	DATE FROM	TO	DATE FROM	TO
<input checked="" type="checkbox"/>	1998	1998	1998	1998	1998	1998	1998
<p>MEMBER INFORMATION</p> <p>NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYER INFORMATION</p> <p>EMPLOYER NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYEE INFORMATION</p> <p>EMPLOYEE NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYEE INFORMATION</p> <p>EMPLOYEE NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>	
<input checked="" type="checkbox"/>	1998	1998	1998	1998	1998	1998	1998
<p>MEMBER INFORMATION</p> <p>NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYER INFORMATION</p> <p>EMPLOYER NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYEE INFORMATION</p> <p>EMPLOYEE NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYEE INFORMATION</p> <p>EMPLOYEE NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>	
<input checked="" type="checkbox"/>	1998	1998	1998	1998	1998	1998	1998
<p>MEMBER INFORMATION</p> <p>NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYER INFORMATION</p> <p>EMPLOYER NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYEE INFORMATION</p> <p>EMPLOYEE NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>		<p>EMPLOYEE INFORMATION</p> <p>EMPLOYEE NAME: [Handwritten Name]</p> <p>ADDRESS: [Handwritten Address]</p> <p>CITY: [Handwritten City]</p> <p>STATE: [Handwritten State]</p> <p>ZIP: [Handwritten ZIP]</p>	















DATE	TIME	BY	REASON FOR THE REPORT	CLASS	TYPE	DATE CLASSIFIED
AUTHORITY DERIVING FROM			CLASSIFICATION ACTION			
DISCONTINUED						
DISCONTINUED BY			EMPLOYEE NO.			
DISCONTINUED BY			EMPLOYEE NO.			
DATE	TIME	BY	REASON FOR THE REPORT	CLASS	TYPE	DATE CLASSIFIED
AUTHORITY DERIVING FROM			CLASSIFICATION ACTION			
DISCONTINUED						
DISCONTINUED BY			EMPLOYEE NO.			
DISCONTINUED BY			EMPLOYEE NO.			
DATE	TIME	BY	REASON FOR THE REPORT	CLASS	TYPE	DATE CLASSIFIED
AUTHORITY DERIVING FROM			CLASSIFICATION ACTION			
DISCONTINUED						
DISCONTINUED BY			EMPLOYEE NO.			
DISCONTINUED BY			EMPLOYEE NO.			

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE





DATE	TIME	UNIT	OPERATOR	STATUS	REMARKS	INITIALS	DATE	TIME	UNIT	OPERATOR	STATUS	REMARKS	INITIALS
<p>OPERATOR: [Name]</p> <p>UNIT: [Unit]</p> <p>STATUS: [Status]</p> <p>REMARKS: [Remarks]</p>													
<p>INITIALS: [Initials]</p>													
<p>EMPLOYEE NO: [Employee No]</p>													
<p>EMPLOYEE NO: [Employee No]</p>													
<p>OPERATOR: [Name]</p> <p>UNIT: [Unit]</p> <p>STATUS: [Status]</p> <p>REMARKS: [Remarks]</p>													
<p>INITIALS: [Initials]</p>													
<p>EMPLOYEE NO: [Employee No]</p>													
<p>EMPLOYEE NO: [Employee No]</p>													
<p>OPERATOR: [Name]</p> <p>UNIT: [Unit]</p> <p>STATUS: [Status]</p> <p>REMARKS: [Remarks]</p>													
<p>INITIALS: [Initials]</p>													
<p>EMPLOYEE NO: [Employee No]</p>													
<p>EMPLOYEE NO: [Employee No]</p>													



DATE	TIME	LOCATION	TYPE	STATUS	REMARKS
X	0800	0100	0100	0100	0100
MILITARY DISPOSITION		FAMILY CODE		MILITARY CODE	
GENERAL					
REMARKS					
EMPLOYEE NO.					
EMPLOYEE NO.					
X	0800	0100	0100	0100	0100
MILITARY DISPOSITION		FAMILY CODE		MILITARY CODE	
GENERAL					
REMARKS					
EMPLOYEE NO.					
EMPLOYEE NO.					
X	0800	0100	0100	0100	0100
MILITARY DISPOSITION		FAMILY CODE		MILITARY CODE	
GENERAL					
REMARKS					
EMPLOYEE NO.					
EMPLOYEE NO.					



DATE	TIME	TO	FROM	OFFICE	NUMBER	ORIGIN	OF	PAGE
01	00	00000000	00000000	00000000	00000000	00000000	00000000	00000000
MULTIPLE DESTINATION				PARTY CODE		DATE RECEIVED		
DESCRIPTION								
				EMPLOYEE NO.		EMPLOYEE NO.		
EMPLOYEE NO.				EMPLOYEE NO.		EMPLOYEE NO.		
DATE	TIME	TO	FROM	OFFICE	NUMBER	ORIGIN	OF	PAGE
01	00	00000000	00000000	00000000	00000000	00000000	00000000	00000000
MULTIPLE DESTINATION				PARTY CODE		DATE RECEIVED		
DESCRIPTION								
				EMPLOYEE NO.		EMPLOYEE NO.		
EMPLOYEE NO.				EMPLOYEE NO.		EMPLOYEE NO.		

AFSA FORM 173A

ORIGINATOR'S SIGNATURE AND WORK NUMBER









DATE	DESCRIPTION	AMOUNT	CHECK	CHECK NUMBER	DATE	BY
07/01/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1000	07/01/10	AMERICA
07/02/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1001	07/02/10	AMERICA
07/03/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1002	07/03/10	AMERICA
07/04/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1003	07/04/10	AMERICA
07/05/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1004	07/05/10	AMERICA
07/06/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1005	07/06/10	AMERICA
07/07/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1006	07/07/10	AMERICA
07/08/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1007	07/08/10	AMERICA
07/09/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1008	07/09/10	AMERICA
07/10/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1009	07/10/10	AMERICA
07/11/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1010	07/11/10	AMERICA
07/12/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1011	07/12/10	AMERICA
07/13/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1012	07/13/10	AMERICA
07/14/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1013	07/14/10	AMERICA
07/15/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1014	07/15/10	AMERICA
07/16/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1015	07/16/10	AMERICA
07/17/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1016	07/17/10	AMERICA
07/18/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1017	07/18/10	AMERICA
07/19/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1018	07/19/10	AMERICA
07/20/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1019	07/20/10	AMERICA
07/21/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1020	07/21/10	AMERICA
07/22/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1021	07/22/10	AMERICA
07/23/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1022	07/23/10	AMERICA
07/24/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1023	07/24/10	AMERICA
07/25/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1024	07/25/10	AMERICA
07/26/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1025	07/26/10	AMERICA
07/27/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1026	07/27/10	AMERICA
07/28/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1027	07/28/10	AMERICA
07/29/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1028	07/29/10	AMERICA
07/30/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1029	07/30/10	AMERICA
07/31/10	DEPOSIT TO BANK OF AMERICA	1000.00	✓	1030	07/31/10	AMERICA







INDEX	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	DATE	REMARKS
000001	...	...	...	...	...	...	...
000002	...	...	...	...	...	...	...
000003	...	...	...	...	...	...	...
000004	...	...	...	...	...	...	...
000005	...	...	...	...	...	...	...
000006	...	...	...	...	...	...	...
000007	...	...	...	...	...	...	...
000008	...	...	...	...	...	...	...
000009	...	...	...	...	...	...	...
000010	...	...	...	...	...	...	...
000011	...	...	...	...	...	...	...
000012	...	...	...	...	...	...	...
000013	...	...	...	...	...	...	...
000014	...	...	...	...	...	...	...
000015	...	...	...	...	...	...	...
000016	...	...	...	...	...	...	...
000017	...	...	...	...	...	...	...
000018	...	...	...	...	...	...	...
000019	...	...	...	...	...	...	...
000020	...	...	...	...	...	...	...
000021	...	...	...	...	...	...	...
000022	...	...	...	...	...	...	...
000023	...	...	...	...	...	...	...
000024	...	...	...	...	...	...	...
000025	...	...	...	...	...	...	...
000026	...	...	...	...	...	...	...
000027	...	...	...	...	...	...	...
000028	...	...	...	...	...	...	...
000029	...	...	...	...	...	...	...
000030	...	...	...	...	...	...	...
000031	...	...	...	...	...	...	...
000032	...	...	...	...	...	...	...
000033	...	...	...	...	...	...	...
000034	...	...	...	...	...	...	...
000035	...	...	...	...	...	...	...
000036	...	...	...	...	...	...	...
000037	...	...	...	...	...	...	...
000038	...	...	...	...	...	...	...
000039	...	...	...	...	...	...	...
000040	...	...	...	...	...	...	...
000041	...	...	...	...	...	...	...
000042	...	...	...	...	...	...	...
000043	...	...	...	...	...	...	...
000044	...	...	...	...	...	...	...
000045	...	...	...	...	...	...	...
000046	...	...	...	...	...	...	...
000047	...	...	...	...	...	...	...
000048	...	...	...	...	...	...	...
000049	...	...	...	...	...	...	...
000050	...	...	...	...	...	...	...



DATE	TIME	LOCATION	DESCRIPTION	STATUS	REMARKS
07/28/10	08:00	01	ARRIVAL AT AIRFIELD	OK	
07/28/10	08:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	08:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	08:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	09:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	09:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	09:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	09:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	10:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	10:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	10:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	10:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	11:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	11:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	11:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	11:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	12:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	12:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	12:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	12:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	13:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	13:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	13:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	13:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	14:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	14:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	14:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	14:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	15:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	15:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	15:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	15:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	16:00	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	16:30	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	18:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	18:45	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	19:30	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	20:00	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	20:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	21:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	21:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	21:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	21:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	22:00	01	INSPECTION OF AIRFIELD	OK	
07/28/10	22:15	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	22:45	01	INSPECTION OF AIRFIELD	OK	
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07/28/10	23:15	01	INSPECTION OF AIRFIELD	OK	
07/28/10	23:30	01	INSPECTION OF AIRFIELD	OK	
07/28/10	23:45	01	INSPECTION OF AIRFIELD	OK	
07/28/10	24:00	01	INSPECTION OF AIRFIELD	OK	





UNCLASSIFIED//FOR OFFICIAL USE ONLY		FORM 1010-10		GENERAL INVESTIGATIVE DIVISION		FBI/DOJ	
FEDERAL BUREAU OF INVESTIGATION							
REPORT NUMBER	DATE	REPORTING OFFICE	TITLE	CHARACTER OF CASE	STATUS	CLASS. DATE	CLASS. AUTHORITY
1010-10	MM/YY	OFFICE	REPORT NUMBER	CHARACTER OF CASE	STATUS	CLASS. DATE	CLASS. AUTHORITY

OPERATIONAL INFORMATION	DATE	TIME	GENERAL COMMENTS	REMARKS	STATUS	REMARKS
001-001-01	01/01/01	00:00	001-001-01	001-001-01	001-001-01	001-001-01
001-001-02	01/01/01	00:00	001-001-02	001-001-02	001-001-02	001-001-02
001-001-03	01/01/01	00:00	001-001-03	001-001-03	001-001-03	001-001-03
001-001-04	01/01/01	00:00	001-001-04	001-001-04	001-001-04	001-001-04
001-001-05	01/01/01	00:00	001-001-05	001-001-05	001-001-05	001-001-05
001-001-06	01/01/01	00:00	001-001-06	001-001-06	001-001-06	001-001-06
001-001-07	01/01/01	00:00	001-001-07	001-001-07	001-001-07	001-001-07
001-001-08	01/01/01	00:00	001-001-08	001-001-08	001-001-08	001-001-08
001-001-09	01/01/01	00:00	001-001-09	001-001-09	001-001-09	001-001-09
001-001-10	01/01/01	00:00	001-001-10	001-001-10	001-001-10	001-001-10
001-001-11	01/01/01	00:00	001-001-11	001-001-11	001-001-11	001-001-11
001-001-12	01/01/01	00:00	001-001-12	001-001-12	001-001-12	001-001-12
001-001-13	01/01/01	00:00	001-001-13	001-001-13	001-001-13	001-001-13
001-001-14	01/01/01	00:00	001-001-14	001-001-14	001-001-14	001-001-14
001-001-15	01/01/01	00:00	001-001-15	001-001-15	001-001-15	001-001-15
001-001-16	01/01/01	00:00	001-001-16	001-001-16	001-001-16	001-001-16
001-001-17	01/01/01	00:00	001-001-17	001-001-17	001-001-17	001-001-17
001-001-18	01/01/01	00:00	001-001-18	001-001-18	001-001-18	001-001-18
001-001-19	01/01/01	00:00	001-001-19	001-001-19	001-001-19	001-001-19
001-001-20	01/01/01	00:00	001-001-20	001-001-20	001-001-20	001-001-20



UNIT	TYPE	DESCRIPTION	STATUS	DATE	TIME	LOCATION
001	01	001-001-001	001	001	001	001
002	02	002-002-002	002	002	002	002
003	03	003-003-003	003	003	003	003
004	04	004-004-004	004	004	004	004
005	05	005-005-005	005	005	005	005
006	06	006-006-006	006	006	006	006
007	07	007-007-007	007	007	007	007
008	08	008-008-008	008	008	008	008
009	09	009-009-009	009	009	009	009
010	10	010-010-010	010	010	010	010
011	11	011-011-011	011	011	011	011
012	12	012-012-012	012	012	012	012
013	13	013-013-013	013	013	013	013
014	14	014-014-014	014	014	014	014
015	15	015-015-015	015	015	015	015
016	16	016-016-016	016	016	016	016
017	17	017-017-017	017	017	017	017
018	18	018-018-018	018	018	018	018
019	19	019-019-019	019	019	019	019
020	20	020-020-020	020	020	020	020
021	21	021-021-021	021	021	021	021
022	22	022-022-022	022	022	022	022
023	23	023-023-023	023	023	023	023
024	24	024-024-024	024	024	024	024
025	25	025-025-025	025	025	025	025
026	26	026-026-026	026	026	026	026
027	27	027-027-027	027	027	027	027
028	28	028-028-028	028	028	028	028
029	29	029-029-029	029	029	029	029
030	30	030-030-030	030	030	030	030
031	31	031-031-031	031	031	031	031
032	32	032-032-032	032	032	032	032
033	33	033-033-033	033	033	033	033
034	34	034-034-034	034	034	034	034
035	35	035-035-035	035	035	035	035
036	36	036-036-036	036	036	036	036
037	37	037-037-037	037	037	037	037
038	38	038-038-038	038	038	038	038
039	39	039-039-039	039	039	039	039
040	40	040-040-040	040	040	040	040
041	41	041-041-041	041	041	041	041
042	42	042-042-042	042	042	042	042
043	43	043-043-043	043	043	043	043
044	44	044-044-044	044	044	044	044
045	45	045-045-045	045	045	045	045
046	46	046-046-046	046	046	046	046
047	47	047-047-047	047	047	047	047
048	48	048-048-048	048	048	048	048
049	49	049-049-049	049	049	049	049
050	50	050-050-050	050	050	050	050





















NO.	NAME	STATUS	...
01	...	...	...
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NO.	NAME	STATUS	DATE	TIME	LOCATION	REMARKS	REMARKS
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Serial	Part Number	Part Name	Quantity	Unit Price	Total Price	Remarks
1001	1001-001	...	1	...	...	...
1002	1002-002	...	1	...	...	...
1003	1003-003	...	1	...	...	...
1004	1004-004	...	1	...	...	...
1005	1005-005	...	1	...	...	...
1006	1006-006	...	1	...	...	...
1007	1007-007	...	1	...	...	...
1008	1008-008	...	1	...	...	...
1009	1009-009	...	1	...	...	...
1010	1010-010	...	1	...	...	...
1011	1011-011	...	1	...	...	...
1012	1012-012	...	1	...	...	...
1013	1013-013	...	1	...	...	...
1014	1014-014	...	1	...	...	...
1015	1015-015	...	1	...	...	...
1016	1016-016	...	1	...	...	...
1017	1017-017	...	1	...	...	...
1018	1018-018	...	1	...	...	...
1019	1019-019	...	1	...	...	...
1020	1020-020	...	1	...	...	...
1021	1021-021	...	1	...	...	...
1022	1022-022	...	1	...	...	...
1023	1023-023	...	1	...	...	...
1024	1024-024	...	1	...	...	...
1025	1025-025	...	1	...	...	...
1026	1026-026	...	1	...	...	...
1027	1027-027	...	1	...	...	...
1028	1028-028	...	1	...	...	...
1029	1029-029	...	1	...	...	...
1030	1030-030	...	1	...	...	...
1031	1031-031	...	1	...	...	...
1032	1032-032	...	1	...	...	...
1033	1033-033	...	1	...	...	...
1034	1034-034	...	1	...	...	...
1035	1035-035	...	1	...	...	...
1036	1036-036	...	1	...	...	...
1037	1037-037	...	1	...	...	...
1038	1038-038	...	1	...	...	...
1039	1039-039	...	1	...	...	...
1040	1040-040	...	1	...	...	...
1041	1041-041	...	1	...	...	...
1042	1042-042	...	1	...	...	...
1043	1043-043	...	1	...	...	...
1044	1044-044	...	1	...	...	...
1045	1045-045	...	1	...	...	...
1046	1046-046	...	1	...	...	...
1047	1047-047	...	1	...	...	...
1048	1048-048	...	1	...	...	...
1049	1049-049	...	1	...	...	...
1050	1050-050	...	1	...	...	...
1051	1051-051	...	1	...	...	...
1052	1052-052	...	1	...	...	...
1053	1053-053	...	1	...	...	...
1054	1054-054	...	1	...	...	...
1055	1055-055	...	1	...	...	...
1056	1056-056	...	1	...	...	...
1057	1057-057	...	1	...	...	...
1058	1058-058	...	1	...	...	...
1059	1059-059	...	1	...	...	...
1060	1060-060	...	1	...	...	...
1061	1061-061	...	1	...	...	...
1062	1062-062	...	1	...	...	...
1063	1063-063	...	1	...	...	...
1064	1064-064	...	1	...	...	...
1065	1065-065	...	1	...	...	...
1066	1066-066	...	1	...	...	...
1067	1067-067	...	1	...	...	...
1068	1068-068	...	1	...	...	...
1069	1069-069	...	1	...	...	...
1070	1070-070	...	1	...	...	...
1071	1071-071	...	1	...	...	...
1072	1072-072	...	1	...	...	...
1073	1073-073	...	1	...	...	...
1074	1074-074	...	1	...	...	...
1075	1075-075	...	1	...	...	...
1076	1076-076	...	1	...	...	...
1077	1077-077	...	1	...	...	...
1078	1078-078	...	1	...	...	...
1079	1079-079	...	1	...	...	...
1080	1080-080	...	1	...	...	...
1081	1081-081	...	1	...	...	...
1082	1082-082	...	1	...	...	...
1083	1083-083	...	1	...	...	...
1084	1084-084	...	1	...	...	...
1085	1085-085	...	1	...	...	...
1086	1086-086	...	1	...	...	...
1087	1087-087	...	1	...	...	...
1088	1088-088	...	1	...	...	...
1089	1089-089	...	1	...	...	...
1090	1090-090	...	1	...	...	...
1091	1091-091	...	1	...	...	...
1092	1092-092	...	1	...	...	...
1093	1093-093	...	1	...	...	...
1094	1094-094	...	1	...	...	...
1095	1095-095	...	1	...	...	...
1096	1096-096	...	1	...	...	...
1097	1097-097	...	1	...	...	...
1098	1098-098	...	1	...	...	...
1099	1099-099	...	1	...	...	...
1100	1100-100	...	1	...	...	...



UNIT	POSITION	NAME	GRADE	STATUS	DATE	TIME	LOCATION	REMARKS
001	PILOT	JOHN D. SMITH	1LT	ACTIVE	07/28/10	14:30	001	Normal flight
002	COPILOT	JAMES R. BROWN	1LT	ACTIVE	07/28/10	14:30	002	Normal flight
003	LOADMASTER	ROBERT L. GREEN	1LT	ACTIVE	07/28/10	14:30	003	Normal flight
004	FLIGHT ENGINEER	MICHAEL A. BLACK	1LT	ACTIVE	07/28/10	14:30	004	Normal flight
005	COMM OFFICER	DAVID E. WHITE	1LT	ACTIVE	07/28/10	14:30	005	Normal flight
006	CREW CHIEF	CHRISTOPHER S. HARRIS	1LT	ACTIVE	07/28/10	14:30	006	Normal flight
007	FLIGHT ATTENDANT	STEPHANIE M. KING	1LT	ACTIVE	07/28/10	14:30	007	Normal flight
008	FLIGHT ATTENDANT	ANDREW J. WOOD	1LT	ACTIVE	07/28/10	14:30	008	Normal flight
009	FLIGHT ATTENDANT	EMILY R. BAKER	1LT	ACTIVE	07/28/10	14:30	009	Normal flight
010	FLIGHT ATTENDANT	DAVID L. GAY	1LT	ACTIVE	07/28/10	14:30	010	Normal flight

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#### **D4. MAINTENANCE RECORDS FROM OTHER INVOLVED EQUIPMENT**

Samples were taken from equipment that was used to service the mishap aircraft with no positive results.

##### **Fuel:**

Trucks 96L00204, 96L00183 and tanks TK741, TK737 were tested and all samples were within allowable limits.

##### **Hydraulics:**

The hydraulic test stand MT01 used for a 15 July gear swing during wash and lube was sampled and tested to the capability of local test facilities, but there is no local baseline data for hydraulic testing. The aircraft flew 3 times between this servicing and the mishap sortie with no hydraulic or flight control issues.

##### **Tools:**

All tools used on the mishap aircraft on 28 July were accounted for in the Tool Accountability system (TAS). CTKs used in Fuel Cell maintenance on 23 July were also complete and accounted for at the time of the mishap.

**TAB E**

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**TAB F**

**WEATHER AND ENVIRONMENTAL RECORDS AND DATA**

**F1. WEATHER BRIEFINGS PROVIDED TO FLIGHT CREWS ..... 3**

**F1.1. HOURLY OBSERVATIONS ..... 5**

**F1.2. MISSION EXECUTION FORECAST ..... 7**

**F1.3. SATELLITE INFORMATION ..... 9**

**F2. ACTUAL WEATHER OBSERVATIONS AND CONDITIONS FOR EVENT... 11**

**F2.2. ATIS INFORMATION ..... 13**

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**F1. WEATHER BRIFINGS PROVIDED TO FLIGHT CREWS**



DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES

28 July 10

MEMORANDUM FOR 3OSS/OSW

FROM: SSgt

SUBJECT: Aircraft Mishap SITKA 43

1. At approximately 0115Z, SITKA 43 called the weather office to inquire about the current ceiling. I informed them that it was reading overcast at 2,200 feet at that moment. He said that they needed to have ceiling greater than 2,500 feet. I told them that it should be coming up within the next few hours. At 0142Z I received a PMSV call from SITKA 43 telling me that they have ceiling above 2,500 feet. I confirmed that our weather sensor was reading broken at 2,500 feet and that I would send an observation out at that time. The following was sent out at 0144Z: SPECI PAED 290144Z 25004KT 10SM OVC025 13/10 A3004 RMK AO2A SLP175. An Air Force 175-1 was not accomplished or requested from the aircrew.

2. Questions regarding this report can be directed to me at [redacted].

[redacted], SSgt, USAF

No.	Call Sign	DTG (Z)	Information Given to Pilot				Contact Type	Initials	
5							T / A / P		
PIREP	(U) UA		/OV		/FL		/TP		
	/SK		/WX		/TA		/WV		
	/TB		/IC		/RM	Dissemination	Local	Longline	
VERBAL BRIEFING	Aircraft Type	Call Sign	Departure ICAO	ETD	Flight Level	Destination ICAO	ETA	Brief Time	Initials
	WX location								
No.	Call Sign	DTG (Z)	Information Given to Pilot				Contact Type	Initials	
6							T / A / P		
PIREP	(U) UA		/OV		/FL		/TP		
	/SK		/WX		/TA		/WV		
	/TB		/IC		/RM	Dissemination	Local	Longline	
VERBAL BRIEFING	Aircraft Type	Call Sign	Departure ICAO	ETD	Flight Level	Destination ICAO	ETA	Brief Time	Initials
	WX location								
No.	Call Sign	DTG (Z)	Information Given to Pilot				Contact Type	Initials	
7							T / A / P		
PIREP	(U) UA		/OV		/FL		/TP		
	/SK		/WX		/TA		/WV		
	/TB		/IC		/RM	Dissemination	Local	Longline	
VERBAL BRIEFING	Aircraft Type	Call Sign	Departure ICAO	ETD	Flight Level	Destination ICAO	ETA	Brief Time	Initials
	WX location								
No.	Call Sign	DTG (Z)	Information Given to Pilot				Contact Type	Initials	
8							T / A / P		
PIREP	BASED ON /OV 8A2804065/TM 2037/FL360/TP IS/SK BKUNRN-TOE300/TA MEO /WV CR013KT/TP LST								
VERBAL BRIEFING	Aircraft Type	Call Sign	Departure ICAO	ETD	Flight Level	Destination ICAO	ETA	Brief Time	Initials
	WX location								
No.	Call Sign	DTG (Z)	Information Given to Pilot				Contact Type	Initials	
9							T / A / P		
PIREP	(U) UA		/OV		/FL		/TP		
	/SK		/WX		/TA		/WV		
	/TB		/IC		/RM	Dissemination	Local	Longline	
VERBAL BRIEFING	Aircraft Type	Call Sign	Departure ICAO	ETD	Flight Level	Destination ICAO	ETA	Brief Time	Initials
	WX location								

**FI.1. HOURLY OBSERVATIONS**

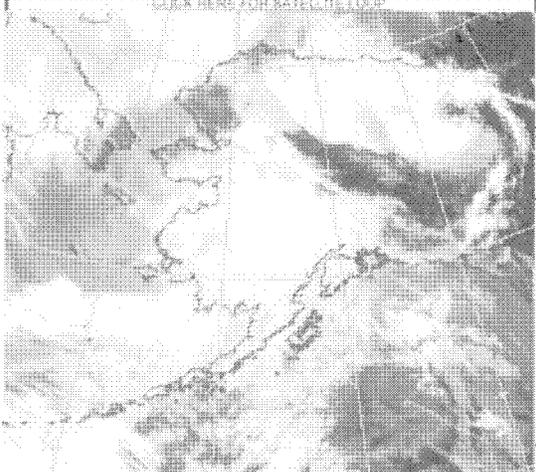
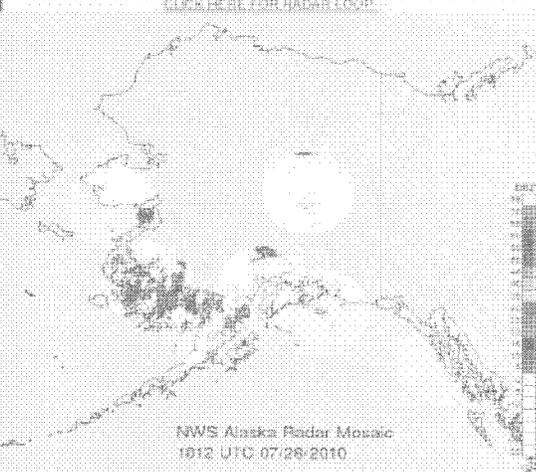
SAAK70 KAWN 290400 RRC  
 METAR PAED 290355Z AUTO 27004KT 10SM -DZ OVC075 12/10 A3004 RMK AO2  
 DZB0342 SLP175 P0000 T01210098 \$  
  
 PAED METAR 0355Z AUTO 25004KT 10 -DZ OVC075 CIG075 12/10 ALSTG  
 30.04 RMK AO2 DZB0342 SLP175 P0000 T01210098 \$ PA +102;  
  
 SPZZ40 KAWN 290345 RRC  
 SPECI PAED 290342Z AUTO 26006KT 10SM -DZ FEW026 OVC075 12/10 A3004  
 RMK AO2 DZB0342 SLP174 \$  
  
 PAED SPECI 0342Z AUTO 24006KT 10 -DZ FEW026 OVC075 CIG075 12/10  
 ALSTG 30.04 RMK AO2 DZB0342 SLP174 \$ PA +102;  
  
 SAAK70 KAWN 290300 RRC  
 METAR PAED 290255Z AUTO 26005KT 10SM FEW025 OVC060 12/10 A3004 RMK  
 AO2 DZB0215E0233 SLP173 P0000 60000 T01220098 56004 \$  
  
 PAED METAR 0255Z AUTO 24005KT 10 FEW025 OVC060 CIG060 12/10  
 ALSTG 30.04 RMK AO2 DZB0215E0233 SLP173 P0000 60000  
 T01220098 56004 \$ PA +102;  
  
 SPXX27 KAWN 290255 RRH  
 SPECI PAED 290253Z 27005KT 10SM FEW025 OVC060 12/10 A3004 RMK AO2A  
 SLP173  
  
 PAED SPECI 0253Z 25005KT 10 FEW025 OVC060 CIG060 12/10 ALSTG  
 30.04 RMK AO2A SLP173 PA +100 54/GP;  
  
 SPZZ40 KAWN 290241 RRM  
 SPECI PAED 290238Z AUTO 27005KT 10SM SCT025 OVC060 13/10 A3004 RMK  
 AO2 DZB0215E0233 SLP174 \$  
  
 PAED SPECI 0238Z AUTO 25005KT 10 SCT025 OVC060 CIG060 13/10  
 ALSTG 30.04 RMK AO2 DZB0215E0233 SLP174 \$ PA +102;  
  
 SPZZ40 KAWN 290235 RRC  
 SPECI PAED 290233Z AUTO 26005KT 10SM BKN026 OVC060 13/10 A3004 RMK  
 AO2 DZB0215E0233 SLP174 \$  
  
 PAED SPECI 0233Z AUTO 24005KT 10 BKN026 OVC060 CIG026 13/10  
 ALSTG 30.04 RMK AO2 DZB0215E0233 SLP174 \$ PA +102;  
  
 SPXX27 KAWN 290226 RRC  
 SPECI PAED 290224Z 26006KT 10SM -DZ BKN026 OVC060 13/10 A3004 RMK AO2A  
 SLP174  
  
 PAED SPECI 0224Z 24006KT 10 -DZ BKN026 OVC060 CIG026 13/10  
 ALSTG 30.04 RMK AO2A SLP174 PA +100 25/GP;  
  
 SAAK70 KAWN 290217 RRD  
 SPECI PAED 290215Z AUTO 26005KT 10SM -DZ BKN025 BKN031 OVC060 13/10  
 A3004 RMK AO2 DZB0215 SLP174 \$  
  
 PAED SPECI 0215Z AUTO 24005KT 10 -DZ BKN025 BKN031 OVC060  
 CIG025 13/10 ALSTG 30.04 RMK AO2 DZB0215 SLP174 \$ PA +102;  
  
 SAZZ84 KAWN 290200 RRC  
 METAR PAED 290155Z AUTO 26006KT 10SM BKN025 BKN031 OVC060 13/10 A3004  
 RMK AO2 SLP174 T01290097 \$  
  
 PAED METAR 0155Z AUTO 24006KT 10 BKN025 BKN031 OVC060 CIG025  
 13/10 ALSTG 30.04 RMK AO2 SLP174 T01290097 \$ PA +102;  
  
 SPXX15 KAWN 290146 RRH  
 SPECI PAED 290144Z 25004KT 10SM OVC025 13/10 A3004 RMK AO2A SLP175  
  
 PAED SPECI 0144Z 23004KT 10 OVC025 CIG025 13/10 ALSTG 30.04 RMK  
 AO2A SLP175 PA +100;  
  
 SAZZ53 KAWN 290100 RRA

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**F1.2. MISSION EXECUTION FORECAST**

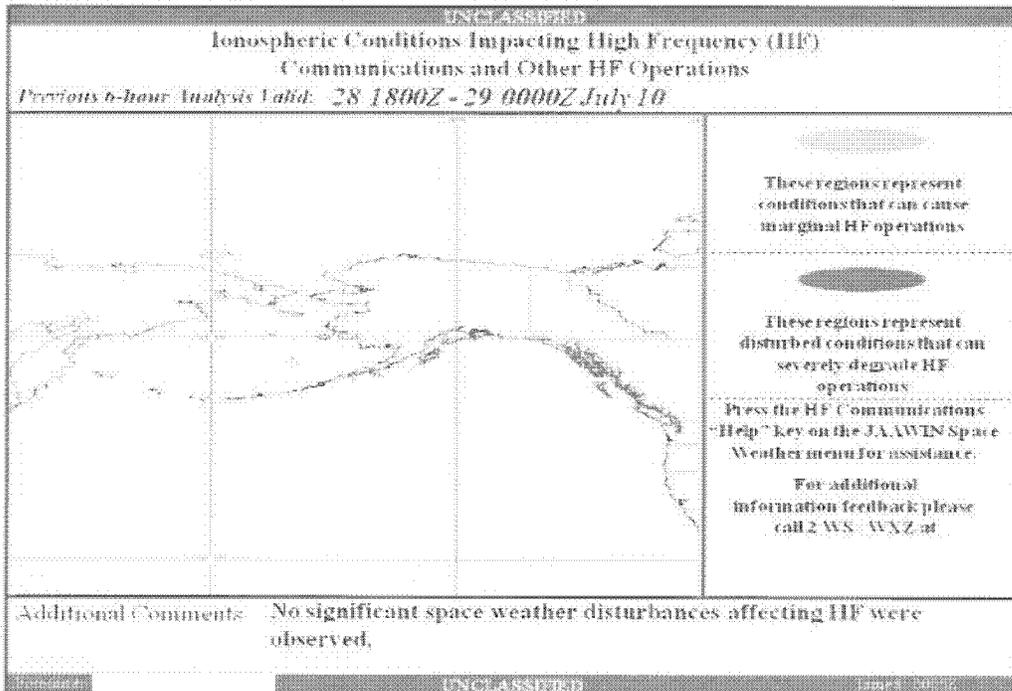
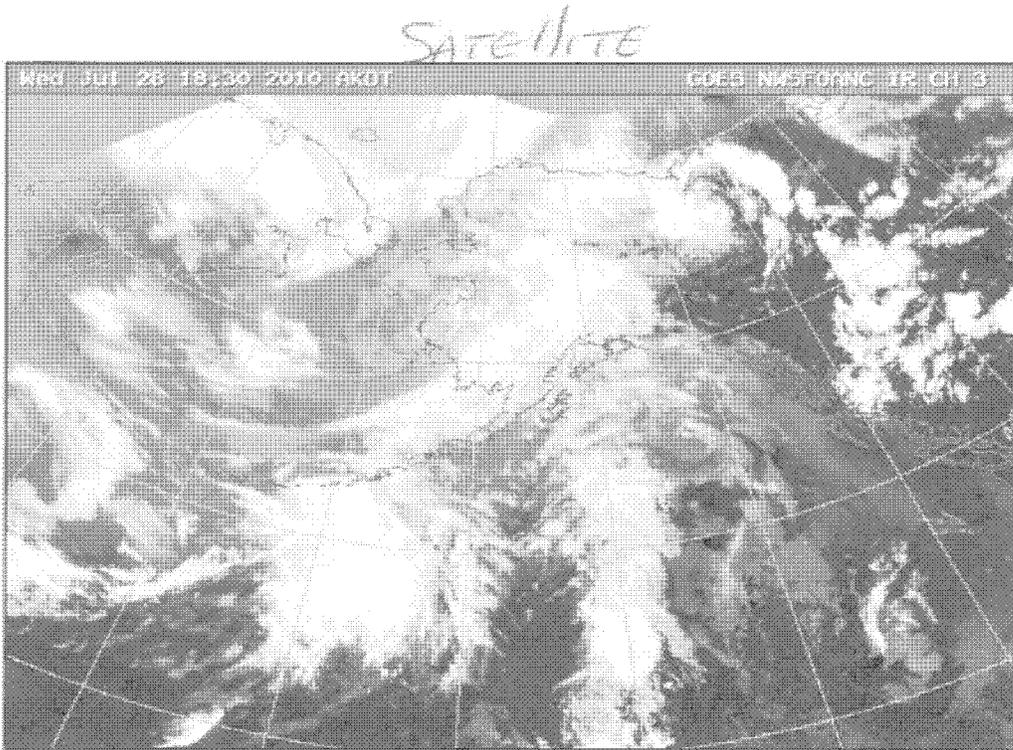
ELMENDORF MISSION EXECUTION FORECAST									
DATE:	28-Jul-10 #2 AMD	VALID TIME:	1330-1600 L	FORECASTER:	TSGT				
ELMENDORF TAKEOFF / RTB DATA									
TIME	CLOUDS			WINDS	VIS/WX				
1330-1600 L	SCT025 OVC050			24009 KT	7 / VCSH				
TEMPO 1330-1600 L	BKN025 OVC050				6 / SHRA				
MINIMUM ALTIMETER	29.99	MAX PA:	+147	TROP HEIGHT:	350	HIGH TEMP:	16 C	61 F	
INDUCTION ICING:	TAKEOFF	LANDING	FREEZING LEVEL:	080	LOW TEMP:	09 C	48 F		
WVA/RMKS:	NONE								
AIRSPACE FORECASTS (ALL HEIGHTS AGL)									
NAME	VIS / WX	CLOUDS		24-HR MIN ECT / TMP	Illumination		mix data		
STONY	5 / -RA BR	SCT-BKN005/060 (LYRD) BKN090/150 BKN180/280 (LYRD)		TEMP: 19 C -50 F ECT: *** C *** F	EECT: 0041 L EENT: **** L		≥ 2.2 mix 1330-1600 L		
REMARKS:	NONE								
SUSITNA	7 / -RA	BKN030/080 BKN080/150 BKN180/280 (LYRD)		TEMP: 06 C -48 F ECT: *** C *** F	EECT: 0049 L EENT: **** L		≥ 2.2 mix 1330-1600 L		
REMARKS:	NONE								
NAKNEK	3 / -RA BR	SCT-BKN008/060 (LYRD) BKN090/150 BKN180/280 (LYRD)		TEMP: 06 C -43 F ECT: *** C *** F	EECT: 0012 L EENT: **** L		≥ 2.2 mix 1330-1600 L		
REMARKS:	NONE								
FOX 3	7	SCT-BKN050/120 BKN150/180 SCT220/280		TEMP: 11 C -52 F ECT: *** C *** F	EECT: 0025 L EENT: **** L		≥ 2.2 mix 1330-1600 L		
REMARKS:	NONE								
ALDER / Z202	7	SCT050/120 SCT-BKN150/180 SCT220/280		TEMP: 11 C -52 F ECT: *** C *** F	EECT: 0043 L EENT: **** L		≥ 2.2 mix 1330-1600 L		
REMARKS:	NONE								
FLIGHT LEVEL WINDS					ALTERNATE FORECASTS				
FLIGHT LEVEL	NAKNEK	STONY	SUSITNA	FOX	NAME	VIS / WX	CLOUDS	WINDS	
100	21020 KT	19020 KT	23015 KT	24010 KT	PAKI	7	SCT060 SCT100	VR805 KT	
200	21030 KT	20020 KT	25020 KT	27020 KT	PANC	7 / VCSH	SCT035 BKN050	18005 KT	
300	24040 KT	23030 KT	25030 KT	27035 KT	PAKN	6 / -RA BR	SCT097 OVC015	18008 KT	
400	24025 KT	25025 KT	25020 KT	26020 KT		≥ 1500 / 3		< 500: 11 kt	
450	24010 KT	24010 KT	24015 KT	24015 KT					
CONTRAIS:	XX	XX	XX	XX	311	342	327	367	
WVA OR RMKS:	NONE								
ELMENDORF SOLAR / LUNAR / SPACE DATA									
BMCT:	0411 L	SUNRISE:	0522 L	SUNSET:	2248 L	EECT:	2357 L	UNF / SATCOM:	NO IMPACTS
MOONRISE:	2246 L	MOONSET:	0909 L	ILLUMINATION:	95 %	AURORA:	ACTIVE		
CLICK HERE FOR SATELLITE LOOP					CLICK HERE FOR RADAR LOOP				
									
					NWS Alaska Radar Mosaic 1012 UTC 07/28/2010				
PLEASE CALL THE WEATHER SHOP AT					WITH ANY QUESTIONS!				

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### F1.3. SATELLITE INFORMATION



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**F2. ACTUAL WEATHER OBSERVATIONS AND CONDITIONS FOR EVENT**

SAAK70 KAWN 290400 RRC  
 METAR PAED 290355Z AUTO 27004KT 10SM -DZ OVC075 12/10 A3004 RMK AO2  
 DZB0342 SLP175 P0000 T01210098 \$

PAED METAR 0355Z AUTO 25004KT 10 -DZ OVC075 CIG075 12/10 ALSTG  
 30.04 RMK AO2 DZB0342 SLP175 P0000 T01210098 \$ PA +102;

SPZZ40 KAWN 290345 RRC  
 SPECI PAED 290342Z AUTO 26006KT 10SM -DZ FEW026 OVC075 12/10 A3004  
 RMK AO2 DZB0342 SLP174 \$

PAED SPECI 0342Z AUTO 24006KT 10 -DZ FEW026 OVC075 CIG075 12/10  
 ALSTG 30.04 RMK AO2 DZB0342 SLP174 \$ PA +102;

SAAK70 KAWN 290300 RRF  
 METAR PAED 290255Z AUTO 26005KT 10SM FEW025 OVC060 12/10 A3004 RMK  
 AO2 DZB0215E0233 SLP173 P0000 60000 T01220098 56004 \$

PAED METAR 0255Z AUTO 24005KT 10 FEW025 OVC060 CIG060 12/10  
 ALSTG 30.04 RMK AO2 DZB0215E0233 SLP173 P0000 60000  
 T01220098 56004 \$ PA +102;

SPXX27 KAWN 290255 RRH  
 SPECI PAED 290253Z 27005KT 10SM FEW025 OVC060 12/10 A3004 RMK AO2A  
 SLP173

PAED SPECI 0253Z 25005KT 10 FEW025 OVC060 CIG060 12/10 ALSTG  
 30.04 RMK AO2A SLP173 PA +100 54/GP;

SPZZ40 KAWN 290241 RRM  
 SPECI PAED 290238Z AUTO 27005KT 10SM SCT025 OVC060 13/10 A3004 RMK  
 AO2 DZB0215E0233 SLP174 \$

PAED SPECI 0238Z AUTO 25005KT 10 SCT025 OVC060 CIG060 13/10  
 ALSTG 30.04 RMK AO2 DZB0215E0233 SLP174 \$ PA +102;

SPZZ40 KAWN 290235 RRC  
 SPECI PAED 290233Z AUTO 26005KT 10SM BKN026 OVC060 13/10 A3004 RMK  
 AO2 DZB0215E0233 SLP174 \$

PAED SPECI 0233Z AUTO 24005KT 10 BKN026 OVC060 CIG026 13/10  
 ALSTG 30.04 RMK AO2 DZB0215E0233 SLP174 \$ PA +102;

SPXX27 KAWN 290226 RRC  
 SPECI PAED 290224Z 26005KT 10SM -DZ BKN026 OVC060 13/10 A3004 RMK AO2A  
 SLP174

PAED SPECI 0224Z 24006KT 10 -DZ BKN026 OVC060 CIG026 13/10  
 ALSTG 30.04 RMK AO2A SLP174 PA +100 25/GP;

SPAK70 KAWN 290217 RRD  
 SPECI PAED 290215Z AUTO 26005KT 10SM -DZ BKN025 BKN031 OVC060 13/10  
 A3004 RMK AO2 DZB0215 SLP174 \$

PAED SPECI 0215Z AUTO 24005KT 10 -DZ BKN025 BKN031 OVC060  
 CIG026 13/10 ALSTG 30.04 RMK AO2 DZB0215 SLP174 \$ PA +102;

SAZZ84 KAWN 290200 RRX  
 METAR PAED 290155Z AUTO 26006KT 10SM BKN025 BKN031 OVC060 13/10 A3004  
 RMK AO2 SLP174 T01290097 \$

PAED METAR 0155Z AUTO 24006KT 10 BKN025 BKN031 OVC060 CIG025  
 13/10 ALSTG 30.04 RMK AO2 SLP174 T01290097 \$ PA +102;

SPXX15 KAWN 290146 RRH  
 SPECI PAED 290144Z 25004KT 10SM OVC025 13/10 A3004 RMK AO2A SLP175

PAED SPECI 0144Z 23004KT 10 OVC025 CIG025 13/10 ALSTG 30.04 RMK  
 AO2A SLP175 PA +100;

SAZZS3 KAWN 290100 RRA

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**F2.2. ATIS INFORMATION**

**DEPARTMENT OF THE AIR FORCE**  
**3<sup>rd</sup> Operations Support Squadron (PACAF)**  
**Elmendorf AFB, Alaska**

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3OSS/OSAT

SUBJECT: SITKA43 ATIS Tape Transcript

This transcript includes the Automated Terminal Information Service (ATIS) recordings from the night of 28 July 2010 between 0212z and 0233z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from the ATIS Recording.

<u>TIME</u>	<u>POSITON/CALLSIGN &amp; NARRATIVE</u>
02:12:37	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.
02:13:05	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.
02:13:32	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.
02:14:00	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.
02:14:28	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.
02:14:55	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.
02:15:23	Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three,

Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:15:51 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:16:18 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:16:46 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:17:14 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:17:41 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:18:09 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:18:37 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:19:04 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:19:32 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:20:00 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:20:28 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three,

Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:20:55 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:21:23 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:21:50 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:22:18 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:22:41 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:23:14 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:23:41 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:24:08 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:24:35 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:25:04 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:25:31 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three,

Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:25:59 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:26:26 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:26:54 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:27:22 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:27:50 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:28:17 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:28:45 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:29:12 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:29:40 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:30:08 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:30:35 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three,

Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:31:03 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:31:30 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:31:59 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:32:26 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

02:32:54 Elmendorf Air Force Base information kilo. Weather at zero zero five five zulu. Wind Calm, visibility one zero. Ceiling two thousand three hundred overcast. Temperature one three, Dewpoint niner, altimeter three zero zero four, pressure altitude plus one zero two. Runway six in use, expect visual approach runway six. Advise on initial contact you have information kilo.

END OF TRANSCRIPT

“I certify this to be a true and exact transcript of the original recording on file at this office at Elmendorf AFB, AK.”

//SIGNED//

MSgt

Complex Chief Controller

**INTENTIONALLY**

**LEFT**

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## TAB G

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AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
EXCEPTIONALLY QUALIFIED: Flight Discipline, Instructional Ability, and General Knowledge were particularly noteworthy.	
EXAMINER'S REMARKS:	
A. Mission Description. This SPOT evaluation was administered on an Elmendorf AFB local training sortie as part of a SEFE Objectivity evaluation during a HQ PACAF Aircrew Standardization and Evaluation Visit conducted by Major PACAF A3/A3TV. The mission profile included low level operations and threat reactions on IR922, a tactical arrival to the ALZ at Allen AAF, and a touch and go landing at Elmendorf AFB. MP instructed time control and low level operations. All aspects of the evaluation were accomplished in an outstanding manner. Lt Col WITNESS 22, 249 AS/CC, was debriefed on the results of the evaluation.	
B. Discrepancies. None.	
C. Recommended Additional Training. None.	
D. Additional Comments. None.	
176 OG/OGV <sup>nl</sup> <u>44</u>	

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 18 Nov 09			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MP</b>		RANK Maj	SSAN	ELIGIBILITY PERIOD Jul -Dec 09			
ORGANIZATION AND LOCATION 249 AS, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/1P					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
Closed Book	12 Nov 09	100	SIM INSTM/QUAL	18 Nov 09			
EPE	18 Nov 09	1					
Instrument	24 Sep 09	100					
Boldface	18 Nov 09	Q					
Open Book/ATS	24 Sep 09	COMP					
QUALIFICATION LEVEL		ADDITIONAL TRAINING					
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION Apr 11	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE			
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		ACCEPTED	NOT ACCEPTED	REVIEWED	REAPPROVED		
1 FLIGHT EXAMINER Lt Col	176 OG/OGV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	19 NOV 09
2 REVIEWING OFFICER Lt Col	249 AS/DO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	19 Nov 09
3 FINAL APPROVING OFFICER WITNESS 22 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	19 NOV 09
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 5 Dec 09	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE			

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> MP flew this recurring QUAL/INSTM evaluation in the WST on an Elmendorf AFB local profile. MP instruction of Abnormal Configurations and Departure Alternate criteria and procedures to a First Pilot were noteworthy. Other required objectives were evaluated, including CAT II ILS, engine out operations and a nonstandard configuration. All items observed were completed in an excellent manner. Special interest items were evaluated and PAR procedures were verbally evaluated due to simulator time constraints. Lt Col WITNESS 22, 249 AS/CC, was debriefed on the results of the evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
OGV: _____	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 02 Mar 09		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MP</b>		RANK Maj	SSAN	ELIGIBILITY PERIOD Oct 08-Mar 09		
ORGANIZATION AND LOCATION 176 OG, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/IP				
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Tactics	16 Dec 08	100	MSN	24 Feb 09		
EPE	02 Mar 09	1	MSN	02 Mar 09		
QUALIFICATION LEVEL		ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION Aug 10	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE		
<input type="checkbox"/> RESTRICTIONS <small>(Explain in Comments on Back)</small>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <small>(Explain in Comments on Back)</small>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <small>(Explain in Comments on Back)</small>			
<b>III. CERTIFICATION</b>						
TYPED NAME AND RANK	ORGANIZATION	CHECK			SIGNATURE	DATE
		RECHECK	RECHECK	RECHECK		
1 FLIGHT EXAMINER Maj	249 AS/DOP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>A</i>	15 Apr 09
2 REVIEWING OFFICER WITNESS 30 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	12 MAY 09
3 FINAL APPROVING OFFICER Col	176 OG/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	28 May 09
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 1 Apr 09	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE <i>[Signature]</i>		

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b>	
<p><u>First Sortie:</u> This recurring mission evaluation was flown in the Elmendorf local area. Profile included a low level, threat reaction, and an assault landing on the Rwy 16 ALZ at Elmendorf AFB. The 176 OG/CC approved completion of the mission evaluation to the painted ALZ in accordance with AFI 11-2C-17V2, paragraph 2.4.2.1. MP instructed assault landings and tactical arrivals. The air refueling portion of the mission was cancelled due to maintenance.</p>	
<p><u>Second Sortie:</u> Air refueling was evaluated on AR506 with a KC-135. MP instructed a non-current aircraft commander on air refueling. All required objectives were completed in an excellent manner. Lt Col WITNESS 22, 249 AS/DO, was debriefed on the results of the evaluation.</p>	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
OGV <sup>18</sup> <u>145</u>	

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED				
				23 Jul 08				
I. EXAMINEE IDENTIFICATION								
NAME (Last, First, Middle Initial) MP		RANK Maj	SSAN	ELIGIBILITY PERIOD Mar -Aug 08				
ORGANIZATION AND LOCATION 249 AS, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/IP						
II. QUALIFICATION								
GROUND PHASE			FLIGHT PHASE					
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE				
Closed Book	27 Jun 08	100	SIM QUAL/INSTM	23 Jul 08				
EPE	23 Jul 08	1						
Instrument	26 Jun 08	100						
Boldface	23 Jul 08	Q						
Open Book/ATS	21 May 08	COMP						
QUALIFICATION LEVEL		ADDITIONAL TRAINING						
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A					
EXPIRATION DATE OF QUALIFICATION Dec 09	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE				
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>					
III. CERTIFICATION								
TYPED NAME AND RANK	ORGANIZATION	CHECK					SIGNATURE	DATE
		RETRAC	D-201	DOC	EX-ENT	EX-ENT		
1 FLIGHT EXAMINER Capt	517 AS/CCV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	24 Jul 08
2 REVIEWING OFFICER WITNESS 22 Lt Col	249 AS/DO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	25 Jul 08
3 FINAL APPROVING OFFICER WITNESS 30 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	30 July 08
I CERTIFY that I have been briefed and understand the action being taken this date.								
DATE 30 JUL 08	TYPED NAME AND GRADE OF EXAMINEE MP		SIGNATURE <i>[Signature]</i>					

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> MP instructed CAT II ILS procedures and abnormal configurations on this recurring QUAL/INSTM evaluation. The evaluation was flown in the WST on an Elmendorf AFB local profile. Required objectives were evaluated, including CAT II ILS, engine out operations and nonstandard configuration. All items observed were completed in an excellent manner. Special interest items were evaluated and PAR procedures were verbally evaluated. Lt Col <sup>WITNESS 30</sup> , 248 AS/CC, was debriefed on the results of the evaluation.	
<b>B. Discrepancies.</b>	
None.	
<b>C. Recommended Additional Training.</b>	
None.	
<b>D. Additional Comments.</b>	
None.	
OGV: <u>          </u>	



AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
EXAMINER'S REMARKS:	
A. Mission Description.	
First Sortie. This recurring mission evaluation was flown on a local Elmendorf AFB training flight. Itinerary included a day low level and threat reaction procedures on IR 921, assault landing on the painted zone at Elmendorf AFB, and ground operations supporting USARAK combat equipment load validation at Eielson AFB. All required objectives were evaluated except air refueling, due to tanker maintenance problems. Especially noteworthy was MP's assault landing with gusting crosswinds in excess of 20 knots.	
WITNESS 23, LTC, USAF 517 AS/CC	
Second Sortie. This flight was conducted to complete the air refueling portion of MP's mission evaluation. Auto-pilot on and off air refueling with a KC-135 was evaluated at night on AR 505E. MP instructed during both contacts. All elements of the evaluation were conducted in an excellent manner. LTC 249 AS/DO, was debriefed on the results of the evaluation.	
B. Discrepancies. None	
C. Recommended Additional Training: None	
D. Additional Comments.	
1. This evaluation was completed after the original MSN expiration date due to the lack of tanker support for air refueling and the lack of available evaluators during the unit's initial stand-up. The new expiration date waiver for 30 Nov 07 was approved by the 249 AS/CC and 178 OG/CC.	
OGV <u>      </u>	

07 DEC 10 1034

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 15 Mar 07			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME <b>MP</b>			GRADE Capt		SSAN		
ORGANIZATION AND LOCATION 10 AS, McChord AFB, WA			ACFT/CREW POSITION C-17A/IP		ELIGIBILITY PERIOD Jan - Jun 07		
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
Closed Book	12 Mar 07	100	SIM QUAL/INSTM	15 Mar 07			
Open Book/ATS	5 Mar 07	Comp					
Boldface/CAPs	12 Mar 07	Q					
EPE	15 Mar 07	1					
Instrument	13 Mar 07	100					
QUALIFICATION LEVEL		RESTRICTION (Explain In Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING				
QUALIFIED	UNQUALIFIED		DUE DATES				
I			N/A				
EXPIRATION DATE OF QUALIFICATION Aug 08			DATE ADDITIONAL TRAINING COMPLETED N/A				
<p><b>COMMENTS</b> <i>(if more space is needed, continue on reverse)</i></p> <p><b>EXAMINER'S REMARKS:</b></p> <p>A. Mission Description: This recurring evaluation was flown in the WST at McChord AFB using the 62 OG/OGV standard profile 3 dated Feb 07. PAR and special interest items were verbally evaluated. This evaluation was completed in a satisfactory manner. Lt Col , 10 AS/CC, was debriefed.</p> <p>B. Discrepancies: None.</p>							
<b>III. CERTIFICATION</b>							
TYPED NAME AND GRADE	ORGANIZATION	CHECK				SIGNATURE	DATE
		C O N C U R R E N T	D O N O T	C O N C U R R E N T	R E M A R K S		
1 FLIGHT EXAMINER Capt	10 AS/DOV				X		15 Mar 07
2 REVIEWING OFFICER Maj	10 AS/DOV	X					5 Apr 07
3 FINAL APPROVING OFFICER Lt Col	10 AS/CC	X					19 Apr 07
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE <b>29 Nov 07</b>	TYPED NAME AND GRADE OF EXAMINEE MP				SIGNATURE 		

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				1 May 06		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME  MP			GRADE  Capt		SSAN	
ORGANIZATION AND LOCATION  10 AS, McChord AFB, WA			ACFT/CREW POSITION  C-17A/IP		ELIGIBILITY PERIOD  Dec 05 - May 06	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	1 May 06	1	MSN	1 May 06		
QUALIFICATION LEVEL		RESTRICTION <i>(Explain in Comments)</i>  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION			DATE ADDITIONAL TRAINING COMPLETED			
Oct 07			N/A			
COMMENTS <i>(If more space is needed, continue on reverse)</i>						
EXAMINER'S REMARKS:						
<p>A. Mission Description: This recurring mission evaluation was flown on a local McChord AFB training flight. Itinerary included air refueling on AR 10 SE/NW, tactical approach to Coulee LZ at Moses Lake, and a low level on IR 326. This evaluation was completed in a satisfactory manner. Instructor duties and special interest items were evaluated. Lt Col 10 AS/CC, was debriefed.</p> <p>B. Discrepancies: None.</p>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O T	C O R R E C T		
1 FLIGHT EXAMINER Capt	10 AS/DOV			X		1 May 06
2 REVIEWING OFFICER Capt	10 AS/DOV	X				1 May 06
3 FINAL APPROVING OFFICER Lt Col	10 AS/CC	X				4 May 06
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE			SIGNATURE		
16 MAY 06	MP					

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				13 Jan 06		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME MP			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 10 AS, McChord AFB, WA			ACFT/CREW POSITION C-17A/IP		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	13 Jan 06	1	SIM RQ QUAL/INSTM	13 Jan 06		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION Jun 07			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (if more space is needed, continue on reverse)						
EXAMINER'S REMARKS: A. Mission Description: This requalification evaluation was flown in the WST at McChord AFB using the 62 OG/OGV standard profile. Requalification was needed due to a failed examination. Special interest items were verbally evaluated. This evaluation was completed in a satisfactory manner. Lt Col , 10 AS/CC, was debriefed.  B. Discrepancies: None.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O T	R E M A R K S		
1 FLIGHT EXAMINER Capt	10 AS/DOV			X		20 Jan 06
2 REVIEWING OFFICER Capt	10 AS/DOV	X				20 Jan 06
3 FINAL APPROVING OFFICER Lt Col	10 AS/CC	X				30 Jan 06
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 20 MAR 06	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE		

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 3 Jan 06		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME MP			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 10 AS, McChord AFB, WA			ACFT/CREW POSITION C-17A/IP		ELIGIBILITY PERIOD Aug 05 - Jan 06	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	30 Dec 05	100	SIM QUAL/INSTM	3 Jan 06		
Open Book/ATS	29 Dec 05	Comp				
Boldface/CAPs	30 Dec 05	Q				
EPE	3 Jan 06	1				
Instrument	29 Dec 05	95				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO 7	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
	3		31 Mar 06			
EXPIRATION DATE OF QUALIFICATION N/A			DATE ADDITIONAL TRAINING COMPLETED 9 Jan 06			
COMMENTS (if more space is needed, continue on reverse)						
<p>RESTRICTIONS: A. SUPERVISED STATUS until a successful QUAL/INSTM requal evaluation is completed.</p> <p>EXAMINER'S REMARKS: A. Mission Description: This recurring QUAL/INSTM evaluation was accomplished in the WST using the 62 OGV profile. All required items were evaluated. PAR was verbally evaluated. Special interest items were evaluated. Lt Col 10 AS/CC, attended the debrief.</p>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N F I D E N T I A L	D O N O T	R E M A R K S		
1 FLIGHT EXAMINER Capt	10 AS/DOV			X	[Signature]	20 Jan 06
2 REVIEWING OFFICER Capt	10 AS/DOV	X			[Signature]	20 Jan 06
3 FINAL APPROVING OFFICER Lt Col	10 AS/CC	X			[Signature]	30 Jan 06
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 20 MAR 06	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE		

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

B. Discrepancies:

1. Ground. None.

2. Flight.

Area 4. Use of Checklists -- U. Examinee used wrong checklist while performing nonstandard configuration emergency procedure. Examinee misread checklist and chose a slats/no-flap checklist when the no-slat/no-flap checklist should have been used.

Area 6. Crew Coordination/CRM -- U. The examinee confirmed an incorrect flight configuration during a nonstandard configuration. Examinee confirmed with the pilot not flying a slat/no-flap configuration, on final, when all indications in the WST indicated a no-slat/no-flap configuration.

Area 13B. Landings -- U. Examinee, while maneuvering to land, held a speed of 148 KCAS. The mission computer called for an approach speed of 166 KCAS. Examinee noticed the discrepancy at 40 ft AGL, added a large amount of power and touched down at 150 KCAS.

C. Recommended Additional Training.

1. Flight. Fly a minimum of two instructor supervised WST sorties emphasizing proper nonstandard configuration procedures.

ADDITIONAL REMARKS:

MP completed the second WST on 9 Jan 06.

MP completed all additional training in a satisfactory manner and is recommended for his requalification evaluation.

10 AS/DOV

, Capt, USAF

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				14 Oct 05		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 58 AS, Altus AFB OK			ACFT/CREW POSITION C-17A/MP		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	13 Oct 05	1	MSN (AD)	14 Oct 05		
QUALIFICATION LEVEL		RESTRICTION <i>(Explain in Comments)</i>  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Mar 07			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
EXAMINER'S REMARKS: A. Mission Description. This initial airdrop evaluation was administered during a local ATS training mission. Profile included formation air refueling on AR 400 with a KC-135. SKE and visual drops were performed at Sooner DZ. This evaluation was accomplished in a satisfactory manner. B. Discrepancies. NONE.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		D O N O T	D O N O T	R E M A R K S		
1 FLIGHT EXAMINER Capt	58 AS/DOK			X	<i>[Signature]</i>	14 Oct 05
2 REVIEWING OFFICER Capt	58 AS/DOV	X			<i>[Signature]</i>	17 Oct 05
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	X			<i>[Signature]</i>	18 Oct 05
I CERTIFY that I have been briefed and understand the action being taken this date. <i>[Signature]</i>						
DATE <i>[Signature]</i>	TYPED NAME AND GRADE OF EXAMINEE MP				SIGNATURE <i>[Signature]</i>	

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 18 Aug 05		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE Capt	SSAN		
ORGANIZATION AND LOCATION 10 AS, McChord AFB, WA			ACFT/CREW POSITION C-17A/MC	ELIGIBILITY PERIOD N/A		
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	18 Aug 05	1	RQ MSN (AD)	18 Aug 05		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Jan 07			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
EXAMINER'S REMARKS: A. Mission Description: This requal airdrop evaluation was flown on a local McChord AFB two ship training sortie. Requal required due to multiple real world missions and scheduling conflicts. Itinerary included formation air refueling on AR9AE/W, assaults at Moses Lake, low-level on IR327, multiple airdrops at Larson DZ, and recoveries to Moses Lake. This evaluation was completed in a satisfactory manner. Special interest items were evaluated. Lt Col , 10 AS/CC was debriefed.  B. Discrepancies: None.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		O N C U R	D O C N O T	R E M A R K S		
1 FLIGHT EXAMINER Capt	10 AS/DOV			X	<i>[Signature]</i>	19 Aug 05
2 REVIEWING OFFICER Capt	10 AS/DOV	X			<i>[Signature]</i>	19 Aug 05
3 FINAL APPROVING OFFICER Lt Col	10 AS/CC	X			<i>[Signature]</i>	28 Aug 05
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 1 NOV 05	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE <i>[Signature]</i>		

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				22 Dec 04		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME MP			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 10 AS, McChord AFB, WA			ACFT/CREW POSITION C-17A/IP		ELIGIBILITY PERIOD Jul - Dec 04	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	8 Dec 04	1	MSN (AL)	8 Dec 04		
			MSN (AL)	22 Dec 04		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION May 06			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse)						
EXAMINER'S REMARKS: A. Mission Description: This was an initial mission evaluation that included a tactical approach, assault landing, and a low-level on IR 328. Air refueling was not accomplished due to tanker CNX. All items observed were completed in a satisfactory manner. Special interest items were evaluated. Lt Col 10 AS/CC, was verbally debriefed.  10 AS/DOV ✓, Capt, USAF						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONDUCT	KNOWLEDGE	REMARKS		
1 FLIGHT EXAMINER Capt	7 AS/DOV			X	<i>[Signature]</i>	22 Dec 04
2 REVIEWING OFFICER Capt	10 AS/DOV	X			<i>[Signature]</i>	10 Jan 05
3 FINAL APPROVING OFFICER Lt Col	10 AS/CC	X			<i>[Signature]</i>	20 Jan 05
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 8 MAR 05	TYPED NAME AND GRADE OF EXAMINEE MP				SIGNATURE <i>[Signature]</i>	

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

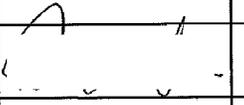
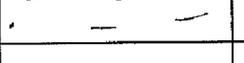
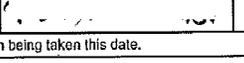
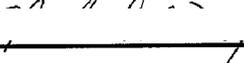
B. Discrepancies: None.

ADDITIONAL ITEMS:  
satisfactory manner.

MP accomplished auto-pilot-on and auto-pilot-off air refueling with a KC-135 on AR307C in a

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 23 Aug 04			
I. EXAMINEE IDENTIFICATION								
NAME <b>MP</b>			GRADE <b>Capt</b>		SSAN			
ORGANIZATION AND LOCATION <b>15 AS, Charleston AFB, SC</b>			ACFT/CREW POSITION <b>C-17A/IP</b>		ELIGIBILITY PERIOD			
II. QUALIFICATION								
GROUND PHASE			FLIGHT PHASE					
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE			
			<i>Sim Qual / Instrum.</i>		20 Aug 04			
QUALIFICATION LEVEL			ADDITIONAL TRAINING					
QUALIFIED		UNQUALIFIED		DUE DATES				
1				N/A				
EXPIRATION DATE OF QUALIFICATION <b>Jan 06</b>			DATE ADDITIONAL TRAINING COMPLETED <b>N/A</b>					
COMMENTS <i>(If more space is needed, continue on reverse)</i> <b>EXAMINER'S REMARKS:</b> A. Mission Description. This evaluation was completed in the WST at Charleston AFB, SC, using Charleston local area instrument approaches. The profile included multiple instrument and visual approaches, landings, and engine out procedures. All maneuvers were accomplished in a Satisfactory manner. FCB special interest items were evaluated.  B. Discrepancies. None.								
DRAFT								
III. CERTIFICATION								
TYPED NAME AND GRADE		ORGANIZATION		CHECK			SIGNATURE	DATE
				C O N C U R	D O N C H O U R	R E M A R K S		
1	FLIGHT EXAMINER <b>Maj</b>		17 AS/		X			
2	REVIEWING OFFICER <b>Maj</b>		15 AS/DOV		X			
3	FINAL APPROVING OFFICER <b>Lt Col</b>		15 AS/CC		X			
I CERTIFY that I have been briefed and understand the action being taken this date.								
DATE		TYPED NAME AND GRADE OF EXAMINEE				SIGNATURE		

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 7 Jun 04		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 58 AS, Altus AFB OK			ACFT/CREW POSITION C-17A/IP		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	4 Jun 04	1	INIT INSTR	7 Jun 04		
QUALIFICATION LEVEL			ADDITIONAL TRAINING			
QUALIFIED		UNQUALIFIED		DUE DATES		
1				N/A		
EXPIRATION DATE OF QUALIFICATION N/A			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i> <b>EXAMINER'S REMARKS:</b> A. Mission Description. This initial instructor evaluation was completed at Altus AFB. Profile included air refueling with a KC-135 on AR 312H and pattern work at Altus AFB. Instruction during VFR patterns, air refueling, and ground operations was both timely and appropriate. This evaluation was completed in an excellent manner. B. Discrepancies. NONE.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Maj	58 AS/ADO			X		7 Jun 04
2 REVIEWING OFFICER Maj	58 AS/DOV	X				8 Jun 04
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	X				9 Jun 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <b>23 AUG 03</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MP</b>				SIGNATURE 	

AF FORM 8, MAY 85 CONTINUATION SHEET

1. SUMMARY

2.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 18 Dec 03		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 15 AS, Charleston AFB, SC			ACFT/CREW POSITION C-17A/MC		ELIGIBILITY PERIOD Jun - Nov 03	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	2 Dec 03	1	MSN	18 Dec 03		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION May 05			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (if more space is needed, continue on reverse)						
EXAMINER'S REMARKS: AIRDROP QUALIFIED						
A. Mission Description. This mission evaluation was completed a random low level with airdrops at Northfield DZ, Steep Approach to ALZ at Northfield LZ and air refueling on AR216. Performance was satisfactory. This evaluation was accomplished outside the 17-month cycle per AF/XOO waiver Msg, DTD 21 Sep 01.						
B. Discrepancies. None.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O T	R E M A R K S		
1 FLIGHT EXAMINER Capt	15 AS			X	<i>[Signature]</i>	19 Dec 03
2 REVIEWING OFFICER Capt	15 AS/DOV	X			<i>[Signature]</i>	30 Dec 03
3 FINAL APPROVING OFFICER Lt Col	15 AS/CC	X			<i>[Signature]</i>	5 JAN 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 18 Feb 04	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE <i>[Signature]</i>		

AF Form 8  
May 85

(CG)

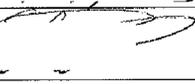
PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 23 Nov 03			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME <b>MP</b>			GRADE <b>Capt</b>		SSAN		
ORGANIZATION AND LOCATION <b>15 AS, Charleston AFB, SC</b>			ACFT/CREW POSITION <b>C-17A/MP</b>		ELIGIBILITY PERIOD <b>N/A</b>		
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
EPE	23 Nov 03	1	SPOT	23 Nov 03			
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING				
QUALIFIED	UNQUALIFIED		DUE DATES				
1			N/A				
EXPIRATION DATE OF QUALIFICATION <b>N/A</b>			DATE ADDITIONAL TRAINING COMPLETED <b>N/A</b>				
COMMENTS <i>(If more space is needed, continue on reverse)</i>							
EXAMINER'S REMARKS:							
A. Mission Description: This was an aircraft commander spot check conducted on 12-13 Nov 03. The itinerary was EDDF-ORBD-EDDF. The evaluation was completed in an excellent manner. Mission preparation and time control was noteworthy. Special interest items were evaluated.							
B. Discrepancies. None.							
<b>III. CERTIFICATION</b>							
TYPED NAME AND GRADE	ORGANIZATION	CHECK				SIGNATURE	DATE
		C O N F I R M	D O N O T	C O N F I R M	R E M A R K S		
1 FLIGHT EXAMINER <b>Capt</b>	15 AS			X		<i>[Signature]</i>	24 NOV 03
2 REVIEWING OFFICER <b>Capt</b>	15 AS/DOV	X				<i>[Signature]</i>	26 NOV 03
3 FINAL APPROVING OFFICER <b>Lt Col</b>	15 AS/CC	X				<i>[Signature]</i>	9 Dec 03
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE <b>11 DEC 03</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MP</b>				SIGNATURE <i>[Signature]</i>		

AF FORM 8, MAY 85 CONTINUATION SHEET

15A

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 10 Jul 03			
<b>I. EXAMINEE IDENTIFICATION</b>								
NAME (Last, First, Middle Initial) <b>MP</b>			GRADE Capt		SSAN			
ORGANIZATION AND LOCATION 58 AS, Altus AFB OK			ACFT/CREW POSITION C-17A/MP		ELIGIBILITY PERIOD N/A			
<b>II. QUALIFICATION</b>								
GROUND PHASE			FLIGHT PHASE					
EXAMINATION/CHECK		DATE	GRADE	MISSION/CHECK		DATE		
EPE		9 Jul 03	1	INIT MSN		10 Jul 03		
QUALIFICATION LEVEL			RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING				
QUALIFIED		UNQUALIFIED		DUE DATES				
1				N/A				
EXPIRATION DATE OF QUALIFICATION Dec 04				DATE ADDITIONAL TRAINING COMPLETED N/A				
COMMENTS (If more space is needed, continue on reverse)								
EXAMINER'S REMARKS: A. Mission Description. This initial mission evaluation was conducted on IR155 and AR312. MCA approach, assault landing, and ground ops were conducted at Altus AFB. The evaluation was completed in a satisfactory manner. B. Discrepancies. NONE.								
<b>III. CERTIFICATION</b>								
TYPED NAME AND GRADE		ORGANIZATION		CHECK			SIGNATURE	DATE
				CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER Capt		58 AS/DOV				X		10 Jul 03
2 REVIEWING OFFICER Maj		58 AS/DOV		X				15 Jul 03
3 FINAL APPROVING OFFICER Lt Col		58 AS/CC		X				16 Jul 03
I CERTIFY that I have been briefed and understand the action being taken this date.								
DATE	TYPED NAME AND GRADE OF EXAMINEE				SIGNATURE			
25 AUG 03	MP							

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 16 May 03		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 15 AS, Charleston AFB, SC			ACFT/CREW POSITION C-17A/MC		ELIGIBILITY PERIOD Sep 01 - Feb 03	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	16 May 03	100	SIM QUAL/INSTM	14 May 03		
Open Book/ATS	11 Apr 03	Comp				
Boldface/CAPs	16 May 03	Q				
EPE	14 May 03	1				
IRC	11 Apr 03	Comp				
QUALIFICATION LEVEL		RESTRICTION (Explain In Comments)	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	N/A			
EXPIRATION DATE OF QUALIFICATION Oct 04			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
<p><b>EXAMINER'S REMARKS:</b></p> <p>A. Mission Description: This evaluation was completed in the WST at Charleston AFB. The profile consisted of instrument and VFR approaches and landings in the Charleston AFB local pattern. The evaluation was completed in a satisfactory manner. Special interest items and PAR procedures were verbally evaluated. This evaluation was accomplished outside the 17-month cycle per AF/XOO waiver Msg, DTD 21 Sep 01.</p> <p>B. Discrepancies. None.</p>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O C U M E N T S	R E M A R K S		
1 FLIGHT EXAMINER Capt	15 AS			X		2 Jun 03
2 REVIEWING OFFICER Maj	15 AS/DOV	X			<i>[Signature]</i>	6 Jun 03
3 FINAL APPROVING OFFICER Lt Col	15 AS/CC	X			<i>[Signature]</i>	25 Jun 03
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <b>5 AUG 03</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MP</b>			SIGNATURE <i>[Signature]</i>		

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 1 Apr 03	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 15 AS, Charleston AFB, SC			ACFT/CREW POSITION C-17A/MC		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
			N/N SPOT		1 Apr 03	
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES  N/A			
EXPIRATION DATE OF QUALIFICATION N/A			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse)						
EXAMINER'S REMARKS:						
A. Mission Description: This was a spot enroute evaluation conducted on 1 Apr 03. The itinerary was BDDF-KCHS. The evaluation was completed in a satisfactory manner. General knowledge and airmanship were noteworthy. Special interest items were evaluated.						
B. Discrepancies.						
1. Ground. Sub-area 1. Directives and Publications - Q-. <b>MP</b> had multiple deleted pages, duplicate pages, and incorrect safety supplement posting. This item was completely debriefed and no further training is required.						
2. Flight. None.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		D O N O U R	D O N O U R	R E M A R K S		
1 FLIGHT EXAMINER Maj	437 AW/CCE			X	<i>[Signature]</i>	15 May 03
2 REVIEWING OFFICER Maj	15 AS/DOV	X			<i>[Signature]</i>	12 May 03
3 FINAL APPROVING OFFICER Lt Col	15 AS/CC	X			<i>[Signature]</i>	14 May
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <b>5 AUG 03</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MP</b>				SIGNATURE <i>[Signature]</i>	

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 6 Jun 02			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MP</b>			GRADE 1 Lt		SSAN		
ORGANIZATION AND LOCATION 58 AS, Altus AFB OK			ACFT/CREW POSITION C-17A/MC		ELIGIBILITY PERIOD N/A		
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
EPE	6 Jun 02	1	MSN	6 Jun 02			
QUALIFICATION LEVEL			RESTRICTION (Explain in Comments)				
QUALIFIED	UNQUALIFIED		DUE DATES  N/A				
1							
EXPIRATION DATE OF QUALIFICATION Nov 03			DATE ADDITIONAL TRAINING COMPLETED N/A				
COMMENTS (If more space is needed, continue on reverse) AIRDROP QUALIFIED							
EXAMINER'S REMARKS: A. Mission Description. This initial airdrop evaluation was administered during a local Altus AFB training mission. Profile included formation air refueling with a KC-135 and SKE/Visual drops at Sooner DZ. The evaluation was accomplished in an excellent manner. B. Discrepancies. NONE.							
<b>III. CERTIFICATION</b>							
TYPED NAME AND GRADE		ORGANIZATION		CHECK		SIGNATURE	DATE
				CONCUR	DO NOT CONCUR		
1 FLIGHT EXAMINER Capt		58 AS/DOV				X	6 Jun 02
2 REVIEWING OFFICER Maj		58 AS/DOV		X			6 JUN 02
3 FINAL APPROVING OFFICER Lt Col		58 AS/CC		X			10 JUN 02
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 18 JUL 02		TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE		

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				9 Apr 02		
I. EXAMINEE IDENTIFICATION						
NAME			GRADE		SSAN	
MP			1LT			
ORGANIZATION AND LOCATION			ACFT/CREW POSITION		ELIGIBILITY PERIOD	
15 AS, Charleston AFB, SC			C-17A/MC		Nov 01 - Apr 02	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	9 Apr 02	1	MSN	9 Apr 02		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	N/A			
EXPIRATION DATE OF QUALIFICATION			DATE ADDITIONAL TRAINING COMPLETED			
Sep 03			N/A			
COMMENTS (if more space is needed, continue on reverse)						
EXAMINER'S REMARKS:						
AIRLAND QUALIFIED						
A. Mission Description: This mission evaluation was completed on IR 035 and AR 202 with Steep Approach to ALZ approaches at North Field. The evaluation was completed in a satisfactory manner. CRM, especially during tactical approaches, was commendable. Special interest items were evaluated.						
B. Discrepancies. None.						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O C U M E N T	R E M A R K S		
1 Maj	15 AS/DOV			X	<i>[Signature]</i>	9 APR 02
2 Maj	15 AS/DOV	X			<i>[Signature]</i>	9 APR 02
3 Lt Col	15 AS/CC	X			<i>[Signature]</i>	16 Apr 02
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE			SIGNATURE		
17 APR 02	MP			<i>[Signature]</i>		

AF Form 8  
May 85

(CG)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				22 Sep 01		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MP</b>			GRADE <b>ILT</b>		SSAN	
ORGANIZATION AND LOCATION <b>15 AS, Charleston AFB, SC</b>			ACFT/CREW POSITION <b>C-17A/MC</b>		ELIGIBILITY PERIOD <b>N/A</b>	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	10 Sep 01	100	SIM-INIT FP	18 Sep 01		
Openbook/ATS	6 Jul 01	Comp	SIM-QUAL/INSTM	18 Sep 01		
BPE	18 Sep 01	I				
Boldface/CAP's	18 Sep 01	Q				
IRC	22 Sep 01	100				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	N/A			
EXPIRATION DATE OF QUALIFICATION Feb 03			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (if more space is needed, continue on reverse)						
EXAMINER'S REMARKS: A. Mission Description. This evaluation was completed in the WST at Charleston AFB. The profile consisted of instrument and VFR approaches and landings in the Charleston AFB local pattern. The evaluation was completed in a satisfactory manner. Special interest items were evaluated.  B. Discrepancies. None						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Maj	17 AS/DOV			X	<i>[Signature]</i>	21 SEP 01
2 REVIEWING OFFICER Maj	15 AS/DOV	X			<i>[Signature]</i>	25 OCT 01
3 FINAL APPROVING OFFICER Lt Col	15 AS/CC	X			<i>[Signature]</i>	26 Dec 01
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 21 Sep 01	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE <i>[Signature]</i>		

AF FORM 8, MAY 85 CONTINUATION SHEET

00-0173-01-01

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 22 Nov 00		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MP</b>			GRADE I Lt		SSAN	
ORGANIZATION AND LOCATION 58 AS, Altus AFB OK			ACFT/CREW POSITION C-17A/MC		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	22 Nov 00	I	INIT MSN	22 Nov 00		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION Apr 02			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse)						
EXAMINER'S REMARKS: A. Mission Description. This initial mission evaluation was conducted on VR190. VFR pattern, SAAF, and ground ops were conducted at Altus AFB. The evaluation was completed in an excellent manner. B. Discrepancies. NONE.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER Maj	58 AS/ADO			X		22 Nov 00
2 REVIEWING OFFICER Maj	58 AS/DOV	X				27 Nov 2000
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	X				30 Nov 00
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 2 Feb 01	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE 		

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 27 Oct 00		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MP</b>			GRADE 1 Lt		SSAN	
ORGANIZATION AND LOCATION 58 AS, Altus AFB OK			ACFT/CREW POSITION C-17A/FC		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
End-of-Course	25 Oct 00	100	SIM INIT QUAL/INSTM	27 Oct 00		
IRC	14 Oct 00	100				
Boldface/CAPs	27 Oct 00	Q				
EPE	27 Oct 00	1				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Mar 02			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse)						
EXAMINER'S REMARKS: A. Mission Description. This initial qualification/instrument evaluation was flown in the WST at Altus AFB on an Altus AFB profile and was completed in an excellent manner. B. Discrepancies. NONE.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER Maj	58 AS/ADO			X		27 OCT 2000
2 REVIEWING OFFICER Maj	58 AS/DOV	X				1 NOV 00
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	X				6 Nov 00
I CERTIFY that I have been briefed and understand the action being taken/this date.						
DATE 11 Dec 00	TYPED NAME AND GRADE OF EXAMINEE MP			SIGNATURE		

AF FORM 8, MAY 85 CONTINUATION SHEET

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G1.1.2.

INDIVIDUAL FLYING HISTORY REPORT

PREPARED 28 JUL 2010 22:26

FLYING HISTORY REPORT (PA)

AS OF 28 JUL 2010

PCN SA036-F40

INQUIRY

NAME: MP SSAN: GRADE: MAJ API: 1 FAC: 1 OFDA: 134 ASC: 1A ASC DATE: 26 MAR 10  
 CMD: ANG WING: 01760PSG PRI CRW POS: P PRI ACFT: C017A UNIT: 0249ALSSQ BASE: KULIS ANG

AIRCRAFT TOTALS

AIRCRAFT MDS	C017A(S)	SMC017A(O)	C017A(S)	SMC017A(O)	SPC017A(O)	SPC017A(O)	CREW POSITION	PILOT
FLT DTY CERT CODE	EP A	EP A	MC3 F	MC3 F	EP33	MC3 F	PRIMARY TIME	757.1
DATE FIRST FLOWN	04 OCT 00	14 OCT 04	04 OCT 00	13 OCT 00	NO DATE	11 OCT 00	SECONDARY TIME	716.0
DATE LAST FLOWN	23 JUL 10	27 JUL 10	23 JUL 04	NO DATE	NO DATE	11 OCT 00	INSTRUCTOR TIME	974.6
TOTAL TIME	1970.5	225.5	1281.1	175.6	0.0	3.5	EVALUATOR TIME	124.0
PRIMARY TIME	298.8	94.8	458.3	76.8	0.0	2.0	OTHER TIME	679.9
SECONDARY TIME	261.9	88.0	454.1	97.3	0.0	1.5	TOTAL TIME	3251.6
INSTRUCTOR TIME	974.6	14.5	0.0	0.0	0.0	0.0	STUDENT TIME	286.9
EVALUATOR TIME	124.0	24.5	0.0	0.0	0.0	0.0	OTHER US MIL TIME	0.0
OTHER TIME	311.2	3.7	368.7	1.5	0.0	0.0	FOREIGN MIL TIME	0.0
NIGHT	359.4	3.5	198.0	0.0	0.0	0.0	CIVILIAN TIME	0.0
PRIMARY INST	148.5	3.3	165.7	0.7	0.0	0.0	COMBAT TIME	608.7
PRIMARY SIM INST	2.4	9.9	1.2	43.2	0.0	2.0	COMBAT SUP TIME	2.0
NAV TIME	74.4	1.5	19.7	0.5	0.0	0.0	TOTAL SORTIES	830
COMBAT TIME	436.9	0.0	171.8	0.0	0.0	0.0	COMBAT SORTIES	194
COMBAT SUPPORT TIME	2.0	0.0	0.0	0.0	0.0	0.0	COMBAT SUP SORTIES	1
COMBAT SORTIES	155	0	39	0	0	0	NAV TIME	94.1
COMBAT SUPPORT SORTIES	1	0	0	0	0	0	DATE FIRST FLOWN	04 OCT 00
TOTAL SORTIES	552	79	278	54	0	1	DATE LAST FLOWN	23 JUL 10
GRAND TOTAL								3548.5

CAREER TOTALS



PREPARED 28 JUL 2010 22:48

AIRCRAFT NISHAP INVESTIGATION (PA)

AS OF 28 JUL 2010 PCN SA036-F20

NAME: MP  
 CMD: ANG WING: 017603SGP  
 CURR RATING: SENIOR PILOT  
 GRADE: MAJ SSAN: APL: 1 FAC: 1 ASC: 1A DAFSC: 01M3K AGE:  
 ORGANIZATION: 0249ALSQ CREW POSITION: EP A ASC DATE: 26 MAR 2010  
 AIRCRAFT TYPE: C017A SERIAL NO: 00-0173 NISHAP DATE: 28 JUL 2010

\*\*\* OTHER AIRCRAFT \*\*\*  
 \*\*\* CAREER TOTALS \*\*\*

CREW POSITION	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SORT
FIRST FLIGHT												
LAST FLIGHT												
PILOT												
04 OCT 2000	757.1	716.0	974.6	124.0	679.9	3251.6	1731.7	296.9	608.7	2.0		830
23 JUL 2010												

### G1.1.4. INDIVIDUAL DATA SUMMARY

PREPARED 28 JUL 2010 22:26

INDIVIDUAL DATA SUMMARY (PA)  
INQUIRY

AS OF 28 JUL 2010

FCN SA036-A70

NAME: MP  
BASE: KULIS ANGB

SSAN:

GRADE: MAJ

COM: ANG

WING: 01760PSSGP

UNIT: 0249ALSSQ

PERSONAL DATA

DUTY PHONE:  
OFFICE SYMBOL:  
MOR SVC CAT:  
LAST PHS DATE:  
PHYS CODE:  
PHYS DUE DATE:  
PHYS AVAIL CODE:  
PHYS AVAIL DATE:  
PHYSIOLOGICAL TNG DATE:  
PHYSIOLOGICAL DUE DATE:  
DATE OF BIRTH:  
DUTY AFSC:  
EFFECTIVE DATE OF DUTY:  
PAS CODE:  
SHORT TOUR INDICATOR:  
DATE RETURN FROM OVERSEAS:  
DATE OF RANK:  
DATE OF SEP/OBLIGATION:  
DATE DEP LAST DUTY STA:  
DATE ARR THIS STATION:  
PERSONNEL RECORD STATUS:  
PROJECTED DAFSC:  
PROJECTED PAS CODE:  
PROJECTED DUTY LOCATION:  
PROJ DEPARTURE DATE:  
PROJ REPORTING DATE:  
PAC 8 EFFECTIVE DATE:  
LOCAL USE CODE:

DDP  
AIRNG  
17 JUL 10  
F  
15 OCT 11  
A  
17 JUL 10  
06 MAY 09  
31 MAY 14

011M3K  
01 APR 08  
A40RPKR1  
N

01 DEC 07  
08 AUG 88  
01 SEP 04  
31 MAY 07  
10

SECURITY CLEARANCE:  
SECURITY CLEARANCE DATE: 27 OCT 09  
RESTRICTED AREA BADGE NO:  
PROFESSIONAL QUAL INDEX (POL):  
PROFESSIONAL QUAL INDEX DATE:

JUMP STATUS  
DATE ASSIGNED JUMP STATUS:

SYSTEM MANAGEMENT  
HARM CODE: MTRY  
DEPLOYED HARM CODE:  
DEPLOYED DATE:  
REDEPLOYED DATE:  
SPECIAL CAT ID:  
RECORDS REVIEW ACC DATE: 03 OCT 09  
RECORDS REVIEW DUE DATE: 31 JUL 10  
RECORDS REVIEW STATUS CODE: N

I CERTIFY THAT I HAVE REVIEWED MY FRF AND IT IS COMPLETE AND ACCURATE.

PAGE 1

SIGNATURE

DATE

ANG

PAGE 1

PREPARED 28 JUL 2010 22:26

INDIVIDUAL DATA SUMMARY (PA)

AS OF 28 JUL 2010

FCN SA036-A70

INQUIRY

NAME: M/P  
 BASE: KULIS ANGB

SSAN:

GRADE: MAJ

CMD: ANG

WING: 01760PSSP

UNIT: 0249ALSSQ

AIRCRAFT ASSIGNMENT DATA

AIRCRAFT OPCODE: MURV  
 CMD OF AIRCRAFT: 34  
 ACFT SVC CAT: AIRN  
 PRIMARY ACFT: C017A  
 FLT DUTY CERT CODE: EP A  
 CATEGORICAL FLYING WAIVER: N

AERONAUTICAL RATING/AVIATION BADGE

AERONAUTICAL RATING: SENIOR PILOT  
 EFFECTIVE DATE: 01 JUL 07  
 AERONAUTICAL RATING: PILOT  
 EFFECTIVE DATE: 30 JUN 00

INCENTIVE PAY DATA

LAST MPO DATE: 11 MAY 07  
 LAST MPO REASON: A  
 AD/IAD: NONE  
 PAY STOP DATE: 04 MAY 11  
 LAST PRODUCTIVE FLIGHT DATE: 23 JUL 10  
 PREVIOUS PRODUCTIVE FLIGHT DATE: 19 JUL 10

CSFIP/ACIP DATA

AVIATION SERVICE CODE: 1A  
 EFFECTIVE DATE: 26 MAR 10  
 PRIOR ASC: 1S  
 EFFECTIVE DATE: 01 MAR 10  
 AERO ORDER TERM DATE: 05 MAY 11  
 OFFICER SERVICE DATE: 23 MAY 98  
 AVIATION SERVICE DATE: 06 MAY 99  
 TRANSITION STATUS CODE: A  
 AVIATION POSITION INDICATOR: 1

CURR PARA RATING: OVS WTL RTG DT:  
 CURR PARA RATING DATE:  
 ORIG PARA RATING: ORG PARA RATING DATE:  
 TRAINING/QUAL STATUS

FORMAL COURSE DATE  
 AIRCRAFT COMMANDER AIRDROF (ACAD) 14 OCT 05  
 C-17 COPILOT AD QUAL 06 JUN 02  
 C-17 1ST POLOT 18 SEP 01  
 C-17 COPILOT AL QUAL 30 JAN 01  
 C-17 INITIAL QUAL CO-PILOT 22 NOV 00  
 WATER SURVIVAL 05 AUG 00  
 COMBAT SURVIVAL 01 AUG 00

PRE-ACIA-OFDA: 1  
 OFDA GATE 10/12: 134  
 OFDA GATE 15/15: 0  
 OFDA GATE 20/18: 0  
 OFDA TO DATE: 134

You have met OFDA requirements for current gate.

I CERTIFY THAT I HAVE REVIEWED MY FRF AND IT IS COMPLETE AND ACCURATE.

SIGNATURE

DATE

**G1.1.5. INDIVIDUAL TRAINING SUMMARY**

PGM	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/REQ	DUR	VOL/ACCOMP	DUR	% REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	IN PHASE	RESTR CODE
AC	AC A		LZ LANDING	AS11C	4		9		0	27 JUL 10		31 DEC 10			N
AC	AC A		SIM LZ LANDING	AS11S	0		5			27 JUL 10					N
AC	AC A		NGT LZ LAND	AS12C	1		0		100	01 APR 10					N
AC	AC A		SIM NGT LZ	AS12S	0		0			30 MAR 10					N
AC	AC A		HYWT FULL FLAP	AS21C	1		1		0	20 JUL 10					N
AC	AC A		NVG/TAKEOFF	NV47	2		0		100	01 APR 10					I
AC	AC A		NVG/LANDING	NV48	2		0		100	01 APR 10					I
AC	AC A		NVG LZ LANDING	NV49C	2		0		100	01 APR 10					I
AC	AC A		SIM NVG LZ LAND	NV49S	0		0			30 MAR 10					N
AC	AC A		TAKEOFF	P020	8		15		0	27 JUL 10					I
AC	AC A		TOP INSTW APCHS	P070	6		3		50	19 JUL 10					I
AC	AC A		PREC APCHS	P100	3		1		67	19 JUL 10					N
AC	AC A		NON PREC APCH	P110	3		2		33	19 JUL 10					N
AC	AC A		CIRCLING APCH	P130	1		1		0	19 JUL 10					N
AC	AC A		LANDING	P190	8		18		0	27 JUL 10					I
AC	AC A		HAVE QUICK	P260	1		0		100	30 JUN 10					N
AC	AC A		SECURE VOICE	P270	1		0		100	30 JUN 10					N
AC	AC A		ACDTOT	P280	0		0			12 AUG 08					I
AC	AC A		RECVR AR	R010	3		3		0	22 JUL 10					N
AC	AC A		SIM RECEIVER AR	R010S	0		1			20 JUL 10					N
AC	AC A		RECVR AR NT	R020	2		0		100	08 JUN 10					N
AC	AC A		SIM RCVR AR NGT	R020S	0		0			08 JUN 10					N
AC	AC A		RECVR AR AP OFF	R050	1		2		0	22 JUL 10					N
AC	AC A		TAC ARRIVAL	RS00C	2		6		0	20 JUL 10					I

PREPARED 28 JUL 2010 22:34

INDIVIDUAL TRAINING SUMMARY  
CURRENT TRAINING PERIOD

AS OF 28 JUL 2010

FCN SA036-110

NAME: MP  
PHYSICAL DUE DATE: 15 OCT 11  
GRADE: MAJ SSAN:  
PHYSIOLOGICAL DUE DATE: 31 MAY 14  
CREW POSITION: EP A  
RECORDS REVIEW DUE DATE: 31 JUL 10  
UNIT: 0249ATSSQ

PGM	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	% REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP IN PHASE	RESTR CODE
AC	AC A	TAC DEPARTURE	RS20C	2	14	0	0	27 JUL 10		31 DEC 10			I
AC	AC A	THREAT RESPONSE	VT06	1	1	0	0	20 JUL 10					N
AC	BASIC AC	QUALIFNS CHR STM	AA22	0	0	0	0	19 NOV 09		30 APR 11			N
AC	BASIC AC	HVY WT F-FLP NT	AS22	1	0	100	0	30 MAR 10					N
AC	BASIC AC	OVERSEAS SORTIE	M030C	0	0	0	0	30 OCT 09		31 DEC 10			O
AC	BASIC AC	LOW LEVEL RT	M055	1	1	0	0	19 JUL 10					N
AC	BASIC AC	INSTR TAC SORTI	M070C	2	0	100	0	05 APR 10		02 OCT 10			N
AC	BASIC AC	NVG LOW LEVEL	NV00C	1	1	0	0	19 JUL 10					N
AC	BASIC AC	NVG INST APPR	NV80	1	0	100	0	01 APR 10					N
AC	BASIC AC	RGHT SEAT TO	P028	0	0	0	0	07 JUN 10					N
AC	BASIC AC	LEFT SEAT TO	P029	0	18	0	0	27 JUL 10					N
AC	BASIC AC	NDB APPR	P16C	1	1	0	0	19 JUL 10					N
AC	BASIC AC	RNAV APPROACH	P118	2	1	50	0	19 JUL 10					N
AC	BASIC AC	CAT II APPROACH	P120	1	1	0	0	19 JUL 10					N
AC	BASIC AC	NGT LANDING	P192C	2	0	100	0	01 APR 10		30 SEP 10			I
AC	BASIC AC	RGHT SEAT LND	P198	0	0	0	0	07 JUN 10					N
AC	BASIC AC	LEFT SEAT LND	P199	0	18	0	0	27 JUL 10					N
AC	BASIC AC	HGH ALT TAC ARR	RS06	1	1	0	0	20 JUL 10					N
AC	BASIC AC	LOW ALT TAC ARR	RS16C	1	4	0	0	12 JUL 10					N
AC	BASIC AC	CRM SIMULATOR	G240	0	0	0	0	13 OCT 09		31 DEC 10			I
AC	PILOT AIRLAND PHASE	AI PHASE 1	G261	0	0	0	0	10 FEB 10		31 MAR 11			I
AC	PILOT AIRLAND PHASE	AI PHASE 2	G262	0	1	0	0	20 JUL 10		30 JUN 12			I
AC	PILOT AIRLAND PHASE	AI PHASE 3	G263	0	0	0	0	01 SEP 09		30 SEP 10			I
AC	PILOT AIRLAND PHASE	AI PHASE 4	G264	0	0	0	0	13 OCT 09		31 DEC 10			I

PREPARED 28 JUL 2010 22:34

INDIVIDUAL TRAINING SUMMARY  
CURRENT TRAINING PERIOD

PAGE 28 OF 28 JUL 2010

PCN SA036-T10

NAME: MP  
GRADE: MAJ  
PHYSICAL DUE DATE: 15 OCT 11  
PHYSIOLOGICAL DUE DATE: 31 MAY 14  
CREW POSITION: EP A  
RECORDS REVIEW DUE DATE: 31 JUL 10  
UNIT: 0249ALSSG

BSN	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	%	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP		RESTR CODE
												IN	PHASE	
GT		C17 ALL MEMBERS	MOB FOLDER REVW	C040	0	0		24 MAR 10		31 DEC 11				N
GT		C17 ALL MEMBERS	PASSPORT	E030	0	0		07 AUG 08		07 AUG 13				N
GT		C17 ALL MEMBERS	SEC PASSPORT	E035	0	0		21 MAR 10		21 MAR 14				N
GT		C17 ALL MEMBERS	INFO PROTECTION	E112	0	0		10 JAN 10		10 JAN 11				M
GT		C17 ALL MEMBERS	HUMAN RELATIONS	E113	0	0		16 MAY 09		16 AUG 10				M
GT		C17 ALL MEMBERS	FORCE PROTECTIO	E114	0	0		04 MAR 10		04 MAR 11				M
GT		C17 ALL MEMBERS	CBRN WBT	G010	0	0		11 JAN 09		30 SEP 10				M
GT		C17 ALL MEMBERS	TACTICS	G060	0	0		22 JAN 10		31 DEC 11				M
GT		C17 ALL MEMBERS	AIRCREW INTEL	G070	0	0		22 JAN 10		31 DEC 11				M
GT		C17 ALL MEMBERS	LOAC	G100	0	0		03 MAY 10		31 AUG 11				N
GT		C17 ALL MEMBERS	ISOPREP	G120	0	0		09 MAR 10		05 SEP 10				N
GT		C17 ALL MEMBERS	CRM REFRESHER	G230	0	0		23 JUN 10		31 DEC 11				N
GT		C17 ALL MEMBERS	SMALL ARMS (OF)	G280	0	0		02 NOV 08		30 NOV 10				N
GT		C17 ALL MEMBERS	SELF AID& BUDDY	G281	0	0		11 JAN 09		31 JAN 11				M
GT		C17 ALL MEMBERS	EGRESS TRNG-G	LL03	0	0		24 FEB 09		31 DEC 12				G
GT		C17 ALL MEMBERS	ACDT	LL04	0	0		07 MAY 08		31 DEC 10				M
GT		C17 ALL MEMBERS	LIFE SUP EQP TN	LL06	0	0		16 AUG 09		31 DEC 12				O
GT		C17 ALL MEMBERS	EGRESS/02 AISE	LL06E	0	0		24 FEB 09		31 DEC 12				N
GT		C17 ALL MEMBERS	WATER SURV AISE	LL06W	0	0		15 AUG 09		31 DEC 12				N
GT		C17 ALL MEMBERS	NVG REFRESHER	NV03C	0	0		28 SEP 09		31 DEC 10				N
GT		C17 ALL MEMBERS	MISSION EVAL	Q019C	0	0		02 MAR 09		31 AUG 10				N
GT		C17 ALL MEMBERS	CST/LS/REFRESH	SS02	0	0		16 AUG 09		31 DEC 12				O
GT		C17 ALL MEMBERS	COND AFTER CAP	SS03	0	0		09 JAN 07		31 DEC 10				M
GT		C17 ALL MEMBERS	WST/LS/REFRESH	SS05	0	0		15 AUG 09		31 DEC 12				O

PREPARED 28 JUL 2010 22:34

INDIVIDUAL TRAINING SUMMARY  
CURRENT TRAINING PERIOD

AS OF 28 JUL 2010

PCN SA036-T10

NAME: MP

GRADE: MAJ

SSAN:

CREW POSITION: EP A

UNIT: 0249A1SSQ

PHYSICAL DUE DATE: 15 OCT 11

PHYSIOLOGICAL DUE DATE: 31 MAY 14

RECORDS REVIEW DUE DATE: 31 JUL 10

PGM	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	% REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP		RESTR CODE
												IN	PHASE	
GT	C17	ALL MEMBERS	EMERG PARACHUTE	SS06	0	0		11 AUG 07		31 DEC 10	0			O
GT	C17	ALL MEMBERS	SERE INDOC HRI	SS07	0	0		18 DEC 09		18 DEC 11				M
GT	C17	ALL MEMBERS	VTRAF	VT03C	0	0		13 APR 09		31 DEC 10				N
GT	C17	OTO	ACFT MAR EX-OT-	G002	0	0		21 APR 08						N
GT	C17	OTO	INITIAL CRM-OT-	G231	0	0		10 MAY 00						N
GT	C17	OTO	LIFE SUBRT/PAM	LI01	0	0		15 JUN 07						N
GT	C17	OTO	EGRESS W/ACDB	LI05	0	0		10 JAN 01						N
GT	C17	OTO	LOCAL AREA SURV	SS01	0	0		30 APR 08						N
GT	C17	OTO	COMBAT SURV INT	SS20	0	0		10 SEP 00						N
GT	C17	OTO	VTRAF INTTL TRN	VT01	0	0		11 MAR 05						N
GT	C17	OTO	EMS EMIVIRO MGT	X162	0	0		06 APR 08						N
GT	C17	PILOT AIRLAND CB	COMM PRO	G080	0	0		01 SEP 09						N
GT	C17	PILOT AIRLAND CB	COMM PROCEDERS	G080A	0	0		01 SEP 09		01 SEP 10				N
GT	C17	PILOT AIRLAND CB	ANTI-HITACK	G090	0	0		15 MAY 10		31 DEC 13				N
GT	C17	PILOT AIRLAND CB	HAZARD CARGO	G182B	0	0		30 MAR 10		31 MAR 11				N
GT	C17	PILOT AIRLAND CB	ACFT SERVICING	G190	0	0		01 SEP 09		30 SEP 10				N
GT	C17	PILOT AIRLAND CB	AL PHASE 1 CBT	G251	0	0		30 MAR 10		31 MAR 11				G
GT	C17	PILOT AIRLAND CB	AL PHASE 2 CBT	G252	0	0		15 MAY 10		30 JUN 11				G
GT	C17	PILOT AIRLAND CB	AL PHASE 3 CBT	G253	0	0		01 SEP 09		30 SEP 10				G
GT	C17	PILOT AIRLAND CB	AL PHASE 4 CBT	G254	0	0		17 DEC 09		31 DEC 10				G
GT	C17	PILOT UNIQUE	IRC	G130	0	0		25 JUN 10		30 JUN 11				M
GT	C17	SV90	NP WTR SURV 90A	SS32	0	0		10 SEP 00						N

AVG PAGE 4

# G1.1.6. INDIVIDUAL FLIGHT RECORD REPORT

PREPARED 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (PA)

AS OF 28 JUL 2010

PCN SA036-F70

INQUIRY

NAME: MP  
 CMD: ANG WING: 01760PSGP UNIT: 0249ALSSQ SSAN: ACFT OPCODE: MLRV GRADE: MAJ PRI CREW POS: P PRI AIRCRAFT: C017A

MDS	DATE	TAIL NUMB	DUTY POSN	PRI	SEC	INST	EVAL	OTH	TOTAL SRT	CMB SRT	C/S SRT	NITE	INS	SIM	NVG	RES	N/S	DATE UPDATED	
SMC017A	18 JUN 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	1	Q	20100315
C017A	26 JUN 09	0169	EP	0.0	0.0	0.0	2.2	0.0	2.2	2	0.0	0	0.0	0.0	0.0	0.0	3	S	20090723
C017A	27 JUN 09	0168	EP	0.0	0.0	0.0	0.8	0.0	0.8	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
C017A	28 JUN 09	0168	EP	0.0	0.0	0.0	14.3	0.0	14.3	2	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
C017A	29 JUN 09	0168	EP	0.0	0.0	0.0	8.0	0.0	8.0	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
C017A	30 JUN 09	0168	EP	0.0	0.0	0.0	8.0	0.0	8.0	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
C017A	01 JUL 09	0168	EP	0.0	0.0	0.0	5.5	0.0	5.5	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
C017A	02 JUL 09	0168	EP	0.0	0.0	0.0	7.7	0.0	7.7	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
C017A	03 JUL 09	0168	EP	0.0	0.0	0.0	7.0	0.0	7.0	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090716
SMC017A	23 JUL 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.2	1	Q	20100707
C017A	24 JUL 09	0171	IP	0.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	3	S	20090814
C017A	07 AUG 09	0171	IP	0.2	0.0	3.0	0.0	0.0	3.2	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20090814
C017A	18 AUG 09	0171	IP	0.0	0.0	4.2	0.0	0.0	4.2	1	0.0	0	0.0	0.0	0.0	0.5	1	S	20090819
C017A	19 AUG 09	0174	IP	0.5	4.5	0.0	0.0	0.0	5.0	1	0.0	0	0.0	0.0	0.0	0.0	3	S	20090821
C017A	20 AUG 09	0174	IP	0.0	0.0	2.3	0.0	0.0	2.3	1	0.0	0	0.0	0.0	0.0	0.0	3	S	20090828
C017A	26 AUG 09	0171	IP	0.0	0.0	4.6	0.0	0.0	4.6	1	0.0	0	0.0	0.0	0.0	0.0	3	S	20091007
SMC017A	02 SEP 09	0011	EP	0.0	0.0	0.0	1.5	0.0	1.5	1	0.0	0	0.0	0.0	0.0	0.0	1	Q	20090904
C017A	08 SEP 09	0170	IP	0.0	0.0	4.3	0.0	0.0	4.3	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20091115
C017A	11 SEP 09	0168	IP	0.0	0.0	2.4	0.0	0.0	2.4	1	0.0	0	0.0	0.0	0.0	0.0	3	S	20090918
C017A	11 SEP 09	0168	MP	0.0	0.0	0.0	0.0	3.4	3.4	1	0.0	0	0.0	0.0	0.0	0.0	3	S	20090918
C017A	15 SEP 09	0168	MP	3.0	0.4	0.0	0.0	0.0	3.4	1	0.0	0	0.0	0.0	0.0	0.0	4	S	20090918
C017A	02 OCT 09	0172	IP	0.0	0.0	2.7	0.0	0.0	2.7	1	0.0	0	0.0	0.0	0.2	1.4	4	S	20091008
C017A	10 OCT 09	0171	IP	0.2	0.0	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	12 OCT 09	0171	IP	0.0	2.0	4.1	0.0	2.0	8.1	1	0.0	0	2.5	0.0	0.0	0.0	1	S	20091118
C017A	15 OCT 09	0171	IP	0.0	0.0	0.9	0.0	0.8	1.7	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	17 OCT 09	0171	IP	1.2	0.0	0.0	0.0	0.0	1.2	1	0.0	0	0.0	0.0	0.0	0.0	1	S	20091118

ANG PAGE 1

I CERTIFY THAT I HAVE REVIEWED MY IRRR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

PREPARED: 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (PA)

AS OF 28 JUL 2010

PCN SA036-F70

INQUIRY

NAME:	MP	SSAN:	GRADE:	MAJ	PRI	CREW	POS:	P	PRI	AIRCRAFT:	C017A																
CMD: ANG	WING: 01760PSGP	UNIT: 0249ALSSQ	ACFT	OPLOC:	MWR																						
MDS	DATE	TAIL	NTWB	POSTN	PRI	SFC	INST	INST	EVAL	OTH	TOTAL	SRT	CMB	SRT	C/S	SRT	NITE	INS	INS	SIM	INS	INS	AVG	RES	N/S	UPDATED	
C017A	18 OCT 09	0171	IP	IP	0.2	0.0	0.0	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	19 OCT 09	0171	IP	IP	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	20 OCT 09	0171	IP	IP	0.0	0.0	0.0	0.0	0.0	0.2	0.2	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	21 OCT 09	0171	IP	IP	0.0	0.0	0.0	0.0	0.0	0.3	0.3	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	22 OCT 09	0171	IP	IP	0.3	0.0	0.0	0.0	0.0	1.1	1.4	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	23 OCT 09	5147	IP	IP	0.2	0.0	0.0	0.0	0.0	0.2	0.2	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	24 OCT 09	5147	IP	IP	0.0	0.0	0.0	0.0	0.0	0.2	0.2	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	25 OCT 09	0171	IP	IP	0.0	0.0	0.0	0.0	0.0	1.0	1.0	3	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	26 OCT 09	0171	IP	IP	4.4	0.0	0.0	0.0	0.0	4.3	8.7	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	29 OCT 09	0171	IP	IP	0.0	0.0	0.0	0.0	0.0	5.9	5.9	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	30 OCT 09	0171	IP	IP	0.0	1.5	0.0	0.0	0.0	4.0	5.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	06 NOV 09	0173	IP	IP	0.8	0.8	0.0	0.0	0.0	0.0	1.6	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091119
C017A	12 NOV 09	0011	MP	MP	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	Q	20091125
C017A	13 NOV 09	0011	MP	MP	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	Q	20091125
C017A	18 NOV 09	0011	IP	IP	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	Q	20091204
C017A	08 JAN 10	0011	EP	EP	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	Q	20100124
C017A	08 FEB 10	0011	MP	MP	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	Q	20100309
C017A	09 FEB 10	0011	MP	MP	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	Q	20100309
C017A	11 FEB 10	0011	EP	EP	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	Q	20100308
C017A	09 MAR 10	0011	EP	EP	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	Q	20100312
C017A	19 MAR 10	0011	EP	EP	0.0	0.0	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3	S	20100323
C017A	26 MAR 10	1067	MP	MP	0.3	0.0	0.0	0.0	0.0	0.7	1.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3	S	20100330
C017A	30 MAR 10	0011	MP	MP	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	Q	20100510
C017A	01 APR 10	0168	IP	IP	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3	S	20100402
C017A	02 APR 10	0168	IP	IP	0.0	0.0	0.0	0.0	0.0	0.0	4.1	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20100407
C017A	05 APR 10	0051	IP	IP	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4	S	20100408

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I CERTIFY THAT I HAVE REVIEWED MY IRRR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

PREPARED 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (RA)

AS OF 28 JUL 2010

PCN SA036-F70

INQUIRY

NAME: MP  
 CMD: ANG WING: 01760PSSGP UNIT: 0249ALSSQ SSAN: ACFT OPILOC: MLRY GRADE: MAJ PRI CREW POS: P PRI AIRCRAFT: C017A

MDS	DATE	TAIL NUMB	DUTY POSN	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB	SRT	C/S	SRT	NITE	INS	SIM	INS	AVG	RES	N/S	DATE
C017A	19 APR 10	0056	IP	0.0	0.0	2.1	0.0	0.0	2.1	1	0.0	0	0.0	0	0.0	0.3	0.0	0.0	0.0	4	S	20100429
C017A	22 APR 10	0173	IP	0.0	0.0	2.8	0.0	0.0	2.8	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	4	S	20100427
C017A	25 APR 10	0170	IP	0.0	0.0	6.0	0.0	0.0	6.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100502
C017A	26 APR 10	0170	IP	0.0	0.0	6.3	0.0	0.0	6.3	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100502
C017A	24 MAY 10	0170	IP	0.0	0.0	3.3	0.0	1.0	4.3	1	0.0	0	0.0	0	0.0	0.2	0.3	0.0	0.0	4	S	20100601
C017A	25 MAY 10	0173	EP	0.5	0.0	2.8	0.0	0.0	3.3	1	0.0	0	0.0	0	0.0	0.3	0.0	0.0	0.0	4	S	20100604
SMC017A	07 JUN 10	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.5	0.8	0.0	0.0	0.0	1	Q	20100611
SMC017A	08 JUN 10	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	4	Q	20100611
C017A	14 JUN 10	0167	IP	1.2	1.3	0.0	0.0	0.0	2.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	4	S	20100621
C017A	30 JUN 10	0168	IP	0.1	0.0	2.0	0.0	0.0	2.1	1	0.0	0	0.0	0	0.0	0.5	0.0	0.0	0.0	1	S	20100707
SMC017A	01 JUL 10	0011	IP	0.0	0.0	3.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20100707
C017A	09 JUL 10	0170	IP	0.0	0.0	2.1	0.0	0.0	2.1	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	3	S	20100721
SMC017A	13 JUL 10	0056	IP	0.1	0.0	1.9	0.0	0.0	2.0	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	3	S	20100721
SMC017A	14 JUL 10	0011	EP	0.0	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	2.5	0.0	0.0	3	Q	20100720
C017A	16 JUL 10	0056	IP	0.5	0.0	2.0	0.0	1.5	4.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100728
C017A	19 JUL 10	017A	IP	0.0	0.0	3.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100728
SMC017A	20 JUL 10	0011	IP	0.0	0.0	3.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20100728
C017A	23 JUL 10	017A	EP	0.5	0.0	0.0	0.0	3.0	3.5	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	3	S	20100729
SMC017A	27 JUL 10	0011	MP	0.8	0.0	0.0	0.0	0.7	1.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20100729

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MDS SUMMARY	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB	SRT	C/S	SRT	NITE	INS	SIM	INS	AVG
AIRCRAFT:	14.7	10.5	71.5	59.3	29.4	185.4	61	0.0	0	0.0	0	32.2	6.0	0.5	2.9	
SIMULATOR:	15.3	13.5	6.0	16.5	0.7	52.0	19	N/A	N/A	N/A	N/A	1.0	0.8	4.5	0.2	
UAV:	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	

I CERTIFY THAT I HAVE REVIEWED MY IPRR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

**G1.2. RECORDS FOR MSO**

**G1.2.1. CERTIFICATE OF AIRCREW QUALIFICATIONS**

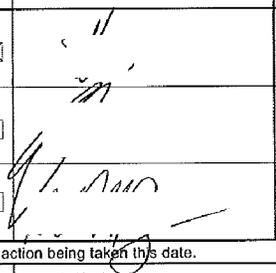
CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 20 May 10	
<b>I. EXAMINEE IDENTIFICATION</b>					
NAME (Last, First, Middle Initial) MSO		RANK Maj	SSAN	ELIGIBILITY PERIOD N/A	
ORGANIZATION AND LOCATION 58 AS, Aitua AFB, OK		ACFT/CREW POSITION C-17A/IP			
<b>II. QUALIFICATION</b>					
GROUND PHASE			FLIGHT PHASE		
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE	
EPE	20 May 10	1	INIT INSTR	20 May 10	
<b>DRAFT</b>					
QUALIFICATION LEVEL		ADDITIONAL TRAINING			
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A		
EXPIRATION DATE OF QUALIFICATION N/A	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE	
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>		
<b>III. CERTIFICATION</b>					
TYPED NAME AND RANK	ORGANIZATION	CHECK			
		ORGANIZER	DEBRIEFER	COMMISSIONER	REVIEWER
1. FLIGHT EXAMINER Capt	58 AS/DOV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I CERTIFY that I have been briefed and understand the action being taken this date.					
DATE	TYPED NAME AND GRADE OF EXAMINEE MSO			SIGNATURE	

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This initial instructor evaluation was conducted on VR 106 and AR 400 N/S. Tactical approach, assault landing and ground ops were conducted at Altus AFB. Instruction on air refueling, low level, VFR patterns and ground operations was both timely and appropriate. MISSION Areas 29 through 34 were evaluated. This evaluation was completed in an excellent manner.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> Commendable. Area 10. Airmanship/Situational Awareness. Examinee demonstrated exceptional situation awareness during all phases of the flight.	
<b>DRAFT</b>	
<b>DEVEL</b>	
AF FORM 8, 20061208 (REVERSE)	



AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This SPOT evaluation was administered on an Elmendorf AFB local training sortie as part of a SEFE Objectivity evaluation during a HQ PACAF Aircrew Standardization and Evaluation Visit conducted by Major [redacted], PACAF A3/A3TV. The mission profile included low level operations and threat reactions on IR922, a tactical arrival to the ALZ at Allen AAF, and a touch and go landing at Elmendorf AFB. All aspects of the evaluation were accomplished in an excellent manner. Lt Col WITNESS 22 249 AS/CC, was debriefed on the results of the evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
176 OG/OGV [redacted]	

AF FORM 8, 20061208 (REV. 10)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 08 Feb 10	
<b>I. EXAMINEE IDENTIFICATION</b>					
NAME (Last, First, Middle Initial) <b>MSO</b>			RANK Maj	SSAN	ELIGIBILITY PERIOD Sep 09-Feb 10
ORGANIZATION AND LOCATION 249AS, Elmendorf AFB, AK			ACFT/CREW POSITION C-17A/MP		
<b>II. QUALIFICATION</b>					
GROUND PHASE			FLIGHT PHASE		
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE	
EPE	27 Jan 10	1	MSN	27 Jan 10	
Tactics	05 Dec 09	100	MSN	08 Feb 10	
QUALIFICATION LEVEL		ADDITIONAL TRAINING			
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A		DATE ADDITIONAL TRAINING COMPLETED N/A	
EXPIRATION DATE OF QUALIFICATION Jul 11		CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>	
<b>III. CERTIFICATION</b>					
TYPED NAME AND RANK		ORGANIZATION		SIGNATURE	DATE
1. FLIGHT EXAMINER Lt Col		176 OG/OGV			9 FEB 10
2. REVIEWING OFFICER Lt Col		249 AS/DO			10 Feb 10
3. FINAL APPROVING OFFICER WITNESS 22 Lt Col		249 AS/CC			16 Feb 10
I CERTIFY that I have been briefed and understand the action being taken this date.					
DATE 18 Feb 2010	TYPED NAME AND GRADE OF EXAMINEE MSO			SIGNATURE	

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b>	
<u>First Sortie:</u> MSO completed the following required events on this recurring mission evaluation including operations on IR919, threat reactions and an assault landing to the painted ALZ on Rwy 16 at Elmendorf AFB, AK. Due to poor weather and RCR at the primary Assault Landing Zone, the 176 OG/CC approved operations to the painted ALZ in accordance with AFJ 11-2C-17V2, paragraph 2.4.2.1. Due to tanker maintenance issues, the required evaluation air refueling event was not completed. Lt Col WITNESS 22, 249 AS/CC, was debriefed on the results of the evaluation.	
<u>Second Sortie:</u> MSO conducted air refueling on AR506S with a KC-135R to complete all required events on this recurring mission evaluation. Lt Col WITNESS 22, 249 AS/CC, was debriefed on the results of the evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
OGV: _____	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 19 May 09		
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) MSO			RANK Maj	SSAN		ELIGIBILITY PERIOD Feb -Jul 09	
ORGANIZATION AND LOCATION 249AS, Elmendorf AFB, AK			ACFT/CREW POSITION C-17A/MP				
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE		
Open Book/ATS	20 Apr 09	COMP	SIM INSTM/QUAL		19 May 09		
Boldface	19 May 09	Q					
Instrument	07 May 09	100					
EPE	19 May 09	1					
Closed Book	11 Feb 09	100					
QUALIFICATION LEVEL			ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION Oct 10	CERTIFYING OFFICIAL, RANK AND ORGANIZATION			SIGNATURE		DATE	
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>			<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>			
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		REVIEWED	CO	REVIEWED	APPROVED		
1 FLIGHT EXAMINER Maj	249 AS/DOP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			21 May 09
2 REVIEWING OFFICER Lt Col	249 AS/DOO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			8 Jul 09
3 FINAL APPROVING OFFICER WITNESS 22 Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			13 Jul 09
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 15 Aug 2009	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE		

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> MSO flew this recurring QUAL/INSTM evaluation in the WST on an Elmendorf AFB local profile. Required objectives were evaluated, including CAT II ILS, engine out operations and nonstandard configuration. All items observed were completed in a satisfactory manner. Special interest items were evaluated and PAR procedures were verbally evaluated due to simulator time constraints. Lt Col MSO, acting 249 AS/DO, was debriefed on the results of the evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
OGV	

AF FORM 8, 20061208 (REVERSF)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 18 Feb 09			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MSO</b>		RANK Maj	SSAN	ELIGIBILITY PERIOD N/A			
ORGANIZATION AND LOCATION 249AS, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/MP					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
			SPOT	18 Feb 09			
QUALIFICATION LEVEL		ADDITIONAL TRAINING					
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A		DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION N/A		CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE		
<input type="checkbox"/> RESTRICTIONS <small>(Explain in Comments on Back)</small>		<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <small>(Explain in Comments on Back)</small>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <small>(Explain in Comments on Back)</small>			
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		COPIED	NO	COPIED	DATE/TIME		
1 FLIGHT EXAMINER Lt Col	176 OG/OGV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			06 Mar 09
2 REVIEWING OFFICER WITNESS 22 Lt Col	249 AS/DO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			06 Mar 09
3 FINAL APPROVING OFFICER WITNESS 30 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			06 Mar 09
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 9 Mar 2009	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE		

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.



CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 02 Dec 08			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) MSO		RANK Maj	SSAN	ELIGIBILITY PERIOD N/A			
ORGANIZATION AND LOCATION 249AS, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/MP					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
			N/N SPOT	02 Dec 08			
QUALIFICATION LEVEL		ADDITIONAL TRAINING					
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION N/A	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE			
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>					
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		RECORDED	INDEXED	RECORDED	INDEXED		
1 FLIGHT EXAMINER MP Maj	176 OG/OGV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	03 Dec 08
2 REVIEWING OFFICER WITNESS 22 Lt Col	249 AS/DO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	11 Dec 08
3 FINAL APPROVING OFFICER WITNESS 22 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	30 Dec 08
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 30 Dec 2008	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE <i>[Signature]</i>		

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This evaluation took place on a day local with air refueling on AR505W. MSO was in the left seat for his portion of the eval. He performed PF duties on the departure and rendezvous. Both autopilot on and off air refueling were stable. MSO flew a high altitude tactical arrival to an assault to a full stop at Elmendorf. This evaluation was completed in an excellent manor and the results of were debriefed with Lt Col WITNESS 22	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> Tactical arrival energy management and rendezvous procedures were noteworthy.	
OGV: 	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 23 Sep 08				
<b>I. EXAMINEE IDENTIFICATION</b>								
NAME (Last, First, Middle Initial) MSO		RANK Maj	SSAN	ELIGIBILITY PERIOD N/A				
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK		ACFT/CREW POSITION C-17A/MP						
<b>II. QUALIFICATION</b>								
GROUND PHASE			FLIGHT PHASE					
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE				
EPE	23 Sep 08	1	INIT MSN	23 Sep 08				
QUALIFICATION LEVEL		ADDITIONAL TRAINING						
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A		DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION Feb 10		CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE			
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>								
TYPED NAME AND RANK		ORGANIZATION		CHECK			SIGNATURE	DATE
				PRECOC	DOV	USP		
1	FLIGHT EXAMINER Capt	97 OSS/OSO		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	23 Sep 08
2	REVIEWING OFFICER Maj	58 AS/DOV		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	24 Sep 08
3	FINAL APPROVING OFFICER Lt Col	58 AS/CC		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	25 Sep 08
I CERTIFY that I have been briefed and understand the action being taken this date.								
DATE 17 Oct 2008	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE _____			

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.







CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				06 Feb 08		
I. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial)		RANK	SSAN	ELIGIBILITY PERIOD		
MSO		Maj		N/A		
ORGANIZATION AND LOCATION		ACFT/CREW POSITION				
58 AS, Allus AFB OK		C-17A/FP				
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
End-of-Course	28 Jan 08	99	SIM INIT QUAL/INSTM	06 Feb 08		
Instrument	12 Jan 08	92				
Boldface	06 Feb 08	Q				
EPE	06 Feb 08	1				
QUALIFICATION LEVEL			ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED	DUE DATE(S)	DATE ADDITIONAL TRAINING COMPLETED			
1		N/A	N/A			
EXPIRATION DATE OF QUALIFICATION	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE		
Jul 09						
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>			
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONDUCT	DOC	RECORD		
1 FLIGHT EXAMINER Capt	58 AS/DOS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>[Signature]</i>	06 Feb 08
2 REVIEWING OFFICER Capt	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	07 Feb 08
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	08 Feb 08
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE			SIGNATURE		
20080405	MSO			<i>[Signature]</i>		

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.



CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 22 Nov 06	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MSO</b>			GRADE <b>CPT</b>		SSAN	
ORGANIZATION AND LOCATION 186 FS, MTANG, GTF IAP MT			ACFT/CREW POSITION F-16/MP		ELIGIBILITY PERIOD Jul 06 - Dec 06	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	21 Nov 06	1	INSTM/QUAL	21 Nov 06		
CAPS	21 Nov 06	Q				
Open Book	22 Nov 06	100				
Closed Book	22 Nov 06	100				
Instrument	22 Nov 06	100				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES N/A			
1			DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION Apr 08						
COMMENTS (If more space is needed, continue on reverse)						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		RECOGN	OC	RECOGN		
1 FLIGHT EXAMINER Lt Col	120FW/DOO	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		30 Nov 06
2 REVIEWING OFFICER Lt Col	186FS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		06 Dec 06
3 FINAL APPROVING OFFICER Col	120FW/OGC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		6 Dec 06
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 06 Dec 2006	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE	

AF IMT 8, 19850501, V6

PREVIOUS EDITION WILL BE USED.

AF IMT 8 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description. MSO flew this INSTM/QUAL evaluation in an F16C with the SEPE in chase and in conjunction with a RAP sortie. Profile: Mission planning, brief, formation takeoff, climbout, departure, BFM in the Hays/Bearpaw airspace, enroute navigation to the IAF at KHLN, followed by the ILS penetration, missed approach, climbout, to TACAN approach at KGTF. Additional pattern work included Overhead SFO at KGTF, followed by an overhead pattern, and full-stop landing.

B. Discrepancies. None

C. Recommended Additional Training. None

D. Additional Comments.

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

V6

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 12 Jul 06	
<b>I. EXAMINEE IDENTIFICATION</b>					
NAME (Last, First, Middle Initial) MSO			GRADE CPT		SSAN
ORGANIZATION AND LOCATION 186 FS, MTANG, GTF IAP MT			ACFT/CREW POSITION F-16/MP		ELIGIBILITY PERIOD Feb 06 - Jul 06
<b>II. QUALIFICATION</b>					
<b>GROUND PHASE</b>			<b>FLIGHT PHASE</b>		
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE	
EPE	12 Jul 06	1	MSN	10 May 06	
CAPS	12 Jul 06	Q			
<b>QUALIFICATION LEVEL</b>		<b>RESTRICTION</b> (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<b>ADDITIONAL TRAINING</b>		
QUALIFIED	UNQUALIFIED		DUE DATES N/A		
I			DATE ADDITIONAL TRAINING COMPLETED N/A		
EXPIRATION DATE OF QUALIFICATION Oct 07					
COMMENTS (If more space is needed, continue on reverse)					
<b>III. CERTIFICATION</b>					
TYPED NAME AND GRADE		ORGANIZATION	CHECK		SIGNATURE
			RECORDED	INDEXED	
			RECORDED	INDEXED	
			RECORDED	INDEXED	
1	FLIGHT EXAMINER Col	120FW/OGC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	REVIEWING OFFICER Lt Col	120FW/DOO	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	FINAL APPROVING OFFICER Lt Col	186FW/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I CERTIFY that I have been briefed and understand the action being taken this date.					
DATE	TYPED NAME AND GRADE OF EXAMINEE		SIGNATURE		
12 Sep 2006	MSO				

AF IMT 8, 19850501, V6

PREVIOUS EDITION WILL BE USED.

AF IMT 8 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description. MSO flew as number 1 in a 2-ship Strategic Attack mission to the Hays/Bearpaw employing in a medium threat Korean scenario. The SEFE flew as number 2. Profile: Mission planning, brief, single-ship takeoff, departure, medium and low altitude tactical formation and navigation, a first-run level JDAM attack dropping simulated ordnance simulating GBU-31B, reattack egress, additional attacks, inflight report, and RTB. Reactions to simulated surface threats and actual adversary aircraft were accomplished including intercept of threat aircraft to weapons parameters. Post flight VTR analysis was accomplished.

Weapons Scores:

AIM120	GBU-31B
Attempts:5 Valid:5	Hit X 2

B. Discrepancies. None

C. Recommended Additional Training. None

D. Additional Comments.

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

V6

CERTIFICATE OF A REW QUALIFICATION					DATE COMPLETED 27 Jul 05	
I. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial) MSO			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 186 FS, MTANG, Great Falls IAP			ACFT/CREW POSITION F-16C/MP		ELIGIBILITY PERIOD Apr - Sep 05	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
Closed Book	21 Jul 05	100	INSTM/QUAL		18 Jul 05	
Open Book	21 Jul 05	100				
CAPs	27 Jul 05	Q				
EPE	27 Jul 05	1				
Instrument	21 Jul 05	100				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES N/A			
1			DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION Dec 06						
COMMENTS (If more space is needed, continue on reverse)						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O O N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Lt Col	120FW/DOO			X	<i>[Signature]</i>	16 Aug 05
2 REVIEWING OFFICER Lt Col	186 FS/CC	X			<i>[Signature]</i>	16 Aug 05
3 FINAL APPROVING OFFICER Col	120FW/OGC	X		X	<i>[Signature]</i>	22 Aug 05
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 07 Sep 05	TYPED NAME AND GRADE OF EXAMINEE MSO			SIGNATURE <i>[Signature]</i>		

AF FORM 8  
MAY 85

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description: MSO flew this INSTM/QUAL evaluation in an F-16C with the SEFE in chase and in conjunction with a RAP sortie. Profile: Mission planning, single-ship takeoff, climbout, departure, in the Bearpaw/Hays airspace, enroute navigations to the IAF at BETON with holding, followed by the TACAN penetration, missed approach, climbout, to ILS approach at GTF. Additional pattern work included Overhead SFO at GTF followed by an overhead pattern and full-stop landing.

B. Discrepancies: None

C. Recommended Additional Training: None

D. Additional Comments: None

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

CERTIFICATE OF AIR		EW QUALIFICATION		DATE COMPLETED		
				3 Mar 05		
i. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial) MSO			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 186 FS, MTANG, Great Falls IAP			ACFT/CREW POSITION F-16C/MP		ELIGIBILITY PERIOD N/A Oct - MAR '11	
ii. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
CAPs	3 Mar 05	1	MSN	6 Feb 05		
EPE	3 Mar 05	1				
QUALIFICATION LEVEL			RESTRICTION (Explain in Comments)			
QUALIFIED	UNQUALIFIED	DUE DATES			ADDITIONAL TRAINING	
1		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			N/A	
EXPIRATION DATE OF QUALIFICATION Jul 06			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (if more space is needed, continue on reverse)						
iii. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N H O U R	R E M A R K S		
1 FLIGHT EXAMINER Col	120FW/OGC			X	<i>[Signature]</i>	22 MAR 05
2 REVIEWING OFFICER Lt Col	120FW/OGV	X			<i>[Signature]</i>	22 MAR 05
3 FINAL APPROVING OFFICER Lt Col	186 FS/CC	X			<i>[Signature]</i>	22 MAR 05
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 4 Apr 05	TYPED NAME AND GRADE OF EXAMINEE MSO			SIGNATURE		

AF FORM 8  
MAY 85

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description. MSO flew this air-to-air mission evaluation as number 1 in a 2-ship DCA mission to the BP/Hays airspace, employing medium threat tactics in a Korean scenario. The SEFE flew as number 2. Profile: Mission planning, brief, single-ship takeoff, departure, entry into the BP/Hays airspace, point for a 20 minute vul period. Package composition was F-16C vs F-16C simulating 2xM-29's/1xm-15 DACT, consisting of 4 engagements. The mission concluded with 2-ship battle damage check, inflight report, and RTB. Reactions to EC and adversary aircraft were accomplished including intercept of threat aircraft to weapons parameters. Air Sovereignty Tasking accomplished IAW MAJCOM directives. Post flight VTR analysis was accomplished

Weapons Score:

\*AIM-120  
6/6

\*VTR assessed by SEFE

B. Discrepancies.

1. Ground (EPE). None

2. Flight.

Area 52, Tactical Execution. Examinee's excessive offsets on 2 engagements led to missed targeting and allowed bandit to get through to HVAA. Examinee debriefed.

C. Recommended Additional Training: None.

D. Additional Comments:

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

CERTIFICATE OF CREW QUALIFICATION					DATE COMPLETED	
					6 Apr 04	
I. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial) MSO				GRADE Capt		SSAN
ORGANIZATION AND LOCATION 186 FS, Great Falls IAP, MT				ACFT/CREW POSITION F-16C/MP		ELIGIBILITY PERIOD Nov 03 - Apr 04
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	1 Apr 04	100	INST INSTRM/QUAL	5 Apr 04		
Open Book	1 Apr 04	100				
CAPs	6 Apr 04	Q				
EPE	6 Apr 04	1				
IRE Instrument	1 Apr 04	100				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)		ADDITIONAL TRAINING		
QUALIFIED	UNQUALIFIED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		DUE DATES		
1				N/A		
EXPIRATION DATE OF QUALIFICATION				DATE ADDITIONAL TRAINING COMPLETED		
Sep 05				N/A		
COMMENTS (If more space is needed, continue on reverse)						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O O N N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Maj	120 FW/OGV			X		20 Mar 04
2 REVIEWING OFFICER Lt Col	120 FW/DOO	X				20 MAY 04
3 FINAL APPROVING OFFICER Col	120 FW/OGC	X				27 July 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE			SIGNATURE		
3 Jun 04	MSO					

AF FORM 8  
MAY 85

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description. MSO flew this INSTMT/QUAL evaluation in an F-16C+ with the SEFE in chase and in conjunction with a RAP sortie. The profile consisted of mission planning, brief, single-ship, climbout, departure, airwork, ACT in the Bearpaw/Hays ATCAA/MOA, enroute navigation to the holding fix/AF at KGTF Runway 03 followed by the ILS penetration, low approach and climbout to a TACAN approach at KGTF, Runway 21. Additional pattern work included an overhead SFO, an overhead pattern and a full-stop landing at KGTF.

B. Discrepancies: Flight. Area 42, Instrument Penetration (Q-): Examinee started descent for penetration early and corrected during the penetration. Examinee was debriefed.

C. Recommended Additional Training: None

D. Additional Comments: None

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

CERTIFICATE OF CREW QUALIFICATION				DATE COMPLETED		
				19 Nov 03		
I. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial)			GRADE		SSAN	
MSO			Capt			
ORGANIZATION AND LOCATION			ACFT/CREW POSITION		ELIGIBILITY PERIOD	
186 FS MTANG GTFIAP MT			F-16C/MP		Jun - Nov 03	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	19 Nov 03	I	MSN	23 Oct 03		
CAPs	19 Nov 03	Q				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	N/A			
EXPIRATION DATE OF QUALIFICATION			DATE ADDITIONAL TRAINING COMPLETED			
Mar 05			N/A			
COMMENTS (If more space is needed, continue on reverse)						
See Reverse						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D C O N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Maj	186 FS/OST			X		15 Dec 03
2 REVIEWING OFFICER Maj	120 FW/DOO	X				15 Dec 03
3 FINAL APPROVING OFFICER Col	120 FW/OGC	X				15 DEC 03
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE			SIGNATURE		
16 Dec 03	MSO					

AF FORM 8  
MAY 85

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description: MSO completed a mission evaluation as lead of a 2 ship formation on an ACT mission. The SEFE was number 2. Adversaries were 2 F-16C's simulating MiG-29's carrying 2 (10A) x 4 (11) x G. Key mission elements included briefing, debriefing, trail departure, air sovereignty and airwork: DCA. Simulated ordnance carried was 5 AIM-120's x 1 AIM-9 x G. The scenario was DCA using both visual and positive ID criteria. The mission terminated with a full stop at GTF.

Weapons Scores:

AIM-120  
4/4\*

\*Video assessed by SEFE

B. Discrepancies: None

C. Recommended Additional Training: None

D. Additional Comments: MSO completed an overhead SFO @ GTF to clear up his unaccomplished SFO on his last INST/QUAL checkride. *Examinee debriefed.*

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

CERTIFICATE OF AIR CREW QUALIFICATION				DATE COMPLETED		
				20 Nov 02		
I. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial) MSO			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 186 FS MT ANG GTF IAP MT			ACFT/CREW POSITION F-16C/MP		ELIGIBILITY PERIOD Jun - Nov 02	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	31 Oct 02	97	INSTM/QUAL	14 Nov 02		
Open Book	31 Oct 02	98				
CAPs	20 Nov 02	Q				
EPE	20 Nov 02	I				
IRG Instrument	31 Oct 02	96				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION Apr 04			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse) See Reverse						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D C O N N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Maj	120 FW / Dec <i>Blw</i>			X		9 Dec 02
2 REVIEWING OFFICER Maj	120 FW/OGV	X				9 Dec 02
3 FINAL APPROVING OFFICER Col	120 FW/OGCC	✓				9 Dec 02
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 10 Dec 2002	TYPED NAME AND GRADE OF EXAMINEE MSO			SIGNATURE		

AF FORM 8  
MAY 85

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description: MSO completed an IQ evaluation as #2 of a two ship on a round robin from GTF to GTF. The SEFE was in the chase aircraft. Key mission elements included: Briefing/debriefing, instrument departure, en-route navigation, and airwork:ACT. Approaches were flown at HLN and included penetration, and ILS. The ILS approach was flown HUD out. Additional approaches were flown at GTF and included: Tacan Appr. The mission terminated with a full stop at GTF.

B. Discrepancies:

C. Recommended Additional Training:

D. Additional Comments: SFO was not accomplished and will be need to be accomplished on the next mission check.

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 18 Jul 02	
I. EXAMINEE IDENTIFICATION						
NAME (Last, First, Middle Initial) MSO			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 186 FS			ACFT/CREW POSITION F-16C/MP		ELIGIBILITY PERIOD Feb - Jul 02	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
EPE	18 Jul 02	1	MSN		13 Jun 02	
CAPs	18 Jul 02	Q				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES N/A			
I		EXPIRATION DATE OF QUALIFICATION Nov 03	DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse) See Reverse						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O O N C O U R	R E M A R K S		
1 FLIGHT EXAMINER Lt Col	186 FS			X	<i>[Signature]</i>	22 Aug 2002
2 REVIEWING OFFICER Maj	120 FW/DOO	X			<i>[Signature]</i>	22 Aug 02
3 FINAL APPROVING OFFICER Col	120 FW/OGCC	X			<i>[Signature]</i>	22 Aug 02
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 27 Aug 2002	TYPED NAME AND GRADE OF EXAMINEE MSO			SIGNATURE <i>[Signature]</i>		

AF FORM 8  
MAY 85

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. EXAMINER'S REMARKS:

A. Mission Description: MSO completed a mission evaluation as number 2 of a 4 ship formation on a SAT mission. The SEFE was number 1. Adversaries were 2 F-16's simulating MiG-29's carrying 4 10-A and 4 AA-11. Key mission elements included: Briefing/debriefing, A-A threat reactions, trail departure, and S-A threat reactions. Simulated ordnance carried was AIM-120, AIM-9, and BSU-49. LALD attacks were flown to a TOT on a simulated Command Post. The mission terminated with a full stop at GTF.

Weapons Scores:

LALD	AIM-120
2/2*	2/2*

\*Video assessed by SEFE

B. Discrepancies: None

C. Recommended Additional Training: None

D. Additional Comments: None

V. REVIEWING OFFICER'S REMARKS:

VI. APPROVING OFFICER'S REMARKS:

VII. ADDITIONAL REVIEWS:

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 12 Jul 01			
<b>I. EXAMINEE IDENTIFICATION</b>								
NAME (Last, First, Middle Initial) <b>MSO</b>			GRADE <b>1 Lt</b>		SSAN:			
ORGANIZATION AND LOCATION <b>175 FS Joe Foss Field, SD</b>			ACFT/CREW POSITION <b>F-16C/MP</b>		ELIGIBILITY PERIOD <b>Mar - Aug 01</b>			
<b>II. QUALIFICATION</b>								
GROUND PHASE			FLIGHT PHASE					
EXAMINATION / CHECK	DATE	GRADE	MISSION / CHECK		DATE			
Closed Book	12 Jul 01	100	INSTM/QUAL		21 Jun 01			
Open Book	22 May 01	97						
CAPs	12 Jul 01	Q						
EPE	12 Jul 01	1						
IRC	10 Jun 01	92						
QUALIFICATION LEVEL			RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED				DUE DATES			
1					N/A			
EXPIRATION DATE OF QUALIFICATION Nov 02					DATE ADDITIONAL TRAINING COMPLETE N/A			
COMMENTS (If more space is needed, continue on reverse)								
<b>III. CERTIFICATION</b>								
TYPED NAME AND GRADE		ORGANIZATION		CHECK			SIGNATURE	DATE
				C O N C U R	O C C H N O T	R E M A R K S		
1 FLIGHT EXAMINER Col		114OG/CC		X			<i>[Signature]</i>	17 Jul 01
2 REVIEWING OFFICER Lt Col		114OG/OGV		Y			<i>[Signature]</i>	17 Jul 01
3 FINAL APPROVING OFFICER Col		114FW/CC		X			<i>[Signature]</i>	17 JUL 01
I CERTIFY that I have been briefed and understand the action being taken this date.								
DATE <b>18 July 2001</b>		TYPED NAME AND GRADE OF EXAMINEE <b>MSO</b>				SIGNATURE		

AF FORM 8  
MAY 85

COMPUTER GENERATED

Examiner's Remarks:

A. Mission Description: The examinee flew to Ellsworth AFB, SD, on a single-ship instrument mission. Following an instrument departure from Joe Foss Field, the examinee flew the IR-514 MTR, TACAN penetration and TACAN approach to Runway 31, followed by a VFR pattern and full-stop landing. The examinee then returned to Joe Foss Field via the IR-613 MTR, followed by holding at the SKIES IAF, HI-ILS penetration and approach, SFO and closed full-stop landing to Runway 03. Lt Col [redacted] was debriefed on mission results.

B. Discrepancies:

1. Ground (EPE). None.

2. Flight.

Area 22. Emergency Approach/Landing --Q- debriefed. Minor deviations from recommended airspeeds and altitudes.

Reviewing Officer's Remarks:

Approving Officer's Remarks:

Additional Reviews:

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 4 Mar 01		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MSO</b>			GRADE 1 Lt		SSAN:	
ORGANIZATION AND LOCATION 175 FS Joe Foss Field, SD			ACFT/CREW POSITION F-16C/MP		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION / CHECK	DATE	GRADE	MISSION / CHECK	DATE		
CAPs	4 Mar 01	Q	INTL MSN	8 Feb 01		
EPE	4 Mar 01	1				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Jul 02			DATE ADDITIONAL TRAINING COMPLETE N/A			
COMMENTS (if more space is needed, continue on reverse)						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O C U R	D O C U M E N T	R E M A R K S		
1 FLIGHT EXAMINER Maj	175 FS/DOC			X		20 Mar 01
2 REVIEWING OFFICER Lt Col	114OG/OGV	X				22 MAR 01
3 FINAL APPROVING OFFICER Col	114OG/CC	X				23 Mar 01
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 23 Mar 01	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE	

AF FORM 8  
MAY 85

COMPUTER GENERATED

**Examiner's Remarks:**

A. Mission Description: The examinee flew as a wing-man on a four-ship medium-threat AI mission to the ETAC Range. Ingress to the target was at low-altitude via the VR-260MTR. The examinee reacted to a simulated AAA site along the route. A first-run low altitude attack was flown against a simulated Airfield with a simulated load of 2 X MK-84's. Actual load was 3 X BDU-33's. The examinee then flew a low-altitude egress and returned to Davis-Monthan AFB, AZ, for an ILS approach and full stop landing. Colonel [redacted] was debriefed on the flight. ✓

**Weapons employment scores were:**

LAT  
\*Hit

\*Air Scored

B. Discrepancies. None.

Reviewing Officer's Remarks:

Approving Officer's Remarks:

Additional Reviews:

CERTIFICATION OF AIRCREW QUALIFICATION					DATE COMPLETED 1 Sep 00		
I. EXAMINEE IDENTIFICATION							
NAME MSO			GRADE 2Lt		SSAN		
ORGANIZATION AND LOCATION 152 FS, Tucson IAP, AZ			ACFT/GREW POSITION F-16C/MP		ELIGIBILITY PERIOD N/A		
II. QUALIFICATION							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
EPE	29 Aug 00	1	INIT MSN	1 Sep 00			
CAPS	1 Sep 00	Q					
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING				
QUALIFIED	UNQUALIFIED		DUE DATES N/A				
1			DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION Feb 02							
COMMENTS (If more space is needed, continue on reverse)							
III. CERTIFICATION							
TYPED NAME AND GRADE	ORGANIZATION	CHECK				SIGNATURE	DATE
		C O N C U R	D O N O T	R E M A R K S			
1 FLIGHT EXAMINER Maj	152 FS, AZANG			X	<i>[Signature]</i>	22 Sep 00	
2 REVIEWING OFFICER Maj	152 FS/DO, AZANG	X			<i>[Signature]</i>	25 Sep 00	
3 FINAL APPROVING OFFICER Lt Col	152 FS/CC, AZANG	X			<i>[Signature]</i>	22 Sep 00	
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 2 Nov 2000	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE <i>[Signature]</i>		

AF Form 8  
May 85

(CG)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. Examiners Remarks:

A. Mission Description: This mission was flown at the conclusion of training in the F-16C USAF/ANG Hybrid Basic Tactical Training Course Syllabus. The examinee briefed tactical portions of this flight and flew as a wingman on VR-263 to the South TAC range with an air threat on a high threat Interdiction mission to meet a TOT. The airfield target was attacked using a loft attack. The mission concluded at Tucson International Airport with a VFR overhead pattern to a full stop landing. The examinee's weapons scores were:

LOFT	TAKEN	VALID
Hit	AIM-9 1	1

B. Discrepancies. None.

C. Recommended Additional Training. None.

D. Additional Comments:

V. Reviewing Officer's Remarks

VI. Approving Officer's Remarks

VII. Additional Reviews

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 17 Mar 00	
I. EXAMINEE IDENTIFICATION						
NAME <b>MSO</b>			GRADE 2Lt		SSAN	
ORGANIZATION AND LOCATION 148 FS, Tucson IAP, AZ			ACFT/CREW POSITION F-16A/FP		ELIGIBILITY PERIOD N/A	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
			INIT INSTM/QUAL		17 Mar 00	
QUALIFICATION LEVEL			RESTRICTION (Explain in Comments)			
QUALIFIED	UNQUALIFIED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		ADDITIONAL TRAINING		
1				DUE DATES N/A		
EXPIRATION DATE OF QUALIFICATION Aug 01			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse) EXAMINER'S REMARKS: This was a successful re-check evaluation.						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N G R	D O C U M E N T	R E M A R K S		
1 FLIGHT EXAMINER Maj	148 FS, AZANG			X		7 APR 00
2 REVIEWING OFFICER Maj	148 FS/DO, AZANG	X				7 APR 00
3 FINAL APPROVING OFFICER Lt Col	152 FS/CC, AZANG	X				11 APR 00
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 13 Apr 00	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE	

AF Form 8  
May 85

(CG)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. Examiners Remarks:

A. Mission Description: This mission was flown at the conclusion of Conversion Training in the F-16A B-Course Syllabus. Takeoff was performed on Runway 11L at Tucson International Airport and the Ruby Stereo was flown to the Ruby Training Area where the airwork included an AGSM, a loop, a cloverleaf, Horn Profile #3 and unusual attitude recoveries. The examinee proceeded to Libby Army Airfield for a PAR and an overhead SFO to low approaches, followed by a VFR overhead pattern to a touch and go on Runway 26. He then flew to Davis-Monthan AFB for a High TACAN penetration/ approach to a low approach on Runway 30. The examinee returned to Tucson IAP for a VFR overhead pattern to a full stop landing on Runway 29R.

B. Discrepancies. None.

C. Recommended Additional Training. None.

D. Additional Comments: MSO flew a flawless checkride.

V. Reviewing Officer's Remarks

VI. Approving Officer's Remarks

VII. Additional Reviews

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 14 Mar 00			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME <b>MSO</b>			GRADE 2Lt		SSAN		
ORGANIZATION AND LOCATION 148 FS, Tucson IAP, AZ			ACFT/CREW POSITION F-16A/FP		ELIGIBILITY PERIOD N/A		
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
EPE	8 Mar 00	2	INIT INSTM/QUAL	14 Mar 00			
Closed Book	1 Mar 00	100					
Open Book	1 Mar 00	92					
IRC	23 Feb 00	100					
CAPS	1 Mar 00	Q					
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	ADDITIONAL TRAINING				
QUALIFIED	UNQUALIFIED		DUE DATES EPE: 30 Jun 00 FLT: 30 Jun 00				
	3		DATE ADDITIONAL TRAINING COMPLETED EPE: 9 Mar 00 FLT: 17 Mar 00				
EXPIRATION DATE OF QUALIFICATION N/A							
COMMENTS (if more space is needed, continue on reverse) RESTRICTIONS: Member is in a SUPERVISED STATUS until a successful re-check has been accomplished.							
<b>III. CERTIFICATION</b>							
TYPED NAME AND GRADE	ORGANIZATION	CHECK				SIGNATURE	DATE
		C O N C U R	D O N O T	C O N C U R	R E J A R K S		
1 FLIGHT EXAMINER Lt Col	148 FS, AZANG			X		30 Mar 00	
2 REVIEWING OFFICER Maj	148 FS/DO, AZANG	X				27 MAR 00	
3 FINAL APPROVING OFFICER Lt Col	148 FS/CC, AZANG	X				27 Mar 00	
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 30 Mar 00	TYPED NAME AND GRADE OF EXAMINEE MSO				SIGNATURE		

AF FORM 8, MAY 85 CONTINUATION SHEET

IV. Examiners Remarks:

A. Mission Description: This mission was flown at the conclusion of Conversion Training in the F-16A B-Course Hybrid Syllabus. Takeoff was performed on Runway 11L at Tucson International Airport and the Ruby Stereo was flown to the Ruby Training Area where the airwork included an AGSM, a loop, a cloverleaf, Horn Profile #3 and unusual attitude recoveries. The examinee proceeded to Libby Army Airfield for two overhead SFO's to low approaches and a VFR overhead pattern to a touch and go on Runway 26. He then returned to Tucson IAP for a VFR overhead pattern to a full stop landing on Runway 11L.

B. Discrepancies.

1. Ground (EPE).

Area 21, Fuel Low/fuel Leak (Q-). With a fuel leak in the forward tank, MSO moved the Engine Feed Knob to forward instead of moving the Fuel Quantity Selector Switch out of NORM, as required by the checklist.

2. Flight.

Area 22, Emergency Approach/landing (U). Examinee flew below minimum airspeed on two SFO's, which resulted in a position from which a landing could not be safely executed. The FE directed both go-arounds on both SFO's.

C. Recommended Additional Training.

1. Ground (EPE). Examinee will brief his flight commander on the Fuel System to include all the functions of the Engine Feed Knob and the Fuel Quantity Selector Switch.

2. Flight. Examinee will fly a C-X prior to the re-check.

D. Additional Comments: The 148<sup>th</sup> FS/ADO attended the debrief.

V. Reviewing Officer's Remarks

VI. Approving Officer's Remarks

VII. Additional Reviews

**G1.2.2. INDIVIDUAL FLYING HISTORY REPORT**

PREPARED 28 JUL 2010 22:26

FLYING HISTORY REPORT (PA)

AS OF 28 JUL 2010

FCN SA036-F40

INQUIRY

NAME: MSO

SSAN:

GRADE: MAJ APT: 1

FAC: 1 OFDA: 143

ASC: 1A

ASC DATE: 12 MAR 08

CMD: ANG WING: 01760PSG

PRI CRW POS: P

PRI ACFT: C017A

UNIT: 0249A1SSQ

BASE: KULIS ANGB

AIRCRAFT TOTALS

AIRCRAFT MDS	C017A(S)	SMC017A(Q)	SPO017A(Q)	AT038B(S)	F016A(S)	F016B(S)	T038A(S)	F016C(S)
FLY DTY CERT CODE	MP B	MP B	UP	UP	MP	MP	UP	MPCE
DATE FIRST FLOWN	11 JAN 08	03 DEC 07	05 DEC 07	04 OCT 99	28 FEB 00	17 FEB 00	17 AUG 99	31 MAY 00
DATE LAST FLOWN	09 JUL 10	27 JUL 10	14 DEC 07	18 NOV 99	09 MAY 00	15 MAY 03	17 AUG 99	01 OCT 07
TOTAL TIME	862.9	188.5	16.0	25.4	16.2	24.1	1.0	923.1
PRIMARY TIME	361.9	95.2	8.0	25.4	16.2	24.1	1.0	923.1
SECONDARY TIME	279.2	92.5	8.0	0.0	0.0	0.0	0.0	0.0
INSTRUCTOR TIME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EVALUATOR TIME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER TIME	221.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0
NIGHT	165.3	4.3	0.0	0.0	0.0	2.1	0.0	81.7
PRIMARY INST	71.5	2.0	0.0	1.1	0.0	1.2	0.0	152.5
PRIMARY SIM INST	3.1	8.6	0.0	0.0	0.0	2.0	0.0	1.5
AVG TIME	12.8	5.0	0.0	0.0	0.0	0.0	0.0	42.8
COMBAT TIME	45.1	0.0	0.0	0.0	0.0	0.0	0.0	26.5
COMBAT SUPPORT TIME	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COMBAT SORTIES	10	0	0	0	0	0	0	6
COMBAT SUPPORT SORTIES	0	0	0	0	0	0	0	0
TOTAL SORTIES	218	70	8	27	16	18	1	570

PREPARED 28 JUL 2010 22:26

FLYING HISTORY REPORT (PA)

AS OF 28 JUL 2010

PCN SA036-F40

INQUIRY

NAME: MSO SSAN: GRADE: MAJ API: 1 FAC: 1 OFDA: 143 ASC: 1A ASC DATE: 12 MAR 08  
 CMD: ANG WING: 01760BSG PRI CRW POS: P PRI ACFT: C017A UNIT: 0249ALSSQ BASE: KULIS ANGB

AIRCRAFT TOTALS

CAREER TOTALS

AIRCRAFT MDS	F016D(S)	F37ATS1(O)	SF016A(O)	SF016C(O)	CREW POSITION	PILOT
FLT DTY CRT CODE	MPCE	UP	MP	MP	PRIMARY TIME	1416.2
DATE FIRST FLOWN	25 MAY 00	20 SEP 99	10 FEB 00	17 MAY 00	SECONDARY TIME	285.5
DATE LAST FLOWN	18 SEP 07	18 OCT 99	28 APR 00	12 JUL 01	INSTRUCTOR TIME	0.0
TOTAL TIME	70.8	4.6	16.5	24.3	EVALUATOR TIME	0.0
PRIMARY TIME	65.5	4.6	16.5	24.3	OTHER TIME	221.8
SECONDARY TIME	5.3	0.0	0.0	0.0	TOTAL TIME	1923.5
INSTRUCTOR TIME	0.0	0.0	0.0	0.0	STUDENT TIME	212.3
EVALUATOR TIME	0.0	0.0	0.0	0.0	OTHER US MIL TIME	0.0
OTHER TIME	0.0	0.0	0.0	0.0	FOREIGN MIL TIME	0.0
NIGHT	5.6	0.0	0.0	0.0	CIVILIAN TIME	3083.0
PRIMARY INST	9.6	0.0	0.0	0.0	COMBAT TIME	71.6
PRIMARY SIM INST	0.0	1.3	8.9	16.5	COMBAT SUP TIME	0.0
NAV TIME	2.8	0.0	0.0	0.0	TOTAL SORTIES	897
COMBAT TIME	0.0	0.0	0.0	0.0	COMBAT SORTIES	16
COMBAT SUPPORT TIME	0.0	0.0	0.0	0.0	COMBAT SUP SORTIES	0
COMBAT SORTIES	0	0	0	0	NAV TIME	58.4
COMBAT SUPPORT SORTIES	0	0	0	0	DATE FIRST FLOWN	17 AUG 99
TOTAL SORTIES	47	4	8	15	DATE LAST FLOWN	09 JUL 10

GRAND TOTAL 5218.8

**G1.2.3. 30/60/90 FLYING HISTORY REPORT**

NAME:	MSO	GRADE:	MAJ	SSAN:	API: 1	FAC: 1	ASC: 1A	DAFSC: 011M3X	AGE:			
CMD: ANG	WING: 01760P8GP	ORGANIZATION:	0249ALSSQ	CERW POSITION:	MP B	ASC DATE:	12 MAR 2008	MISHAP DATE:	28 JUL 2010			
CURR RATING:	SENIOR PILOT	AIRCRAFT TYPE:	C017A	SERIAL NO:	00-0173	MISHAP DATE:	28 JUL 2010					
*** MISHAP AIRCRAFT ***												
C017A	PRI	SEC	INST	EVAL	OTHER	TOTDL	PRI/INST	NIGHT	INS	SIM	INS	SORT
361.9	279.2	0.0	0.0	0.0	221.8	862.9	361.9	165.3	71.5	3.1	218	
LAST 30 DAYS	2.1	3.3	0.0	0.0	0.0	5.4	2.1	0.0	0.3	0.0	3	
LAST 60 DAYS	8.9	13.3	0.0	0.0	0.0	22.2	8.9	0.0	1.8	0.0	10	
LAST 90 DAYS	18.0	16.0	0.0	0.0	10.5	44.5	18.0	4.1	2.4	0.3	16	
*** OTHER AIRCRAFT ***												
SMC017A	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SORT
95.2	92.5	0.0	0.0	0.0	0.8	188.5	95.2	4.3	2.0	8.6	70	
LAST 30 DAYS	0.7	0.0	0.0	0.0	0.8	1.5	0.7	0.0	0.0	0.0	1	
LAST 60 DAYS	0.7	0.0	0.0	0.0	0.8	1.5	0.7	0.0	0.0	0.0	1	
LAST 90 DAYS	0.7	0.0	0.0	0.0	0.8	1.5	0.7	0.0	0.0	0.0	1	
SPC017A	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SORT
8.0	8.0	0.0	0.0	0.0	0.0	16.0	8.0	0.0	0.0	0.0	8	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
AT038B	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SORT
25.4	0.0	0.0	0.0	0.0	0.0	25.4	25.4	0.0	1.1	0.0	27	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
F016A	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SORT
16.2	0.0	0.0	0.0	0.0	0.0	16.2	16.2	0.0	0.0	0.0	16	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	

PREPARED 28 JUL 2010 22:50

AIRCRAFT WESHAP INVESTIGATION (PA)

AS OF 28 JUL 2010 PCN SA036-F20

NAME: MSO  
 CMD: ANG KING: 01760PSCP  
 CURR RATING: SENIOR PILOT

GRADE: MAJ SSAN:  
 ORGANIZATION: 0249ALSSO  
 AIRCRAFT TYPE: C017A

API: 1 FAC: 1 ASC: 1A DAFSC: 011M3K AGE:  
 CREW POSITION: MP B ASC DATE: 12 MAR 2008  
 SERIAL NO: 00-0173 WESHAP DATE: 28 JUL 2010

\*\*\* OTHER AIRCRAFT \*\*\*

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SOBT
F016B	24.1	0.0	0.0	0.0	0.0	24.1	24.1	2.1	1.2	2.0	1.8	18
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
F016C	923.1	0.0	0.0	0.0	0.0	923.1	923.1	81.7	152.5	1.5	570	570
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
F016D	65.5	5.3	0.0	0.0	0.0	70.8	65.5	5.6	9.6	0.0	47	47
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
F37AT51	4.6	0.0	0.0	0.0	0.0	4.6	4.6	0.0	0.0	1.3	4	4
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
SF016A	16.5	0.0	0.0	0.0	0.0	16.5	16.5	0.0	0.0	8.9	8	8
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0

PREPARED 28 JUL 2010 22:50 AIRCRAFT WISHAP INVESTIGATION (PA) AS OF 28 JUL 2010 PCN SA036-F20

NAME: MSO WING: 01760PSCP GRADE: MAJ SSAN: APT: 1 PAC: 1 ASC: 1A DAFSC: 011M3K AGE:  
 CMD: ANG WING: 01760PSCP ORGANIZATION: 0249ALSSQ CREW POSITION: MP B ASC DATE: 12 MAR 2008  
 CURR RATING: SENIOR PILOT AIRCRAFT TYPE: C017A AIRCRAFT TYPE: C017A SERIAL NO: 00-0173 WISHAP DATE: 28 JUL 2010

\*\*\* OTHER AIRCRAFT \*\*\*

	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SOBT
SP016C	24.3	0.0	0.0	0.0	0.0	24.3	24.3	0.0	0.0	0.0	16.5	15
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
T038A	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0

\*\*\* CAREER TOTALS \*\*\*

CREW POSITION	FIRST FLIGHT	LAST FLIGHT	PRI	TIME	SEC	INST	EVAL	SUPPORT	OTHER	TOTAL	PRI/INST	STUDENT	COMBAT	COMBAT	SOBT
PILOT	17 AUG 1999	09 JUL 2010	1416.2	285.5	0.0	0.0	0.0	221.8	1923.5	1416.2	212.3	71.6	0.0	897	

### G.1.2.4 INDIVIDUAL DATA SUMMARY

PREPARED 28 JUL 2010 22:26

INDIVIDUAL DATA SUMMARY (PA)

AS OF 28 JUL 2010

PCN SA036-A70

INQUIRY

NAME: MSO

SSAN:

GRADE: MAJ

CMD: ANG

WING: 01760BSSG

UNIT: 0249ALSSQ

PERSONAL DATA

DUTY PHONE:  
OFFICE SYMBOL:  
MER SVC CAT:  
LAST PHS DATE:  
PHS CODE:  
PHYS DUE DATE:  
PHYS AVAIL CODE:  
PHYS AVAIL DATE:  
PHYSIOLOGICAL TNG DATE:  
PHYSIOLOGICAL DUE DATE:  
DATE OF BIRTH:  
DUTY AFSC:  
EFFECTIVE DATE OF DUTY:  
PAS CODE:  
SHORT TOUR INDICATOR:  
DATE RETURN FROM OVERSEAS:  
DATE OF RANK:  
DATE OF SEP/OBLIGATION:  
DATE DEP LAST DUTY STA:  
DATE ARR THIS STATION:  
PERSONNEL RECORD STATUS:  
PROJECTED DAFSC:  
PROJECTED PAS CODE:  
PROJECTED DUTY LOCATION:  
PROJ DEPARTURE DATE:  
PROJ REPORTING DATE:  
PAC 8 EFFECTIVE DATE:  
LOCAL USE CODE:

AIRNG  
15 MAR 10  
F  
13 JUN 11  
A  
15 MAR 10  
08 SEP 06  
30 SEP 11  
01MXX  
01 APR 08  
A40RFR1  
N

SECURITY CLEARANCE:  
SECURITY CLEARANCE DATE:  
RESTRICTED AREA BADGE NO:  
PROFESSIONAL QUAL INDEX (PQI):  
PROFESSIONAL QUAL INDEX DATE:

V  
21 JUL 04

JUMP STATUS  
DATE ASSIGNED JUMP STATUS:

SYSTEM MANAGEMENT

HARM CODE:  
DEPLOYED HARM CODE:  
DEPLOYED DATE:  
REDEPLOYED DATE:  
SPECIAL CAT ID:  
RECORDS REVIEW ACC DATE:  
RECORDS REVIEW DUE DATE:  
RECORDS REVIEW STATUS CODE:

MARV  
NG  
03 FEB 10  
28 FEB 11  
N

I CERTIFY THAT I HAVE REVIEWED MY FRF AND IT IS COMPLETE AND ACCURATE.

SIGNATURE

DATE

PAGE 1

ANG PAGE 1

PREPARED 28 JUL 2010 22:26

INDIVIDUAL DATA SUMMARY (PA)

AS OF 28 JUL 2010

PCN SA036-A70

INQUIRY

NAME: MSO  
BASE: KULIS ANGB

SSAN:

GRADE: WAJ

CMD: ANG

WING: 01760PSGP

UNIT: 0249ALSSQ

AIRCRAFT ASSIGNMENT DATA

AIRCRAFT OPLDC: MLRV  
CMD OF AIRCRAFT: 34  
ACFT SVC CAT: AIRN  
PRIMARY ACFT: C017A  
FLT DUTY CERT CODE: MP B  
CATEGORICAL FLYING WAIVER: N

AERONAUTICAL RATING/AVIATION BADGE

AERONAUTICAL RATING: SENIOR PILOT  
EFFECTIVE DATE: 13 AUG 06  
AERONAUTICAL RATING: PILOT  
EFFECTIVE DATE: 13 AUG 99

INCENTIVE PAY DATA

LAST MPO DATE: 04 AUG 98  
LAST MPO REASON: A  
AD/IAID: NONE  
PAY STOP DATE: 03 AUG 10  
LAST PRODUCTIVE FLIGHT DATE: 09 JUL 10  
PREVIOUS PRODUCTIVE FLIGHT DATE: 02 JUL 10

CEFIP/ACIP DATA

AVIATION SERVICE CODE: 1A  
EFFECTIVE DATE: 12 MAR 08  
PRIOR ASC: 1S

OUS MIL RTG DT:  
CURR PARA RATING:  
CURR PARA RATING DATE:  
ORIG PARA RATING:  
ORIG PARA RATING DATE:  
TRAINING/QUAL STATUS: \_\_\_\_\_  
DATE

FORMAL COURSE

AERO ORDER TERM DATE: 01 FEB 08  
OFFICER SERVICE DATE: 03 AUG 10  
AVIATION SERVICE DATE: 07 MAY 98  
TRANSITION STATUS CODE: 04 AUG 98  
AVIATION POSITION INDICATOR: A  
EFFECTIVE DATE: 01 APR 08  
FLYING ACTIVITY CATEGORY: 1  
PRE-ACIA-OFDA: 0  
OFDA GATE 10/12: 143  
OFDA GATE 15/15: 0  
OFDA GATE 20/18: 0  
OFDA TO DATE: 143

You have met OFDA requirements for current gate.

I CERTIFY THAT I HAVE REVIEWED MY FRF AND IT IS COMPLETE AND ACCURATE.

SIGNATURE

DATE

### 1.2.5. INDIVIDUAL TRAINING SUMMARY

PGM	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	REM %	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP IN PHASE	RESTR CODE
AC	AC B		LZ LANDING	AS11C	4	7	0	27 JUL 10		31 DEC 10			N
AC	AC B		SIM LZ LANDING	AS11S	0	3		27 JUL 10					N
AC	AC B		NGT LZ LAND	AS12C	1	0	100	18 MAY 10					N
AC	AC B		SIM NGT LZ	AS12S	0	0		22 APR 10					N
AC	AC B		HVWT FULL FLAP	AS21C	2	0	100	10 JUN 10					N
AC	AC B		NVG/TAKEOFF	NV47	4	0	100	13 MAY 10					I
AC	AC B		NVG/LANDING	NV48	4	0	100	13 MAY 10					I
AC	AC B		NGV LZ LANDING	NV49C	2	0	100	13 MAY 10					I
AC	AC B		SIM NVG LZ LAND	NV49S	0	0		22 APR 10					N
AC	AC B		TAKEOFF	P020	10	9	10	27 JUL 10		31 AUG 10			I
AC	AC B		TOT INSTW APCHS	P070	8	3	63	16 JUL 10		31 AUG 10			I
AC	AC B		PREC APCHS	P100	4	3	25	16 JUL 10					N
AC	AC B		NON PREC APCH	P110	4	0	100	10 JUN 10					N
AC	AC B		CIRCLING APCH	P130	2	1	50	14 JUL 10		31 AUG 10			N
AC	AC B		LANDING	P190	10	10	0	27 JUL 10					I
AC	AC B		HAVE QUICK	P260	1	0	100	25 FEB 10					I
AC	AC B		SECURE VOICE	P270	1	0	100	25 FEB 10					N
AC	AC B		ACDTOT	P280	0	0		22 JUL 08		31 DEC 10			N
AC	AC B		RECVR AR	R010	4	1	75	14 JUL 10		12 SEP 10			I
AC	AC B		SIM RECEIVER AR	R010S	0	0		10 JUN 10					N
AC	AC B		RECVR AR NT	R020	2	0	100	10 JUN 10		30 SEP 10			I
AC	AC B		SIM RCVR AR NGT	R020S	0	0		10 JUN 10					N
AC	AC B		RECVR AR AP OFF	R050	2	1	50	14 JUL 10		31 DEC 10			I
AC	AC B		TAC ARRIVAL	RS00C	2	4	0	16 JUL 10		31 DEC 10			I

PREPARED 28 JUL 2010 22:37

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

PCN SA036-T10

CURRENT TRAINING PERIOD

NAME: MSO

GRADE: MAJ

SSAN:

CREW POSITION: MP B

UNIT: 0249ALSSQ

PHYSICAL DUE DATE: 13 JUN 11

PHYSIOLOGICAL DUE DATE: 30 SEP 11

RECORDS REVIEW DUE DATE: 28 FEB 11

PGM	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	% REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP IN PHASE	RESTR CODE
AC	AC B	TAC DEPARTURE	RS20C	2	8	0	27 JUL 10		31 DEC 10			I
AC	AC B	THREAT RESPONSE	VT06	2	2	0	01 JUL 10					I
AC	BASIC AC	QUALINS CHK SIM	AA22	0	0		21 MAY 09		31 OCT 10			N
AC	BASIC AC	HVY WT F-FLIP NT	AS22	1	0	100	22 APR 10					N
AC	BASIC AC	OVERSEAS SORTIE	MO30C	0	1		16 JUL 10		31 DEC 11			O
AC	BASIC AC	LOW LEVEL RT	MO55	1	1	0	01 JUL 10					N
AC	BASIC AC	INSTR TAC SORTI	MO70C	2	1	50	14 JUL 10		10 JAN 11			N
AC	BASIC AC	NVG LOW LEVEL	NV00C	1	0	100	13 MAY 10					N
AC	BASIC AC	NVG INST APPR	NV80	1	0	100	13 MAY 10					N
AC	BASIC AC	RGHT SEAT TO	PO28	0	4		19 JUL 10					N
AC	BASIC AC	LFT SEAT TO	PO29	0	5		27 JUL 10					N
AC	BASIC AC	NDB APPR	P16C	1	0	100	21 APR 10					N
AC	BASIC AC	RNAV APPROACH	P118	2	0	100	10 JUN 10					N
AC	BASIC AC	CAT II APPROACH	P120	1	0	100	10 JUN 10					N
AC	BASIC AC	NGT LANDING	P192C	2	0	100	18 MAY 10		30 SEP 10			I
AC	BASIC AC	RGHT SEAT LND	P198	0	4		19 JUL 10					N
AC	BASIC AC	LEFT SEAT LND	P199	0	6		27 JUL 10					N
AC	BASIC AC	HGH ALT TAC ARR	RS06	1	2	0	16 JUL 10					N
AC	BASIC AC	LOW ALT TAC ARR	RS16C	1	2	0	09 JUL 10					N
AC	PILOT AIRLAND PHASE	CRM SIMULATOR	G240	0	0		17 DEC 09		31 DEC 10			I
AC	PILOT AIRLAND PHASE	AL PHASE 1	G261	0	0		09 MAR 10		31 MAR 11			I
AC	PILOT AIRLAND PHASE	AL PHASE 2	G262	0	0		10 JUN 10		30 JUN 11			I
AC	PILOT AIRLAND PHASE	AL PHASE 3	G263	0	0		28 AUG 09		30 SEP 10			I
AC	PILOT AIRLAND PHASE	AL PHASE 4	G264	0	0		17 DEC 09		31 DEC 10			I

PREPARED 28 JUL 2010 22:37

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

PCN SA036-T10

CURRENT TRAINING PERIOD

NAME: MSO  
 PHYSICAL DUE DATE: 13 JUN 11

GRADE: MAJ SSAN:  
 PHYSIOLOGICAL DUE DATE: 30 SEP 11

CREW POSITION: MP B  
 RECORDS REVIEW DUE DATE: 28 FEB 11  
 UNIT: 0249ALSSQ

PCN	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	% RBM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP IN PHASE	RESTR CODE
GT		C17 ALL MEMBERS	MOB FOLDER REWM	C040	0	0	0	24 MAR 10		31 DEC 11			N
GT		C17 ALL MEMBERS	PASSPORT	E030	0	0	0	09 APR 08		09 APR 13			N
GT		C17 ALL MEMBERS	SEC PASSPORT	E035	0	0	0	21 JUL 08		21 JUL 12			N
GT		C17 ALL MEMBERS	INFO PROTECTION	E112	0	0	0	10 JAN 10		10 JAN 11			M
GT		C17 ALL MEMBERS	HUMAN RELATIONS	E113	0	0	0	11 JAN 10		11 APR 11			M
GT		C17 ALL MEMBERS	FORCE PROTECTIO	E114	0	0	0	11 JAN 10		11 JAN 11			M
GT		C17 ALL MEMBERS	CBRN WBT	G010	0	0	0	11 JAN 09		30 SEP 10			N
GT		C17 ALL MEMBERS	TACTICS	G060	0	0	0	06 NOV 09		31 DEC 10			M
GT		C17 ALL MEMBERS	AIRCREW INTEL	G070	0	0	0	06 NOV 09		31 DEC 10			M
GT		C17 ALL MEMBERS	LOAC	G100	0	0	0	11 JAN 10		30 APR 11			N
GT		C17 ALL MEMBERS	ISOPREP	G120	0	0	0	14 JAN 10		13 JUL 10	YES		N
GT		C17 ALL MEMBERS	CRM REFRESHER	G230	0	0	0	04 JUN 09		31 DEC 10			N
GT		C17 ALL MEMBERS	SMALL ARMS (OF)	G280	0	0	0	06 DEC 09		31 DEC 11			N
GT		C17 ALL MEMBERS	SELF AIDE BUDDY	G281	0	0	0	11 JAN 09		31 JAN 11			M
GT		C17 ALL MEMBERS	EGRESS TRNG-G	IL03	0	0	0	26 MAR 08		31 DEC 11			G
GT		C17 ALL MEMBERS	ACDT	IL04	0	0	0	26 MAR 08		31 DEC 10			M
GT		C17 ALL MEMBERS	LIFE SUP EQP TM	IL06	0	0	0	15 AUG 09		31 DEC 12			O
GT		C17 ALL MEMBERS	EGRESS/02 ALSH	IL06E	0	0	0	26 MAR 08		31 DEC 11			N
GT		C17 ALL MEMBERS	WATER SURV ALSH	IL06W	0	0	0	15 AUG 09		31 DEC 12			N
GT		C17 ALL MEMBERS	NTG REFRESHER	NV03C	0	0	0	28 SEP 09		31 DEC 10			N
GT		C17 ALL MEMBERS	MISSION EVAL	Q019C	0	0	0	09 FEB 10		31 JUL 11			N
GT		C17 ALL MEMBERS	CST/LS/REFRESH	SS02	0	0	0	08 FEB 09		31 DEC 12			O
GT		C17 ALL MEMBERS	COND AFTER CAP	SS03	0	0	0	11 JUL 08		31 DEC 11			M
GT		C17 ALL MEMBERS	WST/LS/REFRESH	SS05	0	0	0	15 AUG 09		31 DEC 12			O

PREPARED 28 JUL 2010 22:37

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

PCN SA036-T10

CURRENT TRAINING PERIOD

NAME: MSO  
 PHYSICAL DUE DATE: 13 JUN 11

GRADE: MAJ SSAN:  
 PHYSIOLOGICAL DUE DATE: 30 SEP 11

CREW POSITION: MP B UNIT: 0249ALSSQ  
 RECORDS REVIEW DUE DATE: 28 FEB 11

PGM	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	% REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	IN PHASE	RESTR CODE
GT		C17 ALL MEMBERS	EMERG PARACHUTE	SS06	0	0		23 MAY 07		31 DEC 10			O
GT		C17 ALL MEMBERS	SERE INDOC HRI	SS07	0	0		09 JUL 10		09 JUL 12			M
GT		C17 ALL MEMBERS	VTRAT	VT03C	0	0		15 DEC 09		31 DEC 10			N
GT		C17 OTO	ACFT MAR EX-OT-	G002	0	0		03 APR 08					N
GT		C17 OTO	INITIAL CRM-OT-	G231	0	0		26 MAR 08					N
GT		C17 OTO	LIFE SUPRT/FAM	IL01	0	0		26 MAR 08					N
GT		C17 OTO	BGRESS W/ACDE	IL05	0	0		26 MAR 08					N
GT		C17 OTO	LOCAL AREA SURV	SS01	0	0		02 APR 08					N
GT		C17 OTO	COMBAT SURV INT	SS20	0	0		27 JUN 00					N
GT		C17 OTO	VTRAT INTL TRN	VT01	0	0		23 MAR 08					N
GT		C17 OTO	EMS ENVIRO MGT	X162	0	0		06 APR 08					N
GT		C17 PILOT AIRLAND CB	COMM PRO	G080	0	0		25 SEP 09					N
GT		C17 PILOT AIRLAND CB	COMM PROCDERS	G080A	0	0		25 SEP 09		25 SEP 10			N
GT		C17 PILOT AIRLAND CB	ANTI-HIJACK	G090	0	0		30 JUN 10		31 DEC 13			N
GT		C17 PILOT AIRLAND CB	HAZARD CARGO	G182B	0	0		29 MAR 10		31 MAR 11			N
GT		C17 PILOT AIRLAND CB	ACFT SERVICING	G190	0	0		25 SEP 09		30 SEP 10			N
GT		C17 PILOT AIRLAND CB	AL PHASE 1 CBT	G251	0	0		29 MAR 10		31 MAR 11			G
GT		C17 PILOT AIRLAND CB	AL PHASE 2 CBT	G252	0	0		30 JUN 10		30 JUN 11			G
GT		C17 PILOT AIRLAND CB	AL PHASE 3 CBT	G253	0	0		25 SEP 09		30 SEP 10			G
GT		C17 PILOT AIRLAND CB	AL PHASE 4 CBT	G254	0	0		15 DEC 09		31 DEC 10			G
GT		C17 PILOT UNIQUE	IRC	G130	0	0		30 MAR 10		31 MAR 11			M
GT		C17 SV86	WTR SURV PR 86A	SS31	0	0		08 SEP 99					N

ANG PAGE 4

# G1.2.6 INDIVIDUAL FLIGHT RECORD REPORT

PREPARED 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (PA)

PAGE 28 JUL 2010

PCN SA036-F70

INQUIRY

NAME: MSO

CMD: ANG WING: 0176DPSGP

UNIT: 0249ALSSQ

SSAN: ACFT OPLAC: MRY

GRADE: MAJ

PRI CREW POS: P

PRI AIRCRAFT: C017A

MDS	DATE	TAIL	DUTY	PRI	SEC	INST	EVAL	OTR	TOTAL	SRT	CMB	SRT	C/S	C/S	NITE	INS	SIM	INS	NVG	RES	N/S	UPDATED	DATE
C017A	26 JUN 09	0169	MP	2.2	2.2	0.0	0.0	1.8	6.2	1	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	1	S	20090722	20090722
C017A	27 JUN 09	0169	MP	2.1	2.1	0.0	0.0	1.9	6.1	1	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	1	S	20090722	20090722
C017A	28 JUN 09	0169	MP	2.1	2.1	0.0	0.0	2.1	6.3	1	0.0	0	0.0	0	2.0	1.0	0.0	0.0	0.0	1	S	20090722	20090722
C017A	29 JUN 09	0169	MP	2.1	2.1	0.0	0.0	0.0	4.2	1	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	1	S	20090722	20090722
C017A	13 JUL 09	0171	MP	2.2	0.0	0.0	0.0	2.3	4.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20090723	20090810
C017A	14 JUL 09	0171	MP	4.1	0.1	0.0	0.0	4.2	8.4	1	0.0	0	0.0	0	0.5	0.3	0.0	0.0	0.0	1	S	20090810	20090810
C017A	15 JUL 09	0171	MP	3.5	0.0	0.0	0.0	3.5	7.0	1	7.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20090723	20090723
C017A	16 JUL 09	0171	MP	3.8	0.0	0.0	0.0	3.7	7.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20090805	20090805
C017A	18 JUL 09	0171	MP	7.0	7.0	0.0	0.0	0.2	14.2	2	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	1	S	20090806	20090806
C017A	29 JUL 09	0174	MP	1.0	1.0	0.0	0.0	1.1	0.3	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20090814	20090814
C017A	30 JUL 09	0172	MP	0.3	0.0	0.0	0.0	0.0	0.3	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20090813	20090813
C017A	04 AUG 09	0168	MP	3.5	0.1	0.0	0.0	0.0	3.6	1	0.0	0	0.0	0	0.0	0.5	0.0	0.0	0.0	1	S	20090814	20090814
C017A	07 AUG 09	0171	MP	1.5	1.5	0.0	0.0	0.2	3.2	1	0.0	0	0.0	0	0.0	0.5	0.0	0.0	0.0	1	S	20090826	20090826
C017A	17 AUG 09	0168	MP	4.0	3.5	0.0	0.0	0.0	7.5	1	0.0	0	0.0	0	1.5	1.0	0.0	0.0	0.0	1	S	20090826	20090826
C017A	19 AUG 09	0168	MP	3.6	3.5	0.0	0.0	0.0	7.1	1	0.0	0	0.0	0	0.0	0.3	0.0	0.0	0.0	1	S	20090826	20090826
C017A	20 AUG 09	0168	MP	2.4	2.3	0.0	0.0	0.0	4.7	1	0.0	0	0.0	0	2.4	2.4	0.0	0.0	0.0	1	S	20090826	20090826
C017A	21 AUG 09	0168	MP	3.3	6.1	0.0	0.0	0.2	9.6	2	0.0	0	0.0	0	3.3	3.3	0.0	0.0	0.0	1	S	20090826	20090826
C017A	22 AUG 09	0168	MP	4.1	4.2	0.0	0.0	0.0	8.3	1	0.0	0	0.0	0	2.0	0.0	0.0	0.0	0.0	1	S	20090826	20090826
C017A	27 AUG 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20090904	20090904
C017A	28 AUG 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20090904	20090904
C017A	08 SEP 09	0170	MP	1.4	1.5	0.0	0.0	1.4	4.3	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20091119	20091119
C017A	22 SEP 09	0168	MP	1.5	0.5	0.0	0.0	0.6	2.6	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20090925	20090925
C017A	24 SEP 09	0171	MP	3.6	0.0	0.0	0.0	0.0	3.6	1	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	1	S	20091203	20091203
C017A	30 SEP 09	0001	MP	1.0	0.0	0.0	0.0	0.0	1.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20091119	20091119
C017A	10 OCT 09	0171	MP	0.0	0.2	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20091118	20091118
C017A	12 OCT 09	0171	MP	4.1	2.0	0.0	0.0	2.0	8.1	1	0.0	0	0.0	0	2.5	0.0	0.0	0.0	0.0	1	S	20091118	20091118

I CERTIFY THAT I HAVE REVIEWED MY ERR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

PREPARED 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (PA)

AS OF 28 JUL 2010

FCN SA036-F70

INQUIRY

NAME: MSO  
 CMD: ANG WING: 01760P8GP UNIT: 0249ALSSQ SSAN: ACPY OPLCOC: MLRY  
 GRADE: MAJ PRI CREW POS: P PRI AIRCRAFT: C017A

MDS	DATE	TAIL NUMB	DUTY POSN	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB SRT	C/S	C/S	NITE	INS	SIM	INS	NVG	RES	N/S	DATE
C017A	15 OCT 09	0171	MP	0.7	0.5	0.0	0.0	0.5	1.7	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	17 OCT 09	0171	MP	0.0	1.2	0.0	0.0	0.0	1.2	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	18 OCT 09	0171	MP	0.0	0.2	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	19 OCT 09	0171	MP	0.0	0.0	0.0	0.0	3.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	20 OCT 09	0171	MP	0.0	0.2	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	21 OCT 09	0171	MP	0.0	0.3	0.0	0.0	0.0	0.3	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	22 OCT 09	0171	MP	1.1	0.3	0.0	0.0	0.0	1.4	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	23 OCT 09	5147	MP	0.0	0.2	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	24 OCT 09	5147	MP	0.0	0.4	0.0	0.0	0.0	0.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	25 OCT 09	0171	MP	0.4	0.6	0.0	0.0	0.0	1.0	3	0.0	0	0.0	0.0	0.8	0.0	0.0	0.0	1	S	20091118
C017A	26 OCT 09	0171	MP	4.3	0.0	0.0	0.0	4.4	8.7	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	29 OCT 09	0171	MP	5.9	0.0	0.0	0.0	4.5	5.9	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091118
C017A	30 OCT 09	0171	MP	1.0	0.0	0.0	0.0	4.5	5.5	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091125
C017A	16 NOV 09	0170	MP	1.1	1.1	0.0	0.0	0.0	2.2	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091203
C017A	24 NOV 09	0172	MP	1.7	1.7	0.0	0.0	0.0	3.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091214
C017A	27 NOV 09	0170	MP	3.2	3.2	0.0	0.0	2.0	8.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091214
C017A	28 NOV 09	0170	MP	0.0	0.0	0.0	0.0	4.3	4.3	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091216
C017A	29 NOV 09	0170	MP	1.9	1.9	0.0	0.0	0.0	3.8	1	3.8	1	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091216
C017A	30 NOV 09	0170	MP	1.7	1.7	0.0	0.0	0.7	4.1	2	4.1	2	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091224
C017A	01 DEC 09	0170	MP	0.8	0.8	0.0	0.0	7.4	9.0	3	9.0	3	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091224
C017A	02 DEC 09	0170	MP	2.7	2.8	0.0	0.0	2.0	7.5	1	0.0	0	0.0	0.0	5.0	0.8	0.0	0.0	1	S	20091224
C017A	03 DEC 09	0170	MP	2.3	2.3	0.0	0.0	4.9	9.5	2	0.0	0	0.0	0.0	1.4	0.3	0.0	0.0	1	S	20091224
C017A	04 DEC 09	0170	MP	2.6	2.6	0.0	0.0	2.6	7.8	1	0.0	0	0.0	0.0	5.0	0.0	0.0	0.0	1	Q	20091224
SMC017A	16 DEC 09	0011	MP	0.5	0.5	0.0	0.0	0.0	1.0	1	0.0	0	0.0	0.0	1.0	0.0	0.0	0.0	1	Q	20091223
SMC017A	17 DEC 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	Q	20091223
C017A	21 DEC 09	0168	MP	0.4	0.0	0.0	0.0	0.2	0.6	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20091224

I CERTIFY THAT I HAVE REVIEWED MY IRRR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

PREPARED 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (PA)

AS OF 28 JUL 2010

FCN SA036-F70

INOTRY

MDS	DATE	TAIL NUMB	DUTY POSN	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB	C/S	C/S	NITE	INS	STM	NVG	RES	N/S	DATE	MSO	WING:	UNIT:	SSAN:	ACFT	OPLOC:	GRADE:	PRI	CREW	POS:	PRI	AIRCRAFT:		
																					ANG	01760PSPG	0249AUSQ	ACFT	OPLOC:	MAJ	P	0017A						
C017A	22 DEC 09	0168	MP	0.7	0.0	0.0	0.0	2.2	2.9	1	0.0	0	0.0	0.0	0.5	0.0	0.0	1	S	20100315														
C017A	05 JAN 10	0168	MP	1.5	1.5	0.0	0.0	0.1	3.1	1	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100119														
C017A	13 JAN 10	0170	MP	0.9	0.9	0.0	0.0	1.4	3.2	2	0.0	0	0.0	0.0	0.3	0.0	0.0	1	S	20100124														
C017A	17 JAN 10	017A	MP	4.0	3.8	0.0	0.0	0.0	7.8	1	0.0	0	0.0	0.0	1.0	0.0	0.0	1	S	20100209														
C017A	18 JAN 10	0173	MP	3.8	3.7	0.0	0.0	0.0	7.5	1	0.0	0	0.0	0.0	0.0	0.3	0.0	1	S	20100209														
C017A	19 JAN 10	0173	MP	2.5	2.4	0.0	0.0	0.0	4.9	1	0.0	0	0.0	0.0	1.0	0.0	0.0	1	S	20100210														
C017A	20 JAN 10	0173	MP	5.6	6.4	0.0	0.0	0.0	12.0	2	0.0	0	0.0	0.0	6.5	0.0	0.0	1	S	20100210														
C017A	21 JAN 10	0173	MP	2.8	2.9	0.0	0.0	0.0	5.7	1	0.0	0	0.0	0.0	1.0	0.0	0.0	1	S	20100216														
C017A	22 JAN 10	0173	MP	3.2	2.8	0.0	0.0	0.0	6.0	1	0.0	0	0.0	0.0	5.0	0.0	0.0	1	S	20100305														
C017A	23 JAN 10	0173	MP	3.4	3.4	0.0	0.0	0.0	6.8	1	0.0	0	0.0	0.0	0.5	0.0	0.0	1	S	20100216														
C017A	27 JAN 10	0173	MP	1.0	1.1	0.0	0.0	0.0	2.3	1	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100225														
C017A	02 FEB 10	0174	MP	2.0	0.3	0.0	0.0	0.0	2.3	1	0.0	0	0.0	0.0	0.4	0.0	0.0	1	S	20100225														
C017A	03 FEB 10	0174	MP	1.0	0.0	0.0	0.0	0.0	2.1	1	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100216														
C017A	05 FEB 10	0174	MP	1.0	0.3	0.0	0.0	0.0	1.3	1	0.0	0	0.0	0.0	1.3	1.0	0.0	1	S	20100216														
C017A	09 FEB 10	0169	MP	1.0	1.0	0.0	0.0	1.0	3.0	1	0.0	0	0.0	0.0	3.0	1.0	0.0	1	S	20100223														
C017A	12 FEB 10	0174	MP	1.0	1.0	0.0	0.0	2.3	4.3	1	0.0	0	0.0	0.0	2.0	1.0	0.0	1	S	20100225														
C017A	23 FEB 10	0056	MP	0.0	0.0	0.0	0.0	5.3	5.3	1	0.0	0	0.0	0.0	0.0	0.0	0.0	1	S	20100315														
C017A	24 FEB 10	0056	MP	6.5	0.0	0.0	0.0	6.2	12.7	2	0.0	0	0.0	0.0	6.0	6.0	0.0	1	S	20100305														
C017A	25 FEB 10	0056	MP	5.2	2.2	0.0	0.0	2.0	9.4	2	9.4	1	0.0	0.0	7.0	5.2	0.0	2.0	1	S	20100305													
C017A	26 FEB 10	0056	MP	2.0	2.0	0.0	0.0	1.7	5.7	1	0.0	0	0.0	0.0	4.0	2.0	0.0	1	S	20100305														
C017A	27 FEB 10	0056	MP	4.6	4.0	0.0	0.0	0.0	8.6	1	0.0	0	0.0	0.0	8.6	4.6	0.0	0.0	1	S	20100305													
C017A	28 FEB 10	0056	MP	0.0	3.5	0.0	0.0	2.3	5.8	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	1	S	20100305													
SMC017A	08 MAR 10	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	1	Q	20100318														
SMC017A	09 MAR 10	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	1.5	0.0	1	Q	20100318													
SMC017A	26 MAR 10	0167	MP	1.1	1.0	0.0	0.0	1.0	3.1	1	0.0	0	0.0	0.0	1.3	0.0	0.0	1	Q	20100330														
C017A	31 MAR 10	0168	MP	1.6	1.7	0.0	0.0	1.1	4.4	1	0.0	0	0.0	0.0	0.3	0.0	0.0	1	S	20100401														

I CERTIFY THAT I HAVE REVIEWED MY IRRR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_



PREPARED 28 JUL 2010 22:26

INDIVIDUAL FLIGHT RECORD REPORT (FA)

AS OF 28 JUL 2010

FORM SA036-F70

INQUIRY

NAME: MSO  
 CMD: ANG WING: 01760PSGP UNIT: 0249ALSSQ SSAN: ACFT OPCODE: MARY GRADE: MAJ PRI CREW POS: P PRI AIRCRAFT: C017A

MDS SUMMARY	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB	SRT	C/S	SRT	C/S	NITE	INS	SIM	NVG
AIRCRAFT:	170.6	127.2	0.0	0.0	101.1	398.9	105	33.3	8	0.0	0	0.0	89.6	47.1	0.6	8.1
SIMULATOR:	19.7	18.0	0.0	0.0	0.8	38.5	15	N/A	N/A	N/A	N/A	N/A	1.0	2.0	2.7	3.5
UAV:	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0
															PAGE 5	

I CERTIFY THAT I HAVE REVIEWED MY IPRR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

**G1.3. RECORDS FOR MCP**

**G1.3.1. CERTIFICATE OF AIRCREW QUALIFICATIONS**

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 02 Apr 10	
<b>I. EXAMINEE IDENTIFICATION</b>					
NAME (Last, First, Middle Initial) MCP		RANK Capt	SSAN	ELIGIBILITY PERIOD N/A	
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK		ACFT/CREW POSITION C-17A/1P			
<b>II. QUALIFICATION</b>					
GROUND PHASE			FLIGHT PHASE		
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE	
EPE	01 Apr 10	1	INIT INSTR	02 Apr 10	
QUALIFICATION LEVEL		ADDITIONAL TRAINING			
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A		
EXPIRATION DATE OF QUALIFICATION N/A	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE		DATE
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>		
<b>III. CERTIFICATION</b>					
TYPED NAME AND RANK		ORGANIZATION	CHECK		DATE
			RECORD	NON-RECORD	
1	FLIGHT EXAMINER Capt	97 OG/RA	<input type="checkbox"/>	<input type="checkbox"/>	02 Apr 10
2	REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20 APR 10
3	FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	23 APR 10
I CERTIFY that I have been briefed and understand the action being taken this date.					
DATE 5 JUNE 2010	TYPED NAME AND GRADE OF EXAMINEE MCP		SIGNATURE		

AF FORM 8, 20081208

PREVIOUS EDITIONS ARE OBSOLETE.









AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> MCP flew this initial OME transiting PAED, KVOK, KGTB, LERT, OTBH, OAKN, FJDG and RODN. He performed mission planning, ocean crossing procedures, crew management, ICAO procedures and C2 communications. This OME was completed in conjunction with aircraft commander certification. The examination was completed in an excellent manner. MCP is now enroute qualified. Lt Col WIT 27 517 AS/CC, was debriefed on the results of this evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 24 Jul 09			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MCP</b>		RANK Capt	SSAN	ELIGIBILITY PERIOD Mar -Aug 09			
ORGANIZATION AND LOCATION 517AS, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/MP					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
Closed Book	23 Jul 09	100	SIM QUAL/INSTM	24 Jul 09			
EPE	24 Jul 09	1					
Boldface	24 Jul 09	Ⓢ					
Open Book/ATS	23 Jun 09	COMP					
Instrument	23 Jul 09	100					
QUALIFICATION LEVEL		ADDITIONAL TRAINING					
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION Dec 10	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE		DATE		
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		REVIEWED	FOR	REVIEWED	RESTRICTIONS		
1 FLIGHT EXAMINER Maj	517AS/OGV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		11 Aug 09
2 REVIEWING OFFICER WITNESS 11 Capt	517AS/CCV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		11 Aug 09
3 FINAL APPROVING OFFICER WITNESS 27 Lt Col	517AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		28 Aug 09
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 21 Aug 09	TYPED NAME AND GRADE OF EXAMINEE MCP			SIGNATURE 			

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
A. Mission Description. <sup>MCP</sup> flew this recurring QUAL/INSTM evaluation in the WST on an Elmendorf AFB local profile. Required objectives were evaluated, including CAT II ILS, engine out operations and nonstandard configuration. All items observed were completed in a excellent manner. Special interest items were evaluated and PAR procedures were verbally evaluated. Lt Col WIT 27 517AS/CC, was debriefed on the results of the evaluation.	
B. Discrepancies. None.	
C. Recommended Additional Training. None.	
D. Additional Comments. None.	

AF FORM 8, 20061208 (REVERSE)

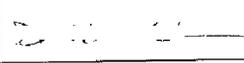
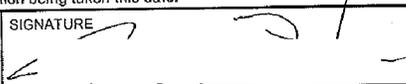
CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 23 Mar 09		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MCP		RANK Capt	SSAN	ELIGIBILITY PERIOD N/A		
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK		ACFT/CREW POSITION C-17A/MP				
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	20 Mar 09	1	INIT MSN	23 Mar 09		
QUALIFICATION LEVEL		ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION Aug 10	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE		
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>			
<b>III. CERTIFICATION</b>						
TYPED NAME AND RANK	ORGANIZATION	CHECK			SIGNATURE	DATE
		RECORDED	CO-RECORDED	CO-SIGNED		
1 FLIGHT EXAMINER Capt	97 TRS/TRC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		23 Mar 09
2 REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		24 Mar 09
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		25 Mar 09
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 20 APR 09	TYPED NAME AND GRADE OF EXAMINEE MCP			SIGNATURE		

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This initial mission evaluation was administered during a local ATS training mission. Profile included low level operations on IR193 and air refueling on AR 400 with a KC-135. Tactical departure, tactical approach, VFR pattern, assault landing, and ground ops were conducted at Altus AFB. This evaluation was completed in a satisfactory manner.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 01 May 08	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MCP</b>			RANK Capt	SSAN		ELIGIBILITY PERIOD N/A
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK			ACFT/CREW POSITION C-17A/FP			
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
EPE	30 Apr 08	1	INIT MSN		01 May 08	
QUALIFICATION LEVEL		ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A		DATE ADDITIONAL TRAINING COMPLETED N/A		
EXPIRATION DATE OF QUALIFICATION Oct 09	CERTIFYING OFFICIAL, RANK AND ORGANIZATION			SIGNATURE		DATE
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>			
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CHECKED BY	DATE	REVIEWED BY		
1 FLIGHT EXAMINER Maj	58 AS/ADO	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		01 May 08
2 REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		02 May 08
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		05 May 08
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 30 JUNE 08	TYPED NAME AND GRADE OF EXAMINEE MCP				SIGNATURE 	

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.



CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 21 Mar 08		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MCP		RANK Capt	SSAN	ELIGIBILITY PERIOD N/A		
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK		ACFT/CREW POSITION C-17A/FP				
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
End of Course	10 Mar 08	100	INIT/SIM INSTM/QUAL	21 Mar 08		
Boldface	21 Mar 08	Q				
Instrument	23 Feb 08	100				
EPE	21 Mar 08	1				
QUALIFICATION LEVEL		ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A		DATE ADDITIONAL TRAINING COMPLETED N/A		
EXPIRATION DATE OF QUALIFICATION Aug 09	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE		
<input type="checkbox"/> RESTRICTIONS (Explain in Comments on Back)	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED (Explain in Comments on Back)		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE (Explain in Comments on Back)			
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		RECORD	0	RECORD		
1 FLIGHT EXAMINER Capt	58 AS/DOS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		24 Mar 08
2 REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		25 Mar 08
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		26 Mar 08
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 30JUN 08	TYPED NAME AND GRADE OF EXAMINEE MCP		SIGNATURE			

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.



CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				11 Jul 07		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MCP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 48 FTS, Columbus AFB, MS			ACFT/CREW POSITION T-1A/IP		ELIGIBILITY PERIOD Feb - Jul 07	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Boldface	11 Jul 07	Q	MSN	11 Jul 07		
EPE	11 Jul 07	I				
QUALIFICATION LEVEL		RESTRICTION <i>(Explain in Comments)</i>  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Dec 08			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N C U R	N O T		
1 FLIGHT EXAMINER Capt	48 FTS/ADO			X	<i>[Signature]</i>	30 Jul 07
2 REVIEWING OFFICER Maj	48 FTS/DO	X			<i>[Signature]</i>	7 Aug 07
3 FINAL APPROVING OFFICER Lt Col	48 FTS/CC	X			<i>[Signature]</i>	7 AUG 07
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 7 Aug 07	TYPED NAME AND GRADE OF EXAMINEE MCP			SIGNATURE <i>[Signature]</i>		

AF FORM 8, MAY 85 CONTINUATION SHEET

EXAMINER'S REMARKS:

A. Mission Description. This MSN evaluation was briefed and flown as an over-the-shoulder evaluation with the evaluator in the jump seat of student sortie T5104. This local sortie consisted of an instrument takeoff and departure from Columbus AFB to the Pickwick MOA for area work. Due to deteriorating weather conditions at all transition bases, crew was unable to complete pattern operations and returned to KCBM. The student accomplished a full set of area work in the MOA. The student also performed an ILS approach/full-stop landing at KCBM. The examinee flew a steep turn for demonstration purposes. Instruction was evaluated during the mission and was both timely and appropriate. The 48 FFS/DO was debriefed.

B. Discrepancies. None.

C. Recommended Additional Training. None.

D. Additional Comments. Area 4c and 106d. Mission Coverage and Ability to Instruct were COMMENDABLE.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 21 Feb 07		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MCP</b>			GRADE Capt		SSAN	
ORGANIZATION AND LOCATION 48 FTS, Columbus AFB, MS			ACFT/CREW POSITION T-1A/IP		ELIGIBILITY PERIOD Oct 06 - Mar 07	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	15 Feb 07	100	INSTM/QUAL	21 Feb 07		
Open Book	15 Feb 07	100				
Boldface	21 Feb 07	Q				
EPE	21 Feb 07	I				
Instrument	15 Feb 07	100				
QUALIFICATION LEVEL		RESTRICTION (Explain In Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Jul 08			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O T	C O N C U R		
1 FLIGHT EXAMINER Capt	48 FTS/DOV			X	<i>[Signature]</i>	22 FEB 07
2 REVIEWING OFFICER Lt Col	48 FTS/DO	X			<i>[Signature]</i>	2 MAR 07
3 FINAL APPROVING OFFICER Lt Col	48 FTS/CC	X			<i>[Signature]</i>	2 MAR 07
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <i>2 MAR 2007</i>	TYPED NAME AND GRADE OF EXAMINEE <b>MCP</b>				SIGNATURE <i>[Signature]</i>	

AF FORM 8, MAY 85 CONTINUATION SHEET

EXAMINER'S REMARKS:

A. Mission Description. This INSTM/QUAL evaluation was briefed and flown as a local mission from Columbus AFB. The profile consisted of an instrument takeoff and departure to the Pickwick MOA for area work and then to Millington Regional Jetport, TN for instrument approaches and VFR traffic patterns. Area work consisted of 30-flap traffic pattern stalls, vertical-S, unusual attitudes, and an asymmetric thrust demonstration. Instrument and VFR pattern work consisted of a single-engine ILS/single-engine missed approach, a full procedure GPS approach/touch-and-go, and several normal and emergency VFR patterns and landings. The evaluator flew a vertical-S and 0-flap pattern for error analysis and grading purposes. Instruction during the flight was both timely and appropriate.

B. Discrepancies. None.

C. Recommended Additional Training. None.

D. Additional Comments. Area 19 and Area 106d. Airmanship and Ability to Instruct were COMMENDABLE.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 27 Feb 06		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MCP</b>			GRADE ILt	SSAN		
ORGANIZATION AND LOCATION 48 FTS, Columbus AFB, MS			ACFT/CREW POSITION T-1A/IP	ELIGIBILITY PERIOD Dec 05 - May 06		
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Boldface	27 Feb 06	Q	MSN	27 Feb 06		
EPE	27 Feb 06	1				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Jul 07			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O U T	R E C O R D S		
1 FLIGHT EXAMINER Capt	14 OG/OGV			X		27 Feb 06
2 REVIEWING OFFICER Capt	48 FTS/DOA	X				20 MAR 06
3 FINAL APPROVING OFFICER Lt Col	48 FTS/CC	X				20 MAR 06
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 21 MAR 06	TYPED NAME AND GRADE OF EXAMINEE MCP			SIGNATURE 		

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

EXAMINER'S REMARKS:

A. Mission Description. This MSN evaluation was briefed and flown as an over-the-shoulder evaluation with the evaluator in the jump seat of student sortie T5201. This local sortie consisted of an instrument takeoff and departure from Columbus AFB to the Pickwick MOA for area work and then to Millington Regional Jetport, TN for transition work. The student accomplished a full set of area work in the MOA before proceeding to Millington Regional Jetport, TN. The student performed all combinations of normal and emergency VFR patterns/landings. The examinee flew a steep turn in the MOA for demonstration purposes. Instruction was evaluated during the mission and was both timely and appropriate. The 48 FTS/DO was debriefed.

B. Discrepancies. None.

C. Recommended Additional Training. None.

D. Additional Comments. Area 16 and Area 106d. Risk Management/Decision-Making and Ability to Instruct were COMMENDABLE.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 25 Oct 05		
I. EXAMINEE IDENTIFICATION						
NAME <b>MCP</b>		GRADE 1Lt		SSAN 1		
ORGANIZATION AND LOCATION 48 FTS, Columbus AFB, MS		ACFT/CREW POSITION T-1A/IP		ELIGIBILITY PERIOD Oct 05-Mar 06		
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	21 Oct 05	100	INSTM/QUAL	25 Oct 05		
Open Book	21 Oct 05	100				
Boldface	25 Oct 05	Q				
EPE	25 Oct 05	1				
Instrument	21 Oct 05	100				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Mar 07			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (if more space is needed, continue on reverse)						
III. CERTIFICATION						
TYPED NAME AND GRADE		ORGANIZATION	CHECK		SIGNATURE	DATE
			C O N C U R	D O N O T	R E M A R K S	
1	FLIGHT EXAMINER Capt	48 FTS/DOV			X	<i>[Signature]</i> 25 Oct 05
2	REVIEWING OFFICER Capt	48 FTS/DOA	X			<i>[Signature]</i> 31 Oct 05
3	FINAL APPROVING OFFICER Lt Col	48 FTS/CC	X			<i>[Signature]</i> 7 Nov 05
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE <b>MCP</b>		SIGNATURE <i>[Signature]</i> 8 Nov 05			

AF FORM 8, MAY 85 CONTINUATION SHEET

EXAMINER'S REMARKS:

A. Mission Description. This INSTM/QUAL evaluation was briefed and flown as a local mission from Columbus AFB. The profile consisted of an instrument takeoff and departure to the West MOA for area work and then to Key Fld, MS for instrument approaches and VFR traffic patterns. Area work consisted of 10-flap traffic pattern stalls, steep turns, unusual attitudes, and a yaw damper failure demonstration. Instrument and VFR pattern work consisted of a full procedure VOR circling approach/touch-and-go landing, a single-engine ILS/single-engine missed approach, and several normal and emergency VFR patterns and landings. The evaluator flew a 30-flap straight-in and a 30-flap tactical pattern for error analysis and grading purposes. Instruction during the flight was both timely and appropriate. The 48 FTS/CC attended the debrief.

B. Discrepancies. None.

C. Recommended Additional Training. None.

D. Additional Comments. Area 28 and Area 33. Flight Characteristics Demonstration and 30-Flap Pattern/Landing were COMMENDABLE.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 15 Dec 04		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MCP</b>			GRADE 2Lt		SSAN	
ORGANIZATION AND LOCATION 99 FTS, Randolph AFB, TX			ACFT/CREW POSITION T-1A/IP		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPB	14 Dec 04	1	INIT INSTR/MSN	15 Dec 04		
Boldface/CAPs	14 Dec 04	Q				
QUALIFICATION LEVEL			ADDITIONAL TRAINING			
QUALIFIED		UNQUALIFIED	RESTRICTION (Explain in Comments)			
1			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO DUE DATES N/A			
EXPIRATION DATE OF QUALIFICATION May 06			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse) SEE REVERSE						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCURRED	DISCONCURRED	REMARKS		
1 FLIGHT EXAMINER Maj, USAF	99 FTS/DOV			X	<i>[Signature]</i>	15 Dec 04
2 REVIEWING OFFICER Maj, USAF	99 FTS/DOA	X			<i>[Signature]</i>	22 Dec 04
3 FINAL APPROVING OFFICER Lt Col, USAF	99 FTS/CC	X			<i>[Signature]</i>	28 Dec 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 29 DEC 2004	TYPED NAME AND GRADE OF EXAMINEE MCP USAF			SIGNATURE <i>[Signature]</i>		

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description. This INFT INSTR/MSN evaluation was briefed and instructed as a local airdrop/transition sortie IAW AFI 11-202 Vol. 2, AFI 11-2T-1 Vol. 2, and the current T-1A PIT syllabus. All required items were accomplished. Maneuvers flown/instructed included an IFR wing interval takeoff/departure, formation low level, lead/wing airdrop procedures, lead/wing visual and offset, tactical overhead pattern/landing, flap retract demo, asymmetric thrust demo, steep turns, vertical-S, 30-flap traffic-pattern stalls/slow flight, ILS approach/landing, 30-flap pattern/go-around and landing, single-engine pattern/single-engine go-around, 10-flap pattern/landing, and a no-flap pattern/landing. Instruction was evaluated during the briefing, throughout the flight, and the debriefing. The FE flew a cross section of maneuvers to evaluate instruction and grading practices. Lt Col \_\_\_\_\_, 99 FTS/DO, was debriefed on the results.

B. Discrepancies. None.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 26 Oct 04		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MCP</b>			GRADE 2Lt		SSAN	
ORGANIZATION AND LOCATION 99 FTS, Randolph AFB, TX			ACFT/CREW POSITION T-1A/FP		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	8 Sep 04	100	INIT INSTM/QUAL	26 Oct 04		
Open Book	30 Aug 04	100				
Boldface/CAPs	8 Sep 04	Q				
EPE	26 Oct 04	1				
Instrument	17 Sep 04	100				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES N/A			
1			DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION Mar 06						
COMMENTS (if more space is needed, continue on reverse) SEE REVERSE						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O T	R E M A R K S		
1 FLIGHT EXAMINER Maj, USAF	99 FTS/DOV			X	A	26 Oct 04
2 REVIEWING OFFICER Maj, USAF	99 FTS/DOA	X				12 Nov 04
3 FINAL APPROVING OFFICER Lt Col, USAF	99 FTS/CC	X				17 Nov 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 17 Nov 04	TYPED NAME AND GRADE OF EXAMINEE <b>MCP, USAF</b>			SIGNATURE		

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description. This INIT INSTM/QUAL evaluation was flown as a local transition sortie IAW AFI 11-202 Vol. 2, AFI 11-2T-1 Vol. 2, and the current T-1A PIT syllabus. All required items were accomplished. Maneuvers included an IFR takeoff/departure, steep turns, unusual attitude recoveries, 10-flap traffic-pattern stalls, VOR approach/circle/landing, single-engine ILS approach/single-engine missed approach, tactical overhead pattern/landing, single-engine pattern/landing, and a no-flap pattern/landing. Lt Col \_\_\_\_\_, 99 FTS/CC was debriefed on the results. <sup>ACP</sup>'s general knowledge was COMMENDABLE.

B. Discrepancies. None.



G1.3.3. 30/60/90 FLYING HISTORY REPORT

NAME:	MCP	GRADE:	CPT	SSAN:	APR 1	ENC 1	ASST 1A	IPASST:	OLIMK	AGE:	
COMD RAF:	WING:	0003WCHWG		ORGANIZATION:	0517AFSQ	CREW	POSITION:	IPC	ASST DATE:	24 JUN 2005	
CURR RATING:	PILOT			AIRCRAFT TYPE:	C017A	SERIAL NO:	00-0173		WISHAD DATE:	28 JUL 2010	
*** WISHAD AIRCRAFT ***											
*** OTHER AIRCRAFT ***											
C017A	PRI	SRC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
420.6	252.5	43.7	0.0	143.0	865.6	470.1	220.5	75.3	0.5	191	
LAST 30 DAYS	3.1	2.1	16.3	0.0	4.6	26.1	19.4	2.0	0.0	6	
LAST 60 DAYS	3.1	2.1	16.3	0.0	4.6	26.1	19.4	2.0	0.0	6	
LAST 90 DAYS	3.1	2.1	31.8	0.0	4.6	41.6	34.9	9.1	9.0	10	
*** OTHER AIRCRAFT ***											
SMC017A	PRI	SRC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
105.5	99.5	7.5	0.0	0.0	212.5	113.0	9.5	1.0	14.1	75	
LAST 30 DAYS	0.0	0.0	1.5	0.0	1.5	1.5	0.0	0.0	0.0	1	
LAST 60 DAYS	0.0	0.0	4.5	0.0	4.5	4.5	0.0	0.0	0.5	2	
LAST 90 DAYS	0.0	0.0	7.5	0.0	7.5	7.5	0.0	0.0	1.0	3	
SMH001A	PRI	SRC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
24.3	16.0	5.5	0.0	3.7	49.5	29.8	0.0	2.0	1.3	24	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
SPC017A	PRI	SRC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
5.0	5.0	0.0	0.0	0.0	10.0	5.0	0.0	0.0	0.0	5	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
T001A	PRI	SRC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM INS	SORT
237.0	9.7	700.7	0.0	100.7	1048.1	937.7	52.7	128.9	0.0	493	
LAST 30 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 60 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	
LAST 90 DAYS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	

PREPARED: 28 JUL 2010 22:27 AIRCRAFT MISHAP INVESTIGATION (PA) AS OF 28 JUL 2010 PCN SA036-820  
 NAME: MCP GRADE: CPT SSAN: -  
 CMD: PAF WING: 0003WING ORGANIZATION: 0517AFSC CREW POSITION: IFC ASC DATE: 24 JUN 2005 AGE:  
 CURR RATING: PILOT AIRCRAFT TYPE: C017A SERIAL NO: 00-0173 MISHAP DATE: 28 JUL 2010

\*\*\* OTHER AIRCRAFT \*\*\*  
 PRI SEC INST EVAL OTHER TOTAL PRI/INST NIGHT INS SIM INS SORT  
 \*\*\* CAREER TOTALS \*\*\*

CREW POSITION	PRI	SEC	INST	EVAL	OTHER	TOTAL	PRI/INST	NIGHT	INS	SIM	INS	SORT
FIRST FLIGHT												
LAST FLIGHT												
PILOT	657.4	262.2	759.4	0.0	243.7	1913.7	1407.8	303.9	120.9	0.0		674
19 JUL 2004												
24 JUL 2010												

**G1.3.4. INDIVIDUAL DATA SUMMARY**

PREPARED: 28 JUN 2010 21:54

INDIVIDUAL DATA SUMMARY (DA)

AS OF: 28 JUL 2010

PCN: 8A036-A7G

NAME: MCP

SSAN:

GRADE: CPT

CMD: EAF

WINGS: 0003MGHWG

UNIT: 0517ALFSQ

INDIC:

PERSONAL DATA

DUTY PHONE:  
 OFFICER SYMBOL:  
 MBR SVC CAT:  
 LAST PHYS DATE:  
 PHYS CODE:  
 PHYS EDE DATE:  
 PHYS AVAIL CODE:  
 PHYS AVAIL DATE:  
 PHYSIOLOGICAL TNG DATE:  
 PHYSIOLOGICAL DUE DATE:  
 DATE OF BIRTH:  
 DUTY AFSC:  
 EFFECTIVE DATE OF DUTY:  
 PAS CODE:  
 SHORT TOUR INDICATOR:  
 DATE RETURN FROM OVERSEAS:  
 DATE OF RANK:  
 DATE OF SEP/OBLIGATION:  
 DATE DEP LAST DUTY STA:  
 DATE ARR THIS STATION:  
 PERSONNEL RECORD STATUS:  
 PROJECTED DAFSC:  
 PROJECTED PAS CODE:  
 PROJECTED DUTY LOCATION:  
 PROJ DEPARTURE DATE:  
 PROJ REPORTING DATE:  
 PAC 8 EFFECTIVE DATE:  
 LOCAL USE CODE:

DDO  
 USAP  
 24 MAY 10  
 F  
 23 AUG 11  
 A  
 07 JUL 10  
 04 JUN 08  
 30 JUN 13  
 01M3K  
 06 APR 10  
 E1DRPRB7  
 N  
 07 JUN 11  
 30 DEC 06  
 04 JUN 08  
 14 JUN 08  
 10

SECURITY CLEARANCE:  
 SECURITY CLEARANCE DATE:  
 RESTRICTED AREA BADGE NO:  
 PROFESSIONAL QUAL INDEX (PQI):  
 PROFESSIONAL QUAL INDEX DATE:

JUMP STATUS:  
 DATE ASSIGNED JUMP STATUS:

SYSTEM MANAGEMENT  
 HARM CODE:  
 DEPLOYED HARM CODE:  
 DEPLOYED DATE:  
 REDEPLOYED DATE:  
 SPECIAL CAP ID:  
 RECORDS REVIEW ACQ DATE:  
 RECORDS REVIEW DUE DATE:  
 RECORDS REVIEW STATUS CODE:

I CERTIFY THAT I HAVE REVIEWED MY RFE AND IT IS COMPLETE AND ACCURATE.

SIGNATURE

DATE

PAGE 1

PAGE 1

PREPARED 28 JUL 2010 21:54

INDIVIDUAL DATA SUMMARY (DA)

AS OF 28 JUL 2010

PCN SA036-A76

INQUIRY

NAME: MCP

SSAN:

GRADE: CPT

COMD: PAF

WING: 0003WING

UNIT: 0517ALFPO

AIRCRAFT ASSIGNMENT DATA

AIRCRAFT OPLDC: F35E  
 CMD OF AIRCRAFT: OR  
 ACFT SVC GAT: USAF  
 PRIMARY ACFT: C017A  
 FLT DUTY CERY CODE: JPC  
 CATEGORICAL FLYING WAIVER: N

INCENTIVE PAY DATA

LAST MPO DATE: 22 MAY 03  
 LAST MPO REASON: A  
 AD/1AD: NONE  
 PAY STOP DATE: 21 MAY 15  
 LAST PRODUCTIVE FLIGHT DATE: 24 JUL 16  
 PREVIOUS PRODUCTIVE FLIGHT DATE: 23 JUL 10

CEP/ACTIP DATA

AVIATION SERVICE CODE: 1A  
 EFFECTIVE DATE: 24 JUN 05  
 PRIOR AEC: 1S  
 EFFECTIVE DATE: 01 MAY 05  
 AERO ORDER TERM DATE: 21 MAY 15  
 OFFICER SERVICE DATE: 16 DEC 02  
 AVIATION SERVICE DATE: 22 MAY 03  
 TRANSITION STATUS CODE: A  
 AVIATION POSITION INDICATOR: 1  
 EFFECTIVE DATE: 06 APR 10  
 FLYING ACTIVITY CATEGORY: 1  
 PRE-ACIA-OPDA: 0  
 OPDA GATE 10/12: 84  
 OPDA GATE 15/15: 0  
 OPDA GATE 20/18: 0  
 OPDA TO DATE: 84

Your current OPDA is 84 month(s). You need 12 additional month(s) OPDA to meet your 12 Year Gate requirement to receive continuous ACIP through 18 years of aviation service and you must maintain a valid flight physical.

ONS MIL RTG DT:

CYR PARA RATING:  
 CURR PARA RATING DATE:  
 ORIG PARA RATING:  
 ORIG PARA RATING DATE:

TRAINING/QUAL STATUS

FORMAL COURSE

DATE

I CERTIFY THAT I HAVE REVIEWED MY ERP AND IT IS COMPLETE AND ACCURATE.

SIGNATURE

DATE

**G1.3.5. INDIVIDUAL TRAINING SUMMARY**

EQM CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	% REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP		RESTR. CODE
											IN	PHASE	
AC	C-17 AC/FPL FTL C	LANDING LZ	AS11	8	3	53	22 JUL 10		31 DEC 10				I
AC	C-17 AC/FPL FTL C	SIM LANDING LZ	AS13	0	0		30 JUN 10						N
AC	C-17 AC/FPL FTL C	NT LANDING LZ	AS12	2	1	50	22 JUL 10						N
AC	C-17 AC/FPL FTL C	SIM NT LND LZ	AS12S	0	0								N
AC	C-17 AC/FPL FTL C	HVY PULL F LAND	AS21	2	0	100	31 MAR 10						N
AC	C-17 AC/FPL FTL C	HVY WF F-FLP NT	AS22	1	0	100	31 MAR 10						N
AC	C-17 AC/FPL FTL C	CRM SIMULATOR	G240	0	0		09 DEC 09						O
AC	C-17 AC/FPL FTL C	OVERSEAS SORTIE	M030	0	2		24 JUL 10		31 DEC 11				O
AC	C-17 AC/FPL FTL C	BASIC TAG SORTY	M050	0	1		09 JUL 10						N
AC	C-17 AC/FPL FTL C	LOW LEVEL RT	M055	1	2	0	22 JUL 10						N
AC	C-17 AC/FPL FTL C	ITS	M070	1	2	0	22 JUL 10		31 JAN 11				T
AC	C-17 AC/FPL FTL C	NAVY VLL	NAV00	1	2	0	22 JUL 10						N
AC	C-17 AC/FPL FTL C	NAV TAKEOFF	NAV47	3	1	67	22 JUL 10		31 DEC 10				I
AC	C-17 AC/FPL FTL C	NAV LANDING	NAV48	3	1	67	22 JUL 10		31 DEC 10				I
AC	C-17 AC/FPL FTL C	NAV LAND LZ	NAV49	2	1	50	22 JUL 10		31 DEC 10				I
AC	C-17 AC/FPL FTL C	SIM NAV LND LZ	NAV49S	0	0		01 JUN 10						N
AC	C-17 AC/FPL FTL C	NAV INST APPR	NAV80	1	2	0	23 JUL 10						N
AC	C-17 AC/FPL FTL C	TAKEOFF	P020	12	7	42	22 JUL 10		31 AUG 10				I
AC	C-17 AC/FPL FTL C	RIGHT SEAT T/O	P028	0	2		22 JUL 10						N
AC	C-17 AC/FPL FTL C	LEFT SEAT T/O	P029	0	0		02 FEB 10						N
AC	C-17 AC/FPL FTL C	INST APPROACH	P070	12	5	59	24 JUL 10		31 AUG 10				I
AC	C-17 AC/FPL FTL C	PRECISION APPROCH	P100	6	3	50	24 JUL 10						N
AC	C-17 AC/FPL FTL C	NON PREC APPROCH	P110	6	3	50	23 JUL 10						N
AC	C-17 AC/FPL FTL C	NDR APPROCH	P116	1	1	0	22 JUL 10						N

PREPARED 28 JUL 2010 22:20

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

RCN SA036-T10

**MCP**

NAME: MCP  
 PHYSICAL DUR DATE: 23 AUG 11

GRADE: CPT  
 PHYSIOLOGICAL DUR DATE: 30 JUN 13

CREW POSITION: IPC  
 RECORDS REVIEW DUE DATE: 31 MAY 11

UNIT: 0517ALPFSQ

CURRENT TRAINING PERIOD

PGM	QUALIFICATION PROFILES	TASK NAME	TASK ID	VOL/DUR RNO	VOL/DUR ACCOMP	% REM	DATE LAST ACCOMP	DATE IN PHASR	DATE DATE	OVER DURS	ACCOMP IN PHASR	RESTR CODE
AC	C-17 AC/FPL PTL C	RNAV APPROACH	P118	2	0	100	28 MAY 10					N
AC	C-17 AC/FPL PTL C	CAT II APPROACH	P120	1	0	100	28 MAY 10					N
AC	C-17 AC/FPL PTL C	MRN CMPTR APP	P121	1	0	100	20 AUG 09					N
AC	C-17 AC/FPL PTL C	CIRCLING APPCH	P130	2	1	50	22 JUL 10					N
AC	C-17 AC/FPL PTL C	LANDING	P190	12	7	42	22 JUL 10					I
AC	C-17 AC/FPL PTL C	UNAID NITE LAND	P192	2	1	50	22 JUL 10					I
AC	C-17 AC/FPL PTL C	RIGHT SEAT LAND	P198	6	2		22 JUL 10					N
AC	C-17 AC/FPL PTL C	LEFT SEAT LAND	P199	0	0		16 FEB 10					N
AC	C-17 AC/FPL PTL C	HAVE QUICK	P260	0	0		02 MAY 10					N
AC	C-17 AC/FPL PTL C	SECURE VOICE	P270	0	0		02 MAY 10					N
AC	C-17 AC/FPL PTL C	ACCTOP	P280	0	0		28 MAY 10					O
AC	C-17 AC/FPL PTL C	RECVR AR	R010	6	1	83	22 JUL 10					O
AC	C-17 AC/FPL PTL C	SIM RCR AR	R010S	0	0		01 JUN 10					N
AC	C-17 AC/FPL PTL C	RECVR AAR NT	R020	2	1	50	22 JUL 10					O
AC	C-17 AC/FPL PTL C	SIM RCVR AR NT	R020S	6	0		19 MAR 09					N
AC	C-17 AC/FPL PTL C	AAR INKR AP OFR	R050	2	1	50	22 JUL 10					O
AC	C-17 AC/FPL PTL C	TAC AAR EVENT	R500	4	2	50	09 JUL 10					O
AC	C-17 AC/FPL PTL C	HIG ALT TACT AR	RS06	1	0	100	01 JUN 10					N
AC	C-17 AC/FPL PTL C	LOW ALT TACT AR	RS16	1	0	100	30 JUN 10					N
AC	C-17 AC/FPL PTL C	TAC DEP EVENT	RS20	4	2	50	09 JUL 10					O
AC	C-17 AC/FPL PTL C	THREAT RESPONSE	V306	2	1	50	13 JUL 10					N
AC	C-17 AC/FPL PTL C	CENTCOM AOR	XAOR	0	0		04 MAY 10					N
AC	C-17 AC/FPL PTL C	NO-TEMG LOGGED	XNTL	0	0		23 JAN 10					N
AC	C-17 AIRBND QVAL	AIRBND TNG PHI	G261	0	0		01 FEB 10					O

PREPARED 28 JUL 2010 22:20

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

PCN SA036-T10

CURRENT TRAINING PERIOD

NAME: MCP  
 PHYSICAL DUE DATE: 23 AUG 11

GRADE: CPT SSAN:  
 PHYSIOLOGICAL DUE DATE: 30 JUN 13

CREW POSITION: IPC  
 RECORDS REVIEW DUE DATE: 31 MAY 11

UNIT: 0517ALFSQ

PSM	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR REQ	VOL/DUR ACCOMP	# REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	IN PHASE	RESTR CODE
AC	C-17	AIRLND QVAL	AIRLND TNG PH2	G262	0	0	0	28 MAY 10		30 JUN 11			0
AC	C-17	AIRLND QVAL	AIRLND TNG PH3	G263	0	0	0	20 AUG 09		30 SEP 10			0
AC	C-17	AIRLND QVAL	AIRLND TNG PH4	G264	0	0	0	09 DEC 09		31 DEC 10			0
AC	C-17	AIRLND QVAL	TACTICS SIM	G270	0	0	0	28 MAY 10		31 DEC 11			0
GT	C-17	AIRLND AC/PLT	COMM PROCEDURES	G080A	0	0	0	15 JAN 10		15 JAN 11			0
GT	C-17	AIRLND AC/PLT	COMM PROCED ICE	G080B	0	0	0	15 JAN 10		31 DEC 10			0
GT	C-17	AIRLND AC/PLT	ANTI-HIJACK	G090	0	0	0	30 MAR 10		31 DEC 13			0
GT	C-17	AIRLND AC/PLT	HAZARDOUS CARGO	G182	0	0	0	14 MAR 10		31 DEC 11			0
GT	C-17	AIRLND AC/PLT	ACFT SERVICING	G190	0	0	0	21 SEP 09		30 SEP 10			0
GT	C-17	AIRLND AC/PLT	AIRLND CBT PH1	G251	0	0	0	14 MAR 10		31 MAR 11			0
GT	C-17	AIRLND AC/PLT	AIRLND CBT PH2	G252	0	0	0	30 MAR 10		30 JUN 11			0
GT	C-17	AIRLND AC/PLT	AIRLND CBT PH3	G253	0	0	0	21 SEP 09		30 SEP 10			0
GT	C-17	AIRLND AC/PLT	AIRLND CBT PH4	G254	0	0	0	28 DEC 09		31 DEC 10			0
GT	C-17	ALL PILOTS	QUALING CRK SIM	AA22	0	0	0	24 JUL 09		31 DEC 10			0
GT	C-17	ALL PILOTS	IRC	G130	0	0	0	12 FEB 10		31 MAR 11			0
GT	C-17	GRND TRNG (ALL)	MOB FLDR RW	CO40	0	0	0	21 APR 10		31 APR 11			0
GT	C-17	GRND TRNG (ALL)	PASSPORT	EO30	0	0	0	13 JAN 08		31 JAN 13			0
GT	C-17	GRND TRNG (ALL)	SEC PASSPORT	EO35	0	0	0	17 DEC 08		31 DEC 12			0
GT	C-17	GRND TRNG (ALL)	INFORMATION PRQ	EL12	0	0	0	24 NOV 09		24 NOV 10			0
GT	C-17	GRND TRNG (ALL)	HUMAN RELATIONS	EL13	0	0	0	08 JUN 10		08 JUN 11			0
GT	C-17	GRND TRNG (ALL)	FORCE PROTECTIO	EL14	0	0	0	24 NOV 09		24 NOV 10			0
GT	C-17	GRND TRNG (ALL)	MARSH EXAM	G002	0	0	0	01 JUL 08		30 APR 12			0
GT	C-17	GRND TRNG (ALL)	GRND CHEM	G010	0	0	0	20 APR 10		30 APR 12			0
GT	C-17	GRND TRNG (ALL)	S17 TACTICS	G0602	0	0	0	15 JUN 10		31 DEC 10			0

PREPARED 28 JUL 2010 22:20

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

PCN SA036-T10

CURRENT TRAINING PERIOD

NAME: MCP

GRADE: CRT

SSAN:

CREW POSITION: IRC

UNIT: 0517A1P50

PHYSICAL DUE DATE: 23 AUG 11

PHYSIOLOGICAL DUE DATE: 30 JUN 13

RECORDS REVIEW DUE DATE: 31 MAY 11

PCN	CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR		%	DATE LAST ACCOMP	DATE		OVER DUE	ACCOMP		RESTR CODE
					REQ	ACCOMP			IN PHASE	DATE DUE		IN PHASE	CODE	
GT	C-17	GRND TRNG (ALL)	INTEL	G070	0	0	0	15 JUN 10						O
GT	C-17	GRND TRNG (ALL)	LOAC	G1002	0	0	0	08 JUN 10						M
GT	C-17	GRND TRNG (ALL)	ISOPREP REVIEW	G120	0	0	0	22 APR 10						M
GT	C-17	GRND TRNG (ALL)	CRM REF	G230	0	0	0	15 APR 10						O
GT	C-17	GRND TRNG (ALL)	INITIAL CRM	G231	0	0	0	13 MAY 04						G
GT	C-17	GRND TRNG (ALL)	SMALL ARMS TRNG	G280	0	0	0	26 SEP 08						M
GT	C-17	GRND TRNG (ALL)	SABC	G281	0	0	0	14 MAY 09						M
GT	C-17	GRND TRNG (ALL)	SEXUAL ASSAULT	G859	0	0	0	15 JAN 10						N
GT	C-17	GRND TRNG (ALL)	LS FAN TRG	LI01	0	0	0	09 JUL 08						G
GT	C-17	GRND TRNG (ALL)	EGRESS NON-ETEC	LI032	0	0	0	21 MAR 08						G
GT	C-17	GRND TRNG (ALL)	ACDE TRG	LI042	0	0	0	15 MAR 08						O
GT	C-17	GRND TRNG (ALL)	EGRESS W/ACDE	LI05	0	0	0	15 MAR 08						N
GT	C-17	GRND TRNG (ALL)	LS EQUIPMENT	LI062	0	0	0	09 JUL 08						G
GT	C-17	GRND TRNG (ALL)	THTR INDOC	M060	0	0	0	02 SEP 08						I
GT	C-17	GRND TRNG (ALL)	NAVG ACADEMICS	NV01	0	0	0	01 MAY 08						N
GT	C-17	GRND TRNG (ALL)	NAVG REFRESH	NV03	0	0	0	17 DEC 09						O
GT	C-17	GRND TRNG (ALL)	WST ACADEMICS	PA042	0	0	0	07 JAN 08						N
GT	C-17	GRND TRNG (ALL)	AL MSN EVAL	Q019	0	0	0	23 MAR 09						O
GT	C-17	GRND TRNG (ALL)	POBS CHECK	Q090	0	0	0	05 FEB 10						O
GT	C-17	GRND TRNG (ALL)	FER REVIEW	Q170	0	0	0	14 MAY 10						O
GT	C-17	GRND TRNG (ALL)	LOCAL AREA SURV	SS01	0	0	0	09 JUL 08						K
GT	C-17	GRND TRNG (ALL)	CST	SS022	0	0	0	20 MAY 08						O
GT	C-17	GRND TRNG (ALL)	CAC	SS032	0	0	0	20 MAY 08						M
GT	C-17	GRND TRNG (ALL)	WST REF	SS052	0	0	0	07 JAN 08						O

PREPARED 28 JUL 2010 22:20

INDIVIDUAL TRAINING SUMMARY

AS OF 28 JUL 2010

PCN SA036-T10

NAME: MCP

PHYSICAL DUE DATE: 23 AUG 11

GRADE: EPT SSAN: PHYSIOLOGICAL DUE DATE: 30 JUN 13

CREW POSITION: PCG RECORDS REVIEW DUE DATE: 31 MAY 11

UNIT: 0517ALF5Q

CURRENT TRAINING PERIOD

PGM CD	QUALIFICATION PROFILE	TASK NAME	TASK ID	VOL/DUR		ACCUM	REM	DATE LAST ACCOMP	DATE IN PHASE	DATE DUE	OVER DUE	ACCOMP IN PHASE	RESTR CODE
				REQ	DUR								
GT	C-17 GRND TRNG (ALL)	EPT	SS962	0	0	0		09 MAY 08		31 DEC 11			O
GT	C-17 GRND TRNG (ALL)	GSI	SS67	0	0	0		16 APR 10		16 APR 12			M
GT	C-17 GRND TRNG (ALL)	WARTIME LEVEL C	SS20	0	0	0		11 MAY 08					G
GT	C-17 GRND TRNG (ALL)	WST NON PARA	SS32	0	0	0		07 JAN 08					G
GT	C-17 GRND TRNG (ALL)	ARCTIC SURVIVAL	SS33	0	0	0		05 DEC 08					N
GT	C-17 GRND TRNG (ALL)	INIT VTRAT	VP01	0	0	0		01 MAY 08					G
GT	C-17 GRND TRNG (ALL)	VTRAT	VP03	0	0	0		09 JUN 09		31 DEC 10			M
GT	C-17 GRND TRNG (ALL)	CULTURAL GEN CO	XG3C	0	0	0		08 JUN 10		08 JUN 12			M
GT	C-17 GRND TRNG (ALL)	COUNTER INTEL	XG1A	0	0	0		08 JUN 10		08 JUN 12			M
GT	C-17 GRND TRNG (ALL)	INFO ASSURANCE	X1A1	0	0	0		08 JUN 10		08 JUN 12			M
GT	C-17 GRND TRNG (ALL)	C-IED AWARENESS	X1ED	0	0	0		19 APR 10		19 APR 12			M
GT	C-17 GRND TRNG (ALL)	UN/PRO RELATION	X0PR	0	0	0		08 JUN 10		08 JUN 12			M

**G1.3.6. INDIVIDUAL FLIGHT RECORD REPORT**

PREPARED 28 JUL 2010 21:54

INDIVIDUAL FLIGHT RECORD REPORT (PA)

PAGE 08 OF 28 JUL 2010

PCN SA036-F76

INQUIRY

NAME: MCP

GRADE: CPT

PRI CREW POS: P

PRI AIRCRAFT: C017A

CMDS: DAF

WING: 000306HWG

UNIT: 0517ALFSQ

ACFT ORG: FXGB

MDS	DATE	TAIL NO	DOTY	PRI	SEC	INSTR	INSTR	EVAL	OTW	TOTAL SRT	CMB SRT	C/S SRT	C/S	NI	INS	SIM	AVG	RES	N/S	DATE
C017A	13 JUL 09	0171	FPL	2.3	0.0	0.0	0.0	0.0	2.2	4.5	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090721
C017A	14 JUL 09	0171	FPL	4.2	0.0	0.0	0.0	0.0	4.2	8.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090721
C017A	15 JUL 09	0171	FPL	3.5	0.0	0.0	0.0	0.0	3.5	7.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090721
C017A	16 JUL 09	0171	FPL	3.7	0.0	0.0	0.0	0.0	3.8	7.5	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090721
C017A	18 JUL 09	0171	FPL	7.0	7.0	0.0	0.0	0.0	0.2	14.2	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090721
C017A	27 JUL 09	0173	FPL	1.5	0.0	0.0	0.0	0.0	0.3	3.3	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090814
C017A	28 JUL 09	0173	FPL	5.5	5.5	0.0	0.0	0.0	0.6	11.3	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090810
C017A	31 JUL 09	0173	FPL	4.0	4.0	0.0	0.0	0.0	0.2	8.6	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090810
C017A	01 AUG 09	0173	FPL	2.9	2.9	0.0	0.0	0.0	0.4	6.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090810
C017A	02 AUG 09	0173	FPL	7.0	7.0	0.0	0.0	0.0	0.2	14.4	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090810
C017A	03 AUG 09	0173	FPL	1.5	1.5	0.0	0.0	0.0	0.4	3.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090810
C017A	04 AUG 09	0173	FPL	3.5	3.5	0.0	0.0	0.0	0.4	7.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090810
C017A	10 AUG 09	0171	FPL	7.1	0.1	0.0	0.0	0.0	0.0	7.2	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090820
C017A	11 AUG 09	0171	FPL	7.5	0.0	0.0	0.0	0.0	0.0	7.5	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090820
C017A	12 AUG 09	0171	FPL	10.3	0.2	0.0	0.0	0.0	0.0	10.5	2	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090818
C017A	13 AUG 09	0171	FPL	6.0	0.1	0.0	0.0	0.0	0.0	6.1	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090818
C017A	14 AUG 09	0171	FPL	9.9	0.0	0.0	0.0	0.0	0.0	9.9	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090818
C017A	15 AUG 09	0171	FPL	8.9	0.0	0.0	0.0	0.0	0.0	8.9	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090825
C017A	19 AUG 09	0011	FPL	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090825
C017A	20 AUG 09	0011	FPL	1.5	1.5	0.0	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090825
C017A	27 AUG 09	0171	FPL	1.0	0.0	0.0	0.0	0.0	0.0	1.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090917
C017A	16 SEP 09	0172	MP	5.8	0.1	0.0	0.0	0.0	0.0	5.9	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20090917
C017A	27 SEP 09	0171	MP	5.0	5.0	0.0	0.0	0.0	0.1	10.1	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20091003
C017A	29 SEP 09	0171	MP	0.5	0.9	0.0	0.0	0.0	0.0	1.7	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20091003
C017A	02 OCT 09	0171	MP	4.2	4.2	0.0	0.0	0.0	0.0	8.4	1	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	20091003

I CERTIFY THAT I HAVE REVIEWED MY ERR AND IT IS COMPLETE AND ACCURATE. SIGNATURE

PAGE 1

DATE

PAGE 1

PREPARED 20 JUL 2010 21:54

INDIVIDUAL FLIGHT RECORD REPORT (FA)

AS OF 28 JUL 2010

PCN SA036-F70

INQUIRY

NAME: MCP  
 CMD: PAF WING: 0003WCHWG UNIT: 0517A/MSQ SSAN: ACFT OPTDC: F5GB GRADE: CPT PRI AIRCRAFT: C017A

MDS	DATE	FAIL NUMB	POSN	FRI	SEC	INST	EWAL	OTH	TOTAL SRT	CMB SRT	C/S	C/S	NTR	INS	SIM	NVG	RES	N/S	DATE
SMC017A	09 OCT 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.5	0.0	0.0	0.5	20091222
C017A	09 OCT 09	0170	MP	1.4	1.3	0.0	0.0	0.0	2.7	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20091213
C017A	16 OCT 09	0174	MP	6.9	0.0	0.0	0.0	0.0	7.1	1	0.0	0	0.0	0	5.5	0.0	0.0	0.0	20091103
C017A	17 OCT 09	0174	MP	8.1	0.0	0.0	0.0	0.0	8.3	1	0.0	0	0.0	0	0.0	4.0	0.0	0.0	20091103
C017A	21 OCT 09	0172	MP	2.0	0.0	0.0	0.0	0.0	1.7	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20091022
C017A	29 OCT 09	0170	MP	2.0	0.0	0.0	0.0	0.0	2.0	2	0.0	0	0.0	0	6.0	2.0	0.0	0.0	20091030
C017A	03 NOV 09	0169	MP	3.4	3.5	0.0	0.0	0.0	6.9	2	0.0	0	0.0	0	3.0	1.0	0.0	0.0	20091113
C017A	04 NOV 09	0169	MP	4.0	4.0	0.0	0.0	0.1	8.1	1	0.0	0	0.0	0	1.5	2.0	0.0	0.0	20091113
C017A	05 NOV 09	0169	MP	6.3	6.3	0.0	0.0	0.0	12.6	2	0.0	0	0.0	0	6.5	3.0	0.0	0.0	20091113
C017A	06 NOV 09	0169	MP	5.4	5.4	0.0	0.0	0.1	10.9	2	0.0	0	0.0	0	5.1	1.0	0.0	0.0	20091113
C017A	08 NOV 09	0169	MP	2.7	2.7	0.0	0.0	0.0	5.4	1	0.0	0	0.0	0	0.5	1.0	0.0	0.0	20091113
C017A	09 NOV 09	0169	MP	5.4	2.5	0.0	0.0	0.1	10.7	2	0.0	0	0.0	0	5.1	1.5	0.0	0.0	20091114
C017A	10 NOV 09	0169	MP	2.4	2.5	0.0	0.0	0.0	6.2	1	0.0	0	0.0	0	0.2	1.5	0.0	0.0	20091114
C017A	11 NOV 09	0169	MP	9.4	3.1	0.0	0.0	0.0	11.5	2	0.0	0	0.0	0	6.0	0.0	0.0	0.0	20091207
C017A	28 NOV 09	0167	MP	5.8	5.7	0.0	0.0	0.0	11.5	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20091207
C017A	29 NOV 09	0167	MP	2.7	2.7	0.0	0.0	0.0	5.4	1	0.0	0	0.0	0	0.0	0.5	0.0	0.0	20091209
C017A	30 NOV 09	0167	MP	2.5	2.5	0.0	0.0	0.0	5.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20091209
C017A	01 DEC 09	0167	MP	6.2	6.2	0.0	0.0	1.0	13.4	2	0.0	0	0.0	0	8.7	0.5	0.0	0.0	20091207
C017A	02 DEC 09	0167	MP	2.7	2.7	0.0	0.0	0.0	5.4	1	0.0	0	0.0	0	3.0	0.0	0.5	0.0	20091207
C017A	03 DEC 09	0167	MP	1.3	4.3	0.0	0.0	1.1	6.7	1	0.0	0	0.0	0	1.5	0.0	0.0	0.0	20091207
C017A	04 DEC 09	0167	MP	3.2	3.3	0.0	0.0	0.0	6.5	1	0.0	0	0.0	0	6.5	0.0	0.0	0.0	20091207
SMC017A	08 DEC 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20091215
C017A	22 DEC 09	0168	MP	0.7	0.1	0.0	0.0	2.1	2.9	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20091228
SMC017A	28 DEC 09	0011	MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0	1.0	0.0	1.5	0.5	20100105
C017A	30 DEC 09	0169	XP	0.0	0.0	0.0	0.0	3.5	3.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20100104
C017A	05 JAN 10	0171	MP	1.4	1.5	0.0	0.0	0.1	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	20100107

I CERTIFY THAT I HAVE REVIEWED MY IFRM AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

PERIOD: 28 JUL 2010 21:54

INDIVIDUAL FLIGHT RECORD REPORT (FA)

AS OF 28 JUL 2010

RN 58035-879

NAME: MCP  
 COMMAND: 0003W0003

UNIT: 0517ALF03

GRADE: CPT

PRD CREW POS: P

FRI AIRCRAFT: C017A

TROOP

MSG	DATE	TALE DUTY	PRI	SEC	INSTR	EVNT	QNT	TOTL SRT	CMB SRT	C/S SRT	C/S SRT	TIME	INS	STM	INS	MSG	FEW	W/S	DATE
C017A	12 JAN 10	0187 MP	1.5	1.5	0.0	0.0	0.0	3.0	2	0.0	0	0.0	1.0	0.0	0.0	0.0			20100113
C017A	20 JAN 10	0189 MP	3.9	3.9	0.0	0.0	0.0	7.8	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
C017A	21 JAN 10	0182 MP	0.5	0.4	0.0	0.0	0.0	0.9	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
C017A	22 JAN 10	0182 MP	3.1	3.1	0.0	0.0	0.0	6.2	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
C017A	23 JAN 10	0174 MP	0.5	0.5	0.0	0.0	0.0	1.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
C017A	24 JAN 10	0174 MP	2.3	2.3	0.0	0.0	0.0	4.7	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
C017A	25 JAN 10	0188 MP	2.9	2.9	0.0	0.0	0.0	5.9	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
C017A	26 JAN 10	0188 MP	4.8	4.9	0.0	0.0	0.0	9.8	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100127
SMC017A	01 FEB 10	0011 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100203
SMC017A	02 FEB 10	0011 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100203
C017A	09 FEB 10	0169 MP	3.1	0.2	0.0	0.0	0.0	3.3	1	0.0	0	0.0	1.0	0.0	0.0	0.0			20100212
C017A	11 FEB 10	0166 MP	2.0	2.0	0.0	0.0	0.0	4.0	0	0.0	0	0.0	0.5	0.0	0.0	0.0			20100212
C017A	16 FEB 10	0056 MP	2.0	1.8	0.0	0.0	0.0	3.8	1	0.0	0	0.0	0.5	0.0	0.0	0.0			20100219
SMC017A	04 MAR 10	0007 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
SMC017A	05 MAR 10	0010 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
SMC017A	05 MAR 10	0003 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
SMC017A	09 MAR 10	0010 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
SMC017A	10 MAR 10	0007 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
SMC017A	11 MAR 10	0003 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
SMC017A	11 MAR 10	0010 MP	1.5	1.5	0.0	0.0	0.0	3.0	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
C017A	16 MAR 10	0085 MP	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
C017A	19 MAR 10	0086 MP	1.5	0.0	0.0	0.0	0.0	1.5	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
C017A	23 MAR 10	0088 MP	2.7	0.0	0.0	0.0	0.0	2.7	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
C017A	25 MAR 10	0083 MP	2.3	0.0	0.0	0.0	0.0	4.5	1	0.0	0	0.0	1.5	0.0	0.0	0.0			20100407
C017A	27 MAR 10	0087 MP	0.0	0.0	0.0	0.0	0.0	0.2	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407
C017A	31 MAR 10	0194 MP	1.6	0.1	0.0	0.0	0.0	1.7	1	0.0	0	0.0	0.0	0.0	0.0	0.0			20100407

RAF PAGE 3

I CERTIFY THAT I HAVE REVIEWED MY IPER AND IT IS COMPLETE AND ACCURATE. SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

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PREPARED 28 JUL 2010 21:54

INDIVIDUAL FLIGHT RECORD REPORT (P)

AS OF 28 JUL 2010

FCN SA036-F70

INQUIRY

MDS	DATE	TAIL DUTY	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB	C/S	C/S	SRT	NTR	INS	SIM	INS	AVG	RBS	N/S	DATE
C017A	02 APR 10	9059 MP	4.8	0.0	0.0	0.0	0.1	4.9	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	201004307
C017A	25 APR 10	0173 TP	0.0	0.0	5.7	0.0	0.0	5.7	1	0.0	0	0.0	0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	20100514
C017A	26 APR 10	0173 TP	0.0	0.0	2.1	0.0	0.0	2.1	1	0.0	0	0.0	0	1.7	0.3	0.0	0.0	0.0	0.0	0.0	20100514
C017A	29 APR 10	0266 TP	0.1	0.0	10.1	0.0	0.0	10.2	2	0.0	0	0.0	0	2.5	0.3	0.0	0.0	0.0	0.0	0.0	20100514
C017A	02 MAY 10	1119 TP	0.0	0.0	6.3	0.0	0.0	6.3	1	6.3	1	0.0	0	5.1	0.5	0.0	0.0	0.0	0.0	0.0	20100618
C017A	04 MAY 10	0175 TP	0.0	0.0	7.0	0.0	0.0	7.0	2	7.0	2	0.0	0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	20100618
C017A	08 MAY 10	0041 TP	0.0	0.0	2.2	0.0	0.0	2.2	1	0.0	0	0.0	0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	20100514
SMC017A	28 MAY 10	0011 TP	0.0	0.0	3.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20100602
SMC017A	01 JUN 10	0011 TP	0.0	0.0	3.0	0.0	0.0	3.0	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20100602
SMC017A	30 JUN 10	0011 TP	0.0	0.0	1.5	0.0	0.0	1.5	1	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20100708
C017A	09 JUL 10	0070 MP	1.0	1.0	0.0	0.0	0.1	2.1	2	0.0	0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20100711
C017A	13 JUL 10	0086 MP	1.1	1.1	0.0	0.0	1.0	3.2	1	0.0	0	0.0	0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	20100713
C017A	22 JUL 10	0174 TP	1.0	1.0	0.0	0.0	3.5	5.5	1	0.0	0	0.0	0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	20100729
C017A	23 JUL 10	0167 TP	0.0	0.0	7.4	0.0	0.0	7.4	1	0.0	0	0.0	0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	20100729
C017A	24 JUL 10	0167 TP	0.0	0.0	7.5	0.0	0.0	7.9	1	0.0	0	0.0	0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	20100729
MDS SUMMARY																					
AIRCRAFT:	PRI	SEC	INST	EVAL	OTH	TOTAL	SRT	CMB	C/S	C/S	SRT	NTR	INS	SIM	INS	AVG	RBS	N/S	DATE		
233.1	132.3	49.7	0.0	45.8	460.9	96	72.4	12	0.0	0.0	0	126.3	42.4	0.5	11.3						
SIMULATOR:	22.0	21.0	7.5	0.0	0.0	50.5	18	N/A	N/A	N/A	0	3.5	0.0	7.3	2.5						
UAV:	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0	0	0.0	0.0	0.0	0.0						

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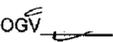
I CERTIFY THAT I HAVE REVIEWED MY FERR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

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**G1.4. RECORDS FOR MLM**

**G1.4.1. CERTIFICATE OF AIRCREW QUALIFICATIONS**

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 28 Mar 10		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MLM		RANK MSgt	SSAN	ELIGIBILITY PERIOD N/A		
ORGANIZATION AND LOCATION 249AS, Elmendorf AFB, AK		ACFT/CREW POSITION C-17A/EL				
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	28 Mar 10	1	SPOT	28 Mar 10		
Boldface	28 Mar 10	Q				
QUALIFICATION LEVEL		ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A		DATE ADDITIONAL TRAINING COMPLETED N/A		
EXPIRATION DATE OF QUALIFICATION N/A		CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE	
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>						
TYPED NAME AND RANK	ORGANIZATION	CHECK			SIGNATURE	DATE
		PROF/DOC	OG	PROF/DOC		
1 FLIGHT EXAMINER CMSgt	PACAF A3/A3TV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>[Signature]</i>	11 Apr 10
2 REVIEWING OFFICER WITNESS 22 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>[Signature]</i>	14 APR 10
3 FINAL APPROVING OFFICER WITNESS 30 Col	176 OG/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>[Signature]</i>	14 Apr 10
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 15 Apr 10	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE <i>[Signature]</i>		

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This SEFE Objectivity SPOT Evaluation was conducted on a TWCF mission from PAED to RJTY on 28 Mar 2010 in conjunction with a PACAF ASEV. All areas of the 3862 and 11-202 v2 Chp 5 SEFE Objectivity Criteria table 5.1 were observed and covered. All areas were completed in an excellent manner. Lt Col [redacted], 249AS/DO, was debriefed on results of this evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
OGV 	

AF FORM 8, 20061208 (REVER )



AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This SEFE Objectivity Evaluation completes the 176 OG Initial Flight Examiner upgrade requirement. MLM conducted an MSN/QUAL Eval on an Instructor Loadmaster during 2 legs of an Phoenix Banner from PAED to PHIK and return. He observed an ISI, full preflight, pax and cargo upload, download and upload out of PHIK due to a tail swap, as well as instruction on two (2) aircraft systems. All areas of the 3862 and 11-202 v2 Chp 5 SEFE Objectivity Criteria table 5.1 were observed and covered. MLM completed the Form 8 for the given evaluation. All areas were completed in an excellent manner. Lt Col WITNESS 22, 249AS/CC, was debriefed on results of this evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> None.	
OGV: <input checked="" type="checkbox"/>	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 26 Jun 09			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MLM</b>		RANK <b>MSgt</b>	SSAN	ELIGIBILITY PERIOD <b>Apr -Sep 09</b>			
ORGANIZATION AND LOCATION <b>249AS, Elmendorf AFB, AK</b>		ACFT/CREW POSITION <b>C-17A/IL</b>					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
Closed Book	22 Jun 09	86	QUAL/MSN	26 Jun 09			
Tactics	22 Jun 09	100					
Open Book/ATS	22 Jun 09	COMP					
EPE	26 Jun 09	1					
Boldface	26 Jun 09	Q					
QUALIFICATION LEVEL			ADDITIONAL TRAINING				
QUALIFIED <b>1</b>	UNQUALIFIED	DUE DATE(S) <b>N/A</b>	DATE ADDITIONAL TRAINING COMPLETED <b>N/A</b>				
EXPIRATION DATE OF QUALIFICATION <b>Nov 10</b>	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE		DATE		
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		RECNOZOC	DOZ	COZ	REAROPS		
1 FLIGHT EXAMINER <b>MSgt</b>	<b>249 AS/DOO</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			<b>26 JUN 09</b>
2 REVIEWING OFFICER <b>Lt Col</b>	<b>176 OG/OGV</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<b>1 Sep 09</b>
3 FINAL APPROVING OFFICER WITNESS 22 <b>Lt Col</b>	<b>249 AS/CC</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			<b>1 Sep 09</b>
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE <b>1 SEP 09</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MLM</b>			SIGNATURE 			

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This Evaluation was administered from on a mission from Elmendorf AFB, AK to Hickam AFB, HI. Cargo load consisted of Passengers and Palletized cargo. MLM instructed the Ram Air Turbine and the Interior Safety Inspection - Power Off procedure. All applicable areas of the AF Form 3862 were accomplished in an excellent manner. Lt Col WITNESS 22, 249 AS/CC, was debriefed on the results of this evaluation.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b>	
Commendable. Area 1. Directives and Publications. Good knowledge of the FCB's	
Commendable. Area 16. Passenger Handling. Complete passenger briefings	
Commendable. Area 18. Systems Knowledge/Operation. Good catch on Aux Oxygen Gage being out of limits.	
Commendable. Area 18. Systems Knowledge/Operation. Outstanding knowledge of the RATT	
OGV _____	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 05 Feb 09			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MLM</b>		RANK MSgt	SSAN	ELIGIBILITY PERIOD N/A			
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK		ACFT/CREW POSITION C-17A/IL					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
EPE	05 Feb 09	1	INIT INSTR	05 Feb 09			
QUALIFICATION LEVEL		ADDITIONAL TRAINING					
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION N/A	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE		DATE		
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>							
TYPED NAME AND RANK	ORGANIZATION	CHECK				SIGNATURE	DATE
		REC'D	OR	REC'D	REC'D		
1 FLIGHT EXAMINER MSgt	97 OG/CCAF	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			05 Feb 09
2 REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			06 Feb 09
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			08 Feb 09
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE <i>18 Mar 09</i>	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE <i>[Signature]</i>			

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.



CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 18 Sep 08	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MLM			RANK MSgt	SSAN	ELIGIBILITY PERIOD N/A	
ORGANIZATION AND LOCATION 249AS, Elmendorf AFB, AK			ACFT/CREW POSITION C-17A/ML			
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
			N/N SPOT		18 Sep 08	
QUALIFICATION LEVEL		ADDITIONAL TRAINING				
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A			
EXPIRATION DATE OF QUALIFICATION N/A	CERTIFYING OFFICIAL, RANK AND ORGANIZATION			SIGNATURE	DATE	
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>			
<b>III. CERTIFICATION</b>						
TYPED NAME AND RANK	ORGANIZATION	CHECK			SIGNATURE	DATE
		REVISION	TOO	REVISION		
1 FLIGHT EXAMINER MSgt	249 AS/CCV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>		06 Oct 08
2 REVIEWING OFFICER MSO Maj	249 AS/DOS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		06 Oct 08
3 FINAL APPROVING OFFICER WITNESS 30 Lt Col	249 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		06 Oct 08
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 06 Oct 08	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE 		

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This was a Spot N/N evaluation that was conducted on seven (7) legs of an exercise redeploy mission that transited Hickam AFB, HI; Andersen AFB, Guam; Utaoah, Thailand; Gray AAF, WA, and back to Elmendorf AFB, AK, from 10-18 Sep 08. Examinee performed an Interior Safety Inspection - Power On and completed all applicable checklist items in a proficient manner. The Examinee also performed an Off loading Procedure at Gray AAF, WA of two(2) passengers, six(6) rolling stock, and nine (9) pallets in a proficient manner.	
LtCol WITNESS 30, 249 AS/CC was debriefed on mission results.	
<b>B. Discrepancies.</b>	
None.	
<b>C. Recommended Additional Training.</b>	
None.	
<b>D. Additional Comments.</b> None.	
OGV _____	

AF FORM 8, 20061208 (REVERSE)

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 15 Apr 08			
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) MLM		RANK MSgt	SSAN	ELIGIBILITY PERIOD N/A			
ORGANIZATION AND LOCATION 58 AS, Altus AFB, OK		ACFT/CREW POSITION C-17A/ML					
<b>II. QUALIFICATION</b>							
GROUND PHASE			FLIGHT PHASE				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE			
EPE	15 Apr 08	1	INIT QUAL/MSN	15 Apr 08			
Boldface	15 Apr 08	Q					
End of Course	15 Apr 08	95					
QUALIFICATION LEVEL		ADDITIONAL TRAINING					
QUALIFIED 1	UNQUALIFIED	DUE DATE(S) N/A	DATE ADDITIONAL TRAINING COMPLETED N/A				
EXPIRATION DATE OF QUALIFICATION Sep 09	CERTIFYING OFFICIAL, RANK AND ORGANIZATION		SIGNATURE	DATE			
<input type="checkbox"/> RESTRICTIONS <i>(Explain in Comments on Back)</i>	<input type="checkbox"/> EXCEPTIONALLY QUALIFIED <i>(Explain in Comments on Back)</i>		<input type="checkbox"/> COMMANDER-DIRECTED DOWNGRADE <i>(Explain in Comments on Back)</i>				
<b>III. CERTIFICATION</b>							
TYPED NAME AND GRADE	ORGANIZATION	CHECK				SIGNATURE	DATE
		RECORD	OC	RECORD	Support-Team		
1 FLIGHT EXAMINER TSgt	58 AS/DOV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			15 Apr 08
2 REVIEWING OFFICER Maj	58 AS/DOV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			16 Apr 08
3 FINAL APPROVING OFFICER Lt Col	58 AS/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			18 Apr 08
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE 12 Jun 08	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE			

AF FORM 8, 20061208

PREVIOUS EDITIONS ARE OBSOLETE.

AF FORM 8 CONTINUATION SHEET	
IV.	COMMENTS
<b>EXAMINER'S REMARKS:</b>	
<b>A. Mission Description.</b> This initial qualification evaluation was administered during a local ATS training mission. Rolling stock and pallets were carried. All applicable areas on the AF Form 3862 were accomplished in an excellent manner.	
<b>B. Discrepancies.</b> None.	
<b>C. Recommended Additional Training.</b> None.	
<b>D. Additional Comments.</b> Commendable. Area 9. Knowledge/Completion of Forms. His knowledge was at an advanced level, which is remarkable for an initial qualification student.	
<b>Reviewing Officer's Remarks:</b>	
<b>Approving Officer's Remarks:</b>	

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 01 Mar 07		
<b>I. EXAMINEE IDENTIFICATION</b>							
NAME (Last, First, Middle Initial) <b>MLM</b>			GRADE <b>MSgt</b>		SSAN		
ORGANIZATION AND LOCATION <b>211RQS, Kulis ANGB, AK</b>			ACFT/CREW POSITION <b>HC-130N/IL</b>		ELIGIBILITY PERIOD <b>Oct 06 - Mar 07</b>		
<b>II. QUALIFICATION</b>							
<b>GROUND PHASE</b>			<b>FLIGHT PHASE</b>				
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE		
Open Book	22 Feb 07	86	QUAL/MSN		01 Mar 07		
Closed Book	22 Feb 07	94					
Boldface	22 Feb 07	Q					
EPE	01 Mar 07	I					
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING				
QUALIFIED	UNQUALIFIED		DUE DATES				
I			N/A				
EXPIRATION DATE OF QUALIFICATION Aug 08			DATE ADDITIONAL TRAINING COMPLETED N/A				
COMMENTS (If more space is needed, continue on reverse)							
<b>III. CERTIFICATION</b>							
TYPED NAME AND GRADE	ORGANIZATION	CHECK				SIGNATURE	DATE
		REPROG	DCZ	DC/DCO	DC/DCO		
1 FLIGHT EXAMINER SMSgt	176 OG/OGV	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>			1 MAR 07
2 REVIEWING OFFICER Lt Col	176 OG/OGV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			1 Mar 07
3 FINAL APPROVING OFFICER Col	176 OG/CC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			Ca Mar 07
I CERTIFY that I have been briefed and understand the action being taken this date.							
DATE <b>21 MAR 07</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MLM</b>				SIGNATURE 		

AF IMT 8, 19850501, V6

PREVIOUS EDITION WILL BE USED.

AF IMT 8 CONTINUATION SHEET

EXAMINER'S REMARKS:

A. Mission Description. This evaluation was accomplished during a local area night tactical training mission. The profile included a low-level route to a CARP staticline personnel airdrop at Malemute DZ and a NVG low-level to an NVG HAR to complete the mission. MLM instructed on Flare Launcher preflight and airdrop rigging procedures. Lt Col , 211 RQS/CC was debriefed on mission results.

Flight Examiner's Comments. MLM demonstrated outstanding checklist useage and time management.

B. Discrepancies. None

OGV

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED	
					23 Jan 06	
I. EXAMINEE IDENTIFICATION						
NAME			GRADE		SSAN	
MLM			MSgt			
ORGANIZATION AND LOCATION			ACFT/CREW POSITION		ELIGIBILITY PERIOD	
211 RQS Kulis ANG Base, AK			HC-130N/IL		N/A	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
			N/N SPOT		23 Jan 06	
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	N/A			
EXPIRATION DATE OF QUALIFICATION			DATE ADDITIONAL TRAINING COMPLETED			
			N/A			
COMMENTS (If more space is needed, continue on reverse)						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCURREN	DISCONCURREN	REMARKS		
1 FLIGHT EXAMINER SMSgt	176 OG/OGV			X		24 JAN 06
2 REVIEWING OFFICER Lt Col	176 OG/OGV	X				24 Jan 06
3 FINAL APPROVING OFFICER Lt Col	176 OG/CD	X				24 Jan 06
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE			SIGNATURE		
25 Jan 06	MLM					

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description. This N/N SPOT evaluation was accomplished during an Airland training mission. The profile included a preflight, passenger handling, cargo on/off load and multiple landings to complete the mission. Lt Col , 211 RQS/CC was debriefed on mission results.

Flight Examiner's Comments. MLM demonstrated good checklist discipline throughout the flight.

B. Discrepancies.

1. Ground.

Area 210. Passenger Handling - U -Failed to brief the passengers - thoroughly debriefed.

C. Recommended Additional Training. None

OGV \_\_\_\_\_

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 13 Oct 05			
<b>I. EXAMINEE IDENTIFICATION</b>								
NAME <b>MLM</b>			GRADE MSgt		SSAN			
ORGANIZATION AND LOCATION 211 RQS Kulis ANG Base, AK			ACFT/CREW POSITION HC-130N/IL		ELIGIBILITY PERIOD Aug 05 - Jan 06			
<b>II. QUALIFICATION</b>								
GROUND PHASE			FLIGHT PHASE					
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE			
Open Book	13 Oct 05	96	QUAL/MSN		6 Oct 05			
Closed Book	13 Oct 05	90/Q						
BPE	6 Oct 05	1						
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		ADDITIONAL TRAINING				
QUALIFIED	UNQUALIFIED			DUE DATES				
1		N/A						
EXPIRATION DATE OF QUALIFICATION Mar 07				DATE ADDITIONAL TRAINING COMPLETED N/A				
COMMENTS (If more space is needed, continue on reverse)								
<b>III. CERTIFICATION</b>								
TYPED NAME AND GRADE		ORGANIZATION		CHECK			SIGNATURE	DATE
				C O N C U R	D O N C U R	R E M A R K S		
1	FLIGHT EXAMINER SMSgt		176 OG/OGV		X			13 Oct 05
2	REVIEWING OFFICER Lt Col		176 OG/OGV		X			13 Oct 05
3	FINAL APPROVING OFFICER Col		176 OG/CC		X			13 Oct 05
I CERTIFY that I have been briefed and understand the action being taken this date.								
DATE 13 Oct 05		TYPED NAME AND GRADE OF EXAMINEE MLM				SIGNATURE		

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description. This evaluation was accomplished during a night tactical training mission. The profile included a low-level route to an NVG helicopter air refueling (HAR) near R2202, two SCA landings at Eielson AFB with the actual in/ex-fil of a 4-wheeler and RTB to complete the mission. MLM instructed on Trail-line procedures and in/ex-fil preparation/rigging procedures. Lt Col [redacted], 211 RQS/CC was debriefed on mission results.

Flight Examiner's Comments. MLM demonstrated excellent crew coordination throughout the flight.

B. Discrepancies.

1. Ground.

Area 8. Use of Checklist - Q- Failed to accomplish the "Cargo Loading Preparation" checklist in -9CL-1. He loaded and secured the 4-wheeler with a full tank of gas. He corrected the mistake when discovered by downloading the 4-wheeler and removing the required fuel. The 4-wheeler was reloaded with less than 3/4s of a tank. No mission delay resulted. Debriefed.

C. Recommended Additional Training. None

OGV \_\_\_\_\_

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED	
					9 Mar 05	
I. EXAMINEE IDENTIFICATION						
NAME <b>MLM</b>			GRADE MSgt		SSAN	
ORGANIZATION AND LOCATION 550 SOS, Kirtland AFB, NM			ACFT/CREW POSITION HC-130P/IL		ELIGIBILITY PERIOD N/A	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
			INIT INSTR		9 Mar 05	
QUALIFICATION LEVEL			RESTRICTION (Explain in Comments)		ADDITIONAL TRAINING	
QUALIFIED		UNQUALIFIED	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		DUE DATES	
1					N/A	
EXPIRATION DATE OF QUALIFICATION N/A					DATE ADDITIONAL TRAINING COMPLETED N/A	
COMMENTS (if more space is needed, continue on reverse)						
Additional Review: 58 OG/OGV: <u>20</u>						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		O N C U R	D O C U M E N T	R E M A R K S		
1 FLIGHT EXAMINER TSgt	58 OG/OGV			X		11 MAR 05
2 REVIEWING OFFICER Maj	550 SOS/DOV	X				5 APR 05
3 FINAL APPROVING OFFICER Lt Col	550 SOS/CC	X				13 APR 05
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <u>29 APR 05</u>	TYPED NAME AND GRADE OF EXAMINEE <b>MLM</b>				SIGNATURE 	

AF FORM 8, MAY 85 CONTINUATION SHEET

EXAMINER'S REMARKS:

A. Mission Description. This INIT INSTR evaluation was administered on a local training sortie consisting of HAR with MH-47x1, NVG low-level, HAR with MH-53x1 to an SCA. Examinee instructed the following areas: initial squadron briefings, cargo compartment preflight and emergency paratrooper retrieval procedures. All observed areas were accomplished in a satisfactory manner IAW AFI 11-2HC-130 Vol 2. The 550 SOS/CC was debriefed on the results of the evaluation.

B. Discrepancies. None.

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED	
					20 Oct 04	
I. EXAMINEE IDENTIFICATION						
NAME <b>MLM</b>			GRADE MSgt		SSAN	
ORGANIZATION AND LOCATION 211 RQS Kulis ANG Base, AK			ACFT/CREW POSITION HC-130N/ML		ELIGIBILITY PERIOD N/A	
II. QUALIFICATION						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
			SPOT		20 Oct 04	
QUALIFICATION LEVEL			ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION N/A			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
III. CERTIFICATION						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O T	R E M A R K S		
1 FLIGHT EXAMINER SMSgt	176 OG/OGV			X		21 Oct 04
2 REVIEWING OFFICER Lt Col	176 OG/OGV	X				21 Oct 04
3 FINAL APPROVING OFFICER Col	176 OG/CC	X				21 Oct 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 21 Oct 04	TYPED NAME AND GRADE OF EXAMINEE MLM				SIGNATURE <i>[Signature]</i>	

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description. This spot evaluation was administered in conjunction with a HQ PACAF/DOTV ASEV. The profile included a modified contour NVG low-level route to a CARP (SATB) at Nielson DZ followed by an SCA at EDF AFB to complete the mission. Lt Col \_\_\_\_\_, 21<sup>st</sup> RQS/CC, was debriefed on the results of this evaluation.

Flight Examiner's Comments. \_\_\_\_\_ MLM's briefings and crew coordination were noteworthy.

B. Discrepancies. None

OGV \_\_\_\_\_

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				10 Aug 04		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MLM</b>			GRADE MSgt		SSAN	
ORGANIZATION AND LOCATION 210 RQS Kulis ANG Base, AK			ACFT/CREW POSITION HC-130N/ML		ELIGIBILITY PERIOD May - Oct 04	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Open Book	2 Aug 04	98	QUAL/MSN	10 Aug 04		
Closed Book	3 Aug 04	87/Q				
EPE	10 Aug 04	1				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)  <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Jan 06			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS <i>(if more space is needed, continue on reverse)</i>						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		C O N C U R	D O N O R	R E M A R K S		
1 FLIGHT EXAMINER SMSgt	176 OG/OGV			X		11 Aug 04
2 REVIEWING OFFICER Lt Col	176 OG/OGV	X				11 Aug 04
3 FINAL APPROVING OFFICER Lt Col	176 OG/CC	X				18 Aug 04
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <b>19 Aug 04</b>	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE <i>[Signature]</i>		

AF Form 8, May 85

(CG) (SEMS Pro)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description. This evaluation was accomplished during a local area day tactical training mission. The profile included a low-level route to a HAR, a pararescue personnel static-line airdrop at Malemute DZ, a loadmaster directed ramp bundle airdrop followed by free-fall and parabundle airdrops to complete the mission. Lt Col [redacted], 210 RQS/CC was debriefed on mission results.

Flight Examiner's Comments. MLM demonstrated excellent ability in the aircraft. His briefings and knowledge were noteworthy.

OGV [redacted]

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 22 May 03	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MLM			GRADE MSgt		SSAN:	
ORGANIZATION AND LOCATION 210 RQS Kulis ANG Base, AK			ACFT/CREW POSITION HC-130N/ML		ELIGIBILITY PERIOD Apr - Sep 02	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION / CHECK	DATE	GRADE	MISSION / CHECK		DATE	
Open Book	21 May 03	94	MSN/QUAL		21 May 03	
Closed Book	21 May 03	88	MSN/QUAL		22 May 03	
EPE	22 May 03	1				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1			N/A			
EXPIRATION DATE OF QUALIFICATION Oct 04			DATE ADDITIONAL TRAINING COMPLETE N/A			
COMMENTS (If more space is needed, continue on reverse)						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCURRED	NOT CONCURRED	REMARKS		
1 FLIGHT EXAMINER SMSgt	210 RQS/DOL			X		2 Jun 03
2 REVIEWING OFFICER Maj	176 OG/OGV	X				28 May 03
3 FINAL APPROVING OFFICER Col	176 OG/CC	X				29 May 03
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 9 Jun 03	TYPED NAME AND GRADE OF EXAMINEE MLM				SIGNATURE	

AF FORM 8 MAY 85

COMPUTER GENERATED

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks: First Sortie

- A. Mission Description: This evaluation was centered on an actual Civil Search and Rescue mission. The Rescue was terminated shortly after takeoff and efforts were directed to Malemute Drop Zone to accomplish a personnel static line airdrop followed with loadmaster directed para bundle and freefall drops. Due to an IFE, the mission was terminated prior to completing the evaluation. Lt Col. [redacted], 210 RQS/DO was debriefed on the results of the flight.

Flight Examiner's Comments: The examinee completed all tasks prior to flight and performed well in the aircraft. The IFE was handled appropriately and IAW proper directives. The items needed to complete the evaluation are Area # 147 Airdrop Rigging Procedures, and Area # 150 Airdrop Knowledge.

- B. Discrepancies: None

[redacted], SMSgt, AKANG  
176 OGV Loadmaster

Examiners Remarks: Second Sortie

- A. Mission Description: This evaluation consisted of a day tactical low-level flight that terminated with an SATP bundle. A HALO personnel drop ensued after the SATP followed with Para bundle and freefall drops. Lt Col. [redacted], 210 RQS/DO was debriefed on the results of the flight.

Flight Examiners Comments: MLM completed all phases of flight admirably and in a professional manner. He exercised excellent checklist discipline and crew coordination. All loadmaster drops landed within acceptable criteria.

- B. Discrepancies: None

OGV [redacted]

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 4 Jun 02	
<b>I. EXAMINEE IDENTIFICATION</b>					
NAME (Last, First, Middle Initial) <b>MLM</b>			GRADE TSgt		SSAN:
ORGANIZATION AND LOCATION 210 RQS Kulis ANG Base, AK			ACFT/CREW POSITION HC-130N/ML		ELIGIBILITY PERIOD Apr - Sep 02
<b>II. QUALIFICATION</b>					
GROUND PHASE			FLIGHT PHASE		
EXAMINATION / CHECK	DATE	GRADE	MISSION / CHECK	DATE	
Open Book	4 Jun 02	91	MSN/QUAL	8 May 02	
Closed Book	4 Jun 02	91	MSN/QUAL	21 May 02	
EPE	21 May 02	1			
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING		
QUALIFIED	UNQUALIFIED		DUE DATES		
1			N/A		
EXPIRATION DATE OF QUALIFICATION Oct 03			DATE ADDITIONAL TRAINING COMPLETE N/A		
COMMENTS (if more space is needed, continue on reverse)					
<b>III. CERTIFICATION</b>					
TYPED NAME AND GRADE	ORGANIZATION	CHECK		SIGNATURE	DATE
		C O N C U R	O C C U R R E N T	R E M A R K S	
1 FLIGHT EXAMINER SMSgt	176 OG/OGV			X	11 Jun 02
2 REVIEWING OFFICER Lt Col	176 OG/OGV	X			11 Jun 02
3 FINAL APPROVING OFFICER Col	176 OG/CC	X			12 Aug 02
I CERTIFY that I have been briefed and understand the action being taken this date.					
DATE 21 Aug 02	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE <i>[Signature]</i>	

AF FORM 8  
MAY 85

COMPUTER GENERATED

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A. Mission Description: 8 May 92: This first attempt was scheduled as a tactical low-level to airdrops and helicopter air refueling. A complete rescue alert preflight was successfully completed with a manual form-F. The mission was canceled due to maintenance. 21 May 02: This mission was a day RAMZ deployment 5 free fall PJs followed HAR. Lt Col \_\_\_\_\_, 210<sup>th</sup> RQS/CC was debriefed on evaluation results.

Flight Examiner's Comments: MLM completed this complex mission in an efficient professional manner while supervising a very inexperienced secondary loadmaster. His CRM, especially in coordinating airdrop tasks with his secondary were excellent.

B. Discrepancies:

1. Ground. Item 148, Joint Airdrop Inspection, Q-, MLM failed to ensure that the JAI form was completely signed off before flight after all inspections were completed.

C. Recommended Additional Training: None

OGV \_\_\_\_\_

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 11 Apr 01	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MLM</b>			GRADE TSgt		SSAN:	
ORGANIZATION AND LOCATION 210 RQS Kulis ANG Base, AK			ACFT/CREW POSITION HC-130N/ML		ELIGIBILITY PERIOD Nov 00 - Apr 01	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION / CHECK	DATE	GRADE	MISSION / CHECK		DATE	
Open Book	9 Mar 01	94	MSN/QUAL		11 Apr 01	
Closed Book	9 Mar 01	97				
EPE	11 Apr 01	1				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
1		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	N/A			
EXPIRATION DATE OF QUALIFICATION Sep 02			DATE ADDITIONAL TRAINING COMPLETE N/A			
COMMENTS (If more space is needed, continue on reverse)						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE		ORGANIZATION	CHECK		SIGNATURE	DATE
1	FLIGHT EXAMINER SMSgt	210 RQS/DOL	CONFIRMED	NOT CONFIRMED		14 May 01
2	REVIEWING OFFICER Maj	176 OG/OGV	X			14 MAY 01
3	FINAL APPROVING OFFICER Col	176 OG/CC	X			17 May 01
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 17 May 01	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE 		

AF FORM 8  
MAY 85

COMPUTER GENERATED

AF FORM 8, MAY 85 CONTINUATION SHEET

Examiner's Remarks:

A Mission Description: Evaluation was scheduled for March 12, MLM completed the --1 pre-flight and a manual Form F. Preflight and manual Form F were completed without any discrepancies. Flying portion was cancelled due to bad weather.

MLM  
SMS  
176 OG/OGVLR

A Mission Description: On April 11 the mission tasking consisted of a low level route to a pararescue carp drop of four pararescuemen from the paratroop door, followed by loadmaster directed parabundle and freefall drops

Flight Examiner's Comments: MLM completed loading of pararescueman and gear without any discrepancies noted. All flying phase checklist items were completed without error. Mission consisted of a low level route to a live carp drop. After the pararescuemen exited the aircraft, a simulated hung paratrooper exercise utilizing the Towed Paratrooper Retrieval system was completed without any discrepancies noted. After completion of the drop checks, MLM was given a simulated fire in the cargo compartment exercise. He completed this task without discrepancies. MLM then completed two parabundle and two freefall drops. All were within the passing score parameters. His last freefall drop was excellent, landing within five yards of the target. Mission terminated without any discrepancies noted. Overall score for evaluation was Q-1.Col 210<sup>th</sup> RQS/CC was debriefed

- B. Discrepancies: None
- C. Recommended Additional Training: None

1  
OGV



AF FORM 8 CONTINUATION SHEET

**Examiner's Comments:**

**A. Mission Description:** This no-notice evaluation was conducted on a night tactical trainer. A NVG low-level to a simulated personnel CARP drop was followed by a second NVG low-level to a simultaneous air refueling with a flight of two HH-60's. LtCol. \_\_\_\_\_, 210 RQS/CC was debriefed on evaluation results.

**Flight Examiner's Comments:** MLM performed this NVG tactical trainer in a thorough and professional manner. His crew coordination and situational awareness was excellent. He correctly identified that the pre-contact checklist had not been completed prior to the contact checklist being called for and called this to the crew's attention in a timely manner. His knowledge of emergency equipment quantities and locations was accurate but not recalled in a timely manner.

**B. Discrepancies:**

**Flight:** Area 11, Emergency Equipment Locations -,Q-, Knowledge of the location and quantity of emergency equipment was accurate but not recalled in a timely manner. This area was debriefed to the satisfaction of the examiner.

**C. Recommended Additional Training:** None

OGV \_\_\_\_\_

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 23 Nov 99	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) <b>MLM</b>			GRADE SSgt		SSAN	
ORGANIZATION AND LOCATION 210 RQS Kulis ANG Base			ACFT/CREW POSITION HC-130N/ML		ELIGIBILITY PERIOD Jul - Dec 99	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Open	23 Nov 99	92	MSN	17 Nov 99		
Closed	23 Nov 99	90				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments)		ADDITIONAL TRAINING		
QUALIFIED	UNQUALIFIED	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		DUE DATES		
2				30 Mar 00		
EXPIRATION DATE OF QUALIFICATION Apr 01				DATE ADDITIONAL TRAINING COMPLETED 18 Nov 99		
COMMENTS (If more space is needed, continue on reverse)						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCISE	DO NOT CONCISE	REMARKS		
1 FLIGHT EXAMINER MSgt	210 RQS/DOL			X		24 Nov 99
2 REVIEWING OFFICER LtCol	176 OG/OGV	X				29 Dec 99
3 FINAL APPROVING OFFICER Col.	176 OG/CC	X				29 Dec 99
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 3 Jan 00	TYPED NAME AND GRADE OF EXAMINEE MLM	SIGNATURE			SIGNATURE	

AF FORM 8, MAY 85 (EF-V2)

(Perform PRO)

PREVIOUS EDITION WILL BE USED.

AF FORM 8, MAY 85 CONTINUATION SHEET

**Examiner's remarks:**

**A. Mission Description:** This evaluation was conducted on a tactical mission consisting of a pre-flight of mission aircraft, a low level to a CARP personnel deployment, parabundle and freefall equipment drops and an air refueling. LtCol 210RQS/CC was debriefed on the results of this evaluation.

**Flight Examiner's Comments:** On 16 November 1999 Examinee was scheduled to fly a low level to a personal deployment, followed by equipment drops then an air refueling event. Examinee arrived for briefing on time. A Form-F was accomplished without any discrepancies noted. Mission was canceled do to aircraft maintenance problem. On 17 November 1999 examinee was rescheduled to perform the same mission. Examinee arrived on time for briefing. Examinee completed aircraft pre-flight in a timely manner but neglected to complete his required checks on interphone panels, the right paratroop door, center overhead escape hatch emergency exit light, restraint harnesses and emergency equipment in rescue bin. Examinee was asked several questions on aircraft systems and ditching emergency procedures, all questions were answered in a thorough and complete manner. Examinee performed the personal deployments and a simulated hung paratrooper event in a highly professional manner. Examinee then performed two parabundle and two free fall drops. All checklist items and drops were completed without discrepancies. Examinee was then tasked with a single ship air refueling event. All checklist items were completed. During the air refueling the receiver requested a frequency change requiring a different radio. The tanker acknowledged but the examinee was unsure of proper radio check procedures after tanker and receiver had switched to a new radio. There were no other discrepancies noted during this event. Prior to landing at home station examinee failed to complete his "Before Landing Checks", he called them complete without physically checking the required items in the checklist. Examinee also did not properly check the "EMI Filter Safety Pins" during the after landing checks.

**B. Discrepancies:**

**1. Flight:**

Area 4, Use of Checklist - Q-. Did not properly complete the before landing checklist or the after landing checks.  
Area 52(B), Air Refueling/Communications - Q-. During air refueling portion examinee was unsure of proper radio check procedures with the receiver after a radio change occurred between the tanker and the receiver.

**2. Ground:**

Area 21, Aircraft Inspection - Q-. Did not inspect cargo compartment interphone panel, right paratroop door, center overhead escape hatch emergency exit light or restraint harness properly.  
Area 24, Extra Equipment Inspection - Q-. Did not adequately inspect contents of the Rescue Equipment Bin

**C. Recommended Additional Training:**

**1. Ground:**

1. Examinee will re-accomplish an aircraft pre-flight with an instructor.
2. Examinee will receive ground training on Air Refueling Communications procedures.
3. Examinee will receive ground training on proper adherence to checklists.

Reviewing Officer's Remarks:

Final Approving Officer's Remarks: *concur w/ actions taken*

Recommended additional ground training was successfully completed on 18 Nov 99.

MSgt

OGV

CERTIFICATE OF AIRCREW QUALIFICATION					DATE COMPLETED 27 Jul 98	
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME <b>MLM</b>			GRADE <b>SSgt</b>		SSAN	
ORGANIZATION AND LOCATION <b>550 SOS, Kirtland AFB NM</b>			ACFT/CREW POSITION <b>MC-130P/LM</b>		ELIGIBILITY PERIOD <b>N/A</b>	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK		DATE	
EOC Open Book	24 Jun 98	100	INIT MSN		27 Jul 98	
EOC Closed Book	24 Jun 98	100				
EPE	27 Jul 98	1				
QUALIFICATION LEVEL			RESTRICTION <i>(Explain in Comments)</i> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		ADDITIONAL TRAINING	
QUALIFIED	UNQUALIFIED				DUE DATES	
1					N/A	
EXPIRATION DATE OF QUALIFICATION Dec 99					DATE ADDITIONAL TRAINING COMPLETED N/A	
COMMENTS <i>(if more space is needed, continue on reverse)</i> RESTRICTIONS: Examinee is restricted from performing PERSONNEL deployments unless under the supervision of an instructor/examiner loadmaster. Personnel were not available during training.  EXAMINER'S REMARKS: A. Mission Description. This evaluation was administered on a local rescue training sortie. The profile consisted of a low level route to a night air refueling, followed by airdrop of an SATB. All loadmaster duties were accomplished in an excellent manner. Maj , 550 SOS/DO was briefed on the results of this evaluation.  B. Discrepancies. None						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE		ORGANIZATION		CHECK		SIGNATURE
				C O N C U R	O N H O U R	R E M A R K S
1 FLIGHT EXAMINER TSgt		550 SOS/DOA				X
2 REVIEWING OFFICER Capt		550 SOS/DOC		X		
3 FINAL APPROVING OFFICER Lt Col		550 SOS/CC		X		
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE <b>13 Aug 98</b>	TYPED NAME AND GRADE OF EXAMINEE <b>MLM</b>				SIGNATURE <i>[Signature]</i>	

AF Form 8  
May 85

(CG)

PREVIOUS EDITION WILL BE USED

AF FORM 8, MAY 85 CONTINUATION SHEET

Additional Review.

58 OG/OGV ~~11-1~~

Actual static line personnel drop accomplished under supervision of instructor 1 Sep 98. RESTRICTION IS RESCINDED.

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 6 Apr 98		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MLM			GRADE SSgt		SSAN	
ORGANIZATION AND LOCATION 62 AS, Little Rock AFB AR			ACFT/CREW POSITION C-130E/ML		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EOC	2 Apr 98	100	INTL MSN	6 Apr 98		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION Sep 99			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse)						
RESTRICTION: SUPERVISED STATUS for personnel airdrop until an actual static line personnel airdrop is accomplished. Final certification will be accomplished under the supervision of an instructor or flight examiner.						
EXAMINER'S REMARKS:						
A. Mission Description. This was an FTU evaluation conducted on a tactical sortie to Blackjack DZ. The examinee accomplished all required preflight inspections, airdrop preparations, loaded, rigged, and performed inflight duties for the aerial delivery of a single heavy equipment load weighing 2,670 pounds. The examinee was primary the entire mission. Actual personnel airdrop training completed on _____.						
B. Discrepancies. None.						
Actual personnel static line drop accomplished under supervision of an instructor 1 Sep 98. RESTRICTION IS RESCINDED.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER TSgt	62 AS/CCV			X		6 Apr 98
2 REVIEWING OFFICER Maj	62 AS/CCV	X				11 Apr 98
3 FINAL APPROVING OFFICER Lt Col	62 AS/CC	X				15 Apr 98
I CERTIFY that I have been briefed and understand the action being taken						
DATE 13 Aug 98	TYPED NAME AND GRADE OF EXAMINEE MLM			SIGNATURE		

AF FORM 8, MAY 85 (EF-V3) (PerFORM PRO)

PREVIOUS EDITION WILL BE USED.

AF FORM 8, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				23 Feb 98		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MLM			GRADE SSgt		SSAN	
ORGANIZATION AND LOCATION 154 TRS, Little Rock AFB, AR			ACFT/CREW POSITION C-130B/FL		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
BOC	19 Feb 98	97	INTL QUAL	23 Feb 98		
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION Jul 99			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse)						
<b>EXAMINER'S REMARKS:</b>						
A. Mission Description. This formal school flight evaluation was administered on a local training mission. The load consisted of palletized cargo. The examinee accomplished all required preflight inspections, aircraft preparations, loading and unloading operations, and performed all inflight duties.						
B. Discrepancies. NONE.						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER SMSgt	154 TRS/DOL			X		27 Feb 98
2 REVIEWING OFFICER Lt Col	189 OG/OGV	X				2 MAR 98
3 FINAL APPROVING OFFICER Lt Col	154 TRS/CC	X				2 MAR 98
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE 13 Aug 98	TYPED NAME AND GRADE OF EXAMINEE MLM		SIGNATURE			

AF FORM 8, MAY 85 (EF-V2)

(PerFORM PRO)

PREVIOUS EDITION WILL BE USED.

AFFIRM B, MAY 85 CONTINUATION SHEET

CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED 23 Mar 97		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial) MLM			GRADE SSgt		SSAN	
ORGANIZATION AND LOCATION 728 AS, McChord AFB WA			ACFT/CREW POSITION C-141B/ML		ELIGIBILITY PERIOD N/A	
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
EPE	23 Mar 97	1	N/N	23 Mar 97		
QUALIFICATION LEVEL			ADDITIONAL TRAINING			
QUALIFIED		UNQUALIFIED	RESTRICTION (Explain in Comments)			
1			<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO DUE DATES N/A			
EXPIRATION DATE OF QUALIFICATION N/A			DATE ADDITIONAL TRAINING COMPLETED N/A			
COMMENTS (If more space is needed, continue on reverse) EXAMINER'S REMARKS: A. Mission Description: This no-notice eval was on a Moses Lake drop-off local. MC Form 54 areas covered were completed in a satisfactory manner. MLM's passenger briefing was very good. CRM techniques were discussed.  B. Discrepancies: None.						
STAN/EVAL COUNTERPART REVIEW _____						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER TSgt	728 AS			X		JAN 97
2 REVIEWING OFFICER Maj	728 AS	X				14 MAY 97
3 FINAL APPROVING OFFICER Lt Col	728 AS/CC	X				30 May 97
I CERTIFY that I have been briefed and understand the action being taken!						
DATE 12 May 97	TYPED NAME AND GRADE OF EXAMINEE MLM				SIGNATURE	

AF FORM 8, MAY 85 (EF-V2) (PerFORM PRO) PREVIOUS EDITION WILL BE USED.



CERTIFICATE OF AIRCREW QUALIFICATION				DATE COMPLETED		
				6 Dec 96		
<b>I. EXAMINEE IDENTIFICATION</b>						
NAME (Last, First, Middle Initial)			GRADE	SSAN		
MLM			SSgt			
ORGANIZATION AND LOCATION			ACFT/CREW POSITION	ELIGIBILITY PERIOD		
728 AS, McChord AFB WA			C-141B/ML	N/A		
<b>II. QUALIFICATION</b>						
GROUND PHASE			FLIGHT PHASE			
EXAMINATION/CHECK	DATE	GRADE	MISSION/CHECK	DATE		
Closed Book	25 Nov 96	100/Q	INTL QUAL	6 Dec 96		
Open Book	25 Nov 96	94				
BPE	6 Dec 96	I				
QUALIFICATION LEVEL		RESTRICTION (Explain in Comments) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	ADDITIONAL TRAINING			
QUALIFIED	UNQUALIFIED		DUE DATES			
I			N/A			
EXPIRATION DATE OF QUALIFICATION			DATE - ADDITIONAL TRAINING COMPLETED			
May 98			N/A			
COMMENTS (If more space is needed, continue on reverse)						
EXAMINER'S REMARKS:						
A. Mission Description: This initial qual was on a Pacific channel mission on 4-8 Dec 96. Load consisted of mixed pallets and passengers. All areas covered with MLM were completed in a satisfactory manner. CMSgt and MSgt attended the debrief.						
B. Discrepancies: None.						
STAN/EVAL COUNTERPART REVIEW _____						
<b>III. CERTIFICATION</b>						
TYPED NAME AND GRADE	ORGANIZATION	CHECK			SIGNATURE	DATE
		CONCUR	DO NOT CONCUR	REMARKS		
1 FLIGHT EXAMINER TSgt	728 AS			X		2 Jan 97
2 REVIEWING OFFICER Maj	728 AS	X				10 JAN 97
3 FINAL APPROVING OFFICER Lt Col	728 AS/CC	X				11 Jan 97
I CERTIFY that I have been briefed and understand the action being taken this date.						
DATE	TYPED NAME AND GRADE OF EXAMINEE	SIGNATURE				
30 Dec 96	MLM					







# G1.4.3 30/60/90 FLYING HISTORY REPORT

UNIT	TYPE	STATUS	FLYING HOURS	FLYING MINUTES	FLYING SECONDS	FLYING MILES	FLYING KILOMETERS	FLYING METERS	FLYING FEET	FLYING INCHES	FLYING YARDS	FLYING MILES PER HOUR	FLYING KILOMETERS PER HOUR	FLYING METERS PER HOUR	FLYING FEET PER HOUR	FLYING INCHES PER HOUR	FLYING YARDS PER HOUR
<p>UNIT: 00-0173                      TYPE: C-17A                      STATUS: ACTIVE                      FLYING HOURS: 1234.5                      FLYING MINUTES: 23456.7                      FLYING SECONDS: 34567.8                      FLYING MILES: 4567.8                      FLYING KILOMETERS: 7312.3                      FLYING METERS: 11574.1                      FLYING FEET: 38300.9                      FLYING INCHES: 459610.8                      FLYING YARDS: 129802.4                      FLYING MILES PER HOUR: 123.4                      FLYING KILOMETERS PER HOUR: 198.7                      FLYING METERS PER HOUR: 300.1                      FLYING FEET PER HOUR: 954.4                      FLYING INCHES PER HOUR: 11452.8                      FLYING YARDS PER HOUR: 3180.2</p>																	
<p>*** 00-0173: 00-0173 ***</p>																	
<p>UNIT: 00-0173                      TYPE: C-17A                      STATUS: ACTIVE                      FLYING HOURS: 1234.5                      FLYING MINUTES: 23456.7                      FLYING SECONDS: 34567.8                      FLYING MILES: 4567.8                      FLYING KILOMETERS: 7312.3                      FLYING METERS: 11574.1                      FLYING FEET: 38300.9                      FLYING INCHES: 459610.8                      FLYING YARDS: 129802.4                      FLYING MILES PER HOUR: 123.4                      FLYING KILOMETERS PER HOUR: 198.7                      FLYING METERS PER HOUR: 300.1                      FLYING FEET PER HOUR: 954.4                      FLYING INCHES PER HOUR: 11452.8                      FLYING YARDS PER HOUR: 3180.2</p>																	
<p>UNIT: 00-0173                      TYPE: C-17A                      STATUS: ACTIVE                      FLYING HOURS: 1234.5                      FLYING MINUTES: 23456.7                      FLYING SECONDS: 34567.8                      FLYING MILES: 4567.8                      FLYING KILOMETERS: 7312.3                      FLYING METERS: 11574.1                      FLYING FEET: 38300.9                      FLYING INCHES: 459610.8                      FLYING YARDS: 129802.4                      FLYING MILES PER HOUR: 123.4                      FLYING KILOMETERS PER HOUR: 198.7                      FLYING METERS PER HOUR: 300.1                      FLYING FEET PER HOUR: 954.4                      FLYING INCHES PER HOUR: 11452.8                      FLYING YARDS PER HOUR: 3180.2</p>																	



### G1.4.4. INDIVIDUAL DATA SUMMARY

PREPARED BY: JML 2010 12:24

INDIVIDUAL DATA SUMMARY (P)

AS OF: 28 JUL 2010

PCN: 0243180

INQUIRY

NAME: MLM  
BASE: 00000000

GRADE: MS

COMP: MS

WORLD: 01000000

DEPT: 0243180

PERSONAL DATA

DUTY STATION: 000-0000  
 OFFICE SYMBOL: NEMED  
 MGR SGT DATE: 07 DEC 99  
 LAST SGT DATE: A  
 PMS CODE: 11 JAN 11  
 PMS USE DATE: A  
 PMS AVAIL CODE: 07 DEC 99  
 PMS AVAIL DATE: 14 APR 09  
 PHYSIOLOGICAL Rtg DATE: 30 APR 10  
 PHYSIOLOGICAL Rtg DATE: 01A07L  
 DATE OF BIRTH: 01 OCT 69  
 DUTY ASSO: 04000000  
 REPORTING DATE OF DUTY: N  
 PMS CODE: N  
 SHORE TOUR INDICATOR: N  
 DATE RETURN FROM OVERSEA: N  
 DATE OF RANK: 07 AUG 62  
 DATE OF SEP/ASSIGNMENT: 16 AUG 15  
 DATE PER LAST DUTY STATION: 04 MAY 68  
 DATE PER THIS STATION: 26 SEP 97  
 PERSONNEL RECORD STATUS: 10  
 PROJECTED DATED: N  
 PROJECTED PMS CODE: N  
 PROJECTED BIRTH LOCATION: N  
 PROJ DEPARTING DATE: N  
 PROJ REPORTING DATE: N  
 PROJ RETROACTIVE DATE: N  
 LOCAL USE CODE: N

ROLES

SECURITY CLEARANCE: S  
 SECURITY CLEARANCE DATE: 19 JAN 06  
 RESTRICTED AREA ACCESS NO: N  
 PROFESSIONAL COND INDEX (PRO): N  
 PROFESSIONAL QUAL INDEX DATE: N

JUMP STATUS: N  
 DATE ASSIGNED JUMP STATUS: N

SYSTEM MANAGEMENT

NAME CODE: N  
 REPORTED NAME CODE: N  
 DISPLAYED NAME: N  
 REPORTING NAME: N  
 SPECIAL CRT ID: N  
 REPORTING START DATE: 08 DEC 08  
 REPORTING END DATE: 31 JAN 10  
 REPORTING STATUS CODE: N

I CERTIFY THAT I HAVE REVIEWED MY FILE AND IT IS COMPLETE AND ACCURATE.

SIGNATURE

DATE

PREPARED 28 JUL 2010 22:26

INDIVIDUAL DATA SUMMARY (PM)

AS OF 28 JUL 2010

PCN: 692650-376

INQUIRY

NAME: MLM

SSAN:

GRADE: MSG

WING: 01700000

UNIT: 0249ALSSO

NAME: EDIE'S ANNE

..... AIRCRAFT ASSIGNMENT DATA .....

AIRCRAFT ORIGIN: MILK  
 END OF ASSIGNMENT: 34  
 MESS SVC CAT: AIRN  
 PRIMARY ACFT: C-17A  
 END DUTY BRAT CODE: SP, A  
 OPERATIONAL FLYING WAIVER: N

..... INCENTIVE PAY DATA .....

LAST MFD DATE: 05 JUL 06  
 LAST MFD REASON: C  
 AD/IND: NONE  
 PAY STOP DATE: 09 SEP 10  
 LAST PROSPECTIVE FLYING DATE: 23 JUL 10  
 PREVIOUS PROSPECTIVE FLYING DATE: 13 JUN 10

..... CREW/ACIP DATA .....

AVIATION SERVICE CODE: DA  
 EFFECTIVE DATE: 10 SEP 05  
 REGION ASC: CA  
 EFFECTIVE DATE: 09 SEP 03  
 ASRO ORDER TERM DATE: 08 SEP 10  
 OFFICER SERVICE DATE: 04 JAN 94  
 AVIATION SERVICE DATE: 04 JAN 94  
 TRANSITION STATUS CODE: N  
 AVIATION POSITION INDICATION: N  
 EFFECTIVE DATE: 01 OCT 09  
 FLYING ACTIVITY CATEGORY: A  
 PRE-ACIA-GRN: 0  
 OPRN DATE 10/12: 30  
 OPRN DATE 15/16: 88  
 OPRN DATE 20/18: 140  
 OPRN TO DATE: 140

You have met OPRN requirements for 20 year date to receive continuous ACIP through 25 years of aviation service.

..... AERONAUTICAL TRAINING/AVIATION DATA .....

AVIATION BADGE: CHEF AIRMAN AIRCRAFTSMAN  
 EFFECTIVE DATE: 10 SEP 98  
 AVIATION BADGE: SENIOR AIRMAN AIRCRAFTSMAN  
 EFFECTIVE DATE: 30 NOV 98  
 AVIATION BADGE: (SMELC) AIRMAN AIRCRAFTSMAN  
 EFFECTIVE DATE: 06 DEC 96

..... OMS MID RTG DT: .....

CURR PARA RATING: CURR PARA RATING DATE:  
 OMS PARA RATING: OMS PARA RATING DATE:  
 TRAINING/QUAL STATUS: ..... DATE

I CERTIFY THAT I HAVE REVIEWED HIS RPT AND IT IS COMPLETE AND ACCURATE.

STANDARD

DATE

AME PAGE 2

PAGE 1











PERFORMED ON 08 APR 2010 20:20Z INTERNATIONAL FLIGHT RECORD REPORT (P1) AS OF 08 APR 2010 FOR 00000000

INQUIRY

NAME: MLM BRAN: 00000000 UNIT: 00000000 REPORT: 00000000

MOB	DATE	TIME	UNIT	SEC	INST	EWAL	OTR	TOTAL SBT	EMB SBT	C/S	INT	INS	INS	NOV RES	DATE
CO17A	14 MAY 10	0157	ML	2.1	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	1	20100514
CO17A	16 MAY 10	0157	ML	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	1	20100516
CO17A	17 MAY 10	0157	ML	13.6	0.0	0.0	0.0	13.6	0.0	0.0	0.0	0.0	0.0	1	20100517
CO17A	18 MAY 10	0157	ML	5.4	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	1	20100518
CO17A	19 MAY 10	0157	ML	5.8	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0	1	20100519
CO17A	20 MAY 10	0157	ML	5.4	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0	1	20100520
CO17A	21 MAY 10	0157	ML	4.9	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	1	20100521
CO17A	23 MAY 10	0157	ML	4.9	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	1	20100523
CO17A	24 MAY 10	0157	ML	15.7	0.0	0.0	0.0	15.7	0.0	0.0	0.0	0.0	0.0	1	20100524
CO17A	26 MAY 10	0157	ML	8.2	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	1	20100526
CO17A	28 MAY 10	0157	ML	8.2	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.0	1	20100528
CO17A	06 JUN 10	0174	EL	0.0	0.0	0.0	0.0	7.5	0.0	0.0	0.0	0.0	0.0	1	20100606
CO17A	08 JUN 10	0174	EL	0.0	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	1	20100608
CO17A	09 JUN 10	0174	EL	0.0	0.0	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0	1	20100609
CO17A	10 JUN 10	0174	EL	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	1	20100610
CO17A	11 JUN 10	0174	EL	0.0	0.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	1	20100611
CO17A	12 JUN 10	0174	EL	0.0	0.0	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	1	20100612
SMO17A	22 JUN 10	0011	ML	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1	20100622
SMO17A	01 JUL 10	0011	ML	1.3	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	1	20100701
CO17A	13 JUL 10	0055	ML	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	1	20100713

I CERTIFY THAT I HAVE REVIEWED MY ERROR AND IT IS COMPLETE AND ACCURATE. SIGNATURE: .....

REPORTED BY: JMM, 2010 07 28  
 MONTHLY BILLY KESSER REPORT (PM)  
 350 DFB 28 JUL 2010  
 PCN 54336-070

INQUIRY

NAME: MLM  
 WING: DTIC00000  
 UNIT: 61400000  
 SSN: ACFT 00100 MILR  
 GRADE: MSGT  
 HR: 00000000  
 BRT AIRCRAFT: 00000

MSGS SUBMITTED	BRT	SBC	INSTR	SWAL	OTM	TOTAL	SRT	CHG	SRT	C/S	SRT	MISS	INS	INR	RWS
AIRCRAFT	11.4	0.0	64.7	91.2	0.0	67.3	83	65.9	12	0.0	0	28.7	0.0	0.0	1.0
SUBMITTER	9.5	0.0	0.0	0.0	9.5	19.8	8	N/A	N/A	N/A	0	0.0	0.0	0.0	1.0
INVT	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0	0	0.0	0	0.0	0.0	0.0	0.0

I CERTIFY THAT I HAVE REVIEWED MY IPAR AND IT IS COMPLETE AND ACCURATE. SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_



RECORD OF EVALUATION							
NAME (Last, First Middle Initial)				SSN			
MP							
TYPE AIR CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (DAP)	TYPE AIR CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (DAP)
C-17A	SIM INIT QUAL/INSTM	20080221	1 (AMC)	C-17A	MSN (AD)	20081227	1 (10-AS)
C-17A	INIT MSN	20081122	1 (AMC)		Annual Review	20080717	1 (10-AS)
	Assigned to AS	20081201	1 (AMC)	C-17A	RD MSN (AD)	20080318	1 (10-AS)
	Annual Review	20081111	1 (AMC)		AETC		
C-17A	SIM INIT EP SIM QUAL/INSTM	20080923	1 (AMC)	C-17A	MSN (AD)	20051014	1 (10-AS)
C-17A	MSN (AD)	20020609	1 (AMC)		AMC		
	Annual Review	20020608	1 (AMC)	C-17A	SIM QUAL/INSTM	20080103	3 (10-AS)
C-17A	MSN (AD)	20070606	1 (AMC)	C-17A	SIM RD QUAL/INSTM	20060113	1 (10-AS)
C-17A	MSN (AD)	20070401	1 (10-AS)	C-17A	MSN	20060501	1 (10-AS)
C-17A	SIM QUAL/INSTM	20070310	1 (10-AS)		Annual Review	20060710	1 (10-AS)
	AETC			C-17A	SIM QUAL/INSTM	20070315	1 (10-AS)
C-17A	INIT MSN (AD)	20030710	1 (10-AS)				
	AMC						
	Annual Review	20030721	1 (10-AS)				
C-17A	SPOI	20030121	1 (10-AS)				
C-17A	MSN (AD)	20031218	3 (10-AS)				
	AETC						
C-17A	INIT INSCR	20040607	1 (10-AS)				
	AMC						
	Annual Review	20040715	1 (10-AS)				
C-17A	SIM QUAL/INSTM	20040823	1 (10-AS)				
	Assigned to AS	20041004	1 (10-AS)				
	Annual Review	20041001	1 (10-AS)				

AF IMT 942, 29030501, V1

PREVIOUS EDITIONS ARE OBSOLETE

**G.2.2. MSO AF FORM 942**

RECORD OF EVALUATION							
NAME (Last, First Middle Initial) MSO				SSAN			
ACFT/CREW POSITION	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL	ACFT/CREW POSITION	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL
F-16/MP	MSN	12 Jul 06	1				
F-16/MP	INSTMIQUAL	22 Nov 06	1				
	AETC						
C-17A/FP	SIM INIT QUAL/INSTM	06 Feb 08	1				
C-17A/FP	INIT MSN	26 Mar 08	1				
	PACAF						
	INITIAL REVIEW	05 Apr 08					
	AETC						
C-17A/MP	INIT MSN	23 Sep 08	1				
	PACAF						
	ANNUAL REVIEW	02 Oct 08					
C-17A/MP	NON SPOT	02 Dec 08	1				
C-17A/MP	SPOT	18 Feb 09	1				
C-17A/MP	SIM INSTMIQUAL	19 May 09	1				
	ANNUAL REVIEW	08 Oct 09					
C-17A/MP	MSN	08 Feb 10	1				
	ANNUAL REVIEW	11 Feb 10					
C-17A/MP	SPOT	05 Apr 10	1				
C-17A/MP	NET INSTR	20 May 10	1				

AF Form 942, 20061208

PREVIOUS EDITIONS ARE OBSOLETE

RECORD OF EVALUATION						
NAME (Last, First, Middle Initial) <b>MSO</b>					DSN	
TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL (COMMAND)	TYPE AIR-CRAFT	TYPE OF EVALUATION	DATE COMPLETED
	Assigned to L200B FW	8 Sep 2001	(ACC)			
	Annual Review	10 Jul 2002	(ACC)			
F-16C	MSN	18 Jul 2002	I (ACC)			
F-16C	INST/QUAL	20 Nov 2002	I (ACC)			
	Annual Review	1 Oct 2003	(ACC)			
F-16C	MSN	10 Nov 2003	I (ACC)			
F-16C	INST/QUAL	5 Apr 2004	I (ACC)			
F-16C	MSN	1 Mar 2005	I (120 W)			
F-16C	INST/QUAL	27 Jul 2005	I (120 W)			

AF FORM 942, 15961201 (EF-V2)

PREVIOUS EDITIONS ARE OBSOLETE.





RECORD OF EVALUATION

NAME: MCP				SSN:			
TYPE OF GRADE	TYPE OF EVALUATION	DATE COMPLETE	QUALIFICATION LEVEL (NRT)	TYPE OF GRADE	OFF OF EVALUATION	DATE COMPLETE	QUALIFICATION LEVEL (NRT)
	AETC	1 Oct 04					
T-1A	INIT INSTR/QUAL	26 Oct 04	1 (99 FTS)				
T-1A	INIT INSTR/MSN	15 Dec 04	1 (99 FTS)				
	Assigned 14 FTW	5 Jan 05	(48 FTS)				
T-1A	INSTR/QUAL	25 Oct 05	1 (48 FTS)				
	Annual Review	5 Jan 06	(48 FTS)				
T-1A	MSN	27 Feb 06	1 (48 FTS)				
	Annual Review	30 Jan 07	(48 FTS)				
T-1A	INSTR/QUAL	21 Feb 07	1 (48 FTS)				
T-1A	MSN	11 Jul 07	1 (48 FTS)				

AF FORM 942, 20030501

PREVIOUS EDITIONS ARE OBSOLETE

SEMS Plus Computer Generated



RECORD OF EVALUATION							
NAME (Last, First Middle Initial)				SSAN			
MLM							
ACFT/CREW POSITION	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL	ACFT/CREW POSITION	TYPE OF EVALUATION	DATE COMPLETED	QUALIFICATION LEVEL
	AMC				PACAF		
C-141B	INIT QUAL	06 Dec 96	1		ANNUAL REVIEW	25 May 99	
C-141B	NIN	23 Mar 97	1	HC-130N	QUAL/MSN	13 Oct 99	1
	AETC			HC-130N	NIN SPOT	23 Jan 00	1
C-130E	INIT QUAL	23 Feb 98	1		ANNUAL REVIEW	25 May 00	
C-130E	INIT MSN	06 Apr 98	1	HC-130N/E	QUAL/MSN	01 Mar 07	1
HC-130P	INIT MSN	27 Jul 98	1		ANNUAL REVIEW	14 Aug 07	
	PACAF						
	ANNUAL REVIEW	10 Feb 99					
HC-130N	QUAL/MSN	23 Nov 99	2				
HC-130N	NIN MSN	15 Dec 99	1				
	ANNUAL REVIEW	26 Jan 00					
HC-130N	QUAL/MSN	11 Apr 01	1				
	ANNUAL REVIEW	04 Jan 01					
HC-130N	QUAL/MSN	04 Jun 02	1				
	ANNUAL REVIEW	08 Jan 02					
	ANNUAL REVIEW	10 Jan 03					
HC-130N	QUAL/MSN	22 May 03	1				
	ANNUAL REVIEW	19 Mar 04					
HC-130N	QUAL/MSN	10 Aug 04	1				
HC-130N	SPOT	20 Oct 04	1				
	AETC						
HC-130P	INIT INSTR	09 Mar 05	1				

AF Form 942, 20061208

PREVIOUS EDITIONS ARE OBSOLETE

**INTENTIONALLY**

**LEFT**

**BLANK**

**G3. MAINTENANCE TRAINING RECORDS**

Training records for maintenance personnel involved in inspection, servicing, and launch of the mishap aircraft were reviewed and found to be unremarkable. All personnel were current and qualified on tasks performed. Special Certification Roster (SCR) is attached below.





MARR7004: PAGE 2		SERIAL CERTIFICATION/INSPECTION PERSONNEL				ROSTER FOR FYSP *****		27/JUL/10 110210								
NAME	EMP #	RNE/SRI	PARSC	DAPSC	CAPSC	CRN	CODE	TITLE	T	D	Y	P	STAT	C/W	RUE	SCHD
			2A676	2A656	2A656	C130	000608	APU RUN CERTIFIED C130I	C	QUAL	SEP09					
			2A590	2A590	2A590	C130	000703	REQ X AND/OR IPI LIMITED	C	QUAL	APR09					
			2A571	2A571	2A571	C130	000705	ENG INLET/EXHAUST INSPECTION CAN	C	QUAL	OCT09					
			2A571	2A571	2A571				C	QUAL	OCT09					
			2A671	2A571	2A671				C	QUAL	JUL09					
			2A551	2A551	2A551				C	QUAL						
			2A573B	2A551B	2A553H	C130	000706	CLEAR REQ X (PRIMARY AFSC)	I	QUAL	FEB09					
			2A571	2A571	2A571				I	QUAL	SEP07					
			2A590	2A590	2A590				I	QUAL	OCT09					
			2A590	2A590	2A590				I	QUAL	AUG09					
			2A590	2A590	2A590				I	QUAL	MAR07					
			2A676	2A656	2A656				I	QUAL	SEP09					
			2A573C	2A573C	2A573C				I	QUAL	MAR07					
			2A671	2A671	2A671				I	QUAL	FEB07					
			2A571	2A571	2A571				I	QUAL	JAN09					
			2A573H	2A553H	2A553B	C130	000715	PERFORM IPI (PRIMARY AFSC)	T	QUAL	FEB09					
			2A571	2A571	2A571				I	QUAL	SEP07					
			2A571	2A551	2A551				I	QUAL	OCT09					
			2A590	2A590	2A590				I	QUAL	AUG09					
			2A590	2A590	2A590				I	QUAL	MAR07					
			2A676	2A656	2A656				I	QUAL	SEP09					
			2A573C	2A573C	2A573C				I	QUAL	FEB09					
			2A671	2A671	2A671				I	QUAL	MAR07					
			2A571	2A571	2A571				I	QUAL	JAN09					
			2A571	2A571	2A571	C130	000907	ENGINE RUN CERTIFIED	C	AWACT	AUG09	AUG10				
			2A671	2A671	2A671				C	QUAL	OCT09	OCT10				
			2A671	2A671	2A671				C	QUAL	MAR10	MAR11				
			2A571	2A571	2A571				C	QUAL	MAR10	MAR11				
			2A573C	2A573C	2A573C				C	QUAL						
			2A573B	2A573B	2A573B				C	QUAL	APR10	APR11				
			2A571	2A571	2A571				C	QUAL	NOV09	NOV10				
			2A571	2A571	2A571				C	QUAL	MAR10	MAR11				
			2A551	2A551	2A551				C	QUAL	MAR10	MAR11				
			2A676	2A676	2A676				C	QUAL	NOV09	NOV10				
			2A551	2A551	2A551				C	QUAL	FEB10	FEB11				
			2A671	2A671	2A671				C	QUAL	MAR10	MAR11				
			2A571	2A571	2A571				C	QUAL	FEB10	FEB11				
			2A571	2A571	2A571				C	QUAL	MAR10	MAR11				
			2A676	2A676	2A676				C	QUAL	APR10	APR11				
			2A571	2A571	2A571				C	QUAL	NOV09	NOV10				
			2A671	2A671	2A671				C	AWACT	SEP09	SEP10				
			2A573B	2A573B	2A573B				C	AWACT	AUG09	APR10				
			2A671A	2A671	2A671				C	QUAL	JUN10	JUL10				
			2A571	2A571	2A571				C	QUAL	JUN10	JUN11				
			2A671	2A671	2A671				C	QUAL	JUN10	JUN11				
			2A571	2A571	2A571				C	QUAL	HON09	HON10				





MARR7094: PAGE 5		SPECIAL IDENTIFICATION/INSPECTION PERSONNEL				ROSTER FOR FRRR		27/JUN/10 11531				
NAME	EMP #	BACKORD	PAFSC	PAFEC	CAFSC YRS	CODE	TITLE	TOT D Y	STAT	TRG C/A	TRG DUE	SCHSH
						C17	000056 NLS INFERRAL JACKING TEAM MEMBER		C	QUAL	MAR10 MAR10	
									C	QUAL	NOV09 NOV10	
									C	AWACT	JUL09 JUL10	
									C	QUAL	OCT09 OCT10	
									C	QUAL	JUL10 JUL11	
									C	QUAL	DEC09 DEC10	
									C	UNCAL		
									C	QUAL	MAR10 MAR11	
									C	QUAL	MAR10 MAR11	
									C	QUAL	JUL10 JUL11	
									C	QUAL	JUL10 JUL11	
									C	QUAL	MAR10 MAR11	
									C	QUAL	NOV09 NOV10	
									C	QUAL	OCT09 OCT10	
									C	QUAL	FEB10 FEB11	
						C17	000057 JANK TEAM SUPERVISOR		C	QUAL	AUG07	
									C	QUAL	OCT09	
									C	QUAL	SEP08	
									C	QUAL	AUG07	
									C	QUAL	MAY10	
									C	QUAL	NOV09	
									C	QUAL	JUL07	
									C	QUAL	MAR07	
									C	QUAL	OCT09	
									C	QUAL	MAY10	
									C	QUAL	SEP08	
						C17	000058 NLS INFERRAL JACKING SUPERVISOR		C	AWACT	SEP09 SEP10	
									C	AWACT	APR09 APR10	
									C	QUAL	OCT09 OCT10	
									C	UNCAL		
									C	QUAL	MAR10 MAR11	
									C	QUAL	OCT09 OCT10	
									C	AWACT	NOV09 SEP10	
									C	QUAL	OCT09 OCT10	
									C	OVDDZ	APR09 APR10	
									C	QUAL	FEB10 FEB11	
									C	UNCAL		
									C	QUAL	MAY10 MAY11	
									C	QUAL	JAN10 JAN11	
									C	QUAL	NOV09 NOV10	
									C	QUAL	DEC09 DEC10	
									C	QUAL	DEC09 DEC10	
									C	QUAL	JAN10 JAN11	
									C	QUAL	NOV09 NOV10	
									C	AWACT	SEP09 SEP10	
									C	QUAL	MAR10 MAR11	
									C	AWACT	JUL09 JUL10	
									C	QUAL	OCT09 OCT10	
									C	QUAL	MAR10 MAR11	
									C	QUAL	APR10 APR11	
									C	QUAL	JUL10 JUL11	
									C	QUAL	JUL10 JUL11	
									C	QUAL	OCT09 OCT10	
									C	QUAL	MAY10 MAY11	
									C	QUAL	OCT09 OCT10	



NAVR0994 PAGE 7		SPECIAL CERTIFICATION/INSPECTION PERSONNEL				ROSTER FOR FY99		27/JUL/10 (1521)				
NAME	EMP #	RNG/GRD	DAPSK	DAPSC	CAUSICONS	CODE/TITLE	T	T	T			
							D	M	M	SCHD		
							Y	P	STAT	Q/W	DATE	SCHD
AIC	2A511	2A521	2A531	2A541	017	000070 OPERATE APU	C	QUAL	OCT09	OCT10		
AIC	2A531	2A531	2A531	2A531			C	QUAL	NOV09	NOV10		
SSG	2A551	2A551	2A551	2A551			C	AWACT	MAR09	APR10		
SSG	2A571	02A571	2A571	2A571			C	AWACT	SEP09	SEP10		
TSG	2A571	2A571	2A571	2A571			C	QUAL	FEB10	FEB11		
MSG	2A571	02A571	2A571	2A571			C	QUAL	OCT09	OCT10		
SSG	2A571	2A571	2A571	2A571			C	AWACT	SEP09	SEP10		
SSM	2A671	2A671	2A671	2A671			C	QUAL	MAR10	MAR11		
TSG	2A671	2A671	2A671	2A671			C	QUAL	MAR10	MAR11		
MKA	2A656	2A656	2A656	2A656			C	AWACT	JUL09	JUN10		
AIC	2A650	2A650	2A650	2A650			C	QUAL	JUN10	JUN11		
SSG	2A676	2A676	2A676	2A676			C	AWACT	APR09	APR10		
AIC	2A531	2A531	2A531	2A531			C	QUAL	JUN10	JUN11		
TSG	2A571	2A571	2A571	2A571			C	AWACT	SEP09	SEP10		
MKA	2A551	2A551	2A551	2A551			C	QUAL	NOV09	NOV10		
SSM	2A571	02A571	2A571	2A571			C	QUAL	OCT09	OCT10		
AIC	2A551	2A551	2A551	2A551			C	QUAL	JUN10	JUN11		
SRA	2A551	2A551	2A551	2A551			C	QUAL	JAN10	JAN11		
SSG	2A553B	2A553B	2A553	2A553			C	UNQUAL				
SRA	2A610	2A610	2A610	2A610			C	UNQUAL				
TSG	2A671	2A671	2A671	2A671			C	AWACT	SEP09	SEP10		
SSG	2A551	2A551	2A551	2A551			C	AWACT	SEP09	SEP10		
SSG	2A573A	2A573A	2A573A	2A573A			C	QUAL	MAR10	MAR11		
AIC	2A511B	2A511	2A511	2A511			C	UNQUAL				
SSG	2A573B	2A573B	2A573B	2A573B			C	QUAL	DEC09	DEC10		
SSG	2A573A	2A573A	2A573A	2A573A			C	QUAL	FEB10	FEB11		
MSG	2A671A	02A671	2A671	2A671			C	QUAL	JUL10	JUL11		
SSG	2A511	2A511	2A511	2A511			C	UNQUAL				
AIC	2A511	2A521	2A521	2A521			C	QUAL	OCT09	OCT10		
SSG	2A571	2A571	2A571	2A571			C	QUAL	MAY10	MAY11		
MKA	2A571	2A571	2A571	2A571			C	QUAL	NOV09	NOV10		
MSG	2A671	2A671	2A671	2A671			C	QUAL	JUN10	JUN11		
SSG	2A631	2A631	2A631	2A631			C	UNQUAL				
SRA	2A651	2A651	2A651	2A651			C	UNQUAL				
TSG	2A571	2A571	2A571	2A571			C	AWACT	JUN09	JUL10		
SRA	2A676	2A656	2A656	2A656			C	UNQUAL				
SSG	2A571	02A571	2A571	2A571			C	AWACT	SEP09	SEP10		
AIC	2A531	2A531	2A531	2A531			C	QUAL	JUN10	JUN11		
AIC	2A511	2A521	2A521	2A521			C	QUAL	OCT09	OCT10		
TSG	2A573	2A573	2A573A	2A573A			C	QUAL	MAR10	MAR11		
AIC	2A511D	2A511	2A511D	2A511D			C	QUAL	DEC09	DEC10		
AIC	2A531	2A531	2A531	2A531			C	QUAL	OCT09	OCT10		
MSG	2A571	2A571	2A571	2A571			C	QUAL	OCT09	OCT10		
TSG	2A571	2A591	2A571	2A571			C	QUAL	JUN10	JUN11		
SSG	2A651	2A651	2A651	2A651			C	QUAL	MAR10	MAR11		
SRA	2A551	02A551	2A551	2A551			C	AWACT	SEP09	SEP10		
SRA	2A551	2A551	2A551	2A551			C	QUAL	JUL10	JUL11		
SSG	2A675	2A675	2A675	2A675			C	QUAL	JUN10	JUN11		
MSG	2A551	2A551	2A551	2A551			C	QUAL	MAY10	MAY11		
SSG	2A675	2A675	2A675	2A675			C	QUAL	JUN10	JUN11		
SSG	2A571	02A571	2A571	2A571			C	AWACT	JUL09	JUL10		
MKA	2A571	2A571	2A571	2A571			C	QUAL	FEB10	FEB11		
TSG	2A676	2A676	2A676	2A676			C	QUAL	OCT09	OCT10		
SSG	2A551	2A551	2A551	2A551			C	UNQUAL				
SRA	2A651	2A651	2A651	2A651			C	QUAL	APR10	APR11		
SRA	2A551	2A551	2A551	017	000071 OPERATE APU (ENG RUN QUALIFIED)		C	QUAL	MAR10			
SSG	2A571	2A571	2A571	017	000075 CHIEF SERVICING SUPERVISOR		C	QUAL	APR07			



NAME		EMP #	ENK/CRD	PARSC	PARSC	PARSC ORG	CODE	TITLE	T-T	ENG	INSC	Y-P	STAT	CAW	DOB	SCHRD
SRA		2A553C	2A553C	2A553C	C17	000200	C	FF WOOD	C QUAL	JUN10	DEC10					
SSG		2A553C	2A553C	2A553C					C QUAL	JUN10	DEC10					
AYU		2A553	2A553						C AWACT	FEB10	AUG10					
SSG		2A671	2A671	2A671	C17	000408	C17	INITI/RECUR HNS BORESCOPE	C QUAL	MAY10	MAY11					
SSG		2A671A	2A671	2A671					C QUAL	MAY10	MAY11					
MSG		2A671	2A671	2A671					C AWACT	SEP09	FEB10					
SSG		2A551	2A551	2A551					C QUAL	MAR10	MAR11					
SSG		2A671	2A671	2A671					C QUAL	MAY10	MAY11					
SSG		2A671A	2A671	2A671	C17	000429	BHNSCODE	TRAINER/CERTIFIER	C QUAL	DEC09						
MSG		2A671	2A671	2A671					C QUAL	JUN10						
SSG		2A671	2A671	2A671	C17	000610	INIT/RECUR	END BLADE BONDING	C QUAL	DEC09	DEC10					
TSG		2A651	2A651	2A651					C QUAL	NOV09	NOV10					
SRA		2A651	2A651	2A651					C QUAL	DEC09	DEC10					
SSG		2A671	2A671	2A671					C QUAL	MAY10	MAY11					
SSG		2A671	2A671	2A651					C QUAL	NOV09	NOV10					
TSG		2A671	2A671	2A671					C QUAL	JUL10	JUL11					
SSG		2A671	2A671	2A671					C QUAL	NOV09	NOV10					
TSG		2A671	2A671	2A671					C QUAL	DEC09	DEC10					
SSG		2A671A	2A671	2A671					C QUAL	MAY10	MAY11					
MSG		2A671	2A671	2A671					C AWACT	JUL09	JUL10					
TSG		2A571	2A571	2A571					C AWACT	JUL09	JUL10					
SSG		2A651	2A651	2A651					C QUAL	DEC09	DEC10					
SSG		2A671	2A671	2A671					C QUAL	MAY10	MAY11					
SRA		2A651	2A651	2A651					C QUAL	JAN10	JAN11					
SSG		2A671A	2A671	2A671	C17	000632	BLADE BLENDING	CERTIFIER	C QUAL	MAY10	MAY11					
MSG		2A671	2A671	2A671					C AWACT	MAR09	AUG10					
MSG		2A571	2A571	2A571	C17	000703	REQ X AMP/DC	IRI LIMITED	C QUAL	APR07						
TSG		2A651	2A651	2A651	C17	000704	LIMITED	REQ X ACFT HNS L'S AND S	C QUAL	JAN10						
TSG		2A573C	2A573C	2A573C					C QUAL	OCT08						
SRA		2A651	2A651	2A651					C QUAL	APR10						
SSG		2A473C	2A573C	2A573C					C QUAL	JUN10						
SSG		2A573B	2A573B	2A573B					C QUAL	SEP07						
SRA		2A551	2A551	2A551					C QUAL	FEB10						
SSG		2A551	2A551	2A551					C QUAL	MAY09						
TSG		2A571	2A571	2A571					C QUAL	MAY09						
MSG		2A676	2A676	2A676					C QUAL	APR09						
TSG		2A675	2A675	2A675					C QUAL	APR07						
SSG		2A671	2A671	2A651					C QUAL	JAN10						
SSG		2A671	2A671	2A671					C QUAL	APR09						
SSG		2A673A	2A673A	2A573A					C QUAL	APR08						
SSG		2A676	2A676	2A676					C QUAL	MAY08						
MSG		2A676	2A676	2A676					C QUAL	FEB09						
SSG		2A571A	2A573A	2A573A					C QUAL	JUN10						
SSG		2A573B	2A573B	2A573B					C QUAL	FEB09						
SSG		2A651	2A651	2A651					C QUAL	MAY10						
SSG		2A675	2A675	2A675					C QUAL	JUN10						

NAME	EMP #	ENR/GRD	SPECIAL CERTIFICATION/INSPECTION PERSONNEL			ROSTER FOR JWER	DATE/10 (1971)	TGT DAY	ENG STAT	ENG DUE	SCHED
			DAFSC	DAFSC	CAEN/CRS						
			2A675	2A675	2A675	017	000704	LIMITRY RED PLACFT ENG 1'S AND E	C	QUAL	MAY18
		ESC	2A651	2A671	2A651	017	000705	ENG INLET/EXHAUST INSPECTION (AM	C	QUAL	JAN18
		ESC	2A671	2A571	2A571				C	QUAL	JUL18
		ESC	2A571	2A571	2A571				C	QUAL	MAY18
		ESC	2A571	2A571	2A571				C	QUAL	JUL18
		ESC	2A571	2A571	2A571				C	QUAL	FEB05
		ESC	2A571	2A571	2A571				C	QUAL	MAY09
		ESC	2A571	2A571	2A571				C	QUAL	MAY09
		ESC	2A671	2A671	2A671				C	QUAL	JAN18
		ESC	2A671	2A671	2A671				C	QUAL	APR05
		ESC	2A571	2A571	2A571				C	QUAL	SEP07
		ESC	2A571	2A571	2A571				C	QUAL	JUN18
		ESC	2A573A	2A573A	2A573A				C	QUAL	MAY09
		ESC	2A671	2A671	2A671				C	QUAL	APR05
		ESC	2A573	2A573	2A573A				C	QUAL	JUL05
		ESC	2A571	2A571	2A571				C	QUAL	SEP09
		ESC	2A571	2A571	2A571				C	QUAL	NOV09
		ESC	2A676	2A676	2A676				C	QUAL	NOV09
WITNESS 2		ESC	2A671	2A671	2A671	017	000707	CLEAR RED X (ALT. SYSTEMS)	I	QUAL	JUN18
		ESC	2A570	2A570	2A570				I	QUAL	DEC09
		ESC	2A670	2A676	2A676				I	QUAL	DEC09
		ESC	2A571	2A571	2A571				I	QUAL	SEP09
		ESC	2A571	2A571	2A571				I	QUAL	JAN09
		ESC	2A571	2A571	2A571				I	QUAL	JAN09
		ESC	2A571	2A571	2A571				I	QUAL	MAR18
		ESC	2A571	2A571	2A571				I	QUAL	SEP07
		ESC	2A571	2A571	2A571				I	QUAL	JUN08
		ESC	2A571	2A571	2A571				I	QUAL	JUN09
		ESC	2A571	2A571	2A571				I	QUAL	JAN09
		ESC	2A676	2A676	2A676	017	000708	CLEAR RED X (PRIMARY AFSM)	I	QUAL	JUL08
		ESC	2A571	2A571	2A571				I	QUAL	JUN07
		ESC	2A571	2A571	2A571				I	QUAL	JUN07
		ESC	2A571	2A571	2A571				I	QUAL	DEC09
		ESC	2A671	2A671	2A671				I	QUAL	MAY18
		ESC	2A671	2A671	2A671				I	QUAL	MAY18
		ESC	2A671	2A671	2A671				I	QUAL	APR08
		ESC	2A571	2A571	2A571				I	QUAL	NOV09
		ESC	2A671	2A671	2A671				I	QUAL	APR07
		ESC	2A573C	2A573C	2A573C				I	QUAL	DEC09
		ESC	2A571	2A571	2A571				I	QUAL	OCT08
		ESC	2A571	2A571	2A571				I	QUAL	JUN18
		ESC	2A571	2A571	2A571				I	QUAL	JUL18
		ESC	2A571	2A571	2A571				I	QUAL	MAY18
		ESC	2A571	2A571	2A571				I	QUAL	MAY18
		ESC	2A571	2A571	2A571				I	QUAL	APR18
		ESC	2A571	2A571	2A571				I	QUAL	MAY18
		ESC	2A676	2A676	2A676				I	QUAL	DEC09
		ESC	2A571	2A571	2A571				I	QUAL	JUN04
		ESC	2A571	2A571	2A571				I	QUAL	SEP09
		ESC	2A571	2A571	2A571				I	QUAL	SEP07
		ESC	2A571	2A571	2A571				I	QUAL	OCT09
		ESC	2A0718	2A0718	2A0718				I	QUAL	NOV09
		ESC	2A571	2A571	2A571				I	QUAL	MAR05
		ESC	2A571	2A571	2A571				I	QUAL	JUL09

NAHR7094: PAGE 11		SPECIAL CERTIFICATION/INSPECTION PERSONNEL				ROSTER FOR FY08		29/01/10 (15R1)					
		*****				*****							
NAME	EMP #	RNK/ING	PAPSO	DAFSC	CAFSC	ORG	CODE	TITLE	C	T	ING	ING	SCHBD
									D	F	DATE	DATE	
									X	P	C/W	DUE	
		SSG	2A671	2A671	2A571	C17	000708	CLEAR PEX X (PRIMARY AFSO)	1	QUAL	MAY09		
		SRA	2A0710	2A0710	2A0710				1	QUAL	NOV09		
		MSG	2A676	2A676	2A676				1	QUAL	OCT09		
		SSG	2A571A	2A571A	2A571A				1	QUAL	APR09		
		MSG	2A571B	2A571B	2A571B				1	QUAL	OCT09		
		MSG	2A675	2A675	2A675				1	QUAL	DEC09		
		SRA	2A551	02A551	2A551				1	QUAL	JAN10		
		SSG	2A571B	2A571B	2A571B				1	QUAL	NOV09		
		TSG	2A571	2A571	2A571				1	QUAL	MAY10		
		MSG	2A671	2A671	2A671				1	QUAL	OCT09		
		MSG	2A0710	2A0710	2A0710				1	QUAL	APR10		
		SSG	2A671	02A671	2A571				1	QUAL	NOV09		
		MSG	2A571	2A071	2A571				1	QUAL	OCT09		
		SSG	2A571	02A571	2A571				1	QUAL	DEC09		
		SSG	2A671	2A671	2A671				1	QUAL	JUN10		
		SSG	2A671	2A671	2A671				1	QUAL	DEC09		
		SSG	2A671	2A671	2A671				1	QUAL	OCT09		
		SSG	2A571A	2A571A	2A571A				1	QUAL	MAR08		
		SSG	2A676	2A676	2A676				1	QUAL	NOV07		
		MSG	2A675	2A676	2A676				1	QUAL	FEB09		
		TSG	2A671	2A571	2A571				1	QUAL	AUG07		
		SSG	2A571	02A571	2A571				1	QUAL	FEB10		
		MSG	2A671	2A571	2A571				1	QUAL	JAN07		
		TSG	2A671	2A671	2A671				1	QUAL	FEB07		
		SSG	2A571A	2A571A	2A571A				1	QUAL	JAN10		
		SSG	2A571B	2A571B	2A571B				1	QUAL	JAN10		
		SSG	2A571A	2A571A	2A571A				1	QUAL	JAN10		
		SSG	2A671A	02A671	2A671				1	QUAL	FEB10		
		MSG	2A671	2A571	2A571				1	QUAL	MAR10		
		SSG	2A571	2A571	2A571				1	QUAL	MAR10		
		MSG	2A571	2A571	2A571				1	QUAL	MAR08		
		MSG	2A671	2A671	2A671				1	QUAL	APR09		
		TSG	2A571	2A571	2A571				1	QUAL	APR10		
		TSG	2A071	2A571	2A571				1	QUAL	MAY10		
		SSG	2A571	02A571	2A571				1	QUAL	OCT09		
		TSG	2A571	2A571	2A571				1	QUAL	MAR08		
		TSG	2A675	2A675	2A675				1	QUAL	JAN10		
		TSG	2A571	2A571	2A571				1	QUAL	SEP09		
		SSG	2A671	2A571	2A571				1	QUAL	JUN10		
		MSG	2A571	2A571	2A571				1	QUAL	AUG07		
		TSG	2A571	2A571	2A571				1	QUAL	JUN07		
		SRA	2A051	02A051	2A051				1	QUAL	APR10		
		SSG	2A675	2A675	2A675				1	QUAL	JUN10		
		SSG	2A571	2A571	2A571				1	QUAL	OCT09		
		SSG	2A675	2A675	2A675				1	QUAL	MAY10		
		SSG	2A671	02A671	2A671				1	QUAL	MAY08		
		MSG	2A571	2A571	2A571				1	QUAL	OCT09		
		TSG	2A676	2A676	2A676				1	QUAL	OCT09		
		MSG	2A0710	2A0710	2A0710				1	QUAL	NOV09		
		MSG	2A671	2A671	2A671				1	QUAL	JUN10		
		MSG	2A590	2A590	2A590				1	QUAL	NOV09		
		MSG	2A676	2A676	2A676				1	QUAL	DEC09		
		MSG	2A571	2A571	2A571				1	QUAL	SEP09		
		CPT	021A3	021A3	021A3				1	QUAL	JAN09		
		CMB	2A100	2A100	2A100				1	QUAL	JAN09		
		SMS	2A590	2A590	2A590				1	QUAL	MAR10		
		MSG	2A571	2A571	2A571				1	QUAL	SEP09		

WITNESS 2  
WITNESS 9

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SPECIAL CERTIFICATION/INSTRUCTION  
PERSONNEL

ROSTER FOR EXER

27/JUL/10 (152)

NAME	TIME #	ENR/ENCL	DAFSC	DAFSC	CAFSU-IMS	CODE/TITLE	T Y D Y Y P	STAT	INS DZN	INS DUE	SCHRD
		MSG	2A571	2A571	2A571	C17 000714 PERFORM IPI (ALL SYSTEMS)	1	QUAL	JUN08		
		MSG	2A571	2A571	2A571		1	QUAL	JUN09		
		MSG	2A571	2A571	2A571		1	QUAL	JAN08		
		TSG	2A676	2A676	2A676	C17 000715 PERFORM IPI (PRIMARY AFSC)	1	QUAL	JUL10		
		SSG	2A571	2A571	2A571		1	QUAL	JUN07		
		TSG	2A571	2A571	2A571		1	QUAL	MAY07		
		SSG	2A571	2A571	2A571		1	UNQUAL			
		MSG	2A571	2A571	2A571		1	QUAL	DEC09		
		TSG	2A671	2A671	2A671		1	QUAL	MAY10		
		MSG	2A671	2A671	2A671		1	QUAL	MAY10		
		SSG	2A571	2A571	2A571		1	QUAL	AUG06		
		SSG	2A571	2A571	2A571		1	QUAL	DEC09		
		SSG	2A571	2A571	2A571		1	QUAL	OCT09		
		SSG	2A571	2A571	2A571		1	QUAL	JUN10		
		SSG	2A571	2A571	2A571		1	QUAL	JUN10		
		TSG	2A571	2A571	2A571		1	QUAL	MAY10		
		SSG	2A571	2A571	2A571		1	UNQUAL			
		SSG	2A571	2A571	2A571		1	QUAL	MAR10		
		MSG	2A676	2A676	2A676		1	QUAL	DEC09		
		SSG	2A571	2A571	2A571		1	QUAL	JUN08		
		MSG	2A571	2A571	2A571		1	QUAL	JUN08		
		MSG	2A571	2A571	2A571		1	QUAL	SEP09		
		MSG	2A571	2A571	2A571		1	QUAL	SEP02		
		TSG	2A571	2A571	2A571		1	QUAL	OCT09		
		TSG	2A571	2A571	2A571		1	QUAL	MAR09		
		SSG	2A571	2A571	2A571		1	QUAL	DEC09		
		SSG	2A571	2A571	2A571		1	QUAL	MAY09		
		SSG	2A571	2A571	2A571		1	QUAL	DEC08		
		SSG	2A571	2A571	2A571		1	QUAL	APR08		
		SSG	2A571	2A571	2A571		1	QUAL	OCT09		
		SSG	2A676	2A676	2A676		1	QUAL	DEC08		
		SSG	2A676	2A676	2A676		1	QUAL	DEC08		
		SSG	2A676	2A676	2A676		1	QUAL	APR09		
		TSG	2A676	2A676	2A676		1	QUAL	JAN10		
		SSG	2A571	2A571	2A571		1	QUAL	NOV08		
		SSG	2A571	2A571	2A571		1	QUAL	MAY10		
		TSG	2A571	2A571	2A571		1	QUAL	OCT09		
		SSG	2A671	2A671	2A671		1	QUAL	NOV09		
		SSG	2A571	2A571	2A571		1	QUAL	OCT09		
		TSG	2A571	2A571	2A571		1	QUAL	SEP09		
		SSG	2A571	2A571	2A571		1	QUAL	JUN10		
		SSG	2A571	2A571	2A571		1	QUAL	DEC09		
		SSG	2A671	2A671	2A671		1	QUAL	OCT09		
		TSG	2A671	2A671	2A671		1	QUAL	MAR08		
		SSG	2A571	2A571	2A571		1	QUAL	NOV09		
		SSG	2A676	2A676	2A676		1	QUAL	DEC09		
		TSG	2A571	2A571	2A571		1	QUAL	JUL09		
		SSG	2A571	2A571	2A571		1	QUAL	DEC10		
		SSG	2A571	2A571	2A571		1	QUAL	JAN08		
		TSG	2A671	2A671	2A671		1	QUAL	APR09		
		SSG	2A671	2A671	2A671		1	QUAL	JAN10		
		SSG	2A671	2A671	2A671		1	QUAL	JUN10		
		SSG	2A571	2A571	2A571		1	QUAL	FEB10		
		SSG	2A671	2A671	2A671		1	QUAL	NOV08		
		SSG	2A571	2A571	2A571		1	QUAL	MAR10		
		SSG	2A571	2A571	2A571		1	QUAL	MAR10		
		MSG	2A571	2A571	2A571		1	QUAL	JUN02		
		MSG	2A671	2A671	2A671		1	QUAL	APR09		
		TSG	2A571	2A571	2A571		1	QUAL	APR10		
		TSG	2A571	2A571	2A571		1	QUAL	JUN03		

WITNESS 2

WITNESS 9

MADR2004: PAGE 13		SPECIAL CERTIFICATION/INSPECTION PERSONNEL				ROSTER FOR FMSR		27 JUL 10 (1002)	
		*****				*****		TEST	DATE
NAME	EMP #	RNK/GRD	AFSC	DAFSC	CAREER GRD	CODE/TITLE	D.Y.	STAT	USE
									BEHE
		SSG	2A571	2A571	2A571	017 000710 PERFORM IIS (PRIMARY APO)	I	QUAL	OCT09
		TSO	2A571	2A571	2A571		I	QUAL	MAR10
		ISG	2A675	2A675	2A675		I	QUAL	JUN10
		TSO	2A571	2A573	2A553A		I	QUAL	JUN10
		SSG	2A571	2A572	2A571		I	QUAL	AUG09
		MSG	2A571	2A571	2A571		I	QUAL	JUN07
		SRM	2A571	2A571	2A571		I	QUAL	APR10
		SSG	2A675	2A675	2A675		I	QUAL	JUL10
		SSG	2A551	2A551	2A551		I	QUAL	OCT09
		SSG	2A675	2A675	2A675		I	QUAL	MAY10
		SSG	2A671	2A671	2A671		I	QUAL	MAY10
		MSG	2A571	2A571	2A571		I	QUAL	OCT09
		TSO	2A675	2A676	2A676		I	QUAL	OCT09
		TSO	2A571B	2A573B	2A553B	017 000710 CLEAR BEDX (CUT AFSC: APO)	I	QUAL	MAY09
		ISG	2A675	2A675	2A675		I	QUAL	MAY09
		SSG	2A571A	2A573A	2A553A		I	QUAL	JUL10
		SSG	2A671A	2A671	2A671		I	QUAL	DEC09
		TSO	2A571	2A573	2A553A		I	QUAL	JUL10
		SRM	2A675	2A675	2A675		I	QUAL	JUN10
		SSG	2A671	2A671	2A671		I	QUAL	MAY09
		TSO	2A675	2A676	2A676		I	QUAL	JUL10
		TSO	2A571B	2A573B	2A553B	017 000736 PERFORM TP (CUT AFSC: APO)	I	QUAL	MAY09
		ISG	2A675	2A675	2A675		I	QUAL	MAY09
		SSG	2A571A	2A573A	2A553A		I	QUAL	JUL10
		SSG	2A671A	2A671	2A671		I	QUAL	DEC09
		TSO	2A571	2A573	2A553A		I	QUAL	JUL10
		SSG	2A675	2A675	2A675		I	QUAL	JUN10
		SSG	2A671	2A671	2A671		I	QUAL	MAY09
		TSO	2A675	2A676	2A676		I	QUAL	JUL10
		TSO	2A676	2A676	2A676	5000-000004 BANGAR DOOR OPERATION (SEE 20)	C	QUAL	JUN10
		SSG	2A551	2A551	2A551		C	QUAL	JUN10
		SSG	2A571	2A571	2A571		C	QUAL	MAR10
		TSO	2A571	2A572	2A571		C	QUAL	JUN10
		SSG	2A513	2A513A	2A513A		C	QUAL	JUN10
		TSO	2A551	2A551	2A551		C	QUAL	JUN10
		MSG	2A571	2A571	2A571		C	QUAL	MAR10
		SSG	2A511B	2A553B	2A553B		C	QUAL	JUN10
		SSG	2A571	2A571	2A571		C	QUAL	JUN10
		SSG	2A511B	2A553B	2A553B		C	QUAL	JUN10
		SSG	2A571	2A571	2A571		C	QUAL	JUN10
		MSG	2A575	2A775	2A775		C	QUAL	JAN10
		TSO	2A573B	2A573B	2A573B		C	QUAL	JUN10
		TSO	2A571	2A571	2A571		C	QUAL	OCT09
		TSO	2A571	2A571	2A571		C	QUAL	JUN10
		ALC	2A533A	2A533A	2A533A		C	QUAL	FEB10
		SRM	2A655	2A655	2A655		C	QUAL	JUN10
		SSG	2A551	2A551	2A551		C	QUAL	JUN10
		SSG	2A571	2A571	2A571		C	QUAL	JUN10

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**G4. OTHER PERSONNEL EVALUATION AND TRAINING RECORDS**

There are no other significant personnel training records to include in this report.

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## TAB H

### EGRESS, IMPACT, AND CRASHWORTHINESS ANALYSIS

<b>H1. EGRESS ANALYSIS.....</b>	<b>3</b>
<b>H2. IMPACT ANALYSIS .....</b>	<b>4</b>
<b>H3. AIRFRAME CRASHWORTHINESS ANALYSIS .....</b>	<b>5</b>
<b>H4. LIFE SUPPORT ANALYSIS.....</b>	<b>6</b>

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**H1. EGRESS ANALYSIS**

There was no egress attempted on this mishap and no egress analysis conducted.

## **H2. IMPACT ANALYSIS**

At 02:23:16 zulu, on 28 July 2010, the MA impacted the ground 2nm northeast of runway 06 at Elmendorf AFB. Confirmed by high-definition video footage and the flight data recorder (FDR), the MA was in an approximate 60 degree right angle of bank, 17 degree nose low attitude when it impacted the ground. The engines were at maximum power. The airspeed at impact cannot be determined, however, the last recorded airspeed on the FDR was 175 KIAS. The center point of the mishap impacted north-south running railroad tracks with the right wing impacting the west side of the tracks and the left wing and the fuselage impacting the east side. Upon impact an explosion occurred with an ensuing fire that burnt for approximately 36 hours. The MA was completely destroyed and additional impact analysis was not conducted.

### **H3. AIRFRAME CRASHWORTHINESS ANALYSIS**

There was no airframe crashworthiness analysis conducted on this mishap.

#### **H4. LIFE SUPPORT ANALYSIS**

There was no life support analysis conducted on this mishap.

**TAB I**

**DEFICIENCY REPORTS**

**II. DEFICIENCY REPORTS..... 3**

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**II. DEFICIENCY REPORTS**

No deficiency reports were required for this mishap.

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**TAB J**

**RELEASABLE TECHNICAL REPORTS AND ENGINEERING EVALUATIONS**

<b>J1. BOEING TECHNICAL EXPERT ANALYSIS OF SFDR DATA.....</b>	<b>3</b>
<b>J2. SYSTEMS PROGRAM OFFICE ANALYSIS OF SFDR DATA .....</b>	<b>14</b>

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## **J1. BOEING TECHNICAL EXPERT ANALYSIS OF SFDR DATA**

Technical report – The Boeing Company

Mishap System: C-17A, Serial Number 00-0173

Mishap Date: 28 July 2010

Investigator: , C-17 Air Safety Investigator,

BDS Air Safety Investigator,

Introduction: Factual Report to support the safety investigation into the mishap of aircraft 00-0173 on 28 July 2010. The information in this report does not contain any Boeing proprietary information and may be used in the Part I of the Safety Investigation Board report.

**Background:** Boeing was asked by the Air Force Safety Center to provide engineering, technical, and supply support to the Safety Investigation Board (SIB) investigating this mishap. Boeing provided the following support:

**Air Safety Investigator:** Boeing sent two Air Safety Investigators (ASI) to support the board. One was the Boeing C-17 ASI from Long Beach, California. The other was an Air Safety Investigator from the Boeing Defense, Space, and Security ASI office in St Louis. They provided input to the board concerning numerous phases of the investigation as well as coordination of additional Boeing and subcontractor assistance.

**Engineering:** Two Boeing engineers out of the Boeing Elmendorf C-17 Field Services office assisted with technical questions and analysis of the crash site. Numerous Boeing engineers, primarily out of Long Beach responded to technical questions. Some of the analysis was supplied in concert with two government engineers who were sent by ASC/WLM to support the SIB.

**Supply Support:** Boeing Elmendorf C-17 Supply Support function shipped seven devices, found in the wreckage, to vendors for analysis.

**Weapon System Trainers:** The Boeing training office at Altus AFB, OK provided access to training records. The Boeing instructors at the Elmendorf simulator provided assistance to the board during their simulator activity as well as information about the mishap crew's previous simulator training for the airshow.

**Vendors:** Four different manufacturers are analyzing seven components removed from the wreckage to determine if they can provide additional data for the safety investigation.

**Aircraft Records:** Boeing sequestered aircraft records, production build and nonconformance records, depot records, Field Service Reports, aircraft histories, training records and any other records potentially relevant to the safety investigation. Archival engine data was captured but only available through 15 July 2010. There is usually a delay in filing the engine data at Oklahoma ALC.

**Observations:** The data from the flight on 9 July shows a consistent training pattern. Is there a way to verify that the same crew was flying that aircraft in the same crew positions?

The Air Force Instruction (AFI) for this maneuver should be reviewed. When flown as the AFI is written the aircraft should stay within flight parameters. Evaluate if there is adequate data available for crews to determine how close they are to aircraft stall during these airshow maneuvers.

Review documentation and training for low level threat avoidance maneuvers. Determine if aircrews are adequately trained to understand stall speeds in various configurations during these maneuvers.

There has not been a requirement in the past to delete or sequester aircrew training records. Currently the system cannot lock out specific crewmember records so that those authorized access to the system cannot access them. It maintains records when they are no longer needed because it cannot delete individual crewmember records from the database. The Aircrew Training Records System should be modified to provide this capability.

**Analysis: Analysis of SFDR data for practice on 9 July (Aircraft P-70)**

Background -

Aircrew on C-17A aircraft number 99-0170 flew seven flight profiles on 9 July 2010 that were identified on the flying schedule as airshow practice. The SFDR data for aircraft 99-0170 was reviewed for potential applicability to the C-17A mishap of 28 July.

The first minute of profile of each of these profiles was found to have a flight profile similar to that of the mishap flight. The profile segments within the first minute of flight, including the takeoff to level off, the left turn and the subsequent right turn of each of the seven practice profiles are summarized below.

Takeoff to Level Off –

Takeoff speeds averaged 128 KIAS leading to a maximum pitch angle between 30° to 37° nose up. The aircraft climbed to pressure altitudes between 824 to 1424 feet (568 to 1152 feet above field elevation). Key parameters associated with the takeoff and climb-out are shown in Table 1.

Flight #	1	2	3	4	5	6	7
<b>Field Pressure Altitude</b>	224 ft	256 ft	248 ft	232 ft	248 ft	256 ft	272 ft
<b>Takeoff Speed (KIAS)</b>	128 kts	118 kts	127 kts	130 kts	134 kts	122 kts	137 kts
<b>Level Off Altitude</b>	896 ft	824 ft	1024 ft	1080 ft	1160 ft	1112 ft	1424 ft
<b>Max Pitch</b>	32°	30°	33°	35°	32°	33°	37°
<b>Max AOA</b>	27°	28°	26°	23°	25°	26°	27°

**Table 1. Takeoff Parameters**

Table 1 shows the pressure altitude recorded before losing the Weight-On-Wheels indication (Field Pressure Altitude). The Takeoff Speed reflects the speed at the time the Weight-On-Wheels signal changes to “0” (false). The maximum values of pitch attitude and angle of attack between the loss of WOW and the point of achieving the level off altitude is provided.

Stall warnings were issued once during profiles 2 and 3 and lasted for only one second in each time.

Left Turn –

A left turn was executed just prior/during the level off from the climb. The maximum bank angle achieved during the left turn varied from 46 to 64°. The parameters associated with the left turn of each profile are shown in Table 2.

Flight #	1	2	3	4	5	6	7
<b>Pressure Altitude at L Roll</b>	720 ft	688 ft	920 ft	912 ft	992 ft	752 ft	1240 ft
<b>Airspeed at L Roll (KIAS)</b>	120 kts	116 kts	113 kts	114 kts	124 kts	118 kts	116 kts
<b>Max Bank Angle</b>	47°	49°	60°	64°	64°	62°	53°
<b>Max AOA</b>	25°	28°	27°	22°	25°	28°	26°

**Table 2. Left Turn Parameters**

Table 2 provides the altitude and airspeed at which the left turn is initiated. The maximum bank angle and angle of attack attained during the left turn are also documented.

During the first profile, the aircraft rolled wings level for approximately 10 seconds before banking into the right turn. In all of the other profiles, there was no stabilizing at wings level when transitioning from the left bank to the right turn.

The flap handle was raised during the rollout of the left turn during flights 1, 5 and 6. The flap handle was raised while established in the right bank in the other flights.

A stall warning was issued during the left turn on flights 2 and 6.

Right Turn –

The right turn was accomplished at maximum bank angles between 56 and 63° in a level to a slight descending attitude remaining above 700 feet pressure altitude. The parameters associated with the right turn of each flight are shown in Table 3.

Flight #	1	2	3	4	5	6	7
<b>Pressure Altitude at R Roll</b>	840 ft	736 ft	864 ft	840 ft	936 ft	1072 ft	1336 ft
<b>Airspeed at R Roll (KIAS)</b>	175 kts	135 kts	158 kts	176 kts	168 kts	158 kts	145 kts
<b>Max Bank Angle</b>	57°	56°	59°	59°	58°	63°	57°
<b>Max AOA</b>	22°	29°	15°	29°	29°	25°	28°

The flap handle was raised to 0°/slats extended during the right turn on profiles 2, 3, 4 and 7. The parameters associated with raising the flaps are shown in Table 4.

Flight #	1	2	3	4	5	6	7
<b>Airspeed (KIAS)</b>	163 kts	155 kts	195 kts	176 kts	155 kts	151 kts	160 kts
<b>Bank</b>	2° L	55°R	59°R	29°R	4°L	10°L	55°R

<b>Angle</b>							
<b>Pitch Angle</b>	6°	2°	6°	6°	2°	6°	-6°
<b>Angle Of Attack</b>	5°	21°	7°	5°	9°	8°	18°
<b>Pressure Altitude</b>	808 ft	864 ft	752 ft	840 ft	992 ft	1072 ft	1336 ft
<b>Stall Warning</b>	No	Yes - 4 seconds	Yes - 8 seconds	Yes - 7 seconds	Yes - 8 seconds	No	Yes - 3 seconds

**Table 4. Parameters at Flap/Slat Handle to 0°/Slats Extend**

Table 4 documents the airspeed, bank angle, pitch, angle of attack, and altitude at the time the flap/slat handle is moved from half-flaps to 0° flaps/slats extend position. Also noted is whether a stall warning was issued within 8 seconds (average time for flap retraction) of the flap/slat handle movement. If a stall warning was issued within 8 seconds, the number of seconds between flap/slat handle movement and the stall warning is noted.

In all cases, the flap/slat handle was raised to retract the slats up position during the right turn. The airspeed at the time of flap/slat handle movement to slats up was greater than 184 KIAS with bank angles greater than 46°. The parameters associated with the raising of the slats during each flight are shown in Table 5.

<b>Flight #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Airspeed (KIAS)</b>	184 kts	185 kts	207 kts	205 kts	216 kts	200 kts	200 kts
<b>Bank Angle</b>	48°R	50°R	58°R	59°R	54°R	59°R	52°R
<b>Pitch Angle</b>	2°	4°	6°	-2°	0°	1°	-1°
<b>Angle Of Attack</b>	16°	14°	8°	16°	10°	17°	10°
<b>Pressure Altitude</b>	840 ft	752 ft	712 ft	920 ft	872 ft	1024 ft	880 ft
<b>Stall Warning</b>	Yes – 2 seconds	Yes - 4 seconds	Yes - 5 seconds	Yes - 2 seconds	No	Yes - 4 seconds	Yes – 5 seconds

**Table 5. Parameters at Flap/Slat Handle to Slats Up**

Similar to Table 4, Table 5 documents the airspeed, bank angle, pitch, angle of attack, and altitude at the time the flap/slat handle is moved from 0° flaps/slats extend position to the slats retracted position. Also noted is whether a stall warning was issued within 8 seconds (average time for slat retraction) of the flap/slat handle movement. If a stall warning was issued within 8 seconds, the number of seconds between flap/slat handle movement and the stall warning is noted.

Stall warnings were issued during the right turn in every profile.

Stall Warnings –

Stall warnings were issued in each segment of these profiles (climb out, left turn and right turn). A majority of the stall warnings were issued during the right turn. Every flight experienced stall warnings during the right turn. In all but one case a stall warning was issued within 5 seconds of the flap/slat handle positioned to slats up (average slat retraction takes approximately 8 seconds). Stall warnings were also issued during the turn, after slat retraction. The data shows the total time that the stall warning was present

during these flights ranged between 5 and 18 seconds depending on the flight. A summary of when the stall warnings were issued and their duration is provided in Table 6.

<b>Flight #</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Climb Out</b>	0	1	0	0	0	0	0
<b>Left Bank</b>	0	1	0	0	0	1	0
<b>Right Bank</b>	6	2	3	2	3	1	6
<b>Flap Retract</b>	No	Yes	Yes	Yes	Yes	No	Yes
<b>Slat Retract</b>	Yes	Yes	Yes	Yes	No	Yes	Yes
<b>Total Seconds</b>	18 seconds	5 seconds	11 seconds	8 seconds	6 seconds	6 seconds	8 seconds

**Table 6. Stall Warning Summary**

Table 6 documents the number of times a stall warning was issued in each of the three flight profile segments. The stall warning is issued for at least one second but a single activation could last for numerous seconds. Stall warnings associated with flap retraction and slat retraction are repeated from Tables 4 and 5 for completeness. A summation of the stall warning times for each flight is provided in the Total Seconds row.

**Boeing Analysis of SFDR Data**

Analysis of the SFDR data from the mishap event:

- This report is in response to the SIB Question in paragraph 6 of the list dated 8 Aug 2010.
- It presents an analysis of the maneuver for the period that begins at time 87455 where the airplane is being turned into a banked right turn.
- The bank angle rapidly reaches 60 degrees then backs off for about one second before continuing to increase for a period of about 3 seconds at a roll rate of about 1 degree per second.
- During this time the indicated airspeed increases from about 180 knots and peaks at about 200 knots.
- The normal acceleration reaches and slightly exceeds 2 g's.
- Flap retraction is complete just after initiation of the right banked maneuver and slat retraction is initiated one second later with all slats reaching full retract in about 9 seconds.
- Stall warning comes on about six seconds before full slat retract.
- The airplane stalled during slat retraction.
- Aileron on the stalled wing lost effectiveness degrading roll recovery ability.
- Although the bank angle eventually began to reduce, insufficient altitude was available for a full recovery.

More analysis is contained in the Boeing Part II Technical Report.

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**Hydraulic fluid testing**

AFRL tested the fluid sample the SIB sent them however; their analysis was based on a MIL-SPEC fluid that is not used in the C-17. Therefore Boeing provided the following analysis of the fluid based on the MIL-SPEC fluid used on the aircraft:

- The Min/Max values that are listed for the tested fluid parameters are for hydraulic oil per MIL-PRF-5606. This is consistent with the entries provided in report's "Product:" and "Specification:" headers which state "...Petroleum Base" and "MIL-PRF-5606H (3)", respectively. However, the C-17A hydraulic systems use a synthetic hydrocarbon base fluid per MIL-PRF-83282. The Gas Chromatography results in the "Dispositions:" section of the report bear this out. As such, the Min/Max values for the MIL-PRF-83282 fluid will be different than those listed in this report.
- The Min/Max values that are listed are for "...new unused fluid". However, it would be more appropriate to compare the measured values against In-Service Limits when assessing the operating condition of the hydraulic fluid.
- Both of the above two issues will affect the pass/fail status of the measured fluid properties.
- In-Service Limits for MIL-PRF-83282 fluid properties can be found in the attached SAE Aerospace Information Report (see Table 2 on page 5 for new fluid properties, and Table 3A on page 11 for In-Service Limits).

Per SAE AIR 810C, the MIL-PRF-83282 new fluid requirements and in-service limits for for the fluid properties tested in the subject lab report are as follows:

Acid Number (mg KOH/g): New Fluid Reqmt: 0.10 max. In-Service Limit: 0.30 max.

Pour Point (deg C): New Fluid Reqmt: -55 max. In-Service Limit: none recommended

Water (ppm): New Fluid Reqmt: 100 max. In-Service Limit: 300 max.

Viscosity (cSt): -40 deg C New Fluid Requirement: 2200 max. In-Service Limit: none recommended

40 deg C New Fluid Requirement: 14.0 min. In-Service Limit: +10%, -15% (or 15.4 to 11.9)

100 deg C New Fluid Requirement: 3.5 min. In-Service Limit: none recommended

Based on these values, the pass/fail status of the fluid samples is as follows:

Acid Number: The 0.22 mg KOH/g result exceeds the new fluid requirement, but does meet the in-service limit.

Pour Point: The -72 deg C result meets the new fluid requirement.

Water: The 470 ppm result exceeds the new fluid requirement, as well as the in-service limit (by 170 ppm). Exposure to elevated temperatures during a fire would tend boil out any water that may initially be in the hydraulic fluid. Afterwards however, the hygroscopic nature of the MIL-PRF-83282 fluid, coupled with the fluid's exposure to the elements (i.e., not contained within a closed system after the incident), may explain the fluid's higher than recommended water content in the as-tested condition.

Viscosity: At -40 deg C, the 1968 cSt result meets the new fluid requirement.

At 40 deg C, the 13.9 cSt result nearly meets the new fluid requirement, and does meet the in-service limit.

At 100 deg C, the 3.50 cSt result meets the new fluid requirement.

**Structural Analysis**

Boeing provided the weights of various major components in preparation for their movement from the crash site. Company engineers also made recommendations about cutting the large pieces of the aircraft in preparation for shipment.

**Ramp and Horizontal and Vertical Stabilize Weights and CGs**

Structure	Weight	Y-Arm	Z-Arm	X-Arm
Cargo Door with Toes	5084	1557.8	205.5	0.1
Cargo Door W/Toes & Oble	6451	1562.7	209.5	0.1
Horizontal Stab W/Elevators	6153	2007.1	669.0	0.0
Horizontal Stab W/O Elevators	5143	1991.8	669.5	0.0
Vertical Stab W/Rudder	8925	1825.4	532.6	0.0
Vertical Stab W/O Rudder	8106	1817.2	535.9	0.0
Toes (Qty 4)	1152	1471.7	196.1	0.1
Cargo Ramp W/O Toes	8879	1303.1	140.6	0.1
Wing Section Xw=737 to tip	5100			
Wing Section Xw=116 to tip	28600			
Wing Section Xw=737 to Xw737	23500			

Wing weights do not include weight of nacelles, Pylons, flaps, spoilers, and slats.

**Component Teardown**

Seven Components were recovered from the wreckage and sent to their manufacturers for analysis of damage and testing to determine if more data was available in the Non-volatile memory. All seven devices are still undergoing testing but at least some data will be recoverable. Thus far Honeywell has confirmed there were no faults in the Air Data Computer prior to impact. No other results are available at this time. The SIB determined that data from the Flight Data Recorder showed that all these systems were providing accurate data at the time of the mishap.

Part	Manufacturer
2 Flight Control Computers (FCC)	BAE Systems
Warning and Caution Computer (WCC)	Northrop Grumman
Air Data Computer	Honeywell
Spoiler/Flap Control	BAE Systems
Core Integrated Processor (CIP)	BAE Systems
Propulsion Data Management Computer (APDMC)	Hamilton Sunstrand

**Conclusions:** The data from the SFDR shows the aircraft exceeded the flight parameters for its speeds and configuration just prior to the mishap.

The data also shows the aircraft started to recover by rolling wings toward level flight just before impact. However, the angle of attack was still too high and the aircraft did not have enough altitude to complete a recovery.

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## J2. SYSTEMS PROGRAM OFFICE ANALYSIS OF SFDR

Mishap System: MDS: C-17A Globemaster III, Tail Number: 00-0173

Mishap Date: July 28, 2010

Investigator: ASCWLME C-17 Division, 2590 Loop Rd.  
West, WPAFB, OH 45433; Tel.

**I. INTRODUCTION:** Factual Report of the structural integrity of mishap airframe under pilot maneuvers/inputs, and aerodynamic characteristics during the flight prior to mishap event. As described by recovered FSDR data. Furthermore, an assessment of airframe vulnerability to catastrophic failure due to its service life usage history will be performed. As compared to C-17 Full Scale Engineering Design (FSED), Full Scale Static Test, and Full Scale Durability Test.

**II BACKGROUND:** A United States Air Force C-17A took off from Elmendorf AFB on July 28, 2010 to practice air show demonstration profile 3 outlined in AFI 11-246, Vol. 6, Ch. 3 dated 2002. After successful climb and subsequent left turn, the aircraft initiated a right turn to return to runway center. Midway through the right turn, the aircraft crashed killing all four onboard crewmembers. The SFDR was recovered intact from the crash site and the data was downloaded.

### III EVALUATION:

Observation 1: G-load condition.

From recovered FSDR data a maximum vertical g-load (Nz) of 2.4219 g at time stamp 87465.19 was recorded. Flaps retracted and Slats extended (0/Ext). Recorded takeoff weight was 346,482 lbs. and recorded takeoff fuel weight of 61,000 lbs. For 1/2 Flaps, not Gs above 2.0 g where recorded.

Analysis 1:

For the configuration – 0/Ext, there is a hard limit of 3.0 g for sustained maneuvers. The maximum g-load capability for Tail 00-0173 was calculated taking in account recorded takeoff weight, takeoff fuel weight, and 0/Ext configuration. Respective Nz limits for Tail 00-0173 during the maneuver are as follows. Nz limit for the wing is 3.15 g and 3.37 g for the fuselage and empennage. Therefore the described maneuver doesn't exceed airframe limit load and will not cause any damage to the airframe. Reference "SFDR Over-G Identification Criteria, Rev D".

Observation 2: Loads of controlled surfaces.

Maximum recorded Indicated Air Speed (IAS) was 198 kts (clean configuration), recorded IAS at maximum g-load was 191 kts (0/Ext), and estimated maximum IAS at 1/2 flaps was 188 kts.

Analysis 2:

Limit speed for 1/2 Flap is 250 kts, 280 kts for 0/Ext and 350 kts for clean configuration. Therefore control surfaces load capability was not exceeded at any stage of the maneuvers. Reference Section 3 of MDC-J9600 Rev. M "C-17A Design Criteria Overview"

Observation 3: Airframe service life usage history

Service life usage for Tail 00-0173 was reviewed to determine the onset of catastrophic failure due to severe or abnormal usage. Reviewed all accumulated FSDR data up to Dec/2009, as presented on the latest C-17 Aircraft Structural Integrity Program Working Group (ASIP WG).

Analysis:

Bottom line: Per review of service life usage, Tail 00-0173 has not reached any of its required First Life Time durability inspections. Its usage severity is more benign than the design base line (FSED), and is comparable to the average usage of tail number of comparable age. Compared to Lead the Fleet Tail numbers, Tail 00-0173 cumulative life usage is noticeable lower. Therefore any latent durability issues will manifest in lead the fleet aircraft before being present on Tail 00-0173. There are no airworthiness concerns related to Tail 00-0173 service life usage.

Detail analysis:

Tail 00-0173 is accumulating more flying hours than originally designed for, however accumulated damage is lower than design base line. The only exception is cabin full pressure cycles, which is accumulating damage faster than originally anticipated. This is being mitigated by the result of the full scale durability test, where the test article was tested to 9.5 lifetimes of full pressure cycles. Test result provided a test baseline that fleet damage is being managed to. Tail 00-0173 damage accumulation is below this test demonstrated base line, and it has not reached its first life time inspection for this failure mode. Accumulated full pressure cycles do impact the structural integrity of Tail 00-0173.

The C-17 Force Structural Maintenance Program (FSMP) was reviewed for outstanding modifications and safety of flight issues that could apply to Tail 00-0173. There was no safety of flight structural modifications outstanding for MDS C-17A. Furthermore the airframe does not have any static failure driven modifications and any outstanding modifications are driven by durability and economic concerns. Due to low cumulative usage, Tail 00-0173 had only two major structural modification scheduled for the near future. These are the "Web repair at Long 3 Aft Pressure Bulk Head, TCTO 1787" and "Installation of Skin Doublers, TCTO 1947".

The "Web repair at Long 3 Aft Pressure Bulk Head, TCTO 1787" was not performed on Tail 00-00173 and first life time inspection was schedule for May/2019. This is Not a safety of flight modification and no airframe catastrophic failure will result of structural member failure. Failure of this element is strictly driven by cabin full pressure cycles. Failure of Long 3 will cause load to be redistributed to the aft bulk head. Redistribution will cause a long term durability concern of the bulk head. Gradual lost of cabin pressure will be the result of the aft bulk head failure. Lost of cabin pressure will be a very noticeable indication of structural element failure. There was no indication of Tail 00-0173 having issues maintaining cabin pressure. Therefore the airworthiness of Tail 00-0173 was not affected by not performing the "Web repair at Long 3 Aft Pressure Bulk Head, TCTO 1787" major modification.

The "Installation of Skin Doublers, TCTO 1947" was not performed on Tail 00-0173. Fuselage cracks will develop between frame stations Y=511.0 to Y=585.0 and Longeron 18 to Longeron 23. Crack development is driven by direct pressure impingement from Thrust Reverser on N/EAT nacelle aircrafts. This is NOT a safety-of-flight issue due to slow crack growth rate, and large damage/crack arrestment capability. Airframe can withstand a two bay long (48 inch) crack without any flight restrictions. TCTO 1876 was performed on Tail 00-0173 as a fleet stabilization initiative. This TCTO installed three vertical reinforcement straps that effectively stop crack development and are able to carry full hoop load in the event of skin failure. Analysis was performed on the temporary reinforcement and it was determine to be structurally sound. Therefore the airworthiness of Tail 00-0173 was not affected by not performing the "Installation of Skin Doublers, TCTO 1947" major modification.

Reference:

1. IAT Usage Comparison
2. 516 AESG Fuse Skin Cracks Point Paper1 - 7Apr09 rev B
3. Fuselage Skin Cracks Update 18 June 10
4. FSMP, Report # MDC J9207, Rev H
5. 19<sup>th</sup> ASIP WG charts, Report # MDC-02K7098, Vol XIX

6. Durability D1 report, Report # MDC-K5093 (D1 tear down report), and MDC-95K7147 (Horizontal Stabilizer)
7. Static S1 report, Report # MDC-K5090, and MDC-K7206
8. ASIP master plan, Report # MDC-P231, Rev. Y
9. IATP report, Report # MDC-02K7204, Vol. XXXIII
10. L/ESS report, Report # MDC-94K7205 Vol. XVI
11. Fuselage skin report, Report # MDC-08K7037, TCTO 1947 and TCTO 1876
12. Longeron #3 structural report, Report # MDC-J9217, Vol 2, Bk 3; TCTO1787

**IV DETERMINATION:** After reviewing available FSDR data for Tail 00-0173, is my determination that loads generated by the maneuver performed during the training mission did not exceed airframe limit loads and could not have caused airframe static catastrophic structural failure. Furthermore Tail 00-0173 service life usage does not support the early onset of durability failures that could have affected the airworthiness of Tail 00-0173. IATP data was reviewed up to Dec/2009, at the time of the analysis this represented the most complete data available for Tail 00-0173. Due to collection practices there is a 6 month lag on collected IATP data. This lag does not have a major impact on the service usage analysis. Usage generated during these 6 months represent a small portion of the overall cumulative usage and will have a proportional effect on the overall usage trend.

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**MISSION RECORDS AND DATA**

**K1. FLIGHT PLAN AND FLIGHT ORDERS ..... 3**  
    **K1.1. FLIGHT PLAN ..... 3**  
    **K1.2. ARMS FLIGHT AUTHORIZATION ..... 4**  
    **K1.3. NOTAMS ..... 6**  
**K2. AIRCRAFT WEIGHT AND BALANCE ..... 11**

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**K1. FLIGHT PLAN AND FLIGHT ORDERS**

**K1.1. FLIGHT PLAN**

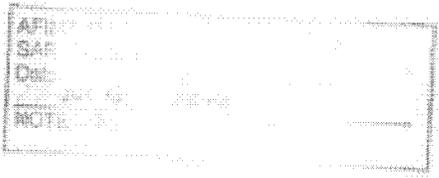
BASE OPERATIONS USE										DATE	AIRCRAFT CALL SIGN	AIRCRAFT DESG AND TO CODE	HQ/17A
TYPE FLT PLAN	TRUE AIRSPEED	POINT OF DEPARTURE	PROPOSED DEPARTURE TIME (Z)	ALTITUDE	ROUTE OF FLIGHT	TO	ETE						
V	250	MAED	0900	015	VR 0415 2000		MD 4100						
REMARKS													
RANK AND HONOR CODE													
FUEL ON BD	ALTN AIRFIELD	ETE TO ALTN	NOTAMS	WEATHER	WT AND BALANCE	AIRCRAFT SERIAL NUMBER, UNIT, AND HOME STATION							
SIGNATURE OF APPROVAL AUTHORITY	CREW/PASSENGER LIST	ATTACHED	SEE PSGR	ACTUAL DEPT TIME (Z)	BASE OPERATIONS USE								
DUTY	NAME AND INITIALS		RANK	SSN	ORGANIZATION AND LOCATION								
PILOT IN COMMAND	MP												

DD Form 175, MAY 86

Previous editions are obsolete.

MILITARY FLIGHT PLAN  
Active Professional 8.0

**K1.2. ARMS FLIGHT AUTHORIZATION**

CREW FLIGHT (FA) AUTHORIZATION									
1. PREPARED DATE: 20100727		2. MISSION NUMBER: 00N19TA01110		3. DEPARTURE LOCATION: PAED Elmendorf AFB			4. DESTINATION: PAED Elmendorf AFB		
5. MISSION SYMBOL AND PURPOSE: T3LQ / Local Prof Currency Flight (Associate) / Airlab				6. SCHEDULED DEP DATE/TIME: 20100728 17:30 (L)		7. SCHEDULED RET DATE/TIME: 20100728 21:30 (L)			
E. AERO VEHICLE: C-17A				8. ACFT TAG #: 00-0173		9. CALL SIGN: SITRA44			
11. CREW INFORMATION:									
A. NAME	B. GRADE MIL/OS	C. SSAN	D. SEC CLR	E. CREW POS	F. DUTY POS	G. REMARKS/ RES CODE	H. UNIT	I. CREW #	J. INITIALS FOR CHG
MP	Maj		TS	IP-A	IP	AD	6249		
MSO	Maj		TS	IP-B	IP	JI	6249		
MCP	Capt		SEC	IP	MP		6317		
WITNESS 16	Cpl		TS	OP	OP		6328		
MLM	MSGt		SEC	BL-A	ML	JI	6249		
									
12. REMARKS: (Variations in Itinerary Authorized) Itinerary: PAED PAED See reverse for Blocks 11E, 11F and 11G Code Sets									
13. AUTHORIZATION DATE: 20100727		14. FA NUMBER: 10-6294		15. DISTRIBUTION: 1 FILE/ AS REQ-BASE OPERATIONS/AS REQ CREW MEMBER					
19. GO/NO-GO VERIFICATION: Identify go/no-go checks were accomplished for aircrew members listed below. As a minimum, flight physical, physical availability, physiological training, emergency egress, local area survival, current ASC, (40 effective date/form date), ACFT ADs, FOP card, and any other grounding events were checked. Individuals non-current for aircrew training or aircrew qualification have appropriate remarks codes assigned and an instructor is on-board for their specialty. Reserve personnel not on extended duty are subject to the provisions of the uniform code of military justice, while performing this duty. ICX2 Initials: _____ Aircraft Commander Review: _____ IF CHANGES TO ORIGINAL CREW MEMBERS: I certify the above go/no-go checks were performed for aircrew member (s) added: Aircraft Commander Signature: _____									
17. UNIT DESIGNATION AND LOCATION OF AUTHORIZING AGENCY: DEPARTMENT OF THE AIR FORCE 176TH WING (PACAF) 5005 RASPBERRY RD, ANCHORAGE AK 99503-1998					18. SIGNATURE ELEMENT OF AUTHENTICATING OFFICIAL: MSO Maj NG 249 ASDOS				
19. ACCOUNTING CITATION:									

ORIGINAL

CREW INFORMATION: (Cont'd)									
A. NAME	B. GRADE ML/GS	C. SSAN	D. SEC CLR	E. CREW POS	F. DUTY POS	G. REMARKS/ RES CODE	H. UNIT	I. CREW #	J. INITIALS FOR CHG
21. REMARKS (Cont'd)									
<p>Block 11 E. (Crew Position) and Block 11 F. (Duty Position) Code Set for other than the first and second character:                      N= Non-Mission Ready (NMR) / C= Qualified MR Traditional Co-Pilot (Non-MPD) /                      Q= Qualified MR MPD Pilot / L= Qualified MR Previous Aircraft Commander (PCO Graduate)                      FTL A= Highly Experienced Crewmember / FTL B= Experienced MR Crewmember / FTL C= MR Crewmember / FTL E= BAQ or BMC non-instructor staff.</p> <p>Block 11 G. (Remarks / Res Codes):                      A = In Command / B = Non-Current / C = Acting in next higher qualification for evaluation purposes / E = Phoenix Banner Certified / G = Female Crewmember / H = Instructor or Evaluator Candidate / I = Non-Mission Ready (Local Mission Certified, IL required for out-of-state missions) / J = Authorized to Emplane / Deplane / K = BAQ (Instructor Required) / N = Medical Crew Director / P = Flight Lead / Q = Deputy Flight Lead / T = Touch &amp; Go Qualified / Z = MEP Status                      1 = Performing Duties as Airdrop Lead                      3 = Performing Duties as Airdrop Aircraft Commander or Airdrop Loadmaster                      5 = Performing Duties as Copilot Airdrop                      1 = Active Duty / 2 = UTA / 3 = AFTP / 4 = Technician</p> <p>"Personnel in Title 10 status are subject to provision of the Uniform Code of Military Justice while performing this duty and those personnel in Title 32 status are subject to the applicable State's Military Code."</p>									

AF IMT 4327a, 20031201 (REVERSE)(V1)

**K1.3. NOTAMS**

Defense Internet NOTAM Service

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Sort By: Default Report

Keyword Sort

**Locations:**

**PAED**

Data Current as of: Thu, 29 Jul 2010 03:16:00 GMT

**PAED ELMENDORF AFB**

M0624/10 - CLASS D SURFACE AREA CLOSED, AVAILABLE FOR EMERGENCY USE ONLY, 29 JUL 03:00 2010 UNTIL 29 JUL 19:00 2010. CREATED: 29 JUL 03:11 2010

M0622/10 - PAR HOURS OF SERVICE ARE AS FOLLOWS, MONDAY 1715-2359Z, TUESDAY

1700-2359Z, WEDNESDAY 1700-2359Z, THURSDAY 1700Z-1830Z AND FRIDAY CLOSED, 29 JUL 01:31 2010 UNTIL 31 JUL 23:59 2010. CREATED: 29 JUL 01:35 2010

M0621/10 - BETWEEN 1900L-2130L THERE WILL BE A C17 EXECUTING NON STANDARD PATTERN WORK FOR TRAINING. CONTACT TOWER FOR ACCESS INTO ELMENDORF'S AIRSPACE EXPECT DELAYS UP TO 10MIN. 29 JUL 01:30 2010 UNTIL 29 JUL 05:30 2010. CREATED: 28 JUL 23:41 2010

M0620/10 - AERODROME CLOSED TO ALL AIRCRAFT WITH THE EXCEPTION OF AIRSHOW PERFORMERS, 31 JUL 17:00 2010 UNTIL 01 AUG 02:00 2010. CREATED: 28 JUL 20:38 2010

M0619/10 - AERODROME CLOSED ALL AIRCRAFT WITH THE EXCEPTION OF AIRSHOW PERFORMERS AND PARTICIPANTS, 30 JUL 19:00 2010 UNTIL 31 JUL 02:00 2010. CREATED: 28 JUL 20:18 2010

M0618/10 - AERODROME CLOSED ALL AIRCRAFT WITH THE EXCEPTION OF AIRSHOW PERFORMERS AND PARTICIPANTS, 29 JUL 20:00 2010 UNTIL 30 JUL 02:00 2010. CREATED: 28 JUL 20:16 2010

M0617/10 - QUIET HOURS OPTION 2 - ONLY STRAIGHT IN FULL STOP ARRIVALS WILL BE AUTHORIZED. ARRIVING AIRCRAFT MAY TAXI TO PARK PROVIDED THEY DO NOT PASS IN CLOSE PROXIMITY TO THE JMC. ALTERNATE TAXI AND PARKING LOCATIONS MAY NEED TO BE COORDINATED WITH AIRFIELD MANAGEMENT. DEPARTURES, ENGINE STARTS, PRACTICE APPROACHES, AND ACE OPERATIONS WILL BE TERMINATED. VEHICLE TRAFFIC ADJACENT TO THE JMC WILL BE TERMINATED, 30 JUL 17:15 2010 UNTIL 30 JUL 18:30 2010. CREATED: 28 JUL 19:28 2010

M0616/10 - NO TAXIWAY LIGHTS OR DIRECTIONAL SIGNS ON TAXIWAY M, 28 JUL 18:42 2010 UNTIL 28 SEP 23:59 2010. CREATED: 28 JUL 18:43 2010

M0615/10 - AK... FLIGHT RESTRICTION ELMENDORF AFB, ANCHORAGE, AK.

DUE TO HIGH PERFORMANCE AERIAL DEMONSTRATIONS BY THE US NAVY BLUE ANGELS, EFFECTIVE 1007292100 UTC UNTIL 1007300200 UTC, 1007301830 UTC UNTIL 1007301859 UTC, 1007302001 UTC UNTIL 1007310200 UTC, 1007311730 UTC UNTIL 1007312059UTC, 1007312216 UTC UNTIL 1008010200 UTC, 1008011730 UTC UNTIL 1008012059 UTC, AND 1008012216 UTC UNTIL 1008020200 UTC. PURSUANT TO 14 CFR SECTION 91.145, MANAGEMENT OF AIRCRAFT OPERATIONS IN THE VICINITY OF AERIAL DEMONSTRATIONS AND MAJOR SPORTING EVENTS, AIRCRAFT OPERATIONS ARE PROHIBITED WITHIN A 5 NMR OF 51517N/149400W OR THE ANCHORAGE /ANC/

VOR/DME 037 DEGREE RADIAL AT 13.3 NM, AT AND BELOW 16000 FT MSL UNLESS AUTHORIZED BY ATC. (b)(6) IS THE

POINT OF CONTACT. THE ANCHORAGE /ANC/ ATCT, PHONE 907-552-2728, IS THE COORDINATION FACILITY, WIE UNTIL 01N, 29 JUL 18:41 2010 UNTIL 02 AUG 02:00 2010. CREATED: 28 JUL 18:42 2010

M0614/10 - AK... FLIGHT RESTRICTION ELMENDORF AFB, ANCHORAGE, AK.

DUE TO HIGH PERFORMANCE AERIAL DEMONSTRATION BY THE CANADIAN SNOWBIRDS, EFFECTIVE 1007301900 UTC UNTIL 1007302000 UTC

7/28/2010

AND 1007312100 UTC UNTIL 1007312215 UTC AND 1008012100 UTC UNTIL 1008012215. PURSUANT TO 14 CFR SECTION 91.145, MANAGEMENT OF AIRCRAFT OPERATIONS IN THE VICINITY OF AERIAL DEMONSTRATIONS AND MAJOR SPORTING EVENTS, AIRCRAFT OPERATIONS ARE PROHIBITED WITHIN A 7

NMR RADIUS NORTH OF THE ELMENDORF AFB RUNWAY 6-24 EXTENDED CENTERLINE

AND 5NM RADIUS SOUTH OF RUNWAY 6-24 EXTENDED CENTERLINE AT AND BELOW 15000 MSL, UNLESS AUTHORIZED BY ATC. (b)(6) PHONE

(b)(6) IS THE POINT OF CONTACT. THE ANCHORAGE /ANC/ ATCT PHONE

907-552-2778, IS THE COORDINATION FACILITY. WIS UNTIL UPN. 28 JUL 18:39 2010 UNTIL 02 AUG 02:00 2010. CREATED: 28 JUL 18:40 2010

M0611/10 - PAR WITHDRAWN FOR MAINTENANCE. JUL 31 0200-1700 AUG 01 0300-1700 AUG 02 0300-1900, 28 JUL 02:00 2010 UNTIL 02 AUG 19:00 2010. CREATED: 27 JUL 16:45 2010

M0610/10 - PAR WITHDRAWN FOR MAINTENANCE. JUL 28 0200-1500 JUL 29 0200-1600 JUL 30 0200-1800, 28 JUL 02:00 2010 UNTIL 30 JUL 18:00 2010. CREATED: 27 JUL 16:37 2010

M0600/10 - TAXIWAY ALPHA SOUTH TAXIWAY LIGHTS OUT OF SERVICE. 27 JUL 10:39 2010 UNTIL 02 AUG 23:59 2010. CREATED: 27 JUL 10:40 2010

M0591/10 - HARDSTAND 26 CLOSED. 25 JUL 22:40 2010 UNTIL 04 AUG 23:59 2010. CREATED: 25 JUL 22:42 2010

M0590/10 - AIRCREW USE CAUTION NO TAXIWAY LIGHTS ON TAXIWAY PAPA. 24 JUL 19:19 2010 UNTIL 21 OCT 23:59 2010. CREATED: 24 JUL 19:19 2010

M0589/10 - AIRCREW USE CAUTION NO TAXIWAY LIGHTS ON TAXIWAY JULIET BETWEEN MIKE AND BRAVO. 24 JUL 19:18 2010 UNTIL 20 OCT 23:59 2010. CREATED: 24 JUL 19:18 2010

M0588/10 - CAUTION: HARDSTAND 27 RESTRICTED TO AIRCRAFT WITH WINGSPAN OF 183FT OR LESS. 24 JUL 02:29 2010 UNTIL 15 SEP 23:59 2010. CREATED: 24 JUL 02:33 2010

M0587/10 - TAXIWAY KILLO CLOSED FROM SOUTH OF HARDSTAND 35 TO SOUTH SIDE OF HARDSTAND 28. VEHICULAR OPERATIONS AUTHORIZED. 23 JUL 22:56 2010 UNTIL 15 AUG 23:59 2010. CREATED: 23 JUL 22:58 2010

M0579/10 - TAXIWAY EDGE LIGHTS UNSERVICEABLE ON TAXIWAY K AND TAXIWAY H FROM

TAXIWAY M TO J. 22 JUL 18:03 2010 UNTIL 03 AUG 23:59 2010. CREATED: 22 JUL 18:05 2010

M0569/10 - 2IN LIP PAVEMENT BREAK 75FT LONG BTN OPS4 AND OPS5. 21 JUL 00:09 2010 UNTIL 30 SEP 23:59 2010. CREATED: 21 JUL 00:09 2010

M0557/10 - RUNWAY HOLD SIGN FOR RUNWAY 06 IS NOT COLLOCATED WITH VFR HOLD LINE ON TAXIWAY A SOUTH. 19 JUL 21:35 2010 UNTIL 16 SEP 05:23 2010. CREATED: 19 JUL 21:35 2010

M0553/10 - RUNWAY 06 SEQUENCED FLASHING LIGHTS WITHDRAWN FOR MAINTENANCE. 17 JUL 18:58 2010 UNTIL 31 JUL 23:59 2010. CREATED: 17 JUL 19:00 2010

M0552/10 - 4" LIP LOCATED 8' SOUTH OF TAXIWAY JULIET EDGE 61NS, 27S' WEST OF TAXIWAY DELTA. 17 JUL 18:57 2010 UNTIL 30 AUG 23:59 2010. CREATED: 17 JUL 18:57 2010

M0551/10 - MEN AND EQUIPMENT WORKING ON RWY 16/34 WITHIN 1000' OF RWY 06/24. 17 JUL 18:38 2010 UNTIL 18 AUG 23:59 2010. CREATED: 17 JUL 18:39 2010

M0550/10 - RUNWAY 16/34 CLOSED. 17 JUL 18:31 2010 UNTIL 18 AUG 23:59 2010. CREATED: 17 JUL 18:32 2010

M0549/10 - BASE OPERATIONS RAMP SPOTS 6,7,9-12 CLOSED. 17 JUL 18:28 2010 UNTIL 30 AUG 23:59 2010. CREATED: 17 JUL 18:30 2010

M0548/10 - LIMITED HANGER SPACE AVAILABLE. SPACE WILL BE APPROVED FOR EXTREME EMERGENCIES ONLY. 17 JUL 18:26 2010 UNTIL 31 AUG 23:59 2010. CREATED: 17 JUL 18:28 2010

M0524/10 - PART 4 OF 4, DELTA 4 TEMPORARY MOA, AK.

BOUNDARIES: BEGINNING AT LAT. 64°12'28"N, LONG. 144°50'13"W.; TO LAT. 63°59'59"N, LONG. 144°00'08"W.; TO LAT. 63°59'59"N, LONG. 143°09'00"W.; TO LAT. 63°37'00"N, LONG. 144°13'00"W.; TO LAT. 63°37'00"N, LONG. 145°13'00"W.; TO LAT. 63°30'00"N, LONG. 145°54'00"W.; TO LAT. 63°42'59"N, LONG. 145°54'09"W.; TO LAT.

7/28/2010

63°50'29"N. LONG. 145°50'08"W.; TO LAT. 63°54'06"N. LONG.  
145°50'27"W.;  
THENCE COUNTER-CLOCKWISE VIA A 7 NM ARC FROM THE BIG DELTA VORTAC,  
AK; TO LAT. 63°56'00"N. LONG. 145°30'28"W.; TO LAT. 64°04'12"N. LONG.  
145°05'16"W.  
TO THE POINT OF BEGINNING.  
ALTITUDES: 7,000 FEET MSL TO BUT NOT INCLUDING FL 180.  
TIMES OF USE: 9-13 AUG 10 AND 16-20 AUG 10, 1600 - 1230 LOCAL; 9-13  
AUG 10 AND 16-19 AUG 10, 1600 - 1830 LOCAL, CONTACT SUAIS OR ANY FAA  
FLIGHT SERVICE STATION.  
CONTROLLING AGENCY: FAA, ANCHORAGE ARTCC.  
USING AGENCY: USAF, 354 FIGHTER WING, EIELSON AFB, AK.  
NOTICE: IFR TRAFFIC MAY BE RE-ROUTED AROUND AIRSPACE SOUTH OF THE 63N  
LINE FROM FL 320 - FL350 WHILE AIRSPACE IS ACTIVE. AIRSPACE IS  
AVAILABLE FOR IFR TRAFFIC AT TIMES OTHER THAN THE TWO PERIODS PER DAY  
LISTED ABOVE. TIMES OF USE ARE FOR NOTAM PURPOSES ONLY. CONTACT SUAIS  
OR THE NEAREST FSS OR ANCHORAGE ARTCC FOR ACTUAL  
ACTIVATION/DEACTIVATION TIMES. FOR MORE INFO ONLINE USE WEB ADDRESS  
[HTTP://WWW.FAA.GOV/ABOUT/OFFICE\\_ORG/HEADQUARTERS\\_OFFICES/ATO/SERVICE\\_](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/notices/delta_tmoa2010/)  
[UNITS/SYSTEMOPS/FS/ALASKAN/NOTICES/DELTA\\_TMOA2010/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/notices/delta_tmoa2010/)

END PART 4 OF 4, 5 AUG 2010-15 AUG 2010, 08 JUL 19:10 2010 UNTIL 15 AUG 23:59  
2010. CREATED: 08 JUL 19:11 2010

M0523/10 - PART 3 OF 4, DELTA 3 TEMPORARY MOA, AK.

BOUNDARIES: BEGINNING AT LAT. 64°24'55"N. LONG. 145°42'07"W.; TO LAT.  
64°12'28"N. LONG. 144°50'13"W.; TO LAT. 64°04'12"N. LONG.  
145°05'16"W.; TO LAT. 63°56'00"N. LONG. 145°30'28"W.; THENCE  
CLOCKWISE VIA A 7 NM ARC FROM THE BIG DELTA VORTAC, AK; TO LAT.  
63°54'06"N. LONG. 145°50'27"W.; TO LAT. 63°56'16" N.LONG.  
145°49'38"W.; TO LAT. 64°03'34" N.LONG. 146°10'58"W.; TO LAT.  
64°05'30" N.; LONG. 146°16'31"W. TO LAT. 64°12'51" N. LONG.  
146°03'31"W.  
TO THE POINT OF BEGINNING.  
ALTITUDES: 5,000 FEET AGL TO BUT NOT INCLUDING FL 180.  
TIMES OF USE: 9-13 AUG 10 AND 16-20 AUG 10, 1000 - 1230 LOCAL; 9-13  
AUG 10 AND 16-19 AUG 10, 1600 - 1830 LOCAL, CONTACT SUAIS OR ANY FAA  
FLIGHT SERVICE STATION.  
CONTROLLING AGENCY: FAA, ANCHORAGE ARTCC.  
USING AGENCY: USAF, 354 FIGHTER WING, EIELSON AFB, AK.  
NOTICE: IFR TRAFFIC MAY BE RE-ROUTED AROUND AIRSPACE SOUTH OF THE 63N  
LINE FROM FL 320 - FL350 WHILE AIRSPACE IS ACTIVE. AIRSPACE IS  
AVAILABLE FOR IFR TRAFFIC AT TIMES OTHER THAN THE TWO PERIODS PER DAY  
LISTED ABOVE. TIMES OF USE ARE FOR NOTAM PURPOSES ONLY. CONTACT SUAIS  
OR THE NEAREST FSS OR ANCHORAGE ARTCC FOR ACTUAL  
ACTIVATION/DEACTIVATION TIMES. FOR MORE INFO ONLINE USE WEB ADDRESS  
[HTTP://WWW.FAA.GOV/ABOUT/OFFICE\\_ORG/HEADQUARTERS\\_OFFICES/ATO/SERVICE\\_](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/notices/delta_tmoa2010/)  
[UNITS/SYSTEMOPS/FS/ALASKAN/NOTICES/DELTA\\_TMOA2010/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/notices/delta_tmoa2010/)

END PART 3 OF 4, 5 AUG 2010-15 AUG 2010, 08 JUL 19:09 2010 UNTIL 15 AUG 23:59  
2010. CREATED: 08 JUL 19:10 2010

M0522/10 - PART 2 OF 4, DELTA 2 TEMPORARY MOA, AK.

BOUNDARIES: BEGINNING AT LAT. 64°31'17"N. LONG. 146°09'31"W.; TO  
LAT. 64°24'55"N. LONG. 145°42'07"W.; TO LAT. 64°12'51"N. LONG.  
146°03'31"W.; TO LAT. 64°05'30"N. LONG. 146°16'31"W.; TO LAT.  
64°14'44"N. LONG. 146°43'23"W.; TO LAT. 64°17'43"N. LONG. 147°03'29"W.  
TO THE POINT OF BEGINNING.  
ALTITUDES: 5,000 FEET MSL TO BUT NOT INCLUDING FL 180.  
TIMES OF USE: 9-13 AUG 10 AND 16-20 AUG 10, 1000 - 1230 LOCAL; 9-13  
AUG 10 AND 16-19 AUG 10, 1600 - 1830 LOCAL, CONTACT SUAIS OR ANY FAA  
FLIGHT SERVICE STATION.  
CONTROLLING AGENCY: FAA, ANCHORAGE ARTCC.  
USING AGENCY: USAF, 354 FIGHTER WING, EIELSON AFB, AK.  
NOTICE: IFR TRAFFIC MAY BE RE-ROUTED AROUND AIRSPACE SOUTH OF THE 63N  
LINE FROM FL 320 - FL350 WHILE AIRSPACE IS ACTIVE. AIRSPACE IS  
AVAILABLE FOR IFR TRAFFIC AT TIMES OTHER THAN THE TWO PERIODS PER DAY

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LISTED ABOVE. TIMES OF USE ARE FOR NOTAM PURPOSES ONLY. CONTACT SUAIS OR THE NEAREST PSS OR ANCHORAGE ARTCC FOR ACTUAL ACTIVATION/DEACTIVATION TIMES. FOR MORE INFO ONLINE USE WEB ADDRESS [HTTP://WWW.FAA.GOV/ABOUT/OFFICE\\_ORG/HEADQUARTERS\\_OFFICES/ATO/SERVICE\\_UNITS/SYSTEMOPS/FS/ALASKAN/NOTICES/DELTA\\_TMOA2010/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/notices/delta_tmoa2010/). 5 AUG 2010 - 15 AUG 2010, 08 JUL 19:07 2010 UNTIL 15 AUG 23:59 2010. CREATED: 08 JUL 19:09 2010  
M0521/10 - PART 1 OF 4, DELTA I TEMPORARY MOA, AK.

BOUNDARIES: BEGINNING AT LAT. 64° 47'00"N. LONG. 147°09'00"W.; TO LAT. 64°38'30"N. LONG. 147°11'00"W.; TO LAT. 64° 34'00"N. LONG. 146°59'00"W.; TO LAT. 64°23'23"N. LONG. 146°48'09"W.; TO LAT. 64°33'23"N. LONG. 146° 18'39"W.; TO LAT. 64°31'17"N. LONG. 146°09'31"W.; TO LAT. 64° 17'43"N. LONG. 147°03'29"W.; TO LAT. 64°19'58"N. LONG. 147°18'09"W.; TO LAT. 64°29'58"N. LONG. 147°44'09"W.  
TO THE POINT OF BEGINNING.

ALTITUDES: 10,000 FEET MSL TO ROT NOT INCLUDING FL 180.  
TIMES OF USE: 9-13 AUG 10 AND 16-20 AUG 10, 1000 - 1230 LOCAL; 9-13 AUG 10 AND 16-19 AUG 10, 1600 - 1830 LOCAL. CONTACT SUAIS OR ANY FAA FLIGHT SERVICE STATION.

CONTROLLING AGENCY: FAA, ANCHORAGE ARTCC.

USING AGENCY: USAF, 354 FIGHTER WING, BIELSON AFB, AK.

NOTICE: IFR TRAFFIC MAY BE RE-ROUTED AROUND AIRSPACE SOUTH OF THE 63N LINE FROM FL 320 - FL350 WHILE AIRSPACE IS ACTIVE. AIRSPACE IS AVAILABLE FOR IFR TRAFFIC AT TIMES OTHER THAN THE TWO PERIODS PER DAY LISTED ABOVE. TIMES OF USE ARE FOR NOTAM PURPOSES ONLY. CONTACT SUAIS OR THE NEAREST PSS OR ANCHORAGE ARTCC FOR ACTUAL

ACTIVATION/DEACTIVATION TIMES. FOR MORE INFO ONLINE USE WEB ADDRESS [HTTP://WWW.FAA.GOV/ABOUT/OFFICE\\_ORG/HEADQUARTERS\\_OFFICES/ATO/SERVICE\\_UNITS/SYSTEMOPS/FS/ALASKAN/NOTICES/DELTA\\_TMOA2010/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/fs/alaskan/notices/delta_tmoa2010/). 5 AUG 2010 - 15 AUG 2010, 08 JUL 19:04 2010 UNTIL 15 AUG 23:59 2010. CREATED: 08 JUL 19:06 2010  
M0509/10 - TWY J IN FRONT OF HGR21 IS "NOT" RESTRICTED AS STATED IN THE SUPP. 01 JUL 22:30 2010 UNTIL 25 SEP 23:59 2010. CREATED: 01 JUL 22:33 2010

M0479/10 - PAR PREVENTIVE MAINTENANCE SCHEDULE: MONDAY AND WEDNESDAY 1400-1600Z, 22 JUN 18:02 2010 UNTIL 31 AUG 23:59 2010. CREATED: 22 JUN 18:03 2010

M0441/10 - 165FT CRANE LOCATED N61° 33.9, W149°47' 5.1. 19 JUN 12:10 2010 UNTIL 17 AUG 23:59 2010. CREATED: 19 JUN 12:14 2010

M0439/10 - TWY DELTA 1, TWY DELTA 2, TWY DELTA 3 CLOSED. 18 JUN 15:06 2010 UNTIL 18 AUG 17:00 2010. CREATED: 18 JUN 15:07 2010

M0438/10 - SOUTH LOOP CLOSED. 18 JUN 15:05 2010 UNTIL 18 AUG 17:00 2010. CREATED: 18 JUN 15:05 2010

M0436/10 - TWY JULIET CLOSED FROM TWY DELTA TO TWY ECHO. 18 JUN 15:01 2010 UNTIL 18 AUG 17:00 2010. CREATED: 18 JUN 15:02 2010

M0430/10 - RED RAMP SPOT 11 TO THE NORTHSIDE OF THE CAC CLOSED. 15 JUN 18:11 2010 UNTIL 12 SEP 23:59 2010. CREATED: 15 JUN 18:12 2010

M0427/10 - TAXIWAY ECHO FROM TAXIWAY MIKE TO TAXIWAY JULIET CLOSED. 15 JUN 14:00 2010 UNTIL 18 AUG 16:00 2010. CREATED: 15 JUN 14:03 2010

M0425/10 - TACAN PREVENTIVE MAINTENANCE SCHEDULE: WEDNESDAY 1400-1600Z, 14 JUN 23:20 2010 UNTIL 31 AUG 23:59 2010. CREATED: 14 JUN 23:21 2010

M0406/10 - TWO C130'S OR TWO C17'S WILL BE OPERATING FROM BQ09310 INTO R2203 TO EDF32007 IN THE VICINITY OF BIG LAKE, PALMER, BIRCHWOOD, GOOSEBAY AND WABILLA, AK. IFR BETWEEN 1500-2000 MSL. WEDNESDAYS 0300Z-0500Z, THURSDAYS 1700Z-0015, FRIDAYS 0330Z-0630Z, 09 JUN 23:12 2010 UNTIL 22 AUG 23:59 2010. CREATED: 09 JUN 23:13 2010

M0396/10 - CAUTION AIRFIELD PAINTING BEING CONDUCTED THROUGHOUT AIRFIELD MONDAY THROUGH FRIDAY 1500Z(0700L)-0200Z(1900L) DAILY. 08 JUN 21:24 2010 UNTIL 31 JUL 23:59 2010. CREATED: 08 JUN 21:27 2010

M0392/10 - 115FT CRANE LOCATED N61°14' 45.61, W149°49'9.19. 07 JUN 22:18 2010 UNTIL 03 SEP 23:59 2010. CREATED: 07 JUN 22:20 2010

M0370/10 - TAXIWAY MIKE CLOSED FROM DELTA TO ECHO TAXIWAY. 01 JUN 14:53 2010 UNTIL 18 AUG 23:59 2010. CREATED: 01 JUN 14:57 2010

M0356/10 - C17/CS AIRCRAFT USE CAUTION DUE TO SHOULDER DAMAGE ON TAXIWAY M BETWEEN TAXIWAY D AND HARDSTAND 21. USE INBOARD ENGINES ONLY. 25 MAY 17:43 2010 UNTIL 04 AUG 23:59 2010. CREATED: 25 MAY 17:44 2010

7/28/2010

M0337/10 - AIRCRAFT USE CAUTION DUE TO SHOULDER DAMAGE ON TAXIWAY D BETWEEN TAXIWAY M AND RUNWAY 06. USE INBOARD ENGINES ONLY. 21 MAY 16:25 2010 UNTIL 19 AUG 16:25 2010. CREATED: 21 MAY 16:27 2010

M0334/10 - CHARLIE LOOP SPOTS 9-16 CLOSED. 21 MAY 16:14 2010 UNTIL 19 AUG 16:14 2010. CREATED: 21 MAY 16:14 2010

M0333/10 - FOLLOW TEMPORARY TAXI LINE FROM TAXIWAY BAPA LOCATED 15' WEST OF CENTERLINE. 21 MAY 16:11 2010 UNTIL 19 AUG 16:11 2010. CREATED: 21 MAY 16:13 2010

V0012/10 - [DOD PROCEDURAL NOTAM] CHANGE TO TAKE-OFF MINIMUMS: RWY 34, 200-1 1/2, OR STANDARD WITH MINIMUM CLIMB RATE OF 210' PER NM TO 700'. 20 JUL 00:02 2010 UNTIL 23 OCT 23:59 2010. CREATED: 20 JUL 00:06 2010

V0011/10 - [DOD PROCEDURAL NOTAM] RWY 6, ILS Y OR LOC/DME RWY 6, TACAN RWY 16. SHOW CAT E CIRCLING MINIMUM AS 1420-3 1208, (1300-3) UPN. 20 JUL 00:01 2010 UNTIL 23 OCT 23:59 2010. CREATED: 20 JUL 00:03 2010

Number of NOTAMS: 50

End of Report

7/28/2010

**K2. AIRCRAFT WEIGHT AND BALANCE**

-----  
 WEIGHT AND BALANCE CLEARANCE FORM F - TRANSPORT  
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DATE 28 JULY 2010 ACFT TYPE C-17A FROM Elmendorf AFB, AK  
 MISSION Sitka 43 SERIAL NO 00173 TO Elmendorf AFB, AK  
 PILOT Maj MP HOME Elmendorf AFB, AK

REMARKS	ITEM	WEIGHT	MOM/10000
	BASIC ACFT WT	282124	25760
	CREW NO 4	800	19
	CREW BAGS STN 280	200	6
	CONFIGURATION C3		
	STEWARD'S EQUIP	85	3
	EMERGENCY EQUIP	1041	39
	EXTRA EQUIPMENT	1232	29
	OPERATING WEIGHT	285482	25855
OPERATING WT/CG	TAKEOFF FUEL JP8	61000	5586
PAYLOAD WT/STN	TOTAL ACFT WT	346482	31441
	ZERO FUEL WEIGHT	285482	25855
	ZERO FUEL % MAC		36.2%

CARGO/PASSENGERS DISTRIBUTION

AD #	PAX #	ARM	L CARGO/PAX	C CARGO/PAX	R CARGO/PAX	WEIGHT	MOMENT
L	C	R					

LIMITATIONS			PAYLOAD					
CONDITION	TAKEOFF	LANDING	FUEL	TAKEOFF GROSS WT	TAKEOFF CG % MAC	EST LANDING FUEL	EST LANDING WEIGHT	EST LANDING CG % MAC
ALLOWABLE GWT	585000	585000	447400	346482	36.8%	25000	2367	
ALLOWABLE LOAD	238518	274518	161918				310482	28222
PERMISSIBLE CG	FWD	AFT						
TAKEOFF	26.2%	42.4%						37.3%
LANDING	26.2%	42.4%						
ZFW	26.6%	41.3%						

LOADMASTER  
 [MSgt MLM ] SIGNATURE/ORGANIZATION

PILOT  
 [Maj MP ] SIGNATURE/ORGANIZATION

CONFIGURATION MODIFICATION REMARKS:  
 Removed 1 "Std 2 gal liquid container" from station 260  
 Removed 1 "Hot cup" from station 260  
 Removed 1 "Kit, passenger service" from station 280  
 Removed 6 "Blankets, large" from station 280  
 Removed 6 "Pillows, large w/case" from station 280  
 Removed 54 "Blankets, small" from station 744  
 Removed 54 "Pillows, small w/case" from station 744  
 Removed 102 "Pax info cards" from station 280  
 Added 7 "Bodt Armor" to station 280  
 Added 3 "Parachutes" to station 280  
 Added 8 "Emerg Pax Oxy Sys (EPOS)" to station 744  
 Added 7 "Survival (Vest,ML-4,CWU-16/P)" to station 280

**INTENTIONALLY**

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**TAB L**

**DATA FROM ON-BOARD RECORDERS**

**L1. STANDARD FLIGHT DATA RECORDER (SFDR) DATA ..... 3**

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**L1. STANDARD FLIGHT DATA RECORDER (SFDR) DATA**

SFDR data includes the Crash Survivable Memory Unit (CMSU) data for over 200 parameters, and is filed in AFSAS as an attachment to this tab:

SFDR data.xls

**INTENTIONALLY**

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**TAB M**

**DATA FROM GROUND RADAR AND OTHER SOURCES**

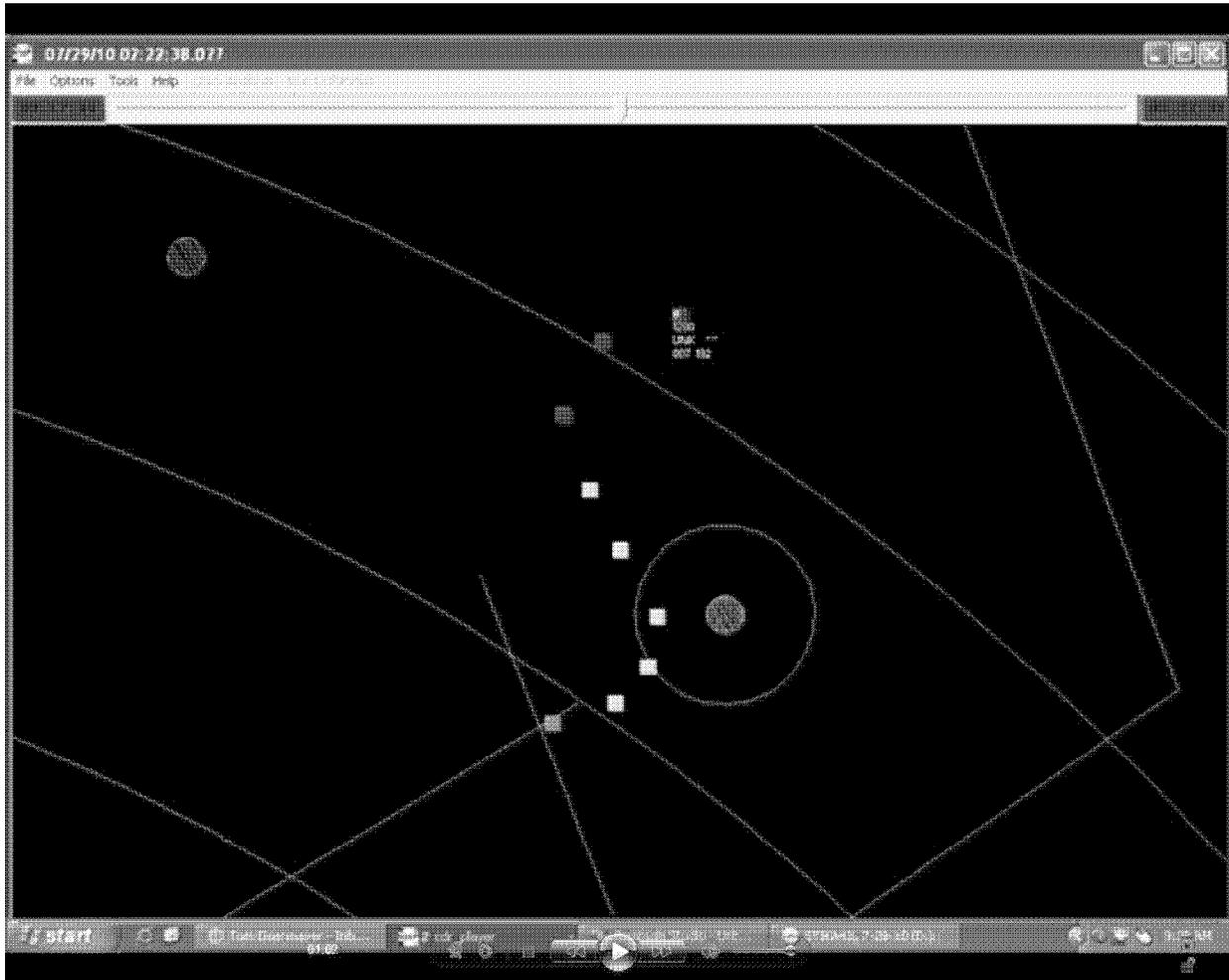
**M1. AIR TRAFFIC CONTROL RADAR DATA AND PLOTS..... 3**

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## M1. AIR TRAFFIC CONTROL RADAR DATA AND PLOTS



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**TAB N**

**TRANSCRIPTS OF VOICE COMMUNICATIONS**

**N1. COCKPIT VOICE RECORDING TRANSCRIPTS.....2**

**N2. AIR TRAFFIC CONTROL TRANSCRIPTS ..... 19**

**N2.1. SITKA 43 WATCH SUPERVISOR POSITION TAPE TRANSCRIPT ..... 19**

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**N3.1. SITKA 43 PRIMARY CRASH PHONE TAPE TRANSCRIPT ..... 30**

**N3.2. SITKA 43 SUPERVISOR OF FLYING TELEPHONE TRANSCRIPT..... 31**

**N4. OTHER AVAILABLE TRANSCRIPTS ..... 33**

**N4.1. SITKA 43 SUPERVISOR OF FLYING TAPE TRANSCRIPT ..... 33**

**N4.2. SITKA 43 WATCH SUPERVISOR TELEPHONE TRANSCRIPT ..... 39**

## N1. COCKPIT VOICE RECORDING TRANSCRIPTS

### Track 2, Recording 2:

MP- “uh 43”

MCP - “Alright I’ve got the flaps and slats, let’s do an after landing”

MP- “Alright”

MP- “And uh we’ll do a, I don’t know, full stop taxi back”

MCP - “Yeah that’ll work too”

\*Beep\*

MP- “Slat disagree”

MP- “Transient”

MCP - “Clear right crew”

Tower - “Elmendorf Tower Raider 46 eight mile final on the ILS runway 6, three on lock”

Tower - “ Raider 46, wind 260 at 4, runway 6 clear to land, your landing is over a raised cable 1780 feet from the approach end”

MSO - “Did that NOTAM not make it in?”

Tower - “Raider 46 clear to land, runway 6”

MP- “I specifically called ,em and give them the data on it, oh I guess....”

MCP - “We’re down here to the....”

MP- “Oh, hang on, let’s wait here and talk to tower”

MP- “Tower Sitka 43 would like to taxi down to Bravo and hold short there”

Tower - “Sitka 43 contact ground”

MP- “[Expletive]

MP- “Ground Sitka 43’s clear the active at Alpha would like to taxi to Bravo and hold short”

Ground - “Sitka 43 heavy Elmendorf ground approved as requested”

MP- “Sitka 43”

MCP - “Rollin crew”

MCP - “Dude, you know what, I’m glad we didn’t<sup>[Expletive]</sup> have  with us”

MSO - “No<sup>[Expletive]</sup>

MP- “Yeah”

MP- “Well, we haven’t done anything”

MCP - “No, I just mean because it’s just been such a cluster<sup>[Expletive]</sup>

MP- "Yeah"

MLM - "Hey, we're going to be switching sides back and forth aren't we?"

MP- "I hear you like to switch sides"

MLM - "Yeah, front back front back"

MLM - "Hey ah, which side is the audience going to be on?"

MP- "They're going to be on the number four engine"

MCP - "On the critical side"

MLM - "Okay, so I need to be on the other side of the airplane?"

MP- "No, yeah you need to be on the number four side"

MLM - "Okie dokie"

MCP - "Hey bro, do you want to ask if we can pull into here?"

MP- "Why?"

MCP - "Kind of like we did the other day? Until these<sup>[Expletive]</sup> have everything set up, and all there arrivals are in. Because depending on where we're parking those guys to prevent from blocking that taxi way."

MP- "That might not be a bad idea"

MP- "I'm hoping they have it pretty much down by the time we get there if we taxi slow, and just yeah minimize brakes on the taxi"

MSO - "Is that secondary FAF, is that overlaying or does that need to be fixed?"

MP- "I'm working on that right now"

MSO - "Oh you're working on that, okay"

MP- "I'm doing the co-pilots<sup>[Expletive]</sup> job is what I'm doing"

"This is tactical, this is tactical"

MSO - "Hey **MP** does \$1,000 to about to \$1,400 sound about right for that screen for a new"

MP- "No"

MSO - "oh, Ok"

MSO - "Well that's what there..."

MP- "Well it is pretty big"

MSO - "Delight snap screens about that size, anywhere from \$1000 to \$1400 on Amazon and different spots"

MP- "For that size, yeah maybe it is a pretty big screen"

MSO - "Screens they don't really get<sup>[Expletive]</sup> up unless they deliberately get<sup>[Expletive]</sup> up right?"

MP- "True statement"

MSO - "So wonder what I should offer him, he's just trying to get rid of, he told me that, he goes, I said how much you asking for and he said..."

Tower - "Calling ground 21A coming in completely unreadable"

MSO - "He said well I didn't really put a price on it I don't think, and I said I don't know I'm on the phone that I was looking at it on, and he said I don't know, I'm just trying to get rid of it, those were his exact words."

Tower - "Calling 21A still coming in extremely unreadable"

MP- "Good words"

MSO - "So what does that say for you to price?"

MP- "5, 400 maybe, probably go less then that"

MCP - "This the Russian open skies flight that they still haven't gotten the FAA clearance form for us to fly tomorrow.... or a Friday"

MP- "Huh"

MCP - "The<sup>[Expletive]</sup> ruskies are here"

MP- "What do you know, we'll show them"

MCP - "So, were holding for two dudes right?"

MP- "Uh yeah"

MCP - "Hercules and somebody else"

MP- "Hercules...Hercules"

MSO - "Alright, well we got a minute"

MSO - "Uh just got one thing for ya there co-pilot, when you push the power up I would be very <sup>[Expletive]</sup> careful about what you did, because they were almost at idle and you pushed them all the way up."

MCP - "What are you talking about?"

MSO - "Point on the takeoff"

MP- "Yeah"

"Okay"

MCP - "Oh the spool up?"

MSO - "And so what we ended up having was one was here, two was down here, three was here, and four was here, if these two would have been reversed, we would have been[Expletive]"

MP- "You would have felt that"

MCP - "You get the moment, as opposed to pushing a 1.15"

MSO - "Yeah"

MCP - "Yeah, trackin"

MSO - "Yeah, I mean because they take a while to spool up, but when they go they[Expletive] go"

MCP - "No, that's a good feedback"

MCP - "[Expletive] I hate it when theMSO has legit[Expletive]"

MP- "Doesn't happen often"

MP- "Alright mission computer data is checked for the pilot and the (?) I'll take it, you take the rest"

MCP - "Alright man you got inboards"

MCP - "Pilot has the aircraft"

MP- "Hopefully they're able to get some of that ..."

\*Stabilizer motion\*

MP- "...down while they're waiting, I bet they can't"

MSO - "Next time, don't call meMSO I'm RACM"

\*Laughs\*

MLM - "Well, Blue Angels sure can't count"

MLM - "1, 2, 3, 7, 5, 6"

"That's what the critique is going to be"

MP - "That's a radio call"

MLM - "And then they put 4 on the end, what the[Expletive]"

MP- "Be advised, it appears the blue angels cannot count"

MSO - "Be advised the Blue Angels are out of order"

"There's a P3"

MSO - "Awww man lets[Expletive] this monkey"

MP- "What did you tell the camera dude?"

MSO - "I told him the first take off would be a weather check and then the next time he saw us go we'd be, well I'll call him again,..just let him know were good, were legit, too legit to quit"

MLM - "Is this a courtsey?"

MP- "Say again?"

MLM - "Is this a courtsey,a bow?"

MP- "Negative"

MCP - "Aww this guys doing a 180 hopefully he's going down here"

MCP - "Alright I got the radios again"

MP- "Yes you do"

MCP - "You talking to him on victor or uniform"

MP- "Uh victor, cause I couldn't hear these other guys coming in"

"No fighters on frequency, supposed to be on victor I think"

MP- "Yeah"

"Love, love"

MCP - "Tower Sitka 43 is checking in with you, holding short 24 at Bravo, well be waiting for barrier (?) coming down"

MSO - "Is that thing still up?"

MP- "Looks like it, I think they're waiting for the Herc to go over it and then they're going to drop it"

MSO - "I'm going to go take a "

"How much gas we got?"

MP- "Uh, 61K left we'll be fine, an hour in a half of flying, we'll probably burn 30"

MP - "Probably land with 20"

MLM - "Are we going to be here for a sec?"

MP- "Yes we will"

MLM - "I'm going to do a right troop door check"

MP- "Copy"

MLM - "Just to make sure it doesn't get hung up like <sup>WITNESS 5</sup> kept saying"

MP- "You're cleared to open; he's the only person that's ever had that problem by the way"

MCP - "Tower Sitka 43"

\*Beep\*

MP- "Troop door"

Tower - "Sitka 43 Tower"

MCP - "Yes sir, just wanted to make sure you guys copied, we're holding short 24 at bravo for the barrier"

Tower - "Affirm and I have the barrier maintenance crew out there right now pulling out your cable for you"

MCP - "No worries"

MLM - "Door checks good"

MP- "QB... Is that Quebec?"

"QB?"

MP - "No, that's Maines"

MLM - "Yeah, it used to be El Toro, I think now its Miramar"

MLM - "Is it on a Herc?"

MP- "Yep"

MSO - "Hey trigger, I just want to say you look good in your helmet"

MLM - "Yeah, it's starting to bring me... give me flashbacks of my herc days... at least I'm not wearing goggles"

MP- "Make sure were good on the checklist once that suckers down"

MCP - "I'm going to leave TCAS on since there are other airplanes out here"

MP- "Okay, I like that"

MCP - "TA/RA"

MSO - "TA/RA"

MCP - "Were going to BA set zero"

MP- "Uh, yeah good call"

MSO - "BA"

MCP - "29.79?"

MP- "I've got 29.82"

MP- "How about 81, nope 80...nope 79 there it is"

MP- "29.79 set"

MCP - "co-pilot"

MCP - "Alright, following before takeoff demo checklist is complete we're standing by on the Line up checklist crew"

MSO - "Alright, so how much how much room do I need on the sides of the screen to be open...if any?"

MP- "What do you mean?"

MSO - "In other words if I put the screen up do I need the sides of the screen to have any opening whatsoever?"

MP- "Like between the sides of the screen and the wall?"

MSO - "Yes"

MP- "No I do not"

MSO - "Like not an opening, but does there need to be a border there of any kind?"

MP- "No, not really however... keep in mind the best sitting position is one in a half screen lengths from the screen, so the larger the screen the deeper the room you'll need"

MSO - "Right"

MP- "To have decent viewing of it"

MSO - "Right, assuming that means you use the whole width of the screen"

MP- "True, but if you don't use the whole width of the screen then it will look like crap"

MSO - "Yeah, okay"

"1..2..3..7..5..6..4"

MSO - "So the width is 10, so I need 15ft from the screen"

MP- "Right"

MLM - "Why don't you just paint the wall white or hang a sheet, save yourself fifteen hundred bucks?"

MSO - "I don't know, why don't I do that?"

MP- "It kills the image quality"

MSO - "Yeah, it kills the image quality"

MLM - "Don't we have any of those old whiteboards laying around you could use?"

"You'll get a glare off the whiteboard"

\*\*Laughing\*\*

MP- "Can't have glare, what the hell"

MLM - "Dude, I still have a regular DVD and a 19...what 99 tv so..."

“How can you watch on that and still respect yourself..?”

MLM - “I can on my MAC”

“Good point”

MLM - “And on my I phone”

MSO - “Okay, so this thing says...let’s see here...”

MP- “I think the barriers off the runway now”

MSO - “Alright, he put in the ad on the screen; he said it is gray or deeper black...so”

MP- “That’s what you want”

MSO - “Okay”

MP- “It’s not really gray, if you look at it...it still looks white”

MSO - “It looks white in the picture”

MP- “Right, mines gray”

MP- “Alright here he goes”

MSO - “So if I bought that one, mine would be bigger”

MP- “Do you have to buy something to make yours biggerMSO is that what you’re saying”

MSO - “Hey, if I’m happy with it that’s all that matters”

\*laughing\*

MLM - “I just and it ”

MSO - “Alright, talk about your imaginationMLM”

\*laughing\*

MP- “You too”

\*laughing\*

MLM - “All it does is ”

\*laughing\*

MLM - “Hey I’m proud to be ”

\*laughing\*

MP- “Alright, so we need to confirm no inbounds, and then we’ll have the air space for 10”

“Got it”

MCP - “Did you get the three hundred approved?”

MP- “Huh?”

MCP - “Did you get the three hundred approved?”

MP- "What do you mean...three hundred?"

MSO - "Don't ask don't tell"

MP- "I think I saw that in a survey somewhere"

MSO - "It's certified, certified for the approved maneuvers were about to do"

MCP - "That was funny, the last time we did it you know we rolled in and somebody was like "how fast you guys do that?" we all looked at each other and were like two-fifty"

\*laughing\*

MCP - "It's like we never even missed a beat"

MSO - "If you don't have a hair on your<sup>[Expletive]</sup> you don't hit two hundred feet today **MP**"

\*laughing\*

MCP - "Yeah, each time we<sup>[Expletive]</sup> land"

\*laughing\*

MP- "Alright, so looks like they're done lets pimp tower, tell them were still ready to go as soon as they don't have any inbounds"

MCP - "And tower, heads up for Sitka 43 sir were going need the air space completely cleared out for probably about ten minutes so, looks like the barrier guys are done. If you guys don't have any inbounds were ready to go"

Tower - "And Sitka 43 heavy, I do have an inbound we got a BE-20 approximately twenty-five miles to fly for a TACAN visual to 6. If I can get you airborne and get you over Goose Bay and then once he's down bring you inbound if that will work for you?"

MP- "nope, nope"

MSO - "Twenty five miles in a BE-20"

MCP - "I got it"

MCP - "Alright, sir that's not going to work for us, we need to do the full profile or nothing. Can you check for us and verify that the NOTAM made it in there?"

Tower - "The NOTAM did make it in there, we have it for you we were just told to work in between your profiles for inbounds and out bounds, so I didn't know if you wanted, basically your profiles going to start on takeoff and then you're going to run through your sequence, is that accurate?"

MP- "yep"

MCP - "That is accurate, yup were going to uh for takeoff we'll do uh probably about three passes and were going to land, were going to have to go to goose in between to cool the gear, but we'll let you know when were going out and when the profiles done."

Tower - "Roger that, after this BE-20 comes inbound I don't have any proposals for a little while, would it be alright if we just waited for him to get down?"

MP- "Well what's the time, how much time does he need? Is he ten minutes out or is he.."

MCP - "Twenty five minutes on the TACAN circle"

MP- "Twenty five minutes or miles?"

MSO - "Twenty five miles out and then he starts to circle"

MP- "Yeah, so..."

MSO - "He's going to be forty [Expletive] miles"

MCP - "That's fine sir for Sitka 43, we'll wait for this one and then once the air space is cleared out we'll go"

Tower - "Roger that, thank you sir"

MP- "That's what the [Expletive] NOTAM's for, to kick them out"

MSO - "I mean he can hold on the [Expletive] TACAN"

MP- "Yeah"

MSO - "Jesus"

MCP - "The only reason I said that is because it might be one of our guys, it's probably one of the north guys"

MSO - "A BE-20?"

MCP - "Yeah, its King Air right?"

MP- "No"

MCP - "What's a BE-20?"

MP- "No"

MSO - "It's a Beech Craft"

MP- "Yeah it's not a C-12... I don't think it is... BE-20"

MCP - "[Expletive] it, we'll get it here"

MSO - "Google it"

\*Laughing\*

MCP - "Dude how awesome would it be if we had Col <sup>WITNESS 16</sup> on board? Now I'm going to the other end of the spectrum, so right now..."

MP- "Right here it would be awesome"

MCP - "All of a sudden he sees our world"

MP- "uh huh"

MCP - "We got a NOTAM published were trying to do the air show..."

MP- "And were waiting on a BE-20 on a twenty five mile TACAN"

MCP - "Doin" practice approaches"

MSO - "It"s a King Air"

MLM - "Hey MP "

MP- "Yep?"

MLM - " texted me that they did 1.7 total flying with nine total landings, so we got to put those in the forms"

MP- "Ah, you didn"t do it?"

MP- "Slacker"

MLM - "No, because he didn"t know how much what his total flying time and stuff was"

MP- "Okay, we"ll write it in dude"

MP- "You know where all that goes"

MLM - "Yeah"

MP- "Alright"

MLM - "I"ll do all of that crap after we take off"

MP- "Well we"ve got ten minutes so... plus five minutes"

MLM - "Well then I got to take the harness off, and then I got to put it back on"

MP- "Oh yeah, yeah, you"re way back there, never mind"

\*Laughing\*

MP- "You"re scared of a little work, it"s all good, I understand"

MLM - " speaking of which, what was our first take off and landing?"

MP- "We did one of those?"

MLM - "Well you can get a dual AFTP"

MP- "Yeah, I think so, we took off at 5:30 I think, and we landed at about 5...12, would you say, about 12 minutes?"

MCP - "Yeah that was definitely what time it was"

MP- "I'm pretty sure that's what it was"

MLM - "Alrighty"

MSO - "Have you seen the new...anyways have you seen the new track pad...that apple released?"

MCP - "What is it?"

MSO - "Track pad...you know how you like, how your the laptop, the Mac Book has a Track Pad on it?"

MCP - "Okay"

MSO - "Well they released a new wireless track pad for like if you have a desktop computer"

MCP - "No<sup>[Expletive]</sup> huh"

MSO - "It's actually the same track pad except it's bigger, pretty sweet"

MP- "That is pretty cool"

MSO - "So you can get a little wireless keyboard, little wireless track pad and then the only thing you need is to machine something"

MP- "Is to what?"

MSO - "To like invent something that would hold those two items together in one"

MP- "So it's like..."

MLM - "Duct tape and cardboard"

MP- "So it's like a laptop?"

\*Laughing\*

MSO - "Like what I've got at my house where you get a..."

MP- "Oh yeah"

MSO - "Where you get like a...or downstairs in a theatre or whatever you hook a Mac mini up to that thing..."

MP- "Hell yeah"

MSO - "New track pad, see"

MP- "Sweet"

MCP - "That's cool"

MSO - "Conveniently priced at \$69"

MP- "There still five minutes out"

MSO - "Yup, ... [Expletive] King Airs are not [Expletive] fast, should have had them [Expletive] turn and hold"

MCP - "They got kicked out of the dissimilar formation for..."

MP- "Being too slow"

MCP - "For being too [Expletive] slow"

MLM - "Hey, can I ask a favor?"

MP- "You can ask"

MLM - "Can you guys keep track of the gears cycles"

MCP - "It's ten<sup>MLM</sup>"

MLM - "During the demo?"

MCP - "Yeah absolutely I will"

"1..."

MLM - "Yeah I already got that one"

"2...3"

\*Laughing\*

MLM - "So it's just 10?"

MCP - "I'll let you know at the end"

MCP - "Now what constitutes a cycle, up? Or up and down? Is up and down one? or is up and down two?"

MLM - "Every time you put it down that's the gear cycle"

Tower - "(?)...8 miles on the TACAN runway 16 to circle to runway 6....(?) "

"That's agreeable"

MSO - "8 miles out, and he's circling..."

Tower - "Northwest 7 approved as requested report gear down wind 240 at 5 runway 6 clear to land"

Tower - "Northwest 7 is gear down clear to land runway 6"

MCP - "Might have DV's on board or something"

MSO - "DV's and he's doing a TACAN"

MP- "I doubt it"

MCP - "Oh yeah"

MCP - "What you got going on there buddy?"

MP- "I really won't discuss that until after the air show"

MCP - "Rhymes with itches?"

\*Laughing\*

MP- "I will say its **MSO**'s fault"

"What'd you do?"

MP- "It'll make for a humorous story, I'm sure"

"You got to just tell us now"

MP- "So, uh..."

MCP - "Doesn't look like it hurts to touch, it's obviously cutting some kind of a wound, you got stitches didn't you?"

MP- "Oh no"

MP- "No...no it's to cut down on mobility"

MP- "So, I got roped into going out the other night because **MSO** ...kept giving me<sup>[Expletive]</sup>"

\*Laughing\*

MSO - "Oh no you didn't"

MP- "Dude, you gotta go out you gotta go out you gotta go out"

"Hey, I'm going to try that number one SOV"

"Give it a whack and try to turn it on there"

MP- "So I finally said alright<sup>[Expletive]</sup> it I'll go out, and Thursday what happens with **MSO** within five minutes he gets booted out of the bar for being too drunk and I'm sitting there on my own, actually I was with the rest of the guys at the wedding with the wedding party because it was the uh brother in laws.....

MSO -"Aww there commencing the circle"

MP- "It was his brother in laws bachelor party, so of course what are we gonna do is ride the bull..."

\*Laughing\*

\*Beep\*

MCP - "What was her name?"

MP- "I was riding the<sup>[Expletive]</sup> out of that bull, and environmental, shutting it off again"

MP- "Underhand"

MP- "And moved forward and twisted like this caught myself with the thumb, heard a crack"

MP- "Over the music, over the music"

"Ohhhh, owe"

MCP - "It, doesn't look all that swollen though"

MSO - "Does it rhyme with choke?"

MP- "Yeah, it does"

"Oh"

MSO - "You didn't get a cast on it?"

MP- "Haven't decided yet"

MSO - "You [Expletive] why would you do [Expletive] like that?"

\*Laughing\*

MCP - "Didn't you mess this one up last time from snowmobiling? You messed up...."

MP- "No this finger was broke last air show I did"

MP- "My other hand is still sore from (?) on **MSO**"

MCP - "Dude, is that [Expletive] coming down or is it me?"

MCP - "Watch (can't make out name?) Come in, I'd like to give a PIREP of 2300"

MCP - "That's what I would've done"

\*Laughing\*

MCP - "If I was being a [Expletive] like alright [Expletive] you don't want me to circle"

\*Laughing\*

MCP - "It'd be funny too, I'd do it on like uniform or something like that so you guys, and I know you guys could still hear me"

\*Laughing\*

MCP - "But, I wasn't really calling it in"

MCP - "That'd be funny"

MP- "What approach did they [Expletive] do?"

MCP - "TACAN circle"

MSO - "TACAN to 16 circle"

MP- "I didn't think the TACAN was so long"

MSO - "Yup, we would have had one down, I'm just saying"

MP- "Yes we would have"

Tower - "Northwest 7 if able left turn at delta, contact ground when off"

Tower - "Northwest 7 left turn at delta wilco thanks"

MCP - "Yeah, he's a good dude"

MCP - "Alright, MLM you ready to go?"

MLM - "Roger"

Tower - "Sitka 43 heavy position and hold runway 6"

MCP - "Onto hold runway six sir we would like to taxi up so"

Tower - "Like to taxi, what was that?"

MP- "Ah don't, just uh disregard, he doesn't care...It's our<sup>[Expletive]</sup> field we'll do what we want"

MCP - "Ah disregard, I was just going to let you know were taxiing out but I guess we pretty much have the air space so."

Tower - "A FIRM"

MSO - "Blue Angels, 1...2...3...7...5...6...4"

\*Laughing\*

MP- "What time is it?"

MSO - "Game time"

MP- "<sup>[Expletive]</sup> right"

\*Laughing\*

"What the<sup>[Expletive]</sup>

MCP - "Alright crew, slats are extended flaps are one half index 75 for the co-pilot"

MP- "Safety, I'll be safety"

Tower - "Sitka 43 heavy your discretion wind 240 at 4, runway 6, clear for takeoff"

MSO - "That's your call on the takeoff, try to piss me off, I know what I'm doing here"

Tower - "The space is yours, so advise when ready to land"

MCP - "Roger cleared for takeoff runway 6 Sitka 43"

MCP - "Spoiler switch is armed, anti ice is off, TOGA mode hey how is this going to<sup>[Expletive]</sup> with us while we're doing the profile with the icing on there?"

MP- "It'll be fine, I'll just minimize the use of number one"

MCP - "Alright so..."

MP- "This is lovely"

MSO - "As soon as you push ,em up I'll try it, if you want?"

MCP - "Hydraulic reservoir temperatures are checked, exterior lights are set, IFF we are squawking, Line up checklist is complete"

MP- "15 seconds"

MCP - "Want to fix you're wiper real quick?"

MP- "It won't, it'll be alright, it'll fix itself when we're airborne"

MCP - "Alright, 5...4...3...2...1 brakes, release"

MSO - "Hacking clock if you want"

MCP - "Air speeds alive"

MCP - "80 Knots"

MCP - "Go, rotate"

MSO - "gear, gear, gear, gear"

\*Beep\*

"Tank not inert crew"

MCP - "Very nice brother"

MCP - "Thirty to your heading...10"

MSO - "Thousand 1...thousand 2...thousand 3...thousand 4...5...6...7...turn"

\*Stall Stall Stall\*

MCP - "Acknowledged crew"

MCP - "Temperature, altitude, lookin' good"

MCP - "That's a tight turn"

MSO - "Watch your bank, WATCH YOUR BANK, WATCH YOUR BANK!"

MCP - "(QUICK/STICK?) GRAB IT!"

MCP - "MAX POWER, MAX POWER"

\*sink rate, sink rate, sink rate\*

MP- "Oh my god"

-END-

## N2. AIR TRAFFIC CONTROL TRANSCRIPTS

### N2.1. SITKA 43 WATCH SUPERVISOR POSITION TAPE TRANSCRIPT



DEPARTMENT OF THE AIR FORCE  
3<sup>rd</sup> Operations Support Squadron (PACAF)  
Elmendorf AFB, Alaska

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3 OSS/OSAT

SUBJECT: SITKA43 Watch Supervisor Position Tape Transcript

This transcript includes transmissions made on 12 February 2010 between 2225z and 2237z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from the WATCH SUPERVISOR position and includes transmissions from LOCAL, COORDINATOR, APPROACH, GROUND, and PARI. The following is a list of abbreviations used throughout the transcript:

A11 Anchorage Approach  
AM Airfield Management  
LHT Lake Hood Tower  
MAJ Major V  
MT Merrill Tower  
N47 NORTH47  
S43 SITKA43  
WS Watch Supervisor

<u>TIME</u>	<u>POSITON/CALLSIGN &amp; NARRATIVE</u>
02:14:31	N47 – "Elmendorf Tower, North four seven, eight miles on the TACAN, Runway One Six, circle to Runway Six, full stop."
02:14:41	WS – "North Four Seven, approved as requested, report gear down, wind two four zero at five, Runway Six, cleared to land."
02:14:49	N47 – "North four seven is gear down, cleared to land runway six."
02:16:49	N47 – "Tower, North four seven is commencing the circle"
02:17:22	MT – "Lake Hood Tower, Merrill on the loop, APREQ, direct."
02:17:26	LHT – "Lake Hood."
02:17:28	MT – "Cessna six six six two five direct your place."
02:17:31	LHT – "Approved, TJ"
02:17:32	MT – "JB"

02:18:07 N47 – “Tower, North four seven left base, gear down, full stop, Runway Six.”  
02:18:10 WS – “North four seven, current winds two four zero at five.”  
02:18:14 N47 – “North four seven copies, confirm we are cleared to land.”  
02:18:18 WS – “Affirm.”  
02:19:17 WS – “North four seven, if able turn left at delta, contact ground when off”  
02:19:22 N47 – “North four seven left turn at delta wilco”  
02:19:26 AM – “This is Ops”  
02:19:27 WS – “North four seven landed at zero two one nine”  
02:19:31 AM – “Gotcha, EZ”  
02:19:32 WS – “WK”  
02:19:33 WS – “Sitka four three heavy, position and hold Runway Six.”  
02:19:37 S43 – “On the hold Runway Six, sir we’d like to taxi up some.”  
02:19:43 LC – “You’d like to taxi, a what was that.”  
02:19:49 S43 – “Uhh disregard, I was just gonna let you know were taxiing, but I guess we pretty much have the airspace though”  
02:19:54 WS – “Affirm”  
02:20:29 WS – “And, uhh, Sitka four three heavy your discretion wind two four zero at four; Runway Six, cleared for takeoff airspace is yours, advise when ready to, uhh, land”  
02:20:39 S43 – “Roger that, cleared for takeoff, Runway Six, Sitka four three”  
02:22:33 Emergency Locator Transmitter  
02:22:42 GC: “All parties standby”  
02:22:44 UNK: “Crashphone”  
02:22:46 GC: “This is Elmendorf Ground with an inflight emergency. Callsign, Sitka four three type aircraft, C-17. Plane just crashed to the northwest of the CAC. I say again, the aircraft just crashed to the northwest of the CAC. Current winds two four zero at five.”  
02:23:39 A11 – “Tower, Approach.”

02:23:41 WS - "Sir, I'll have to call you right back."

02:24:51 WS - "Approach, Elmendorf on the One Seven."

02:24:53 AT1 - "Approach."

02:24:55 WS - "Say request."

02:24:56 WS - "You called and I had"

02:24:58 AT1 - "We didn't have a request we were just wondering if there is, uhh."

02:25:00 WS - "Uhh yes, we just lost a C-17"

02:25:03 AT1 - "Alright thanks (initials inaudible)"

02:25:31 WS - "Tower."

02:25:32 AM - "Hi, I'm gonna suspend Ops"

02:25:33 WS - "Ok, Runway ops suspended, We'll call it it zero two two five."

02:25:36 AM - "SE."

02:25:37 WS - "WK."

02:26:06 MAJ - "Hey this is Major V at Top Rock, hey you guys, what's up with that smaoke over there? Can you give me a heads up on that?"

02:26:11 WS - "Uh, yes sir, we just lost Silka four three heavy, the C-17 showbird"

02:26:15 MAJ - "Uh, we just lost?"

02:26:17 WS - "He crashed"

02:26:18 MAJ - "Ok, Copy that"

02:26:19 WS - "Whiskey Kilo."

02:26:20 MAJ - "Bye."

02:27:36 WS - "Approach, Elmendorf on the One Seven."

02:27:40 AT1 - "Approach."

02:27:40 WS - "Uh, Runway Six, Ops suspended officially at zero two two five."



## N2.2 SITKA 43 GROUND CONTROL TAPE



DEPARTMENT OF THE AIR FORCE  
3<sup>rd</sup> Operations Support Squadron (PACAF)  
Ehrendorf AFB, Alaska

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3 OSS/OSAT

SUBJECT: SITKA43 Ground Control Tape Transcript

This transcript includes the Ground Control (GC) Position recordings from the night of 28 July 2010 between 0212z and 0233z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from GC position recording. The following is a list of abbreviations used throughout the transcript:

AF3	Airfield 3
B1	Battalion 1
B2	Battalion 2
BOPS	Base Operations
CHI	Chief 1
C14	Crash 14
C42	Crash 42
CH2	Chief 2
DP	Dispatch
ENG3	Engine 3
EOC	Emergency Operations Center
EQ44	Equipment 44
FC	Fire Control
GC	Ground Control
MOCC	Maintenance Operations Control Center
M6	Medic 6
N47	North 47
RCH167	Reach 167
T41	Tender 41
UNK	Unknown
W1	Warrior 1

<u>TIME</u>	<u>POSITION/CALLSIGN &amp; NARRATIVE</u>
02:15:29	RCH167: "Ehrendorf Ground, Reach heavy one six seven."
02:15:33	GC: "One six seven, Ehrendorf Ground."
02:15:37	RCH167: "Copy radio check, how copy?"
02:15:39	GC: "Have you loud and clear sir, how me?"
02:15:42	RCH167: "Loud and clear, thanks."
02:15:43	"click-click"

02:16:22 GC: "Tower recorded line."  
02:16:24 MOCC: "Yes sir I need tow clearance, aircraft one three five going from fox one to hangar fifteen south."  
02:16:30 GC: "Lima Zulu."  
02:16:31 MOCC: "Thank you."  
02:17:26 EQ44: "Ground, Equipment four four."  
02:17:31 GC: "Equipment four four, good evening sir, Elmendorf ground."  
02:17:36 EQ44: "Good evening yeah can I get approval on zero six on the uh departure end for a few minutes?"  
02:17:43 GC: "Equipment four four hold short of runway six for arriving traffic."  
02:17:48 EQ44: "Holding short, thank you"  
02:18:00 GC: "And Equipment four four continue holding short of the runway, you can expect about a one five minute delay..."  
02:18:04 UNK: (overkey garbled)  
02:18:05 GC: "Fifteen minute delay"  
02:18:06 UNK: (overkey garbled)  
02:18:07 GC: "Runway six for arriving traffic and then the, uh, C seventeen on Bravo has to start his airshow practice pretty soon."  
02:18:15 EQ44: "Copy that, can I get across, uh, three four on November."  
02:18:20 GC: "Equipment four four, approved as requested, proceed across three four at November advise when off."  
02:18:25 EQ44: "Four four, proceeding across three four at November, will advise, thank you."  
02:18:40 GC: "And for Equipment four four do you need to proceed on the runway sir or just up to and holding short of it?"  
02:18:48 EQ44: "Eh...would be nice if I could get right on the departure end just for a matter of maybe two minutes."  
02:18:53 GC: "Alright, copy all sir, uh hold short runway six at the departure end."  
02:18:59 EQ44: "Copy that holding short."  
02:19:03 EQ44: "And holding short three four."  
02:19:06 GC: "Roger."

02:19:52 GC: "Yep."

02:19:52 BOPS: "We got a VFR."

02:19:54 GC: "We do now?"

02:19:55 BOPS: "Yep."

02:19:56 GC: "Go."

02:19:57 BOPS: "November three niner five two two."

02:19:59 GC: "Uh huh."

02:20:00 BOPS: "At zero two three zero."

02:20:01 GC: "Hey, you said that was NORTH47 right?"

02:20:09 GC: "That's, That's not going to happen dude. Uhh...dead serious. That C-17 is starting his airshow practice now and the airspace is pretty much NOTAM'ed closed for the next two hours."

02:20:09 BOPS: "Oh yea that's right. Copy that, thanks."

02:20:11 GC: "Yep, LZ."

02:20:19 N47: "Elmendorf ground North47 request taxi to park."

02:20:24 GC: "NORTH47, Elmendorf ground, good evening sir, taxi to park via delta, juliet."

02:20:27 N47: "Delta, juliet. Good evening, NORTH47, thanks."

02:21:53 GC: "And Equipment four four, ground."

02:22:40 WS: (In background) "Got it."

02:22:42 GC: "All parties standby"

02:22:44 UNK: "Crash on"

02:22:46 GC: "This is Elmendorf Ground with an inflight emergency. Callsign, SITKA43. Type aircraft, C-17. Plane just crashed to the northwest of the CAC. I say again, the aircraft just crashed to the northwest of the CAC. Current winds are two four zero at five."

02:23:39 GC: "Attention all emergency responders, Elmendorf ground is up the crash net."

02:24:35 C42: "Tower this is Crash42, we're going to respond (garbled transmission) cross three four (garbled) zero six go out the gate for all response vehicles."

02:24:51 GC: "Attention all emergency responders, Crash, are you on the net?"

02:24:53 UNK: "Tower Crane 1."

02:25:00 GC: "Battalion1 Elmendorf ground, simulcasting on the crash net. Proceed across all runways, proceed across all runways."

02:25:10 GC: "Battalion1 plus all emerg... Battalion1 plus all emergency responders proceed across runway three four at November or six via diagonal. Just advise when all vehicles are off the runway."

02:25:22 B1: "Tower this is Battalion1, I want a blanket clearance for all emergency response ve..."

02:25:26 GC: "Battalion1 approved as requested. Battalion1 approved as requested."

02:25:32 B1: "(garbled...) blanket clearance to cross through the elbow"

02:25:40 UNK: "one, one, four, four, we're comin to your left."

02:25:44 EQ44: "Ground for Equipment44 (garbled) approval to cross three four."

02:25:51 UNK: "All crew out there, be safe ok. We've got blanket clearance."

02:25:58 UNK "(garbled) this guy along we got this."

02:26:04 UNK: "Control, What do we have?"

02:26:09 ENG3: "Battalion1, this is Engine3. This is looking like it's more down Davis highway area."

02:26:16 B1: "Chief2, Battalion1."

02:26:20 CH2: "Go."

02:26:22 B1: "Yea, I'm down here by station six. We have a heavy fire and heavy smoke pouring from northwest and the freight area. It appears we do have a C-17 that went down."

02:26:37 UNK: "Uhh, I wonder if I should call ?"

02:26:38 B2: "All crews, it's off the beaten path. We're gonna have to take the, uhh, this is Battalion2, the railroad access road to get out there."

02:26:50 C14: "Battalion1, Crash14, we have engine two tender."

02:26:56 AF3: "Ground, Airfield3 request proceed on runway six from November."

02:27:00 UNK: "I want you to grab tender"

02:27:02 GC: "Airfield3 proceed on runway six."

02:27:05 AF3: " Tower, Airfield3 is proceeding on runway six, advise when off."

02:27:09 M6: "Fire control, Medic6 is in route."

02:27:17 B2: "Fire control, this is Battalion2. Go ahead and activate station five and have them roll there tender."

02:27:23 FC: "Copy."

02:27:25 B1: "Chief2, Battalion1."

02:27:28 CH2: "Go ahead."

02:27:29 B1: "Yea, I recommend we start working the EOC."

02:27:42 B1: "Tower, Battalion1."

02:27:44 UNK: "Battalion2 is in the station, we're gonna roll out with the crash truck and the tender."

02:27:55 B1: "Tower, Battalion1."

02:27:58 UNK: "Sweeper five, Mr. . Be careful coming back up around Vandenberg and Arctic Warrior (stepped on) five hundred feet AGL."

02:28:02 GC: "Battalion1, this is Elmendorf tower on the crash net."

02:28:06 B1: "Yea, we need you to restrict all air movement to five hundred feet AGL."

02:28:21 GC: "Battalion1 say again sir you were stepped on."

02:28:23 B1: "(garbled....) movement five hundred feet AGL."

02:28:31 GC: "Battalion1 one sir, you came in unreadable sir. Say again please."

02:28:36 B1: "Tower Battalion1, I want you to restrict all air movement five hundred above."

02:28:41 GC: "Battalion1 uh, copy all Elmendorf tower wileo."

02:28:49 B1: "Chief2, Battalion1"

02:28:55 CH1: "Elmendorf Tower this is Chief1"

02:28:57 LL97: "Ground, LL97"

02:29:01 GC: "LL97 maintain radio silence, I'll call you back as soon as I get a second"

02:29:05 LL97: "Rog"

02:29:07 GC: "Calling ground on crash net say again"

02:29:10 CH1: "Elmendorf Tower this is Chief1, I need you to make sure to clear your airspace"

02:29:16 GC: "Chief1 Elmendorf air space is closed at this time, Elmendorf airspace is closed at this time, we may be mobilizing search and rescue helicopters shortly but other than that there will be nobody comin in or out."

02:29:37 RECOVERY: "Battalion Chief, Recovery"

02:29:53 UNK: "You think I'll make it 7-14?"

02:30:01 UNK: "The easiest way to get there is you gotta take the fire department access road where our fire department training area is. Keep following the road straight."

02:30:13 FC: "Battalion1, Fire Control"

02:30:14 B1: "Go ahead"

02:30:16 Fire Control: "[garbled]"

02:30:21 GC: "Chief1, Elmendorf Ground on crash net when you get a second."

02:30:29 UNK: "Let's get A-F-D to start backtowing on a station2 station3"

02:30:36 T41: "Command Tender41's responding"

02:30:46 GC: "Chief1 Elmendorf Ground on the crash net or battalion commander"

02:30:54 FC: "Battalion1, Fire Control"

02:30:57 B1: "Go ahead"

02:30:58 FC: "What specific unit do you want from A-F-D?"

02:31:05 B1: "If you get uhh, engine companies from both station2 and station3 responding to this call then uhh, we wanted an engine, possibly two engines. Back tow both those stations."

02:31:19 B2: "All units break, Battalion2 is on scene. I do have heavy smoke and fire in the trees, it's scattered across the railroad tracks from both sides. The easiest way to access this is gonna be coming down to fire department training areas road. We do have multiple wreckage all over. Standby for further."

02:31:40 CH2: "Chief2 Copy"

02:31:42 B1: "Dispatch, Battalion1"

02:31:46 Dispatch: "Go ahead sir"

02:31:48 B1: "Yea, due to the wreckage, uhh, involving the railroad, you need to contact them and call for a line stoppage. You need to stop all traffic on that railroad coming into Elmendorf or in the proximity of Elmendorf base."

02:32:05 Dispatch: "Copy"

02:32:12 M6: "Command, Medic6, we are following Rescue4"

02:32:19 UNK: "All responding crews stay back, we do have live ammunition firing off into the trees."

02:32:22 AF2: "Tower, Airfield2 request to cross"

02:32:27 AF2: "Tower disregard"

02:32:29 W1: "Ground, Warrior1 to cross the active at the diagonal ..."

02:32:30 UNK: "Engine3 (background)"  
02:32:35 GC: "Warrior1 cross runway six at the diagonal!"  
02:32:38 T41: "Command, Tender..."  
02:32:40 T41: "Tender41 is responding"  
02:32:54 AF3: "Ground AF3 holding short of all runways"

END OF TRANSCRIPT

"I certify this to be a true and exact transcript of the original recording on file at this office at Elmendorf AFB, AK."

//SIGNED//

MSgt, USAF  
Complex Chief Controller

### N3. COMMAND AND CONTROL TRANSCRIPTS

#### N3.1 SITKA 43 PRIMARY CRASH PHONE TAPE TRANSCRIPT



DEPARTMENT OF THE AIR FORCE  
3<sup>rd</sup> Operations Support Squadron (PACAF)  
Elmendorf AFB, Alaska

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3 OSS/OSA/T

SUBJECT: SITKA43 Primary Crash Phone Tape Transcript

This transcript includes Crash phone recordings from the night of 28 July 2010 between 0222z and 0223z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from the Primary Crash Phone. The following is a list of abbreviations used throughout the transcript:

CAC: Combat Alert Cell  
GC: Ground Control  
UNK: Unknown

<u>TIME</u>	<u>POSITION/CALLSIGN &amp; NARRATIVE</u>
02:22:42	GC: "All parties standby"
02:22:44	UNK: "Crash on"
02:22:46	GC: "This is Elmendorf Ground with an inflight emergency. Callsign, SITKA43. Type aircraft, C-17. Plane just crashed to the northwest of the CAC. I say again, the aircraft just crashed to the northwest of the CAC. Current winds are two four zero at five"

END OF TRANSCRIPT

"I certify this to be a true and exact transcript of the original recording on file at this office at Elmendorf AFB, AK."

//SIGNED//  
MSgt, USAF  
Complex Chief Controller

### N3.2 SITKA 43 SUPERVISOR OF FLYING TELEPHONE TRANSCRIPT



DEPARTMENT OF THE AIR FORCE  
3<sup>rd</sup> Operations Support Squadron (PACAF)  
Elmendorf AFB, Alaska

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3 OSS/OSAT

SUBJECT: SITKA43 Supervisor of Flying Telephone Transcript

This transcript includes phone call recordings from the night of 28 July 2010 between 0224z and 0229z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from the Supervisor of Flying (SOF) position, phone number 552-3010. The following is a list of abbreviations used throughout the transcript:

ADO	Assistant Director of Operations
DO	Director of Operations
LCL	Lt. Col. L
SAR	Search and Rescue
SOF	Supervisor of Flying
UNK	Unknown

TIME            POSITION/CALLSIGN & NARRATIVE

PHONE CALL #1

02:24:12	(Phone ringing)
02:24:24	SOF: "Truck are rolling out there?"
02:24:26	UNK: (background) "Yes sir."
02:24:28	UNK: "            WITNESS 3 "
02:24:30	SOF: "Hey, I need to talk to your ops, I need to talk to your squadron commander or your ops sup right now."
02:24:33	UNK: "K, I'm the ADO, standby for the DO."
02:24:37	LCL: "Hey, this is Lietenant Colonel L
02:24:38	SOF: "Hey this is <b>CAPTAIN S</b> , I'm the SOF right now, uh, we just lost your Sitka. Uhh."
02:24:45	LCL: "Oh, you're kidding..."

02:24:46 SOf: "Uh, it's a, it crashed approximately, uh, a mile north east of the ninetieth fighter squadron. Umm, it was a, the jet was completely banked up so, we're running the trucks out there right now but uh, there's no way anyone survived."  
02:25:02 LCL: "Okay, I appreciate that. Uhh, You guys are, uh, making the checklist (garbled)."  
02:25:09 SOf: "Yup, we're running the checklist right now, umm if you could notify the commander, and start ridin' your uh, emergency action checklist."  
02:25:13 LCL: "Okay"  
02:25:14 SOf: "We're uh, we're rolling the trucks out right now."  
02:25:15 LCL: "Okay, thank you I appreciate it."  
02:25:17 SOf: "Alright sir, see ya."  
02:25:18 LCL: "Bye."

PHONE CALL #2

02:27:06 (Phone ringing...no answer)  
02:27:18 (Phone ringing...no answer)  
02:28:29 SOf: (to tower controller) "I'm gonna send the SAR helos over there."  
02:28:33 SOf: (Answer machine pick up) " [Expletive] "

END OF TRANSCRIPT

"I certify this to be a true and exact transcript of the original recording on file at this office at Elmendorf AFB, AK."

//SIGNED//  
MSgt  
Complex Chief Controller

**N4. OTHER AVAILABLE TRANSCRIPTS**

**N4.1 SITKA 43 SUPERVIOR OF FLYING TAPE TRANSCRIPT**



DEPARTMENT OF THE AIR FORCE  
3<sup>rd</sup> Operations Support Squadron (PACAF)  
Elmendorf AFB, Alaska

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3 OSS/OSAT

SUBJECT: SITKA43 Supervisor of Flying Tape Transcript

This transcript includes phone conversations from the night of 28 July 2010 between 0218z and 0232z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from Supervisor of Flying (SOF) position. The following is a list of abbreviations used throughout the transcript:

- 90<sup>th</sup> 90<sup>th</sup> Fighter Squadron
- AV Airman V
- BD Bulldog Squadron
- CP Command Post
- ELT Emergency Locator Transmitter
- JP Jackpot
- P.J. Para-jumper
- RCC Rescue Control Center
- SAR Search and Rescue
- SC Sergeant C.
- SOF Supervisor of Flying
- UNK Unknown

**TIME                      POSITION/CALLSIGN & NARRATIVE**

**PHONE CALL #1**

- 02:18:34 CP: "Elmendorf command post Sergeant V "
- 02:18:36 SOF: "Hey, it's Captain S again."
- 02:18:37 CP: "Yes sir"
- 02:18:38 SOF: "Just calling to make sure that the fuel trucks made it out to the jets?"
- 02:18:39 CP: "Yep, they're out at the jets."
- 02:18:41 SOF: "Awesome."
- 02:18:41 CP: "Alright."

02:18:42 SOF: "Thanks."

02:18:42 CP: "You're welcome."

PHONE CALL #2

02:18:52 (Phone ringing)

02:18:57 SC: "Five-two-five, Sergeant"

02:18:58 SOE: "Hey, top three please."

02:18:59 SC: "Hold on please."

02:19:04 JP: "Jackpot speaking."

02:19:05 SOF: "Hey jackpot, it's <sup>CAPT S.</sup>"

02:19:06 JP: "Hello."

02:19:07 SOF: "They are being refueled as we speak."

02:19:08 JP: "Yep, thank you."

02:19:10 SOF: "You're welcome. See ya."

02:19:11 JP: "See ya."

PHONE CALL #3

02:19:14 (phone rings)

02:19:24 AV: "Ninetieth, Airman V"

02:19:25 SOE: "Hey can you tell the top three that the jets are being refueled at Anchorage?"

02:19:28 AV: "Yes sir."

02:19:30 SOF: "Thanks."

02:19:30 AV: "YEP"

02:22:33 ELF

PHONE CALL #4

02:23:11 SOF: (Phone ringing)  
02:23:14 SOF: "Oh geez."  
02:23:19 SOF: "[Expletive]"  
02:23:23 SOF: "Sir?"  
02:23:24 UNK: "Talk to me."  
02:23:25 SOF: "Sir, uh, we just lost a C-17."  
02:23:28 UNK: "What?"  
02:23:29 SOF: "It just, if you look out your window it just crashed about uhh, two miles north east of the dice men."  
02:23:34 UNK: "Got it, alright, start running the checklist."  
02:23:36 SOF: "We're running it sir."  
02:23:37 UNK: "See ya."  
02:23:39 SOF: "See ya."

PHONE CALL #5

02:25:33 SOF: (Phone rings)  
02:25:34 CP: "Sergeant W ."  
02:25:35 SOF: "Captain S in the tower."  
02:25:36 CP: "Hey sir."  
02:25:37 SOF: "Umm, hey, we just lost a C-17 one mile north east of the ninetyeth fighter squadron."  
02:25:42 CP: "Okay sir."  
02:25:44 SOF: "You need to send all the fire trucks and all the emergency response to approximately off the flight line approximately one mile north of the of the dice men."  
02:25:50 CP: "One mile north of. . ."  
02:25:52 SOF: "North east of the ninetyeth fighter squadron in the tree line. You'll see the smoke."

02:25:55 CP: "Yes sir."  
02:25:56 SOF: "All the fire trucks need to go over there, not on the airfield."  
02:26:00 CP: "Okay, not on the airfield."  
02:26:01 SOF: "Yes."  
02:26:02 CP: "They need to go one mile northeast, northeast of the ninetieth."  
02:26:03 SOF: "That's correct."  
02:26:04 CP: "Okay sir, got it."  
02:26:05 SOF: "Ok, Thanks."  
02:26:06 CP: "Um hmm, bye."  
02:26:07 SOF: "Sir?"  
02:26:08 UNK: "Okay where exactly are you looking at man? I'm looking out my window right now."  
02:26:11 SOF: "It is one mile northeast of the dicemen. It's a giant column of smoke."  
02:26:16 UNK: "Alright, I see it, alright, uh thanks man. See ya."  
02:26:19 SOF: "Alright sir, see ya."

PHONE CALL #6

02:28:38 SOF: (Phone rings)  
02:28:41 RCC: "RCC, Lieutenant Colonel V  
02:28:43 SOF: "Hey, Sir, Captain S from Elmendorf."  
02:28:45 RCC: "Yes."  
02:28:46 SOF: "Um, I was wondering if you could launch the SAR forces? We just lost a C-17 in the tree line approximately one mile northeast of our airfield."  
02:28:53 RCC: "Okay."  
02:28:54 SOF: "There is a giant column of smoke it should be easy for the chopper pilots to see it."

02:28:58 RCC: "Okay, so it is like off the end of the north south runway?"

02:29:00 SOF: "Yes, it, are you familiar with this base at all? Do you know where the ninetyeth fighter squadron is?"

02:29:04 RCC: "Yes"

02:29:05 SOF: "It is one mile northeast of those ninetyeth fighter squadron."

02:29:07 RCC: "Okay. Uh okay, we already saw the column so we've, we've got some guys movin' that way. Umm, is it accessible by road? Do you know? We'll send some P.J.'s there on the ground also."

02:29:16 SOF: "Uh, unknown. Uh, but lookin' at the tree line I think it's very difficult to get to. Um, they prob, you can try, send everything you got at it"

02:29:23 RCC: "We will do that."

02:29:24 SOF: "Thank you sir."

02:29:25 RCC: "Okay."

02:29:26 SOF: "See ya."

02:29:27 RCC: "Bye."

PHONE CALL #7

02:29:45 SOF: (Phone rings)

02:29:51 AV: "Ninetyeth, Airman V."

02:29:52 SOF: "Top three please."

02:29:53 AV: "One moment."

02:30:51 90<sup>th</sup>: (Inaudible background noise) "Captain P"

02:30:52 SOF: "u . . ."

02:30:53 90<sup>th</sup>: "Yea?"

02:30:54 SOF: "Dude, uh, stand by for the recovery of the fighters. I don't think it's gonna happen tonight."

02:30:58 90<sup>th</sup>: "What happened to the C-17?"

02:31:02 SOF: "Uh, dude, it went straight in."

02:31:03 90<sup>th</sup>: "See ya."

02:31:04 SOF: "See ya."

PHONE CALL #8

02:31:08 SOF: (Phone rings)

02:31:13 BD: "Bulldog, Captain F speaking."

02:31:15 SOF: "Hey stand by on the recovery of the fighters. I don't think they're gonna come back tonight."

02:31:18 BD: "Yea, I just heard something on the crash net."

02:31:20 SOF: "Yea."

02:31:21 BD: "Is that related?"

02:31:23 SOF: "Yes."

02:31:24 BD: "Okay, alright uh I'll, I'll text anchor and get him on the phone."

02:31:28 SOF: "Okay."

02:31:29 BD: "Alright."

02:31:30 SOF: "Bye."

02:31:31 BD: "Thanks sir."

END OF TRANSCRIPT

"I certify this to be a true and exact transcript of the original recording on file at this office at Elmendorf AFB, AK."

//SIGNED//  
MSgt. USAF  
Complex Chief Controller

## N4.2 SITKA 43 WATCH SUPERVISOR TELEPHONE TRANSCRIPT



DEPARTMENT OF THE AIR FORCE  
3<sup>rd</sup> Operations Support Squadron (PACAF)  
Elmendorf AFB, Alaska

3 August 2010

MEMORANDUM FOR 3 OSS/OSA

FROM: 3 OSS/OSAT

SUBJECT: SITKA43 Watch Supervisor Telephone Transcript

This transcript includes phone call recordings from the night of 28 July 2010 between 0223z and 0234z. The Tower's time was recorded from GPS by the DVRS at the time of this transcript. This transcript is from Watch Supervisor position, phone number . The following is a list of abbreviations used throughout the transcript:

ANC	Anchorage Tower
LCC	Lt Col. G
LZ	SrA H
WR	MSgt W
WS	Watch Supervisor
UNK	Unknown

TIME                      POSITION/CALLSIGN & NARRATIVE

PHONE CALL #1

02:23:29	WS: (phone rings)
02:23:41	WR: "Hello?"
02:23:42	WS: (to UNK in background) "Sir, I have to call you right back." (to WR) "uh, we just lost a C17."
02:23:45	WR: "You just lost it?"
02:23:47	WS: "Sitka four-three just crashed north west, north east of the CAC."
02:23:50	WR: [Expletive] get out."
02:23:54	WR: "Hello?"
02:23:55	WS: "Yea, I'm serious."
02:23:57	WR: [Expletive]
02:23:58	WR: "He just crashed on his initial turn."
02:24:00	WR: "Oh [Expletive]"

02:24:03 WS: "He is down."  
02:24:04 WR: "Alright umm...alright, you guys start running the checklists and I'll call the captain."  
02:24:05 WS: "Roger."  
02:24:06 WR: "Alright bye."

PHONE CALL #2

02:24:43 WS: (phone rings) "Air traffic control Sergeant W  
02:24:44 ANC: "Hey this is over at Anchorage tower, is everything okay over there?"  
02:24:46 WS: "Uh, negative we just lost one."  
02:24:46 ANC: "Oh (inaudible)"  
02:24:48 WS: (To UNK in background) "Runway's yours."  
02:24:49 ANC: "Okay, bye."  
02:24:50 WS: "Thanks."

PHONE CALL #3

02:26:20 LZ: "Elmendorf air traffic control tower, Senior Airman H  
02:26:21 LCG: "Hey airman H, Lieutenant Colonel G, how are you doing?"  
02:26:25 LZ: "Good how you doin' sir?"  
02:26:25 LCG: "Hey good. What is that black smoke out there in front of you guys?"  
02:26:28 LZ: "Yes sir, we just lost a C-17."  
02:26:32 LCG: "Okay."  
02:26:33 LZ: "He was doing airshow practices and he hit it and was in his initial turn and went down, it looks like about a mile to the north west of the CAC, davis highway area."  
02:26:41 LCG: "Copy. Fire department responding?"  
02:26:42 LZ: "Yes all the trucks we have are rollin' right now sir."  
02:26:44 LCG: "Alright, copy all."  
02:26:45 LZ: "Alright."  
02:26:46 LCG: "Thank you, bye."  
02:26:48 LZ: "Bye."

PHONE CALL #4

02:32:41 WS: (phone rings)

02:32:58 WR: "Hello?"

02:32:59 WS: "Hey Sergeant W , when he went down he scattered wreckage across the railroad tracks, who do I contact to let them, to find out if there is a train or to put word out that it went across the tracks?"

02:33:07 WR: "So, you're gonna do what?"

02:33:09 WS: "I don't wanna call off base and tell them we had a plane go down without PA but he went across the railroad tracks that go through base."

02:33:14 WR: "Holy <sup>Explosive</sup> man, I see all the smoke. I'm on my way now, umm, does public affairs, I imagine public affairs might know already."

02:33:24 WS: "Okay, I have no idea, I'll try to figure out how to get in touch with public affairs."

02:33:25 WR: "Yeah, see if you can get in touch with public affairs, and then uh, umm, I think their number's eight-one-five-one. It's either eight-one-five-one or five-one-eight-one and uh, you know, just to let them know that you're gonna call or that you wanna notify the, uh, railroad."

02:33:40 WS: "Okay, well umm, okay you said eight-one..."

02:33:45 WR: "It's either, eight-one-five-one or five-one-eight-one."

02:33:47 WS: "Okay, thank you sir."

END OF TRANSCRIPT

"I certify this to be a true and exact transcript of the original recording on file at this office at Elmendorf AFB, AK."

//SIGNED//

, MSgt, USAF  
Complex Chief Controller

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**ANY ADDITIONAL SUBSTANTIATING DATA AND REPORTS**

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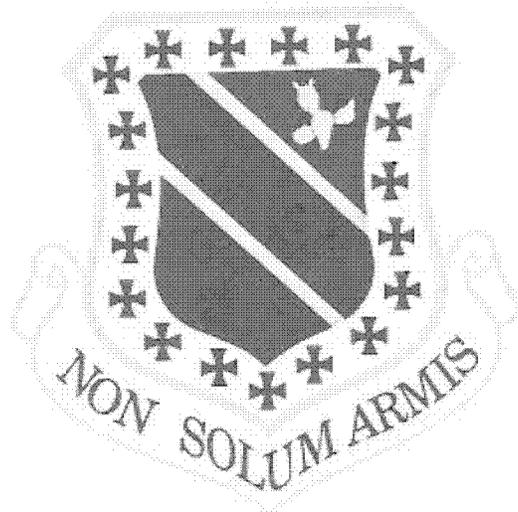
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**01. 3<sup>RD</sup> WING C-17 AERIAL DEMONSTRATION PROGRAM**

3rd Wing

C-17 Aerial Demonstration  
Program



15 April 2008

Elmendorf AFB, Alaska



DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES  
ELMENDORF AFB, AK

15 Apr 08

MEMORANDUM FOR C-17 FLIGHT CREW MEMBERS

FROM: 3 WG/CC

SUBJECT: C-17 Aerial Demonstration Program

1. This document implements the 3rd Wing's C-17 Aerial Demonstration Program. All 3 WG Aerial Demonstration C-17 aircrew (both current and upgrading) are required to be familiar with and adhere to guidance contained in this document. Deviations to this program must be approved by the 3 OG/CC.
2. Please forward any comments or direct any questions concerning the C-17 Aerial Demonstration Program to 3 OG/OGV at .....

.....  
.....  
THOMAS L TINSLEY  
Brigadier General, USAF  
Commander, 3rd Wing

## 1. Concept of Operations.

1.1. The USAF uses aerial demonstrations to exhibit the capabilities of USAF aircraft. Aerial demonstrations are defined in AFI 11-209 and AFI 11-246V6. As a general rule, an aerial demonstration is any event that exceeds a straight and level, single-ship pass (flyby). This includes airdrop, overhead approaches and assault takeoffs/landings (max effort).

1.2. Aerial Demonstration crews will consist of an Aircraft Commander (AC), Copilot, Safety Observer and Loadmaster. All crewmembers will be trained and certified IAW this document. Additionally, a narrator will be used when executing the C-17 Demo Standard Profiles listed in AFI 11-246V6 chapter 3.

## 2. Crewmember Selection.

2.1. Commanders will select highly qualified aircrew members who possess proper military bearing and the ability to communicate with the public. Commanders will select a maximum of three (3) aerial demonstration crews per squadron.

2.2. Aerial demo aircraft commanders will be current and qualified instructors or evaluators.

2.3. Aerial demo copilots will be current and qualified aircraft commanders (as a minimum). Commanders should select copilots who have the skills to eventually upgrade to aerial demo aircraft commanders.

2.4. Aerial demo safety observers should be selected on the basis of eventually upgrading to aerial demo copilot and/or aircraft commander. Aerial demo safety observers will be mission qualified, highly-seasoned First Pilots (FPs) (as a minimum). Demo qualified aircraft commanders or copilots will also be qualified to act as demo safety observers.

2.5. Aerial demo loadmasters will be current and qualified instructors or evaluators.

2.6. Narrators should be rated C-17 crewmembers or 3 MXG C-17 maintenance team members; however, any individual familiar with C-17 flight operations may perform narrator duties when trained IAW this document. The 3 OG/CC will be the approval authority for utilizing any narrator assigned outside of the flying squadron or 3 MXG.

3. **Certification Requirements.** IAW AFI 11-246 and the PACAF CONOPS, only certified aircrews will fly Demo Standard Profiles at approved military or civilian events. 3 WG aerial demo crews will be certified as hard crews by the 11 AF/CC (narrators do not need certification). Upon successful completion of the Aerial Demonstration Training Program, aircrew members will meet a SQ/CC Review and Certification Board and a follow-on 3 WG/CC interview to assess overall suitability to fly the Demo Standard Profiles. Based on commander availability, this interview may take place at any time during the upgrade process. 3 WG/CC will annotate the Review and Certification Board minutes, recommending the candidates for certification and also submit an endorsement memo recommending certification to the 11 AF/CC. The 11 AF/CC will review a training demonstration performance (may be accomplished by video) and certify the entire demo crew by signing the endorsement memo. A copy of the memo will be kept in each crewmember's Flight Evaluation Folder.

4. **Program Oversight.** 3 OG/OGV is the OPR for the Aerial Demonstration Program, including critique and review of flying performances. As such, at least one OGV C-17 pilot and loadmaster will complete aerial demonstration training. If authorized by PACAF/A3 (e.g. via

waiver), these individuals will be certified individually and not as a part of a hard crew, else they will complete training short of certification. The OGV C-17 pilot will complete training as an Aerial Demonstration Aircraft Commander. If availability allows and desired by the squadron, these individuals may become fully certified as part of a hard demo crew. The OGV trained crew members will not count against the squadron's maximum of 3 hard crews unless they are designated as part of a hard crew.

## 5. Upgrade Training Program.

5.1. Overview. Aerial demo crewmembers will accomplish all of their training with their assigned hard crew. Aircraft Commander, Copilot and Safety Observer candidates will complete a minimum of one (1) simulator sortie and one (1) aircraft flight during which time the candidates will perform the standard 10 minute and 12 minute profiles with a demo-qualified AC. The 6 minute profile will, at a minimum, be discussed with the instructor. Loadmaster candidates will also perform the 10 minute and 12 minute profiles; however, simulator training is not required. The C-17 Standard Profiles can be found on the AMC website at:

### 5.2.

5.2. Ground Training. Aerial Demo AC, Copilot and Safety Observer candidates will review AFI 11-209 with PACAF Supl, AFI 11-246V6 (to include a thorough study of all standard profiles), PACAF CONOPS, AFI 11-2C-17V3 and AFI 11-401 with a demo-qualified AC. Ground training will be completed prior to commencing simulator training.

### 5.3. Flight Training.

5.3.1. Simulator. Simulator training will be accomplished under the supervision of a demo-qualified AC. Upgrade candidates may occupy primary crewmember positions at the same time (i.e. the demo-qualified AC does not have to occupy a primary crew position). Simulator training will be completed prior to commencing aircraft flight training. Crewmembers must demonstrate proficiency in all profiles prior to moving to the airborne training portion. Additional simulator training sessions may be used if necessary.

### 5.3.2. Aircraft.

5.3.2.1. During aircraft flight training, individuals upgrading to Aerial Demo AC and Copilot will be trained during the same sortie with their associated hard crew Safety Observer occupying the right ACM seat. The training must be supervised by a demo-qualified AC who will occupy either the pilot or copilot seat as appropriate (i.e. the demo-qualified AC will occupy the pilot seat while training the new PNF). Crewmembers must demonstrate proficiency in all profiles.

5.3.2.2. Demo Loadmaster candidates will be trained in the aircraft by a demo-qualified loadmaster. In extenuating circumstances, Demo Loadmaster candidates may be trained by a demo-qualified AC.

5.3.2.3. Narrators will be trained by either 3 OG/OGV or any Demo AC and perform the standard profile script during at least one (1) demo crew practice.

5.4. Documentation. All training areas may be covered more than once, but will not be signed off by an instructor until the desired standard has been attained. Upgrade training will be documented IAW Attachment I. Once all requisites are complete, squadron training will document program completion in the Training Management System (TMS).

5.5. Flight Training Locations. Aerial demonstration upgrade and proficiency training will only be accomplished at Elmendorf AFB, Allen AAF, Eielson AFB, Ladd AAF, McChord AFB, WA.

or North Aux Field, SC. The aircrew must ensure that demonstration training flights are coordinated and approved by the respective base's Current Operations, airfield management and the controlling airspace authority prior to execution. Demonstration training at all other locations must be approved by the 3 OG/CC in coordination with 3 OG/OGV.

## **6. Predeparture Actions.**

6.1. Aircraft Commander Actions. Prior to home station departure, the aircraft commander will accomplish the following:

6.1.1. Receive a briefing on the event requirements from the scheduling OPR (e.g. Wing Current Operations). This briefing will cover, as a minimum, ORM, HQ PACAF/A3 aerial demonstration approval, latest aerial demonstration profiles (briefed by 3 OG/OGV) and an airshow point of contact.

6.1.2. Brief (as a minimum) the required copilot, safety observer and loadmaster duties for the aerial demonstration.

6.1.3. Give a concept briefing to the 3 OG/CC. As a minimum, include ORM and the intended demonstration profile to be flown. Be prepared to brief the 3 WG/CC as well, if requested.

## **7. Aerial Demonstration Restrictions.**

7.1. Aerial demo ACs will fly from the left seat and aerial demo copilots will perform PNF duties from the right seat. Aerial demo copilots will not perform demonstration maneuvers as the Pilot Flying.

7.2. Aerial demo crews must practice their demo profile(s) within seven (7) calendar days of the aerial event. The practice profile may be flown at the aerial event's location to aid the crew in local orientation. If a practice profile cannot be assured at the location, the crew will fly it prior to departure from home station.

7.3. Crews will not perform any profile/maneuver that was not specifically practiced prior to the aerial event (e.g. crews that planned/practiced the 10 minute profile will not perform the 6 minute profile due to airshow time constraints).

7.4. Weather. The minimum weather requirements are at least a 2,500 foot ceiling and 5 statute miles visibility. Terrain and the nature of the event may dictate higher minimums. Higher minimums are at the discretion of the Aerial Demo AC.

7.5. Minimum Altitude. The minimum demonstration altitude is 1,000 feet AGL for formations; 1,000 feet AGL for single aircraft over congested areas; 500 feet AGL over non-congested areas and obstacles.

7.6. Maximum Speed. The maximum demonstration airspeed is 250 KCAS (300 KCAS with FAA or host nation aviation authority waiver – in writing or with appropriate authority's name) or VMMA, whichever is higher.

8. Critique and Review of Flying Performances. Following aerial demonstrations, crews will ask for feedback regarding the performance IAW the PACAF CONOPS. Return completed feedback forms (Attachment 3) to 3 OG/OGV upon return to home station.

Attachment 1

**Aerial Demonstration Upgrade Training and Certification Tracker**

1. Training complete; individual recommended for certification.

\_\_\_\_\_  
Instructor/Date

2. Squadron Training representative schedule Review & Certification Board.

\_\_\_\_\_  
Sq Training/Date

3. Squadron Commander reviews individuals and provides 3 WG/CC w/copy of minutes for certification recommendation.

\_\_\_\_\_  
CC/Date

4. Crews are interviewed by 3 WG/CC. Endorsement memo sent to 11 AF/CC.

\_\_\_\_\_  
Sq Training/Date

5. 11 AF/CC reviews flying performance and certifies entire crew.

\_\_\_\_\_  
Sq Training/Date

6. Squadron Stan/Eval places copy of certification memo in each member's PEF.

\_\_\_\_\_  
Sq Stan/Eval/Date

7. Squadron Training updates TMS with record of completion.

\_\_\_\_\_  
Sq Training/Date

Attachment 2  
Sample Memo

5 Mar 08

MEMORANDUM FOR 11 AF/CC

FROM: 3 WG/CC

SUBJECT: C-17 Aerial Demo Team Review /Certification

ISSUE: The following crewmembers have successfully completed Phase I and Phase II of their training requirements for upgrade to the indicated crew position. I have personally interviewed each candidate and deem them worthy to represent the 3 WG, 11 AF, and PACAF during future C-17 aerial demonstrations.

<u>RANK</u>	<u>NAME</u>	<u>ACTION</u>
Capt	Nerves O. Steel	C-17 Demo Aircraft Commander
Maj	Ima Paine	C-17 Demo Copilot
Capt	Knot A. Freid	C-17 Demo Safety Observer
SSgt	Slim Pickins	C-17 Demo Loadmaster

RECOMMENDATIONS: I recommend these individuals for upgrade to the appropriate aerial demonstration crew position.

FIGHT E.R. PILOT, Brigadier General, USAF  
Commander, 3rd Wing

1st Ind, 11 AF/CC

MEMORANDUM FOR 3 WG/CC

All crew members listed above are certified to fly in the stated crew position.

MISTER A. LASKA, Lieutenant General, USAF  
Commander

Attachment 3

15 April 2008

MEMORANDUM FOR 3 OG/OGV (C-17 Pilot Evaluator)  
11525 Slammer Ave Suite 225  
Elmendorf AFB, AK  
USA

FROM:

(Air Boss, ACT Team Chief, or Other Ground Observer)  
(Please provide contact information if available.)

SUBJECT: Elmendorf C-17 Aerial Demo Team Critique

1. Thank you for inviting and hosting a PACAF C-17 at your event. In order to make sure our presentation is safe and provides the best support to your event we request that you provide our crew feedback on their performance on this form. Please return this form to the crew immediately after their performance; mail to the address listed above or fax to the number listed above. We appreciate your feedback and hope that our crew and aircraft provided a great example of a combat capable heavy airlifter.

2. Please provide your event name, dates, and the Aircraft Commander's name:  
Event name:  
Dates of flying events:  
Aircraft Commanders Name:

3. Did the entire presentation appear safe? (Did the crew remain clear of the no fly zones? Follow all other airshow rules? Remain above 500' AGL unless conducted a takeoff or landing event?)

4. Did the crew represent the ideal of military service? (Professional appearance, on time for briefings and other events, etc.)

5. Did the narrator's performance follow the airborne demonstration appropriately and was it informative for the audience in attendance? (Please make any recommendations you might have for change.)

---

---

6. The airborne profiles are designed to demonstrate the full capabilities of the C-17 mission. Is there any portion you felt was excessive or is there any event you feel should be added to our profiles?

---

---

7. Any other feedback or comments for us?

---

---

8. Thank you for your feedback!

9. Aircrew: If you receive this form at the event please return to OGV upon return. If we do not receive a feedback form you will be scheduled for an interview with OGV and the OG/CC to provide feedback on your performance.

WAKE O. TURBULENCE, Maj, USAF  
Chief, Airlift Branch, 3 OG/OGV

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### **O3. PACAF AERIAL DEMONSTRATION CONOPS**

Pacific Air Forces

PACAF Concept of Operations Implementing  
AFI 11-246, Volume 6, Air Force Aircraft Demonstrations  
(C-17, C-130, C/KC/NKC-135, UH-1)



1 Apr 07

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FOR OFFICIAL USE ONLY

PACAF Concept of Operations (CONOPS) Implementing  
AFI 11-246, Volume 6, Air Force Aircraft Demonstrations  
(C-17, C-130, C/KC/NKC-135, UH-1)

SUPERSEDES: NONE

REFERENCES:

- HQ USAF/CV message 20020305, Designation of MAJCOM OPRs for Aerial Demonstration Teams;
- AFI 11-246, Volume 6, Air Force Aircraft Demonstrations (C-17, C-130, C-141, C/KC/NKC-135, UH-1);

1. BACKGROUND. HQ USAF/CV, in referenced message above, identified and directed lead MAJCOMs to establish AFI 11-246, Volume (Series 1 - 8), Air Force Aircraft Demonstrations, in order to standardize procedures for conducting aerial demonstrations. Additionally, MAJCOMs were tasked to establish procedures to certify pilots/aircraft commanders for aerial demonstration procedures. AF/XO tasked AMC to produce Volume 6. PACAF MAF aircraft will follow guidance in AFI 11-246 V6 and this CONOPS.

2. SITUATION. USAF/CV appointed AMC as lead MAJCOM to standardize aerial demonstration procedures for the following aircraft: C-5, C-9, C-12, C-17, C-20, C-21, C-22, C-32, C-37, C-38, C-130, C-141, E-4, KC-10, KC-135, C-135, NKC-135, UH-1, and VC-25. From this listing, AMC selected the aircraft typically used in performing aircraft capabilities demonstrations—such as assault landing/takeoff, engine running offload, airdrop of personnel/equipment, hovering, etc.—and developed standardized aerial demonstrations for them. The selected aircraft are the C-17, C-141, C-130, KC-135 (including C/NKC-135), and UH-1 and the standardized aerial demonstrations, called “Standard Profiles,” are published in AFI 11-246, Volume 6, Air Force Aircraft Demonstrations (C-17, C-130, C-141, C/KC/NKC-135, UH-1). The Standard Profiles are referred to as Demonstration Standard Profiles, or simply, Demo Standard Profiles.

3. DEMONSTRATION (DEMO) STANDARD PROFILES. The Demo Standard Profiles are compilations of basic aircraft flight and ground maneuvers sequenced to present the full range of aircraft capabilities to the audience. Demo Standard Profiles for the C-17, C-141, C-130, KC-135 (including C/NKC-135), and UH-1 are published in AFI 11-246, Volume 6. PACAF units

operating the applicable aircraft must adhere to the AMC developed Demo Standard Profiles, AFI 11-246, Vol 6, the Demo Standard Profiles and this CONOPS.

3.1. The WG/CC, or GP/CC, may restrict the flying performance of assigned aircrews participating in approved events to a degree greater than the Demo Standard Profiles, but may not authorize assigned aircrews to exceed Demo Standard Profile limitations.

3.2. Aircrews seeking to fly aerial demonstrations at approved events that differ from the Demo Standard Profiles will follow the procedures in AFI 11-246, Vol 6, Para. 1.5, Non-Standard Profiles. PACAF/CC is the approval authority for non-standard profile requests. This authority may be delegated to PACAF/A3A5.

3.3. PACAF aircrews planning to fly a Demo Standard Profile at approved events must obtain participation approval IAW procedures in AFI 11-209, PACAF SUP1. When participation approval can be granted by the WG/CC, or GP/CC, ensure the SSS used for internal wing (group) coordination/approval states which Demo Standard Profile(s) will be flown and that the aircrew is certified. When participation approval authority rests with the MAJCOM/A3, the WG/CC will coordinate on the SSS and forward a Memorandum to the PACAF/A3A5 requesting participation approval. The Memorandum must state which Demo Standard Profile(s) will be flown and that the aircrew is certified.

4. STATIC DISPLAY / FLYOVER / AERIAL REVIEW. Any aircraft covered by this CONOPS can be used for a static display presentation or to perform a flyover or aerial review for an approved event, contingent upon participation approval.

4.1. The HQ USAF/CV message referenced above did not mandate standard profiles for flyovers and aerial reviews—none have been developed. A PACAF aircrew intending to perform a flyover or aerial review at an approved event normally will plan a flight profile suitable for the hosting venue. The flight profile must comply with AFI 11-209, PACAF SUP1, and to all other applicable PACAF, Air Force and FAA guidance. In some cases, the hosting military organization or controlling Aerial Control Team may develop a detailed flyover or aerial review flight profile applicable to all participating aircraft—participating PACAF aircrews will ensure the flight profile is compatible with the PACAF procedures and guidelines for the operation of their aircraft.

4.2. A flight profile for a flyover or aerial review, whether created by the aircrew or by the hosting organization or ACT, must be approved. To accomplish this, use the normal process leading to participation approval found in AFI 11-209: 1) When participation approval can be granted by the WG/CC, ensure the SSS used for internal wing (group) coordination/approval presents a detailed description of the flight profile—the SQ/CC and OG/CC must coordinate; or, 2) When participation approval authority rests with the PACAF/A3A5, the WG/CC will coordinate on the internal SSS and forward a Memorandum to the PACAF/A3A5 requesting participation approval—the Memorandum must clearly describe the flight profile.

5. AIRCREW CERTIFICATION PROCESS. PACAF Aircrews must be certified prior to performing Demo Standard Profiles at approved military or civilian events. PACAF/CC delegates

to NAF/CCs the authority to certify assigned Aircrews to fly the Demo Standard Profiles. The following procedures apply to Aircrew certification:

5.1. The WG/CC will establish the wing certification process and select candidates from among assigned Aircrews for certification in the Demo Standard Profiles. The aircraft commander will be an instructor pilot. Each aerial demonstration crew member selected for certification will be assigned to a hard crew. Aerial demonstration crew members will do all of their training, certification and performances with their assigned hard crew. The minimum ground and flying training requirements leading to certification are delineated in the AMC/A37T training syllabi developed for the MDS aircraft used in performing the Demo Standard Profiles. The syllabi will also serve as training folders, having sufficient space to document training progress. The syllabi include an example letter of certification. Document training IAW AFI 11-2(C/KC/H)-MDS, Vol 1. Certification should include four phases:

5.1.1. Phase One. Candidates become familiar with the relevant PACAF, AMC, USAF and FAA guidance for participation in military or civilian events such as base Open House celebrations or civilian air shows. Candidates must have a working knowledge of the following, at a minimum: AFI 11-209 and the PACAF SUP1, AFI 11-246, Vol 6 and this CONOPS, and AFI 11-202, Vol 3. The group standardization section will oversee Phase One.

5.1.2. Phase Two. Candidates fly the Demo Standard Profiles during training flights, demonstrating proficiency to a squadron, group or wing instructor pilot. The instructor pilot must be a pilot previously certified in the Demo Standard Profiles. Use the (syllabus) training folder for documenting training accomplishments.

5.1.3. Phase Three. The WG/CC personally interviews each candidate to assess overall suitability to fly the Demo Standard Profiles, and submits an endorsement memo recommending certification to the NAF/CC. The endorsement memo comes from the (syllabus) training folder and serves as proof of course completion prior to certification by the NAF/CC. The letter communicates successful completion of Phases One and Two. The WG/CC also annotates the wing's Review and Certification Board (RCB) minutes, recommending the candidate's certification.

5.1.4. Phase Four. The NAF/CC reviews a demonstration performance by each crew and certifies the entire crew by signing the endorsement memo. This memo will document aircrew certification and be maintained in the aircrew members FIF. In addition, Squadron CCs will document certification in the Letter of Xs.

5.2. PACAF/A37V oversees the certification process for the Command through the ASEV program.

5.3. In the absence of an approved AMC/A37T or PACAF/A37T syllabus, wings will use locally developed Aircrew certification processes and send to PACAF/A37T for approval.

6. CRITIQUE AND REVIEW OF FLYING PERFORMANCES. The WG/CC will ensure that the flying performances of assigned, certified Aircrews flying the Demo Standard Profiles at approved military or civilian events are critiqued and reviewed (not applicable for flyovers or aerial

reviews) by the NAF/CC. The WG/CC will identify a wing OPR for this activity. At a minimum, the OPR will take the following actions:

- 6.1. For a military or civilian event at which an ACC aerial control team (ACT) controls the military aerial support, request the ACT team chief to provide feedback on the aircrew's flying performance as based on ground observations and other data, if available. Provide the ACT Team Chief the general and/or specific criteria to use in assessing aircrew performance and the name and the contact information for the wing POC to receive the feedback.
  - 6.2. For a military Open House event, request the military officer controlling the aerial support for the event—the Air Boss—to provide feedback on the aircrews' flying performance as based on ground observations and other data, if available. Provide the Air Boss the general and/or specific criteria to use in assessing aircrew performance and the name and the contact information for the wing POC to receive the feedback.
  - 6.3. For an air show hosted on a non-DoD facility, request the civilian Air Boss to provide feedback on the aircrew's flying performance as based on ground observations and other data, if available. Provide the Air Boss the general and/or specific criteria to use in assessing aircrew performance and the name and the contact information for the wing POC to receive the feedback.
  - 6.4. If neither an ACT nor an on-scene ground supervisor (or Air Boss) is available, the MAJCOM can assign an additional pilot or navigator to the aircrew to perform an airborne critique and forward the results to the appropriate headquarters level.
  - 6.5. If action taken in paragraphs 6.1, 6.2, 6.3 or 6.4, above, yields no feedback, the OG/CC, or GP/CC, will interview the aircrew upon the aircrew's return to home station to ascertain the aircrew's own assessment of flying performance during the Demo Standard Profile and forward the critique to the NAF/CC.
  - 6.6. Flow feedback, positive and negative, through the WG/CC to the NAF/CC. Expect feedback based on ground observations to be, at best, imprecise and very general. While such feedback may have limited value, it may point to the need for wing or group leadership to take a closer look at aircrew performance from the perspective of flying safety.
7. **NEGATIVE FEEDBACK.** The OG/CC will interview the aircrew involved when negative feedback is reported—the OG/CC will inform the WG/CC of all pertinent information. The WG/CC will assess the situation, take action as required and inform the NAF/CC if necessary.
8. **GROUND AND FLYING SAFETY.** Aircraft equipped with Defensive Systems (DS)—AN/ALE-47, AN/AAR-47 and AN/AAQ-24—will be "made-safe" before being placed on static display or before being flown to perform flyovers and aerial reviews. DS-equipped aircraft flown to perform aerial demonstrations (Demo Standard Profiles or approved non-standard profiles) will normally be made safe prior to flight (for exceptions, see Para. 8.3, below).
- 8.1. **Static Displays.** To make-safe the AN/ALE-47, remove the Chaff/Flares, install all Electro-Magnetic Interference (EMI) safety switch pins, position the Weigh-on-Wheels (WOW) switch (if

installed) to "Normal", and place the system in the "Off" mode. To make-safe the AN/AAR-47, position the WOW switch (if installed) to "Normal" and place the system in the "Off" mode. To make-safe the AN/AAQ-24, position the WOW switch (if installed) to "Normal," remove the User Data Module (UDM) or Maintenance User Data Module (MUDM), and place the system in the "Off" mode.

8.2. Flyovers and Aerial Reviews: DS-equipped aircraft participating in flyovers or aerial reviews will have all munitions (Chaff/Flares) removed from the aircraft prior to flight and the DS system switch (AN/ALE-47, AN/AAR-47 or AN/AAQ-24) positioned to the "Off" mode.

8.3. Aerial Demonstrations (Demo Standard Profiles or approved non-standard profiles). The following procedures apply:

8.3.1. As a general rule, DS-equipped aircraft participating in aerial demonstrations supporting approved military and civilian events—such as military Open House celebrations, civilian air shows for the general public, etc.—will have all munitions (Chaff/Flares) removed from the aircraft prior to flight and the DS system switch (AN/ALE-47, AN/AAR-47 or AN/AAQ-24) positioned to the "Off" mode during flight.

8.3.2. PACAF may be tasked from time to time to participate in aerial demonstrations at approved military events using DS-equipped aircraft for the express purpose of demonstrating the DS equipment in operation during flight. Examples of such military events are the USAF CAPSTONE Aerospace Power Demonstration at Indian Springs NV or the USAF Air University Aerospace Power Demonstration at Eglin AFB FL. PACAF/A3A5 approval is required anytime a PACAF DS-equipped aircraft will be used to demonstrate the operation of DS systems in flight, to expend DS munitions (Chaff/Flares) in flight, or to fire DS laser equipment in flight as part of an aerial demonstration at an approved event. This requirement does not apply for PACAF DS-equipped aircraft operating DS systems in flight to support aerial demonstrations conducted as part of DoD sanctioned or directed programs or projects to test aircraft or aircraft systems.

9. WAIVER AUTHORITY. PACAF/CC delegates waiver authority for this CONOPS to PACAF/A3A5.

10. OPR: PACAF/A3T. Contact PACAF/A3TE, POC Lt Col

PAUL V. HESTER  
General, USAF  
Commander

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#### **O4. AMC AERIAL DEMONSTRATION CONOPS**

*Air Mobility Command*

*AMC Concept of Operations Implementing  
AFI 11-246, Volume 6, Air Force Aircraft Demonstrations  
(C-17, C-130, C-141, C/KC/NKC-135, UH-1)*



5/Nov/03

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AMC Concept of Operations (CONOPS) Implementing  
AFI 11-246, Volume 6, *Air Force Aircraft Demonstrations*  
(C-17, C-130, C-141, C/KC/NKC-135, UH-1)

This CONOPS is on the AMC web site:  
Once there, select "Aviation Support." The short title is The Vol 6 CONOPS.

SUPERSEDES: NONE

REFERENCES:

- HQ USAF/CV message 20020305, Designation of MAJCOM OPR's for Aerial Demonstration Teams;
- AFI 11-246, Volume 6, *Air Force Aircraft Demonstrations (C-17, C-130, C-141, C/KC/NKC-135, UH-1)*.

NOTE: The phrase "group commander" (GP/CC) as used in this CONOPS means a group commander of an AMC group without a parent wing (i.e., 19 ARG/CC, 317 AG/CC, and 463 AG/CC).

1. BACKGROUND. HQ USAF/CV, in referenced message above, identified and directed lead MAJCOMS to establish AFI 11-246, Volume (Series 1 - 8), *Air Force Aircraft Demonstrations*, in order to standardize procedures for conducting aerial demonstrations. Additionally, MAJCOMS were tasked to establish procedures to certify pilots/aircraft commanders for aerial demonstration procedures. AF/XO tasked AMC to produce Volume 6.

2. SITUATION. USAF/CV appointed AMC as lead MAJCOM to standardize aerial demonstration procedures for the following aircraft: C-5, C-9, C-12, C-17, C-20, C-21, C-22, C-32, C-37, C-38, C-130, C-141, E-4, KC-10, KC-135, C-135, NKC-135, UH-1, and VC-25. From this listing, AMC selected the aircraft typically used in performing aircraft capabilities demonstrations—such as assault landing/takeoff, engine running offload, airdrop of personnel/equipment, hovering, etc.—and developed standardized aerial demonstrations for them. The selected aircraft are the C-17, C-141, C-130, KC-135 (including C/NKC-135), and UH-1 and the standardized aerial demonstrations, called "Standard Profiles," are published in AFI 11-246, Volume 6, *Air Force Aircraft Demonstrations (C-17, C-130, C-141, C/KC/NKC-135, UH-1)*. Within AMC the Standard Profiles are referred to as Demonstration Standard Profiles, or simply, Demo Standard Profiles.

3. DEMONSTRATION (DEMO) STANDARD PROFILES. The AMC Demo Standard Profiles are compilations of basic aircraft flight and ground maneuvers sequenced to present the full range of aircraft capabilities to the audience. Demo Standard Profiles for the C-17, C-141, C-130, KC-135 (including C/NKC-135), and UH-1 are published in AFI 11-246, Volume 6. All MAJCOMS and all AMC units operating the applicable aircraft must adhere to the AMC-

developed Demo Standard Profiles. AFI 11-246, Vol 6, the Demo Standard Profiles and this CONOPS are posted to the AMC web site:

3.1. The WG/CC, or GP/CC, may restrict the flying performance of assigned aircrews participating in approved events to a degree greater than the Demo Standard Profiles, but may not authorize assigned aircrews to exceed Demo Standard Profile limitations.

3.2. Aircrews seeking to fly aerial demonstrations at approved events that differ from the Demo Standard Profiles will follow the procedures in AFI 11-246, Vol 6, Para. F.5, Non-Standard Profiles. AMC/CC delegates participation approval authority to AMC/A3 for Non-Standard Profile requests.

3.3. AMC aircrews planning to fly a Demo Standard Profile at approved events must obtain participation approval IAW procedures in AFI 11-209, AMC SUP1. When participation approval can be granted by the WG/CC, or GP/CC, ensure the SSS used for internal wing (group) coordination/approval states which Demo Standard Profile(s) will be flown and that the aircrew is certified. When participation approval authority rests with the AMC/A3, the WG/CC (or, GP/CC) will coordinate on the SSS and forward a Memorandum to the AMC/A3 requesting participation approval. The Memorandum must state which Demo Standard Profile(s) will be flown and that the aircrew is certified.

4. STATIC DISPLAY / FLYOVER / AERIAL REVIEW: Any aircraft in the AMC inventory can be used for a static display presentation or to perform a flyover or aerial review for an approved event, contingent upon participation approval.

4.1. The HQ USAF/CV message referenced above did not mandate standard profiles for flyovers and aerial reviews—none have been developed. An AMC aircrew intending to perform a flyover or aerial review at an approved event normally will plan a flight profile suitable for the hosting venue. The flight profile must comply with AFI 11-209, AMC SUP1, and to all other applicable AMC, Air Force and FAA guidance. In some cases, the hosting military organization or controlling Aerial Control Team may develop a detailed flyover or aerial review flight profile applicable to all participating aircraft—participating AMC aircrews will ensure the flight profile is compatible with the AMC procedures and guidelines for the operation of their aircraft.

4.2. A flight profile for a flyover or aerial review, whether created by the aircrew or by the hosting organization or ACT, must be approved. To accomplish this, use the normal process leading to participation approval found in AFI 11-209: 1) When participation approval can be granted by the WG/CC, or GP/CC, ensure the SSS used for internal wing (group) coordination/approval presents a detailed description of the flight profile—the SQ/CC and OG/CC must coordinate; or, 2) When participation approval authority rests with the AMC/A3, the WG/CC (or, GP/CC) will coordinate on the internal SSS and forward a Memorandum to the AMC/A3 requesting participation approval—the Memorandum must clearly describe the flight profile.

5. PILOT CERTIFICATION PROCESS. AMC pilots must be certified prior to performing Demo Standard Profiles at approved military or civilian events. AMC/CC delegates to WG/CCs and GP/CCs the authority to certify assigned pilots to fly the Demo Standard Profiles. The following procedures apply to pilot certification:

5.1. The OG/CC or GP/CC will establish the wing, or group, certification process and select candidates from among assigned pilots for certification in the Demo Standard Profiles. The minimum ground and flying training requirements leading to certification are delineated in the AMC/A37T training syllabi developed for the MDS aircraft used in performing the Demo Standard Profiles. The syllabi will also serve as training folders, having sufficient space to document training progress. The syllabi include an example letter of certification. Document training IAW AFI 11-2(C/KC/H)-MDS, Vol 1. Certification should include four phases:

5.1.1. Phase One. Candidates become familiar with the relevant AMC, USAF and FAA guidance for participation in military or civilian events such as base Open House celebrations or civilian air shows. Candidates must have a working knowledge of the following, at a minimum: AFI 11-209 and the AMC SUP1, AFI 11-246, Vol 6 and this CONOPS, and AFI 11-202, Vol 3. The group or squadron standardization section will oversee Phase One.

5.1.2. Phase Two. Candidates fly the Demo Standard Profiles during training flights, demonstrating proficiency to a squadron, group or wing instructor pilot. The instructor pilot must be a pilot previously certified in the Demo Standard Profiles. Use the (syllabus) training folder for documenting training accomplishments.

5.1.3. Phase Three. The SQ/CC personally interviews each candidate to assess overall suitability to fly the Demo Standard Profiles, making a written recommendation for certification to the OG/CC, or GP/CC. The certification letter comes from the (syllabus) training folder and serves as proof of course completion prior to certification and documentation in the candidate's AF Form 1381, USAF Certificate of Aircrew Training. The letter communicates successful completion of Phases One and Two. The SQ/CC also annotates the unit's Review and Certification Board (RCB) minutes, recommending the candidate's certification.

5.1.4. Phase Four. The OG/CC, or GP/CC, certifies each candidate, by signing the candidate's AF Form 1381.

5.2. AMC/A37V oversees the certification process for the Command through the ASEV program.

5.3. In the absence of an approved AMC/A37T syllabus, AMC wings and groups are to continue using existing pilot certification processes.

6. CRITIQUE AND REVIEW OF FLYING PERFORMANCES. The WG/CC, or GP/CC, will ensure that the flying performances of assigned, certified pilots flying the Demo Standard Profiles at approved military or civilian events are critiqued and reviewed (not applicable for flyovers or aerial reviews). The WG/CC, or GP/CC, will identify a wing, or group, OPR for this activity. At a minimum, the OPR will take the following actions:

6.1. For a military or civilian event at which an ACC aerial control team (ACT) controls the military aerial support, request the ACT team chief to provide feedback on the aircrew's flying performance as based on ground observations and other data, if available. Provide the ACT Team Chief the general and/or specific criteria to use in assessing aircrew performance and the name and the contact information for the wing or group POC to receive the feedback.

6.2. For a military Open House event, request the military officer controlling the aerial support for the event—the Air Boss—to provide feedback on the aircrews' flying performance as based on ground observations and other data, if available. Provide the Air Boss the general and/or specific criteria to use in assessing aircrew performance and the name and the contact information for the wing, or group, POC to receive the feedback.

6.3. For an air show hosted on a non-DoD facility, request the civilian Air Boss to provide feedback on the aircrew's flying performance as based on ground observations and other data, if available. Provide the Air Boss the general and/or specific criteria to use in assessing aircrew performance and the name and the contact information for the wing, or group, POC to receive the feedback.

6.4. AMC/CC waives Paragraph 2.5.3 of AFI 11-246, Vol 6, 13 December 2002.

6.5. If action taken in paragraphs 6.1, 6.2 or 6.3, above, yields no feedback, the OG/CC, or GP/CC, will interview the aircrew upon the aircrew's return to home station to ascertain the aircrew's own assessment of flying performance during the Demo Standard Profile.

6.6. Flow feedback, positive and negative, to the OG/CC or GP/CC. Expect feedback based on ground observations to be, at best, imprecise and very general. As an example, feedback might consist of statements such as, "...the demonstration looked great...the aircrew did a super job" or, "...the aircraft looked really low crossing the show line" or, "...I thought the aircraft angle of bank was too great" etc. While such statements normally have limited value, they may point to the need for wing or group leadership to take a closer look at aircrew performance from the perspective of flying safety.

7. **NEGATIVE FEEDBACK.** The OG/CC or GP/CC will interview the aircrew involved when negative feedback is reported—the OG/CC will apprise the WG/CC on all pertinent information. The WG/CC or GP/CC will assess the situation, take action as required and apprise AMC/A3, if the situation warrants.

8. **GROUND AND FLYING SAFETY.** Aircraft equipped with Defensive Systems (DS)—AN/ALE-47, AN/AAR-47 and AN/AAQ-24—will be "made-safe" before being placed on static display or before being flown to perform flyovers and aerial reviews. DS-equipped aircraft flown to perform aerial demonstrations (Demo Standard Profiles or approved non-standard profiles) will normally be made safe prior to flight (for exceptions, see Para. 8.3, below).

8.1. **Static Displays.** To make-safe the AN/ALE-47, remove the Chaff/Flares, install all Electro Magnetic Interference (EMI) safety switch pins, position the Weigh-on-Wheels (WOW)

switch (if installed) to "Normal", and place the system in the "Off" mode. To make-safe the AN/AAR-47, position the WOW switch (if installed) to "Normal" and place the system in the "Off" mode. To make-safe the AN/AAQ-24, position the WOW switch (if installed) to "Normal," remove the User Data Module (UDM) or Maintenance User Data Module (MUDM), and place the system in the "Off" mode.

8.2. Flyovers and Aerial Reviews. DS-equipped aircraft participating in flyovers or aerial reviews will have all munitions (Chaff/Flares) removed from the aircraft prior to flight and the DS system switch (AN/ALE-47, AN/AAR-47 or AN/AAQ-24) positioned to the "Off" mode.

8.3. Aerial Demonstrations (Demo Standard Profiles or approved non-standard profiles). The following procedures apply.

8.3.1. As a general rule, DS-equipped aircraft participating in aerial demonstrations supporting approved military and civilian events—such as military Open House celebrations, civilian air shows for the general public, etc.—will have all munitions (Chaff/Flares) removed from the aircraft prior to flight and the DS system switch (AN/ALE-47, AN/AAR-47 or AN/AAQ-24) positioned to the "Off" mode during flight.

8.3.2. AMC may be tasked from time to time to participate in aerial demonstrations at approved military events using DS-equipped aircraft for the express purpose of demonstrating the DS equipment in operation during flight. Examples of such military events are the USAF CAPSTONE Aerospace Power Demonstration at Indian Springs NV or the USAF Air University Aerospace Power Demonstration at Eglin AFB FL. HQ AMC/A3 approval is always required anytime an AMC DS-equipped aircraft will be used to demonstrate the operation of DS systems in flight, to expend DS munitions (Chaff/Flares) in flight, or to fire DS laser equipment in flight as part of an aerial demonstration at an approved event. This requirement does not apply for AMC DS-equipped aircraft operating DS systems in flight to support aerial demonstrations conducted as part of DoD sanctioned or directed programs or projects to test aircraft or aircraft systems.

9. WAIVER AUTHORITY. HQ AMC/CC delegates waiver authority for this CONOPS to AMC/A3.

10. OPR: HQ AMC/A33. Contact AMC/A330, POC

//SIGNED//

JOHN W. HANDY  
General, USAF  
Commander

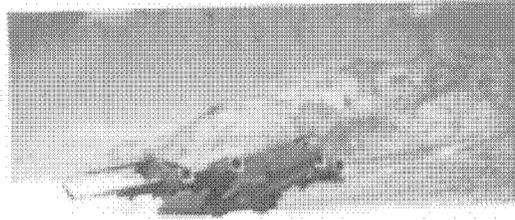
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## 05. C-17 DEMONSTRATION PROFILES

AFI 11-246, VOL 6, Chapter 3 (13 December 2002)  
(Incorporates IC 2004-1)



### C-17 Standard Profiles 1 Thru 4

**General Instructions:** Airrews from all MAJCOMs will adhere to the flying procedures in Profiles 1 through 4. Profiles 1, 2 and 3 are demonstrations of Aircraft High Performance Maneuvering.

**Profile 3 Synopsis:** This 12-minute profile is an aircraft capabilities demonstration consisting of a takeoff followed by a maximum performance climb (max performance climb angle) to 1,500' AGL. The C-17 then executes a 45° bank angle 80°/260° reversal turn descending to 500' AGL, aligning with the runway to perform a high-speed pass. Once past show center, the C-17 executes a 50° teardrop turn and reversal while climbing to 1,000' AGL. The aircraft is configured for landing with slats/full flaps and gear. The C-17 descends to 500' AGL for a slow-speed pass. At show center, the aircrew advances

the power setting to MAX and reconfigures the aircraft (gear/slats/half flaps). The aircraft performs a 50° teardrop turn while climbing to 1,000' AGL and then descends to 500' AGL for the third pass, once again aligned with the runway. At show center, the aircraft demonstrates a low-speed 360° turn. At the end of the turn, the aircraft continues down the runway and uses a 45° teardrop reversal climb to 1,000' AGL, setting up for a full-stop assault landing. The aircraft stops at show center and demonstrates a backing maneuver but does not do any turning while backing. After backing up an adequate distance (no turns), the aircraft executes a forward turn toward the crowd. This is followed by a turn to exit the runway. Approximate duration: 12 minutes.

The third demonstration depicted is the Assault Takeoff (Maximum Effort Takeoff). In this illustration, the assault takeoff follows the backing demonstration. The C-17 climbs with  $\frac{1}{2}$  flaps at maximum power, holding airspeed at or above  $V_{mco}$  to 5,000' AGL.

AFI 11-246, VOL 6, Chapter 3 (13 December 2002) (Incorporates IC 2004-1) 3

The procedures in these profiles are general guidelines. Mission planners may adjust them, for cause, to accommodate the requirements of the jump team or paratroopers (static line, HALO, etc.), the requirements of the equipment (material) to be airdropped (HE or CDS), the physical requirements of the drop zone or the unique requirements of the event, itself. Aircrews will not deviate from the mission plan except for safety considerations. Planning and mission execution must comply with AFI 11-2C-17, Vol 3, and other relevant DoD, USAF and FAA guidance.

4

AFI 11-246, VOL 6, Chapter 3 (13 December 2002) (Incorporates IC 2004-1)



**Narration for the C-17 Standard Profile 3 (12-Minute Demonstration):** The following narrative is illustrative only—the narrator should edit it as needed to suit the venue for the event, the supporting C-17 unit, the mission plan for C-17 participation (scenario), and the audience.

**Introduction — 45 Seconds Prior To Engine Run-Up For Takeoff:** *Good (morning / afternoon) ladies and gentlemen. I'm (Rank/Name) from the Air Force's (Wing) at (Base) Air Force Base, (State). It's my pleasure this afternoon to describe for you today's flight demonstration by America's newest airlifter, the Boeing C-17 Globemaster III - the aircraft that ensures rapid global mobility for America.*

*The aircraft will takeoff performing a maximum angle climb, demonstrating its impressive power and the ability to depart an airport where enemy resistance is suspected. With a departure climb angle just over 25° nose up, the aircraft will reach over 1,500 feet before crossing the departure end of the runway.*

AF1 11-246, VOL 6, Chapter 3 (13 December 2002) (Incorporates IC 2004-1) 7

**After Takeoff:** *The pilots for today's demonstration are (Rank/Name) and (Rank/Name). The loadmaster is (Rank/Name). This crew has a combined total of over (XX) thousand flying hours in various aircraft including (i.e., the C-5 Galaxy, C-141 Starlifter, C-130 Hercules, KC-10 Extender, KC-135 Stratotanker, B-52 Stratofortress, T-1 Jayhawk, T-38 Talon and T-37 Tweet).*

**As Jet Begins 80°/260° Maneuver:** *The C-17's first pass today will be a high-speed pass. After completing a teardrop maneuver to align with the runway, the crew will accelerate to 250 / 300 Knots [460 / 550 kilometers per hour] demonstrating the rapid strategic capability of the airplane.*

*The C-17 design includes 1) a modern computerized glass cockpit, 2) heads-up displays at both pilot stations, and 3) advanced cargo handling system – allowing it to operate with a crew half the size of current aircraft. Only three crewmembers are required to fly the C-17. The aircraft's advanced design allows it to accomplish its entire mission with this minimum crew.*

**As Aircraft Approaches Show Center:** *Notice how quiet the C-17 is while passing show center. This gives the Globemaster a tactical advantage while flying low over hostile territory and is also environmentally friendly.*

**As Aircraft Begins 50° Teardrop:** *The C-17 provides a direct delivery capability that combines the intercontinental cargo carrying capabilities of large aircraft, such as the C-5 Galaxy and C-141 Starlifter, with the short runway capability of the much smaller C-130 Hercules. It can routinely land on runways only 3,000 feet [1,000 meters] long.*

*Four Pratt and Whitney F-117 engines power the C-17. These are the same engines used on the Boeing 757. Each engine delivers over 40,000 pounds of thrust. This amount of thrust allows the Globemaster III to carry over 170,000 pounds [75,000 kilograms] of cargo. The Range of the C-17 with this amount of cargo is 2,400 nautical miles [4,000 kilometers]. However, the C-17 can reach anywhere in the world, nonstop, using its air refueling capability.*

**Wings Level Inbound:** *As the aircraft passes, please notice the wing leading edge slats and large, powered-lift wing flaps. These devices change the shape of the C-17 wing, and are the key to its low final approach speed enabling this aircraft to land and stop in short distances.*

**On Go Around:** *The aircraft is now performing a go around maneuver using maximum power to demonstrate its ability to depart an airport where enemy resistance is suspected.*

**As Aircraft Begins 50° Teardrop Maneuver:** *The C-17 will now maneuver to show its ability to fly at slow speeds and demonstrate its advanced aerodynamics in action. The aircraft is performing a series of steep bank turns to maneuver for a low-speed pass and circle over the airfield.*

**Wings Level Inbound:** *And in case you're wondering how big it is, the wingspan (tip to tip) is about half the length of a football [soccer] field, the tail is over 5 stories tall. Empty the C-17 weighs almost 280 thousand pounds [127 thousand kilograms]. But with maximum cargo and fuel loaded, that gross weight rises to over a half a million pounds [266 thousand kilograms]. Notice the up-turned wing tips or winglets – these decrease aerodynamic drag and increase fuel economy. To give you a better idea of the aircraft's overall size, those winglets are over 9 feet [3 meters] tall!*

**After Jet Completes First 90° Of The 360° Turn:** *The aircraft is extremely agile at both high and low speeds making it easy to operate in any tactical situation including the combat delivery capability of paratrooper or heavy equipment airdrop.*

**During The Last 90° of 360° Turn:** *The C-17 uses a quadruple redundant fly-by-wire system to run its flight controls. The fly-by-wire system means the aircraft's flight controls are electronically operated by inputs from the control sticks. There are four separate flight control computers, each of which can manage the entire system by itself. The computers continuously monitor the flight controls and each other. If there are any problems they automatically work around the disabled system. In addition to these features, the C-17 still has a mechanical back up.*

**As Aircraft Begins 45° Teardrop:** *The aircraft is maneuvering to demonstrate a full flap approach to a simulated short field runway. This short field capability allows the C-17 Globemaster III to land at over 6,000 more airfields worldwide than currently available to the C-141 Starlifter, C-5 Galaxy, and commercial wide-body aircraft. In fact, during the NATO peacekeeping mission to Bosnia, C-17 crews airlifted nearly one-half of the total cargo in only one-fourth of the missions while boasting an impressive 96% reliability rate.*

*The C-17 you see today weighs almost 400 thousand pounds [200 thousand kilograms]. On final, its speed is approximately 120 miles [200 kilometers] per hour.*

**As Aircraft Turns Final:** *Approaching the end of the runway, the crew is simulating arrival to an airfield with hostile forces nearby. This approach tactic can also be used from very high altitude to avoid enemy fire.*

*The C-17 made its inaugural flight in September 1991. Since then the C-17 set over 20 world records -- including payload-to-altitude and time-to-climb records. McDonnell Douglas (now Boeing) delivered the first operational C-17 to Charleston Air Force base in June of 1993.*

**When Touchdown Is Assured (Otherwise Go To Go-Around Filler Material):** *Now the crew will demonstrate the very short landing distance of the C-17.*

**While Backing, But Out Of MAX Reverse:** *The aircraft is demonstrating a capability limited to a very few aircraft -- the ability to routinely back under its own power. Ground maneuverability is extremely important when space is limited for off-load operations on a day-to-day basis.*

**As Aircraft Taxis Clear:** *All the maneuvers you have seen here today are representative of those flown by our operational aircrews everyday, as they provide the highly responsive and flexible airlift capability for America...*

*Ladies and Gentlemen, this concludes today's demonstration of the C-17 Globemaster III and just some of its unique capabilities. On behalf of the men and women of the United States Air Force, (insert appropriate MAJCOM), and XX AFB, we thank you for being with us today. We hope you enjoyed this brief look at the C-17 Globemaster III, the United States Air Force's core airlifter and work horse, providing rapid global mobility for America -- today, tomorrow, and throughout the 21<sup>st</sup> Century.*

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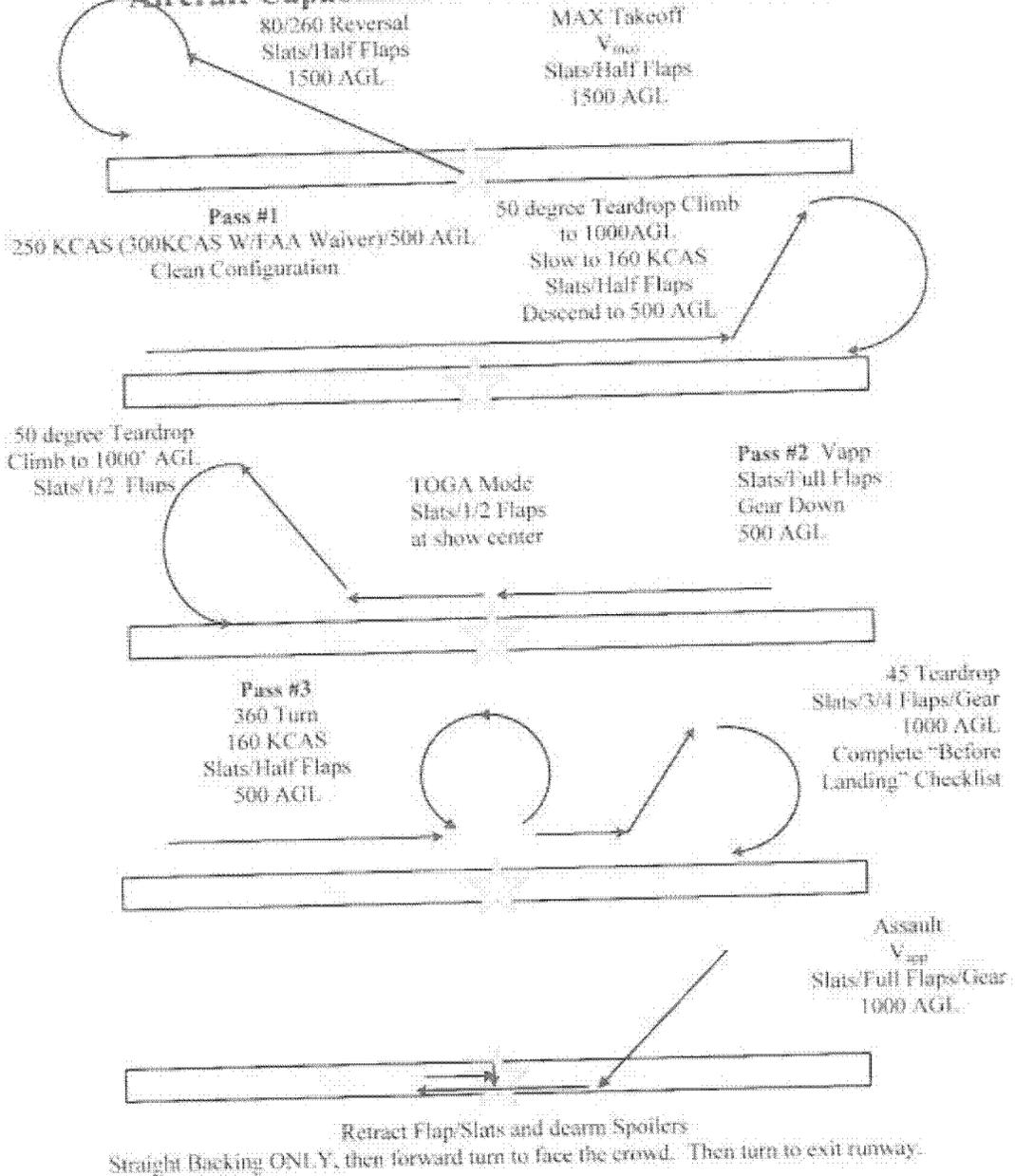
*C-17A, 00-0173, 28 July 2010, AFSAS#692650*

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### C-17 Standard Profile 3 Aircraft Capabilities Demonstration: 12-Minute Demo



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**O6. APPLICABLE T.O.s**

The following AFIs, publications and T.O.s were referenced:

T.O. 1C-17A-1	15 Mar 10
T.O. 1C-17-1-1	15 Aug 08
T.O. 1C-17A- 1-2	15 Mar 10
AFI 11-2C-17 VOL 3	15 Dec 05
AFTTP 3-3-C-17	21 May 07
T.O. 1-1C-17A-1CL-1-1	15 Mar 10
AFI 11-401	18 May 09
AFI 11-401 PACAF SUP	25 Mar 10
AFI 11-2C-17 VOL 1	25 Jun 10
AFI 11-202 VOL 3	5 Apr 06
AFI 11-202 VOL 3 PACAF SUP	7 Nov 08
AFI 11-209	4 May 06
AFI 11-209 PACAF SUP	23 Apr 09
AFI 11-209 ANG SUP	27 May 10

**O7. ADDITIONAL DATA**

Raw FDR data was provided for a 9 July 2010 previous demonstration practice by the MP. These two files are attached separately in Part 1, Tab O as “FDR data from Previous Practice” and “FDR data from Previous Practice pt 2.”

**TAB P**

**DAMAGE AND INJURY SUMMARIES**

<b>P1.</b>	<b>CERTIFICATE OF DAMAGE .....</b>	<b>3</b>
<b>P2.</b>	<b>AIRFRAME COST.....</b>	<b>3</b>
<b>P3.</b>	<b>INSTALLED AIRCREW FLIGHT EQUIPMENT COSTS .....</b>	<b>4</b>
<b>P4.</b>	<b>MANSIDE AIRCREW FLIGHT EQUIPMENT COSTS .....</b>	<b>5</b>
<b>P5.</b>	<b>ENVIRONMENTAL COSTS.....</b>	<b>5</b>
<b>P6.</b>	<b>STATEMENT OF DAMAGE TO PRIVATE PROPERTY .....</b>	<b>5</b>
<b>P7.</b>	<b>TOTAL ESTIMATED COSTS .....</b>	<b>6</b>
<b>P8.</b>	<b>INJURY SUMMARY .....</b>	<b>6</b>

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**P1. CERTIFICATE OF DAMAGE**

The damage costs associated with this mishap include total destruction of the mishap aircraft as well as both installed and manside aircrew flight equipment. The total equipment damage cost associated with the mishap at this time is \$183,696,451.77 and is defined below.

**P2. AIRFRAME COST**

<b>AIRFRAME COSTS</b>	<b>SOURCE</b>	<b>UNIT COST</b>	<b>QTY</b>	<b>TOTAL COST</b>
C-17A Aircraft	Systems Program Office (SPO), WPAFB	\$154,750,785	1	\$154,750,785
C-17A Modifications (Post-delivery)	Systems Program Office (SPO), WPAFB	N/A	N/A	\$9,085,576
Loose equipment	Systems Program Office (SPO), WPAFB	N/A	N/A	\$1,501,226
PW F-117 engines	Systems Program Office (SPO), WPAFB	Proprietary	4	\$18,874,130
<b>AIRFRAME SUBTOTAL</b>				<b>\$184,421,717</b>

**P3. INSTALLED AIRCREW FLIGHT EQUIPMENT COSTS**

<b>NOMENCLATURE</b>	<b>NSN</b>	<b>SOURCE</b>	<b>UNIT COST</b>	<b>QTY</b>	<b>TOTAL COST</b>
Parachute, BA-22	1670-00-365-2308	DLA, WebFLIS	\$9,701.13	7	\$67,907.91
Raft, 46-Man	4220-01-441-0750	DLA, WebFLIS	\$42,892.35	3	\$128,677.05
Age-limited kit	4220-01-453-0038	DLA, WebFLIS	\$3,702.00	3	\$11,106.00
EPOS	1660-01-421-0084	DLA, WebFLIS	\$402.91	110	\$44,320.10
EEBD	4240-01-217-0046	DLA, WebFLIS	\$632.46	6	\$3,794.76
Quick Don, 358	1660-01-335-3303	DLA, WebFLIS	\$1,350.37	15	\$20,255.55
Pax mask	1660-00-382-9434	DLA, WebFLIS	\$73.05	110	\$8,035.50
Restraint harness, PCU-17/P	1670-00-760-7933	DLA, WebFLIS	\$1,191.64	3	\$3,574.92
Life preserver, LPU-10/P	4220-00-850-8655	DLA, WebFLIS	\$420.29	7	\$2,942.03
Life preserver, Adult/Child	4220-01-63-8665	DLA, WebFLIS	\$218.49	110	\$24,033.90
Infant cot, LRU-6/P	4220-00-939-6406	DLA, WebFLIS	\$1,199.04	7	\$8,393.28
Survival kit, ML-4	4220-00-341-7673	DLA, WebFLIS	\$1,382.02	7	\$9,674.14
Survival vest, Air Ace	ISV-IR/P-MC	DLA, WebFLIS	\$1,728.00	7	\$12,096.00
Body Armor	SVA-3A/MC	DLA, WebFLIS	\$450.00	7	\$3,150.00
Anti-exposure suit, CWU-16/P	8475-00-768-2048	DLA, WebFLIS	\$1,179.77	1	\$8,258.39
Protect clothing kit	5140-00-226-9018	DLA, WebFLIS	\$225.90	1	\$225.90

Demo kit	1660-01-437-0316	DLA, WebFLIS	\$599.95	1	\$599.95
Arctic kit (2 bags, seasonal)	N/A	N/A	N/A	N/A	N/A

<b>INSTALLED AFE SUBTOTAL</b>	<b>\$357,045.38</b>
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#### **P4. MANSIDE AIRCREW FLIGHT EQUIPMENT COSTS**

<b>NOMENCLATURE</b>	<b>NSN</b>	<b>SOURCE</b>	<b>UNIT COST</b>	<b>QTY</b>	<b>TOTAL COST</b>
Helmet Assembly (plus microphone sub- components)	8457-01-446-2438	DLA, WebFLIS	\$876.14	1	\$876.14
Oxygen mask (plus components)	1660-01-073-7596	DLA, WebFLIS	\$943.25	1	\$943.25

<b>MANSIDE AFE SUBTOTAL</b>	<b>\$1,819.39</b>
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#### **P5. ENVIRONMENTAL COSTS**

The 673d Civil Engineering Squadron Environmental flight took initial soil samples from the area around the railroad tracks. Further sampling of the entire site has been put on hold pending completion of wreckage recovery. When the crash site is released by the investigation board, Joint Base Elmendorf-Richardson (JBER) Environmental technicians and Alaska Department of Environmental Conservation (ADEC) representatives will perform a site characterization through a pre-determined process of systematic sampling based on a grid, to determine the best course of action for immediate cleanup and/or long-term site reconstruction if further action is deemed necessary.

#### **P6. STATEMENT OF DAMAGE TO PRIVATE PROPERTY**

Approximately 50 yards of two sets of railroad tracks were damaged during the mishap.

**P7. TOTAL ESTIMATED COSTS**

AIRFRAME SUBTOTAL	\$184,421,717
INSTALLED AFE SUBTOTAL	\$357,045.38
MANSIDE AFE SUBTOTAL	\$1,819.39
<b>TOTAL MISHAP COST</b>	<b>\$184,570,581.77</b>

**P8. INJURY SUMMARY**

Name	Injury
MP (Maj, AKANG)	Fatal
MSO (Maj, AKANG)	Fatal
MCP (Capt, USAF)	Fatal
MLM (MSgt, AKANG)	Fatal

**TAB Q**

**AIB TRANSFER DOCUMENTS**

**Q1. AIB TRANSMITTAL LETTER..... 3**

**Q2. INVENTORY FILE PLAN..... 5**

**Q3. WITNESS LIST ..... 14**

**Q4. OFF-STATION EQUIPMENT LIST ..... 15**

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## Q1. AIB TRANSMITTAL LETTER



DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES  
HEADQUARTERS 673D AIR BASE WING  
JOINT BASE ELMENDORF-RICHARDSON ALASKA

27 Aug 10

MEMORANDUM FOR PRESIDENT, AFI 51-503 ACCIDENT BOARD

FROM: Safety Investigation Board

SUBJECT: Inventory and Witness List, Class A Mishap, C-17A, 00-0173, 28 Jul 10

1. The following items are released to the AFI 51-503 Accident Investigation Board:

- a. Part I of the Formal Safety Report of Subject Mishap (disc)
- b. Inventory of File Plan (Atch 1)
- c. Witness Log (Atch 2)
- d. Off-Station Equipment list (Atch 3)
- e. Aircraft wreckage (Hangar 5 at Elmendorf AFB, AK)

2. Please reply by endorsement below that you are in receipt of these items and take responsibility for their final disposition.

JOSEPH K. KIM, Brig Gen, USAF  
President, Safety Investigation Board

Attachment:

1. Inventory File Plan
2. Witness Log
3. Off-Station Equipment List

1st Ind, President AFI 51-503 Accident Investigation Board

TO: President, Safety Investigation Board

Acknowledge receipt and responsibility for the above listed items.

*CD*  
CARLTON D. EVERHART II, Brig Gen, USAF  
President, AFI 51-503 Accident Investigation Board

**Q2. INVENTORY FILE PLAN**

Item	Location	Evidence Information	Checked
<b>MAINTENANCE</b>			
1.1.1.1		Life Support Equipment Records (folder)	
1.1.2.1		NDI Folder	
1.1.3.1		Fuel Mx Logs	
1.1.3.2		POL Fuels Analysis	
1.1.3.3		Hydraulic Cart Analysis	
1.1.3.4		Refueling Log	
1.1.3.5		Base Supply Fuel Test Results 1 of 5	
1.1.3.6		Base Supply Fuel Test Results 2 of 5	
1.1.3.7		Base Supply Fuel Test Result 3 of 5	
1.1.3.8		Base Supply Fuel Test Result 4 of 5	
1.1.3.9		Base Supply Fuel Test Result 5 of 5	
1.1.3.10		Mishap Aircraft Fuel Sample Result	
1.1.4.1		AGE Forms Folder/AGE log & 244s (Hgr 20)	
1.1.4.2		AGE Roster	
1.1.4.3		Impoundment of AGE Memo	
1.1.5.1		Flight Line Roster	
1.1.5.2		Engine Serial Numbers	
1.1.5.3		Engine Fault Data	
1.1.6.1		Corrosion Log	
1.1.6.2		Avionics Production Report	
1.1.7.1		HSC brown folder	
1.1.8.1		Metals Tech Log blue folder	
1.1.9.1		517th/962nd MX Call Log blue folder	
1.1.10.1		MOC Event Log	
1.1.11.1		QA Report	
1.1.12.1		TAS Log	
1.1.12.2		TAS Log	
1.1.12.3		TAS Log	
1.1.12.4		Tool Accountability System	
1.1.13.1		Mishap Plane Hydraulic Fluid sample from initial walk (tube)	
1.1.13.2		Mishap Plane Oil sample from initial walk (tube)	
1.1.13.3		Hydraulic Fluid Sample Log	
1.1.13.4		Mishap Aircraft Hydraulic Fluid Sample Results	
1.1.14.1		Prior Fuel Receipts	
1.1.14.2		Weight and Balance Clearance Form F	
1.1.15.1		Technical Manuals (TO) Organizational, Intermediate & Support CD	
1.1.15.2		Partial TO 1C-17A-1CL-1 Recovered from Aircraft (K-027)	
1.1.16.1		90-Day MX History (MOS) CD	
1.1.17.1		3 MXS Pro Super Log	
1.1.18.1		Special Certification/Inspection Roster (SCR)	
1.1.19.1		517 AMU Daily Maintenance Status	
1.1.20.1A		Parts to ship via CMT fax	
1.1.20.1B		FedEx Tracking/Aviation Turbine Fuel, Kerosene; 7/31/10	
1.1.20.2		Fed Ex Tracking information Receipt	
1.1.20.3		Fed Ex Tracking information SpreadSheet	
1.1.20.4		DD Form 1149 package (Core Integrated Processor)	
1.1.20.5		DD Form 1149 package (Flight Control Computer - FCC)	
1.1.20.6		DD Form 1149 package (Flight Control Computer - FCC)	
1.1.20.7		DD Form 1149 (Spoiler/Flap Control)	
1.1.20.8		DD Form 1149 (Air Data Computer)	
1.1.20.9		DD Form 1149 (Propulsion Data Management Computer)	
1.1.20.10		DD Form 1149 (Warning & Caution Computer (WCC) )	
1.1.20.11		FedEx Tracking information (e-mail from LRS to MSgt , SIB)	

Item	Location	Evidence Information	Checked
	1.1.20.12	FedEx Tracking Proof of Delivery for: Air Data Computer, Spoiler/Flap Control, Propulsion Data Management Computer, Warning & Caution Computer (WCC), Core Intergrated Processor, Flight Control Computer (FCC) Box 1 & 2 samples (printed from internet)	
	1.1.20.13	FedEx Tracking Information for: JP8 fuel & Hydraulic fluid samples	
	1.1.21.1	Technical Report - The Boeing Company	
	1.1.21.2	Technical Report - SPO/ASC/WLME C-17 Division	
	Box 4	517 Production Log-Book 1	
	Box 4	517 Production Log-Book 2	
	Box 4	ECM Log	
	Box 4	CrewChief Book	
	Box 4	IFCS Log-Book 1	
	Box 4	IFCS Log-Book 2	
	Box 4	IFCS Log-Book 3	
	Box 4	Hydraulic Log	
	Box 4	Jet's Log-Book 1	
	Box 4	Jet's Log-Book 2	
	Box 4	HSC Jet's-Book 3	
	Box 4	CommNav	
	Box 4	Turnover Log	
	Box 4	Production Log	
	Box 4	APG HSC Log	
	SIB Room Under Table	Aircraft Jacket File	
<b>TRANSCRIPTS OF VOICE COMMUNICATION</b>			
	1.1.22.1	Sitka43 - Ground Control Tape Transcript	
	1.1.22.2	Sitka43 - Primary Crash Phone Tape Transcript	
	1.1.22.3	Sitka43 - ATIS Tape Transcript	
	1.1.22.4	Sitka43 - Watch Supervisor Telephone Transcript	
	1.1.22.5	Sitka43 - Supervisor of Flying Tape Transcript	
	1.1.22.6	Sitka43 - Supervisor of Flying Telephone Transcript	
	1.1.22.7	Sitka43 - Watch Supervisor Position Tape Transcript	
<b>TAPED/RECORDED INTERVIEWS</b>			
	1.1.23.1	Maj WITNESS 10 Taped Interview (cassette) (NP located 1.1.26.14)	
	1.1.23.2	Maj WITNESS 25 Taped Interview (cassette) (NP located 1.1.26.15)	
	1.1.23.3	Capt WITNESS 21 Taped Interview (cassette) (NP located 1.1.26.16)	
	1.1.23.4	Lt Col WITNESS 22 Taped Interview (cassette) (NP located 1.1.26.17)	
	1.1.23.7	Audio Device #2 - contains Non-Privileged interviews	
<b>SOF/ERCC STATEMENTS</b>			
	1.1.24.2	SOF written statement	
	1.1.24.3	ERCC Crew Written Statement: Maj N	
	1.1.24.4	ERCC Crew Written Statement: Capt S	
	1.1.24.5	ERCC Crew Written Statement: 1Lt V	
	1.1.24.6	ERCC Crew Written Statements: SrA J	
<b>NON-SOLICITED</b>			
	1.1.25.1	Non-Solicited: info	
	1.1.25.2	Non-Solicited: E-mail statement	
	1.1.25.4	Non-Solicited: TSgt E-mail Statement Signed	
	1.1.25.5	Non-Solicited: MSgt E-mail statement	

Item	Location	Evidence Information	Checked
1.1.25.6		Non-Solicited: E-mail statement	
1.1.25.7		Non-Solicited: TSgt written statement	
1.1.25.8		Non-Solicited: written statement	
1.1.25.9		Non-Solicited: Written (copy) statement	
1.1.25.10		Non-Solicited: SrA written statement	
1.1.25.11		Non-Solicited: SSgt written statement	
1.1.25.12		Non-Solicited: Mrs. written statement	
1.1.25.13		Non-Solicited: SSgt (164 MD Company) (statement attached)	
1.1.25.14		Non-Solicited: SSgt written statement	
1.1.25.15		Non-Solicited: Army SPC E-4/military police information statement/written statement	
1.1.25.16		Non-Solicited: Witness names - e-mailed from TSgt	
1.1.25.17		Non-Solicited: Additional names e-mailed from TSgt	
1.1.25.18		Non-Solicited: MXG Witness names - e-mailed from TSgt	
1.1.25.19		Non-Solicited: Eye witness names/contact	
1.1.25.20		Non-Solicited: SF Handwritten list of names that responded in some way	
1.1.25.21		Non-Solicited: Piece of half paper hand written with name and contact information	
1.1.25.22		Non-Solicited: E-mail statement from /contact info	
1.1.25.23		Non-Solicited: E-mail statement from Maj	
1.1.25.24		Non-Solicited: E-mail statement from TSgt	
1.1.25.25		Non-Solicited: E-mail statement from	
1.1.25.26		Non-Solicited: E-mail statement from	
1.1.25.27		Non-Solicited: E-mail witness name from TSgt (SrA )	
1.1.25.28		Non-Solicited: E-mail witness name from TSgt (SrA )	
<b>NON-PRIVILEGED STATEMENTS</b>			
1.1.26.1		ECP Log at Mishap Site	
1.1.26.2		C , SrA (interview on tape) NP	
1.1.26.4		WITNESS 3 , Maj (517 AS) NP	
1.1.26.5		WITNESS 2 , MSgt (703 AMXS) (statement attached) NP	
1.1.26.6		WITNESS 9, MSgt (703 AMXS) (statement attached) NP	
1.1.26.7		L , A1C (703 AMXS/517 AMU) (statement attached) NP	
1.1.26.8		M , SSgt (703 AMXS/517 AMU) (statement attached) NP	
1.1.26.9		S , TSgt (3 AMDS) (statement attached) NP	
1.1.26.10		WITNESS 26 , Capt (NP)	
1.1.26.11		B (NP)	
1.1.26.12		WITNESS 27 , Lt Col (NP)	
1.1.26.13		WITNESS 19 , Capt (NP)	
1.1.26.14		WITNESS 10 , Maj (NP) (interview on Tape located - 1.1.23.1)	
1.1.26.15		WITNESS 25 , Maj (NP) (interview on Tape located - 1.1.23.2)	
1.1.26.16		WITNESS 21 , Capt (NP) (interview on Tape located - 1.1.23.3)	
1.1.26.17		WITNESS 22 , LtCol (NP) (interview on Tape located - 1.1.23.4)	
1.1.26.18		WITNESS 18 , Capt (NP) (interview on Tape - located - Device #2 - 1.1.23.7)	
1.1.26.19		WITNESS 30 , Col (NP)	
1.1.26.20		WITNESS 16, Col (NP)	

Item	Location	Evidence Information	Checked
1.1.26.21	G	Lt Col (NP)	
1.1.26.22	WITNESS 1	, Maj (NP)	
1.1.26.23	WITNESS 12	, Maj (NP)	
1.1.26.24	Sti	, Maj (NP)	
1.1.26.25	Sk	, Maj (NP)	
1.1.26.26	A	, Maj (NP)	
1.1.26.27	WITNESS 24	, Maj (NP)	
1.1.26.28	P	, Capt (NP)	
1.1.26.29	Sci	, Maj (NP)	
1.1.26.30	R	, Capt (NP)	
1.1.26.31	WITNESS 11	, Maj (NP)	
<b>AIRFIELD</b>			
1.1.28.1	NOTAMS		
1.1.29.1	Daily Record of Facility Operation/AF 3616		
1.1.30.1	AirField Inspection Checklist		
<b>WEATHER</b>			
1.1.31.1	WX Memo for Record (SSgt Porter)		
1.1.31.2	Mission Execution Forecast		
1.1.31.3	METAR		
1.1.31.4	WX Briefing		
<b>PERSONAL/TRAINING RECORDS</b>			
1.2.1.1	AF 623/CFETP		
1.2.1.2	AF 623/CFETP		
1.2.2.1	AF 623/CFETP		
1.2.2.2	AF 623/CFETP		
1.2.3.1	AF 623/CFETP		
1.2.3.2	AF 623/CFETP		
1.2.4.1	AF 623/CFETP		
1.2.4.2	AF 623/CFETP		
1.2.5.1	AF IMT 1297/Temporary Issue Receipt/Computer Generated Training Records & 623 Training Records		
1.2.5.2	AF IMT 1297/Temporary Issue Receipt for the following: Flight Records/FEF/IDS/ITS/PHR/IFR/Aircraft accident investigation report/TMS report/Flight Authorization/Go-NoGo/Weather/NOTOMS		
1.2.5.3	AF 623 inventory sheet		
1.2.5.4	AF 623		
1.2.5.5	AF 623		
1.2.5.6	AF 623		
1.2.5.7	AF 623		
1.2.5.8	AF 623		
1.2.5.9	AF 623		
1.2.5.10	AF 623		
1.2.5.11	AF 623		
1.2.5.12	AF 623		
1.2.5.13	AF 623		
1.2.5.14	AF 623		
1.2.5.15	AF 623		
1.2.5.16	AF 623		
1.2.5.17	AF 623		
1.2.5.18	AF 623		
1.2.5.19	AF 623		
1.2.5.20	AF 623		
1.2.5.21	AF 623		
1.2.5.22	AF 623		
1.2.5.23	AF 623		
1.2.6.1	AF 623		

Item	Location	Evidence Information	Checked
1.2.6.2		AF 623	
1.2.6.3		AF 623	
1.2.6.4		AF 623	
1.2.6.5		AF 623	
1.2.6.6		AF 623	
1.2.6.7		AF 623	
1.2.6.8		AF 623	
1.2.6.9		AF 623	
1.2.6.10		AF 623	
1.2.6.11		AF 623	
1.2.7.1		Capt <sup>MCP</sup> OPRs (paper version)	
1.2.7.2		MSgt MLM PRF Disc 1	
1.2.7.3		MSgt MLM PRF Disc 2/MAJ Freyhoitz PRF (ALL)	
1.2.7.4		Maj MSO PRF (ALL)	
1.2.7.5		Maj MSO F16 RTU Training Reports	
1.2.8.1		Aircraft Incident - July 2010-A073 Trng Records-Disk	
1.2.9.1		Memorandum - Mishap Pilot's Lockers Seal	
1.2.10.1		MSO - TIF/SD OPS Form 21	
1.2.10.2		MCP - TIF/SD OPS Form 21	
1.2.10.3		MP - TIF/SD OPS Form 21	
1.2.10.4		MLM - TIF/SD OPS Form 21	
Back of Drawer 2 1.2.1		MCP - FEF/Flight Records	
Back of Drawer 2 1.2.2		MP - FEF/Flight Records	
Back of Drawer 2 1.2.3		MSO - FEF/Flight Records	
Back of Drawer 2 1.2.4		MLM - FEF/Flight Records	
1.3.1.1		MP - Training Report - blue folder	
1.3.1.2		MP - ARMS Training manilla envelope	
1.3.1.3		MP - Training Data 6 Part Red Folder	
1.3.2.1		MSO - Training Report - blue folder	
1.3.2.2		MSO - Additional (ARMS) Training Folder manilla envelope	
1.3.2.3		MSO - Training Data 6 Part Red Folder	
1.3.4.1		MLM - Training Report - blue folder	
1.3.4.2		MLM - ARMS Training - manilla envelope	
1.3.4.3		MLM - Training Data 6 Part Red Folder	
1.3.5.1		MAJ N - Training Report - blue folder	
1.3.5.2		MAJ N - ARMS Training manilla envelope	
1.3.5.3		MAJ N - Training Data 6 Part Red Folder	
1.3.6.1		AFSC 1P0X1 - AirCrew Flight Equipment CFETP - TSgt Alt	
1.3.6.2		AFSC 1P0X1 - AirCrew Flight Equipment CFETP - TSgt C	
1.3.6.3		AFSC 1P0X1 - AirCrew Flight Equipment CFETP - SrA B	
1.3.6.4		AFSC 1P0X1 - AirCrew Flight Equipment CFETP - A1C C	
1.3.6.5		AFSC 1P0X1 - AirCrew Flight Equipment CFETP - SSGt Cr	✓
1.3.6.6		AFSC 1P0X1 - AirCrew Flight Equipment CFETP - A1C E	✓

Item	Location	Evidence Information	Checked
	1.3.6.7	AFSC 1POX1 - AirCrew Flight Equipment CFETP - SrA K	
	1.3.6.8	AFSC 1POX1 - AirCrew Flight Equipment CFETP - A1C Ste	
	1.3.7.1	AFSC 1POX1 - AirCrew Flight Equipment CFETP - Civ W	
	1.3.8.1	AFSC 1POX1 - AirCrew Flight Equipment CFETP - Civ B	
<b>MISSION RECORDS</b>			
	1.4.1.1	Blue Folder from Scene w/pilot notes	
	1.4.2.1	MP N drive demo files - CD Disk	
	1.4.3.1	C-17 Aerial Demo Team Review/Certification Letter	
	1.4.3.2	3 WG/C-17 Aerial Demo Program Dated 15 Apr 08	
	1.4.3.3	PACAF Concept of Operations Implementing AFI 11-246 Vol 6 AF Aircraft Demo Dated 1 Apr 07	
	1.4.3.4	Aerial Profile Diagram	
	1.4.3.5	3 WG Aerial Demo checklist	
	1.4.3.6	AMC Concept of Operations Implementing AFI 11-246, Vol 6 AF Aircraft Demo Dated 5 Nov 03	
	1.4.4.1	Paperwork - Scene MP (18 individual pages) - blue folder	
	1.4.4.2	Paperwork - MP - Notes (1 page) - For Sortie	
	1.4.4.3	Gray Folder - MP Notes (37 pages)	
	1.4.5.1	AFI 11-246 Vol 6 Chptr 3 Profile 1 - 4	
	1.4.6.1	C-17 Pilot Letter of X's	
	1.4.6.2	249 AS Loadmaster Letter of X's	
	1.4.6.3	249 AS Pilot Letter of X's	
	1.4.6.4	Memorandum Letter of X's Process	
	1.4.6.5	249 AS Pilot Letter of X's	
	1.4.6.6	249 AS Loadmaster Letter of X's	
	1.4.6.7	Loadmaster Letter of X's	
	1.4.6.8	Pilot Letter of X's	
	1.4.7.1	AirCrew Monthly Bold Face	
	1.4.8.1	Previous Sortie Crew Flight Authorization	
	1.4.9.1	FCIF Index	
	1.4.10.1	Tower Facility Ops Log	
	1.4.11.1	517th/962nd FlyBoard	
	1.4.12.1	Air Traffic Log Report	
	1.4.12.2	Previous Flight Flight Plan - DD Form 175	
	1.4.12.3	Mishap Flight Plan - DD Form 175	
	1.4.13.1	Go/No-Go Package: 30-60-90 Day Lookback	
	1.4.13.1	Go/No-Go Package: Fit Orders	
	1.4.13.1	Go/No-Go Package: ORM	
	1.4.13.1	Go/No-Go Package: Fit Plan	
	1.4.13.1	Go/No-Go Package: Currencies	
	1.4.13.1	Go/No-Go Package: WX Brief	
	1.4.13.1	Go/No-Go Package: NOTAM	
	1.4.14.1	Mishap Worksheet	
	1.4.15.1	3 AMDS Recall Roster January 2010	
	Bag 1/Tble	MSO - Training Manual	
	Bag 1/Tale	White Binder/ MP - Airshow (only dividers in binder)	
<b>PERSONAL ITEMS</b>			
	1.4.16.1	Compiled list of personal items found on/around Mishap crew MP / MLM /MCP/ MSO } (Released to families on 7 aug 2010)	
	1.4.16.2	Memorandum for Record of mishap crew's desk items	

Item	Location	Evidence Information	Checked
1.4.16.3		Memorandum for Record of mishap crew's locker items	
1.4.17.1		DRG Delaware - business Card	
1.4.18.1		Desk items - MLM - Checklist/handwritten notes	
1.4.18.2		Desk items - MP - Paperwork	
1.4.18.3		Desk Items - MP - Demo Profile Notes	
1.4.18.4		Desk Items - MP - July 19, 2010 - Demo Practice Video/CD Disk	
Hanger/Parts Box		MLM Personal Harness/taken off	
<b>MEDIA</b>			
1.4.20.7		PA Released Paper Copy Photos	
1.4.20.8		PA Released Paper Copy Photos	
1.4.20.9		PA Released Paper Copy Photos	
1.4.20.10		Mishap Scene Paper Photo	
1.4.20.11		Mishap Scene Paper Photo	
1.4.20.15		Paper Copy Overview Print	
1.4.20.17		Points of interest to include: 360 View; tracks clean up; Directional photos/CD Disk	
1.4.21.1		Disk 1 Security Camera Video	
1.4.21.2		Disk 2 Security Camera Video	
1.4.21.3		MX Sample Collection Photos Disk	
1.4.21.4		JBER Crash Maps Disk	
1.4.21.5		C17 Crash Disk	
1.4.21.6		PA video from Tower - 8GB card	
1.4.21.7		PA video from Tower - disk manilla envelope	
1.4.21.8		Overhead Helo Picture Flash Card - 16 GB	
1.4.21.9		28 Jul 10- Flash Card - 4GB	
1.4.21.10		Bldg 8517 portable drive	
1.4.22.1		517 AS portable drive	
1.4.22.2		28 Jul 10-Disk 1 - PA Photos	
1.4.22.3		28 Jul 10-Disk 2 - PA Photos	
1.4.22.4		28 Jul 10-Disk 3 - PA Photos	
1.4.22.5		Overhead Helo Picture Disk	
1.4.22.6		SFS Video disc	
1.4.22.7		Overhead pics from HH-60 28 Jul 10	
1.4.22.8		SQF/WS Phone (Watch supervisor & Supervisor of flying) Cassette Tape	
1.4.22.9		Ground Control & Crash Phone Cassette Tape	
1.4.23.1		ATC Computer generated plots of mishap flight (CD Disk)	
1.4.23.2		C-17 E-Pubs CD Disk	
1.4.23.3		C-17 E-Pubs CD Disk	
1.4.23.4		Crash Site PA Photos 29-30 July (Non-privileged) CD Disk	
1.4.23.5		Crash Site PA Photos 31 July - 1 August (Non-privileged) CD Disk	
1.4.23.6		Combined HD video & CVR layover CD Disk	
1.4.23.7		Raw FDR data from MP's 9 July 2010 Practice	
SIB room/On wall		Overview Large Poster Photo (X-020)	
SIB room/Rolled/table		Overview Large Poster Photo (X-021)	
SIB room/Rolled/table		Overview Large Poster Photo with Grid markings (most current) (X-022)	✓
SIB room/Rolled/table		Overview Small Poster Photo (X-023)	

Item	Location	Evidence Information	Checked
	SIB room/Rolled /table	Overview Small Poster Photo (X-024)	✓
	SIB room/Rolled /table	Overview Small Laminate Poster Photo (X-025)	
	SIB room/Rolled /table	Overview Small Laminate Poster Photo (X-026)	
	SIB room/Rolled /table	Overview Small Poster Photo (X-027)	
	SIB room/Rolled /table	Overview Small Poster Photo (X-028)	
	SIB room/Rolled /table	Overview Small Laminate Poster Photo (X-029)	
	SIB room/Rolled /table	Overview Laminate Grid Poster Photo/Identification Grid for Mishap Wreckage Parts in Hanger 5 (X-030)	
<b>MEDICAL</b>			
2.1.1.1		MCP-4955 Medical records Vol 1	
2.1.1.2		MCP-4955 Medical records Vol 2	
2.1.1.3		MCP-4955 Dental records - FedEx to Dover	
2.1.2.1		MLM -1690 Medical records	
2.1.2.2		MLM -1690 Dental records - FedEx to Dover	
2.1.3.1		MP -8595 Medical records Vol 1	
2.1.3.2		MP -8595 Medical records Vol 2	
2.1.3.3		MP -8595 Dental Records - FedEx to Dover	
2.1.4.1		MSO -9304 Medical records	
2.1.4.2		MSO -9304 Dental records - FedEx to Dover	
2.1.5.1		Information List to AIB Medical Member	
2.1.9.1		Mishap crew - final autopsy paper report - MP	
2.1.9.2		Mishap crew - final autopsy paper report - MCP	
2.1.9.3		Mishap crew - final autopsy paper report - MLM	
2.1.9.4		Mishap crew - final autopsy paper report - MSO	
2.1.10.1		MSO CT Body 2 Full CD Disk	
2.1.10.2		MSO CT Boot CD Disk	
2.1.10.3		MLM HR CD Disk	
2.1.10.4		MSO HR CD Disk	
2.1.10.5		MCP HR CD Disk	
2.1.10.6		MSO : HR ; MP : HR ; MSO : HR HR ; MLM : HR CD Disk	
2.1.10.7		MLM HR CD Disk	
2.1.10.8		HR : MLM HR ; MSO - HR - MCP - HR CD Disk	
2.1.10.9		MSO - HR CD Disk	
2.1.10.10		MCP - HR CD Disk	
2.1.10.11		MP - HR CD Disk	
2.1.10.12		MLM - HR CD Disk	
2.1.10.13		Medical Human Remains Pictures/PA/CD Disk	
2.1.10.14		Crash Site Human Remains Recover & Medical Photos CD Disk	
2.1.11.1		Maintenance Crew Toxicology Report (18 members)	
2.1.11.2		Mishap Crew Toxicology Report	
2.1.12.1		Mishap Crew - death certificate - MP	✓
2.1.12.2		Mishap Crew - death certificate - MCP	

Item	Location	Evidence Information	Checked
2.1.12.3		Mishap Crew - death certificate - MSO	<input checked="" type="checkbox"/>
2.1.12.4		Mishap Crew - death certificate - MLM	<input checked="" type="checkbox"/>

## Q3. WITNESS LIST

NAME	GRADE	UNIT	PHONE NUMBER
Ag	Maj	15 WG/XPO	
WITNESS 12	Maj	USAF EC/MOS	
Ba	A1C	3 CS	
WITNESS 24	Maj	15th Operations Spt Sq	
WITNESS 22	Lt Col	249 AS	
WITNESS 2	MSgt	703 AMXS	
B	Maj	3 OG/OGV	
MLM SPOUSE	Mrs.		
C	SrA	3 OSS	
Lu	A1C	703 AMXS/517 AMU	
Dc			
Ei	MSgt	703 AMXS	
WITNESS 1	Maj	62 OG/OGV	
MP EX-SPOUSE	Civ		
WITNESS 26	Capt	517 AS	
Gu	Lt Col	452 OG/OGV	
MCP SPOUSE	Mrs.		
WITNESS 27	Lt Col	517 AS	
WITNESS 11	Maj	99 AS, Andrews AFB	
WITNESS 30	Col	176 OG/CC	
MSO SPOUSE	Civ		
Mo	SSgt	703 AMXS/517 AMU	
WITNESS 21	Capt	517 AS	
Pa	Capt	436 OG/OGV	
WITNESS 10	Maj	3 OG/OGV	
Re	Capt	57 WPS	
WITNESS 16	Col	30 OG/CC	
Sc	Maj	436 OG	
WITNESS 3	Maj	517 AS	
Sx	Maj	437 OGV	
Sta	TSgt	3 AMDS	
Ste	Civ	ATS/EDF	
Sti	Maj	21st Airlift Sq	
WITNESS 18	Capt	517 AS	
We	SSgt	703 AMXS	
WITNESS 19	Capt	517 AS	

**Q4. OFF-STATION EQUIPMENT LIST**

FEDEX ACCOUNT NUMBER:						Date
Item	Tracking Number	POC	Phone Number	Address	Date Sent	Date Received
FLT Control Computer (FCC) Box 1				BAE Systems	7-Aug-10	9-Aug-10
FLT Control Computer (FCC) Box 2				BAE Systems	7-Aug-10	9-Aug-10
Warning & Caution Computer (WCC)				Northrop Grumman Guidance & Elect	7-Aug-10	9-Aug-10
Air Data Computer				HoneyWell INC	7-Aug-10	9-Aug-10
Spoiler/Flap Control				BAE Systems	7-Aug-10	9-Aug-10
Core Integrated Processor				BAE Systems	7-Aug-10	9-Aug-10
Propulsion Data Management Computer				Hamilton Sunstrand	7-Aug-10	9-Aug-10
Mishap Plane Hydraulic Fluid Sample #1 (far)		MSgt			6-Aug-10	9-Aug-10
Mishap Plane Hydraulic Fluid Sample #2 (far)		MSgt			6-Aug-10	9-Aug-10
Mishap Plane Fuel Sample (JP8)		MSgt			6-Aug-10	9-Aug-10
Mishap Crew - Dental Rec		Col & Lt Col	Col & Lt Col		18-Aug-10	20-Aug-10

**INTENTIONALLY**

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**TAB R**

**RELEASABLE WITNESS TESTIMONY**

<b>R1.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM WITNESS 3</b>	<b>..... 3</b>
<b>R2.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM WITNESS 26</b>	<b>.....16</b>
<b>R3.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM</b>	<b>WITNESS 27 ..... 25</b>
<b>R4.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM</b>	<b>WITNESS 19 35</b>
<b>R5.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM WITNESS 22</b>	<b>..... 43</b>
<b>R6.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM</b>	<b>WITNESS 25 ..... 49</b>
<b>R7.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM</b>	<b>WITNESS 10 ... 57</b>
<b>R8.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM</b>	<b>WITNESS 21.....65</b>
<b>R9.</b>	<b>TRANSCRIBED WITNESS TESTIMONY FROM</b>	<b>WITNESS 18..... 71</b>

**INTENTIONALLY**

**LEFT**

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R1. TRANSCRIBED WITNESS TESTIMONY FROM

WITNESS 3

Non-Privileged Witness Statement

I, I. (Name of Witness) **WITNESS 3** (Grade)  
(Organization) SI7 AS have been advised by (Name of Investigator)  
Er Cox a safety investigator of the mishap that occurred on  
28 July 2010, involving a C-17 of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

[Signature]  
Witness Signature Block

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL (SIB/IO), LT COL (SIB/PM), CAPT (SIB/HF)**

**INTERVIEWEE: WITNESS 3**

**ROLE: 517 AS, DEMO PILOT**

**DATE: 5 Aug 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Capt. - "Today's date is August 5<sup>th</sup> and the time is 1354, and this is an interview with Maj  
WITNESS 3 and I am Capt. human factors members "

Lt Col - "I'm Lt investigating officer"

Lt Col - "As well as Lt Col

Lt Col We'll get with the questions and some of these may just be basic which we may already know the answer to but just to have it on the record. Have you ever been certified as an air show demo pilot "

WITNESS 3 - "yes"

Lt Col - "what crew position were you certified in? Safety observer, co-pilot, pilot?"

j<sup>WITNESS 3</sup> "Pilot flying and then co-pilot and observer, so I've done all three of those"

Lt Col - "Ok and you have physically flown in all three of those positions?"

WITNESS 3 "Yes, sir"

Lt Col - "Ok, when you were certified were you certified as a hard crew?"

j<sup>WITNESS 3</sup> - "Yes, yes I was last year"

Lt Col - "Ok what, who were those other crew members?"

WITNESS 3 - "Hard crew was MP MSO do you need the whole names or?"

Lt Col - "Just that's fine"

WITNESS 3 - "Ok MP MSO I was swapping out with MP as the pilot, we changed duties as pilot and mission commander to allow the crew rest, I worked with this one co-pilot all the time and WITNESS 8 now WITNESS 8 is our safety and SSgt JB was our Load Master"

Lt Col - "Ok, Does the Demo AC always sit in the left seat"

WITNESS 3 - "Yes"

Lt Col - "Ok, Who was your instructor during your upgrade process? Or did you have multiple instructors?"

WITNESS 3 - "My only instructor was MP

Lt Col - "Okay, do you know if the upgrade program that was used was derived from AMC, PACAF, locally?"

**WITNESS 3** – “It was \_\_?\_246\_ I think that’s the right, and then techniques were thrown in of course in between the procedure, but yeah it was, we had a whole program and if we have a copy of it somewhere you guys can have all the files, it’s all packaged.”

Lt Col – Right, we’ll get that, what were the steps involved in your upgrade process? That you can remember, I mean like we said we do have the programs just as far as you can remember.

**WITNESS 3** - Ground School we talked about the checklist variations, and how the crew member actually works, because the pilot flying doesn’t really do any challenge/responses with the co-pilot and safety, we talked about how to program the jet with the box in the jet because you don’t want to use the standard runway because it could be several degrees off and that’s critical for a precise air show so we talked about that. We talked about how to correct when you make a turn you make an outbound heading for a few seconds and then come back in and techniques that we would use to correct for cross wings, head wings, tail wings, if show center was off center from the runway center line that type of thing”

Lt Col – Okay

**WITNESS 3** – “And I’m sorry...In reference to ground training when we did the SIM and we did an EP we demonstrated, and then we would fly for SIM and they did record the SIM stuff I doubt very much that, that was kept anywhere that they ...I think I viewed the profile two or three times we all practiced. See there’s four profiles in the 246 to qualify we have practiced profiles two and three. One is designed for coming in from an out base during the show landing, backing up, taking off again and going away that’s profile two. Profile three is the one that was most common when you take off from the air show base leave show, come back and land and backup and depart the runway, so we practiced both of those in SIM three times and then there were three of us going through the upgrade process three pilots, and so we all three of us went through that a few times and then we went out, I had two full flights where I got to practice it for about twice each time plus a bunch of others and then I got the certification and then I viewed several shows last week.”

Lt Col – “Okay, That was going to be my next question, is have you ever flown a C-17 Demo in the air show?”

**WITNESS 3** – “Yes, several”

Lt Col – “Okay, Which profile did you fly?”

**WITNESS 3** – “Number three every time”

Lt Col – Okay, Tell me as much as you can remember about how you fly your profiles, such as air speeds, configuration...bank angles, altitudes if you want you can use the board but for the purpose of the recorder you know.

**WITNESS 3** – “Yeah well”

Lt Col – “Explain something, but exactly but so just I know you don’t have them straight in front of you”

**WITNESS 3** – “Right, right”

Lt Col – “So this isn’t a test on how much you can remember”

**WITNESS 3** - \*Laughs\*

Lt Col – “But yeah, air speeds, configuration, to bank angles, altitude from break release to stop”

**WITNESS 3** – “Okay, we would, well generally an air show had timing on it so we would do a countdown with the announcer in charge of the air show. Countdown...5-4-3-2-1 it was pretty common technique sometimes you could coordinate something different. Break release it was always an act prior to take-off and we rolled down the run way

and we it was technique based on really what the temperature was we flew anywhere from very cold islands in Japan (area can't hear) and we also flew in Thailand and calm quarters so the way you handled the jet was significantly different in each one. So generally we would delay rotate 10 Knots past go speed or rotate speed we never took off the split marker (Mumbles something here, can't hear) and then well depending on what kind of performance you had you could get 30-40° sometimes and 1,500ft was your altitude you were supposed to be at for the take-off rotation. So based on the performance of the aircraft you kind of had to make an audit of what you did, about 800-900ft you would need to start pushing it over it was kind of like the wing over but not really but you would unload the aircraft and actually push it forwards slightly and you never go negative you have a .5 or .8 G at that point when your pushing it over and then (mumbles something) and a lot of it 45°-65° at bank and we put full rudder (mumbles something)"

Lt Col - "All the way to the stop?"

WITNESS 3 - "Yeah, the tech controls kind of take care of the jet on this thing, we're requesting that our computers give it to us, so we do that and if it's really not performing well sometimes (something) weather will get it started and to get the nose coming down because you don't want to do a big bank with the nose up in the air and then generally the first turn is about 80° and we're doing that to gain spacing because you're going to clean up and accelerate and make a steep turn around and do a high speed pass for your (mumbles something) so that's essentially it, time varied on acceleration if it was hot outside it would take several seconds several meaning like eight seconds sometimes, to get enough acceleration you would bring it back over and bank it over to the other side 60° was standard but we always shot for 60° and we would start the bank and then after the aircraft would settle down we would assess whether our turn was ahead or behind where the center line should be. If it was ahead then we would continue to accelerate so leave an hour max, continue to accelerate around and if it was still too tight for center line we would try to sneak out a little bit of (Don't know what he says) try not to show the crowd that we just came back to 45° if it was too far around we would have two choices and it was all based on performance of the jet we would either pull some power back and try to hold it at 270 Knots/280 Knots as opposed to keep accelerating 310 or 340 or whatever the air show said was okay and if that still didn't have enough then we would try to use a little inside rudder because that helps a little bit. Blast down, Show center 5-4-3-2-1 Hack and we'd give it a couple seconds and then we'd turn into the next profile which was pitching out and, I'm sorry there was a descent also involved with that because you're supposed to cross the center at 1,000ft so on takeoff were up around 1,500 and I say around because were more worried about..."

### **MVI\_0501; (Part 2/3)**

Lt Col We had to change audio recording devices. We left on the other one talking about the demo profile. Please continue where you left off.

WITNESS 3 - So after coming around for the high speed pass we descend to 1000 feet cross show center and then pitch out and it's not really a climbing turn it's just a 30 or 40 degree turn to take spacing as we decelerate and configure for the slow speed pass. One of the few commands that a flying pilot gives is when to roll final flaps, it's technique that does its kind of how we work it because of how you did your timing, your spacing, that type of thing. So come in 500 feet pass fully configured, full flaps, gear hanging and once we are safe and leveled and so for then we go Vmma -10 which is perfectly safe in this airplane. Go on to show center same type of thing, countdown to show center, and apply full power, and after the jet is beyond Vmma; we start cleaning up, then it's again another turn, out away from the show crowd. Having trouble remembering, then we're accelerating back around, and setting up for an 160 knot and a 360 degree turn, so we pitch out and take spacing again somewhere around 45 degrees, accelerate to 160 knots, and the pilot is doing flying and the safety and the co pilot at that point are beginning to initiate the approach checklist to prepare for the segment following. So taking spacing and coming back around 160 knots right up show center line. At show center it's a 360 degree turn at show center depending on the winds the air density and so forth sometimes we do 60 degrees right off bat, sometimes it's like a circling maneuver, sometimes we use 40 or 50 and increase to 60 or vice versa, and sometimes we use rudder; it depends on what you need. The big safety concern is not going over show center line, it's very important, Every now and then we use auto throttles one of the techniques is to use auto throttles 160 knots it works like a champ and takes a tremendous load off of the pilot flying. Sometimes it will kick off, most of the pilots tell the co-pilot if it kicks off just hit it again, arm it again, engage it again. Some guys will just hand fly it, it's a technique. So anyway, 360 and pitch out again to take spacing for the landing, it's a level of 1000' AGL turn back around and it's an assault but not to an assault zone and

generally we try to pick a point during the practice prior to the air show; pick a point where we will land prior to show center so that we kind of roll through while we are max braking then we back up at speed, so we do a max effort landing, leave the engines in max reverse until the aircraft has stopped, then it starts backing again, a technique is we call "feet on the floor" to make sure we don't do anything stupid with the brake pedals, we back up using a center line of the runway and by the time we're stopped, the loadmaster has the show side door open, troop door open and we back up and it depends on what's going on the weather, where show center is, if you landed long or short that type of thing, sometimes we get up to 30 knots usually its about 20 knots backing up in a straight line and once we get our momentum going back we just want to leave it max, we don't want to risk compressor stalls so once we get to about the speed we want we bring it back to about half power reverse and just continue back for 1000 feet of whatever it is for the setup for the show, and sometimes you want to go beyond the taxi way, bring it out of reverse, pull forward slightly and it just exit there before show center again, that type of thing. So that's what terminates the show is finishing the high speed back taxi and pulling forward to the center main gear again and then exiting the air field.

Lt Col            So what is your opinion on the manual use of the rudder on a large aircraft like a C-17?

WITNESS 3 I think we do it all the time on cross wind landings so I don't think it's an unusual occurrence at all.

Lt Col            What other times have you used it in a plane other than cross wind landings? I see you mentioned some for the profile.

WITNESS 3 I have used it in the C-130 as well and I have talked to other guys but sometimes in the pattern especially overheads if you get into a 45 degree bank turn 30/60, it doesn't really matter, that technique can be used to bring the nose up or down verses rolling out of bank and trying to adjust cause that actually G's up the airplane quite a bit if you roll in and you didn't pull the nose up hard enough for a 60 and 2 turn it's a significantly less stress on the airplane to bring the nose back up where it needs to be with a little bit of uphill rudder or downhill if you are climbing then it does to roll out and start reefing on the....very very heavy airplane.

Lt Col            How much rudder do you typically use during turns when you are flying the C-17 demo profile?

WITNESS 3 I have used everything from no rudder to full foot on the floor

Lt Col            Ok. So was that the way you were trained to fly or have you added any of your own techniques to the profile? I know you have C-130 background to so.

WITNESS 3 Yeah, I generally try to get a nice turn, I'll lead with the rudder but I won't put full rudder in, its gets the airplane turning faster, it initiates the turn faster, I should say. But I do not fly the demo with full rudder because I need the rudder to correct for anything like I was 10 knots too high, or my turning radius was too high, or if we are in a 360 degree turn at a 160 degree knots and the nose started to drop so I needed to use uphill rudder to bring the nose back up rather than roll out to 30 degrees and pull the nose up and now I am going over show center, that type of thing.

Lt Col            As far as when **MP** was training you, did he train you to use full rudder or show you to use full rudder at all during turns?

WITNESS 3 He showed me how to use it but he said it's up to you; it's your comfort level.

Lt Col            Have you ever been taught by anyone else to use full rudder in a C-17 other than the demo?

WITNESS 3 Just on landings

Lt Col            OK

WITNESS 3 Up here it's not uncommon up at Allen for an assault landing, it's on the floor, we land at 30 knots cross wind so you bet

Lt Col – I know in the simulator we use it for engine out , we have to use full rudder a lot of times

WITNESS 3 Sure Sure

Lt Col What techniques were you taught during your upgrade process that were something different that you either liked or disliked, if you can think of any?

WITNESS 3 The high deck angle for the takeoff was new to me but after I saw the airplane could do just fine it was quite comfortable. It was new and different but flies like a dream really

Lt Col Anything else?

WITNESS 3 Not really I mean you could do an overhead at 60 degrees at bank it's no longer a procedure to do that but it used to be. I can't really think of anything else, just basically putting our basic skills to use the assault, the steep turn, max effort take off, true finding it putting it all together back to back

Lt Col Have you ever had the stick shaker or stall annunciation activate during an air show profile demo that you have flown or someone else might have flown?

WITNESS 3 You bet

Lt Col OK

Lt Col What were you doing at the time with the aircraft when the stick shaker activated?

WITNESS 3 It varied. Sometimes you would get it in the 360 degree turn, umm, where else do you get it? I don't ever remember getting it on rotate, if you don't have your speed high enough before you start your turn for the high speed pass you can get it because you are asking a lot from the jet , you're asking for it to keep a 16 and 2 bank and accelerate, so you can get that

Lt Col And you are cleaning up the aircraft at that same time?

WITNESS 3 Yes you are just changing configurations a lot, your deck angle, there's a lot going on and it never got mushy or anything. I was at Long Beach, I've challenged this airplane a lot more than the air show does. I never it seemed like it was a transitory type stick shaker rather than a pending stall kind of warning.

Lt Col When you wouldn't get into the stick shaker, how long if you can remember or guess at, how long would you have the stick shaker stay activated, like for how many times would hear a "stall stall"?

WITNESS 3 Well that's a tough one.

Lt Col Would it last just a couple seconds? 5 seconds?

WITNESS 3 Yeah, maybe 2 or 3 iterations. 'Cause we would try to correct for it of course right away and it varied you know maybe we would take out some rudder, maybe we would cob in some more power, depending on where you were on the profile and what you were getting. We never got it, I never got it or don't recall getting it at a low energy state, it always seemed like it was an accelerated stall warning

Lt Col OK

Lt Col So what is your personal opinion of the demo profiles? Are they adequate, too aggressive? Have you ever felt uncomfortable or unsafe with any of them and the way they are set up right now?

WITNESS 3 No. It's pretty basic. I think a lot relies on technique. I have seen some demos that look like radar patterns; I've seen the audience get their binoculars out because the airplane is so far away. I've seen others that

were fabulous and not just here U-2 type stuff from some of the other guys, really nice and tight, such it's a huge spectrum; so much technique involved

Lt Col           Ok. As far as technique, you talk about technique involved, what technique have you seen....  
Music plays and interrupts session..female voice comes on recording says we need to stop session in like 30 seconds

Lt Col           OK let's stop it

Female voice says ending recording 2

**#3 track on Sony Recorder; (Part 3/3)**

Lt Col           – “Alright this is a continuation of the interview with **WITNESS 3** this is part 3 and this is Lt Col asking the questions, last question I have is are there any areas that you want to discuss, we went through a couple questions and is there anything that you want to add, discuss with us that you may feel that has any bearing on this incident.”

**WITNESS 3** – “Yeah maybe one point, you know we all wondering what happened, last year when we did the demo we were always trying to get better and better, more crisp, and I managed to get the airplane. We felt buffet on the fuselage at one point and we really don't know how we got there because you know we're taught that the systems would not allow that because it's an electric jet, but I managed to find it, the way we got into it was this, I'm telling you this because it may have something to do with it I don't know. It was me flying and it was the initial take off and it was not extreme weather in any form or fashion; light cross wind and we took off as I described earlier; a steep climb, roll left and lower the nose and accelerate, come back around, while we were coming back around we had tried to make it a little tighter a little tighter so we kept cutting the amount of time that we would accelerate out because we needed just a certain amount of time to be able to hit show center at 310 Knots so we decided we could cut a couple of seconds or something like that. So anyhow as I rolled right to accelerate in it seemed like the jet (we were still at max power) seemed like the jet would not accelerate anymore we were basically stuck at about 250 knots and because of the cut timing we were tighter than normal, so I did use inside rudder I didn't use all of it I used some of it and when using flight control systems you don't get all of it anyways, you can put your foot to the floor and it only gives you a certain percentage of it based on the aerodynamics at the time. So, but at some point we got I got a little bit of a stick shaker and immediately we got buffet almost as though we went through the stick shaker and I hadn't made any abrupt movements to get there so my first inclination is okay I think we're getting near truly near a stall, So I let the rudder out (Slowly not abruptly) and it seemed to correct itself right away, so I tried to accelerate another 10 or 15 Knots and re-engage pushing the rudder back in to keep it tight trying to keep from going over show center and we got the same thing again and mind you we were not in a level turn we were in a descending turn and the thing just wouldn't accelerate out so after the second time I let the rudder out again to center with no rudder in it I said “crew were going to go past show center on this one and I'm not going to keep pulling”. We ultimately crossed show center, I don't know about a wingspan across show center and maybe 280 Knots seems like we kind of stuck around 250 Knots and it wouldn't accelerate out. But yeah we thought, we all sat down afterwards and discussed what exactly happened, obviously not the same thing that happened here because I think both those guys are probably better sticks than I am but we got into something we never thought could have happened on a C-17 and we got back out of it, I mean I put us in there twice and got us out twice, but I don't know, we don't know what happened, no clue. It was the last demo of the season we talked about it, we discussed what we did we thought well I don't think we can do anything differently except maybe not let ourselves drop below 250 Knots but in hindsight I don't think that's a good plan because 250 Knots based on what? Temperature, Altitude? You know the demo two usually goes down to India, They had to accelerate for twenty seconds before they can start turning. So anyway that might steer you guys in another direction I don't know but, it was something that I had not heard of from anyone before. I've flown this thing in a deep stall at the test facility and at the production facility under the tutelage of the test guys from Boeing but I've never seen a buffet, I've never felt a buffet in a C-17 before so that was new. So that's about all I can throw out that I've experienced in it.”

Lt Col           – “Okay, Do you have any suggestions of anybody else that we might want to interview? I have a couple names already but if you can give us some names of other pilots that have flown with **MP** that he has trained.”

WITNESS 3 – “Okay, there’s another guard guy who’s a very experienced pilot and a demo pilot he’s been that way for a couple years, WITNESS 25 I would recommend speaking with him and then the two new pilots who are still alive are WITNESS 15 female, WITNESS 15 and WITNESS 18 was the other two their IPs they came to us recently and we you know they’re both experienced air job instructor pilot, you know that kind of thing so we chose to put them into the program as well. So they were both trained up, they were going to perform in other portions of the air show but not the aerial demo they were going to do the air drop and the dissimilar formation and that kind of stuff. So I would speak with them, load masters the one that flew for me last year was not involved in it this year so we call him WITNESS 5 (WITNESS 5) he was training, he was actually supposed to be on the jet but he didn’t have a crew duty day for it so tread lightly when you talk to him because he’s really shaken. MLM and to be honest with you I can’t remember anyone else but I highly recommend WITNESS 25 and either WITNESS 15 or WITNESS 18 or both.”

Lt Col – “Do you know if MP ever talked about the guy who trained him?”

WITNESS 3 – “No I never heard him talk about it.”

Lt Col – “Okay”

WITNESS 3 – “The only reason they trained me is because the guys we had qualified initially for the air show two years ago were all PCSing out and I recognized that and went to the DO and said we need somebody trained up who’s going to be here so we can bridge the gap for the active duty and he said “fine, you’re training up” so you know it has to be an IP experienced and so forth so I trained up last year to bridge the gap and I didn’t end up training him anyway and it ended up being MP

Lt Col – “Okay, Sorry I lied I do have one more question I just thought of something when you mentioned about the ground training did you and MP ever go over any charts, G charts, G Limit Charts, Speed, Bank angle charts, anything like that.”

WITNESS 3 – “No, He taught us by demoing it and we did ground talking about where to turn and what headings and so forth and then he demoed it and talked us through it the first time rather than using the charts. And the airplane talks to you”

Lt Col – “Okay”

Capt – “Well sir, as you know I’m not a pilot, I’m the human factors person but this has been great to hear that side, and so for the rest of this we’ll just transition just a few human factors more related questions and then talk more about MP kind of individually, get into how well you know him and what not, but first of all while we’re still talking about the air show mentality this is more for you to just to help me learn what you guys are thinking prior to an air show. If you can just list two or three, what are the, you know clues that kind of go off, we have the whole list of attention management you know the kind of CRM the channelized attention, task saturation, you know all those kind of things you know if there’s anything that really flags before an air show.”

WITNESS 3 – “Gosh, before an air show?”

Capt – “Or the practice, you know something that’s different, out of the ordinary that you say “hey I need to pay attention to this because of this” ...

Maj WITNESS 3 – “If you haven’t done it in a while, you really need to shake the rust off because it comes at you pretty quickly, and if you’ve done it the regulations say you can’t do the air show if you haven’t done it in the past seven days, if you haven’t practiced it in the past seven days, but right now if I tried it since not having flown since last geez October, yeah I’d be all over the place the first time, I would certainly do it in the simulator a couple times, so it’s a short it’s a very short profile the book says twelve minutes not true, even without touching the rudder you can do it in ten minutes easily it’s just you know it’s not that long of a profile it’s not that complicated there’s very few maneuvers involved with it, nah I can’t think of any human factors that would overwhelm somebody “

Capt – “Is there any different CRM techniques that you use during those profiles”

WITNESS 3 – “Yeah, typically the challenge and response with the checklist is the person reading the checklist is the pilot not flying, and the person responding to it above a position is generally the pilot flying and sometimes there’s something with the pilot not flying will make the challenge and respond to it and then the pilot has to make a response as well. The pilot flying is completely removed from it because of the challenges of the quick profile and it’s the safety observer... it’s not really observer, that’s not the right term... it’s the safety and the co-pilot are the two people who are doing the challenge and response and the pilot’s listening, you know he’s waiting for the gear down and so forth but he’s not... he or she is not involved with the challenge and response. They’re responsible for air speeds and that’s the safety’s... that’s why I guess they make the profile, but my guess is that’s why the safety’s there to take the load off the pilot and the distractions away from the pilot”

Capt – “Okay, and as far as just in the squadron and the week before the air show and what not, what’s the kind of talk, you know are people talking about the air show are they excited? Nervous? You know anything?”

WITNESS 3 – “No not nervous, loathing is probably more than anything else, you know we had a lot of work to do getting pulled in all directions all your job duties, EPR’S, OPR’S all that garbage plus all the extra duties of air show stuff. As an example MCP I was in his office with all of the other flight commanders in the squadron trying to hack out who we could send to fill a mission and we spent an hour and a half scrubbing everybody in the squadron, everybody was attached just trying to find three people to go fly or four people to go fly a basic crew a combat basic crew to go fly something. So we just had so many things going on his case in particular, he did not get a second of thought would be my guess to the air show demo practice until he said “okay, sir I got to go I got to go prepare for this” and then he stepped away and they were briefing ten minutes later, so yeah it’s just nonstop here it’s PACAF \*laughs\* unfortunately”

Capt – “And to go with that, the load master are you aware that he was supposed to leave to go to Germany I believe the next day and wasn’t going to be at the air show. Did you know that?”

WITNESS 3 – “I didn’t know that, what I had heard was that, oh yeah MLM yes I did know that he was on the crew that we were trying to build, we couldn’t get another pilot, he and ( ?) was the other load master I believe (?) so but yeah he was supposed to go to Germany the next day.”

Capt – “So you said he filled in because of crew rest for another?”

WITNESS 3 – “WITNESS 5 was supposed to fly but he had to come in early for some reason and he didn’t have a crew day to fly until the end of practice, so they pulled him off.”

Capt – “Anything else on the “before the air show “stuff?”

Lt Col – “No, one of the things that you brought up was the crew for the air show demo, in a sense of were they a hard crew by chance, or are their provisions when obviously the hard crew cannot perform together as a hard crew, what provisions do you have in place to”

WITNESS 3 – “That’s why we trained a couple of extras. Its... look as it as an alternate, you know you train two pilots because a pilot being an instructor pilot, once he’s qualified on the left seat he can perform duties in any of the other front end of the airplane duties, so he in respect is an alternate for the co-pilot and the safety position but only another instructor pilot has been qualified in the left seat can be the guy flying, so we train up our hard crew with a spare pilot and a spare load master usually. Since the program’s been here... well, to my knowledge since I’ve been in the program that’s how we did it, and that’s why we traveled last year with the same thing. If I went DNIF, the show could continue if MP went DNIF the show could continue same with the safety or co-pilot, either of us could jump into the other seats to complete that.”

Capt – “Okay and then just a little general peer-assessment for MP how friendly on a friend basis or just strictly work relationship?”

WITNESS 3 – “I didn’t go out, you know hang out with him we were friendly, I was actually in the process of trying to give him my hot tub, believe it so yeah were friends but mostly co-workers”

Capt – “Okay, and did you fly with him often?”

WITNESS 3 – “No, very seldom the last time I flew with him was the air show demos last fall”

Capt – “ Okay, and just the general assessment of his flying you know his personality as aggressive, conservative, very meticulous?”

WITNESS 3 – “No, he flies aggressively during the air show practice, he never made me nervous when he was showing me stuff. The rest of the time he flies like an airline pilot really, it’s kind of how you fly a C-17, and so no, he’s not a traditionally aggressive guy in everything he does, not by a long shot.”

Capt – “And had you been talking to him in the couple of weeks beforehand at all? Okay, have you seen any significant changes in his life at all, family, financial, legal?”

WITNESS 3 – “No, well we never addressed that type of thing; I would always come to him because he was designated as “Mr. Air show”. Then we sort of gave him “ownus.” We the 517<sup>th</sup> gave him “ownus” of training our people, because too many people trying to obtain, there were too many hands in the pot. So I just made sure he had a plan and Col<sup>WITNESS 28</sup> made sure he had a plan and he told Col<sup>WITNESS 28</sup> what the plan was and who was going to fly when and that was pretty much it. I never had conversations about him, except trying to give him my hot tub, he said he was really busy and that I should try to sell it because he’s too busy right now and maybe next week if I hadn’t sold it, that was about it.”

Capt – “Do you think pretty similar attitudes from the rest of the squadron as far as towards him, you used the “Mr. Airshow” any other general kind of you know?”

WITNESS 3 – “From the other people?”

Capt – “Yeah”

WITNESS 3 – “The other people on the crew you’re asking?”

Capt – “Oh sorry, first I’ll ask the other squadron members, like their perspective of him?”

WITNESS 3 – “Yeah, he was seen as the authority on the air show training, yes I would say that is a general consensus”

Capt - “And his personality around the squadron, similar, laid back?”

WITNESS 3 – “Yeah, no he didn’t wear that on his shoulder or anything, he was very easy going, laid back, and humble”

Capt - “Not a history of bending the rules or anything like that?”

WITNESS 3 – “No, no not at all he’s Mr. Stan/Eval”

Capt - “I will ask you about the other crew too, just a kind of a general perspective on their personalities I guess MSO first.”

WITNESS 3 – “Really good pilot, way better hands than I have for sure, came from F-16s understands Aerodynamics a lot in fact we had a discussion about the thing I encountered and we talked about using the rudder lead and lag and all kinds of cool things you can do with an airplane, so he understood that stuff really well. He just upgraded to IP recently which is why he upgraded to the left seat, aside from the standard office stuff he was in charge of their scheduling, he was the focal point of the one voice for the flyers for both squadrons to the simulator people. There was a little friction there but it’s been that way for a year, I would say nothing out of the ordinary I don’t know of any family problems.”

Capt - "Okay, and then MCP

WITNESS 3 - "He was stressed, absolutely. He had a lot going on, he had health problems he's on a Cat II health waiver, he had gotten on top of it but it stills a challenge for him. You know he's always having trouble with his PT test although he knocked it out of the park on the last one but he really struggled getting to there. He just really worked hard he's an Ops Flight Commander and we were short on people because we kept flushing the system we kept getting volunteered for everything. And yeah he was stressed out."

Capt - "And then MLM

WITNESS 3 - "I don't know that I've ever seen him stressed out; he's a pretty level-headed guy. He's excitable but I wouldn't say stressed. I saw him in passing and we talked about the trip he's going on and I said I wish I was on it with him and that was about it."

Capt - "And then how about just general morale, and we'll start with the 517<sup>th</sup>"

WITNESS 3 - "It's pretty good, I think."

Capt - "Like Ops tempo, and"

WITNESS 3 - "way too high, mostly I wouldn't say necessarily the flying, it was all the other stuff, the people getting volunteered for whatever, MC12's or office stuff you know "we need a POC for this, we need a POC for that" and they had absolutely not been given the time to go do things. I do know that some of the crew went over to the simulator to practice a day or two prior to the flight. It was just like having conversations over their shoulder as they were running out of the squadron trying to finish things up to go do that, that type of pressure, just non-stop, non-relenting"

Capt - "Guard side similar, better, worse?"

WITNESS 3 - "No, the guard side was pretty healthy I think. They have a better shield then we do because they're guard, but I didn't see as much stress. I know MP was a little overwhelmed mostly because just all the pieces of the puzzle of the air show and last minute, you didn't really know when they were doing the demo until the day before or something like that, the day before the practice, because the official schedule hadn't come out, there's a lot of unknowns and they were just doing the best they could until they had something solid to hang their head on. So and it's a lot of work you know getting everything just right, trying to schedule when the practice can be, making sure that the weather's going to be okay, and if it's not going to be okay then do we have an alternate day? What happens if we don't have it within seven days of the air show? That kind of thing that was the kind of stress that he was dealing with, because the weather was quite poor, up until that day it was nice that day."

Capt - "And how about between the guard and active duty."

WITNESS 3 - "Oh, we're awesome. Honestly, we have such a tight relationship, even before this happened we mix well. They evaluate us, we evaluate them, we go out together, just little groups of people, and it's a real healthy relationship."

Capt - "Okay and then just general attitudes toward supervision, any glaring issues there?"

WITNESS 3 - "We were ready for a new squadron commander"

Capt "Okay"

Lt Col - "Just something I was thinking of asking, prior to them doing their demo was there any comments, probably mostly joking I'm assuming, maybe, within the squadron of "hey make sure you go, you know make it look good, make it look tight, was their anything like that were there a lot of people that were going to be out watching it from the squadron, do you know of?"

WITNESS 3 – “No not really”

Lt Col – “Ok”

WITNESS 3 – “It kind of, actually there was a little concern that they wouldn’t get up that day, because the plane they had initially been set up against had an OBIGS failure I think I forget what it was. But I was top three at the time so the pro-super came down to me and said “hey we know that the air show demo practice is the highest priority today because they have the seven day window” I had to explain it to them. And I said okay lets switch it up, let’s make sure the engine running crew change goes to these guys instead of to another training line. And we got, I called the command post and asked them to have them call back to me to top three I told them what the new plan was and that they were going to do an ERCC. The demo crew and we talked about how much gas they had on board and we asked them to burn down what gas they could, they said “okay were going to go to Kenai and fly around” It’s a local airfield out here city airfield. So it was Nealy aircraft commander, and he said “No problem, we can do that.” In fact, he flew around with his gear down most of the time to make sure that he burned enough gas. And he told me he was so proud he landed with about 65,000 pounds of gas which is exactly what MP had wanted for his setup for the jet that he was going to use that was now broken, that’s what he had requested. So Nealy landed with that and, because you don’t want to be too heavy it throws all your parameters off when you’re practicing. So anyway it seemed like it was all lining up, there were no reports of that airplane flying poorly or anything like that it just, engine running crew change was planned for 5pm, and they were supposed to be on Delta at 5pm taxiway Delta to do the swap. They would swap out and the planned take off was 5:30pm I truly don’t know what time they took off, but it must have been a little early because they had done part of the profile before they had crashed.”

Lt Col – “Okay”

Capt “Okay, yup that’s about all, very helpful. Unless you have anything else for us, sir?”

WITNESS 3 – “Let me know if you have any other questions.”

Capt “Okay, this concludes our investigation. This is a non-privileged final investigation and it is on the 5<sup>t</sup> of August and ending at 1624.”

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R2. TRANSCRIBED WITNESS TESTIMONY FROM

WITNESS 26

6 Aug 10

Non-Privileged Witness Statement

WITNESS 26

I, I. (Name of Witness) \_\_\_\_\_ (Grade) \_\_\_\_\_  
(Organization) \_\_\_\_\_, have been advised by (Name of Investigator) \_\_\_\_\_  
\_\_\_\_\_, a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

\_\_\_\_\_  
Witness Signature Block

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL**

**(SIB/IO), LT COL**

**(SIB/PM), CAPT**

**(SIB/HF)**

**INTERVIEWEE:**

**WITNESS 26**

**ROLE: 517 AS, Stan/Eval**

**DATE: 6 Aug 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Capt - "Alright today is August 6<sup>th</sup>, 2010 and this is a non-privileged interview. The members present are Capt

Lt Col - "Lt Col Investigating officer"

Lt Col - "Lt Col Pilot board member"

Capt - "This is starting at 1753"

WITNESS 26 - "Alright I'm WITNESS 26 from the 517<sup>th</sup> AS"

Lt Col - "Okay we'll start asking questions, as I ask these we won't interrupt, I won't be kind of agreeing with you and talk and just try to not pull your train of thought, so I'll just be kind of staring at you the whole time. So don't feel like I'm wanting you to say more, but when you're done just say that's it and we'll go to the next questions, we may have other questions in there at the same time. Have you ever been certified as an air show demo pilot?"

WITNESS 26 - "Demo co-pilot, yes"

Lt Col - "Demo co-pilot? Okay, that was the next question. Were you certified as a hard crew?"

WITNESS 26 - "We did a... basically a hard crew I flew in the air show two years ago so in June or July of 08 and the paper, the document that went up to the 11 AF I believe it was more than just a hard crew of five, but it was a really hard crew. (Mumbles something)"

Lt Col - "Okay, does the demo AC always sit in the left seat?"

WITNESS 26 - "Yes"

Lt Col - "Okay, what was your instructor or who was your instructor during your upgrade process, or did you have multiple instructors? And this is from the ground side up through the flying side."

WITNESS 26 - "It was actually kind of multiple, it was the summer probably spring of 08; <sup>WIT 12</sup> from Hickam came up and trained a group of us to include <sup>WITNESS 11</sup> who wound up being the primary instructor at the time. I don't remember if **MP** was in that group, I don't think so but so <sup>WIT 12</sup> was probably the initial one, he did the ground training with all of us. I've been a safety observer at McChord so I had the training we just basically restarted over with everything to get (?). And then we went and flew with <sup>WITNESS</sup> also up at (?) Airfield did some training up there, and once he actually certified us we continued training with <sup>WITNESS 11</sup> just prior to the Elmendorf air show"

Lt Col - "Okay"

WITNESS 26 - "Does that answer your whole question"

Lt Col - "Yeah, that's fine, do you know if the upgrade program was derived from AMC, PACAF?"

**WITNESS 26** – “It was, yeah it used some of both. I can’t remember the regs off the top of my head but yeah it was based on the AMC profiles and whatever extra PACAF used.”

Lt Col – “Okay, what were the steps involved in your upgrade process?” SIMS, ground training?”

**WITNESS 26** – “Yeah, it was definitely ground trained to start. We went into the SIM quite a few times, and then to the aircraft. And then before each demo that we actually did, I think the only ones that I actually flew in were this air show, the Elmendorf one, and then New Zealand. And then we’d go back into the SIMS and start again, starting with ground training again and SIMS and at least a flight before the actual show.”

Lt Col – “Okay, when you did fly the demo which profile did you do you remember flying in?”

**WITNESS 26** – “The twelve minute”

Lt Col – The twelve minute one?

**WITNESS 26** – “Yeah”

Lt Col – “Okay”

**WITNESS 26** – “And we’d practice, when we did the upgrades we would do all of them, but when it was for the specific air show we would just do...”

Lt Col – “Profile three?”

**WITNESS 26** – “Yeah”

Lt Col – “Okay, tell me as much as you can remember about how the profile’s flown such as air speed, configuration, bank angles, altitudes?”

**WITNESS 26** – “I knew I should have studied”

Capt – “It’s not a test”

**WITNESS 26** – “I know, so yeah it’s been over a year. Let’s see alright so the initial take off alright so I know its max take off, we usually did our rotation about 10 Knots, rotate the nose. You know I’m doing co-pilot duties, auto gear up. I believe, can’t remember if it was 25-35° nose high, probably maybe 25. And again I’m sorry if everything’s wrong as soon as they get the nose up start to push over leveling off I believe 1,500’s the first altitude. From that it’d be left turn to whatever the heading is and I know we’d kind of study winds you know or whatever there’s some set whatever the degrees off the runway, we’d determine those ahead of time, I don’t remember how many. But the outbound timing was the one we’d adjust for winds, we had ones that were no wind but then we’d extend them and talk about it, and pre-brief. So turn outbound, fly, however, I feel like it was eight to nine seconds in the beginning, then right turn back inbound, descending to 500ft and that’s for the high speed pass and cleaning up and accelerating through that. So come in through your high speed pass and then the goal with that is as soon as you come to the approach end of the runway you pull to idle to be quiet for the crowd, go through you know countdown to show center, turning away from the runway, and then again I don’t remember heading. But then climb back up to 1,000, timing outbound. This is the slow pass you turn back in configure with the slow pass and then you might be at the approach minus a knot or a couple knots, we have it written.”

Lt Col – “Okay, so for the fully configured pass”

**WITNESS 26** – “Yeah about the approach come in show center, and then turn out and this one were getting to the half flap I think it was to do the 360 at show center and then again just turning back out to come in for the assault, you do the assault hopefully as your passing show center, and then backing up again for the crowd.”

Lt Col – “Okay, on those turns, on those 80, 60 turns or when you’re flying out and turning to come back in, over center line or past your show center what bank angle were you taught or do you remember kind of turning out to?”

**WITNESS 26** – “I don’t want to say the wrong thing, if they were doing something different it’s probably correct but, I feel like it was 60° of bank”

Lt Col – “60?”

**WITNESS 26** – “Yeah”

Lt Col – “Okay, what is your opinion of the manual use of the rudder on a large aircraft like the C-17? I mean do you typically use rudder at all?”

**WITNESS 26** – “Normal flying or?”

Lt Col – “Normal flying in this case”

**WITNESS 26** – “for crabs, for coming into landing I do”

Lt Col – “single engine in the SIM?”

**WITNESS 26** – “Sure, yeah that sort of stuff”

Lt Col – “Okay any other times that you would use it, low level flying maybe? Do you use a rudder at all when you’re doing a break turn or something?”

**WITNESS 26** – “Maybe, ridge crossing I guess, I’ve heard that coming off you know depending on what the tactic is (?)”

Lt Col – “Okay, now thinking to the profiles have you ever seen or been briefed that rudder would be used for those turns like those 60° turns that you were talking about, were you taught to use rudder for those turns?”

**WITNESS 26** – “Yes, and I know that was emphasized in the, obviously we tried to get the timing right to be outbound so you don’t overshoot the crowd, but that was the main concern is that we didn’t want to be crossing over the crowd, but yes I know they used rudder”

Lt Col – “Okay, have you ever been taught to use full rudder on a C-17 for anything, other than say the single engine”

**WITNESS 26** – “Yeah, well if you’re taxiing out of control yeah if you need it at an assault landing. I don’t feel like it’s been said use full rudder, maybe just understood use what you need”

Lt Col – “Okay, what techniques were you taught, were taught to you during your upgrade process, although with you being the co-pilot probably more of monitoring it”

**WITNESS 26** – “Exactly, yeah and well that’s what I know as the co-pilot that was sort of your job to keep the pilot steering the co-pilot should be helping them, you need a little more bank a little less bank, more rudder, if your overshooting that’s a good one for center line or whatever line your shooting for. Whatever there doing to get there is fine and then safety is monitoring all that sort of stuff”

Lt Col – “Okay, have you ever had the stick shaker and stall annunciation activate during an air show demo profile that was being flown, obviously with you being a co-pilot though but have you ever had a stick shaker annunciate”

**WITNESS 26** – “Yes, yes, fairly certain”

Lt Col –“Okay, was it just a quick; the two quick “stall stall” and then that’s about it or did it stay all the way through a turn or, do you know roughly how long?”

**WITNESS 26** –“I feel like it’s in and out, I mean you hear it a lot in the show, that might just be because I haven’t flown in a long time”

Lt Col –“Right”

**WITNESS 26** –“It’s a lot of it, but in and out and it’s kind of like on the approach when you hear usually the pilot’s like “we’re good, or powers in” you know I felt like it was always correcting out of it although we all understood it was coming”

Lt Col –“Okay, so mostly and that was the next question what was being done with the aircraft when the stick shaker did activate, if you can remember. Was it during those 80/260 maneuvers? During the configuration, was it just while the plane was being cleaned up that you would get it? If you can remember”

**WITNESS 26** –“I’m feeling like, when you turn inbound in those turns not necessarily in the clean up but I don’t think we were pulling in the flaps/slats too soon I don’t think it was any of that. No, because we’d clean up on speed I’d be watching that. Yeah, it was just in the as we descend sometimes they forget to descend, so you’re trying to tell them you need to get down. That’s mostly what I remember of it.”

Lt Col –“Okay, what’s your personal opinion of the demo profiles? Are the adequate, too aggressive, or have you ever felt uncomfortable or unsafe with any of them?”

**WITNESS 26** –“I have not, I’ve never felt unsafe. I think the only two pilots I ever actually flew with in the jet were <sup>WITNESS 11</sup> and <sup>WITNESS 13</sup> he just PCS’d. And they were aggressive but mostly with the roll rate I guess, and it wasn’t it didn’t feel unsafe it was, they were max performing but stuff I’ve seen on low levels you know it’s not...it didn’t feel unsafe.

Lt Col –“Okay, are there any other topics dealing with that air show profile that you would want to say that I haven’t asked at all?”

**WITNESS 26** –“No, I mean it’s kind of been so long for me I am kind of out of the loop on that...”

Lt Col –“Okay, any other suggestions of who else we should interview, I know you already gave us those other two names?” If you think of any later you can definitely call us”

**WITNESS 26** –“Okay, Capt <sup>WITNESS 8</sup> is another one recently, did you guys get the MFR **MP** was the one making it...but it’s a letter of our team?”

Lt Col –“Yeah, I think we have it basically..”

**WITNESS 26** –“Okay, because I know I gave two copies to...”

Lt Col –“Right, the staff summary sheet...”

**WITNESS 26** –“Exactly, those people are pretty recent”

Lt Col –“Okay, anything else for you?”

Lt Col –“No, not right now.”

Lt Col –“Okay”

Capt - "Yeah, I just have a couple more general questions not so much about airshow profiles, but you've been in the squadron for a couple years so just your opinion on overall squadron culture, you know interaction with the guard anything you want to talk about?"

**WITNESS 26** - "Well, Okay I'm in the Stan/Eval shop and we just had our ASEV and we had a really good relationship, especially with **MP** and **MLM** I mean I think our shop was typically the best for the TFI we all say we were TFI but we really were. I remember there was bitterness at McChord with the whole "the reserves get the easy jobs" but I thought we were pretty good, I mean of course we hassle each other but it's I think with our offices are all kind of intermixed so it's really nice. But I think we work well together, I don't think there's any real problem with that. Like I don't think anyone would be surprised it was a TFI crew.

Capt - "How about Ops tempo?"

**WITNESS 26** - "Yeah, I think it's been fine, we kind of got it easy compared to AMC right now, not much to complain about there. Nah it's I feel like the guard helps out, and you know we do our part."

Capt - "Okay, and then as far as the crew on the mishap so who would you say you're closest with? Start with that, anyone?"

**WITNESS 26** - "MCP yeah he was my husband's best friend, but also **MP** I mean he helped us through ASEV and he and **MLM** sat in that office with me."

Capt - "So you didn't fly with **MP**"

**WITNESS 26** - "No, I had not actually flown with **MP** I don't think ever to be honest. A lot of ground training and I think he was our SIMS instructor at one point with that."

Capt - "Okay, what was his personality like?"

**WITNESS 26** - "He was so smart, really hard working. I'm trying to think, quiet but not like in a shy way just he was working really hard all the time, really motivated about the air show stuff. I had gotten that whole staff summary sheet paperwork that you guys got, he had come to me to do it and he's like "Oh, you're busy with the rest of the air show" the ground part of the air show. And he's like "I can take care of this" and he got all the hours, in twenty minutes and like all the Col's are happy because they got all their information. Yeah so, he just always had new ideas to improve; FCIFs would come out and he could write a novel on every one and he would say "oh, this should be this way", and he was really analytical in that way (trail off) he was really happy the whole time"

Capt - "So his reputation in general do you think from other people too, like people viewed him as knowledgeable?"

**WITNESS 26** - "Yeah I think so, oh yeah; I heard in all of the memorials that he was one of the smartest guys on the C-17"

Capt - "Did he ever have any history of breaking rules or bending the rules or anything?"

**WITNESS 26** - "No, I doubt with that guy, especially since he would catch all of the little things that the rest of us didn't. Yeah not at all"

Capt - "Okay, and then you knew<sup>MCP</sup> well, how about his personality?"

**WITNESS 26** - "\*laughs\* "happy, yeah there was nothing wrong with him, I didn't get to fly with him but I heard a lot of comments about what a great instructor he was, but I could see that from his personality just so positive and you would go in his office and could be complaining and I'd come out happy. Just so I think as an instructor whatever or air crew that he was just probably the same way. I heard this story that he was air re-fueling with someone and they were crazy all over the place, and he was like "I'm going to get you there; "we're going to

get you this excellent on your check ride” So that kind of a positive “you’re going to do it”; But then again I don’t think I’ve ever flown with him.

Capt                                –“Okay, and then same with       MSO

**WITNESS 26**   –“Yeah **MSO** was the one I didn’t know, just through the squadron a little bit like I would say hi but I don’t know that much about him”

Capt                                –“Okay, how about the week or past two weeks before the air show, I know it’s busy around there. How were people’s attitudes?”

**WITNESS 26**   –“Well I know, since I saw **MLM** and **MP** all the time they were excited about it and then actually **MP** had sold me that day a demo hat a demo team hat, so I know that he was all pumped he’s like “here you go, you’re on the team 20 bucks” \*laughs\* So yeah, they were real excited, I’m trying to think of anything. I had seen<sup>MCP</sup> and I was stressed out with my part of the ground duties and he’s like “let me put your life in perspective” and he clicks on an email that’s for the squadron camping trip he’s like “So this is what you have to look forward to so chill out.” So he was pretty relaxed, and again I didn’t know **MSO** that well but I know **MLM** was always like “I just got off leave” he had been somewhere and he had a haircut that day and he was like “they screwed up, so I buzzed it” whatever he’s like “time to go fly”;he just liked to fly”

Capt                                –“Okay, so like the stress for the air show is that in your opinion is it worth it to do air shows, is it just a pain for people?”

**WITNESS 26**   –“I think so, I think the hosting our air show is stressful for the ground people but the flyers I think really loved it, yeah” \*Both Laugh\*

Capt                                –“Okay, That’s about all I have”

**WITNESS 26**   –“Okay”

Lt Col                             - “I’ve got a couple things. You said you were working with Frey on that letter that you had, with the demo crews. Do you know by chance if the flight involved any training, I mean were they looking at trying to get guys up to cert status or were they all cert’d; do you know by any chance?”

**WITNESS 26**   –“On the 28 July, that one?”

Lt Col                             - “Right, yeah”

**WITNESS 26**   –“The point of that one, well that was their crew I believe who was going to fly during the air show and they had one last training I think our ops group commander was supposed to be on it. I know what we had just identified the day before was that they needed a video for the 11 AF commander, so he organized all that too through PA. I don’t think, like extra training is that what, or?”

Lt Col                             - “Yeah, right like if they were actually in the cert process”

**WITNESS 26**   –“They were done, the only thing so it was sort of a, although they had been done with all their training ground training/flying training, and been approved by **MP** who was the instructor, like<sup>MCP</sup> I know for example. I don’t know for sure in the guard if those guys were previously upgraded. The only thing left was to be signed by the 11 AF Commander, which is why we needed the video, so it was sort of a “they were cert’d; they just needed the final here you go”

Lt Col                             - “Okay, so they were cert’d then”

**WITNESS 26**   –“Yes”

Lt Col                             - “Okay, were they cert’d as a hard crew?”

**WITNESS 26** –“They were, yes we had a whole, I think that whole entire list was being sent in as a hard crew; that’s just a PACAF rule”

Lt Col - “Okay, all the cert letters that eventually get endorsed by the 11 AF commander, do you know where all those cert letters might be, by chance?”

**WITNESS 26** –“The previous ones?”

Lt Col - “Yeah, or anyone who’s been cert’d or (?)”

**WITNESS 26** –\*Laughs\* “I’m laughing because after our ASEV we found something that said they need to be posted in the FEF’s. So we were working on getting those”

Lt Col - “Okay, Gotcha”

**WITNESS 26** –\*laughs\*“That was an ‘oh crap’, apparently no one knows that rule; Yeah we keep; maybe you need to look at my folders. I think we’ve got old stuff,<sup>WITNESS 11</sup> was the mastermind behind all this; I’ve got folders on my/our shared drive so.”

Lt Col - “Okay, great and the other thing that was there any place or any documentation that you have who are basically has a list of people who are cert’d to fly together as a crew members as crews, hard crews?”

**WITNESS 26** –Not as a small crew, but what I remember from that was a discussion trying to like how to we do that because of our Ops tempo, you know it’s really hard to go all the way up to the 11 AF commander with these four people and now someone’s gone. So I think what we were trying to do (because I don’t think AMC has that same kind of rule) was just cert the whole letter as a hard crew and then say we’d pick and choose. Which I know is sort of, yeah I know it’s...but that was our best approach at it. Here’s our hard crew..of 20. We used various people for the day, so yeah we had itemized down to at least four for this show”

Lt Col - “That’s all I have”

– This ends our interview at 1815.

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**R3. TRANSCRIBED WITNESS TESTIMONY FROM**

**WITNESS 27**

**Non-Privileged Witness Statement**

**WITNESS 27**

I, I. (Name of Witness) \_\_\_\_\_, (Grade) \_\_\_\_\_  
(Organization) ST742, have been advised by (Name of Investigator) \_\_\_\_\_  
2461 a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

a. This investigation is being conducted under the provisions of AF1 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

\_\_\_\_\_  
*Witness Signature Block*

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL**

**(SIB/IO), CAPT**

**(SIB/HF)**

**INTERVIEWEE: WITNESS 27**

**ROLE: OUTGOING 517 AS/CC**

**DATE: 7 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Lt Col            –Okay, sir. As the squadron commander how was the working relationship between you and the guard?

WIT 27    Outstanding

Lt Col            Has there ever been any problems from a leadership stand point concerning the flying of mixed crews and if so were they discussed laterally with the guard leadership and yourself?

WIT 27    I will elaborate on this one. Not only has it been discussions but it's been one of our primary objectives to mix crews to the max extent possible, part of it and I say this to the benefit far more than this investigation, I think part of the success of TFI is when it is going to be mandatory. There is no such thing as a pure guard or pure active or pure reserve crew. We are way way behind where opter? should go. But we have a great cooperative effort here and I think we are well ahead of any other association in the Air Force. We have intentionally positioned all of our sub-organizations in the squadron sitting next to each other. We are not to the point yet where we want one scheduler to do everything, one training office to do everything, led by guard or active. Makes no difference to me, they sit next to each other, therefore there is a natural tendency not to recognize that each of us has important objectives, and when given clear guidance by WITNESS 22 and myself, we did an outstanding job of mixing up aircrews on missions, training, red flags, demo teams, so problems? The only problem is that we didn't do it enough. That there is a human factor, there is a human nature, when you are the scheduler that you can negotiate with guardsman verses direct, that you call your guard folks first that's the people in your squadron, same with Active Duty, you call and say I need you to fly or I need you to go do this formation with this student and so that's who you call. So until we get to a point where is one scheduler trained to deal with both, we haven't reached perfection but we did a dang good job and we always showed leadership because we think that people like General Kim should be ordering their squadron commanders to do this. When we showed the big group board that we kept as a grease board and showed how the different colored pucks were inter-mingled on every mission. One of the short straws still today is air drop and I am intentionally pontificating because I expect there will be some leaders that will listen to this and I hope they take it far beyond this investigation. With the air drop basically we as Active Duty are intentionally paying the bill for guard to have air drop here because the guard bureau does not support which is a mistake and so we have made an agreement at the squadron commander level that until we get guard bureau to recognize the importance of having that mission for the guard here the Active Duty we will be one unit doing the air drop. We have built that into our culture and we developed our call signs and Balto is a specific air drop call sign that's total force, in our local instruction where Sitka and Togo, are guard call signs active but the only real relevance it has is who which flying hour program pays for it. We routinely have instructors on Sitka and aircraft commanders in charge of missions that are guard bought and vice versa. So the only problem is that we don't do it on every mission but we do it almost.

Lt Col            Ok, so that definitely answers my next question which was do the active and guard units commonly fly as mixed crews.

WIT 27    Yes

Lt Col            I figured that was true. Did you ever have any lateral discussions about a guard/active mixed crew complement that centered around flying skills or capabilities of the crew members? In other words the crew makeup of intermixing the crews.

WIT 27 Yes. So a good way to segue away from the last question is we didn't just build a crew to make it mixed but we still it is very critical to ensure that we have the right people, they may all be from the guard, they might all be active duty, obviously air drops is the one where you often see pure active duty crew. 99 percent of the time because we only have one basic crew of guard air droppers and one of them just came from our squadron to theirs. So MSO was going to be an air dropper. MLM was going to be an air dropper as a loadmaster, I think even MLM had a school date. Ok so the crew compliment in the program as we started out guard had zero experience until MP got here. I met their leadership to include WITNESS 30 and WITNESS 22 while they were learning to fly at Altus and I was requal'ing and so we spoke early on about how the challenge for the 249<sup>th</sup> is that they started from scratch but we quickly figured out the beauty of this association and we often compared ourselves to the 535<sup>th</sup> stand up of the 204<sup>th</sup> and said "thank god we didn't stand up in parallel like they did" because we think that was a big hindrance to their association. Well the Guard here depended upon our experience and so we learned early on [that] trust and confidence of the Active Duty by the Guard and they saw that WITNESS 23 and I had it as our primary objective that they would succeed. That relatively recently the 249<sup>th</sup> has achieved enough experience that it is no longer unusual to have the most experienced guy in the aircraft be from the 249<sup>th</sup>. And so only recently we were kind of high-fiving that we had done what we intended to do and what we thought might take five or six years we did it in three. Where the Guard now begin to pay back and as we are going through a major overturn of PCS right now and I know that the 535<sup>th</sup> went through this as well. We started PCSing initial 517<sup>th</sup> C-17 cadre in January and over the course of 12 months I think that we're going to move 40 out of 80 pilots on the base. And the replacements are outstanding, I mean we've made a name for ourselves. If you come here from another C-17 base already, you're on the top. But we also get pilot training folks as well still. Only recently WITNESS 24 and I were high-fiving figuratively speaking that now it's 249<sup>th</sup> instructor teaching brand new UPT student how to employ this airplane in this phenomenal training environment and we're very proud of that. I meant everything I said at that memorial, did you guys go? MP was the most experienced demo guy here and he was frickin' precise. And you know I have wrestled a lot with my own postulates, not theories, just postulates about what happened and I cannot think for a second that he was not flying that thing as precise as he should have been. It's going to be very hard for me if that was not the case because that would not be the character of him as an aviator.

Lt Col – Okay. How familiar are you with the demo certification process and to what level were you involved with it?

WIT 27 – I was involved very little here other than our Stan/Eval program honcho'd it between our joint Stan/Evals. My only familiarity with the demo program is as a safety pilot at Altus so it has been a very long time since I have gotten familiar with it. The fact is that the DO here, I was quite frustrated with PACAF that they expected us to produce a demo team during our standup. But PACAF's got its very good reasons for showing the flag and it was expected very early on that we would produce a demo team which the first commander, WITNESS 23 gave me direction that yeah, we needed to do that. We put resources toward it but as a DO you could not care less about air shows. You care about flying operationally and making these guys the best they could be. So we took that out of hide, and we went on to take out of hide demo team resources; lots of money, lots of TDY, lots of airframe time but as a DO I did not get close to the process other than to say 'Okay, you picked a crewmember, sir' and I give you the tails and you make it happen. As a squadron commander my closest to the demo team was about the same, though now I had learned over the two years as a DO the importance of it to PACAF and it does make political capital and money for us and while some times still an annoyance to get in the way of our tactical program [There is mild laughter] we put the best people that we had behind it. And we knew we had to put the best people behind it. I look back now and think I should have been much closer to it because I sit here not knowing what happened and perhaps if I were a demo pilot I would understand. It's been one of my concerns. Again, analogously speaking, we have an incoming DO who, great guy, never been a lead guy. He's done basic copilot airdrop and that's it. And there's no more tactical airdrop base than this. I picked WITNESS 28 to be the DO, or at least told leaders to pick him because of his experience and his abilities on paper. And WIT 28 was not that guy. And one of the things that I did as a commander was I always did it first. Whether it was the first landing on Donnelly LZ even though I didn't fly it, I was in the seat in command. The first ICDS drop on a radar site, it was required to do it first and I regret very much that becoming part of the demo team never entered my mind. Not that I would ever have had time [laughter], I mean that's got to be your focus and I know it's not realistic. And I suppose had I been a demo pilot as a kid, that would have been easier. But it's definitely a LIMFAC when the commander is not a demo team member, though I don't think it's practical. But at least then I could sit here and digest in my head what each step of the way was. I think that's the thing I'm thinking about most these days.

Lt Col – Okay. Next question, kind of around the demos. What are your thoughts or concerns with the requirement to have hard demo crews? In PACAF the requirement is hard demo crews where in AMC it's not.

WIT 27 – Yes. My perspective has been -- And I'll certainly wait... I'm always interested in, this is going to have a really great impact on me if it identifies that that's a factor. My perspective was if it's good enough for AMC it's good enough for PACAF. And the -- again, this is as a DO where my visions were created -- PACAF leveling the requirement where we're not funded, wanting us to pay for flying -- you know in AMC you fly two hours to do a demo, here you fly twenty. Okay? So as a DO you want to spend this many resources to go show Singapore, who's probably never going to buy the airplane, what this thing can do? You want me to take it out of hide *and* you want to make hard crews in a squadron of eight airplanes? That's<sup>[expletive]</sup> So no, I think that that is an unrealistic expectation and that frustrated me. But that didn't affect any of the demo crew creation. It's just something that as a DO, I thought "AMC's been doing this a long time". [Another individual talks, indistinct] Yeah, too restrictive and you know, even though I suppose as a former safety pilot I thought I...I was...I was comfortable with the demo. Now, I didn't fly it, I was in the ACM seat. But I've done everything else in this airplane, I know the capabilities of the airplane. So the need for a hard crew just seemed unrealistic, and also detrimental because you learn from other people's mistakes when you train. And if all you do is learn to accept the guy's mistakes next to you because you've been flying with him for six months, it becomes suitable. But if you fly with different people, all on a demo cadre with other people, it becomes much more transparent to what could be better and what needs to improve. So again, I was very frustrated with it but that never left my office and WITNESS 23 office. And that transcended into being a commander, and other than ensuring that only the most experienced people were on the demo team I never complained about the hard crews again.

Lt Col – Okay. Was there any wing-level or higher coordination to approve a cert letter with all names on one list and not separated as hard crews? The squadron was gathering a list of all names as one.

WIT 27 – Well, we did that Tuesday night.

Lt Col – Okay, was that something that the squadron was trying to push up and get approved or was this already discussed at a higher level and now the list was being made?

WIT 27 – There's probably more history than I understand on this one. We're talking this crew, this accident, because on Tuesday, the day before the crash, the call from EXEC General Atkins' exec to me, said 'Hey, General Atkins wants to have all the people's names and backgrounds and experience', so you look back and you say, God was preparing us for this. I know that's not objective, but there have been a lot of things - and this is kind of one of them - this over and above requirement at the last second to know at the three-star level everything about these guys. And with the kind of, well I perceived some frustration that we had yet to produce a video because that's another requirement. And I don't remember if that's a requirement on AMC because it is in PACAF. And so we were already doing the video on Wednesday, that was the plan, and so at this last minute we're still working it at 4:30 in the afternoon. And MP was total force, doing it for everybody, to produce the names and WITNESS 26 demo team pilot -- not on this crew, WITNESS 26 Chief, Stan/Eval. And I, sitting in Stan/Eval office there,<sup>[Expletive]</sup> and elbows trying to get all the information and I remember calling EXEC at like five thirty and saying "Dude, we've got holes in this data because some people are on crew rest now, or they're not available, or the data's kind of old." And I said, "We've given you all this stuff before". EXEC "No, I'll take care of it,"<sup>WITNESS 27</sup> you just send me all you got and the general just wants a last-minute kind of good feeling." So we gave it all to him and in true fashion it was all one squadron. I just think back to how much there's no division between us in that and how MP just sat there, just crunching away, and produced it effectively, and in my name, you know, and it's seamless. And out it went, and EXEC said "got it, we're all good", and the next day we tried to produce a video.

Lt Col – Okay. And you talked earlier about the good working relationship between the Guard and Active up here but, more specifically as the active duty squadron commander for this one specifically, were you aware that all members involved in this mishap were not going to be the full airshow crew for the demo, to fly the demo?

WIT 27 – No, I was not aware of it.

Lt Col – Okay.

WIT 27 – Nor was I aware that they *were* going to be.

Lt Col – Okay.

WIT 27 – There was going to be a demo qualified team where our chiefs of Stan/Eval made sure that it was going to be a qualified team.

Lt Col – Okay. With this sortie being a Guard mission, at least they had the Guard callsign, was the active duty leadership involved in the ORM process at all?

WIT 27 – No.

Lt Col – Okay.

WIT 27 – I was not

Capt – That's standard, that's the way it typically works?

WIT 27 – Yes. But our ORM processes are identical. I mean, they were different before but as we led up to the ORI we said "hey, you know what, we need to clean. We need to make sure we're the same." About the only things I think we have to grow on are our ORM processes is to get full access to ARMS data both ways so we can write. We can read it now, and we're consolidating it into one database and as soon as our ARMS people can serve equally, a guardsman or an active, then we're there.

Lt Col – You're talking about crew hours, and flight hours...

WIT 27 – Everything.

Lt Col – Everything.

WIT 27 – Yeah, everything. You walk in and hand it to Sergeant R , she's guard, it doesn't matter if I'm me or MSO It doesn't matter.

Lt Col – TFI.

WIT 27 – Yeah. That's exactly right. And that has been improving. And both to WITNESS 22 and my frustration, not as fast as it should, but it's improving. But as far as a go/no-go process they're the same, and I trust, I have trusted and continue to trust the guard's process because it's just like mine.

Lt Col – Okay. Those questions were more of the leadership between you and the guard. Now the next couple questions are going to be about some of your crew members. Have you ever reviewed the video from any of the demos flown by any of the crews, or more specifically by MP at all, have you ever seen them before?

WIT 27 – No. I have not.

Lt Col – Okay. Have you ever flown with MP and if so how would you describe his flying abilities as a pilot, instructor or evaluator? You already touched on that somewhat.

WIT 27 – You know, I have been trying to think about this because I think that I have, but I can't remember a date or an event. MP was early on, I was there with him when he pinned on Major. Gave him a lot of trouble for that because he didn't invite me but I was there anyway [laughter]. And I just know, these guys *are* our squadron...and...so I can't tell you, "Yes, in 2008 I know I flew with him." But I *feel* it, and you know how you remember what people, you don't remember what they say but you remember how you felt?

Lt Col – Right.

WIT 27 – The guy was awesome as a pilot.

Lt Col – Did you maybe have a simulator ride with him, being an instructor, because I know he was a sim instructor.

WIT 27 – Oh yeah! Many times. He was one of my first sim instructors here because I was the first guy in the sim here as a pilot.

Lt Col – So if maybe you can relate some of that to maybe not having flown with him in the plane, but maybe having flown with him as him being the Boeing instructor?

WIT 27 – I absolutely know I simmed with him, that he was my Boeing instructor.

Lt Col – Okay.

WIT 27 – And very thorough, I'd say that **MP** was the most experienced Boeing sim instructor because the only one qualified in the airplane, you know. **Ste** showed up as well, and **STE**'s here, but the only guys that have flown a *mission* mission in the airplane... And, you know, he was being worked on right away to become a guardsman so he was only in the sim maybe, I'm guessing six to nine months. It might have been a year. But yeah, I remember good things. Again, I just remember being impressed with him.

Lt Col – Okay.

Lt Col – Was that the reputation he had around the squadron for the most part?

WIT 27 – Oh yeah. And we, again everything, I mean even commander's calls, are together. And we did, as we built up to the ORI, the guard came up with kind of brown-bag lunches training sessions. And **MP** I suspect, was the majority of the leadership in that, to be *teaching* us. And you know, he liked to talk about systems, which I could care less about [laughter]. But he liked getting in the weeds about how the airplane worked. I remember a couple times, especially on takeoff and landing data, he and I would kind of argue because it was my pet peeve too. He was right about half the time, and I was right about the other half [laughter]. But we had fun that way. I really respected the guy as an instructor. And, like me, not perfect as an instructor but he was willing to figure it all out and was also willing to say he was wrong about something.

Lt Col – What type of work, if any - which we know he did do - did **MP** do for you, in the active duty squadron? I know that he's a guard guy, but what type of work did he do for you?

WIT 27 – Check rides... He gave check rides, we gave each other check rides. That's probably the majority. And then just organization, stan/eval, prepping for the ORI, and ASEV. The guard did outstanding on their ASEV with stan/eval. So really we checked the ASEV on stan/eval because of him.

Lt Col – Capt <sup>WITNESS 26</sup> said the same thing.

WIT 27 – Yeah, she's gonna credit him because otherwise she'd have to credit herself too [laughter]. But it's just the two of them, but **MP** the old guy, he's got more experience than <sup>WITNESS 26</sup>...and **MLM** We'll get to him. But yeah, same deal – **MLM** is in stan/eval.

Lt Col – Okay.

WIT 27 – Best there is.

Lt Col – Have you ever flown with **MCP** and if so how would you describe his flying abilities as a pilot or an instructor?

WIT 27 – The best instructor as a speaker I've ever met. The best. The guy could crack any nut as far as a student. I would have *made* him go to Altus when he left here. Because you could not fly with **MCP** and not

learn something, and shake off some kind of bad habit. Young instructor, now, I mean he hadn't been an instructor very long, but you know as an AC you're teaching. And that guy taught. And yes I've flown with him. Good hands, good AR, probably came from being a T-6 IP and a T-1 IP, yeah. It's hard to... You love to fly with MCP And ops flight commander, we worked a lot together. The guy was such a pro. I could imitate him, but [laughter] I want to do him justice so I won't imitate him while we record. Very very positive speaker – if you've heard <sup>WITNESS 16</sup> speak here, MCP probably second only to him as a motivational speaker which comes with being a good instructor. I think that's what makes him...

Capt – What were his duties in the squadron?

<sup>WIT 27</sup> – He was the operations flight commander. Had been for about six months. So you know, he's the guy who I would go remind 'make that board blue and red mixed more.' And then, MSO would be the one that <sup>WIT 22</sup> would go to and say 'make that board blue and red mixed more.' They were effectively equivalents as operations flight. MCP had his own office, MSO didn't [laughter] but that's the guard for you.

Lt Col – Okay, did you ever hear any reports of <sup>MCP</sup> being uncomfortable with the demo profile or how <sup>MP</sup> was flying the profile at all?

<sup>WIT 27</sup> – I did not. Wednesday night when I was with <sup>MCP SPOUSE</sup> after the crash she did relay to me that <sup>MCP</sup> had said in the past he wished he that didn't have to be a safety pilot - which he was not in this case, but previously - because he wished he could fly the jet and be in control of it. I could relate to that, having been a safety pilot. But this is, you know, post-mortem now, even though the official word hadn't come out, we knew he was dead. And <sup>MCP SPOUSE</sup> knew he was dead. And so that's the first time I had heard that <sup>MCP</sup> had made any statements about wanting to be on the stick. But she never said anything specific about <sup>MP</sup> or <sup>MSO</sup> or any other pilot, just the fact that the position of safety pilot kind of sucks because you're not the guy flying and if something goes wrong you can't fix it. She was looking at it with a lens to, of, "my husband is dead". And I don't know if that's what <sup>MCP</sup> was thinking when he made those kind of remarks to her. He may have been thinking, "I love to fly, kind of sucks being back here". She was speaking as kind of a premonition, that "he was telling me something". So I don't know that we can take that, just from my words, that <sup>MCP</sup> had given concerns about it. He may have been giving misgivings that he didn't get to be the flyer.

Lt Col – Okay.

<sup>WIT 27</sup> – And I'll tell you. I was, I've never been anything but transparent. And <sup>MCP</sup> knew that. And <sup>MCP</sup> could tell me he thought things were wrong. And <sup>MCP</sup> would have told me if he was not comfortable. I think he would have told <sup>WITNESS 28</sup> as well, but I absolutely know that if he thought something was going wrong he would have told me that. It wasn't somebody that would have said, you know, "macho up and I'll take care of it" or "suck it up" or "I don't want to be the guy that, that is, embarrass someone else". He absolutely would have told me if something wasn't right. So I have a hard time thinking that he went in that airplane thinking that something wasn't right with that crew, or with <sup>MP</sup> or anybody. Again, I'm wanting, I'm like everybody else, I'm ready for your results on Wednesday night. But that will really shock me if that's one of them.

Lt Col – Okay. Those are all the questions I had. I wasn't going to ask any questions about the other crewmembers. If there's anything else you want to add, feel free to do so. I know she might have some other questions.

<sup>WIT 27</sup> – Do you have more questions?

Capt – Not really.

<sup>WIT 27</sup> – Let me tell you more. Okay?

Capt – Perfect.

<sup>WIT 27</sup> – And I do talk a lot, so I'm going to use every minute [laughter]. Fifteen more minutes. And if I think I'm long, keep going. <sup>MLM</sup> I consider a very close friend. And that guy, I'm not going to eulogize, I did a

little of that on Monday and many times since. But that, that guy loved to teach. I watched him teach around the world twice, young loadmasters, he didn't want to fly with anybody but the youngest, greenest loadmaster. And he personally, he liked to fly with me. I think because we both try to outdo each other talking too much and we never had to go to sleep because we'd both sit there and talk and put everyone else to sleep [laughter]. But MLM would have called knock it off in a second if he thought something wasn't pristine, if he thought there was any kind of breach of air discipline. That guy was a pro. And he got himself in trouble not flying, administratively more than once where he shot his mouth off because he thought something was BS. Mostly about Total Force stuff. And he and I would toe the line together if it wasn't mixed, whether it was flying or administrative or social, if it wasn't mixed it was wrong. And that doesn't always fly with some people in the guard, for whatever reason. And I keep out of it, don't even know if you guys are guard.

Lt Col – No, I'm active.

WIT 27 – Okay. And I would say the same thing if you were, because again, I'm transparent. So knowing him that well, if he had seen – and you know the guard, “MP or MSO would come out of MLM mouth in private. Maybe. You know what? It probably wouldn't, with MLM. Because that guy, that guy did not want to push the culture of first names. Which is probably one of the reasons why I think he was particularly a professional. Because even in a culture that would have allowed him to call me <sup>WITNESS 27</sup>, he never would. He never would have called anything but “MCP Ever. Not in private, not on a boat, not hunting, not anything. In a bar with Taliban around him, he would have called him “MCP [laughter]. Okay? Because he wouldn't take anything less. And he would have told MCP or MP or MSO “that is <sup>[Expletive]</sup> don't do that.”

Lt Col – With that, had MLM flown with them as a crew?

WIT 27 – I don't know. I don't know. I wish I did. Now I wish I had been scouring over every single mission I ever flew. Because if this turns out to be a breach of discipline - which again, I can't imagine it, but I can't imagine a C-17 crashing either – it will be very tough to think that I did not watch every single step in this program. I knew MSO the least of the four of them but I felt like I knew him well enough to trust him with flying this. I don't think I ever flew with him, but I trust WITNESS 22 and WITNESS 22 says he's good. And <sup>WITNESS 22</sup> probably got fifteen thousand hours in eighteen different airplanes, so if WITNESS 22 says he's good, he's good. I liked MSO personally, because he was willing to, well, I shouldn't say *like* this, but he was willing to say... I perceive – again, this has nothing to do necessarily with the crash, but will give you an insight on his personality – he would have been one of those guys who didn't mind having guard-only crew, active-only crews. And not that he was any kind of subversive in <sup>WITNESS 22</sup> and my efforts, but you know, he'd be the one we go to and say “you need to do this, you need to”. And MSO would say “Okay. Great. I'll be the ops flight commander, you be the squadron commander.” [laughter]. “My schedule.” I guess the part that I get out of that is, tough guy. Doesn't have a problem saying no and doing it his own, his own way, the way he thinks is right. I'm not talking about flying an airplane, but administratively. So if he didn't think something was right, I would have thought he would have discussed it. So... I'm at a loss as to how it got to this point. And I wish you guys the best in figuring this out as fast as you can.

Capt – Well thank you.

Lt Col – Any more questions?

Capt – I think... I mean, we've already covered the unit morale. It seems high, in both squadrons. Is that a true statement?

WIT 27 – I don't think you're going to find a higher one in the Air Force.

Lt Col – You're in Alaska [laughter].

WIT 27 – In Alaska, and we're in one squadron, people... And again, I'm not an evangelical, but I'll tell you, God's been preparing us for this. And I don't think that there's many other squadrons that could bounce back like we're going to. Not many associations that could not even think for a second, not for a second, this had anything to do with “guard guy” or “active guy”. Not for a second. So, we'll do well recovering from it. I wish I was going to be

here for it. I'm certainly willing to participate if there are any more questions that you guys have right now or in the future.

Capt                   – Great.

<sup>WIT 27</sup> – I'll help you in any way I can. As well as everyone in that squadron.

Capt                   – Great.

Lt Col               – Okay. I'm done.

Capt                   – That ends the recording at 1354.

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**R4. TRANSCRIBED WITNESS TESTIMONY FROM**

**WITNESS 19**

*Aug 10*

**Non-Privileged Witness Statement**

I, I. (Name of Witness) **WITNESS 19** (Grade)  
(Organization) 511 AS have been advised by (Name of Investigator)  
LT Col, a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

*Witness Signature Block*

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL (SIB/IO), MAJ (SIB/FS),  
CAPT (SIB/HF)**

**INTERVIEWEE: WITNESS 19**

**ROLE: 517 AS, PILOT, FRIEND OF MISHAP CO-PILOT**

**DATE: 8 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HOSPITAL (RADIOLOGY CONF RM)**

Capt – “Great, we’ll just start off with kind of your general assessment of let’s just start with unit morale of the 517<sup>th</sup> and then the 249<sup>th</sup>”

WITNESS 19 – “Yeah, I can’t speak really intelligently on the morale of the 249<sup>th</sup>. I would say that their working relationship between the 517<sup>th</sup> and 249<sup>th</sup> has been good, especially relative to some other guard-active duty relationships. We inter-fly a lot, we, I’m a readiness flight commander. We work with the guard all the time to send mixed crews out on deployments; so I mean there’s a good working relationship with the guard. The morale of the 517<sup>th</sup> you know overall I would say that it’s good. I mean it’s a bunch of pilots and load masters, so people are going to be complaining about something all the time, you know what I’m saying? I mean that’s just the nature of the business. It’s hard for me to put this squadron in perspective relative to other C-17 squadrons, I think that we probably have it; I’d say the general perception is that we have it great up here. Especially when you look at Charleston, McChord, or any AMC base and I think most of us get that and appreciate it. At the same time there’s a lot going on still in this squadron, especially this time of year when a lot of folks are on leave or whatever else is going on air shows, change of commands, you name it Red Flags, DV visits I mean people were stretched thin and maxed out, okay. So having said all that you know I would say that morale was good. People were excited about this leadership change, at least all the folks that I run around with. And nothing against the old leadership but you know folks were excited about what was coming, so anyhow.”

Capt – “So what’s your job, and do you interact with the 249<sup>th</sup> on a daily basis or?”

WITNESS 19 – “Yes, I’m the readiness flight commander and I definitely interact with them on a daily basis, you know sometimes more than others. But I’m essentially in charge of you know deploying and re-deploying folks and we do that together a lot of times, where our hard crew that goes out and inter-flies with whoever is deployed; Mc Chord usually whichever squadron Mc Chord has deployed, so that’s the biggest interaction that I’ve had with the 249<sup>th</sup>.”

Maj – “You mentioned that this is the season for a lot of leaves and everything in this squadron, could you roughly estimate how much or what percentage or what your leave policy is and who?...”

WITNESS 19 – “Yeah, leave you know pardon me if I give you a wrong number but I think the number is 10% per crew position and I know for a fact that it’s maxed out and then that’s not counting the folks that are taking leave in conjunction with formal training, so you know we stretched that one as far as we can and for a good reason I think but.”

Capt – “What is your personal opinion on flying with guard members in the intermixing of the crews, have you had good experiences?”

WITNESS 19 – “I’ve had all of the experiences I’ve had flying with the guard I’ve had limited experiences flying with the guard especially on the pilot side. I’ve flown with plenty of guard load masters and never had any issues, so you know that’s all positive.”

Capt – “Great, and then aside from the few grumblings here and there have you heard stuff from air crews flying with mixed guard-active duty, any issues with them?”

WITNESS 19 – “Honestly, not that I can recall”

Capt – “Okay we’ll just generally go into the mishap crew members and then we’ll, just what you know about them, how well you know them, you know personalities...”

Maj – “Have you flown with them?”

Capt – “That kind of stuff, we’ll just start with **MP** first.”

<sup>WITNESS 19</sup> – “I flew with him a long time ago. I mean like probably over a year ago and my impression of **MP** is that he’s a sharp guy, he knew the C-17, and that’s about it. I don’t have anything really positive or negative to say about his flying skills or anything else, you know he was a smart guy.”

Capt – “Did he have a certain reputation in either your squadron, or his that you know of?”

<sup>WITNESS 19</sup> – “No, I mean you know I think the reputation that he had was you know he was a quiet guy for the most part it seemed like to me, you know, he probably wasn’t to the folks that knew him better I just didn’t have a lot interaction with him but the impression I had and the impression I thought others had was that he was a sharp guy.”

Capt – “Okay, and then how about **MSO**

<sup>WITNESS 19</sup> – “I never flew with him that I knew of, you know most of what I knew about **MSO** was through <sup>MCP</sup> you know, I didn’t have any direct interaction with him. But <sup>MCP</sup> was obviously very good friends with **MSO**

Capt – “Anything else on his reputation on his personality from other people?”

<sup>WITNESS 19</sup> – “Well he was a fighter guy so there’s not a whole lot of fighter guys floating around a C-17 squadron, so I think people automatically think a lot of those guys are sharp and he was a good dude, you know, so yeah, it was all positive.”

Capt – “Okay, and then you know <sup>MCP</sup> the best?”

<sup>WITNESS 19</sup> – “Yes, yeah, you know, <sup>MCP</sup> was a great friend I knew him...we were in the same pilot training class. So we go way back, and he came up to Alaska a couple years ago and I had been here maybe six months, it’s close enough for government work. But we had worked together and you just kind of just picked up where you left off, you know how that goes in the military. But this past six months to a year he was a flight commander, I was a flight commander, we both like neck deep in the booster club that was like our pet project so we worked together all the time...all day every day. And <sup>MCP</sup> is you know I think that he’s a lot like me he got along with everybody. But I think that we were definitely on the same wave length. He was a great leader a great officer, he had things in perspective. The people that worked for him and with him loved him. I mean all that stuff that’s been said in the past week in a half it’s no bull the guy was all that and then some. And you know he was a solid officer and a pilot but he was a solid dad, a solid husband, you know a good friend he was just kind of one of those dudes. My impression of him as a pilot is he was...he enjoyed flying and I don’t want this to be construed the wrong way what I’m about to say okay so there needs to be clarification at some point we need to do that. But <sup>MCP</sup> could, flying wasn’t his sole drive, you know what I’m saying? Like we could have both set flying down and gone in a different direction that would have been fine, now that doesn’t mean we don’t love it because we do and he did, but, you know, this is a guy that could probably do anything he wanted. And if something came along that was better for him personally, for his family, then he would have done it. He was a conservative flyer like I am, you know there are guys there’s a couple of different personality types in the C-17 because it’s a tactical airplane, or it can be a strategic and a tactical airframe. And there are folks, that really embrace the tactical standpoint and that was a huge push from leadership in the squadron a very tactical mind set, okay. And you know we need that, that’s what this airplane was designed for and built for but you know I would put <sup>MCP</sup> and I in the more strategic category, you know. We enjoyed taking off, and putting the autopilot on you know waking back up when it was time to click it off and land. We didn’t enjoy pushing the envelope or max performing the airplane because it just you know it wasn’t our thing, and that made us uncomfortable and it made <sup>MCP</sup> uncomfortable. And I think I probably answered your question and

then some.<sup>MCP</sup> specifically related to this air show program with that in context, you know, he had verbalized that to some folks.”

Capt “Who was it in particular? Was it to leadership or just friends?”

<sup>WITNESS 19</sup> – Well, to me. To me. And, you know, I think there’s some other guys that you probably want to talk to that could maybe offer some more insight into that. But all I can tell you is what the conversation that<sup>MCP</sup> and I had, you know. And on Wednesday we had, you know, we had worked together all day on a lot of stuff, it was just a very busy day. And he was in my office right before he stepped, or right before he briefed. And we were talking about a lot of things, the, just all the crap that was going on. But he, he talked about this air show profile and how, you know, I think he even talked about how his, well... He talked about how it was uncomfortable because of, just, the maneuvers, you know. Not that they were... He never alluded to anything that was outside the parameters of what that airshow profile was about. It was just the nature of the profile that was uncomfortable to him. The, all the warnings, aural warnings that the airplane is giving you during that kind of profile... How he’s heads-down a majority of the time running checklists, you know, and kind of at the mercy of whatever is going on because he’s got his particular job to do and unfortunately that’s not looking outside for a majority of the time. You know, what’s tough about that conversation for me, you know, is we had talked about some of the other crap going on but that’s really the last, the last thing that he said. He left my office and he came back and he’s like, “you know, man? It just scares me. This thing just scares me a little bit.” And he smiled at me and left. You know? That was the last thing that we talked about.

Capt – Had he mentioned earlier then, the last week or so, practicing about the air show profile?

<sup>WITNESS 19</sup> – He had mentioned it before, you know. And I can’t tell you a specific time and place, but it wasn’t new news to me that day, okay? I knew that... I knew that he didn’t... That he wasn’t comfortable there. And that’s where this gets really tough because<sup>MCP</sup> was proud to be on that air show team, and like he enjoyed what it was about and like the fact that he got to be a part of that. But... I don’t know any other way to say it than there was just a significant part of that that really bothered him. And that I wasn’t the only person that he told that to, you know. I know that.

Lt Col – You mentioned about the aural warnings that are going off all the time. Did he say specifically...

<sup>WITNESS 19</sup> – He did. He did say specifically during the conversation, but I... I can’t, I can’t tell you exactly what he said so I don’t know if it’s better for me to not say it or to speculate.

Lt Col – I’d rather have you say what you thought he might have said. And then we can compare that to what... [trails off]

<sup>WITNESS 19</sup> – Okay. Well here’s what, here’s what I think I remember him saying, alright? Or the general message he was conveying. And that’s that you’re flying the profile and you essentially get somewhat desensitized, especially to the... I remember him saying the ALS is constantly flashing in the HUD. Okay? And that, you know, you’re hearing the stall warning but, you know, and this is<sup>WITNESS 19</sup> speaking now, this airplane has a, you know, a whatever, a thirty percent stall margin, whatever it is. You know, and so, when you’re, when you’re flying an aggressive profile like that, and I guess you expect to, to hear that frequently, and I don’t know. I’m not an air show guy, I don’t, I don’t fly the plane that way, you know, on locals. And yeah, I’ve got the, the stall warning before just like all of us have, you know, and probably frequently. But the point is that it’s not, that’s not a comfort zone for me, I don’t operate there, I fix something if I hear that. And the impression I got from him is that that’s not the case in that airshow profile. You know? And so...

Lt Col – Did he mention anything about altitudes, flying, bank angles...?

<sup>WITNESS 19</sup> – Yeah! Yeah, he did. He talked about bank angles a lot. And I remember him saying that day in that conversation, you know, aggressive stick movements and how he just, what he alluded to, “I just want to... You know, stick my hand up there and mellow that out a little bit,” you know what I’m saying? He talked about the bank angles a lot, and the proximity to the ground. And<sup>MCP</sup> had a,<sup>MCP</sup> had a, he wasn’t, he didn’t get, he didn’t get airsick. But he was like me, man, you’re yanking and banking in the pattern like that... You know, we get a little

queasy, you know? And that's the other thing that he, you know, had talked about is that, you know, once he gets done with those profiles, he's just... wasted, because his head's down the whole time, and they're just jerking that airplane all over the place. And then once again I want to clarify, he never... He never alluded to the fact that anybody was breaking any rules or doing anything that they weren't supposed to. You know, it was just the nature of what that profile was about. He did not say this to me, but I know that, I know that he has watched an air show profile, you know, up on the roof with some guys, and conveyed specifically things that made him nervous while they were watching the profile. So this is second-hand,<sup>MCP</sup> did not tell this to me, but I know that when they do the initial takeoff and bunt over and go immediately into the left turn and back into the right turn, that he talked about that was the scariest part for him because they get so slow in the left turn, they were trying to gain their speed again back in the right turn. You know, and that was, that's what I heard that he said. And that's consistent with a lot of the things that he's told me directly. And.. You know.

Capt – As your friend, and you said he was a pretty conservative flyer...

<sup>WITNESS 19</sup> – Yes.

Capt –Did it strike you as odd that he would continue to fly this profile, and...

<sup>WITNESS 19</sup> – Well... It didn't.. It didn't strike me as... It didn't strike me as odd. Because there's a lot of things that we do that we probably shouldn't necessarily be comfortable with. You know what I'm saying? And I definitely would say that this airshow profile was something that... There should be a certain level of concern and healthy fear flying that profile so that something like this doesn't happen, you know? And that's why I would think<sup>MCP</sup> would be a great person to, to be on a demo team because he's got a threshold, you know, he's got a very healthy threshold. Just like I would. And no, it doesn't strike me as odd because<sup>MCP</sup> you know,<sup>MCP</sup> was... and this... This might need to be clarified in the future, but<sup>MCP</sup> was always... We used to make fun of him for being spun up all the time. Not in a bad way, he was just, you know, he was constantly going a hundred miles an hour. And he, he was always anxious, you know, like especially if you had to be evaluated, or you know, <sup>WITNESS 16</sup> was going to be on the jet that day, I remember him talking about that. You know, he was nervous about <sup>WITNESS 16</sup> being... But that was<sup>MCP</sup> That's been<sup>MCP</sup> since pilot training,<sup>MCP</sup> always performs and excels, you know. I mean the guy, he could have gone fighters in pilot training, you know? Probably for a lot of the same reasons that are consistent with what we're talking about now. It just wasn't his personality, you know? He wasn't a tactical guy.

Maj – Can we talk about the aircrew, this demo crew? Do you remember him talking about flying with the same people all the time, how many practices he's had with them?

<sup>WITNESS 19</sup> – I know it... I know that.. And see, this is, this is a little difficult for me because I know I've got some second-hand information, you know? That wasn't, you know, wasn't necessarily<sup>MCP</sup> and I talking, some of that kind of gets, you know, get my streams crossed there. But I'm pretty sure he had flown with this crew before. I don't know if it's the crew, I don't think it's the crew that he always flew with or even usually flew with. I don't know if there are hard air show crews. I know that in his office that day we had two missions drop, and I'm sure you all have been to his office. And you see those names up on the grease board where they're lined through and question marks. And we're trying to fill those two lines with who was left in the squadron, you know, and it was difficult. I mean, we had, it was like, we just had to juggle a lot of things around and make a lot of phone calls and even get squadron commanders involved. But we were jockeying air show stuff around, you know. I remember **MP** walking by, you know, during that point in the conversation and him being asked an air show question about if, if somebody not demo qualified could ride jump seat. Okay? But the answer was no. The answer was no, you know, and he gave that answer. But I mean that's kind of the, that might give you just an idea of what was going on right that day. So I know<sup>MCP</sup> had practiced a lot, I know he had flown this thing several times, in the sim and in the jet, you know. So it wasn't his, this definitely wasn't his first time. And I don't know how many times he had flown with those guys, but the impression I have is that you might not necessarily ever fly with the same guys on that profile.

Maj – You said that<sup>MCP</sup> had a lot on his plate. Do you feel like this air show demo that day was kind of the focus for a while, or was it...?

<sup>WITNESS 19</sup> – You know what....No. No, it wasn't the focus. You know? But it wasn't... That wasn't the focus of his day, you know. It was the focus at that point in his day when it rolled around, but that wasn't... He had a

hundred things going that day, you know? He had a hundred things going that week, and the week before that, you know? I mean, he was the frigging ops flight commander, you know, he was the busiest guys in the squadron. And... You know, I don't know if it's healthy or unhealthy mentality, but the fact of the matter is that, you know, for a lot of, a lot of flight commanders – me, too – that flying is not the focus day in and day out. You know, we get put on a local, we go make it happen, we mission plan, we do what we got to do to be safe. But honestly, it gets fit in between the other responsibilities that we have, at least that's how it is for me.

Lt Col – How long do you know, do you know how long he was at work before he did fly that? I mean, do you know when you guys came in that day?

WITNESS 19 – He showed up... He showed up later that day.

Lt Col – Okay.

WITNESS 19 – Probably late morning, something like that. If I had to guess, nine or ten o'clock.

Lt Col – Okay.

WITNESS 19 – You know, probably closer to ten. But that's a wag, y'all. I mean.

Lt Col – Okay.

Capt – Okay. [to Maj ] Did you have anything else?

Maj – No, [to Lt Col Did you have anything else?

Lt Col – The only thing I have, looking from the flying standpoint again is, is if you can remember anything that he was talking about specifics. I know you mentioned the stall warnings and ALS, and he was uncomfortable kind of bank angles wise. Did he give you any specifics about bank angles that he was uncomfortable with or did he give you any degrees?

WITNESS 19 – Yeah, he did talk about degrees in a couple of conversations, you know. And I, once again, I'm speculating, you know. I can't remember the number that he threw out there, but I know that... Going to sixty or past sixty, whatever it is that they do at that particular point, was definitely an uncomfortable thing for him. And I, what I think – I don't know – what I think is that, you know, if there's some point in the profile that goes past sixty degrees of bank he was very uncomfortable at that point. Or if there's a certain point in that profile that might lend itself to going beyond that number accidentally he was very uncomfortable with that point. Because he did talk about it.

Lt Col –Okay. Do you know if he talked about it with just you, or maybe supervision, or was he saying that to a lot of people.

WITNESS 19 – I think that he had said that to a few people.

Capt – Do you know with MP or MSO like, how much they talk about it?

WITNESS 19 – No.

Capt – You don't know?

WITNESS 19 – Don't have a clue.

Lt Col – How about use of the rudder at all?

WITNESS 19 – Don't know.

Lt Col – Don't know about that, okay.

WITNESS 19 – I know that, well, no.

Maj – WITNESS 19 is there anything else that you can think of that might possibly help us with the investigation that we didn't ask already?

WITNESS 19 – [Pause] I know that MCP was good friends with MSO. And I don't know this for a fact, but I have a good idea that MCP was much more comfortable with MSO in the seat than MP. And that that might be the theme that you hear somewhere else, depending on who you talk to.

Lt Col – Alright.

Maj – Okay.

Capt – Alright. This ends our interview at 1044.

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**R5. TRANSCRIBED WITNESS TESTIMONY FROM**

WITNESS 22

9 Aug 10

**Non-Privileged Witness Statement**

**WITNESS 22**

I, I. (Name of Witness) \_\_\_\_\_, (Grade) 41 Col  
(Organization) AFSA, have been advised by (Name of Investigator) \_\_\_\_\_  
1st Lt, a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

- a. This investigation is being conducted under the provisions of AFL 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.
- b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

*[Handwritten Signature]*  
\_\_\_\_\_  
Witness Signature Block

*[Handwritten Note]*

*[Handwritten Date]*

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL  
(SIB/HF)**

**(SIB/IO), CAPT**

**INTERVIEWEE: LT COL**

**WITNESS 22**

**ROLE: 249 AS/CC**

**DATE: 9 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Lt Col – “Okay, as the squadron commander, how was the working relationship between you and the active duty?”

WITNESS 22I would characterize the working relationship between the active duty and the Alaska National Guard as very positive; as associations go, I think we had one of the better associations. There was regular communications, in fact every Wednesday we had what we called a TFI meeting where the squadron leadership would get together and we would discuss any factors affecting the guard or active duty. That was kind of our coordination meeting and I would characterize the relationship as very good, if not outstanding.”

Lt Col – “Okay, have there ever been any problems from the leadership standpoint concerning the flying of mixed crews, and if so were they discussed laterally with the active duty leadership?”

WITNESS 22There has not been issues with flying with mixed crews, in fact we frequently did it on trips and on locals there was always...of course we had guard owned and active training lines. Basically I think we worked together quite a bit to make sure everybody’s needs were taken care of, making sure that we didn’t have any (ADA?) violations; if we had a guard line scheduled that the main purpose was for the training of the ANG, any active duty participation was secondary to the training of the ANG members but there was not issues. When we first started out, the unit, we were light on C-17 experience and we relied heavily on the active duty experience for the first year it seems like, there was a lot of active duty IP on the ANG flights to get the experience level up. I was not aware of any problems overall with flying with mixed crews. There might have been personality conflicts but I’m not aware of it and seemed like everyone was playing nice together.”

Lt Col – “Did the active and the guard units commonly fly here as mixed crews?”

WITNESS 22On local training lines we do fly together; I don’t have the exact percentages, but of course that is a matter of record. We have active duty lines and guard lines and there would be some mixing depending on the training requirements and the amount of mixing is a matter of record.”

Lt Col – “What type of lateral discussions about the guard and active mixed crews, or crew compliments that centered around flying skills or capabilities would you have with the active side?”

WITNESS 22Yeah and we always watched the pairing of crews and especially the ORM and the CRM, we always made sure there was a good experience level on the crews, we tried to stack the deck in our favor.”

Lt Col – “How familiar are you with the demo certification process and to what level were you involved with it, if any?”

WITNESS 22When we first looked at the demo team there was a lot of discussion about it and my boss at the time was the squadron commander, we were a detachment, we looked at it, he was ok with it but he wasn’t thrilled with it, but the thing is we wanted to have a total force team, to basically highlight the positive association, the total force, you know, the relationship between the guard and the active duty and we looked at initially MP was our choice and the active duty had folks and we threw MP in to the mix and he’s been doing it since day one and we were only starting to introduce a couple others, MSO and MP it was kind of his thing, as far as on the

guard side, he had done the demo multiple times so if you look at people, you know, I look back on it and I have no regrets as I knew **MP** was highly experienced C-17 and he was the right choice for the demo.”

Lt Col – “What are your thoughts or concerns with the requirements to have hard demo crews? In PACAF, AMC doesn’t have that but PACAF does”

WITNESS 22 Really I can’t, I know people had to be checked out I know there’s like a training, there is a syllabus, and there is a SIM, and then practice in the airplane. On some of this I know there had been some...on the guard side there was only **MP** and **MSO** were the only two people as far as the pilots go and on the active duty there seems like there are more people in to it. I don’t know why that is, it might be a function of ‘hey OPR bullet’, I don’t know”

Lt Col – “As far as the cert process goes also in PACAF it’s required for the demo to be videoed and reviewed before they fly the air show, have you ever watched any of the videos or seen any of the videos before?”

WITNESS 22 Actually, I haven’t seen the videos. But we’ve watched them fly from the windows and stuff and of course when we had the air show two years ago I watched the demo. I am somewhat familiar with it but not involved with it, like I said, I am a squadron commander and I am here worrying about OPRs and travel vouchers and stuff like that. I didn’t get too much into the details...I know it’s basically an aggressive climb out and a couple steep bank turns and a high speed pass and the turning capabilities of the aircraft and assault landing”

Lt Col – “Was there any wing level or higher coordination to approve a cert letter with all the names on one list, and not separated as hard crews. We actually have the most recent list that went up but were you aware of that list or have you heard of that one?”

WITNESS 22 On the demo team thing, I didn’t get involved in it too much. I know **MP** had worked the details and our DO had been involved with it a lot more than I. Once again it was one of things that was more on the active duty side of the house than the guard side of the house. You know, the guard side of the house probably wouldn’t have...we wouldn’t have a guard only demo team that’s for sure.”

Lt Col – “As the guard squadron commander were you aware that all of the members involved in the mishap were not going to be the full air show demo crew?”

WITNESS 22 hh...I thought the pilots were going to be but the loadmasters they were going to do some changing out because I thought that...my recollection was that **MP** was going to be the primary, **MCP** was going to be the co-pilot and **MSO** was going to be the safety pilot and then there was discussions where getting **MSO** getting upgraded to possibly be the pilot.”

Lt Col – “As far as **MLM** the load master he was actually filling in for someone that day, for another load master who was in crew rest.”

WITNESS 22 Yeah... LJ ”

Lt Col – “Now was this, being that it was a guard mission, was the active duty leadership involved in the ORM process at all or was it mostly the guard side that would have completed the ORM?”

WITNESS 22 Well, all the paperwork would be...the guard ORM was completed because it was a guard mission. This is one of those deals where it was more fitting it in with the schedule as far as when we could do the demo here, the practice demo at, filming by PA, and so forth, so it was more a function of timing and the sortie scheduling then it was...it just happened to be...you know if it would have been 5:30 was the best time to do the sortie it would have been an active duty sortie. TFI-wise we are very close”

Lt Col – “Everything we’ve talked about as far as the combining of the TFI with the guard and active up here, it seems great. Is the ORM process one thing that’s still being worked on as far as based on...what’s the limiting factor of just having one ORM process whether its mixed crew or not, is it more the HARM or the SARM requirements?”

WITNESS 22 Actually, what's happened with that is the ORM we have discussed this and I've said "Hey, I want the..." (we've discussed this at TFI meetings and I wanted it to be seamless between the guard and active duty where we have the same paperwork, pre-departure checklists, same ORM, and what happened was, was that we gave that to the safety guys to work and Maj S is our safety officer and MAJ D was the ADO and they were working on it and they never did finish it because they had some, I won't say disagreements, but they had some obstacles, but it's kind of interesting because that one of the things I was like 'Hey, I want the ORM to be reworked so it is the same, the ORM sheet, I had done the ORM for the rescue squadron when it first came out and I thought I did a pretty good job on it and I had given examples of the ORM I had done over in the rescue squadron and I wanted to get their thoughts on making it more extensive than what we have."

Lt Col – "Have you ever flown with MP and if so how would you describe his flying abilities as far as a pilot, instructor, or evaluator?"

WITNESS 22 Yes, I've flown with MP as far as in the C-17, excellent C-17 pilot, we hired him and what happened was that he was originally a SIM instructor for Boeing and MP had a degree in physics and was the kind of guy who was always asking, "why does it do this?" He went beyond the book trying to figure out stuff and he was the type where he would actually call the engineers back at Boeing to figure things out. That was the person he was as far as general knowledge. As far as hands, he had excellent hands, he was always very concerned when we first started up he was worried about us older guys going through the C-40 transition and he was worried about us older guys coming out of 135s, helicopters, C-130s, he was very concerned about us and making the transition and making sure there was a positive transfer. Overall, MP was an excellent pilot and we depended on him heavily to get us...to get the squadron up and running."

Lt Col – "What type of work, if any, did MP do for the active duty squadron?"

WITNESS 22 He primarily did the stan/eval functions for the guard. There was a lot of cross communication in the stan/eval office. In fact, that was one of the issues that had come up. When we first started out were running separate FCIFs and the WG/CC at the time, Gen Tinsley, wanted a single, defined, FCIF, so we went that direction. And of course, basically where the squadrons meet is squadron stan/eval and the guard is kind of interesting because they just have OGV and you don't have squadron stan/eval because of the manpower issues but we had basically...we had been fighting that fight and we said "hey, we'll have an OGV person helping with someone at the squadron level too so there's that interaction and standardization."

Lt Col – "Okay, have you ever flown with MCP before, and if so how would you describe his flying abilities?"

WITNESS 22 never had the opportunity to fly with MCP

Lt Col – "Okay, have you ever heard any reports of MCP being uncomfortable with this demo profile at all, the squadron, or maybe the way it was being flown?"

WITNESS 22 - "No, I'm not aware of that"

Lt Col – "That's all the questions I have for now"

Capt – "Just kind of a general as the squadron commander, when someone has a disagreement or is having issues with someone or a crew member that's flying that can't be resolved at lower levels, what is your policy as far as guard and active? Do you want the active go through their chain of command before crossing over? Do you have any comments on that?"

WITNESS 22 The thing is, if anyone has any problems with anybody it's...they're welcome to do it either way...to go through the active duty channels or come to me and of course I'm probably considered the old lady in the squadron as far as...because I'm very conservative and I've been flying up here for 33 years and I've worked civilian and military aviation and I've worked with the rescue squadrons and seen plenty of aircraft accidents. I think I have a very conservative bent and I would hope that if you talk to folks on our side, they would say 'hey his one thing would be safety' "

Capt – “Just to clarify back to the ORM, did you review the ORM for this?”

WITNESS 22 Actually, I did not. I was on a trip to New Orleans. I was supposed fly with MP on Sunday to go down to New Orleans but the airplane was broke so we waited for a couple days for it to get fixed, and he dropped off the trip so that he could fly this air show demo because it was a requirement to fly (don't quote me on this)...it was a requirement to fly within seven days of the air show.”

Lt Col – “Is there anything else that you maybe want to touch up on that we didn't in the questioning?”

Capt – “Anything that could help us out at all with the investigation?”

Lt Col – “Or just about the relationship between the squadron”

WITNESS 22 Yeah I think the relationship was very good in the squadron, in fact MCP I was working with trying to get him to come over to the guard. MSO was trying to get MCP on the guard side once his active duty commitment was up.”

Lt Col – “Anything else, sir?”

WITNESS 22 – “I think that's it”

Capt – “This ends our recording at 1555”

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R6. TRANSCRIBED WITNESS TESTIMONY FROM WITNESS 25

9 Aug 10

Non-Privileged Witness Statement

WITNESS 25

I, I. (Name of Witness) \_\_\_\_\_ (Grade) \_\_\_\_\_  
(Organization) \_\_\_\_\_ have been advised by (Name of Investigator) \_\_\_\_\_  
\_\_\_\_\_, a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

\_\_\_\_\_  
Witness Signature Block

Original witness statement block

11 Jul 10

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL  
(SIB/HF)**

**(SIB/IO), CAPT**

**INTERVIEWEE: WITNESS 25**

**ROLE: 249 AS, DEMO PILOT**

**DATE: 9 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Lt Col – Okay, first question. Have you ever been certified as an air show demo pilot?

WITNESS 25 – Yes.

Lt Col – What crew position were you certified in? Safety observer, pilot, copilot...?

WITNESS 25 – Pilot.

Lt Col – Were you certified as a hard crew. When you went through your certifications, do you remember, that you would fly... When you were certified, were you trained with any copilot and safety that you would be flying with?

WITNESS 25 – Yes.

Lt Col – Do you remember, those crew members, who it was?

WITNESS 25 – Yeah, my copilot, **MSO** And my safety observer was going to be **MP**

Lt Col – Does the demo aircraft commander or demo pilot always fly the demo from the left seat, from the pilot's seat?

WITNESS 25 – The pilot will fly from the left seat.

Lt Col – Okay. Who was your instructor during your upgrade process, or did you have multiple instructors? Going from the ground training, the sim, and then eventually to the aircraft?

WITNESS 25 – We had several instructors. We had ground training with **MP** and, I believe <sup>WITNESS 11</sup> and then the flight training with... I'm pretty sure I just flew with **MP**

Lt Col – Okay.

WITNESS 25 – I'll have to check records on that.

Lt Col – Okay. What were the steps involved in your upgrade process? Just general, overall, that you remember as far as, uh—

WITNESS 25 – I remember being impressed it was thorough. We got the initial contact email; 'Congratulations, you've been selected, these are the regulations you need to be familiar with, read those.' And then we spent two days with ground training. So we walked through the profile, walked through the checklist, walked through the expanded section of the checklist, created products in Falcon View, talked specifically through each maneuver for most of the day. And then we went and did several simulator profiles, I don't remember how many days. At least two. On two separate days after talking about, you know, what we would do. And then we thoroughly debriefed, you know, our SIM profiles, using the tools [indistinct] ground tracking.

Lt Col – And then how many flight—

WITNESS 25 – And then after the sims, we did flights. I'm certain it was more than one, and I don't remember if it was three or more. At least two, at least two flights.

Lt Col – Okay. Have you ever flown a C-17 demo at an airshow, you being the pilot?

WITNESS 25 – No.

Lt Col –When you were trained in flying the profiles, as far as checklist completion goes, how were you trained to work the checklists after takeoff? As far as reconfiguring... Reconfiguration of the aircraft? Do you as the pilot call for the standard calls that we train to every day as far as 'flaps up', 'gear up', 'flaps up; slats retract' and then it was ran by the pilot monitoring? Or did you brief something to the effect of "just clean up the aircraft on speeds" and it was all done without you as the pilot knowing and it was the copilot and safety running those checklists? Or was it something in between?

WITNESS 25 – Kind of between. But I would say we briefed....I wanted to brief...pre-brief. So I would brief, you know "clean up on speeds" so I would not, so as the pilot flying, I would not be calling for it on the checklist throughout the profile.

Lt Col –Tell me as much as you can remember about how you fly, from the initial portion of the profile? So brake release, up to the start of the high-speed pass. So you brake release on the way to your 80/260 out coming back in for the high-speed pass. And this isn't a test [laughter]

WITNESS 25 – Brake release is static. Take off, max power. We briefed that you would try and be gentle on the brakes so that you would pop the nose up. That's right. We then make sure that all four engines were spooled up properly, that you would have even acceleration and thrust. We would plan to do a delta-v rotate, or delay our rotation speed on the ground, so that we would know... We knew, basically by the time that we rotated, if we were above our Vmco climbout speed. Wouldn't have to accelerate at all. We would trade some of that energy for our altitude, climb out at our minimum climbout speed. If we had a few knots, we'd rotate to... Initially we were trained, MP was good about training us to stop at fifteen, just to get above ground speed and prevent tail strike, and at seventeen degrees I think it was. But then we would quickly rotate and once we get about fifteen, ten or fifteen feet above air that's no longer a factor. So then we would rotate the pitch... We wouldn't aim for a specific pitch angle, we would have no going more, I mean, above about forty-five degrees or fifty, that's pretty uncomfortable so we'd start nosing over. We would aim for, as the pilot flying I was looking at my airspeed. You could see it decay so you'd stop and you'd hold your pitch, at your min climbout airspeed, hold that for fifteen hundred feet. Well, the airspeed, not the angle, to fifteen hundred feet. And that's something you need to be aware of, the airspeed can still decay even though it's, it looks like it may initially stop so you're kind of, nosing over and leveling off, climbout to fifteen hundred feet, and then you're going to make a snappy, you know, a crisp, is a term I would use, a crisp turn to our outbound acceleration heading for the high speed pass to come back.

Lt Col – As you're talking me through this, the turn after you take off, try to touch on airspeeds and bank angles, things like that as far as you recall.

WITNESS 25 – Well, the power setting that [indistinct], we keep that at max power so as the pilot flying you're really not going to touch that power, because you still need to accelerate once you make that turn. So you're going to make, you're going to level off and then you're going to start a sharp left turn and we would aim for sixty degrees of bank – you have plenty of energy at max power at that angle, with your configuration, so your sixty degree turn, kick some left rudder in – in this case we're turning left – push the left rudder in to get the nose tracking. Then we would pitch for our outbound, our outbound heading, which was about seventy, seventy degrees or so off of runway heading. Direct from there where you're wing's level now, you're kind of, you're nosing over, you're cleaning up and your flaps and then your slats...on speed, we pre-briefed to clean up on speeds with the power still at max and we would descend from fifteen hundred AGL down to five hundred to trade some of our altitude for airspeed and energy.

Lt Col – On that outbound turn?

WITNESS 25 – On the outbound turn. We would start getting down to five hundred feet AGL. Hold that, hold that heading and we timed it to seven seconds outbound, where we would accelerate, clean up, and by the time we were seven seconds or so we could have, we could start our turn back around. Coming back around, you're probably not at your, you're not at your altitude yet, usually. So you're, again, you're banking it up, steep turn, 60/2 turn, sixty degrees bank, two g's. Still with the power at max. And now the trick that you're trying to measure is playing out your turn radius. Because you want to keep your turn tight enough so that you don't overfly the crowd and you don't overfly the runway. On the other hand it's hard to measure performance because you're changing so many variables. You're accelerating. The common mistakes there are people will underbank in that turn, and so you can use a good flight pattern. A good noodle, we call it. And measure, and see where you're, where the airplane is going to be. And it initially starts out and you're at anywhere from 180 to 230 knots at the initial turn, and it shows that you're going to be, you know, a mile or so short. But as you keep it accelerating and turning around that turn, it often times would show you're going to be off, you know, a half a mile or more wide. So, that's the trick, you know, that's the artful turn to turn round. So in that turn, you're also, got the, we're putting in a right rudder, inboard rudder now. So you've got right rudder, in order to keep level you need to cross control so you're holding back stick pressure to keep level. And then you're also putting in left aileron to keep rolling around, and that keeps the nose up and keeps your altitude level. Which I think was emphasized, I don't know, that can be a gotcha because it's easy to sink, to lose your altitude, in that turn, at that angle. So it's an awkward, an awkward body position, that you're making new muscle memory, to control that, that turn.

Lt Col – And then as far as holding that turn, pretty much the whole way until you roll back out on the center line to come in at--

WITNESS 25 – Well you hold the turn until you get to 330 knots, hold that power. We're at light weight, so you can overspeed the jet. So that's, but that's not usually something that you catch the first three or four times that you're doing the profile because you've got so much other information that you're trying to manage. So it's common that guys will overspeed the jet if we're about, you know, rolling out two miles or so before the center line and realizing "oh, I need to power back, otherwise we're going to –

(Tape ends here, continues on second side)

Capt – Continuation of Major<sup>WITNESS 25</sup> You already mentioned high morale in the 249<sup>th</sup>, and then—

WITNESS 25 – And good morale in the 517<sup>th</sup>. I would say not as high as in the 249<sup>th</sup>, but I'd say that's structural more than any function of personalities or leadership. Just by the virtue of the fact that they see each other less often and they are in the unit for a shorter duration; people come and go.

Capt – And working relations between the two squadrons?

WITNESS 25 – Excellent. At my level. I know the big boys get... Territorial.

Capt – Alright. What is your opinion of flying guard and active together?

WITNESS 25 – It's good, I like, I like the mix. I think there's risk in that... TFI in general. Expects... I think active duty expects guardsman and reservists to be equally capable, trained, equipped and ready as their active duty for, you know, a small percentage of the cost. And I don't think that's realistic. So there will be differences in performance, you know, between, in a blended crew, especially as time goes by.

Capt – Do you recall any specific comments people have made after a sortie with either side, with like, you flying with active, I mean good or bad comments from anyone else? Just a general overall if people like it?

WITNESS 25 – Every time I fly with active duty – I fly a lot, I probably fly more than most TFI crews because I fly airdrops and I only fly airdrop with active duty. I'm the only guy in our squadron besides our one loadmaster, who's

new. So I've been flying with active duty a lot, and it's an easy fit. You know, I'm still relatively full time so that's, we're... I'd say we're at a parity in terms as crew positions. Plus I'm just a great guy, that's just me. [laughter]

Capt – For the record.

WITNESS 25 – For every guard line I've flown that we've had active duty people on board, they've been very polite, very deferential, very thankful to be on board, at least, to join us. A majority of the conversation and the working relationship, it's all very positive. A majority of it is, "well you guys sure are doing it right." In terms of whether it's lifestyle, or whatever. But it's a very favorable, positive crew resource cockpit I think in terms of interaction. And on the basics, we're all, from what I've seen, all solid. In terms of checklists, you know, responses, and so on.

Capt – Great. And just a couple of questions on the crew themselves. I'm just going to go through each crew member quickly, and if you've flown with them, and then what's been your opinion of their flying abilities, their personality, that kind of thing. Starting with **MP**

WITNESS 25 – Okay, **MP** and I have flown... infrequently, together, because we're the same qualification roughly, and have not had too many occasions to fly together. We regularly spoke about we need to fly together because of some of the training I've been through, and we talked about on our tabletop discussions and he's been very interested in seeing some of the stuff that I'm happy to teach. I've talked about it and we've never got to do it." When we did fly, you know, in the upgrade program I was, I felt very comfortable, very aware of the flight regimes we were in, the energy we were keeping, things we were doing until we get out of the airplane.

Capt – Did anything about his personality stand out as far as being a conservative, aggressive, technical aviator? Anything, if you had to categorize him?

WITNESS 25 – He was, he was interested that we would have a good show so he wanted us to be precise, but he was kind of risk averse, a little. He was "let's not push it to far; there's no need to go crazy". But we still wanted to be precise. "Move that nose, get your bank up, you're two degrees short," you know, "on your banks, so get it right!" He was good about being, being precise.

Capt – How about **MSO**

WITNESS 25 – Yeah, **MSO** and I got to fly together a little more often, he was a copilot, qualified. But of course he had so much other flying experience. He was, he was a lot of fun to fly with. He was, he was interested in learning the full spectrum of the airplane so we did actually get to go out on several locals and we set up times to go and run through the range up at Eielson, and we do a lot of threat responses. You know, and we would talk, I would, we would really talk about aerial delivery in terms of, I would ask him questions about like, you know, bombs on so on, the profile he had flown in the Viper, about what were the stable platforms and for how long, and what, what's your energy going to be before and after, and so on. But he was interested in talking about that kind of stuff. It's probably relevant to the board, we did a sortie where, in weapons school, we'd go out to the MOA. Okay, so you have this great big cube of airspace and you measure how well the C-17 performs in climbs and in descents, and acceleration, slowdown, in turns, you know, and you can measure all that performance. And **MSO** was interested in going out and doing it, so we did, we had a great time doing it. He was ahead of the airplane, he understood what we were doing and he made, you know, products that showed how well the airplane performs. So he had a good understanding of the energy that the C-17 is capable of. Much more than any new, or young aircraft commander, or newly cert'd instructor pilot.

Capt – And then, **MCP** Have you flown with him?

WITNESS 25 – I flew, I flew a mission with **MCP** I don't recall flying any locals with **MCP** And technically, what I remember about **MCP** comes first not from a mission but from a ground training that we had one day. We did our normal ten and ten, you know, every day we do a tactics ten-minute kind of threat, intel scenario. And about two weeks ago we talked about, I think it was [ R ?] And he was very interested in how we defeat the threat, and wanted to talk about the 3-1 and the 3-3 responses that we have... Sorry, AFPD, 3-1 and... The threat responses we have against just a radar threat in general, and then he was really interested in understanding how the [ R ?] works, and he would ask questions about motorization of the antenna and so on, and why that was a scary threat, and

why it was so important to the folks. And then even, we'd step back and say "getting to the big picture, it's going to shoot us down, right?" "Well, yes, it probably will, unless we avoid it." So he had that, he was interested in the whole spectrum of just learning depth of, what, you know, why. And it was on more than one occasion... Regularly he would pass me in the hall and say, "hey, I really—" Oh, you know what? We did fly at Red Flag. He would say, "Hey, I really want to come fly another red flag sortie with you. Let's do it again." Because he liked, he liked the technical aspects of the airplane. He would acknowledge, he would say that he was more cautious and just not the...as smart as the next guy on how to fly the plane in that condition, but of course he's perfectly capable. But he had an attitude of, "I want to know more. I don't know that I know what there is to know." The mission flying that we did, mostly I just remember the social interaction as opposed to the airplane flying, which was fine, of course. It was straightforward.

Capt — I forgot to ask you about **MSO** but did he or <sup>MCP</sup> have any kind of reputation around the squadron of their flying abilities, something that stands out?

WITNESS 25 — We would... And just, <sup>MCP</sup> was really the one who was most guardlike. In terms of his behavior and demeanor and attitude. "Why would we push, why are we going to do a low-level into combat if we can fly an ILS or something?" <sup>MCP</sup> was the most like that. **MSO** you know, you know, I liked to fly with him, but I suppose you have to consider the source. I liked, I feel comfortable flying the airplane, you know, with high energy states down low. No pilot should feel comfortable with a low energy state. **MSO** was no different. He and **MP** were both strong pilots.

Capt — Then, with **MLM**

WITNESS 25 — We grieve **MLM** was, he was so experienced as a loadmaster he could have been a third pilot augmenting pilot. He understood the basics of the flight regime. I don't know that he...I don't specifically remember him asking me, for example, how to land the airplane. But I vaguely recall talking about how you could actually program a jet to land and stuff, he thought that was pretty neat. **MLM** was almost too... To the instance, every single time, just about, **MLM** and I would interact, he would say "Hey, just remember I want to do airdrop". Because I'm the guy that was hired to do airdrop and for some reason people think that I have a say in who goes. I don't. But he's a qualified guy in the squadron, many, especially many people, said "Hey, you may want to go to airdrop school." And **MLM** was very, very eager to go.

Capt — I think that's all the questions I have. Anything else... Are there any pilots or anything else you think that might help us in the investigation, or who to talk to?

WITNESS 25 — Do you need any eyewitnesses at all? I don't know if there were anybody, there are scores I'm sure of pilot-qualified guys that either watched, or...

Lt Col — We're looking mainly for people who were either trained by **MP** or flew with him, and the demo and profile guys which we do have just recently the demo, the guys who were just recently certified with the demo...

WITNESS 25 — On that, I would ask if the profile was altered any from what I described. I know there was discussion about changing the outbound heading, maybe seven degrees to more, just so you could have more positive turn, for example. It went around. But I don't know what ever came of it. You know, there was debate...I don't know.

Lt Col — One question I have, just going back to the piloting side, what's your opinion of switching the normal response of, pilot flying calling for configuration changes, and the pilot monitoring running those, to now having pre-briefed something like "hey, when we hit airspeeds and altitudes, etc", the pilot monitoring and the safety just running the checklist while the pilot flying just is concentrating on just the flying. As in with the checklist that was locally, that was made here.

WITNESS 25 — What we liked... That just made me think of something else, I hope, I don't know [inaudible]. I'm hoping that it wasn't a missed configuration call where someone linked up and weren't supposed to. What I liked in the training was we got into where the copilot would announce what he's, or the PNF would announce what he's doing. You know, "flaps up" and then I would hit slats retract. We would brief the top speed, and [inaudible]. I

would say “on speed or earlier”, right, “we have a, our min flap is one point three, V stall and slat is one point four, stall [indistinct] at forty percent”, air speed margin, energy margin that you have. So it is possible to raise flaps and slats prior to the slat and [indistinct] speeds and in the HUD we would see and still be flying. You would teach that on engine out procedures, so we talked about that. That you’d raise it and call it out as you raise it, because the pilot flying, I would, you know it would usually jog my memory “hey, just look at my airspeed. Say, okay, yes.” I didn’t have the numbers memorized but I knew that we were at a close enough speed and accelerating on to a safe speed that by the time they were all the way retracted – flaps or slats, whatever, seven seconds, something – by the time they all retracted we were above minimum airspeed for that configuration.

Lt Col           – Okay. Go ahead.

Capt             – Okay? Ending the recording at 1445.

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**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL**

**(SIB/IO), CAPT**

**(SIB/HF)**

**INTERVIEWEE: WITNESS 10**

**ROLE: 517 AS, 3 OG/OGV, DEMO PILOT**

**DATE: 9 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Lt Col - "Great, we'll start with the questions. And we already know some of these from talking, but you know for the purpose of the tape. Have you ever been certified as an air show demo pilot?"

WITNESS 10 - "I have"

Lt Col - "What crew position were you certified in? Safety observer, copilot, pilot?"

WITNESS 10 - "Pilot flying"

Lt Col - "Okay, were you certified as a hard crew?"

WITNESS 10 - "No"

Lt Col - "Okay, who did you go through the upgrade process with?"

WITNESS 10 - "The people that I went through it with were <sup>WITNESS 26</sup> (?); WITNESS 8 I believe was going through the process of the safety observer, I don't remember who else."

Lt Col - "Okay, does the demo pilot AC always sit in the left seat?"

WITNESS 10 - "Yes"

Lt Col - "Okay, who was your instructor during your upgrade process, or did you have multiple instructors?"

WITNESS 10 - "My primary instructor throughout the entire phase of the upgrade process was **MP**"

Lt Col - "Do you know if the upgrade training was derived from AMC, or profiles, or was it just PACAF?"

WITNESS 10 - "Yeah, it was AMC"

Lt Col - "Okay, What were the steps involved in your upgrade process?"

WITNESS 10 - "The steps that I remember off the top of my head without looking at the regulations were basically ground training, a SIM phase training where we went through the profile multiple times, the flight training where we actually went out into the aircraft and flew the training. We also met with the wing commander and had a face-to-face with him with everyone that was going through the upgrade training at that time"

Lt Col - "Okay, have you ever flown a C-17 demo in an air show?"

WITNESS 10 - "I've not actually flown at a demo air show, no"

Lt Col - "Okay, When you were coming up for your training as far as checklist completion goes, who normally runs the checklist is it normally how you fly everyday where the pilot flying calls for the checklist, copilot monitoring completes it, or in this case because of the air show demo profile is it the pilot monitoring initiates it and then the safety confirms it?"

WITNESS 10 – “Yes, normally well it’s a little bit different it’s a very busy profile so the pilot is pretty much silent throughout the demo, the people running the checklist are basically the copilot and the safety observer. The pilot is basically just thinking ahead trying to put the aircraft in the right energy state throughout the whole profile and basically the way I flew it or what I took from it all was that basically (?) and the copilot should configure/de-configure on speeds whether or not I call for it....(?)”

Lt Col – “Okay, so there really wasn’t much interaction as far as you calling for a checklist when you’re ready for the plane to be cleaned up, it’s just done on speeds? Okay is that how you train in the SIM too?”

WITNESS 10 – “Yes”

Lt Col – “Okay, tell me as much as you can remember about how you fly your profiles such as air speeds, configuration, bank angles, and altitudes?”

WITNESS 10 – “So there are two profiles that we train to; there’s a twelve minute profile and a ten minute profile. The difference between the two is basically where the aircraft starts and finishes. The twelve minute profile starts on the ground at the air show location and finishes on the ground at the air show location. The ten minute profile starts from the air or another location and comes into the air show from the air; does the profile, lands at the air show and takes off and then finishes away from the air show. So those were the two profiles that we trained. The twelve minute profile is the one that we probably do most of the time. So you start on the ground, for takeoff you basically do max power takeoff, max effort climb-out. Some of the techniques involved, because the energy state is so critical, especially for that first takeoff would be max power to hold the aircraft nose on the runway for 5 or 10 knots to have a little more air speed on the ground and then to rotate. Things that stand out in my mind is when I’m going through that as the pilot flying would be to  $V_{mco}$  takeoff now you’re going to hit around  $40^\circ$  nose high is what I remember. I remember not wanting to go much past  $40^\circ$  nose high straight ahead; once you get  $40^\circ$  nose high, you hold that for a second wait till your airspeed gets back towards  $V_{mco}$ . The next thing you’re thinking about is your climbing the air show profile is pretty much done at 500 ft; so you are going to climb up to about 1,000- 1,200ft on the initial climbout doing max power, so the next big thing is getting back down to that 500ft and correcting your energy state so  $40^\circ$  nose high; straight ahead, then you want to make a left turn. So left  $45^\circ$  bank that also stands out in my head is something I heard is get that  $45^\circ$  bank to the left and you really need to push forward on that stick as the air craft wants to climb it wants to keep going up unless your forcibly, almost stiff-arming the aircraft. You’re not going to get down to the 500ft; you are not going to build up you airspeed; you are not going to get down to 500ft which is problematic. Now you are max power this whole time through the first turn to get to your 300 knots which is your goal. So as you hit  $45^\circ$  bank; push down get the aircraft descending down. Probably one of the toughest things in the demonstration profile because the airplane wants to climb so much and so you get down, your timings all set up so you get to the first  $80^\circ$  out; roll out; usually 2-3 seconds first turn so wings level; 1-1 thousand, 2-1thousand, 3-1thousand but this time once you push the nose over you get down to 500ft. You’ve gained your airspeed back because you are max power; you rolled out, you should have enough air speed, your very next turn after the  $45^\circ$  you turn away from the runway and you are  $80^\circ$  off; your very next turn is the  $60^\circ$  turn. The thing that you are preparing for is the high speed pass. 1-1 thousand, 2-1thousand, 3-1thousand, 60 right then max power speed and the other consideration that you have during this turn is not crossing the showline and not crossing the people that are there to watch the airshow. So  $60^\circ$  bank turn, what I remember of this turn is a lot of times the stall warning bar is coming down a lot, the feeling of the air craft is a little bit different then the way you fly the aircraft normally. So you are feeling it, you know you got max power, you roll out if you need to, but you also got that thing in the back of your mind not to cross the showline. As you’re coming around and getting lined up on show line now you should be 300 knots; bring your power back down a bit to maintain 300 knots; now you are going 300 knots down the runway and as soon as you get to the approach end, I believe this is the part, as soon as you hit the approach end you go idle for a quiet pass at 300 knots.”

Lt Col – “Okay, I’m going to stop you there for a second, back to the turn you’ve done your  $80^\circ$  offset, turning outbound  $45^\circ$  bank turn and then you’re going to initiate you’re  $60^\circ$  back right turn to come back in, how do you fly that  $60^\circ$  right bank turn; you’re at max power and you’re descending through this turn, are you already at 500ft at that point?”

WITNESS 10 – “Yeah, you should be down at 500ft”

Lt Col – “Okay”

WITNESS 10 – “And then I mean some of the details you know, I previously came from a T-6 prior to this assignment, and it’s full up flying there; stick-and-rudder type stuff, coordinated turns and I kind of took that. In the C-17 community feet-on-the-floor type thing and I brought that back into this just a little bit using rudder to fly a good coordinated turn.”

Lt Col – “That’s what I was going to ask you, that in that turn do you use rudder at all or were you taught to use rudder? MP you said you brought it? Did MP maybe teach you to use rudder to help you with that at all too”

WITNESS 10 – “Potentially, I don’t remember specifically him teaching me, I think some of the things that remembering what he taught me was just specifically sticking to the 45° bank, 60° bank. That it is a turn to be concerned with.”

Lt Col – “Okay, when you used the rudder for that 60° bank turn, how much rudder are you putting in, are you putting in just a little bit to maybe bring the tail around some, or have you ever gotten to the point where you’ve gone all the way with the full right rudder?”

WITNESS 10 – “I don’t think I’ve ever gone full right rudder, I’ve gone significant amount of rudder, to continue flying a coordinated turn”

Lt Col – “Okay”

WITNESS 10 – “Especially I just remember this one time flying during the upgrade process, coming around maybe your timing was off by a second or two and it looks like you are going to overshoot the crowd line so that’s in the back of your mind “hey you can’t cross the crowd line” and so you put more rudder maybe a few more degrees of bank and then maybe even max power; maybe a power push to help.”

Lt Col – “Okay, Instead of going through the rest of the whole full thing, as far as concentrating on the turns on those 80/260’s are you using 45-60° of bank for that or are you pretty much going to 60 on most of those?”

WITNESS 10 – “You need the high speed and probably 60 of bank.

Lt Col – “I know on the profile when you do your high speed pass you’re going to come up for that initial turn outbound probably up to 60° and now you’re going to come around for the fully configured pass on the next one and on that turn so you take your 80° out and now as you’re coming back in, fully configuring in that turn, in what bank angle are you using?”

WITNESS 10 – “You’re going to decrease to 45° as you’re slowing down. Anytime you’re slowing down its either 60 for high speed or 45 for slow speed, so as you’re slowing down 45 degrees of bank is your maximum bank angle”

Lt Col – “Okay, that’s enough on that. Some next couple questions I had were about the rudder use, but we already touched on that. What other techniques were taught to you during your upgrade process, and do you like or use them separate from your own way of flying the plane...particularly anything MP taught you?”

WITNESS 10 – “I think, a couple things in my mind since I went through the upgrade process are with MP specifically is one that he had probably been the most experienced demonstration pilot and doing air shows over the years. He was very confident and very smart about the profiles, and in terms of what he passed on basically was just a lot of the details of things, you know stick to the parameters of the demonstration. I think that’s all I’ve got for that.”

Lt Col – “Okay. Have you ever had the stick shaker and stall annunciation activate during an air show profile that you were flying or that someone else had flown during your upgrade process, can you remember the stick

shaker coming on and the stall annunciation? If so, how long were you flying with it on and what phase of flight do you remember when it does come on all the time?”

WITNESS 10 –“Yeah, that’s a great question” \*Laughing\*

WITNESS 10 –“It is, it is the two times on the profile that stand out to me is during the first turn, the climb straight ahead, you are trying to push over and speed up and you are going into the 60 degree bank turn and the energy state you’d be very close to the stick shaker at that point. Going through the demo profile and upgrading it became kind of a comfortable place to be I guess, so ‘oh hey, you got the stick shaker a little bet’; it’s like the tickle; you do things to fix it; roll out of bank, whatever. I think the other one which is very, I guess, standard in the C-17 community is the landing phase when you’re full flaps, trying to come down and standard for the C-17 is you’re slow now, you’re full flaps, you might be high, you might need to get down, so with all those things that you’ve learned so your DLC and what happens is the stall bar comes down. And in the C-17 community we are just taught to push the stick forward to help the aircraft get down and to keep the airspeed and then when you reach DLC to allow the aircraft to come back to ATT the attitude that you have set. So, I think those are probably the two points in the whole profile that stand out to me the most where you would get the stick shaker.”

Lt Col - “Okay, back to the first one in that first turn out, how often would it annunciate? Would you ever hear it more than those initial two, like if it says ‘stall, stall’ would you hear it say it again and then maybe say a third time a third set or is it just a quick in and out?”

WITNESS 10 –“Yeah, I’d say quick in and out, and I mean what I remember from going through the profile and also watching others go through the profile is that while you become accustomed with the stick shaker a little bit and getting in to the stick shaker is that you always want to correct for it as well. So it’s like, there’s the stick shaker you want to correct for it whether it means power, bank, overfly the crowd if you have to and just deal with that later. I’ve never heard of anybody getting past the point where there’s other indications of stall, where there’s multiple stick shakers and annunciations going off or where there is a buffet or anything like that”

Lt Col - “Okay, what’s your personal opinion of the demo profiles, did you feel uncomfortable or unsafe while you were flying them at any point, just from common flying? I know you’ve flown out in the desert a bunch, combat missions.”

WITNESS 10 –“No, I think from everything that I know about it in the aircraft I think if you stick to the profile that it’s a safe demonstration. I had some other thought in my head but it’s gone, could you just repeat the question?”

Lt Col - “What’s your personal opinion of the demo profiles? Are they adequate, too aggressive or have you ever felt uncomfortable or unsafe during any of the profiles?”

WITNESS 10 –“Yeah, I have not felt unsafe, I can see clearly how the turn we are talking about primarily is a turn of concern and I think if...stuck to the way it’s to be flown, you know, keeping the nose down not exceeding bank, fixing the stick shaker if it does occur, if those things are maintained and the discipline maintained, I think it is a safe profile. But it is also the energy status of the aircraft is so critical there that if one or more things are not maintained in the profile standards then I can see that an aircraft or a crew could get into some trouble there and some of those things are things we talked about biggest things being bank angle or not getting that airspeed back if you don’t get that nose down to get the airspeed back, that could be problematic.”

Lt Col - “Okay, are there any topics that you would like to discuss concerning the question that I just asked or anything else that may, that you’re thinking that I didn’t ask specifically concerning the flying portion. Do you like the fact of having hard demo crews? Or is there a problem with that?”

WITNESS 10 –“I think having a hard demo crew would be beneficial, because you know probably from your own experience going out on the road it takes about three days before the crew starts clicking. And this is a profile that everybody on the crew would benefit a lot from everybody clicking right off the bat. You don’t want people not familiar with each other, or things being said in a twelve minute window is all you get to get it right. You don’t want ambiguity up there; you don’t want crews coming off the streets, basically, that could be problematic too. So back to my upgrade I said that we didn’t have a hard crew but there is a handful of us going through the upgrade process

and I don't know off the top of my head if we have sent. What I remember from how the squadron handled it last fall was that they sent **MP** over to (?) to do airshows around the Pacific Rim; that was a hard crew, so while we don't have... we have a handful of crewmembers to choose from here at Elmendorf, when we send them out on the road we make them hard crews, is my understanding."

Lt Col - "Okay"

Capt - "Great, and I just have a few questions on the, to just kind of get a feel since we're not from the squadron, you know the morale in the squadron, the working relationship with the guard. How long have you been out of the squadron?"

WITNESS 10 - "Since November of 2009, I moved over to OGV"

Capt - "Okay, and how long have you been in the squadron before that?"

WITNESS 10 - "Since January of 2008, so a little over a year in a half"

Capt - "Okay, what's your personal opinion of the unit morale in the 517<sup>th</sup>?"

WITNESS 10 - "Wonderful, It's just a great place to be, the location one, people are having a great time up here, from everything that I could tell people would love coming to work and flying the mission from here. We are kind of in a unique situation or life cycle of the 517<sup>th</sup> specifically, because the 517<sup>th</sup> basically started in June or July of 2007. So what happened there was the whole squadron showed up within about three months and the thing that came from that was basically this group of people called the 517<sup>th</sup> started in the fall of 2007 and we've been together for nearly two years, and its one unit that is very close, very friendly and we just have a great group of people up here and the reason it is different is because we've been together longer than most units. Normally you move into a unit that is already switching out people, someone comes in, someone leaves, and this particularly group of people have been together for two years."

Capt - "And how about the guard side, the 249<sup>th</sup>?"

WITNESS 10 - "The guard side, I think the morale there is good as well, with everybody in the guard from what I can tell are people that have grown up in Alaska, they are people who want to stay in Alaska, they are people that feel lucky to fly the C-17 up here. They are very happy kind of being the anchor I guess here. We've been in the same building since we've started in terms of with the C-17, the experience of the C-17 was all in the active duty. I'd say **MP** was probably the most experienced C-17 pilot the 249<sup>th</sup> had. I can't think of anyone else that was full time that had more experience, maybe **JBU**. But I have seen over the past 2, 2 1/2 years, that the experience is shifting a little bit, and what I mean by that is, we brought a whole bunch of active duty experienced folks up here; very experienced on the active duty side and very inexperienced on the 249<sup>th</sup> side. And over the past 2 1/2 years, you can see it from the jobs we have in the squadron, scheduling, training, things like that to flying the aircraft that the guard folks have been in the same job since we got here and now we have new LTs who are showing up and they are the new schedulers, they are new to the aircraft and you can see that shift and we can see that the wealth of experience is going to be the 249<sup>th</sup>."

Capt - "And then general working relationships you personally have with the 249<sup>th</sup>?"

WITNESS 10 - "I think it's as good as, I can't say that I've seen a lot. I haven't done inspections at other places. But I can at least tell you it's as close to one unit as you can get with two organizations."

Capt - "And what's your opinion of flying with a mixed crew?"

WITNESS 10 - "I think that we should do it more often. I don't think it's a problem at all, I think everyone's on the same page and that's why we have checklists and things that everyone is on the same page when they get in the aircraft. Just on a large scale efficiency level, we are more efficient if we just go fly" ...

\*Tape cuts out\*

Capt – “Side 2 continuation... So you knew all the crew if you can just go ahead and tell us a little bit about their flying abilities, their general reputation, starting with **MP**

WITNESS 10 – “**MP** and I knew each other in Charleston and then we were re-united here when I got to Elmendorf, he was a SIM instructor here and I think he is very well respected. He has put his energy into flying and knowing the aircraft, knowing the system, knowing the regulations, and my understanding of him and how people think of him is very well respected, in particular with flying. I’ve flown with him and I’ve had SIMS with him going through phase, doing the demo upgrade in the SIM and in the plane. I may have flown with him one or two other times.”

Capt – “Anything of note as far as his flying abilities, was he conservative, aggressive, technical, did anything stand out to you?”

WITNESS 10 – “No, I think he’s as good as it gets, from my perspective”

Capt – “Then **MSO**

WITNESS 10 – “**MSO** and I worked together when I was in the 517<sup>th</sup>. He was the lead scheduler for the 249<sup>th</sup>, we were working on project trying to revamp and rework the FY10 flying hour program for the 517<sup>th</sup> and 249<sup>th</sup>. We had not flown together but we were also acquaintances outside of work, we’d talk about personal things, I ended up enrolling in the same program and we would talk frequently about that.”

Capt – “What was his reputation for flying, if any?”

WITNESS 10 – “I would say that I don’t know of any reputation...I never really talked to anyone about his flying”

Capt – “and **MCP**

Maj WITNESS 10 – “**MCP** and I worked professionally together. I was an ADO and he was the ops flight commander. We have never flown together so it would also be a guess if I was to say what his reputation was. I haven’t heard anything good or bad.”

Capt – “and **MLM**

WITNESS 10 – “He and I worked together most recently on the 3<sup>rd</sup> WG ASEV, he was basically STAN/EVAL for the 249 Loadmaster side. I was OGV trying to put all the pieces together for the 3<sup>rd</sup> WG so we worked frequently to get the FEF folders up to date and to get everything squared away for that inspection. I may have flown with him as a loadmaster, I’d have to go back and look at records, but good reputation as far as I know. I hadn’t heard anything bad.”

Capt – “Anything else you’d like to tell us that would possibly help us with this investigation or anyone else to talk to?”

WITNESS 10 – “Nothing I can think of, if anything it would just be speculation.”

Capt – “This ends our interview at 1234”

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**R8. TRANSCRIBED WITNESS TESTIMONY FROM**

**WITNESS 21**

10/24/10

Non-Privileged Witness Statement

**WITNESS 21**

I, I. (Name of Witness) \_\_\_\_\_ (Grade) \_\_\_\_\_  
(Organization) AFSAS, have been advised by (Name of Investigator) \_\_\_\_\_  
Joe Doe, a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

*[Handwritten Signature]*

Witness Signature Block

*[Faint handwritten text]*

11/26/10

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL**

**(SIB/IO), CAPT**

**(SIB/HF)**

**INTERVIEWEE: WITNESS 21**

**ROLE: 517 AS, PILOT, FRIEND OF MISHAP CO-PILOT**

**DATE: 10 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Capt "Let's start off with a basic feel of your squadron, so what is your opinion on unit morale for the 517<sup>th</sup>?"

WIT 21 "I think unit morale was and is to the extent that it can be right now; pretty solid. We were extremely busy in the month of July and a lot of people were feeling the effects of that, and all the stuff that was going on. So I would say there was perhaps a heightened feeling of stress going on. But that's the nature of the beast, so I would say unit morale was good."

Capt "How about in the 249<sup>th</sup>?"

WIT 21 "The same"

Capt "Okay, are there any working relationships with the active guard; what's your opinion, what you have seen, good or bad?"

WIT 21 "I think it's amazing, honestly, as an example I worked with MCP every day, he was very close friends with all of the 249<sup>th</sup> so often they'd come shuffling through my office, so I got to speak with most of them a lot, I joked around with them, their comm guys would help us out all the time; It's really just like one big squadron, it doesn't feel like we're two separate entities."

Capt "Okay, and what's your personal opinion on flying with mixed crews?"

WIT 21 "I've done it a little bit, and have not had a bad experience whatsoever with any of them."

Capt "Have you heard any comments of anyone else flying with mixed crews; good or bad?"

WIT 21 "Not necessarily, most of the guys in the guard have more experience flying than most of the rest of us do, so they bring a lot of experience to the table that I think a lot of our newer co-pilots, especially like to hear about, like to see, and most of them happen to be airline pilots or have been, so they have a different mindset than the tactically brought up C-17 pilots; so I think it broadens horizons."

Capt "And what would you say for your leadership and supervision, has it been a help, or hindrance for TFI?"

WIT 21 "It definitely helped. Both the commanders for both the squadrons are very interested in making it a total force integration type situation. I think they've been pushing that for a long time."

Capt "You worked with the mishap crew? I'll just kind of have you go through and we'll start off with MP and work down as far as, have you flown with him before, and what you know about either if you've flown with him, his flying abilities, and what you've heard on what his reputation is?"

WIT 21 "Yeah I flew with MP he was actually the examiner pilot on my operational mission evaluation, it was a trip that ran down through Hickam to Australia up to Japan and back. A good mission, solid guy, very, very knowledgeable about the aircraft; pretty much put me to shame when it came to that and my GK [general knowledge], but very smart guy, flew the aircraft everything went well as I would have expected it to. When I first got up here I did a couple SIMS with him before he had come back to the guard side, maybe one SIM, and I have

nothing negative to say about him whatsoever. He was a good guy; we went out with him on the town, just an all around good individual and a hell of a pilot. As for MSO I never flew with MSO I worked with him. He was the scheduler for the 249<sup>th</sup> so as Ops we oversee our scheduling guys, so we worked with him a little bit. Most of my interactions with MSO were in the office; him coming to MCP talking about fishing and hunting and all that sort of stuff. Other than knowing that he was one of the guys that got stuff done; and a solid individual in the office I can't speak to his flying abilities. MCP and I worked together every day in the Ops flight office, I had a great relationship; I spoke at both of the memorials so hopefully that will speak to the fact that the amount of respect I have for the man. I only flew with MCP once and it was about a week and a half-ish before the accident, I had been on leave the week of the accident so the week before I finished up my check ride with MCP so my job was pretty much to sit in the back and not touch the stick until I had to complete my check ride but in the mean time he was instructing some AR. I told him after the flight that I had never heard or seen somebody instruct that well; literally, he just had that presence in the cockpit we were flying with one of our brand new guys; I think it was the second ride and just the way he conveyed how to do things and the way he made it fun for everybody in the cockpit, it was just solid. I told him I could understand why he was good when he was at Columbus, because I could see how a lot of his students could like him. MLM I flew with him on a mission on one of our IO channel missions from November of 08 because it was one of my first missions. Great guy, obviously did his job very well, I have nothing negative to say about him, and then of course in the office I saw him quite a bit working in stan/eval and talking to him on a day-to-day basis. I bumped into him about a week and a half before the accident; he was out walking his dogs with his wife, I talked to him a little bit, so interactions on the outside world I have absolutely nothing negative to say about him."

Capt "You said that month of July was pretty stressful, was that everybody and I know MCP had quite a few duties; can you describe what he was in charge of?"

WIT 21 "Well MCP was the ops flight commander, so we were overseeing scheduling. We had a lot of our schedulers at Altus at the time going to training, deployed. So our scheduling shop was very busy trying to keep stuff in order with the upcoming Red Flag, and the Air Show, and all the other stuff; so scheduling was pretty tight then, so he was trying his best to oversee that as best as he could. Then he had the air show demo stuff as well, he was trying to help with change of command, he and the incoming commander were pretty close as the DO; obviously he oversaw our shop so we had a lot of communications with him and MCP really wanted to make the change of command a good thing for him, he had a lot of respect for the guy; so he was trying to plan things like changing signs for the parking spots, and working on a camping trip for the middle of August, so I would say he did have a lot on his plate but again MCP was one of those guys who seemed to be able to juggle that. In order to deflate, we would come in the office and just laugh and joke for a while, then he'd be off doing other stuff; so I would say he was a very busy man trying to get everything done and he seemed to be doing ok."

Capt "You didn't notice any signs of being overstressed; I know he's always busy and I've heard that from other people."

WIT 21 "He did relay a story to me about being pretty short and of course his wife had hurt her leg doing aerobics I guess, when she got hurt that just put more on MCP because then he would have to work all day at work and then go home and take care of the kids; he did tell me the weekend before I went on leave that he had probably said some things to MCP SPOUSE that he shouldn't have, there was that thing at home that went to just his level of stress because they had a very good relationship. They talked all the time, he felt guilty about that because it was unusual for him to do that. I think that might have spoke to his level of stress but I don't see that it impacted his work at all because he still seemed to get the same amount of stuff done. And of course we're two months ahead on the OPR's/EPR's because MCP was trying to get all that stuff in order."

Capt "Okay, and first of all you're not a demo pilot? Correct?"

WIT 21 "Correct"

Capt "Are you familiar with the demo process or the profiles and to what level?"

WIT 21 "I am only because of MCP We went up and watched the demo practice twice on the roof just because he wanted me to see how awesome it was; he thought it was a great profile, he had a great time. We also flew my first

check ride one day while they were flying a demo, so I had to kind of coordinate with<sup>MCP</sup> to see how they ran it and when they would be able to get back to the field, so he explained to me the length of the profile, what they did where they'd be so that we could coordinate with coming back in on my check ride. So I had a good idea of their certain maneuvers, and of course sitting on the roof watching it with<sup>MCP</sup> he was telling us what to expect, "watch this particular part", telling us what part to watch saying it was the cool part. That's my level of knowledge."

Capt "And when was that, that you were watching the demo?"

WIT 21 "The week before the accident, as I said I was on leave the week of the accident; so it would have been the week before I can't say whether it was Thursday or Friday, but I could certainly find that out for you. We went up and watched it two separate times, but that last time was pretty recently."

Capt "Do you remember who was flying that practice?"

WIT 21 "MP was the pilot, and then WITNESS 8 and CAPT SC were the other two crew members, WITNESS 8 was running the box and CAPT SC was the safety observer. Don't quote me on that, but I'm pretty sure that's accurate."

Capt "Do you remember any of the comments that<sup>MCP</sup> made in particular about that profile?"

WIT 21 "On the initial take off where they were pretty nose high he was commenting that it was pretty amazing, and that was possibly the scariest part of the profile; because you came up at such a low energy state, and then tried to wrap it around and have to bring it back to come over and gain speed, he did say that that was the scariest part; we were commenting on just watching it, how they were doing it."

Lt Col "Did he comment anything on bank angles, air speeds, anything that you can remember that he had talked about where he had felt uncomfortable, I know you mentioned that part, but anything with bank angles, air speeds, use of rudder, stall warnings going off?"

WIT 21 "All of that was brought up, especially with that initial take off because he said you had to bank it around so much there to get it out a certain distance, and I remember him looking at his watch timing as they were outbound saying "Oh, they're going to be tight on this turn" and then at that point you could see the back of the tail kind of swing over and he said "Look at that amount of rudder that he's kicking in there" and he said, I don't believe it was during that particular part when we were out there watching, it was a different time when he was like "yeah, you wouldn't believe all of the squawks that are going on and I'm heads-down in the box just running stuff and you are hearing all the bells and whistles going off and he said that could be a little"...I don't know his exact words so I won't say anything to put my inflection into it but he did specifically comment on the fact that there were a lot of warnings when they were flying the profile."

Lt Col "Do you remember what specific warnings he was talking about?"

WIT 21 "I don't, I know he talked about being in the shaker a lot and the "stall stall" annunciation"

Lt Col "Do you remember him saying what bank angles that he went to?"

WIT 21 "I do not, no."

Lt Col "Okay"

Capt "Did he ever say anything about the crew he flew with, any of the demo crew?"

WIT 21 "He did, he told me on more than one occasion, because as we were watching them fly the profile MP was the pilot on that one and he said specifically (because I commented on how amazing it was and how aggressive they were banking) and he said "Yeah you should see MSO fly, he's even better.. he's an even better pilot". Which was surprising to me because MP knew so much about the aircraft. I don't know how that transcends into aggressiveness or ability to fly but I was surprised to hear that from<sup>MCP</sup>

Capt "Did he ever have any concerns with flying with any of the crew, or was he excited about the demo. I know he was excited to be part of the team."

WIT 21 "Yeah he never voiced any concerns about the team itself."

Lt Col "Do you know as far as, who was the hard crew that he flew with, did he always fly with one crew, was MP always his pilot and MSO his safety?"

WIT 21 "I can't answer that, I don't know. It seems like they mixed the crews quite a bit. The day that I flew my check ride I know that MCP was flying with MSO again just because I coordinated with them on coming back in, but I can't say whether or not that was all the time"

Lt Col "Okay, so MSO flew, and MCP was the co-pilot for that one?"

WIT 21 "Yes, as far as I know, because I remember speaking to both MSO and MCP about the profile"

Lt Col "Okay"

Capt "Anything else that you think might possibly help our investigation, anything else that we haven't commented on that you would like to?"

WIT 21 "No"

Capt "This ends the interview at 0924"

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**R9. TRANSCRIBED WITNESS TESTIMONY FROM**

**WITNESS 18**

11/21/10

Non-Privileged Witness Statement

**WITNESS 18**

I, I. (Name of Witness) \_\_\_\_\_ (Grade) \_\_\_\_\_  
(Organization) AFSAS have been advised by (Name of Investigator) \_\_\_\_\_  
DP/CI, a safety investigator of the mishap that occurred on  
28 July 2010, involving an C-17 of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. My witness statements (written or verbal) may be utilized for any valid purpose and be released to any subsequent investigation of this mishap and may be released to the public pursuant to a Freedom of Information Act request.

← \_\_\_\_\_  
Witness Signature Block

154943

11/25/10

**TRANSCRIBED INTERVIEW**

**INTERVIEWERS: LT COL**

**(SIB/IO), CAPT**

**(SIB/HF)**

**INTERVIEWEE: WITNESS 18**

**ROLE: 517 AS, DEMO PILOT IN UPGRADE**

**DATE: 11 AUG 2010**

**LOCATION: ELMENDORF AFB, ALASKA, HANGAR 5**

Lt Col - "Have you ever been certified as an air show demo pilot?"

WITNESS 18 - "I met with the wing commander as part of the certification and I'm not sure how far it went"

Lt Col - "Okay, so you will be certified, you're in the process you've flown, everything and been trained just not officially fully current and signed off?"

WITNESS 18 - "Right"

Lt Col - "Okay, what crew position were you certified in? Safety observer, copilot or pilot?"

WITNESS 18 - "Pilot"

Lt Col - "Were you certified as a hard crew?"

WITNESS 18 - "No"

Lt Col - "Okay, does the demo aircraft commander if you're flying the demo does the pilot always sit in the left seat?"

WITNESS 18 - "Yes"

Lt Col - "Have you ever had a time when someone from the right seat flew it, as the copilot?"

WITNESS 18 - "No"

Lt Col - "Okay, Who was your instructor during your upgrade process, or did you have multiple instructors, and this is from the ground training through the SIM to the flying of the aircraft?"

WITNESS 18 - "MP"

Lt Col - "MP the whole time? Okay, do you know if the upgrade program was derived from AMC, PACAF, or a local combination of any?"

WITNESS 18 - "It was a combination, AFI 11-246, and then there's a PACAF regulation and there was a 3<sup>rd</sup> Wing supplement; that's where most of the training was"

Lt Col - "And what were the steps in your upgrade process? Briefly"

WITNESS 18 - "We had ground training with MP we went through the profiles, the regulations, we went to the SIM flew the profiles in the SIM, we had a flight we did the ten and twelve minute profiles, and then certification"

Lt Col - "Okay, Have you ever flown the profile as a safety or copilot?"

WITNESS 18 - "No"

Lt Col - "Okay, so tell me as much as you can remember about how you fly the profile such as air speed, configuration, bank angles, and altitudes, just take me through takeoff through the 80/260 outbound and as you're coming back in for the high speed pass for the twelve minute profile."

WITNESS 18 - "Okay, we would (?) for a static takeoff, release the brakes, roll down the runway, we hit V<sub>go</sub>, pause about just a couple seconds, then rotate for the max takeoff, climb out of V<sub>mco</sub>; it's about 30-40° high depending on the weight. Once we got up to 30 or 40° on that initial takeoff we'd lower the nose to maintain around V<sub>mco</sub> to about 25° and then using 45-60° of bank make a turn outbound for the 80/260 maneuver; the whole time throttles are at max, we usually got about 1,000-1,200ft on that initial climb out, push over as were turning outbound for that 80° turn still accelerating, max power, and then we would time outbound; once we hit our initial heading; probably around 7-10 seconds to get some spacing to turn back inbound, again we turn back in using about 45-60° of bank and rudder as required to not overshoot the runway, we accelerate through the turn until the PFP? basically hit the extended center line of the runway, then we'd stop our acceleration to make sure we roll out of that extended center line. And then once our turn was assured, and we'd be descending with this turn back to 500ft AGL; once our turn was assured we'd push the throttles up again to try and get as high as air speed as possible pretty much for the high speed pass, usually around 300 Knots if we can get there and then we'd come across for the high speed pass."

Lt Col - "Okay, you mentioned about in the training you went over the profiles and..do you remember what the profile says for the altitudes to fly on that first turn or the bank angles?"

WITNESS 18 - "Yeah, the profile...I thought it said 1,200ft, might have been 15, I'd have to look at it."

Lt Col - "Any specifics?"

WITNESS 18 - "I think in the 246 it says 45°"

Lt Col - "Okay, you mentioned that you use rudder. How much rudder did you have to use when you were flying the plane, would you use rudder initially to start the turn, would you hold it in through the turn or would you only use rudder if you needed it to help bring the plane around a little bit?"

WITNESS 18 - "Personally, I was hesitant to use the rudder at first in the C-17, I haven't used it very much. But we had flown the profiles in the SIMS and saw that it kind of works. But yeah basically use the rudder as needed to not overshoot."

Lt Col - "How far off of the runway would you be (on that turn inbound) would you already be over the end of the runway, or were you maybe say a mile displaced from the runway or say maybe two?"

WITNESS 18 - "I'd say a mile, I'm trying to think. Yeah when we flew it in the SIM that's kind of where we were, there was time. When I flew it in the airplane we were a little bit closer but we had extended the turn more than 80° to try and get out farther so I think when we came back in we were a little closer to the end of the runway."

Lt Col - "Okay, next question is after takeoff normal operation with the C-17 pilot flying; pilot monitoring; you take off as a pilot flying you call for a gear up after the positive rate call, pilot monitoring retracts the gear. Configurations; you get past flaps up speed, pilot normally calls for flaps up, so for all the reconfigurations. When you're flying the demo profile do you still as a pilot were you trained to still call for that, or is that now handed off to the copilot and safety observer to work? So are you initiating the re-configuration movement or is the being done without you knowing it? Is that pre-briefed to clean up on speeds?"

WITNESS 18 - "We typically pre-briefed to clean up on speed, and when I was flying I would tend to say it when I saw it because we were used to that, but yeah, we would pre-brief to clean up on speeds."

Lt Col - "Okay, Have you ever been taught to use the full rudder in this profile, or how much rudder did you put in?"

WITNESS 18 - "During upgrade we were taught to use full rudder."

Lt Col - "Okay, What techniques were taught to you during the upgrade process other than the use of the rudder that you liked, or disliked, starting with the rudder; were you comfortable using that rudder?"

WITNESS 1E - "I would say yes after we did it in SIM the first time, it was kind of weird but once you figured out that you could maintain the air speed with it, you got a little bit more comfortable. I still was hesitant just because it felt a little abnormal."

Lt Col - "Anything else other than the rudder, any other techniques? How about going back to the fact of having the safety observer run checklists and clean up on speeds, did that feel uncomfortable at all?"

WITNESS 1E - "No to be honest not really, I felt like the profile was, being new at flying it, it was a little busy for me at first so I enjoyed having another aircraft commander in the other seat and a safety observer that had competence who would back me up, I would say that I think it's good that they have that kind of role, more so than on a normal sortie."

Lt Col - "Okay, Have you ever had the stick shaker and stall annunciation activate during your air show demo profile that you had flown or that someone else had flown?"

WITNESS 1E - "I don't remember getting the stick shaker"

Lt Col - "Okay, did you ever get ALS flashing, maybe?"

WITNESS 1E - "I really can't remember, I think we might have gotten stall, the stall annunciation"

Lt Col - "Okay, what I'm trying to ask is that is it something you normally flew with is basically what I'm getting at, when you were flying the demo?"

WITNESS 1E - "No, I mean it happened a couple times, but the times that I can remember it happening to me was because I lost my situational awareness for a second or something, I didn't have enough power in or something like that, turning back to final and I got a little slow for a second; I guess I wouldn't say it was normal."

Lt Col - "Okay, what's your personal opinion of the demo air show profiles, are they adequate, too aggressive, have you ever felt uncomfortable or unsafe while flying it?"

WITNESS 1E - "No, I didn't feel unsafe; after we did it in the SIM I felt comfortable doing it in the airplane; I thought it was just max performing the aircraft for the most part"

Lt Col - "Okay, is there anything else about the demo profile that I didn't touch on that maybe you could help us out with as far as any opinions of your own, something that you took note of that was different when you flew it from standard or normal that I may not have asked about?"

WITNESS 1E - "I can't think of anything"

Lt Col - "Okay"

Capt - "Okay. Just a few questions to get an idea of the squadron, and working with the guard. So first of all let's start with the 517<sup>th</sup>, and how long have you been there?"

WITNESS 1E - "Since March"

Capt - "Okay, what would you say the general unit morale is in the 517<sup>th</sup>?"

WITNESS 1E - "I'd say it's pretty good, it's tighter than my last squadron. People aren't gone as much here and everybody knows everybody more here."

Capt – “And how about the guard side in the 249<sup>th</sup>?”

WITNESS 1E – “I can’t really comment on how they interact with each other”

Capt – “Okay, and then how about you with the guard?”

WITNESS 1E – “I’d say it’s pretty good, I’ve flown with them several times since I’ve been here just because they have the line, so we tend to. I’d say a lot of the times were mixed crews for training purposes, so I’d say it’s a pretty good relationship.”

Capt – “And what’s your opinion of flying with mixed crews?”

WITNESS 1E – “I haven’t had any issues so far, a lot of the guys I’ve flown within the guard came from Charleston or McChord at some point so it just seemed like flying with anybody else.”

Capt – “Okay, Anything that you’ve heard in your squadron from people not liking flying with the guard?”

WITNESS 1E – “No”

Capt – “Great, and just we’ll talk about the people in the mishap crew. We’ll start with **MP**  
Have you flown with him before?”

WITNESS 1E – “I had not flown with him for the upgrade so”

Capt – “Okay, and what’s your opinion of his flying abilities?”

WITNESS 1E – “I thought from what I saw, I thought he was very confident flying the airplane. Just from watching it in the SIM to when he flew in the jet he flew it way better than me or anyone else doing it, you could tell he had the experience doing it. I thought he was confident.”

Capt – “Okay, to your knowledge does he have any sort of reputation around the squadron, if he’s conservative, aggressive?”

WITNESS 1E – “No, I haven’t heard anything from anybody”

Capt – “Okay, and how about **MSO**

WITNESS 1E – “Never flown with him”

Capt – “Have you heard anything about his...”

WITNESS 1E – “I heard he used to be an F-16 pilot, so he liked to fly the C-17 like an F-16 but that’s all I heard; I don’t know how substantiated any of that is”

Capt – “Okay, and then **MCP**

WITNESS 1E – “Never flown with **MCP**

Capt – “And **MLM**

WITNESS 1E – “He was on the demo upgrade line I did with **MP**

Capt – “Okay, and then it was you and a couple others flying in the demo upgrade process, who else were those members?”

WITNESS 16 - WITNESS 15 was doing pilot upgrade with me and I think we were the only two on the flight. In the SIM Capt Sc he was doing, I believe copilot upgrade, and I think WITNESS 8 was doing copilot upgrade, MCP was doing copilot upgrade, and I think WITNESS 8 was doing safety upgrade; that's all I can remember"

Lt Col - "One quick question, back to the briefing for the ground training portion, when MP briefed you guys on the profiles, was he briefing from his personal notes, did he use his notebooks, or was it directly from the printed out profiles from PACAF or AMC?"

WITNESS 16 - "I would say that he was probably briefing it from his own notes, because he gave us a copy of his own notes on how to fly the profile, well, I mean he pulled out the regs and he sent them to us and we were definitely aware that we had to read them. I can't remember if he, I can't remember which one he referenced, but I do remember he had this hand written sheet on his techniques on how to fly it.

Capt - "Anything else that you think you can add to help us with the investigation or anything we haven't touched on?"

WITNESS 16 - "No, I guess the only thing that I'd say; the one thing that impressed upon me with MP was how much he cared for this; I guess it kind of stood out to me a little bit, sort of how he just really liked this demo program; wanted to (trail off)."

Capt - "Okay, this ends our recording at 1425"

## TAB S

### RELEASABLE PHOTOGRAPHS, VIDEOS, AND DIAGRAMS

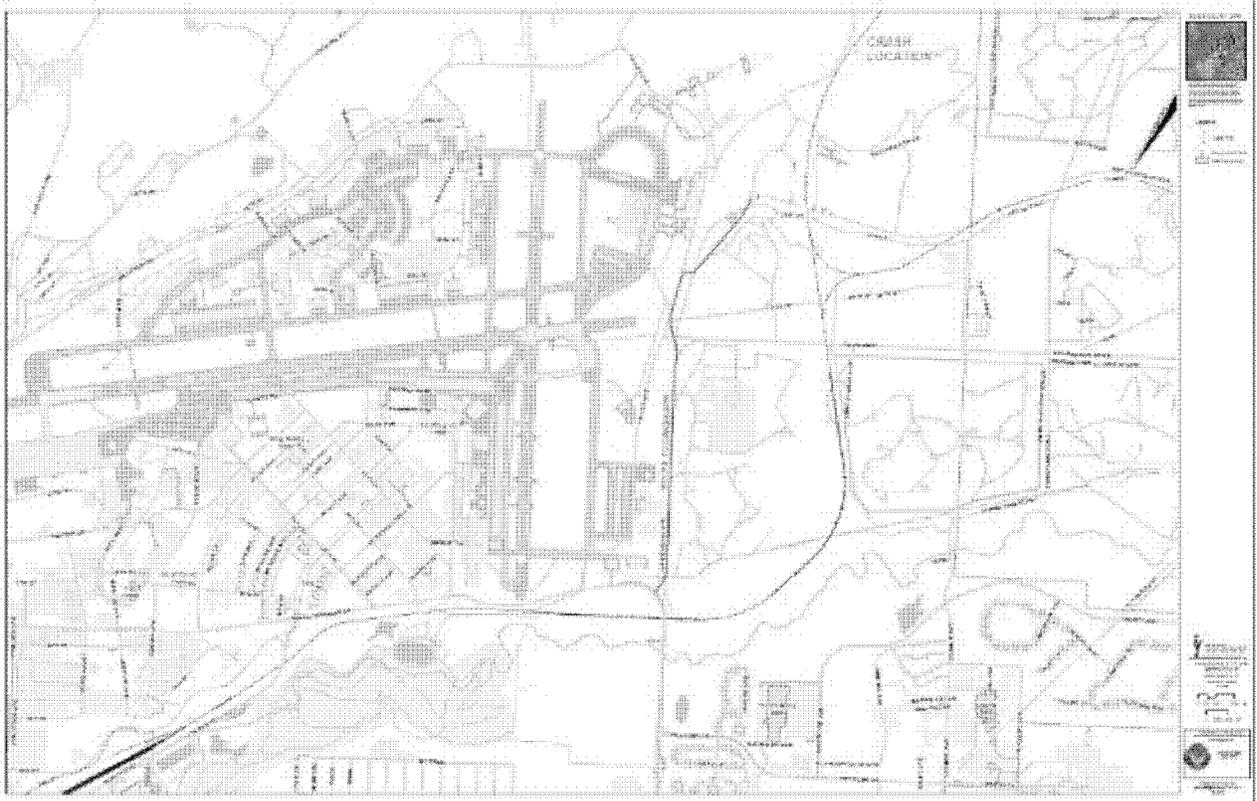
<b>S1.</b>	<b>DIAGRAM OF MISHAP SITE RELATIVE TO RUNWAY .....</b>	<b>3</b>
<b>S2.</b>	<b>RELEASABLE PHOTOS .....</b>	<b>5</b>
<b>S2.1.</b>	<b>OVERHEAD VIEW OF MISHAP SITE.....</b>	<b>5</b>
<b>S2.2.</b>	<b>VIEW OF RAILROAD TRACKS, FACING NORTH.....</b>	<b>6</b>
<b>S2.3.</b>	<b>DISPLAY OF MAIN TAIL WRECKAGE .....</b>	<b>7</b>
<b>S2.4.</b>	<b>DISPLAY OF COCKPIT VOICE RECORDER IN WRECKAGE .....</b>	<b>8</b>
<b>S2.5.</b>	<b>DISPLAY OF MAIN FUSELAGE WRECKAGE, FACING NORTHWEST .</b>	<b>9</b>
<b>S2.6.</b>	<b>DISPLAY OF ENGINE CORE IN WRECKAGE, FACING WEST .....</b>	<b>10</b>
<b>S2.7.</b>	<b>DISPLAY OF MAIN WRECKAGE, FACING SOUTHWEST.....</b>	<b>11</b>
<b>S3.</b>	<b>RELEASABLE VIDEOS.....</b>	<b>13</b>

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**S1. DIAGRAM OF MISHAP SITE RELATIVE TO RUNWAY**



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**S2. RELEASABLE PHOTOS**

**S2.1. OVERHEAD VIEW OF MISHAP SITE**



**S2.2. VIEW OF RAILROAD TRACKS, FACING NORTH**



**S2.3. DISPLAY OF MAIN TAIL WRECKAGE**



**S2.4. DISPLAY OF COCKPIT VOICE RECORDER IN WRECKAGE**



**S2.5. DISPLAY OF MAIN FUSELAGE WRECKAGE, FACING NORTHWEST**



**S2.6. DISPLAY OF ENGINE CORE IN WRECKAGE, FACING WEST**



**S2.7. DISPLAY OF MAIN WRECKAGE, FACING SOUTHWEST**



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**S3. RELEASABLE VIDEOS**

A high-definition video of the mishap sortie filmed by 3<sup>rd</sup> Wing Public Affairs is included as an attachment to this tab.

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**TAB T**

**INDIVIDUAL FLIGHT RECORDS AND ORDERS (not included in Tab G)**

<b>T1.</b>	<b>MP TMS REPORT.....</b>	<b>3</b>
<b>T2.</b>	<b>MCP TMS REPORT .....</b>	<b>7</b>
<b>T3.</b>	<b>MSO TMS REPORT.....</b>	<b>8</b>

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**T1. MP TMS REPORT**

MP

Mission / Local Flights

----- 04 Apr 2008, **WITNESS 12** Aerial Demonstration Team Certification  
Completed in Elmendorf WST and C-17 at Allen AAF, AK.

Used 15 AW syllabus IAW PACAF CONOPS. Copies of all materials reviewed with crews and given to crews along with lessons learned from our experiences. In WST demonstrated all profiles, emphasizing use of safety pilot to respond to checklist items instead of or in conjunction with the PF after challenged by the PNF/demo copilot. Discussed AFIs involved, FAA waiver participation, weather/wind considerations and showline setback from crowdline. Used centerline of 10/28 at PABI as the showline and runway intersection as show center. WST winds off the crowd at 10 knots, PABI actual winds 8-12 knots undershooting. 6, 10 and 12 minute profiles discussed and executed. Did not complete PF certification flight due to time limitations.

Recommend: NAF/CC certify as Aerial Demonstration Safety Observer and receive PF upgrade at earliest possibility. Should fly another 12-minute and 10-minute profile with a demo IP.

----- 21 Mar 2005, NVG IP Upgrade Ride 1

1 Mar 05:

Profile: Assisted in planning and discussed NVG Assault training requirements IAW syllabus in conjunction with NVG airdrop currency ride. Profile included formation AR followed by NVG formation airdrop to Rainier DZ. NVG assault training accomplished at McChord AFB (Smokey LZ and NVG lighting).

Performance: All questions on NVG Assault procedures and requirement answered. Able to place aircraft in landing zone IAW requirements. Minor problem with one "depth perception"/float.....corrected on next GOATs and FS. In all, conducted two GOATs and one full stop. No other issues noted.

Recommendation: Work arrivals utilizing NVGs to assault zone and conduct at minimum remaining approaches and FS to assault. (minimum 3 GOATs and one FS).

----- 21 Mar 2005, NVG IP Upgrade Ride 2

20 Mar:

Flt Time: 5.0

Seat time: 1.2

PROFILE: Flight conducted in conjunction w/NVG airdrop upgrade for loadmasters. Profile planned to qualify MP and NVG assault in conjunction with NVG IP upgrade. Conducted NVG 3/4 and full flap approaches to 14L (1000' box) at KMWH followed by additional full flap approaches to Rwy 27 NVG. Winds did not allow any landings at Cooley. Final assault training completed at Smokey LZ at McChord AFB. Random low VFR approaches to NVG 1000' and 500' box's conducted. In all, four 3/4 approaches and four full flap. Training completed with full flap, GOATs and full flap t&g to NVG landings and LZ at McChord. Two combat offloads completed training.

PERFORMANCE: No issues with 3/4 flap NVG. Learned what it was like to use NVGs in marginal weather. Understands issues of high drift situations using NVGs. Discussed and demonstrated instructor abilities to analyze and adjust training to meet upgrade requirements. Discussed issues with discrepancies in training and how to advise other students to accomplish operations safely.

9/26/2010

RECOMMENDATIONS: Completed requirements for NVG assault and NVG IP upgrade.

----- 04 Mar 2005,  
Inclusive Dates: 28Feb-4 Mar

KPOB JAATT 28Feb-4 Mar

Mission Type (EAS / Local / Other): JAATT (KPOB SuperJAATT)

Hours Flown: 14.6

Fields Transited: KTCM/KPOB/Luzon LZ

General Comments:

MISSION PLANNING / PRE-FLIGHT DUTIES

Assisted in package development and coordination process. Only copilot on this mission. Prepared crew billeting, charts, Bakeware, mission disk, and other requirements for week long JAATT. No issues with preflight duties.

GENERAL KNOWLEDGE / USE OF MISSION COMPUTER

Overall OK. Saw some planning/MC issues that crop up with a challenging mission. Discussed looking ahead and importance of pre-mission walk-throughs. Encountered "DEGRADED MODE" during drops and discussed probable causes. Experienced "NO DROP" for DZ acquisition. Experienced semi prepared operations for first time. General Knowledge is coming along. At point where understands basics. Continue to work into "Nitty Gritty" to better prepare for "unexpected" or be able to plan for changes.

TAKEOFF / ASSEMBLY / CLIMBOUT / ENROUTE

No issues. Allowed him to experience issues with unprepared copilot.

THREAT ASSESSMENT / TACTICS / LOW LEVEL

No problems as we route studied and planned missions together.

AIRDROP PROCEDURES / TECHNIQUES / TIME CONTROL

No problems with timing. Minor changes in checklist habits that might bite him later on. Mostly caused by localisms. Works box well and understands adjustments required to meet TOT and how to present them to pilot flying.

AIR REFUELING / SAAF

Conducted NVG Assault PNF duties to semi prepared LZ. As far as this crew knows, it is first planned NVG Assault to semi prepared. I think that JRTC (8th AS) did one that they were not prepared nor planned for, nor was authorized to conduct.

DESCENT / ARRIVAL / LANDING

No problems as routes were short and preplanned

FORMATION PROCEDURES

No formation accomplished

9/26/2010

ADDITIONAL COMMENTS

Attitude is good. Needs to continue working to apply knowledge gained from books. Need to refresh procedures prior to accomplishing instead of relying on "experienced pilot" to get him through. If he does that, then will be able to see events that would be of concern instead of it "sneaking up on them". Keep up inquisitive nature to find out what other members of crew are doing to make airdrop safe, effective, and

CRM / Judgment / Safety: Overall Good. Was able to monitor and advise of my operations.

----- 17 Oct 2004,

NVG and KTCM Orientation

Flew to observe and conduct orientation of KMWH in conjunction with NVG upgrades. Accomplished some recurrency after extended period of non-flying while PCS from KCHS.

Profile: KTCM: Monitored patterns at KTCM. Finalized with NVG ground ops (backing and combat offload). Cont to MWH for multiple NVG T&Gs. Monitored instructor conducting NVG upgrades in KMWH pattern. Mike got to fly multiple 3/4 and Full flap patterns. Assisted IP on return leg back to KTCM for instrument full stop.

Performance:

Preflight - Excellent attitude. Good learning knowledge of local procedures and requirements. Learning the ropes here at KTCM.

Takeoff - No issues. Transitioned well.

Landing - Minor problems with getting on final profile, but corrected by time required for landing in the zone.

Go-Around - No issues. Able to direct PNF on duties and all procedures.

Tactical Departure - No issues.

Tactical Arrival - Finished High Tactical Arrival. Discussed benefits and restrictions to conducting high tactical arrivals.

Recommendations: Continue working on getting items that he went Non-current for. Knock rust off. Try to fly on AR and day low-level assault trainer. Wouldn't hurt to get on another NVG ride with another instructor so that he can start building his "instructor" base.....

9/26/2010

MP  
Other

----- 30 Dec 2008, WITNESS 11 Elmendorf C-17 Demonstration Cert  
MP accomplished all required training IAW 3WG C-17 Aerial Demonstration Program (15 April 2008). He completed multiple 12-minute and 10-minute profiles in the simulator on 22 Dec and accomplished one of each profile in the aircraft on 23 Dec. All profiles were flown from the left seat as the "Pilot Flying" position. MP is certified as Pilot Flying, Pilot Not Flying and Safety Observer for the Elmendorf C-17 demonstration team.

----- 09 Jan 2006, CIV Requalification Plan  
Following a Qual/INSTM checkride on 3 Jan 06, MP was Q-3. The evaluator recommended two ISS's and a recheck. Training concurs and the plan was approved by Lt Col on 6 Jan 06.

----- 14 Oct 2003, CIV AC Recommend Ride  
This mission was a 2-week EAS input in which MP was to run the mission as the Aircraft Commander. The mission went to the following locations (we were picked off at EDDF for a SAAM mission to the Pacific): KCHS-KDOV-ETAR-EDDF-ORBS-EDDF-ETAR-CYQX-KSUU-PHIK-PGUA-PHIK-KSUU-KCHS. The initial home-station mission prebrief was excellent, everyone knew what they were doing, and we departed on-time.

Upon arriving at ETAR we joined the EAS and were scheduled for a OAKN run. Following an inflight engine problem we diverted to EDDF. We then flew a mission to ORBS. MP did an outstanding job, and flew an excellent approach and landing into Baghdad. After returning to EDDF we picked up the SAAM mission. MP dealt with several issues on this mission to the Pacific, including several mx problems, poor planning by Command and Control, lengthy duties, and high priority cargo. He overcame all the problems, kept all crewmembers in the loop and did an excellent job ensuring this high priority mission was accomplished.

Throughout the 2 weeks his mission planning and preparation, motivation, and knowledge were excellent. We reviewed 11-2C-17 Vol.3, as well as enroute procedures for Europe and the Pacific, as well as tactical AOR procedures.

Overall, MP did an outstanding job as the acting Aircraft Commander and I recommend he be certified as an Aircraft Commander at this time.

Capt  
IP, 15 AS

----- 08 Nov 2002, MAJ  
Quarterly/monthly training review accomplished on 8 Nov 02.

Capt  
15 AS Training

----- 28 May 2002, WITNESS 29  
TMS reviewed IAW command guidance.

WITNESS 29 58 AS/ADO x1375

9/26/2010

**T2. MCP TMS REPORT**

Page 1 of 1

MCP  
Other

----- 13 Jul 2010, **MCP**

MCP completed airshow demonstration training as pilot not flying by accomplishing both the 10 and 12 minute profiles in the simulator and in the aircraft.

9/26/2010

**T3. MSO TMS REPORT**

Page 1 of 1

MSO  
Other

----- 13 Jul 2010, MP

MSO completed airshow demonstration training as pilot flying by accomplishing both the 10 and 12 minute profiles in the simulator and in the aircraft.

----- 21 Sep 2009, MP Airshow Certification

MSO completed airshow demonstration training as pilot not flying by accomplishing both the 10 and 12 minute profiles in the simulator and in the aircraft. He is now fully certified.

9/26/2010

**TAB U**

**AIRCRAFT MAINTENANCE RECORDS (not included in Tab D)**

<b>U1. MAINTENANCE STATUS LOGS .....</b>	<b>3</b>
<b>U2. 90 DAY DISCREPANCE REPORT .....</b>	<b>8</b>
<b>U3. OPEN DISCREPENCY LOG.....</b>	<b>83</b>
<b>U4. ENGINE 1 HISTORY .....</b>	<b>93</b>
<b>U5. ENGINE 2 HISTORY .....</b>	<b>96</b>
<b>U6. ENGINE 3 HISTORY .....</b>	<b>99</b>
<b>U7. ENGINE 4 HISTORY .....</b>	<b>102</b>
<b>U8. TOOL ACCOUNTABILITY LOGS.....</b>	<b>111</b>
<b>U9. REFUELING LOG.....</b>	<b>126</b>

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**U1. MAINTENANCE STATUS LOGS**

2-1-19-1

29 July 2010



**517 AMU**



**DAILY MAINTENANCE STATUS**

1. FLYING RECAP

- Line 601 (00-0051) LTO (1.5) @ 0930 / MX Co-Pilot Stand-by ADI Inop (R2 ADI ops ok good)
- Line 602 (00-0173) LTO (0.4) @ 0924 for ATA Air traffic / A1
- Line 603 (99-0167) OTTO / A3 Manifold Failed (R2 Manifold awaiting run)
- Line 604 (00-0173) OTTO /
- Line 605 (00-0173)
- Line 606 (00-0173) MX Canx
- XCR (98-0051) A2 / Aero I Inop (troubleshooting required)
- XCR (00-0171) A2 / Pilot/Co-Pilot Comm Status (troubleshooting required)

2. Injuries / Mishap 00-0173 Mishap

3. Repeat / Recurs

4. Spare Engine Status

- 170200 FMC
- 170247 FMC

5. QA Stats

- 0 Pass
- 0 Fail
- 0 Big 3 (TDV, DSV, UCR)

2010210		517 A/cft Status Sheet				TIME: 6:26	DATE: 29 Jul 10
Line #	F	Sch Fuel	g	Takeoff	ACC	MC Rate	BT 50%
ACFT	98-0051	Fuel	30	Land	Dual row airdrop restriction 0630100	DCC-5Sgt	ACC-5A
Spot	15	Lox	24/2175		Refig INOP 1818848 - BG J486FL01814008R		
Status	PMCM	PR/BPO	0600z28		TCO 2010 Right side CW Left side needs work		
Ref Des	4110	THRU	1230z28	Flares	Co-Pilot lock window armor interferes with ruder pedal		
Etc	Doc Rev	14 Sep	MLG Lube		Aero LINOP		
Config	C-2M	HSC3HP	25 Mar/27 Oct	14 Sep	Rt side of electrical power panel back light INOP		PRI
					Standby compass INOP		
Line #	CHNL	Sch Fuel		Takeoff	Dual row airdrop restriction 0347413	DCC-TSgt	ACC-A1G
ACFT	98-0056	Fuel		Land			
Spot		Lox					
Status	PMCM	PR/BPO		31 Jul			
Ref Des	4110	THRU					
Etc	Doc Rev	28 Aug	MLG Lube				
Config	EDS-1	HSC3HP	26 Oct/26 Aug	19 Aug			PRI
Line #		Sch Fuel	105	Takeoff	Dual row airdrop restriction 0056804	DCC-TSgt	ACC-A1G
ACFT	99-0167	Fuel	105	Land	R1 wing O2/O2S Man Inp - 2086851 - Awaiting ops chk AWR		
Spot	14	Lox	23/68/63		#1 O/W leaking - 2086811 - 3623 - Awaiting ops chk		
Status	NMCMU	PR/BPO	1500z27				
Ref Des	4200	THRU					
Etc	Doc Rev	3 Aug	MLG Lube				
Config	C-2	HSC3HP	29 Sep/23 Sep	20 Sep			PRI
Line #		Sch Fuel		Takeoff	Dual row airdrop restriction 366804	DCC-3Sgt	ACC-3A
ACFT	99-0168	Fuel	12	Land			
Spot	15	Lox	15/29/21				
Status	PMCM	PR/BPO	2000z28				
Ref Des	4110	THRU					
Etc	Doc Rev	7 Sep	MLG Lube				
Config	C-2	HSC3HP	17 Nov/19 Aug	6 Sep			PRI
Line #	SAAM	Sch Fuel		Takeoff	Dual row airdrop restriction 366807	DCC-TSgt	ACC-5Sgt
ACFT	99-0170	Fuel		Land			
Spot		Lox					
Status	PMCM	PR/BPO		28 Jul	1810z		
Ref Des	4110	THRU					
Etc	Doc Rev	17 Sep	MLG Lube				
Config	C-1	HSC3HP	8 Nov/10 Sep	17 Sep			PRI
Line #		Sch Fuel		Takeoff	Dual row airdrop restriction 366802	DCC-TSgt	ACC-3A
ACFT	00-0171	Fuel	35	Land	LI O2/O2S will not build up pressure above 50 PSI - 1878811 -		
Spot	10	Lox	12/54/57		Pilot Co-pilot Comm has static		
Status	PMCM	PR/BPO	1330z29		Aero LINOP		
Ref Des	4111	THRU		Flares			
Etc	Doc Rev	31 Aug	MLG Lube				
Config	C-2A1	HSC3HP	4 Sep/8 Aug	14 Aug			PRI
Line #		Sch Fuel	150	Takeoff	Dual row airdrop restriction 366806	DCC-5Sgt	ACC-A1G
ACFT	00-0173	Fuel		Land	VHF intermittent - 2086804 - 2015 - Res TIS		
Spot	10	Lox	25/40/51				
Status	PMCM	PR/BPO	0600z27				
Ref Des	4110	THRU	1230z28				
Etc	Doc Rev	21 Aug	MLG Lube				
Config	ADP-2M	HSC3HP	12 Oct/07 Oct	15 Sep			PRI
Line #	SM	Sch Fuel		Takeoff	Dual row airdrop restriction 366808	DCC-TSgt	ACC-5Sgt
ACFT	00-0174	Fuel	53	Land	Troop Y-cable yoke - 2028017 - JA J486FL02034028		
Spot	H-21W	Lox	12/60/60				
Status	PMCM	PR/BPO	0800z23				
Ref Des	4110/4141	THRU					
Etc	Doc Rev	3 Aug	MLG Lube				
Config	C-2	HSC3HP	18 Aug/8 Aug	22 Sep			PRI



DAILY AIRCRAFT FLIGHT SCHEDULE										ORGANIZATION										DATE			MOB			
ALL TIMES LOCAL										HEAVY METAL										10/20/09			7/28/2010		C-17A	
UNIT #	PK	SRV #	CALL SIGN	MIN TRNG	CONVLT	CONTROL	REMARKS	CDR	PILOT	NR	AV	SPSC	DATE	TIME	ASST	TIME	ASST	CHANGING	PRG	REMARKS						
401	40101	0000000000	4010101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
402	40201	0000000000	4020101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
403	40301	0000000000	4030101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
404	40401	0000000000	4040101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
405	40501	0000000000	4050101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
406	40601	0000000000	4060101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
407	40701	0000000000	4070101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
408	40801	0000000000	4080101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
409	40901	0000000000	4090101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							
410	41001	0000000000	4100101	1400	1400	1400		01	14	Y		10/20	1400	1400	Y				1							

Page 1 of 1

# C-17 MICAP/DIFM STATUS

MICAP STATUS SHEET											
TAIL #	NSN	JCN#	DOCA	QTY	NOMENCLATURE	ERRC	UIC	STATUS	EDD	DUJ DOC #	
0174	401001423085	2028817	J486FL02024026	20	WIRE ROPE ASSY	XE3	JA	O ASSEST WAW	0715 DAVHST	F185000200809	
DIFM STATUS											
TAIL#	NSN	JCN#	DOCA#	QTY	NOMENCLATURE	ERRC	STATUS	REMARKS	DIFM DAYS	NOTES	DATE RECD
0061											
0096	8220015529024	2048908	J486FC02048701	1	AFONIC	XD2	TIN	P & S ISSUES	5		23 Jul 10
0096	8220015683975	2028818	J486FL02024005	1	FLOOD LIGHT	XE3	AWM	PART IN TNS	2		28 Jul 10
0096	1680015251267	2016817	J486FL02028201	1	PANEL	XE3	AWM	PART BY ROLL-UP			27 Jul 10
0096	1680015231967	2016817	J486FL02028702	1	PANEL	XE3	AWM	PART BY ROLL-UP			27 Jul 10
0187											
0170	5340015378832	1317004	J486ER01934003	1	BRACKET	XE3	AWM	PART IN TNS	18		15 Jul 10
0171											
0173											
0174	1660015268150	1668807	J486FL01754028	1	ARMOR COVER	XE3	AWM	PART IN TNS	21		7 Jul 10
0174	1660015265153	1668807	J486FL01754029	1	ARMOR COVER	XE3	AWM	PART IN TNS	21		7 Jul 10
0174	1660015265156	1668807	J486FL01754010	1	ARMOR COVER	XE3	AWM	PART IN TNS	21		7 Jul 10
0174	1660015265136	1668807	J486FL01754011	1	ARMOR COVER	XE3	AWM	PART IN TNS	21		7 Jul 10
0174	1660015296126	1668807	J486FL01754012	1	ARMOR COVER	XE3	AWM	PART IN TNS	21		7 Jul 10
0174	1660014820201	1668807	J486FL01754020	1	ARMOR COVER	XE3	AWM	PART IN TNS	12		16 Jul 10
0174	1660014820201	1668807	J486FL01754022	1	ARMOR COVER	XE3	AWM	PART IN TNS	12		16 Jul 10
0174	1660014820201	1668807	J486FL01754023	1	ARMOR COVER	XE3	AWM	PART IN TNS	12		16 Jul 10
0174	1660014820201	1668807	J486FL01754024	1	ARMOR COVER	XE3	AWM	PART IN TNS	13		16 Jul 10

**U2. 90 DAY DISCREPANCY REPORT**

A0173 90 days Discrepancy Report

DISCREPANCY REPORT FOR AIRCRAFT - 00000173	FROM 10119 TO 10209	JUL 29, 10 / 06:54Z	PAGE 1
MABR7117 AIRCRAFT - 00000173			
JCN ASSOC JCN AIRCRAFT - 00000173	MMC/FC WUC/REFDES P M T D MAL	U T A W HOW DISCREPANCY / CORRECTIVE ACTION	CREATE/CLOSE DATE BASE SHOP USERID 0 RPT REP/REC C REC EMP NBR
1198050	- 04199	J	
** 04199	01 Y		
DOPP INSP DUE PRIOR TO LAUNCH 21-101 PARA 14.11 DOPP-CL DOPP INSP C/W T O REF: AFI 21-101 PARA 14.11			
			IAW AFI 10119 TYFW A1ACD MAQDJM2 C AMC C-17 10120 TYFW QAIAD TIME TAKEN: 1.0
1198051	- 04MD4	J	
** 04MD4	01 Y		
IFE MODE IV CHECK DUE PRIOR TO LAUNCH 21-101 PARA 14.24.1 XS LCL-003 SEC 2 OR 3 IFE MODE 4 OP CK C/W T O REF: AFI 21-101 PARA 14.24.1			
			IAW AFI 10119 TYFW A1ACD MAQDJM2 C & 721 AM 10120 TYFW QAIAD TIME TAKEN: 1.0
1198052	- 01027	J	
TIRE PRESSURE CK DUE 17A-6WC-1 14 STEP 1 & 2			
			IAW 1C- 10119 TYFW A1AGA MAQDJM2 C CARD 4-0 10120 TYFW QAIAA
1198053	- 3131JE002	J	
** 3131	01 Y X J 799		
SFDR REQ'S DOWNLOAD IAW 1C-17A-6WC-1 015 STEP 5 / COMPLETE IAW 1C-17A-2-31JG-30-1 K 02-2 31-31-02-2) (OGP TASK 02-11 31-31-02-11) SFDR DOWNLOAD C/W MAN # UNKNOWN T O REF: SFDR REQ'S DOWNLOAD IAW 1C-17A			
			CARD 4- 10119 TYFW A1ACB MAQDJM2 C (DAS TAS 10120 TYFW QAIAB TIME TAKEN: .5
1198054	X 04199	J	
** 04199	01 Y		
TOOL AND FOD CK DUE O LAUNCH 21-102 PARA 13.5 PG 7 TOOL AND FOD CK C/W T O REF: RABI 21-102 PARA 13.5 P 7			
			PRIOR T 10119 TYFW A1ACD MAQDJM2 C IAW RABI 10120 TYFW QAIAD TIME TAKEN: 1.0
1210100	- 03215	J	
** 03215	01 Y		
BASIC POSTFLIGHT/PREFLIGHT DUE IAW 6WC-1 INSP CW T O REF: -6WC-1			
			IC-17A- 10121 DKFX MAQDDJ C 10121 DKFX TIME TAKEN: 19.5
1210100001	- 03215	J	
PERFORM SERVICING IAW 1C-17A-6WC-1 ----- 10121 DKFX MAQDMCT C 10121 DKFX			

		A0173 90 days Discrepance Report		AVIONIC 10121 DKFX		MACOMCT C	
		S/NON-AVIONIC FAULT LIST IAW		1C-17A-6 10121 DKFX			
1210100002	- 03215	J	OPERATE MISSION COMPUTING SYSTEM AND REVIEW	1C-17A-6	10121 DKFX	MACOMCT C	
1210100003	- 03215	J	PERFORM APPMC SYSTEM OPERATION AND REVIEW FAULT LIST IA	10121 DKFX	10121 DKFX	MACOMCT C	
1210100004	- 03215	J	PERFORM INTERIOR INSPECTION IAW 1C-17A-6WC-1,	10121 DKFX	10121 DKFX	MACOMCT C	
1210100005	- 03215	J	PERFORM TOP OF THE WING INSPECTION IAW	1C-17A-	10121 DKFX	MACOMCT C	
1210100006	- 03215	J	PERFORM RT SIDE EXTERIOR INSPECTION IAW	1C-17A-	10121 DKFX	MACOMCT C	
1210100007	- 03215	J	PERFORM LT SIDE EXTERIOR INSPECTION IAW	1C-17A-	10121 DKFX	MACOMCT C	
1210100008	X 03215	J	PERFORM INTAKE AND EXHAUST INSPECTION IAW	1C-17A-	10121 DKFX	MACOMCT C	
1210100009	- 03215	J	TIRE PRESSURE CHECK DUE (DOCUMENT IN ZULU TIME)	1C-17A-	10121 DKFX	MACOMCT C	
			***		***		
			DISCREPANCY REPORT FOR AIRCRAFT - 00000173	FROM 10119	TO 10209	JUL 29, 10 / 06:54Z	PAGE 2
AIRCRAFT - 00000173							
JCN	MWC/FC	U T A W	HOW	CREATE/CLOSE	USERID	O RPT	EMP
ASSOC JCN	WUC/REFDES	P M T D	MAL DISCREPANCY / CORRECTIVE ACTION	DATE	BASE SHOP	REP/REC	C REC NBR
1210101	/ 03215	J	INSPECT AND CLEAN MWS, SLTA/LTA	IAW 1C-	10121 DKFX	MACODDJ C	
	** 03215	01 Y	INSP CW	10121	QAICM	MACODDJ	
			T O REF: -6WC-1	TIME TAKEN:	2.7		
1210102	- 04199	J	DOP INSPECTION DUE PRIOR TO NEXT FLIGHT	IAW LCL	10121 DKFX	MACOMCT C	
			MXGQA-104	10121	DKFX		

Item ID	Code	Y/N	Phase	Description	Time	Time Taken	QA	MAC
1213500	- 04MD4		F	IFF MODE 4 REQ CK PRIOR TO FLIGHT				
	** 04MD4	01 Y		MD 4 CK CW SYS OPS CK GOOD T O REF: 34JG-50-5 TASK 01-16	10121	1.5	QA1EN	MACORVC
1230100	- 03215		J	BASIC POSTFLIGHT/PREFLIGHT DUE IAW 6WC-1	1C-17A-			
	** 03215	01 Y		BPO/PR C/W T O REF: 1C-17A-6WC-1	10126		QA1CM	MACOBPO
1230100001	- 03215		J	PERFORM SERVICING IAW 1C-17A-6WC-1	10123		DKFX	ALCCC
	** 03215	01 Y		SERVICING C/W T O REF: 1C-17A-6WC-1	10126	.5	QA1CM	MACOBPO
1230100002	- 03215		J	OPERATE MISSION COMPUTING SYSTEM AND REVIEW S/NON-AVIONIC FAULT LIST IAW WC-1,	10123		DKFX	ALCCC
	** 03215	01 Y		OPERATION AND REVIEW OF FAULT LIST C.W T O REF: 1C-17A-6WC-1	10126	.5	QA1CM	MACOBPO
1230100003	- 03215		J	PERFORM APDMC SYSTEM OPERATION AND REVIEW FAULT LIST IA W 1C-17A-6WC-1,	10123		DKFX	ALCCC
	** 03215	01 Y		SYS OPERATION AND REVIEW C/W T O REF: 1C-17A-6WC-1	10126	.5	QA1CM	MACOBPO
1230100004	- 03215		J	PERFORM INTERIOR INSPECTION IAW 1C-17A-6WC-1,	10123		DKFX	ALCCC
	** 03215	01 Y		INSP. C/W T O REF: 1C-17A-6WC-1	10126	.5	QA1CM	MACOBPO
1230100005	- 03215		J	PERFORM TOP OF THE WING INSPECTION IAW 6WC-1,	10123		DKFX	ALCCC
	** 03215	01 Y		INSP. C/W T O REF: 1C-17A-6WC-1	10126	.8	QA1CM	MACOBPO
1230100006	- 03215		J	PERFORM RT SIDE EXTERIOR INSPECTION IAW 6WC-1,	10123		DKFX	ALCCC
	** 03215	01 Y		INSP. C/W T O REF: 1C-17A-6WC-1	10126	.7	QA1CM	MACOBPO
1230100007	- 03215		J	PERFORM LT SIDE EXTERIOR INSPECTION IAW 6WC-1,	10123		DKFX	ALCCC
	** 03215	01 Y		INSP. C/W T O REF: 1C-17A-6WC-1	10126	.7	QA1CM	MACOBPO

				A0173 90 days Discrepance Report							
JCN	MWC/FC	U T A W	HOW	DISCREPANCY /	CORRECTIVE ACTION	CREATE/CLOSE	USERID	O RPT	EMP		
ASSOC JCN	WUC/REFDES	P M T D	MAL	DISCREPANCY /	CORRECTIVE ACTION	DATE	BASE SHOP	REP/REC	C REC	NBR	
1230100008 X	03215	J		PERFORM INTAKE AND EXHAUST INSPECTION IAW 6WC-1, -----	IC-17A-10123 DKEF A1CCC MAC0BP0 C 10126 DKEF QA1CM						
**	03215	01 Y		INSPECTION C/W T O REF: IC-17A-6WC-1 ***	TIME TAKEN: 2.0 ***						
DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 3											
1230100009 -	03215	J		TIRE PRESSURE CHECK DUE (DOCUMENT IN ZULU TIME) IAW 1C-17A-6WC-1, -----	IC-10123 DKEF A1CCC MAC0BP0 C 10126 DKEF QA1CM						
**	03215	01 Y		TIRE PRESSURE CK C/W T O REF: IC-17A-6WC-1	TIME TAKEN: .3						
1230101	/ 03215	J		INSPECT AND CLEAN MMS, SLTA/LTA 17A-6WC-1, -----	IAW 1C-10123 DKEF 10126 DKEF						
**	03215	01 Y		INSP. C/W T O REF: IC-17A-6WC-1	TIME TAKEN: .7						
1230102 -	04199	J		DOP INSPECTION DUE PRIOR TO NEXT FLIGHT MXGQA-104	IAW LCL 10123 DKEF 10133 DKEF						
1242717 -	4711AA001	F		OPS CHECK DUE IAW 47JG00-1 TASK 3-3 (ENGINE RUN)	10124 DKEF A1ESE MAC0DCF C 10124 DKEF QA1EE						
**	4711AA001	01 Y X F 799		OPS CK GOOD T O REF: IC-17A-2-47JG-00-1 TASK 47-00	TIME TAKEN: 4.5 10124 QA1EE MAC0DCF						
1260100 -	03100	F		PREFLIGHT INSPECTION DUE IAW 1C-17A-6WC-1	10126 DKEF 10126 DKEF						
**	03100	01 Y		INSP C/W, T O REF: 6WC-1	TIME TAKEN: 4.0 10126 RA1CM MAC0JB9						
1260100001 -	03100	F		PERFORM SERVICING IAW 1C-17A-6WC-1 -----	10126 DKEF A1CCC MAC0JB9 C 10126 DKEF RA1CM						
**	03100	01 Y		SERVICING C/W, T O REF: 6WC-1	TIME TAKEN: .5 10126 RA1CM MAC0JB9						
1260100002 -	03100	F		OPERATE MISSION COMPUTING SYSTEM AND REVIEW	AVIONIC 10126 DKEF A1CCC MAC0JB9 C						

A0173 90 days Discrepance Report  
 /NON-AVIONIC FAULT LIST IAW  
 WC-1, -----  
 INSP C/W.  
 T O REF: 6WC-1

1260100003	**	03100	01 Y	F	PERFORM APPDMC SYSTEM OPERATION AND REVIEW FAULT LIST IA W IC-17A-6WC-1, ----- INSP C/W. T O REF: 6WC-1	10126	DKFX	RA1CM	MAC03B9	C	10126	DKFX	RA1CM	MAC03B9	C
												TIME TAKEN:	.5		
1260100004	**	03100	01 Y	F	PERFORM INTERIOR INSPECTION IAW IC-17A-6WC-1 ----- INSP C/W. T O REF: 6WC-1	10126	DKFX	RA1CM	MAC03B9	C	10126	DKFX	RA1CM	MAC03B9	C
												TIME TAKEN:	.5		
1260100005	**	03100	01 Y	F	PERFORM RT SIDE EXTERIOR INSPECTION IAW 6WC-1, ----- INSP C/W. T O REF: 6WC-1	10126	DKFX	RA1CM	MAC03B9	C	10126	DKFX	RA1CM	MAC03B9	C
												TIME TAKEN:	1.0		
1260100006	**	03100	01 Y	F	PERFORM LT SIDE EXTERIOR INSPECTION IAW 6WC-1, ----- INSP C/W. T O REF: 6WC-1	10126	DKFX	RA1CM	MAC03B9	C	10126	DKFX	RA1CM	MAC03B9	C
												TIME TAKEN:	1.0		
1260100007	**	03100	01 Y	F	PERFORM INTAKE INSPECTION IAW IC-17A-6WC-1 ----- INSP C/W. T O REF: 6WC-1	10126	DKFX	RA1CM	MAC03B9	C	10126	DKFX	RA1CM	MAC03B9	C
												TIME TAKEN:	.7		
												TIME TAKEN:	.7		
												TIME TAKEN:	.7		
												TIME TAKEN:	.7		

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 MABR7117 DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 4  
 AIRCRAFT - 00000173

1260101	**	03100	01 Y	F	TIRE PRESSURE CHECK DUE IAW IC-17A-6WC-1, ----- PRESSURE CK C/W. T O REF: 6WC-1	10126	DKFX	RA1CM	MAC03B9	C	10126	DKFX	RA1CM	MAC03B9	C
												TIME TAKEN:	.3		
1262400	/	2513MP002	F	F	RT FIRE EXG @ STA 675 DUE SERVICE	10126	DKFX	ALSAM	MAC0WS1	C	10127	DKFX	RA320		

A0173 90 days Discrepance Report

**	2623MM007	01 Y R F 804	R2 FIRE BOTTLE	T O REF: 1C-17A-21	10127	RA320	MAC03T9	TIME TAKEN: 1.5
1262700	- 04MD4	F	MODE 4 CHECK DUE BEFORE FLIGHT		10126	DKFX ALESC	MAC03R6 C	
**	04MD4	01 Y	MD 4 GK C/W S/O/C/G	T O REF: 34JG-50-5 TASK 01-16	10126	QA1EN	MAC03R6	TIME TAKEN: 1.0
1263400	/ 3814AA001	F	POTTABLE WATER SEAL INDICATOR HAS ONE EA GREEN LED BROK EN		10126	DKFX A1ACM	MAPECS1 C	
**	3814	01 B J F 799	NO DEFECT NOTED	T O REF: 28JG-20-3(28-22-10-4)	10134	FXSB CA1AM		
1263510	X 3244FR001	F	BRAKE ACCUMULATOR REQ SERVICING		10134	CA1AM	MAPECS1	TIME TAKEN: .1
**	01023	01 Y	SERVICED ACCUMULATOR	T O REF: 1C-17A-2-29JG-1	10126	DKFX A1CCC	MAC03R0K C	
1263511	X 2912FR005	F	#2 GUST DAMPNER REQ SERVICING		10126	DKFX RA1CM		
**	01023	01 Y	SERVICED DAMPNER ACCUMULATOR	T O REF: 1C-17A-2-12JG-1	10126	RA1CM	MAC03R0K	TIME TAKEN: 4.0
1272400	- 04MD4	F	MODE 4 OPS CHECK DUE		10126	DKFX A1ESC	MAC03ATE C	
**	04MD4	01 Y	MODE 4 C/W	T O REF: 1C-17A-2-34JG-50-5	10127	DKFX QA1EN		TIME TAKEN: .8
1272500	- 04199	F	LOG RAIL CHECK DUE PRIOR TO NEXT FLIGHT		10127	DKFX A1SAM	MAC0MS1 C	
**	04199	01 Y	INSP C/W	T O REF: 1C-17A-2-41JG-10-7 TSK 1-1	10127	DKFX RA320		TIME TAKEN: 1.5
1272501	- 04199	F	ADLS RAIL CHECK DUE PRIOR TO NEXT FLIGHT		10127	DKFX A1SAM	MAC0MS1 C	
**	04199	01 Y	INSP C/W	T O REF: 1C-17A-2-41JG-10-1 TSK 1-1	10127	DKFX RA320		TIME TAKEN: 1.5
1280001	/ 2100	D	FUS PRESS RELIEF VALVE ON WAP @ FL 350		10127	TYFW A1ACC	MA0DLRL C	

A0173 90 days Discrepance Report

**	2131AA001	01 Y L D 127	RESET CABIN PRESSURE CONTROLLER	T O REF:	10128 TYFW QA1AC	10128 TYFW QA1AC	MAQDJHO	TIME TAKEN: .4
1280002	/ 2191	D	ECS 1 OV CONTROLLER		10127 TYFW AIACM	10145 TYFW AIACM	MAPERDD C	
**	219100	01 B X D 799	RESET C/B OPSCHK GOOD	***	10145 TYFW CA1AM	10145 TYFW CA1AM	MAPERDD	
<p>DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 5</p>								
<p>AIRCRAFT - 00000173</p>								
JCN	MMC/FC	U T A W HOW	DISCREPANCY / CORRECTIVE ACTION	T O REF:	CREATE/CLOSE	DATE	BASE SHOP	USERID O RPT EMP
ASSOC JCN	WUC/REFDES	P M T D MAL			DATE	BASE SHOP	REP/REC C REC	NBR
1285555	/ 2191AA001	F	#1 ECS DISPLAYED ON CONTROLLER		10128 TYFW AIACB	10128 TYFW AIACB	MAQDLRL C	
**	219100AAK	01 Y R F 070	R2 #1 ECS CONTROLLER	T O REF: 1C-17A-2-21JG-90-1SECC3-1Pg2-16	10128 TYFW QA1AB	10128 TYFW QA1AB	MAQDLMD	TIME TAKEN: 4.0
1288050	- 04199	H	DOPP INSP DUE PRIOR TO LAUNCH		IAW AFI 10128 TYFW AIACC	10128 TYFW AIACC	MAQDJGM C	
**	04199	01 Y	21-101 PARA 14.11		AMC C-17 10128 TYFW QA1AC	10128 TYFW QA1AC	MAQDJRT	TIME TAKEN: .2
1288051	- 04MD4	H	IFF MODE IV CHECK DUE PRIOR TO LAUNCH		IAW AFI 10128 TYFW AIACC	10128 TYFW AIACC	MAQDJGM C	
**	04MD4	01 Y	21-101 PARA 14.24.11		& 721 AM 10128 TYFW QA1AC	10128 TYFW QA1AC	MAQDJRT	TIME TAKEN: .4
1288052	- 01027	H	TIRE PRESSURE CHECK DUE		IAW 1C- 10128 TYFW AIACA	10128 TYFW AIACA	MAQDJGM C	
**	04199	01 Y	17A-6WC-1		CARD 2-0 10128 TYFW QA1AA	10128 TYFW QA1AA	MAQDJRT	TIME TAKEN: .8
1288053	X 04199	H	TOOL AND FOD CK DUE		PRIOR T 10128 TYFW AIACC	10128 TYFW AIACC	MAQDJGM C	
**	04199	01 Y	0 LAUNCH		IAW RABI 10128 TYFW QA1AC	10128 TYFW QA1AC	MAQDJRT	TIME TAKEN: .8

A0173 90 days Discrepance Report

1295001	- 03200	F	ACFT REQUIRES THRUFLIGHT IAW 1C-17A-6WC-1 R _____ ENGINES _____ SSURE _____ THRUFLIGHT C/W T O REF: 1C-17A-2-6WC-1	EXTERIO 10130 UMXB A1ACC MAQJTE C TIRE PRE 10132 UMXB QA1AD	10132	QA1AD MAQJWET	TIME TAKEN: 1.5
1295002	- 04MD4	F	MODE IV INTERROGATION CHECK D PRIOR TO FLIGHT 1-101 AMCSUP ADDENDA C INSP C/W T O REF: AFI21-101 AMCSUP ADDENDA C	REQUIRE 10130 UMXB A1ACC MAQJTA C IAW AFI2 10132 UMXB QA1AC	10132	QA1AC MAQJJAN	TIME TAKEN: 1.0
1295003	- 04199	F	DOPP INSPECTION D PRIOR TO FLIGHT 1-101 AMCSUP ADDENDA C INSP C/W T O REF: IAW AFI21-101 AMCSUP ADDENDA C	REQUIRE 10130 UMXB A1ACC MAQJTA C IAW AFI2 10132 UMXB QA1AC	10132	QA1AC MAQJJAN	TIME TAKEN: 1.0
1295004	X 04199	F	TOOL, EQUIPMENT AND FOD CHECK REQUIRED O LAUNCH 21-101 PAR 14.19/725 AMS OI 21-1 PAR 3.1.2.1.3 INSP C/W T O REF: FI 21-101 PAR 14.19/725 AMS OI	PRIOR T 10130 UMXB A1ACC MAQJTA C IAW AFI 10132 UMXB QA1AC	10132	QA1AC MAQJJAN	TIME TAKEN: 1.0
1295005	/ 01000	F	SPR REQ'D DRAIN PRIOR TO NEXT FLIGHT 7A-2-12C1-28-1	10130 UMXB A1ACC MAQJTA C IAW 1C-1 10132 UMXB QA1AC	10132	QA1AC MAQJJAN	TIME TAKEN: 1.0
1295025	X 2315TS001	F	COM1 AND COM2 RADIOS INTERMITTENT FROM LONG RANGE ( WETH ER IN AUTO UPPER OR LOWER ) HAD TO USE SQUELCH FREQUEN TLY TO HEAR ATC TRANSMISSIONS R2 #1 ANT LOGIC UNIT S/O/C/G T O REF: 23JG-10-9 23-15-10	10130 UMXB A1ESC MACOWJM C 10133 DKEK QA1EN	10133	QA1EN MACODAS	TIME TAKEN: 2.0
***							
DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209							
AIRCRAFT - 00000173							
JCN	MMC/FC	U T A W HOW	DISCREPANCY / CORRECTIVE ACTION	CREATE/CLOSE	USERID	O RPT	EMP
ASSOC JCN	WUC/REFDES	P M T D MAL		DATE	BASE SHOP	REP/REC	C REC NBR
1295025001 X 2315AA001		F	#1 LOGIC CONVERTER REMOVED FOR TROUBLE SHOOTING	10130 DKEK A1ESC	MACOWJM C		
				10133 DKEK QA1EN			
** 2315AA001	01 Y S F 800		REINSTALLED #1 LOGIC CONVERTER	10133	QA1EN	MACODAS	
	T O REF: 23JG-10-9		23-15-10	TIME TAKEN: 1.0			

A0173 90 days Discrepance Report

Item ID	Quantity	Unit	Material Description	Location	Part Number	Part Name	Part Description
1295025002	X	2315AA002	#2 LOGIC CONVERTER REMOVED FOR TROUBLE SHOOTING		10130	DKEFX	AIESC MACODJW C
		** 2315AA002	REINSTALLED #2 LOGIC CONVERTER		10133	DKEFX	QA1EN
		01 Y S F 800	T O REF: 23JG-10-9 23-15-10		10133	QA1EN	MACODAS
1305025	X	01000	PROTECTIVE COVERS INSTALLED FOR VOLCANIC ASH FALLOUT		10130	UMXB	AIACD MAQJTE C
					10132	UMXB	QA1AD
1319996	/	0120390	INSPECT WIRING LG		10131	FXSB	AIASE MAPEDFB C
		** 0120390	IC-17A-2060 WB/NA PRIME SHOP ALACM		10153	FXSB	CA1AE
		01 T	TCTO IC-17A-2060 C/W		10152	CA1AE	MAPEKWL
			T O REF: IC-17A-2060				
1330100	-	03200	THRUFIGHT DUE IAW IC-17A-6WC-1		10133	DKEFX	MACODTH C
					10133	DKEFX	
1330100001	-	03200	PERFORM SERVICING IAW IC-17A-6WC-1		10133	DKEFX	MACODTH C
					10133	DKEFX	
1330100002	-	03200	PERFORM RT EXTERIOR INSPECTION IAW IC-17A-6WC-1		10133	DKEFX	MACODTH C
					10133	DKEFX	
1330100003	-	03200	PERFORM LT EXTERIOR INSPECTION IAW IC-17A-6WC-1		10133	DKEFX	MACODTH C
					10133	DKEFX	
1330100004	-	03200	TIRE PRESSURE DUE IAW IC-17A-6WC-1		10133	DKEFX	MACODTH C
					10133	DKEFX	
1330100005	X	03200	PERFORM INTAKE AND EXHAUST INSPECTION		10133	DKEFX	MACODTH C
			17A-6WC-1, -----		10133	DKEFX	
1330101	/	03200	INSPECT AND CLEAN MSW, SLTA/LTA		10133	DKEFX	MACODTH C
			17A-6WC-1, -----		10133	DKEFX	
1330102	-	04199	DOP DUE PRIOR TO NEXT FLIGHT		10133	DKEFX	MACODJW C
			MXGQA-104		10133	DKEFX	

1331630	- 04199 001	S	PERFORM NLG AND MLG ASSEMBLY LUBRICATION REQUIREMENT IA W TO 1C-17A-6WC-4. (2-D-001)	10133 FXSB WASH	MAPEJH5 C
**	04199	01 S	NLG AND MLG ASSEMBLY LUBRICATION C/W T O REF: 1C-17A-2-07JG-10-2 07-12-01-4	10144	TA1AA MAPEJH5
			DUE: 24MAY1	TIME TAKEN: 20.0	
1333500	/ 3351AA001	F	CATWALK EMERGENCY EXIT SIGN COVER MISSING	10133 DKFX ALACM	MAPEBAS C
**	335100ABW	01 B G F 750	R2 LIGHT ASSEMBLY OPS CHK GOOD T O REF: 1C-17A-2-22JG-10-5 22-11-11	10144	CA1AM MAPERGG
			TIME TAKEN: .4		
1336651	/ 4112	B	RT LOG RAIL CLIP BROKEN @STA 1180 (OUTBOARD RAIL)DISCOV	10133 FXSB ALACM	MAPEBAS C
			***		
MABR7117	DISCREPANCY REPORT FOR AIRCRAFT - 00000173	FROM 10119 TO 10209		JUL 29, 10 / 06:54Z	PAGE 7
AIRCRAFT - 00000173					
JCN	MNC/FC	U T A W HOW		CREATE/CLOSE	
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY / CORRECTIVE ACTION	DATE BASE SHOP	USERID O RPT EMP
			ERED BY CREW DURING WALK AROUND	10145 FXSB CA1AM	REP/REC C REC NBR
**	411200APT	01 B R B 070	R2 LOG RAIL LATCHING PAWL T O REF: 1C-17A-2-22JG-10-5 22-11-11	10144	CA1AM MAPERGG
			TIME TAKEN: .3		
1336652	/ 2300	D	AFT RT COMM CORD NOT WORKING	10133 FXSB ALASC	MAPEDAE C
**	234100	01 B G D 105	R2 R AFT LM COMM CORD T O REF:	10133 FXSB CA1AM	
			TIME TAKEN: .6		
1336813	X 04199	F	I'S AND E'S DUE AFTER FLIGHT	10133 FXSB ALACM	MAPEDFB C
**	04199	01 S	I&E COMPLIED WITH T O REF: 1C-17A-6WC	10133	CA1AM MAPESSC
			TIME TAKEN: 3.0		
1336814	X 0413C	F	I'S AND E'S DUE PRIOR TO NEXT FLIGHT	10133 FXSB ALASP	MAPECS1 C
**	0413C	01 S	CW IAW 1C-17A-2-71JG-00-1 TASK 01-1 T O REF: 1C-17A-2-71JG-00-1	10134	CA1AM MAPECS1
			TIME TAKEN: 4.0		
1336815	- 04199	F	DOPP INSP DUE PRIOR TO NEXT FLIGHT	10133 FXSB ALACM	MAPEJRB C
				10137 FXSB CA1AM	

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**	04199	01 S	DOPP INSP C/W T O REF: AFI 21-101 AMC SUP ADDENDA C	10133	CAIAM	MAPEJHS	TIME TAKEN: .5
1336816	/ 01071	F	SFDR DUE POST MISSION DOWNLOAD	10133	FXSB	CAIAG	
1336817	/ 3341	F	RT RUNWAY TURNOFF LIGHT INOP	10133	FXSB	ALACM	MAPECSI C
**	334100	01 B R F 080	LIGHT R2 T O REF: 1C-17A-2-71JG-00-1	10134	CAIAM	MAPECSI	TIME TAKEN: 4.0
1346651	/ 3500	D	OXYGEN VALVE KNOB HARD TO TURN	10134	FXSB	ALACM	MAPEJHS C
**	3500	01 B X D 799	NO DEFECT NOTED T O REF:	10134	CAIAM	MAPEJHS	TIME TAKEN: .5
1346801	X 07000	F	IEA C/B PULLED FOR RT RUNWAY TURN OFF LIGHT REMOVAL, 001 F-24	10134	FXSB	ALACM	MAPECSI C
1346802	X 3341	F	RT RUNWAY TURN OFF LIGHT REMOVED FROM AIRCRAFT	10134	FXSB	ALACM	MAPECSI C
**	334100	01 B R F 070	INSTALLED IAW 1C-17A-2-33JG-40-2 T O REF: 28JG-20-3(28-22-10-4)	10134	CAIAM	MAPECSI	TIME TAKEN: 2.4
1346803	/ 01000	F	RT RUNWAY TURNOFF LIGHT REQ SEALENT	10134	FXSB	ALACM	MAPEBWK C
1346814	X 0413C	F	I'S AND E'S INSP DUE AFTER FLIGHT	10134	FXSB	ALACM	MAPEJHS C
**	0413C	01 S	I'S AND E'S C/W T O REF: 1C-17A-6WC	10134	CAIAM	MAPEJHS	TIME TAKEN: .5

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JCN MNC/FC U T A W HOW  
ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION

CREATE/CLOSE USERID O RPT EMP  
DATE BASE SHOP REP/REC C REC NBR

A0173 90 days Discrepance Report

1346815	X 0413C	F	I'S AND E'S INSP DUE PRIOR TO NEXT FLIGHT	10134 FXSB A1ACM 10137 FXSB CA1AM	MAPESH1 C
**	0413C	01 S	I'S AND E'S INSP DUE PRIOR TO NEXT FLIGHT C/W T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	10137 TIME TAKEN: 2.0	CA1AP MAPESH1
1346816	- 04199	F	DOPP INSP DUE PRIOR TO NEXT FLIGHT	10134 FXSB A1ACM 10138 FXSB CA1AM	MAPERJRB C
**	04199	01 S	DOPP INSP C/W T O REF: AFI 21-101 AMC SUP ADDENDA C	10134 TIME TAKEN: .5	CA1AM MAPERJHS
1346817	X 01065	F	NLG SCISSORS DISCONNECTED FOR TOW	10134 FXSB A1ACM 10134 FXSB CA1AM	MAPERWG C
1346819	/ 01000	F	MINOR INTERIOR CLEANING DUE	10134 FXSB A1AFM 10144 FXSB CA1AF	MAPEDFB C
1349503	/ 0120409	T	MOD OF FIRE EXTINGUISHER INSTALLATION	10134 FXSB A1ASE 10153 FXSB CA1AE	MAPEDFB C
**	0120409	01 T	1C-17A-2076 WB/NA PRIME SHOP ELEN 798 1C-17A-2076 C/W T O REF: 1C-17A-2076	10152 TIME TAKEN: 6.0	CA1AE MAPERKML
1376822	- 04199	F	LIMITED DOPP INSP DUE	10137 FXSB A1ACM 10138 FXSB CA1AM	MAPERJRB C
**	04199	01 S	DOPP INSP C/W T O REF: AFI 21-101 AMCSUP ADDENDE C	10137 TIME TAKEN: 1.0	CA1AM MAPERBAS
1386651	/ 342500	D	PILOT AND COPILOT HUD DISAGREE WITH APPR PATH SET @5DEG . FROM 1500 AGL TO LANDING, PILOTS AIM POINT (APL) WAS 250-300FT SHORT OF COPILOTS HUD AIMPOINT	10137 FXSB A1ASG 10146 FXSB CA1AG	MAPERHCC C
**	3425AA002	01 B R D 255	R2 HUD OPS CHK GOOD IAW 1C-17A-2-34JG-20-1 T O REF: 1C-17A-2-34JG-20-2 34-25-10-3	10146 TIME TAKEN: 2.0	CA1AG MAPERHCC
1386651001	X 3425AA002	F	CO-PILOT'S HUD REMOVED FOR REPLACEMENT	10146 FXSB A1ASG 10146 FXSB CA1AG	MAPERHCC C
**	3425AA002	01 B S F 800	R2 HUD OPS CHK GOOD IAW 1C-17A-2-34JG-20-1 T O REF: 1C-17A-2-34JG-20-2 34-25-10-3	10146 TIME TAKEN: 2.0	CA1AG MAPERHCC
1386803	X 0413C	F	I AND ES DUE AFTER FLIGHT	10138 FXSB A1ACM 10138 FXSB CA1AM	MAPERDD C

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**	0413C	01 S	I'S AND E'S INSP C/W T O REF: 1C-17A-6WC-1 CRDS 4-159-4-163	TIME TAKEN: 1.0	10138	CA1AM	MAPERDD		
1386804	X 0413C	F	I AND ES DUE BEFORE NEXT FLIGHT		10138	FXSB ALACM	MAPEJDI C		
**	0413C	01 S	I'S AND E'S C/W T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	TIME TAKEN: .6	10138	IA1AB	MAPEJDI		
1386805	- 04199	F	DOPP INSPECTION DUE BEFORE NEXT FLIGHT		10138	FXSB ALACM	MAPEJRB C		
**	04199	01 S	DOPP INSP C/W T O REF: AFI 21-101 AMC SUP ADDENDA C	TIME TAKEN: .5	10138	CA1AM	MAPEJHS		
1386813	X 07000	F	1 EA WARNING TAG INSTALLED FOR #2 ENG START SWITCH ***		10138	FXSB ALACM	MAPEJDI C		
†	MABR7117		DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209						9
	AIRCRAFT - 00000173								
JCN	NMC/FC	U T A W HOW							
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY / CORRECTIVE ACTION						
1386814	X 07000	F	1 EA WARNING TAG INSTALLED FOR #2 ENG START SWITCH		10138	FXSB ALACM	MAPEJDI C		
1386815	X 01000	F	FAN WEDGE INSTALLED FOR #2 ENG		10138	FXSB ALACB	MAPEJDI C		
1386816	X 01000	F	INLET MAT INSTALLED FOR #2 ENG		10138	FXSB IA1AB	MAPEJDI C		
1386819	X 7200	F	#2 ENG SOUND SUPPRESSION HAS WHOLE AT 10 CLOCK POSITION		10138	FXSB AIDBF	MAPEJRB C		
1386820	X 7200	F	ENG PLUG AND BARRIER PAPER INSTALLED IN #2 ENG		10138	FXSB AIDBF	MAPEJRB C		

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Line	Code	Time	Location	Code	Time	Location	Code	Time	Location
1386821	X 7200		POST #2 ENG INLET MAINTENANCE FO AND TOOL CK	10138	FXSB CA030	MAPEJRB	C		
1386824	/ 3443		#3 IRU BATT CHARGER ON AVIONICS FAULT LIST	10138	FXSB CA1AG	MAPEHCC	C		
	** 3443BT003	01 B R F 255	R2 IRU 3 BATT CHARGER OPS CHK OK	10139	FXSB CA1AG	MAPEHCC	C	11948	
			T O REF:						
1386824001	X 3443BT003		IRU #3 BATT CHARGER REMOVED FOR R2	10139	FXSB CA1AG	MAPEHCC	C		
	** 3443BT003	01 B S F 800	IRU 3 BATT CHARGER R2 OPS CHK OK IAW 1C-17A-2-34JG-40-5	10139	FXSB CA1AG	MAPEHCC	C		
			T O REF: 1C-17A-2-34JG-40-5 34-43-12-3					2.7	
1386824002	X 07000		2 EA CB COLLAR INSTALLED TO FOM FOR #3 IRU	10139	FXSB CA1AM	MAPEHCC	C		
			T O REF: 1C-17A-2-71JG-00-1 TASK 01-1					4.0	
1386847	X 0413C		POST FLIGHT I'S AND E'S DUE	10138	FXSB CA1AP	MAPEAK2	C		
	** 0413C	01 S	POST FLIGHT I'S AND E'S INSP C,W	10138	FXSB CA1AM	MAPEAK2	C		
			T O REF: 1C-17A-6WC-1 4-159 - 4-163					1.0	
1386848	X 0413C		I'S AND E'S DUE PRIOR TO NEXT FLIGHT	10138	FXSB CA030	MAPEOM5	C		
	** 0413C	01 S	IS AND ES CW IAW 1C-17A-2-71JG-00-1	10138	FXSB CA1AM	MAPECC4	C		
	** 0413D	01 S	T O REF: 1C-17A-2-71JG-00-1	10138	FXSB CA1AM	MAPECC4	C		
			T O REF: 1C-17A-2-71JG-00-1					4.0	
1386849	- 04139		DOPP INSP DUE PRIOR TO NEXT FLIGHT	10139	FXSB CA030	MAPEOM5	C		
	** 04139	01 S	DOPP CW IAW FI 21-101 AMC SUPP ADDENDA C	10138	FXSB CA1AM	MAPECC4	C		
			T O REF: AFI 21-101 AMC SUPP ADDENDA C					2.0	
1386852	/ 01000		COMBAT TRACKER 2 INSTALLED FOR MISSION REQUIREMENTS	10138	FXSB CA030	MAPEOM5	C		
			***						
MABR7117			DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209						

AIRCRAFT - 00000173

A0173 90 days Discrepance Report

JCN WMC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION

CREATE/CLOSE USERID O RPT EMP  
 DATE BASE SHOP REP/REC C REC NBR

JCN	WMC/FC	U	T	A	W	HOW	DISCREPANCY / CORRECTIVE ACTION	CREATE/CLOSE DATE	BASE SHOP	USERID	O	RPT	EMP
1386852002	X 07000	F					4 EA C/B OPENED & COLLARS INSTALLED CT II REMOVAL D6, E 49, E50& E51	10144	FXSB IA1AB	MAPEN01	C		
1386853	X 07000	F					4 EA C/B PULLED AND COLLARED FOR COMBAT TRACKER 2 INSTA LL. D-6, E-49, E-50, E-51, NOTE: DO NOT RESET	10138	FXSB IA1AS	MAPELAY	C		
1386869	/ 3341	F					LEFT TAXI TURNOFF LIGHT INOP	10138	FXSB IA1AM	MAPEOM5	C		
	** 3341AA001	01	B	R	F	080	R2 LEFT TAXI TURNOFF LIGHT OPS CHECK GOOD T O REF:	10138	CA1AM	MAPEMMW			
1386873	X 07000	F					1 EA C/B COLLARS INST FOR LEFT RUNWAY TURN OFF LIGHT R2 . F-53. NOTE: DO NOT RESET	10138	FXSB IA1AM	MAPENAK2	C		
1386874	X 3341	F					LEFT RUNWAY TURN OFF LIGHT REMOVED FOR R2	10138	FXSB IA1DB	MAPEOM5	C		
	** 3341AA001	01	B	R	F	080	R2 LEFT RUNWAY TURN OFF LIGHT OPS CHECK GOOD T O REF: 41DG-10-2 TASK 01-1 STEPS I-16	10138	CA1AM	MAPEMMW			
1386875	/ 3341	F					LEFT RUNWAY TURN OFF LIGHT REQUIRES SEALENT	10138	FXSB IA1AM	MAPERBK	C		
	** 3341AA001	01	B	Z	F	780	SEALED LIGHT T O REF: IC-17A-2-72JG-30-1 TASK3-1	10144	IA1AA	MAPERBK			
1403000	X 2800	F					FUEL OVERFILL DISPLAYED ON WAP	10140	FXSB IA1AM	MAPERDD	C		
	** 280000	01	B	X	F	799	CORRECTED SEE JCN514068041, 1416801TH1416814. T O REF: IC-17A-28FI-00-1	10140	CE805	MAPERDD			
1436811	X 0413C	F					I AND ES DUE AFTER FLIGHT	10144	FXSB IA1AM	MAPERGG	C		
	** 0413C	01	S				I'S AND E'S CW IAW IC-17A-2-22JG-10-5	10144	CA1AM	MAPERGG			11850

		A0173 90 days Discrepance Report		TIME TAKEN: 1.0	
		T O REF: 1C-17A-2-22JG-10-5 22-11-11			
1436812	X 0413C	F	I AND ES DUE BEFORE NEXT FLIGHT	10144 FXSB A1ACB	MAPEWTF C
**	0413C	01 S	T'S AND E'S INSPECTION C/W	10145 FXSB IALAB	
		T O REF: 1C-17A-2-71JG-00-1 TASK 01-1		10145	I A1AB MAPEJCS
		TIME TAKEN: 1.5			
1436813	- 04199	F	DOPP INSPECTION DUE BEFORE NEXT FLIGHT	10144 FXSB A1ACA	MAPEWTF C
**	04199	01 S	DOPP C/W	10145 FXSB IALAA	
		T O REF: AFI 21-101 AMC SUP ADDENDA C		10145	I A1AA MAPEJCS
		TIME TAKEN: .5			
1436814	/ 01071	F	SFDR DUE POST MISSION DOWNLOAD	10144 FXSB A1ACM	MAPEFNC C
				10144 FXSB CALAM	
1436815	/ 3300	F	EXT PWR "PRESS TO TEST" LIGHT COVER BROKEN/REMOVED	10144 FXSB A1ACM	MAPERGG C
				10144 FXSB CALAM	
		***		***	
		DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209		JUL 29, 10 / 06:54Z PAGE 11	
AIRCRAFT - 00000173					
JCN	WUC/FC	U T A W HOW	DISCREPANCY / CORRECTIVE ACTION	CREATE/CLOSE	USERID O RPT EMP
ASSOC JCN	WUC/REFDES	P M T D MAL		DATE BASE SHOP	REP/REC C REC NBR
**	331100AEQ	01 B R F 070	R2 LIGHT COVER	10144	CALAM MAPERGG
		T O REF: 1C-17A-2-22JG-10-5 22-11-11		TIME TAKEN: .3	
1436816	/ 01000	F	LT FWD MLG SHOCK STRUT IS OUT OF X DIMENSION ( 40PSI LO W)	10144 FXSB A1ACB	MAPEBWK C
				10144 FXSB IALAB	
1446813	/ 5424	F	EXT PWR DOOR LATCH BUTTON BROKEN	10144 FXSB SMC0	MAPERDD C
				10144 FXSB CE720	
**	5245DR003	01 B R F 070	R2 LATCH AS REQUIRED	10144	CE720 MAPERDD
		T O REF: IAW 1C-17A-2-35JG-20-1 TSK3-1		TIME TAKEN: .4	
1446819	X 2314EE004	F	AERO-H ANTENNA REMOVED FOR REPLACEMENT	10144 FXSB A1ACB	MAPEND1 C
				10144 FXSB IALAB	
**	2314EE004	01 B R F 677	R2 ANT	10144	I A1AB MAPEND1



\*\*\* A0173 90 days Discrepance Report \*\*\*

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AIRCRAFT - 00000173

JCN MNC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION  
 CREATE/CLOSE USERID O RPT EMP  
 DATE BASE SHOP REP/REC C REC NBR

\*\* 4141AA023 01 B R D 070 R2 RATCHET  
 T O REF:  
 TIME TAKEN: 1.0 CA1AM MAP3H1

1466801 X 0413C F I'S AND E'S DUE POST FLIGHT INSP  
 \*\* 0413C 01 S I AND E INSP C.W PER  
 T O REF: 1C-17A-6WC-1 CARD 2-52 TO 56  
 TIME TAKEN: 1.0 CA1AM MAP2TSW

1466802 X 0413C F I'S AND E'S DUE PRIOR TO NEXT FLIGHT  
 \*\* 0413C 01 S I AND E INSP C.W PER  
 T O REF: 71JG-00-1 TASK 0101  
 TIME TAKEN: 1.0 CA1AM MAP2TSW

1466803 - 04199 F DOPP INSP DUE PRIOR TO NEXT FLIGHT  
 \*\* 04199 01 S DOPP INSP C.W PER  
 T O REF: AFI 21-101 AMC SUP ADDENDA C  
 TIME TAKEN: 1.0 CA1AM MAP2TSW

1466809 / 4141AA022 F RT CENTER ANCHOR CABLE RATCHET HANDLE BROKEN/ REMOVED.  
 \*\* 4141AA022 01 B R F 070 R2 RATCHET  
 T O REF:  
 TIME TAKEN: 2.0 CA1AH MAP3H1

1466828 - 04199 F LIMITED DOPP INSP DUE PRIOR TO NEXT FLIGHT  
 \*\* 04199 01 S LIMITED DOPP INSP C/W BY EMP#11969  
 T O REF: AFI 21-101 AMC SUPP ADDENDA C  
 TIME TAKEN: .3 CA1AM MAP2AK2

1466872 X 0413C F I'S AND E'S DUE AFTER FLIGHT  
 \*\* 0413C 01 S I'S AND E'S INSP C/W  
 TIME TAKEN: 10146 CA1AM MAP2AK2

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 T O REF: 1C-17A-6WC-1 4-159 THRU 4-163 TIME TAKEN: 2.1

1466873 X 0413C F I'S AND E'S DUE PRIOR TO NEXT FLIGHT 10146 FXSB A1ASP MAPESH1 C  
 10158 FXSB CA1AP  
 \*\* 0413C 01 S I'S AND E'S DUE PRIOR TO NEXT FLIGHT C/W 10158 CA1AM MAPESH1  
 T O REF: 1C-17A-2-71JG-00-1 TASK 01-1 TIME TAKEN: 2.0

1466874 - 04199 F DOPP INSP DUE PRIOR TO NEXT FLIGHT 10146 FXSB A1ACM MAPECC4 C  
 10158 FXSB CA1AM  
 \*\* 04199 01 S DOPP CM TAW AFI 21-101 AMC SUP ADDENDA C 10158 CA1AM MAPECC4  
 T O REF: AFI 21-101 AMC SUP ADDENDA C TIME TAKEN: 12.0

1466875 / 01006 F I EA ENGINE COVER PIN BROKEN/REMOVED 10147 FXSB A1ACM MAPEDFB C  
 10152 FXSB CA1AM  
 1476803 / 3347AA001 F LT AFT HIGH INTENSITY STROBE INOP (BAD POWER SUPPLY) 10147 FXSB A1ASE MAPESLA C  
 10156 FXSB CA1AE

\*\* 3347AA001 01 B R F 255 R2 L RECOGNITION LIGHT PWR SUPPLY OPS CHK GOOD 10156 CA1AE MAPESLA  
 T O REF: \*\*\*  
 TIME TAKEN: .5  
 1476804 / 3347AA001 F LEFT FWD HIGH INTENSITY STROBE INOP (BAD POWER SUPPLY) 10147 FXSB A1ACM MAPEETH C  
 \*\*\*

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 AIRCRAFT - 00000173  
 JCN MNC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION  
 CREATE/CLOSE USERID O RPT EMP  
 DATE BASE SHOP REP/REC C REC NBR  
 10153 FXSB CA1AM

\*\* 3347PS002 01 B R F 255 POWER SUPPLY REPLACED, OPS CHK GOOD 10152 CA1AE MAPECHO  
 T O REF: \*\*\*  
 TIME TAKEN: 2.0

1476805 / 3344XL002 F RT FWD LOWER NAV LIGHT INOP 10147 FXSB A1ACA MAPEEEJ C  
 10147 FXSB IA1AA  
 \*\* 3344XL002 01 B R F 080 R2 NAV LIGHT OPS CK GOOD 10147 IA1AA MAPEEEJ  
 T O REF: \*\*\*  
 TIME TAKEN: 2.0

1476815 / 3344AA001 F RT FWD WING TIP LENS CRACKED 10147 FXSB A1ACA MAPECLH C  
 10148 FXSB IA1AA

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**	3344AA001	01 B R F 105	R2 LENS	T O REF: IC-17A-2-71JG-00-1 TASK 01-1	TIME TAKEN: 4.0	10148	IA1AA	MAPECLH
1476816	X 07000	F	3 EA C/B PULLED & COLLARED FOR R2 RT FWD NAV LIGHT			10147	FXSB	ATACA MAPEEEJ C
						10147	FXSB	IA1AA
1486801	/ 3443	F	UPPER RIGHT MLS ANTENNA COVER BROKEN REMOVED			10148	FXSB	AIASC MAPEKMP C
						10173	FXSB	CAIAN
**	345100	01 B X F 799	REPLACED ANTENNA, OPS CK GOOD	T O REF:	TIME TAKEN: 1.4	10173	CAIAN	MAPEKMP
1486802	- 01000	F	CURE CHECK DUE ON RIGHT WINGTIP FWD NAV LIGHT LENSE AT 2200 LOCAL 28 MAY 2010			10148	FXSB	AIACM MAPECLS C
						10152	FXSB	CAIAM
1486803	/ 3344XL002	F	RT FWD LOWER NAV LIGHT HAS BAD TERMINAL POST			10148	FXSB	AIASE MAPEDFB C
						10153	FXSB	CAIAE
**	3344XL002	01 B R F 255	REPLACED LIGHT, OPS CHK GOOD	T O REF:	TIME TAKEN: 2.0	10152	CAIAE	MAPECHO
1526817	X 07000	F	3 EA C/B PULLED AND COLARED G30, G31 AND C48			10152	FXSB	AIACM MAPEJHI C
						10152	FXSB	CAIAM
1526818	X 07000	F	RT OUTBOARD FIXED LEADING EDGE ACCESS DOOR OPEN TO FOM			10152	FXSB	AIACM MAPEJHI C
						10152	FXSB	CAIAE
1526822	X 07000	F	3EA C/B PULLED AND COLLARED TO FOM G-30 G-31 G-48			10152	FXSB	AIASE MAPEDFB C
						10152	FXSB	CAIAE
1526823	X 3344XL002	F	RT FWD NAV LIGHT REQS R2			10152	FXSB	AIASE MAPEDFB C
						10153	FXSB	CAIAE
**	3344XL002	01 B R F 255	REPLACED LIGHT, OPS CHK GOOD	T O REF: IC-17A-2-33JG-40-3 33-44-10-3	TIME TAKEN: 2.0	10152	CAIAE	MAPECHO
1526825	X 2341CT012	F	HRP 8 FWD LM J2 DISCONNECTED FOR T/S			10152	FXSB	AIASC MAPEBMH C
						10153	FXSB	CAIAN
**	2341CT012	01 B S F 800	RECONNECTED J2 TO HRP 8. OPS CK BAD. SEE 3106652			10153	CAIAN	MAPEBMH

A0173 90 days Discrepance Report  
 T O REF: 1C-17A-23JG-40-1 23-41-11-3 TIME TAKEN: 3.0

1526826 X 2341CT012 F FWD LM ICS #5 REM FOR T/S  
 \*\*\*  
 10152 FXSB ATASC MAPEDBWH C  
 10153 FXSB CAIAN

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 AIRCRAFT - 00000173

JCN MNC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION  
 CREATE/CLOSE USERID O RPT EMP  
 DATE BASE SHOP REP/REC C REC NBR

\*\* 2341CT012 01 B S F 800 REINSTALLED FLM ICS PANEL. OPS CK BAD, SEE 3106652  
 T O REF: 1C-17A-23JG-40-1 23-41-11-3 TIME TAKEN: 3.0  
 CAIAN MAPEDBWH

1526827 X 07000 F IEA C/B PULLED AND COLLARED TO FOM B-10  
 10152 FXSB ATACM MAPEDBWH C  
 10153 FXSB CAIAM

1526831 X 3347 F RT FWD RECOGNITION LIGHT REQUIRES R2  
 10152 FXSB ATASE MAPEDFB C  
 10153 FXSB CAIAE

\*\* 3347AA002 01 B R F 255 LIGHT REPLACED OPS CHK GOOD  
 T O REF: 1C-17A-2-33JG-40-4 33-47-12-3 TIME TAKEN: 2.0  
 CAIAE MAPECHO

1526832 X 07000 F IEA W/T INST TO FOM. G-48. NOTE: DO NOT RESET  
 10152 FXSB ATASE MAPEDFB C  
 10152 FXSB CAIAE

1526835 X 07000 F 2 EA C/B PULLED AND COLLARED. B-13, B-14. NOTE: DO NOT  
 RESET  
 10152 FXSB ATASE MAPEDFB C  
 10152 FXSB CAIAE

1526839 X 2431PS003 F REPLACEMENT OF REPLACEMENT AMP 2431PS003 IAW: 1C-17A-2-  
 1777  
 10152 FXSB ATASE MAPEDFB C  
 10153 FXSB CAIAE

\*\* 2431PS003 01 B R F 255 REMOVED AND REPLACED AMP SEE JCN 1526853  
 T O REF: 24JG-30-1(24-31-10) TIME TAKEN: 4.4  
 CAIAE MAPEWDS

1526840 X 07000 F 3 EA C/B COLLARS INST TO R2 2431PS003. W-38, J-21, J-23  
 . NOTE: DO NOT RESET  
 10152 FXSB ATASE MAPEDFB C  
 10153 FXSB CAIAE

1526841 X 07000 F IEA W/T INST TO R2 2431PS003. DC TIE SWITCH. NOTE: DO  
 10152 FXSB ATASE MAPEDFB C

A0173 90 days Discrepance Report  
NOT RESET

10153 FXSB CA1AE

1526842 X 2432BT001 F MAIN BATT 1 DISCONNECTED TO FOM

10152 FXSB ALASE MAPEDFB C  
10153 FXSB CA1AE

\*\* 2432BT001 01 B S F 800 #1 MAIN BATTERY CONNECTED OPS CHECK GOOD IAW 1C-17A-2-2  
T O REF: 1C-17A-2-24JG-30-2 (24-32-10-3) TIME TAKEN: 3.0

CA1AE MAPEKML

1526843 X 2432BT002 F MAIN BATT 2 DISCONNECTED TO FOM

10152 FXSB ALASE MAPEDFB C  
10153 FXSB CA1AE

\*\* 2432BT002 01 B S F 800 CONNEGED #2 MAIN BATTERY OPS CHECK GOOD IAW 1C-17A-2-24  
T O REF: 1C-17A-2-24JG-30-2 (24-32-10-3) TIME TAKEN: 2.8

CA1AE MAPEKML

1526844 X 07000 F 2 EA W/T INST TO R2 2431PS003. BATT SWITCH TO OFF, EXT  
PWR RECEPTICAL. NOTE: DO NOT USE

10152 FXSB ALASE MAPEDFB C  
10153 FXSB CA1AE

1526845 / 2431 F TR #1 2431PS001 + 2431PS002 NOT COMPLIENT WITH TCTO:177  
7

10152 FXSB ALASE MAPEDFB O  
CA1AE

1526846 X 07000 F 5 EA C/B COLLARS INST FOR TCTO: 2076. E-12, F-1, F-2, E  
-13, E-14. NOTE: DO NOT RESET

10134 FXSB ALASE MAPEDFB C  
10153 FXSB CA1AE

1526847 X 07000 F 2 EA W/T INST FOR T/S EXT PWR RECEPTICAL, BATT SWITCH.  
NOTE: DO NOT APPLY POWER  
\*\*\*

10152 FXSB ALACM MAPECLS C  
10153 FXSB CA1AM

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JCN MNC/FC U T A W HOW  
ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION

CREATE/CLOSE USERID O RPT EMP  
DATE BASE SHOP REP/REC C REC NBR

1526849 X 3922PP856 F CONECTOR DISCONNECTED FOR T/S

10152 FXSB ALASC MAPEBMH C  
10153 FXSB CALAN

\*\* 3922PP856 01 B S F 800 RECONNECTED IAW 23WD-00-5 PG 2-1037. OPS CK BAD, SEE 31 10153  
T O REF: 1-1A-14 CHAPTER 20 PG 9 TIME TAKEN: .9

CALAN MAPEBMH

1526850	X	2381QM001	F	CCU 1 REMOVED FOR T/S	A0173 90 days Discrepance Report	10152 FXSB AIASC MAPECLS C
						10153 FXSB CAIAN
	**	2381QM001	01 B S F 800	CCU1 REINSTALLED, 23-81-11-3 OPS CK BAD IAW TO 1C-17A- T O REF: 1C-17A-2-23JG-80-2 TSK 3-2		CAIAN MAPECLS
						TIME TAKEN: 8.0
1531648	-	04199	S	120 DAY HARDPOINT INSPECTION DUE IAW 1C-17A-6. DUE:2010167		10152 FXSB AIACM MAPERP1 C
	**	04199	01 S	HARDPOINT INSP C/W T O REF: 1C-17A-6WC-2		10160 FXSB CAIAM
						10160 CE210 MAPERP1
						TIME TAKEN: 5.6
1536811	X	07000	F	SEA C/B PULLED AND COLLARED FOR OFPLP. H6, B9, B31, B32 , T35		10153 FXSB AIAFM MAPECLS C
						10153 FXSB CAIAF
1536816	X	2381QM001	F	CCU1 REMOVED FOR T/S		10153 FXSB AIASC MAPEBWH C
						10153 FXSB CAIAN
	**	2381QM001	01 B S F 800	REINSTALLED CCU1, OPS CK BAD, SEE 3106652 T O REF: 1C-17A-23JG-80-2 23-81-11-3		CAIAN MAPEBWH
						TIME TAKEN: 2.1
1536817	X	07000	F	SEA C/B PULLED AND COLLARED FOR CCU1 REMOVAL B-9 B-31 H -6		10153 FXSB AIACM MAPEBWH C
						10153 FXSB CAIAM
1536818	X	2531AA001	F	GALLEY REMOVED TO FOM		10153 FXSB AIASC MAPEBWH C
						10153 FXSB CAIAN
	**	2531AA001	01 B S F 800	REINSTALLED GALLEY. OPS CK GOOD T O REF: 1C-17A-25JG-50-1 25-51-10-3		CAIAN MAPEBWH
						TIME TAKEN: 1.5
1536819	X	07000	F	GEA C/B COLLARED TO FOM Z-24 Z-25 Z-26 A-8 A-6 L-12		10153 FXSB AIACM MAPEBWH C
						10153 FXSB CAIAM
1536823	X	3939PP087B	F	3939PP087B DISCONNECTED FOR T/S		10153 FXSB AIASC MAPEBWH C
						10153 FXSB CAIAN
	**	3939PP087B	01 B S F 800	RECONNECTED PP087B IAW 23WD-00-5 PG 2-1039. OPS CK BAD, T O REF: 1-1A-14 CH 23 PG 8		CAIAN MAPEBWH
						TIME TAKEN: 1.5
1536824	X	2381QM002	F	CCU2 REM FOR T/S		10153 FXSB AIASC MAPEBWH C
						10153 FXSB CAIAN
	**	2381QM002	01 B S F 800	REINSTALLED CCU2, OPS CK BAD, SEE 3106652 T O REF: 1C-17A-23JG-80-2 23-81-11-3		CAIAN MAPEBWH
						TIME TAKEN: 1.5

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1536825	X 07000	F	3EA C/B PULLED AND COLLARED FOR CCU2 REMOVAL T-35 B-32 H-6	10153 FXSB ATACM MAPEBMH C 10153 FXSB CALAM
1556816	/ 4100	F	STAB STRUT DOOR SHOWING ON WAP	10155 FXSB ALASH MAPEWTF C 10155 FXSB CALAH
***				
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AIRCRAFT - 00000173				
JCN	MMC/FC	U T A W HOW	DISCREPANCY / CORRECTIVE ACTION	CREATE/CLOSE
ASSOC JCN	WUC/REFDES	P M T D MAL		DATE BASE SHOP REP/REC C REC EMP NBR
**	4122/PP001	01 B V F 230	CLEANED PROX SENSOR	10155 CALAH MAPEJH1
			T O REF:	TIME TAKEN: .3
1566801	X 3347/PS001	F	LEFT RECOGNITION LIGHT PWR SUPPLY REMOVED FOR R2	10156 FXSB ATASE MAPESLA C 10156 FXSB CALAE
**	3347/PS001	01 B R F 255	LEFT RECOG LIGHT PWR SUPPLY INST OPS CHK GOOD 333G-40-4 T O REF: 333G-40-4 33-47-12-3 TSK 3-1	10156 CALAE MAPESLA
1566801001	X 07000	F	1 EA C/B CALLAR INST G-48. NOTE: DO NOT RESET	10156 FXSB AIAFM MAPESLA C 10156 FXSB CALAF
1566801002	X 07000	F	2 EA C/B COLLARS INST TO FOM. B-13, B-14. NOTE: DO NOT RESET	10156 FXSB AIAFM MAPESLA C 10156 FXSB CALAF
1581661	- 04MD4	S	TAW AFI 21-101 MODE IFF MODE 4 CHECK IS DUE.	10157 FXSB ATASC MAPECLS C 10160 FXSB CALAN
**	04MD4	01 S	MODE 4 IFF C/W OPS CK GOOD	10160 CALAN MAPECLS
			T O REF: 1C-17A-2-343G-50-5 34-54-01-16	TIME TAKEN: 2.0
1585331	- 04199	F	*** PART # 1150020-6-2 CEI MC0622D SERIAL 0128C0018 6 REMOVED BY USER MACODRS AT BASE DKFX	10158 DKFX ATACM MAPERDD O 10158 CALAM
1586653	/ 3100	D	DROGUE VIDEO MONITER INOP	10158 FXSB ATASC MAPECLS C 10159 FXSB CALAN
**	4134AA005	01 B L D 127	RESET CIRCUIT BREAKER OPS CK GOOD	10159 CALAN MAPECLS

T O REF: A0173 90 days Discrepance Report TIME TAKEN: 1.0

1586821 - 04199 F LIMITED DOPP INSP DUE PRIOR TO NEXT FLIGHT 10158 FXSB A1ACM MAPEJER C  
 10159 FXSB CA1AM

\*\* 04199 01 S LIMITED DOPP CW  
 T O REF: AFI 21-101 AMC SUPP ADDENDA C TIME TAKEN: 1.3  
 10158 CA1AM MAPEJER

1586829 X 0413C F I NAD ES DUE AFTER FLIGHT 10158 FXSB A1ACM MAPELAY C  
 10159 FXSB CA1AM

\*\* 0413C 01 S T'S AND E'S C/W IAW 1C-17A-2-6WC-1 CARD 4-159 THRU 4-16 10158 CA1AM MAPECC4  
 T O REF: 1C-17A-2-6WC-1  
 \*\* 0413D 01 S I'S AND E'S C/W IAW 1C-17A-2-6WC-1 CARD 4-159 THRU 4-16 10158 CA1AM MAPECC4  
 T O REF: 1C-17A-2-6WC-1  
 TIME TAKEN: 4.0

1586830 X 0413C F I AND ES DUE BEFORE NEXT FLIGHT 10158 FXSB A1ACM MAPELAY C  
 10159 FXSB CA1AM

\*\* 0413C 01 S T'S AND E'S C/W 1C-17A-2-71JG-00-1 TASK 01-1 10158 CA1AM MAPECC4  
 T O REF: 1C-17A-2-71JG-00-1  
 TIME TAKEN: 2.8

1586831 - 04199 F DOPP INSPECTION DUE BEFORE NEXT FLIGHT 10158 FXSB A1ACM MAPECC4 C  
 10159 FXSB CA1AM

\*\* 04199 01 S DOPP CW IAW AFI 21-101 AMC SUPP ADDENDA C 10159 CA1AM MAPECC4  
 T O REF: AFI 21-101 AMC SUPP ADDENDA C  
 TIME TAKEN: 4.0

1591662 - 04199 S A/C DOCUMENT REVIEW DUE 60 DAYS 10158 FXSB A1ACM MAPETSW C  
 M/PLETE DATE COMPLETE DUE: 2010173  
 E 21-101 PARA 7.10.2  
 DOC REVIEW C.W.PER 10173  
 T O REF: 21-101 PAR 7.10.2  
 TIME TAKEN: .4

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 AIRCRAFT - 00000173

JCN WUC/REFDES U T A W HOW DISCREPANCY / CORRECTIVE ACTION  
 ASSOC JCN P M T D MAL

1596651 / 2510 D GALLEY OVEN ELEMENT STRAYS ON EVEN WHEN C/B IS PULLED 10159 FXSB ALASE MAPEOM5 C  
 10160 FXSB CA1AE  
 \*\* 2510 01 B E D 799 REINSTALLED RECESSED C/P. OPS CHK GOOD. 10159 CA1AE MAPEOM5  
 T O REF: 1C-17A-2-33JG-42-2 32-42-01  
 TIME TAKEN: 2.0

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1596652	/ 5200	D	RT TROOP DOOR ANTIISKID ON JUMP PLATFORM PEELING UP	10159 FXSB A1ACM MAPEJRH C 10174 FXSB CA1AM
**	5213AA002	01 B R D 020	R2 ANTIISKID T O REF: 1C-17A-34JG-40-9 34-46-16-3	10174 CA1AM MAPEJRH TIME TAKEN: 1.0
1596653	/ 5200	D	LFT TROOP DOOR ANTIISKID ON JUMP PLATFORM PEELING UP	10159 FXSB A1ACM MAPEOM5 C 10161 FXSB CA1AM
**	520000	01 B R D 080	C.W ANTIISKID T O REF:	10161 CA1AM MAPECC4 TIME TAKEN: 4.0
1596806	/ 2532AA007	F	#1 LIQUID CONTAINER LIGHT IS ON IN OFF POS AND CONTAINIE R IS REM	10159 FXSB A1ASE MAPEOM5 C 10161 FXSB CA1AE
**	2532AA007	01 B R F 255	NEXT HIGHER ASSY REPLACED(GALLEY) T O REF: AFI 21-101 AMC SUP ADENDA C	10161 CA1AE MAPETAM TIME TAKEN: 2.0
1596807	/ 07000	F	2EA C/B COLLARED ON GALLEY 001-LIQUID CONTAINER 002-GAL LEY WORK LIGHT (AIRCRAFT SAFE FOR FLIGHT)	10159 FXSB A1ACM MAPEMD1 C 10161 FXSB CA1AM
1596808	/ 07000	F	3EA C/B PULLED AND COLLARED GALLEY POWER PHASE A, B, C	10159 FXSB A1ACM MAPEOM5 C 10160 FXSB CA1AM
1596810	- 04199	F	LIMITED DOPP INSP DUE PRIOR TO NEXT FLIGHT	10159 FXSB A1ACM MAPEOM5 C 10160 FXSB CA1AM
**	04199	01 S	LIMITED DOPP INSP C/W T O REF: AFI 21-101 AMC SUP ADENDA C	10159 CA1AM MAPEAK2 TIME TAKEN: .5
1596817	X 0413C	F	POST FLIGHT I'S AND E'S DUE	10159 FXSB A1ASP MAPEOM5 C 10160 FXSB CA1AP
**	0413C	01 S	POST FLIGHT I'S AND E'S C/W IAW 1C-17A-6WC-1 4-159-4-1 T O REF: 1C-17A-6WC-1 4-159-4-163	10159 CA1AP MAPEDFB TIME TAKEN: .5
1596818	X 0413C	F	PRE FLIGHT I'S AND E'S DUE	10159 FXSB A1ASP MAPECC4 C 10160 FXSB CA1AP
**	0413C	01 S	IS AND ES C/W IAW 1C-17A-2-71JG-00-1 TASK 01-1 T O REF: 1C-17A-2-71JG-00-1	10160 CA1AM MAPECC4 TIME TAKEN: 11.6
1596819	- 04199	F	DOPP INSP DUE PRIOR TO NEXT FLIGHT	10159 FXSB A1ACM MAPECC4 C

A0173 90 days Discrepance Report

DISCREPANCY	REPORT FOR AIRCRAFT -	00000173	FROM 10119	TO 10209	JUL 29, 10 / 06:54Z	PAGE 18
MABR7117	DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209					
AIRCRAFT -	00000173					
JCN	MNC/FC	U T A W HOW	CREATE/CLOSE	USERID	O RPT	EMP
ASSOC JCN	WUC/REFDES	P M T D MAL	DATE	BASE SHOP	REP/REC	C REC NBR
1596822	/ 2510	F	10159	FXSB A1ACM	MAPEMD1	C
**	2531AA001	01 B R F 615	10160	FXSB CALAM	MAPEMD1	11825
		R2 GALLEY ASSMLY	10160	FXSB CALAM		
		T O REF:	3.0			
160L001	- 0373L	F	10160	FXSB HSC	MAPERP1	C
**	0373L	01 S	10160	FXSB CE247		
		COMPLY WITH 120 DAY HARD POINT INSPECTION	10160	FXSB HSC	MAPERP1	C
		S WITH CHANGES & SPECIAL INSPECTIONS AGREED	10161	FXSB CE247		
		CK AF FORM 2410 & AUTO 781D	10160	CE210	MAPERP1	
		HARDPOINT INSP C/W	10160			
		T O REF: IC-17A-6WC-2	.0			
160L001001	- 0373L	F	10160	FXSB HSC	MAPERP1	C
**	0373L	00 S	10161	FXSB CE247		
		C/W #1 WING FUEL TANK SUMPING	10160	FXSB HSC	MAPERP1	C
		17A-6, PARA 5CI	10161	FXSB CE247		
		SUMP C/W	10160	CE247	MAPERP1	
		T O REF: 12JG-28-3	.6			
160L001002	- 0373L	F	10160	FXSB HSC	MAPERP1	C
**	0373L	00 S	10161	FXSB CE247		
		C/W #2 WING FUEL TANK SUMPING	10160	FXSB HSC	MAPERP1	C
		17A-6, PARA 5CI	10161	FXSB CE247		
		SUMP C/W	10160	CE247	MAPERP1	
		T O REF: 12JG-28-3	2.4			
160L001003	- 0373L	F	10160	FXSB HSC	MAPERP1	C
**	0373L	00 H	10161	FXSB CE247		
		C/W #3 WING FUEL TANK SUMPING	10160	FXSB HSC	MAPERP1	C
		17A-6, PARA 5CI	10161	FXSB CE247		
		SUMP C/W	10160	CE247	MAPERP1	

A0173 90 days Discrepance Report		T O REF: 12JG-28-3 12-28-08-2		TIME TAKEN: .6
160L001004 - 0373L	F	C/W #4 WING FUEL TANK SUMPING 17A-6, PARA 5C1	IAW 1C- 10160 FXSB HSC 10161 FXSB CE247	MAPERP1 C
** 0373L	00 S	SUMP C/W T O REF: 12JG-28-3 12-28-08-2	TIME TAKEN: .4	CE247 MAPERP1
160L001005 - 7936FC001	F	C/W #1 ENG OIL SYSTEM INSP 17A-6, PARA 5C2	IAW 1C- 10160 FXSB ENGI 10160 FXSB CE605	MAPEJGA C
** 7936FC001	01 S X F 799	INSP T O REF: 1C-17A-6 PARA 5C2	TIME TAKEN: .3	CE605 MAPEJGA
160L001006 - 7936FC001	F	C/W #2 ENG OIL SYSTEM INSP 17A-6, PARA 5C2	IAW 1C- 10160 FXSB ENGI 10160 FXSB CE605	MAPEJGA C
** 7936FC001	01 S X F 799	INSP C/W T O REF: 1C-17A-6 PARA 5C2	TIME TAKEN: .2	CE605 MAPEJGA
160L001007 - 7936FC001	F	C/W #3 ENG OIL SYSTEM INSP 17A-6, PARA 5C2	IAW 1C- 10160 FXSB ENGI 10160 FXSB CE605	MAPEJGA C
** 7936FC001	01 S X F 799	INSP C/W T O REF: 1C-17A-6 PARA 5C2	TIME TAKEN: .4	CE605 MAPEJGA
160L001008 - 7936FC001	F	C/W #4 ENG OIL SYSTEM INSP 17A-6, PARA 5C2	IAW 1C- 10160 FXSB ENGI 10160 FXSB CE605	MAPEJGA C
** 7936FC001	01 S X F 799	INSP C/W T O REF: 1C-17A-6 PARA 5C2	TIME TAKEN: .3	CE605 MAPEJGA
160L001009 - 7936FC001	F	C/W #1 ENG MAIN OIL FILTER INSP 17A-6, PARA 5C3	IAW 1C- 10160 FXSB ENGI 10160 FXSB CE605	MAPEJGA C
** 7936FC001	01 S X F 799	INSP C/W T O REF: 1C-17A-6 PARA 5C3	TIME TAKEN: .3	CE605 MAPEJGA
160L001010 - 7936FC001	F	C/W #2 ENG MAIN OIL FILTER INSP 17A-6, PARA 5C3	IAW 1C- 10160 FXSB ENGI 10160 FXSB CE605	MAPEJGA C
** 7936FC001	01 S X F 799	INSP C/W T O REF: 1C-17A-6 PARA 5C3	TIME TAKEN: .4	CE605 MAPEJGA
160L001011 - 7936FC001	F	C/W #3 ENG MAIN OIL FILTER INSP	IAW 1C- 10160 FXSB ENGI	MAPEJGA C
** 7936FC001	01 S X F 799	INSP	TIME TAKEN: .4	CE605 MAPEJGA

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MABR7117 AIRCRAFT - 00000173  
 JCN MNC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION  
 CREATE/CLOSE USERID O RPT EMP  
 DATE BASE SHOP REP/REC C REC NBR





		A0173 90 days Discrepance Report							
	**	7921FL015	01 A X F 799	R MAIN OIL FILTER INSP 7A-2-79JG-20-2, SSSN: 79-21-13-4 INSP C/W	IAW IC-1	10161	FXSB	CE605	MAPEJGA
				T O REF: 1C-17A-2-79JG-20-2SSSN79-21-13	TIME TAKEN:	.0			
160L016	X	7921FL016	F	#4 ENG MAIN OIL FILTER REMOVED FOR REPLACEMENT N OIL FILTER VISUAL INSP 7A-2-79JG-20-2, SSSN: 79-21-13-4 INSTALLED MAIN OIL FILTER T O REF: 1C-17A-2-79JG-20-2SSSN79-21-13	PER MAI IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
	**	7921FL016	01 A R F 804		TIME TAKEN:	.6		CE605	MAPEJGA
160L017	-	7921FL016	F	#4 ENG MAIN OIL FILTER REQ VISUAL CONTAMINATION INSP FO R MAIN OIL FILTER INSP 7A-2-79JG-20-2, SSSN: 79-21-13-4 INSP C/W	IAW IC-1	10161	FXSB	ENGI	MAPEJGA C
	**	7921FL016	01 A X F 799	T O REF: 1C-17A-2-79JG-20-2SSSN79-21-13	TIME TAKEN:	.1		CE605	MAPEJGA
160L018	X	0413C	F	ENG INLET AND EXHAUST INSP DUE PRIOR TO MAIN OIL FILTER INSP 7A-2-71JG-00-1, SSSN: 71-00-01-1 I'S & E'S C/W T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	RUN FOR IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
	**	0413C	01 S		TIME TAKEN:	.5		CE605	MAPEJGA
160L019	-	01041	F	#1 ENG DUE FILTER LEAK & OPS CHECK FOR MAIN OIL FILTER INSP IAW 1C-17A-2-71JG-00-1, SSSN: 71-00-01	IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
160L020	-	01041	F	#2 ENG DUE FILTER LEAK & OPS CHECK FOR MAIN OIL FILTER INSP IAW 1C-17A-2-71JG-00-1, SSSN: 71-00-01	IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
160L021	-	01041	F	#3 ENG DUE FILTER LEAK & OPS CHECK FOR MAIN OIL FILTER INSP IAW 1C-17A-2-71JG-00-1, SSSN: 71-00-01	IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
160L022	-	01041	F	#4 ENG DUE FILTER LEAK & OPS CHECK FOR MAIN OIL FILTER INSP IAW 1C-17A-2-71JG-00-1, SSSN: 71-00-01	IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
160L023	X	0413C	F	ENG INLET AND EXHAUST INSP DUE AFTER ENG R HARD POINT INSP 7A-2-71JG-00-1, SECT 71-00-01-1	RUNS FO IAW IC-1	10160	FXSB	ENGI	MAPEJGA C
				***	TIME TAKEN:	.0		CE605	MAPEJGA

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DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209

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AIRCRAFT - 00000173										A0173 90 days Discrepance Report		
JCN	MWC/FC	U T A W HOW	DISCREPANCY /	CREATE/CLOSE	USERID	O RPT	EMP					
ASSOC JCN	WUC/REFDES	P M T D MAL	CORRECTIVE ACTION	DATE	BASE SHOP	REP/REC	C REC					
**	0413C	01 S	I'S & E'S C/W	10160	CE605	MAPEJGA						
T O REF: 1C-17A-2-71JG-00-1 TASK 01-1				TIME TAKEN:								
				10160								
1605520	X 01000	F	ACFT ON INTEGRAL JACKS FOR TIRE/BRAKE CHG IAW 1C-17A-2-07JG-10-2 S/S/SN 07-12-01, SEE PG 0475-1	10160	FXSB	ALACM	MAPEJER	C				
1605520001	X 07000	F	2 EA WARNING TAGS/COLLARS INSTALLED FOR INTEGRAL JACK: 01 RT OR LT PARKING BRAKE LEVER, 002 C32 NOT RESET/OPERATE SEE P I	10160	FXSB	ALASH	MAPEJER	C				
1605520002	X 07000	F	7 EA WARNING TAGS/COLLARS INSTALLED FOR CMDS 001 N41,002 N42,003 N43,004 N44,006 N46,007 N47 NOTE:DO NOT RESET SEE P I	10160	FXSB	ALASH	MAPEJER	C				
1605706	X 3241AA006	F	#06 MLG WHEEL AND TIRE REMOVED 17A-2-32JG-40-1 S/S/SN 32-41-10	10160	FXSB	ALACM	MAPEJER	C				
**	3241AA006	01 S	R2 #6 MLG TIRE	10160	CAIAM	MAPEJER						
T O REF: 1C-17A-2-32JG-40-1 32-41-10				TIME TAKEN:								
				2.5								
1605706001	X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-35STEP 2-2 STEP 16; PERFORM MLG BRAKE INSP	10160	FXSB	ALACM	MAPEJER	C				
**	04199	01 S	BLK:	10160	CAIAM	MAPEJER						
T O REF: 1C-17A-2-32JG-40-1 TASK 2-2				TIME TAKEN:								
				1.0								
1605706002	X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-35STEP 22; INST LOCK WASHER ONTO AXLE. ENSURE TANGS RTED INTO AXLE SLOTS. SEE PG	10160	FXSB	ALACM	MAPEJER	C				
**	04199	01 S	BLK	10160	CAIAM	MAPEJER						
T O REF: 1C-17A-2-32JG-40-1 TASK 2-2				TIME TAKEN:								
				1.5								
1605706003	X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-35STEP 26; TORQUE AXLE NUT 350-400FT/LBS WHILE ROTATING WHEEL/TI RE IN OPPOSITE DIRECTION. SEE PG	10160	FXSB	ALACM	MAPEJER	C				
**	04199	01 S	BLK	10160	CAIAH	MAPEJER						
T O REF: 1C-17A-2-32JG-40-1 STEP 26				TIME TAKEN:								
				1.0								
1605706004	X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-35STEP 28; INSTAL LOCK BOLT, WASHER, AND NUT.	10160	FXSB	ALACM	MAPEJER	C				
**	04199	01 S	BLK:	10160	CAIAH	MAPEJER						
T O REF: 1C-17A-2-32JG-40-1 STEP 28				TIME TAKEN:								
				.5								
1605706005	X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-35STEP 29; APPLY REVERSE TORQUE (CC) OF 425FT/LBS	10160	FXSB	ALACM	MAPEJER	C				
**	04199	01 S	BLK:	10160	CAIAM	MAPEJER						
T O REF: 1C-17A-2-32JG-40-1 STEP 29				TIME TAKEN:								
				1.0								

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**	04199	01 S	IPI CM T O REF: 1C-17A-2-32JG-40-1 STEP 29	TIME TAKEN: 1.0	10160	CAIAH	MAPEJER
F	1605706006 X 04199	**	04199	01 S	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-3STEP 31 : TORQUE AXLE NUT 225FT/LBS WHITE ROTATING WHEEL/TI RE OPPOSITE DIRECTION. SEE PG ___ BLK ___ IPI CM T O REF: 1C-17A-2-32JG-40-1 STEP 31	10160	FXSB A1ACM WHEEL/TI CAIAH MAPEJER
F	1605706007 X 04199	**	04199	01 S	IPI DUE IAW 1C-17A-2-32JG-40-1 S/S/SN 32-41-10-3STEP 32 : INSTALL LOCK BOLT, WASHER, NUT WITH BOLT HEAD XTERIOR SIDE OF AXLE NUT. SEE PG ___ BLK ___ IPI CM T O REF: 1C-17A-32JG-40-1 STEP 32	10160	FXSB A1ACM FACING E CAIAH MAPEJER
F	1605713 X 01018	**	01018	F	NLG AXLE JACKED IAW 07JG-10-2, S/S/SN 07-12-02 ___ BLOCK ___	10160	FXSB A1ACM SEE PAGE CAIAH MAPEJER
F	1605714 X 3242AA001	**	3242AA001	01 B R F 020 R2 NLG TIRE BLOCK IC-17A-2-32JG-40-1 STEP 23	10160	FXSB A1ACM SEE PAGE CAIAH MAPEJER	
DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209							
F	1605714001 X 04199	**	04199	01 S	T O REF: 1C-17A-2-32JG-40-1 STEP 23 IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 , ALIGN AND ENGAGE PIN WITH SLOT AND INSTALL ATION PLATE. SEE PAGE ___ BLOCK ___ IPI CM T O REF: 1C-17A-2-32JG-40-1 STEP 15	10160	FXSB A1ACM ANTI-ROT CAIAH MAPEJER
F	1605714002 X 04199	**	04199	01 S	T O REF: 1C-17A-2-32JG-40-1 STEP 18 IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 AXLE NUT 155FT/LBS WHITE ROTATING WHEEL/TIRE OPPOSITE DIRECTION OF TORQUING. SEE PG ___ BLK ___ IPI CM T O REF: 1C-17A-32JG-40-1 STEP 18	10160	FXSB A1ASH ASSY IN CAIAH MAPEJER
F	1605714003 X 04199	**	04199	01 S	T O REF: 1C-17A-32JG-40-1 STEP 21 IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 APPLY REVERSE TORQUE (COUNTER-CLOCKWISE) OF TO AXLE NUT SEE PG ___ BLK ___ IPI CM T O REF: 1C-17A-32JG-40-1 STEP 21	10160	FXSB A1ASH 155FT/LB CAIAH MAPEJER

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1605714004 X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 STEP23TORQUE AXLE NUT 80FT/LBS WHILE ROTATING WHEEL/TIRE OPPOSITE DIRECTION OF TORQUING. SEE PG__BLK__	10160 FXSB ALASH MAPEJER C
** 04199	01 S	T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160 FXSB CALAH
		TIME TAKEN: 1.5	CALAH MAPEJER
1605715001 X 04199	F	RIGHT NLG TIRE REMOVED IAW 2-32JG-40-1, 32-42-10	1C-17A- 10160 FXSB ALACM MAPEJER C
** 3242AA002	01 B R F 020	R2 RT NLG TIRE IAW 32-42-10	SEE PAGE 10161 FXSB CALAH
		T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160 CALAH MAPEJER
		TIME TAKEN: .5	
1605715002 X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 STEP15ALIGN A ND ENGAGE PIN WITH SLOT AND INSTALL ANTI-ROT	10160 FXSB ALASH MAPEJER C
** 04199	01 S	IPI CW IAW1C-17A-2-32JG-40-1 STEP 15	10160 CALAH MAPEJER
		T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160 CALAH MAPEJER
		TIME TAKEN: .5	
1605715003 X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 STEP18TORQUE AXLE NUT 155FT/LBS WHILE ROTATING WHEEL/TIRE OPPOSITE DIRECTION OF TORQUING. SEE PG__BLK__	10160 FXSB ALASH MAPEJER C
** 04199	01 S	IPI CW IAW1C-17A-2-32JG-40-1 STEP 18	10161 FXSB CALAH
		T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160 CALAH MAPEJER
		TIME TAKEN: .5	
1605715004 X 04199	F	IPI DUE IAW 1C-17A-2-32JG-40-1, 32-42-10-3 STEP21APPLY R EVERSE TORQUE (COUNTER-CLOCKWISE) OF TO AXLE NUT	10160 FXSB ALASH MAPEJER C
** 04199	01 S	IPI CW IAW1C-17A-2-32JG-40-1 STEP 21	10161 FXSB CALAH
		T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160 CALAH MAPEJER
		TIME TAKEN: 1.0	
1606651 / 2700	D	PITCH AP ACT FAIL EFCGS MSN STATUS PAGE	10160 FXSB ALASG MAPEOM5 C
** 2211AA001	01 B L D 949	ORIGINAL BLIN (3F2) RESET #4 FCC. PAPA OPS CHECK GOOD. T O REF: 1C-17A-2-22JG-10-1 22-10-04	10160 CALAG MAPEJDS
		TIME TAKEN: 1.4	
1606652 / 3300	D	AIRDROP REDLIGHT LIFT SIDE FS(690) COVER MISSING	10160 FXSB ALACM MAPEBAS C
** 3300	01 B E D 799	AIRDROP REDLIGHT LIFT SIDE FS(690) COVER INSTALLED T O REF:	10172 FXSB CALAH
		TIME TAKEN: .5	CALAH MAPEBAS
1606653 / 3500	D	02 MASK LEFT SIDE FS(590) HOSE OFF MASK	10160 FXSB ALASH MAPEJER C
			10161 FXSB CALAH

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AIRCRAFT - 00000173									
JCN	M/MC/FC	U T A W HOW	DISCREPANCY /	CORRECTIVE ACTION	CREATE/CLOSE	USERID	O RPT	EMP	
ASSOC JCN	WUC/REFDES	P M T D MAL			DATE	BASE SHOP	REP/REC	C REC	NBR
**	3511MP029	01 B S D 800	PUT HOSE ON MASK	T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160	CA1AH	MAPEJER		
1606654	/ 2510	D	FIRST AID KIT FS(375)	RIGHT USED	10160	FXSB A1ACM	MAPEJER	C	
**	2511AA001	01 B R D 070	R2 FIRST AID KIT	T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160	CA1AH	MAPEJER		
1606847	- 04199	F	LIMITED DOPP INSP DUE	PRIOR TO NEXT FLIGHT	10160	FXSB A1ACM	MAPEGPB	C	
**	04199	01 S	INSP C/W	T O REF: 21-101AMC SUP ADD C	10160	CA1AM	MAPEJHI		
1606863	X 0413C	F	I'S AND E'S DUE	AFTER FLIGHT	10160	FXSB A1ASP	MAPEOM5	C	
**	0413C	01 S	I'S & E'S C/W	T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	10160	FXSB CA1AP	CE605	MAPEJGA	
1606864	X 0413C	F	I'S AND E'S DUE	PRIOR TO NEXT FLIGHT	10160	FXSB A1ASP	MAPESH1	C	
**	0413C	01 S	I'S AND E'S DUE	PRIOR TO NEXT FLIGHT C/W	10161	CA1AM	MAPESH1		
1606865	- 04199	F	DOPP INSP DUE	PRIOR TO NEXT FLIGHT	10160	FXSB A1ACM	MAPECC4	C	
**	04199	01 S	DOPP CW IAW AFI 21-101	AMC SUP ADDENDA C	10161	CA1AM	MAPECC4		
1606871	/ 3241AA006	F	#6 MILG TIRE DOES	NOT MEET CTI REQUIREMENTS	10160	FXSB A1ACM	MAPEOM5	C	
**	3241AA006	01 B R F 020	R2 MILG TIRE	T O REF: 1C-17A-2-32JG-40-1 STEP 23	10160	CA1AM	MAPEJER		

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1606872	/	3242AA001	F	LFT NLG TIRE DOES NOT MEET CTI REQUIREMENTS	10160 FXSB ALACM 10161 FXSB CALAM	MAPEOM5 C			
**		3242AA001	01 B R F 020	R2 NLG TIRE T O REF: IC-17A-2-32JG-40-1 STEP 23	10160 TIME TAKEN: 1.0	CALAM	MAPEJER		
1606873	/	3242AA002	F	RT NLG TIRE DOES NOT MEET CTI REQUIREMENTS	10160 FXSB ALACM 10161 FXSB CALAM	MAPEOM5 C			
**		3242AA002	01 B R F 020	R2 NLG TIRE T O REF: IC-17A-2-32JG-40-1 STEP 23	10160 TIME TAKEN: .5	CALAM	MAPEJER		
1606874	/	3141GM002	F	APDMC 2 ON WAP	10160 FXSB ALASG 10161 FXSB CALAG	MAPEOM5 C			
**		3141GM002	01 B R F 956	R2 #2 APDMC. OPS CHECK GOOD. SEE JCN 1606875. T O REF: IC-17A-2-31JG-40-1 31-41-10	10160 TIME TAKEN: 3.0	CALAG	MAPEJDS		
1606875	X	3141GM002	F	APDMC 2 REMOVED FOR REPLACEMENT	10160 FXSB ALASG 10161 FXSB CALAG	MAPEOM5 C			
**		3141GM002	01 B X F 799	R2 #2 APDMC. OPS CHECK GOOD NO DEFECTS NOTED. SEE JCN 1 T O REF: IC-17A-2-31JG-40-1 31-41-10	10160 TIME TAKEN: .4	CALAG	MAPEJDS		
1606876	X	07000	F	2 EA C/B PULLED AND COLLARED FO APDMC R2. B-39, T-31, N ***	10160 FXSB ALDBF 10161 FXSB MAPETBG	C			
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AIRCRAFT - 00000173									
JCN		MNC/FC		U T A W HOW		CREATE/CLOSE		USERID	O RPT
ASSOC JCN		WUC/REFDES		P M T D MAL		DATE BASE SHOP		REP/REC	C REC
				DISCREPANCY / CORRECTIVE ACTION		10161 FXSB CA030			EMP
				OTE DO NOT RESET					NBR
1606878	X	2510	F	AC GALLEY REMOVED FOR GALLEY STATION WORKLIGHT INOP	10160 FXSB ALACM 10161 FXSB CALAM	MAPEMDI C			
**		2531AA001	01 B R F 615	R2 GALLEY ASSEMBLY T O REF: IC-17A-2-25JG-30-1 25-31-10-3	10160 TIME TAKEN: .4	CALAM	MAPEMDI		
1606879	X	07000	F	4 EA C/B PULLED AND COLLARED Z-24, Z-25, Z-25, CC-72, N OTE: DO NOT RESET	10160 FXSB ALACM 10161 FXSB CALAM	MAPEMDI C			

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1616801	/ 2532	F	GALLEY FRIDGE WILL NOT OPERATE	10161 FXSB A1ACM	MAPERBAS C
	** 2532AA003	01 B X F 799	C/B WAS POPPED RESET C/B FRIDGE TURNED ON	10172 FXSB CA1AM	
			T O REF:	10172	CA1AM MAPERBAS
			TIME TAKEN:	.5	
1627000	- 04MD4	F	IFF MODE IV CHECK REQUIRED PROIR TO NEXT FLIGHT IAW 734	10162 AJ3Y A1ACD	MAQGEAJ C
	** 04MD4	01 Y	AMS LCL MD04	10168 AJ3Y QALAD	
			IFF MODE 4 CHK C/W IAW 734 AMS LCL MD04	10168	QALAD MAQGFGL
			T O REF: 734 AMS LCL MD04	TIME TAKEN:	2.0
1627001	X 0413C	F	ALL FOUR ENGINE INTAKE AND EXHAUST INSPECTION	REQUIRE 10162 AJ3Y A1ACA	MAQGAMC C
	** 0413C	01 Y	D WITHIN 4 HOURS OF LANDING	CARDS # 10162 AJ3Y QALAA	
			2-015A THRU 2-022 & 2-037 THRU 2-044	10162	QALAA MAQGMMS
			INSP C/W IAW 1C-17A-6WC-1 CARD 2-052	TIME TAKEN:	1.0
			T O REF: 1C-17A-6WC-1		
1627002	X 04199	F	734 AMS TOOL BOX AND EQUIPMENT INVENTORY CHECK	DUE PRI 10162 AJ3Y A1ACD	MAQGEAJ C
	** 04199	01 Y	OR TO FLIGHT	6WC-1 CA 10168 AJ3Y QALAD	
			RDS # 2-015A THRU 2-022 & 2-037 THRU 2-044	AMS OI 21- 10168	QALAD MAQGFGL
			TOOL BOX AND EQUIPMENT INVENTORY C/W IAW 734	TIME TAKEN:	3.0
			T O REF: 734 AMS OI 21-001 PARA 2.5.5		
1627003	X 04199	F	DOPP INSPECTION DUE PRIOR TO FLIGHT	IAW 734 10162 AJ3Y A1ACD	MAQGEAJ C
	** 04199	01 Y	AMS LCL 21-103	10168 AJ3Y QALAD	
			DOPP INSP. C/W IAW AFI 21-101 ADDENDA C	10168	QALAD MAQGFGL
			T O REF: AFI 21-101 ADDENDA C	TIME TAKEN:	2.0
1627004	X 04199	F	734 AMS TOOL BOX AND EQUIPMENT INVENTORY CHECK	DUE PRI 10162 AJ3Y A1ACD	MAQGEAJ C
	** 04199	01 Y	OR TO FLIGHT	PAGE 3, 10168 AJ3Y QALAD	
			PARA 4.3	10168	QALAD MAQGFGL
			TOOL BOX AND EQUIPMENT INVENTORY CHK C/W IAW 734 OI 21-	10168	
			T O REF: 734 OI 21-001 PARA 2.5.6	TIME TAKEN:	2.1
1627005	- 01000	F	TIRE PRESSURE CHECK AFTER 4 HOURS OF LANDING	@ 10162 AJ3Y A1ACA	MAQGAMC C
			HRS LOCAL	PAGE 1-1 10162 AJ3Y QALAA	
			, PARA 1-4		
1627006	/ 01000	F	SPR MANIFOLD REQUIRES DRAIN PRIOR TO NEXT FLIGHT IAW 1C-	10162 AJ3Y A1ACD	MAQGEAJ C
			17A-2-12JG-28-1 PG 2-72, TASK 01-4, STEPS 31-33	10168 AJ3Y QALAD	
1627007	X 01000	F	ALL FOUR PITOT PROBE COVERS INSTALLED	IAW 1C- 10162 AJ3Y A1ACA	MAQGAMC C
			17A-2-10JG-50-1, PG 2-6, TASK 01-1, STEP 4	10162 AJ3Y QALAA	

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1627008	X	7831AA008	F	:4 ENGINE RIGHT HAND T, R DUCT ASSY DENTED AND CRACKED AT 5 O CLOCK POSITION	10162 AJJY AIACB MAQGLV C
				***	10168 AJJY QALAB
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AIRCRAFT - 00000173					
JCN	MMC/FC	U T A W HOW			CREATE/CLOSE
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY /	CORRECTIVE ACTION	DATE BASE SHOP REP/REC C REC EMP NBR
**	5414DR008	01 Y S F 800	INSTALLED 4 ENGINE RT ACCY DOOR 1C-17A-2-54JG-10-1 TSK	10176	QALAB MAQGEHL
			T O REF: 1C-17A-2-54JG-10-1 TSK 54-14-1	TIME TAKEN: .5	
1627008001	X	01000	F	#4 ENG TRVC OINNED TO FOM, #4 ENG RH TR DUCT ASSY REMOV	10165 AJJY AIACA MAQGEAJ C
				AL	10168 AJJY QALAA
1627008002	X	07000	F	4 EA WARNING TAGS INSTALLED & 4EA C/B PULLED TO FOM TR DUCT REMOVAL	10165 AJJY AIACA MAQGEAJ C
					10168 AJJY QALAA
1627008003	X	5414DR008	F	#4 ENG RT ACCESSORY COMPT DOOR REMOVED TO FOM TR DUCT R	10165 AJJY AIACB MAQGEAJ C
				EMOVAL	10168 AJJY QALAB
**	541400	01 Y S F 800	#4 ENG R/H ACCY DOOR INSTALLED	10168	QALAB MAQKRC
			T O REF: 1C-17A-54JG-10-1 TASK 3-3	TIME TAKEN: .9	
1627008004	X	07000	F	1EA WARNING TAG INSTALLED TO #4 START SWITCH TO FOM ACC	10165 AJJY AIACA MAQGEAJ C
				ESSORY DOOR REMOVAL	10168 AJJY QALAA
1627008005	X	01000	F	#4 ENG TR CV PINNED TO FOM #4 RT HAND TR DUCT OPEN	10165 AJJY AIACA MAQGEAJ C
					10168 AJJY QALAA
1627008006	X	7831AA008	F	#4 ENG RT HAND TR DUCT OPEN TO FOM TR DUCT REMOVAL	10165 AJJY AIACB MAQGEAJ C
				ED	10168 AJJY QALAB
**	7831AA008	01 Y S F 800	#4 ENG R/H T/R DOOR CLOSED	10168	QALAB MAQKRC
			T O REF: 1C-17A-78JG-30-1 TASK 3-2	TIME TAKEN: .6	
1627008007	X	7831AA004	F	#4 ENG RT HAND TR DUCT ASSY REMOVED	10165 AJJY AIACB MAQGEAJ C
					10168 AJJY QALAB
**	7831AA004	01 Y R F 190	R2 #4 ENG RT HAND TR DUCT ASSY IAW 1C-17A-2-78JG-30-4 T	10168	QALAB MAQGNMS
			T O REF: 1C-17A-2-78JG-30-4	TIME TAKEN: 50.0	
1627008008	X	01000	F	#4 ENG TR CV PINS TO FOM LFT HAND DOOR RT DUCT OPEN	10165 AJJY AIACA MAQGEAJ C
					10168 AJJY QALAA

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1627008009 X 7831AA008	F	#4 ENG LFT HND TR DUCT ASSY OPENED TO FOM #4 ENG RT TR DUCT ASSY OPENED. NOTE: LFT HAND TR DUCT TEMP CLOSED	10165 AJ3Y AIACB MAQGEAJ C 10168 AJ3Y QA1AB
** 7831AA007 01 Y S F 800 #4 L/H T/R CLOSED		T O REF: 1C-17A-783G-30-1 TASK 3-2	10168 QA1AB MAQGRKC TIME TAKEN: .9
1627008010 X 07000	F	IEA WARNING TAG INSTALLED ON #4 ENG START SWITCH TO FOM LFT HAND ACCESS DR OPENED	10165 AJ3Y AIACA MAQGEAJ C 10168 AJ3Y QA1AA
1627008011 X 5414DR007	F	#4 ENG ACCESS COMPT DR OPENED TO FOM, #4 ENG TR DUCT AS SY REMOVAL	10165 AJ3Y AIACB MAQGEAJ C 10168 AJ3Y QA1AB
** 541400 01 Y S F 800 #4 ENG ACCY DOORS CLOSED		T O REF: 1C-17A-543G-10-1 TASK 1-2	10168 QA1AB MAQGRKC TIME TAKEN: 1.5
1627008012 X 01000	F	SEA CAPS AND SEA PLUGS INSTALLED ON #4 ENG RT HAND TR H YDRO LINES TO FOM, RT HAND TR DOOR REMOVAL	10166 AJ3Y AIACA MAQGEAJ C 10168 AJ3Y QA1AA
1627009 / 7831AA114	F	#1 ENGINE RIGHT HAND T/R DUCT ASSY. HAS 1 EACH BLOCKER DOOR AT 3 O'CLOCK POSITION MISALIGNED	10162 AJ3Y AIACC MAQGRKS C 10166 AJ3Y QA1AC
** 7831AA103 01 Y P F 070		REMOVED BLOCKER DOOR AND SAFED SYSTEM FOR FLIGHT IAW 1C T O REF: 1C-17A-2-71GS-00-1 PARA 2-16F4	10162 QA1AC MAQGGGV TIME TAKEN: 2.0
1637000 X 7831AA103	F	#1 ENG RT HAND TR #3 FAN BLOCKER DOOR STIFFENER BROKEN. NOTE: BLOCKER DOOR ASSY REMOVED	10163 AJ3Y AIACC MAQGRKS C 10166 AJ3Y QA1AC
1637000001 X 01000	F	#1 ENG TRCV PIN INSTALLED TO FOM	10163 AJ3Y AIACC MAQGRKS C ***
‡ MABR7117		DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209	JUL 29, 10 / 06:54Z PAGE 26
AIRCRAFT - 00000173			
JCN NMC/FC U T A W HOW			CREATE/CLOSE USERID O RPT EMP
ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION			DATE / BASE SHOP REP/REC C REC NBR
1637000002 X 01000	F	1 EA TAG INSTALLED #1 ENG AUX HYD C/B TO FOM	10163 AJ3Y AIACC MAQGRKS C 10166 AJ3Y QA1AC
1637000003 X 5414DR001	F	#1 ENG FWD ACCESSORY DOOR OPENED TO FOM	10163 AJ3Y AIACC MAQGLJV C 10163 AJ3Y QA1AC



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1697101	**	04199	01 Y	DOPP INSPEC C/W T O REF: 1C-17A-6WC-1 SEC 4	10172	QA1AD	MAQKJRS	TIME TAKEN: .6	
1697101	X	0413C	F	I'S AND E'S DUE AFTER FLIGHT	10172	LXFB	ALACB	MAQKADM C	
	**	0413C	01 Y	I'S & E'S C/W NO DEFECTS NOTED T O REF: 1C-17A-2-6WC-1	10171	LXFB	QA1AA	MAQKADM C	
				***	10172	QA1AA	MAQKCRB	***	
				***	10172	QA1AA	MAQKCRB	***	
<p>DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 27</p> <p>AIRCRAFT - 00000173</p>									
1697102	-	04199	F	DOPP INSPECTION DUE PRIOR TO NEXT FLIGHT	10172	LXFB	ALACD	MAQKADM C	
	**	04199	01 Y	DOPP INSPEC C/W T O REF: 1C-17A-6WC-1 AMC C17 DOPP	10171	LXFB	QA1AD	MAQKADM C	
				***	10172	QA1AD	MAQKJRS	***	
				***	10172	QA1AD	MAQKJRS	***	
1697103	X	0413C	F	I'S AND E'S DUE PRIOR TO NEXT FLIGHT	10172	LXFB	ALACB	MAQKADM C	
	**	0413C	01 Y	I&ES C/W T O REF: 1C-17A-2-71JG-00-1 TSK 01-1	10171	LXFB	QA1AB	MAQKADM C	
				***	10172	QA1AB	MAQKJRS	***	
				***	10172	QA1AB	MAQKJRS	***	
1701669	-	2344BT006	F	EVERY 365 DAYS REMOVE AND REPLACE (2 EA) CARGO WINCH REM OTE CONTROL BATTERIES PN 689-6100-002. DUE:2010189	10169	FXSB	DEPOT	MAPETSW O	
1707100	-	04199	F	LIMITED DOPP INSPECTION DUE ON SPR PANEL	10172	LXFB	ALACD	MAQKADM C	
	**	04199	01 Y	DOPP INSPEC C/W T O REF: AMC C17 DOPP CL	10171	LXFB	QA1AD	MAQKADM C	
				***	10172	QA1AD	MAQKJRS	***	
				***	10172	QA1AD	MAQKJRS	***	
1707101	-	04199	F	INSPECTION OF COUNTERMEASURES DISPENCING SYSTEM DUE AFT ER LOADING FLARES	10172	LXFB	ALDEP	MAQKADM C	
	**	04199	01 Y	DOPP INSPEC C/W T O REF: AMC C17 DOPP CL	10171	LXFB	QA900	MAQKADM C	
				***	10172	QA900	MAQKJRS	***	
				***	10172	QA900	MAQKJRS	***	
1717100	-	04199	F	DOPP INSPECTION REQUIRED PRIOR TO NEXT FLIGHT IAW AMC C-17 DOPP CHECKLIST	10172	LXFB	ALACB	MAQKJRS C	
	**	04199	01 Y	DOPP INSPEC C/W T O REF: AMC C17 DOPP CL	10171	LXFB	QA1AB	MAQKADM C	
				***	10172	QA1AB	MAQKJRS	***	
				***	10172	QA1AB	MAQKJRS	***	

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1717107 / 3512FW002	D CO PILOT OXY SWITCH HANDLE BROKEN	10172 LXFB ALASE MAPESLA C 10173 FXSB CALAE
1717106 / 01060	F SPR REQUIRES DRAINING PRIOR TO NEXT FLIGHT IAW 1C-17A-2-12JG-28-1 PG 2-94 STEP 32-34 ***	10172 LXFB ALACB MAQKJHS C 10172 LXFB QALAB
1717105 X 04199	F 733 MS TOOL INVENTORY AND FOD CHECK DUE PRIOR TO DEPART URE IAW 733 AMS OI 21-30 PARA 3.2.1	10172 LXFB ALACB MAQKJHS C 10172 LXFB QALAB
1717104 - 01027	F TIRE PRESSURE CHECK DUE AT _____ Z IAW 1C-17A-2-12JG-32 -1 PG 1-1 TO 1-3 PAR 1-4 TO 1-12	10172 LXFB ALACB MAQKADM C 10171 LXFB QALAB
1717103 - 04MD4	F IFF MODE IV CHECK REQUIRED PRIOR TO NEXT FLIGHT IAW 1C-17A-2-34JG-50-5 TASK 01-16	10172 LXFB ALACB MAQKJHS C 10172 LXFB QALAB
1717102 X 0413C	F INTAKES AND EXHAUST FOD INSPECTION REQUIRED ON ALL 4 ENGINES PRIOR TO NEXT FLIGHT IAW 1C-17A-2-71JG-00-1 TASK 0 1-1 PG 2-10 STEPS 4, 9, & 10 I'S & E'S INSP C/W ON ALL 4 ENGINES IAW T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	10172 LXFB ALACB MAQKJHS C 10172 LXFB QALAB
1717101 X 0413C	F INTAKES AND EXHAUSTS INSPECTION REQUIRED ON ALL 4 ENGINES WITHING 4 HOURS OF ARRIVAL IAW 1C-17A-6WC-1, CARDS # 4-159 THRU 4-163 I'S AND E'S INSP C/W T O REF: 1C-17A-6WC-1 CARDS 4-159-4-163	10172 LXFB ALACC MAQKADM C 10171 LXFB QALAC 10172 QALAC MAQKDJV
** 04199	DOPP INSP C/W IAW T O REF: AMC C-17 DOPP CHECKLIST	10172 QALAB MAQKDLG 19201
JCN	MWC/FC U T A W HOW	CREATE/CLOSE
ASSOC JCN	WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION	DATE BASE SHOP USERID O RPT EMP REP/REC C REC NBR

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**	3512FW002	01 B R D 070	R2 COPILOT O2 REG OPS CHK GOOD SEE JCNS 1736818, 173681	10173	CAIAE	MAPESLA
			T O REF:	TIME TAKEN: 1.0		
1726652	/ 2510	D	MAG COMPASS LIGHT INOP	10172 FXSB ALACK	MAPEZCT C	
**	2510	01 B X D 799	OPS CHECK GOOD, NO DEFECT NOTED	10173 FXSB CAIAK	CAIAK	MAPEZCT
			T O REF: 1C-17A-2-76JG-10-1 76-11-10-3	TIME TAKEN: .1		
1726653	/ 2300	D	COMBAT TRACK 2 SWITCH CODE SELECT RATARY DIAL IS MISSIN	10172 FXSB ALACM	MAPETSW C	
**	3331AA001	01 B R D 070	REMOVED CT2	10173 FXSB CALAM	CAIAM	MAPETSW
			T O REF: MAN# MDC ONLY C.W BY 11929	TIME TAKEN: .4		
1726858	X 0413C	F	I'S AND E'S DUE AFTER FLIGHT	10172 FXSB ALASP	MAPETSW C	
**	0413C	01 S	I AND E INSP C.W PER	10173 FXSB CALAP	CAIAP	MAPETSW
			T O REF: -6WC-1 CARD 4-159-4-163	TIME TAKEN: 1.0		
1726859	X 0413C	F	I'S AND E'S DUE PRIOR TO FLIGHT	10172 FXSB ALASP	MAPEBAS C	
**	0413C	01 S	I'S AND E'S C/W IAW 1C-17A-2-71JG-00-1 TSK01-1	10173 FXSB CALAP	CAIAP	MAPEBAS
			T O REF: 1C-17A-2-71JG-00-1T-01-1	TIME TAKEN: .5		
1726860	- 04199	F	DOPP INSP DUE PRIOR TO NEXT FLIGHT	10172 FXSB ALACM	MAPEJFK C	
**	04199	01 S	DOPP CW NO DEFECT NOTED	10173 FXSB CALAM	CAIAM	MAPEJFK
			T O REF: AFI 21-101 AWC SUP ADDENA C	TIME TAKEN: .5		
1726861	/ 01071	F	SFDR DUE POST MISSION DOWNLOAD	10172 FXSB ALASG	MAPEKHC C	
				10172 FXSB CALAG	CAIAG	
1726881	/ 5257MP002	F	RUBBER BUMPER ON RIGHT CARGO CATWALK WORN/ REMOVED	10172 FXSB ALACM	MAPEBAS C	
**	5257MP002	01 B R F 020	R2 RUBBER BUMPER	10173 FXSB CALAM	CAIAM	MAPEBAS
			T O REF: 1C-17A-2-49JG-50-1	TIME TAKEN: .5		
1726882	/ 5257AA001	F	MULTIPLE SPRINGS ON HYDRO SERVICING DOORS BROKE/ REMOVE	10172 FXSB ALACM	MAPETSW O	
				D	CAIAM	CAIAM

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1726887	X 07000	F	4 EA C/B'S PULLED AND COLLARED FOR COMBAT TRACKER 2 INS TALL	10172 FXSB HSC 10173 FXSB CE247	MAPETBGC	11910
1736814	X 3512FW002	F	COPILOT O2 REGULATOR REMOVED FOR R2	10173 FXSB ALASE 10173 FXSB CA1AE	MAPEOM5 C	
**	3512FW002	01 B R F 070	INSTALLED O2 REGULATOR OPS CHKG DUE SEE JCNS T O REF: 35JG-10-2 35-12-14-1 TSK 3-2	10173 CA1AE TIME TAKEN: 1.0	MAPESLA	
1736814001	X 07000	F	2 EA WARNING TAGS INSTALLED TO FOM 001 OXYGEN CROSS FEE D VALVE	10173 FXSB AIDBF 10173 FXSB CA030	MAPEOM5 C	
***						
9	MABR7117	DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209		JUL 29, 10 / 06:54Z	PAGE	29
AIRCRAFT - 00000173						
JCN	MNC/FC	U T A W HOW	CREATE/CLOSE	DATE	BASE SHOP	USERID O RPT EMP
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY / CORRECTIVE ACTION			REP/REC C REC NBR
1736814002	X 07000	F	1 EA CB COLLA INSTALLED TO FOM O2 REGULATOR PANL	10173 FXSB AIDBF 10173 FXSB CA030	MAPEOM5 C	
1736818	- 3500	F	O2 REGULATOR OPS CHECK DUE	10173 FXSB ALASE 10173 FXSB CA1AE	MAPESLA C	
**	350000	01 B X F 799	OPS CHK GOOD T O REF: 35JG-10-2 35-12-14-1 TSK 1-1	10173 CA1AE TIME TAKEN: 1.0	MAPESLA	
1736819	- 3300	F	CO PILOT INSTRUMENT PANEL LIGHTING OPS CHECK DUE	10173 FXSB ALASE 10173 FXSB CA1AE	MAPESLA C	
**	330000	01 B X F 799	OPS CHK GOOD T O REF: 33JG-10-1 33-11-01-2 TSK 01-2	10173 CA1AE TIME TAKEN: 1.0	MAPESLA	
1736822	X 07000	F	2EA C/B PULLED AND COLLARED TO FOM F-29 T-33	10173 FXSB ALASC 10173 FXSB CA1AN	MAPEKWP C	
1736823	X 3451EE013	F	UPPER RIGHT MLS ANT REM FOR REPLACEMENT	10173 FXSB ALASC 10173 FXSB CA1AN	MAPEKWP C	
**	3451EE013	01 B R F 135	R2 ANTENNA OPS CK GOOD CURE CK DUE	10173 CALAN TIME TAKEN: 1.0	MAPEKWP	

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 T O REF: 1C-17A-343G-50-3 34-51-18-3 TIME TAKEN: 1.6

1736843	- 01000	F	CURE CK DUE ON UPPER RIGHT MLS ANT @ 1300 ON 20100622	10173	FXSB	AIASC	MAPERRA	C
**	3451AA032	01 S X F 799	CURE CHECK GOOD	10174	FXSB <td>CAIAN <td>MAPERRA</td> <td>C</td> </td>	CAIAN <td>MAPERRA</td> <td>C</td>	MAPERRA	C
			T O REF: 1C-17A-23, TABLE 1-4	TIME TAKEN: 1.0				
1744304	X 7200AA004	F	#4 ENGINE REMOVED FOR : 2.5 BLEED VALVE LINKAGE BROKEN	10174	FXSB	AIASP	MAPECMR	C
**	7200AA004	01 B R F 070	R2 #4 ENGINE	10176	FXSB	CAIAP	MAPECMR	C
			T O REF: 1C-17A-2-713G-00-5/71-00-02-16	TIME TAKEN: 36.0				
1744304001	X 07000	F	16 EA WARNING TAGS INSTALLED ON	10174	FXSB	AIASP	MAPETBG	C
			ECC/TR TEST SWITCH	2 OF 16	10177	FXSB	CAIAP	C
			#4 ENGINE SHUT OFF SWITCH					
1744304002	X 07000	F	3 OF 16 #4 E/CK ENG CONT 4A GROUP 2 PWR C/B P/254 OF 16	10174	FXSB	AIASP	MAPETBG	C
			#4 ENG E/CK ENG CONT 4B GRP 2 PWR C/B P/56	5 OF 16	10177	FXSB	CAIAP	C
			#4 ENG AUX HYD PUMP C/B LL/10					
1744304003	X 07000	F	6 OF 16 #4 ENG ANTI-ICE ENG COML C/B N/20	7 OF 16	10174	FXSB	AIASP	MAPETBG
			#4 ENG PROBE HEAT ENG 3 & 4 C/B J/31	8 OF 16	10177	FXSB	CAIAP	C
			#4 ENG IGN "B" C/B K/28					
1744304004	X 07000	F	9 OF 16 POWER FIREX AGENT DISCHARGE 1 C/B E/13	10 OF 16	10174	FXSB	AIASP	MAPETBG
			6 CONTROL FIREX AGENT DISCHARGE 1 C/B E/14	11 OF 16	10177	FXSB	CAIAP	C
			POWER FIREX AGENT DISCHARGE 2 C/B F/2					
1744304005	X 07000	F	12 OF 16 CONTROL FIREX AGENT DISCHARGE 2 C/B F/113 OF 1	10174	FXSB	AIASP	MAPETBG	C
			6 #4 ENGINE FIRE PULL HANDLE	14 OF 16	10177	FXSB	CAIAP	C
			#4 APU START CONTROL SWITCH					
1744304006	X 07000	F	15 OF 16 #4 ENG IGN "A" C/B D/21	16 OF 16	10174	FXSB	AIASP	MAPETBG
			6 PNEUMATIC GROUND CONNECT ACCESS DOOR	(181ERD)	10177	FXSB	CAIAP	C
			**NOTE** DO NOT RESET					
1744304007	X 07000	F	3 EA WARNING TAGS INSTALLED FOR STRUT SAFING TO FOM ENG	10174	FXSB	AIASP	MAPETBG	C
			LINE CHANGE	1 OF 3	10177	FXSB	CAIAP	C
			UX HYD PUMP 2 C/B LL/69					
1744304008	X 07000	F	2 OF 3 HYD XFER VALVE PWR C/B C/13	3 OF 3	10174	FXSB	AIASP	MAPETBG
			***					
MABR7117			DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209	JUL 29, 10 / 06:54Z				PAGE 30
AIRCRAFT - 00000173								
JCN	MNC/FC	U T A W HOW		CREATE/CLOSE	USERID	O RPT	EMP	
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY / CORRECTIVE ACTION	DATE	BASE SHOP	REP/REC	C REC	NBR

1744304009 X 07000	F	ATTACH WARNING TAG TO STABILIZER STRUT MANIFOLD **NOTE** DO NOT RESET	CONTROL	10177	FXSB	CAIAP	MAPETBG	C	11971
1744304010 X 07000	F	2 EA WARNING TAGS INSTALLED FOR POWER OFF TO FOWENGINE CHANGE ATTERY SWITCH	1 OF 2 B	10174	FXSB	AIASP	MAPETBG	C	
1744304011 X 01018	F	2 OF 2 ELECTRICAL GROUND RECEPTACLE / DOOR D) ** DO NOT RESET	(122 AR ** NOTE	10174	FXSB	AIASP	MAPETBG	C	
1744304012 X 01008	F	THRUSTLE SHIELD INSTALLED TO FOW DOORS OPEN INE CHANGE	FOR ENG	10174	FXSB	AIASP	MAPETBG	C	
1744304013 X 01008	F	#4 ENGINE T/R CONTROL VALVE HAS SAFETY PIN ED FOR ENGINE CHANGE	INSTALL	10174	FXSB	AIASP	MAPETBG	C	
1744304014 X 01008	F	#4 ENGINE ACCESSORY DOORS OPENED FOR ENGINE CHANGE	CHANGE	10174	FXSB	AIASP	MAPETBG	C	
1744304015 X 01018	F	#4 ENGINE FAN REVERSER DOORS OPENED FOR ENGINE CHANGE	CHANGE	10174	FXSB	AIASP	MAPETBG	C	
1744304016 X 01018	F	#4 ENGINE ACCESSORY DOORS HAVE SUPPORT Y INSTALLED FOR ENGINE CHANGE	ASSEMBL	10174	FXSB	AIASP	MAPETBG	C	
1744304017 X 5472CA067	F	#4 ENGINE FAN REVERSER DOORS HAVE SUPPORT Y INSTALLED FOR ENGINE CHANGE	ASSEMBL	10174	FXSB	AIASP	MAPETBG	C	
1744304018 X 5472CA076	F	#4 ENGINE AFT MOUNT ACCESS PANELS REMOVED FOR CHANGE	ENGINE	10174	FXSB	AIASP	MAPEMD1	C	
1744304019 X 7832CA059	F	INSTALLED AFT MOUNT ACCES PANELS IAW 1C-17A-2-71JG-00-5 T O REF: 1C-17A-2-71JG-00-5	REMOVED	10174	FXSB	AIASP	MAPETBG	C	
1744304020 X 7832FA001G	F	#4 ENGINE TRANSLATING FAIRING OUTER PANELS FOR ENGINE CHANGE	REMOVED	10174	FXSB	AIASP	MAPETBG	C	
		INSTALLED PANELS T O REF: 1C-17A-2-29JG-10-4	TIME TAKEN: 1.0	10176	FXSB	CAIAP	MAPEHB2	C	
		#4 ENGINE TRANSLATING FAIRING INNER ACCESS REMOVED CHANGE	COVERS	10174	FXSB	AIASP	MAPEHB2	C	
		INSTALLED INNER PANELS T O REF: 1C-17A-2-29JG-10-4 TASK 3-2	TIME TAKEN: .4	10176	FXSB	CAIAP	MAPEHB2	C	
		#4 ENGINE TRANSLATING FAIRING ROD ENDS ECTED FOR ENGINE CHANGE	DISCONN	10174	FXSB	AIASP	MAPEHB2	C	
				10176	FXSB	CAIAP			

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JCN	MNC/FC	U T A W	HOW	DISCREPANCY / CORRECTIVE ACTION	TIME TAKEN:	CREATE/CLOSE DATE	BASE SHOP	USERID	RPT	EMP
1744304021	04199	**	01 S	VISUALLY INSPECT #4 ENGINE PYLON FIREWALLS FOR LOOSE, MISSING OR CORRODED HARDWARE. R REPLACE PER T.O. 1C-17 INSP C/W	10176	10174	FXSB CALAP	MAPEHB2	C	
1744304022	04199	**	01 S	T O REF: 1C-17A-3-4 ALL STEPS	10176	10176	FXSB CALAP	MAPEHB2	C	
1744304023	04199	**	01 S	VISUALLY INSPECT #4 ENGINE UPPER AFT MOUNT FOR CRACKS LOOSE OR CORRODED HARDWARE R REPLACE PER T.O 1C-17A INSP C/W	10176	10174	FXSB CALAP	MAPEHB2	C	
1744304023	04199	**	01 S	T O REF: 1C-17A-3-4 ALL STEPS	10176	10176	FXSB CALAP	MAPEHB2	C	
1744304023	04199	**	01 S	VISUALLY INSPECT #4 ENGINE LOWER AFT MOUNT FIREWALLS FOR CRACKS LOOSE, MISSING OR HARDWARE REPAIR OR REPL INSP C.W	10176	10176	FXSB CALAP	MAPEHB2	C	
MABR7117				DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209						
AIRCRAFT - 00000173										
1744304024	7121MP016	**	01 B X F	TORQUE #4 ENGINE FORWARD ENGINE MOUNT BOLTS 17A-71JG-00-4 (71-00-2-13, STEP 17)	10176	10174	FXSB CALAP	MAPEHB2	C	11973
1744304025	7121MP033	**	01 B X F	FORWARD MOUNT BOLTS TORQUED T O REF: 71JG-00-5 TSK 02-13 STP 17	10176	10174	FXSB CALAP	MAPEHB2	C	
1744304026	7121MP033	**	01 B X F	TORQUE #4 ENGINE AFT ENGINE MOUNT BOLTS 17A-71JG-00-4 (71-00-2-13, STEP 20)	10176	10174	FXSB CALAP	MAPEHB2	C	
1744304027	7121MP033	**	01 B X F	MOUNT BOLTS TOQUED T O REF: 71JG-00-5 TSK 02-13 STP 20	10176	10177	FXSB CALAP	MAPEHB2	C	
1744304027	7121MP033	**	01 B X F	SERVICE IDG ON #4 ENGINE AFTER INSTALLATION K (12-24-01)	10176	10174	FXSB CALAP	MAPEHB2	C	
1744304028	7832AA004	F		SERVICE STARTER ON #4 ENGINE AFTER INSTALLATION K (12-80-01)	10174	10177	FXSB CALAP	MAPEHB2	C	
1744304028	7832AA004	F		TEST #4 ENG T/R SYSTEM BY CYCLING 10 TIMES TO AIR IS REMOVED FROM HYDRAULIC SYSTEM, PERFORM AULIC DEPLOY AND STOW (78-31-06)	10174	10176	FXSB CALAP	MAPEBDD	C	

				A0173 90 days Discrepance Report					
**	7832AA004	01 S X F	799	DEPLOY OPS CHK C/W IAW 78JG-30-2 78-30-06-1		TIME TAKEN: 1.0	CAIAP	MAPERDD	
				T O REF: 78JG-30-2 78-30-06-1					
1744304029	X 01020	F		#4 ENGINE REQUIRES OIL TANK SERVICING PRIOR ATION	TO OPER	10174 FXSB CAIAP	ALASP	MAPETBG	C
1744304030	/ 3133RC002A	F		INSTALL NEW OQAR DISK IN OQAR RECORDER PRIOR TO OPERATI ON - TURIN IN REMOVED DISK TO ENGINE	MANAGEME	10174 FXSB CAIAP	ALASP	MAPERDD	C
**	3133RC002A	01 B S F	800	INSTALLED NEW QAR DISC		TIME TAKEN: .5	CAIAP	MAPERDD	
				T O REF:					
1744304031	/ 3141GM001	F		REPROGRAM APDMC WITH ENGINE S/N 00PW170348 ES 05872.0 PRIOR TO OPERATION	NI CYCL	10174 FXSB CAIAP	ALASP	MAPERDD	C
**	3141GM001	01 B X F	799	REPROGRAMMED APDMC WITH NI CYCLES AND NEW SER#		TIME TAKEN: .4	CAIAP	MAPERDD	
				T O REF:					
1744304032	- 01041	F		PERFORM #4 ENGINE DRY MOTOR	IAW IC-	10174 FXSB CAIAP	ALASP	MAPERDD	C
				17A-2-71JG-00-1, 71-00-01-10	10179	FXSB CAIAP	ALASP	MAPERDD	C
1744304033	- 01041	F		PERFORM #4 ENGINE WET MOTOR	IAW IC-	10174 FXSB CAIAP	ALASP	MAPERDD	C
				17A-2-71JG-00-1, 71-00-01-10	10179	FXSB CAIAP	ALASP	MAPERDD	C
1744304034	- 01041	F		#4 ENGINE DUE OPERATIONAL CHECKOUT AFTER ATION	INSTALL	10174 FXSB CAIAP	ALASP	MAPERDD	C
					10179	FXSB CAIAP	ALASP	MAPERDD	C
1744304035	- 7832AA004	F		ENGINE ELECTRONIC CONTROL REQUIRES POWER PLANT ONAL CHECK PER CHECKLIST 71-00-01 TASK	OPERATI	10174 FXSB CAIAP	ALASP	MAPERDD	C
**	7832AA004	01 S X F	799	U 01-4 AND 01-6 OR 01-7	01-1 THR	10176 FXSB CAIAP	ALASP	MAPERDD	
				ECC OPS CHK C/W NDN IAW 1C-17A-2-71JG-00-1		TIME TAKEN: 1.0	CAIAP	MAPERDD	
				T O REF: 1C-17A-2-71JG-00-1					
1746651	X 7521	C		ENG STAB #4 ON WAP APPROX 20 MINS AFTER TAKE OFF IN CRU	10174 FXSB CAIAP	ALASP	MAPERDD	C	
				ISE PHASE NO RAPID THROTTLE MOVEMENT	10179	FXSB CAIAP	ALASP	MAPERDD	C
**	7535HP004	01 B S C	800	UPON FURTHER INSPECTION FOUND 2.5 BLEED VALVE TRUNION L	10174	CAIAP	MAPERDD		
				T O REF: 1C-17A-2-36JG-20-1 (36-23-10-3		TIME TAKEN: .5	CAIAP	MAPERDD	
1746801	X 0413C	F		I NAD ES DUE AFTER FLIGHT	10174 FXSB CAIAP	ALASP	MAPERDD	C	
**	0413C	01 S		POST I'S AND E'S C/W	10174	CAIAP	MAPERDD		
				T O REF: 1C-17A-6WC-1CARD 02-052 THU056		TIME TAKEN: 2.0	CAIAP	MAPERDD	
				***					

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DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209

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AIRCRAFT - 00000173		A0173 90 days Discrepance Report		CREATE/CLOSE	USERID	O RPT	EMP
JCN	MWC/FC	U T A W HOW	DISCREPANCY / CORRECTIVE ACTION	DATE	BASE SHOP	REP/REC	C REC
ASSOC JCN	WUC/REFDES	P M T D MAL					NBR
1746802	X 0413C	F	I AND ES DUE BEFORE NEXT FLIGHT	10174	FXSB A1ACM	MAPERDD	C
**	0413C	01 S	PRE T'S AND E'S C/W IAW 1C-17A-2-7116-00-1 TASK 01-1 T O REF: 1C-17A-2-7116-00-1 TSK 01-1	10174	FXSB CA1AM	MAPERDD	
			TIME TAKEN: 1.4				
1746803	- 04199	F	DOPP INSPECTION DUE BEFORE NEXT FLIGHT	10174	FXSB A1ACM	MAPERDD	C
**	04199	01 S	DOPP C/W IAW 21-101 AMCSUP ADENDA C T O REF: IAW 21-101 AMCSUP ADDC	10174	FXSB CA1AM	MAPERDD	
			TIME TAKEN: .3				
1746812	- 04199	F	LIMITED DOPP REQ ON #4 ENG AREA PRIOR TO NEXT FLIGHT	10174	FXSB A1ACM	MAPERDD	C
**	04199	01 S	LIMITED C/W IAW AFI 21-101 AMCSUP ADENDA C T O REF: IAW 21-101 AMCSUP ADDC	10176	FXSB CA1AM	MAPERDD	
			TIME TAKEN: .5				
1746813	X 01008	F	#4 ENG ACCESSORY DOORS OPENED TO FOM	10174	FXSB A1ASP	MAPETBG	C
				10177	FXSB CA1AP		
1746814	X 01008	F	#4 ENG TR DOORS OPENED TO FOM	10174	FXSB A1ASP	MAPERDD	C
				10179	FXSB CA1AP		
1746816	X 07000	F	10EA WARNING TAGS INSTALLED FOR REMOVAL OF 2.5 BLEED VA LVE E-13E-14F-1F-2 #4ENG FIRE PULL HANDLE #4 ENG SHUT O FF #4 ENG START SWEET TESTSMBATTSMEELEPWIREC	10174	FXSB A1ASP	MAPETBG	C
				10177	FXSB CA1AP		
1746817	X 7200	F	FOUND BAD 2.5 BLEED VALVE ON #4 ENG	10174	FXSB A1ASP	MAPETBG	C
				10177	FXSB CA1AP		
**	7171U0160	01 B S F 800	BLEED VALVE GOOD TRUNION LINKAGE BROKEN REINSTALLEDVALV T O REF: 1C-17A-2-7536-30-2	10174	CA1AP	MAPEKWL	
			TIME TAKEN: .5				
1746818	X 7200	F	REMOVAL 2.5 BLEED VALVE ON #4 EN	10174	FXSB A1ASP	MAPETBG	C
**	7171U0160	01 B S F 800	REINSTALLED 2.5 BLEED VALVE IAW 1C-17A-2-75-30-2 TSK 3- T O REF: 1C-17A-2-7536-30-2	10174	FXSB CA1AP	MAPEKWL	
			TIME TAKEN: .5				

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1746839	X 7200	F	#4 ENG 2.5 BLEED VALVE ACTUATOR LINKAGE BROKEN. REQ ENG	10174 FXSB AIASP	MAPECMR C				
			INE R2	10176 FXSB CAIAP					
**	710000	01 B R F 070	R2 #4 ENGINE	10176	CAIAP	MAPECMR			
			T O REF: 1C-17A-2-71JG-00-5	TIME TAKEN: 45.0					
1746840	X 01065	F	NLG SCISSORS DISCONNECTED FOR TOW	10174 FXSB AIACM	MAPEJSB C				
				10175 FXSB CAIAM					
1756801	X 07000	F	3EA C/B PULLED AND COLLARD FOR REMOVAL OF CCU1 B9, B39, H6	10175 FXSB AIASC	MAPEDAE C				
				10176 FXSB CAIAN					
1756802	X 2381GM001	F	CCU#1 REMOVED TO BACKSHOP FOR REPAIR	10175 FXSB AIASC	MAPELAY C				
				10176 FXSB CAIAN					
**	2381GM001	01 B S F 800	REPLACED CCU1, OP/ LOADED, VANILLA BOX LABELING C/W, OP	10176	CAIAN	MAPEZCT			
			T O REF: 1C-17A-2-23JG-80-2 23-81-11-3	TIME TAKEN: 3.0					
			***	***					
9	MABR7117		DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209	JUL 29, 10 / 06:54Z	PAGE	33			
	AIRCRAFT - 00000173								
JCN	MWC/FC	U T A W	HOW	CREATE/CLOSE	USERID	O RPT	EMP		
ASSOC JCN	WUC/REFDES	P M T D	MAL DISCREPANCY / CORRECTIVE ACTION	DATE	BASE SHOP	REP/REC	C REC	NBR	
1756802001	X 2381GM001	F	CCU #1 REMOVED TO BACKSHOP FOR REPAIR	10175 FXSB AVCN	MAPELAY C				
				10176 FXSB CEI10					
1756803	X 07000	F	3EA C/B PULLED AND COLLARD FOR REMOVAL OF CCU#2. T-35, B-32, H-6	10175 FXSB AIASC	MAPEDAE C				
				10176 FXSB CAIAN					
1756804	X 2381GM002	F	CCU #2 REMOVED TO BACK SHOP FOR REPAIR	10175 FXSB AIASC	MAPELAY C				
				10176 FXSB CAIAN					
**	2381GM002	01 B S F 800	REINSTALLED CCU 2 REQUIRES FOLLOW ON MAINTENANCE STEPS	10175	CAIAN	MAPEDAE			
			T O REF: 1C-17A-2-23JG-80-2 23-81-11-3	TIME TAKEN: 6.0					
1756804001	X 2381GM002	F	CCU #2 REMOVED TO BACKSHOP FOR REPAIR	10175 FXSB AVCN	MAPELAY C				
				10176 FXSB CEI10					

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1756832	X	7831HP007	F	#4 ENG LT HAND FAN DUCT OPENING ACCUATING CYLINDER W/L L NOT ACCUATE AND LEAKING OIL	10175 FXSB ALACB 10176 FXSB LA1AB	MAPEJ3B0	C
**		7831HP007	01 B R F 242	R2 LH DUCT OPENING ACTUATIN CYLINDER I.A.W. T.O. T O REF: 1C-17A-2-78JG-30-7 TASK 3-1	10175 TIME TAKEN: 3.0	LA1AB MAPEJ3B0	
1756833	X	7831HP007	F	#4 ENG LT HAND FAN DUCT OPENING ACCUATING CYLINDER DUE R2 TE AND LEAKING OIL	10175 FXSB ALACB 10176 FXSB LA1AB	MAPEJ3B0	C
**		7831HP007	01 B R F 242	R2 #4 ENG LH FAN DUCT OPENING ACTUATOR CYLINDER IAW T.O T O REF: 1C-17A-2-78JG-30-7 TASK 3-1	10175 TIME TAKEN: 3.0	LA1AB MAPEJ3B0	
1756892	-	2381CM001	F	CCU1 REQ FOLLOW ON MAINT IAW 23-81-11-3 TASK 3-4 STEPS 3A-5	10175 FXSB ALASC 10176 FXSB CA1AN	MAPEBGL	C
**		2381CM001	01 B X F 799	OP CK GOOD; OHP VERIFICATION, LOAD, INTEGRITY, & LABEL T O REF: 23JG-40-2 23-81-11-1 TSK 1-1	10176 TIME TAKEN: 2.0	CA1AN MAPEBGL	
1756893	-	2381CM002	F	CCU2 REQ OPS CHECK/ FOLLOW ON MAINT IAW 1C-17A-2-23JG-8 0-2 SSSN 23-81-11-3 TASK 3-6 STEP 3A-5	10175 FXSB ALASC 10176 FXSB CA1AN	MAPEBGL	C
**		2381CM002	01 B X F 799	OP CK GOOD; OHP VERIFIED, INT CHECKED, & LABELED T O REF: 23JG-40-2 23-81-11-1 TSK 1-1	10176 TIME TAKEN: 2.0	CA1AN MAPEBGL	
1766812	X	04199	F	IPI DUE VTSUAL/PHYSICAL CHECK SECURITY OF HYDRO PUMP SE CTION HOSE TO CONFIRM TEETH ARE FULLY INGUAGED IAW 1C-1 7A-2-71JG-00-5 TASK 01-8	10176 FXSB ATASP 10176 FXSB CA1AP	MAPEHB2	C
**		04199	01 S	IPI C/W T O REF: 71JG-00-5 TSK 02-3 STP 20	10176 TIME TAKEN: .3	CA1AP MAPEHB2	
1766813	X	04199	F	IPI DUE VERIFI HOSE ASSY HAS A MIN. CLEARANCE OF 0.30 IN CH FROM SURROUNDING SURFACES IAW 1C-17A-2-29JG-10-1 TSK 02-5 STEP 22	10176 FXSB ATASP 10176 FXSB CA1AP	MAPEHB2	C
**		04199	01 S	IPI C/W T O REF: 29JG-10-1 TSK 02-5 STP 22	10176 TIME TAKEN: .4	CA1AP MAPEHB2	
1766814	X	04199	F	IPI DUE VERIFI HOSE ASSY IS NOT TWISTED, CHAFFING, OR KINKED IAW 1C-17A-2-29JG-10-1 TASK 02-5 STEP 23	10176 FXSB ATASP 10176 FXSB CA1AP	MAPEHB2	C
**		04199	01 S	IPI C/W T O REF: 29JG-10-1 TSK 02-5 STP 23	10176 TIME TAKEN: .4	CA1AP MAPEHB2	
1766822	-	03215	F	POWER ON PORTION OF PREFLIGHT NOT C/W IAW T.O. 1C-17A-6W C-1 WORK CORDS 4-010, 4-011, 4-015 TO 4-021, 4-034 TO 4-036	10176 FXSB ALACM 10176 FXSB CA1AM	MAPEJ3B	C
**		03215	01 C	POWER PORTION OF PREFLIGHT C/W T O REF: 1C-17A-6WC-1	10176 TIME TAKEN: 1.0	CA1AM MAPEJ3B	

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JCN M/MC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION

CREATE/CLOSE USERID O RPT EMP  
 DATE BASE SHOP REP/REC C REC NBR

1766832	/	5421AA004	01	B	G	F	105	REPLACED TAB ON RING COWL IAW WITH ENGINEERS DISPOSITIO T O REF:	10176	FXSB	SMCO	MAPECBC	C
									10176	FXSB	CE720	MAPECBC	C
									TIME TAKEN:				
									3.6				
1766833	X	01065				F		NLG SCISSORS DISCONNECTED FOR TOW	10176	FXSB	AIACM	MAPERDD	C
									10179	FXSB	CAIAM		
1768583	X	0413C				F		I'S AND E'S DUE AFTER FLIGHT	10172	FXSB	AIASP	MAPEBAS	C
									10172	FXSB	CAIAP	MAPEBAS	C
									TIME TAKEN:				
									.5				
1768584	X	0413C				F		I'S AND E'S DUE PRIOR TO FLIGHT	10172	FXSB	AIASP	MAPETSW	C
									10173	FXSB	CAIAP		
									TIME TAKEN:				
									1.0				
1796802	/	3330				F		2 EA GREEN INCANDESCENT BULBS BURNT OUT 1 @ 1200 LEFT SIDE 1 @ FS 660 RT SIDE R2 GREEN INCANDESCENT BULBS T O REF:	10179	FXSB	AIACA	MAPEJCS	C
									10196	FXSB	IAIAA	MAPEJCS	C
									TIME TAKEN:				
									.5				
1796804	-	04199				F		DOPP INSPECTION DUE BEFORE NEXT FLIGHT	10179	FXSB	AIACM	MAPETSW	C
									10180	FXSB	CAIAM		
									TIME TAKEN:				
									1.0				
1796805	X	0413C				F		I AND ES DUE BEFORE NEXT FLIGHT	10179	FXSB	AIACM	MAPETSW	C
									10180	FXSB	CAIAM		

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**	0413C	01 S	I NAD E C.W PER	10180	CA1AM	MAPETSW			
			T O REF: 71JG-00-1 TASK 01-1	TIME TAKEN: 2.0					
1796814	X 07000	F	1 EA WARNING TAG ON AUX HYD PUMP C/B ELECTRICAL PWR CEN	10179	FXSB	AIACB	MAPEBWK	C	
			TER	10179	FXSB	IAlAB			
1796815	X 01008	F	#1 ENG ACCESSORY DOORS OPEN TO FOM	10179	FXSB	AIACB	MAPEBWK	C	
				10179	FXSB	IAlAB			
1796816	X 01008	F	#1 ENG TR DOORS OPEN TO FOM	10179	FXSB	AIACB	MAPEBWK	C	
				10179	FXSB	IAlAB			
1796817	/ 5200	F	LFT TROOP DOOR ANTI-SKID WORN	10179	FXSB	AIACM	MAPEZCT	C	
				10182	FXSB	CA1AM			
**	520000	01 B R F 020	R2 TROOP ANTI SKID	10182	CA1AM	MAPEZCT			
			T O REF: 1C-17A-2-31JG-60-1 31-61-11	TIME TAKEN: 1.0					
1796818	/ 5200	F	RT TROOP DOOR ANTI-SKID WORN	10179	FXSB	AIACM	MAPEZCT	C	
				10182	FXSB	CA1AM			
**	520000	01 B R F 020	R2 TROOP ANTI SKID	10182	CA1AM	MAPEZCT			
			***	***					
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AIRCRAFT - 00000173									
JCN	MNC/FC	U T A W HOW	CREATE/CLOSE	DATE	BASE SHOP	USERID	O RPT	EMP	
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY / CORRECTIVE ACTION			REP/REC	C REC	NBR	
1806869	/ 4100	F	AN DIGIT TEST BUTTON BROKEN AT THE RIGHT AFT LOAD WASTE R STATION	10181	FXSB	AIASE	MAPEPRB	C	
				10182	FXSB	CA1AE			
**	410000	01 B R F 255	R2 PANEL, OPS CK GOOD	10182	CA1AE	MAPEPRB			
			T O REF: 41JG-10-5 TSK 3-1, 41-11-17-3	TIME TAKEN: 3.0					
**	4151CT001	01 B R F 255	R2 PANEL, OPS CK GOOD	10182	CA1AE	MAPEPRB			
			T O REF:	TIME TAKEN: 3.0					
**	4111CT011	01 B R F 255	R2 PANEL, OPS CK GOOD	10182	CA1AE	MAPEPRB			
			T O REF:	TIME TAKEN: 3.0					
**	4151CT001	01 B R F 255	R2 PANEL, OPS CK GOOD	10182	CA1AE	MAPEPRB			
			T O REF:	TIME TAKEN: 3.0					
**	4151CT001	01 B R F 255	R2 PANEL, OPS CK GOOD	10182	CA1AE	MAPEPRB			
			T O REF:	TIME TAKEN: 3.0					

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**	4111DA003	01 B R F 255	T O REF: R2 PANEL, OPS CK GOOD	TIME TAKEN: 3.0	CAIAE	MAPERRB
			T O REF:	10182		
				TIME TAKEN: 3.0		
1816842	X 0413C	F	I'S AND E'S DUE POST FLIGHT INSP	10181	FXSB	ALACM
				10182	FXSB	CAIAM
**	0413C	01 S	INSP C.W	10183	CAIAM	MAPENAT
			T O REF: 1C-17A-2-71JG-00-1 TASK 01	TIME TAKEN: .1		
1816843	X 0413C	F	I'S AND E'S DUE PRIOR TO NEXT FLIGHT	10181	FXSB	ALACM
				10184	FXSB	CAIAM
**	0413C	01 S	I'S AND E'S CW	10184	CAIAM	MAPEJER
			T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	TIME TAKEN: 2.0		
1816844	- 04199	F	DOPP INSP DUE PRIOR TO NEXT FLIGHT	10181	FXSB	ALACM
				10184	FXSB	CAIAM
**	04199	01 S	DOPP CW	10184	CAIAM	MAPEJER
			T O REF: AFI 21-101 AMC SUPP ADDENDA C	TIME TAKEN: 1.0		
1816848	/ 2532AA003	F	REFRIDGERATOR INOP	10181	FXSB	ALACM
				10183	FXSB	CAIAM
**	2532AA003	01 B R F 254	R2 REFRIGERATOR	10181	CAIAM	MAPEAK2
			T O REF:	TIME TAKEN: 3.0		
1819518	/ 0110097	T	MODIFICATION OF APU DOOR ACTIVATION SYSTEM	10181	FXSB	DEPOT
			1C-17A-1981	CW	TCTO	MAMOKLB
			WB/NA			G9999
			PRIME SHOP DEPOT			
1821684	- 2621MM002	F	EVERY 10 YRS FROM HYDROSTATIC TEST DATE REPLACE (4 EA) ENGINE FIRE EXTINGUISHER CONTAINERS FOR HYDROS TATIC TEST PN 472555-2. (3-A-002) LOC:02 DUE:2010242	10181	FXSB	ELEN
				CE815		67308
				0		
1826803	X 4111CT001	F	CARGO RAMP LOCK AND CONTROL PANEL REMOVED FOR REPLACEMENT	10182	FXSB	ALASE
			NT	10182	FXSB	CAIAE
**	4111CT001	01 B R F 255	INSTALLED NEW PANEL, PS CK GOOD	10182	CAIAE	MAPERRB
			T O REF: 41JG-10-5 TSK 3-1, 41-11-17-3	TIME TAKEN: 3.0		
1826804	X 07000	F	2 EA CB COLLARS INSTALLED TO FOM FOR CTRL PNL J4/C8	10182	FXSB	ALACM
				10182	FXSB	CAIAM

1826805	- 4110	F	CARGO RAMP CONTROL PANEL REQUIRES OPS CHECK	10182 FXSB ALASE	MAPEPRB C				
	** 411000	01 B X F 799	OPS CK GOOD	10182	CALAE	MAPEPRB			
			T O REF: 41JG-10-5 TSK 1-1, 41-11-17-1	***	TIME TAKEN: 1.5				
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1826817	/ 2623	F	SEA FIRE BOTTLES REQ NEW HYDRO TEST DATE OVERDUE INSP	10182 FXSB A1SAM	MAPEZCT C				
	** 262300	01 B R F 070	R2 5 EACH FIRE BOTTLES	10183	CA320	MAPEZCT			
			T O REF:	TIME TAKEN: 2.0					
1826820	/ 3500	F	6 EA PROTECTIVE BREATHING EQUIPMENT REQUIRES INSP	10182 FXSB ALACM	MAPELAY C				
	** 350000	01 S R F 020	LIFE SUPPORT REPLACED AS REQUIRED	10182	FXSB CALAM				
			T O REF:	TIME TAKEN: .1					
1831686	- 2621MM001	F	EVERY 10 YRS FROM HYDROSTATIC TEST DATE REPLACE (4 EA) ENGINE FIRE EXTINGUISHER CONTAINERS FOR HYDROS TATIC TE	10182 FXSB ELEN	CE815	67308	0		
			ST PN 472555-2. (3-A-002) LOC:01 DUE:2010243						
1831687	- 2621MM003	F	EVERY 10 YRS FROM HYDROSTATIC TEST DATE REPLACE (4 EA) ENGINE FIRE EXTINGUISHER CONTAINERS FOR HYDROS TATIC TE	10182 FXSB ELEN	CE815	67308	0		
			ST PN 472555-2. (3-A-002) LOC:03 DUE:2010243						
1836811	X 3200	F	PILOT REPORTED ON 28 JUNE THAT HE RECEIVED A MLG OVERSP EED INDICATION ON 18 JUNE ACCOMPLISHING A TATTICAL DECEN	10183 FXSB CALAK	MAPEZCT C				
	** 3200	01 S X F 799	OVERSPEED LANDING GEAR INSP C/W	10183	CALAK	MAPEZCT			
			T O REF: 1C-17A-2-31JG-60-1 31-61-11	TIME TAKEN: 1.0					
1836811001	- 04132	F	OVERSPEED LANDING GEAR INSPECTION REQUIRED IAW 1C-17A-6	10183 FXSB ALACK	MAPEZCT C				
	** 04132	01 S	OVERSPEED LANDING GEAR INSP C/W	10183	CALAK	MAPEZCT			
			T O REF: 1C-17A-2-31JG-60-1 31-61-11	TIME TAKEN: 1.0					
1836823	X 07000	F	IEA C/B COLLAR INST FOR REFRIDGERATOR FREEZER	10183 FXSB ALACM	MAPEKHC C				

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10183 FXSB CA1AM

1846801 / 4100 F LEFT STAB STRUT DOOR INDICATES OPEN WHEN DOOR IS CLOSED 10184 FXSB A1ACM MAPEDFB C  
10184 FXSB CA1AM

\*\* 4122CB001 01 B R F 020 R2 LEFT DOOR STAB STRUT PROX SENSOR 10184 CA1AM MAPEKTM  
T O REF: TIME TAKEN: 1.0

1846802 X 07000 F 1 EA C/B COLLAR INST FOR R2 LEFT STAB STRUT DOOR PROX C 10184 FXSB A1ASE MAPEDFB C  
10184 FXSB CA1AE

1846803 X 07000 F 1 EA W/T INST STABILIZER SYSTEM REPAIR. STABILIZER STRU 10184 FXSB A1ASE MAPEDFB C  
10184 FXSB CA1AE T MANFOLD. NOTE: DO NOT USE

1846804 X 4122AS005 F LEFT STABILIZER STRUT DOOR OPEN, PROX SENSOR REMOVED FO 10184 FXSB A1ACM MAPEDFB C  
10184 FXSB CA1AM R R2

\*\* 4122AS005 01 B R F 020 LEFT STAB STRUT DOOR PROX SENSOR R2 NDN 10184 CA1AM MAPEKTM  
T O REF: 1C-17A-2-41JG-20-5 41-22-12 TIME TAKEN: 1.0

1867000 - 04MD4 F IFF MODE IV INTERROGATION CHECK REQUIRED PRIOR TO NEXT 10186 AJJY A1ACC MAQGLV C  
10186 AJJY QALAC FLIGHT

\*\* 04MD4 01 Y MODE IV CHECK NOT REQUIRED PER CREW IAW 734 AMS LCL MDO 10187 QALAC MAQKRC  
T O REF: 734 AMS LCL MDO4 TIME TAKEN: .3

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AIRCRAFT - 00000173

JCN MNC/FC U T A W HOW CREATE/CLOSE USERID O RPT EMP  
ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION DATE / BASE SHOP REP/REC C REC NBR

1867001 X 0413C F ALL FOUR ENGINES INTAKE AND EXHAUST INSPECTION REQUIRE 10186 AJJY A1ACB MAQGLK C  
10186 AJJY QALAB D WITHIN 4HRS OF LANDING

\*\* 0413C 01 Y I'S AND E'S C/W IAW 1C-17A-6WC-1 CARD 2-052 10186 QALAB MAQGEHL  
T O REF: 1C-17A-6WC-1 CARD 2-052 TIME TAKEN: 2.0

1867002 X 0413C F ALL FOUR ENGINES INTAKE AND EXHAUST F.O. INSPECT 10186 AJJY A1ACC MAQKRC C  
10187 AJJY QALAC ION REQUIRED PRIOR TO NEXT FLIGHT



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1917101	X	0413C	F	INTAKES AND EXHAUSTS INSPECTION REQUIRED ON ALL 4 E 10191 LXFB A1ACB MAQKJHS C ENGINES WITHIN 4 HOURS OF ARRIVAL IAW 1C-17A-6WC-1, CARD 10191 LXFB QA1AB S #4-159 THRU 4-163 IS &ES C/W T O REF: 1C-17A-6WC-1 CARDS 4-159/4-163	10191	QA1AB	MAQK5PC	TIME TAKEN: 2.2	
1917102	X	0413C	F	INTAKES AND EXHAUST FOD INSPECTION REQUIRED ON ALL 4 E 10191 LXFB A1ACC MAQKBRS C ENGINES PRIOR TO NEXT FLIGHT IAW 1C-17A-2-711G-00-1 TAS 10192 LXFB QA1AC ***	10192	LXFB	QA1AC	MAQKBRS C	
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AIRCRAFT - 00000173									
JCN	MMC/FC	U T A W HOW	DISCREPANCY /	CORRECTIVE ACTION	CREATE/CLOSE	USERID	O RPT	EMP	
ASSOC JCN	WUC/REFDES	P M T D MAL			DATE	BASE SHOP	REP/REC	C REC	NBR
**	0413C	01 Y		K 01-1 PG 2-10 STEPS 4, 9, & 10 DOPP INSP CW T O REF: IAW C-17 DOPP CL	10192	QA1AC	MAQKJBW	19210	
1917103	-	04MD4	F	TFE MODE IV CHECK REQUIRED PRIOR TO NEXT FLIGHT IAW 1C-10191 LXFB A1ACC MAQKBRS C 17A-2-34JG-50-5 TASK 01-16 MODE IV CHECK CW T O REF: IAW 1C-17A-2-34 JG-50-5	10192	QA1AC	MAQKJBW	2.0	
1917104	-	01027	F	TIRE PRESSURE CHECK DUE AT 17A-2-12JG-32-1 PG 1-1 TO 1-3 PAR 1-4 Z T O REF: IAW 1C-10191 LXFB A1ACB MAQKJHS C 17A-2-12JG-32-1 PG 1-1 TO 1-12 10191 LXFB QA1AB	10191	LXFB	A1ACB	MAQKJHS C	
1917105	X	04199	F	733 AMS TOOL INVENTORY AND FOD CHECK DUE PRIOR TO DEPA 10191 LXFB A1ACC MAQKBRS C RTURE IAW 733 AMS OI 21-30 PARA 3.2.1 10192 LXFB QA1AC	10191	LXFB	A1ACC	MAQKBRS C	
**	04199	01 Y		INVENTORY CW T O REF: 733 AMS OI 21-30 PARA 3.2.1	10192	QA1AC	MAQKJBW	2.0	
1917106	/	01060	F	SPR REQUIRES DRAINING PRIOR TO NEXT FLIGHT IAW 1C-10191 LXFB A1ACB MAQKBRS C 17A-2-12JG-28-1 PG 2-94 STEP 32-34 10192 LXFB QA1AB	10191	LXFB	A1ACB	MAQKBRS C	
1917107	X	07000	F	APU FUEL PRESS LOW TRIED USING BOTH BOOST PUMPS ON #3 B 10192 LXFB A1ACB MAPEJWY C UT STILL LOW 10207 FXSB CALAB	10197	CE805	MAPEJBK	9.0	
**	4910AA001	01 B G D 242		R2 APU FUEL FIRE SOV T O REF: 28JG-20-6, 28-23-10-3	10197	CE805	MAPEJBK	9.0	

1917107001 X 07000	F	4 EA WARNING TAGS INSTALLED ON ACFT TO FOM	10200 FXSB FUEL 10207 FXSB CE805	MAPETBGC
A0173 90 days Discrepance Report				
1917107002 X 07000	F	5 EA WARNING TAGS INSTALLED ON ACFT TO FOM	10200 FXSB FUEL 10207 FXSB CE805	MAPETBGC
1917107003 X 5248DR016	F	#3 W/T LEADING EDGE ACCESS DOOR LOWERED TO FOM	10200 FXSB FUEL 10207 FXSB CE805	MAPEDDR C
** 5248	01 B X F 799	DOOR RAISED T O REF: 1-1-3	10207	CE805 MAPEDDR
TIME TAKEN: .2				
1917107005 X 2823FV001	F	APU FUEL FIRE SOV REQ5 R2	10200 FXSB FUEL 10200 FXSB CE805	MAPETBKC C
** 2823FV001	01 B R F 242	R2 SOV T O REF: 28JG-20-6, 28-23-10-3	10200	CE805 MAPETBKC
TIME TAKEN: 3.0				
1917107007 - 2823FV001	F	OPS CK DUE ON APU FUEL FIRE SOV	10200 FXSB FUEL 10207 FXSB CE805	MAPEDDR C
** 2821AA001	01 B X F 799	OPS CHECK GOOD T O REF: 1C-17A-2-28JG-20-6	10207	CE805 MAPEDDR
TIME TAKEN: .3				
1917107008 - 2823FV001	F	LK CK DUE ON APU FUEL FIRE SOV	10200 FXSB FUEL 10207 FXSB CE805	MAPEDDR C
** 2823	01 B X F 799	LK CHECK GOOD T O REF: 1C-17A-2-28JG-20-6	10207	CE805 MAPEDDR
TIME TAKEN: .3				
1917107009 X 2823SW001	F	APU FUEL FEED PRESS SWITCH REQ5 R2. ELECTRICAL SIDE CAP PED	10200 FXSB FUEL 10207 FXSB CE805	MAPEDDR C
** 281099	01 B R F 070	REMOVED AND REPLACED SWITCH. CAP REMOVED T O REF: 1C-17A-2-28JG-20-6	10207	CE805 MAPEDDR
TIME TAKEN: 3.9				
1917107010 X 07000	F	6 EA WARNING TAGS INSTALLED ON ACFT TO FOM	10200 FXSB FUEL 10207 FXSB CE805	MAPETBGC
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† MABR7117	DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209			JUL 29, 10 / 06:54Z PAGE 39
AIRCRAFT - 00000173				
JCN	MWC/FC	U T A W HOW	CREATE/CLOSE	USERID O RPT EMP
ASSOC JCN	WUC/REFDES	P M T D MAL	DATE BASE SHOP	REP/REC C REC NBR
DISCREPANCY / CORRECTIVE ACTION				
1917107011 X 2432BT001	F	FWD AND AFT MAIN BATTERIES DISCONNECTED TO FOM	10200 FXSB FUEL 10207 FXSB CE805	MAPETBGC

A0173 90 days Discrepance Report

**	2432	01 B X F 799	BATT'S CONNECTED	10207	CE805	MAPEDDR
		T O REF:	1C-17A-2-283G-20-6	.2		
1917107012	- 2823SW001	F	OPS CK DUE ON AUX POWER SYS	10200	FXSB	AIACB MAPEJWY C
				10207	FXSB	IAIAB
**	2823	01 B X F 799	OPS CHK GOOD NO DEFECT NOTED	10207	IAIAB	MAPEWBW
		T O REF:	283G-20-6, 28-23-11-3 STEP 2	3.0		
1917107013	- 2823SW001	F	LK CK DUE ON APU FUEL FEED PRESS SW	10200	FXSB	FUEL MAPEDDR C
				10207	FXSB	CE805
**	2823	01 B X F 799	LK CK GOOD	10207	CE805	MAPEDDR
		T O REF:	1C-17A-2-283G-20-6	.2		
1917107014	X 07000	F	ELECT SIDE OF APU FUEL FEED PRESS SW CAPPED TO FOM	10200	FXSB	AIACB MAPEJWY C
				10207	FXSB	IAIAB
1917108	/ 3347AA001	F	LFT FWD HIGH INTENSITY LIGHT INOP	10192	LXEB	AIACB MAPEJWY C
				10207	FXSB	IAIAB
**	3347PS001	01 B R F 254	R2 LH RECOGNITION LT PWR SUPPLY OP CHK GOOD	10207	IAIAB	MAPEJWY
		T O REF:		2.0		
1917109	/ 3347AA003	F	LFT AFT HIGH INTENSITY LIGHT INOP	10192	LXEB	AIACB MAPEJWY C
				10207	FXSB	IAIAB
**	3347PS001	01 B R F 255	LFT HIGH INTENSITY LIGHT POWER SUPPLY R2. OPS CHK GOOD	10207	IAIAB	MAPEWBW
		T O REF:		2.0		
1926652	/ 2900	D	#2 SOV DISAG ON GROUND. RESET IN FLIGHT	10193	FXSB	AIACB MAPEDFB C
				10201	FXSB	IAIAB
**	3614UU061	01 B R D 381	R2 2 EA HIGH PRESSURE BLEED AIR FLEX LINES	10194	IAIAB	MAPEJDA
		T O REF:	TO 1C-17A-2-363G-10-1	1.5		
1926653	/ 3442	D	RADAR ALT #2	10193	FXSB	AIASC MAPEFNC C
				10194	FXSB	CAIAN
**	344200	01 B R D 255	R2 RADAR ALT #2 RT OPS CK GOOD	10194	CAIAN	MAPECLS
		T O REF:	R	4.0		
1926654	/ 2744	D	PITCH FORCE MODE AND ROLL FORCE MODE W/ EFCS RESET.	10193	FXSB	AIASG MAPEHCC C
				10194	FXSB	CAIAG
**	2744	01 B L D 127	PILOT PERFORMED STICK JAM RESET RETURNED TO NORMAL SYS	10194	CAIAG	MAPEHCC
		T O REF:		3.0		

1926818	X 0413C	F	POST FLIGHT I'S AND E'S DUE	10193 FXSB AIASP MAPERNW C
** 0413C	01 S		I'S AND E'S CW NDN T O REF: 1C-1/A-6WC-1 WC 4-159-163	10194 FXSB CA1AP
			TIME TAKEN: .3	10193 CA1AP MAPERNW
1926819	X 0413C	F	PRE FLIGHT I'S AND E'S DUE	10193 FXSB AIASP MAPEJAH C
** 0413C	01 S		PRE FLIGHT I'S AND E'S C/W T O REF: 1C-1/A-2-71JG-01-1 TSK 01-1	10194 FXSB CA1AP
			TIME TAKEN: 1.0	10194 CA1AP MAPEJAH
1926820	- 04199	F	DOPP INSP DUE PRIOR TO NEXT FLIGHT	10193 FXSB AIACA MAPETBG C
			***	
MABR7117			DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209	JUL 29, 10 / 06:54Z PAGE 40
AIRCRAFT - 00000173				
JCN	MNC/FC	U T A W HOW		CREATE/CLOSE
ASSOC JCN	WUC/REFDES	P M T D MAL	DISCREPANCY / CORRECTIVE ACTION	DATE BASE SHOP REP/REC C REC NBR
** 04199	01 S		DOPP INSP C/W T O REF: AFI 21-101 AMC SUP AMENDMENT C	10194 IA1AA MAPEFNC
			TIME TAKEN: 2.0	10194 FXSB IA1AA
1926821	/ 01071	F	POST MISSION SFDR DOWNLOAD DUE	10193 FXSB AIASC MAPEOM5 C
				10194 FXSB CA1AN
1926823	/ 7800	F	#2 ENG TRANS FAIRINGHAS 1 EA LOOSE RIVT ON INBOARD SID	10193 FXSB SMC0 MAPETSW C
** 3331AA001	01 B R F 070		REMOVED AND INSTALLED NEW RIVET T O REF:	10196 FXSB CE720
			TIME TAKEN: 1.0	10196 CE720 MAPETSW
1926824	/ 7800	F	#3 ENG INBOARD X PANEL 1 EA SCREW PULLED THROUGH	10193 FXSB AIASP MAPEDFB O
				10194 FXSB CA1AP
1926825	/ 01000	F	LOAD EQUILIZATION RESERVOIR REQUIRES SERVICING	10193 FXSB AIACM MAPEMD1 C
				10194 FXSB CA1AM
1926826	X 07000	F	1 EA W/T ATTACHED TO LOAD EQUILIZATION VALVE. SEE JCN. 1926825. NOTE: DO NOT RESET	10193 FXSB AIACM MAPEMD1 C
				10194 FXSB CA1AM

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1926827	X 0413C				I'S AND E'S DUE BEFORE MANT ENG RUN	10193 FXSB AIASP	MAPERNW	C
	** 0413C	01 S			I'S AND E'S CW' NDN	10194 FXSB CAIAP		
					T O REF: 1C-17A-2-71JG-00-01-1 01-1	10193 CAIAP	MAPERNW	
						TIME TAKEN: .3		
1926828	X 0413C				I'S AND E'S DUE AFTER MANT ENG RUN	10193 FXSB AIASP	MAPERNW	C
	** 0413C	01 S			I'S AND E'S CW' NDN	10194 FXSB CAIAP		
					T O REF: 1C-17A-2-71JG-00-01-1 01-1	10193 CAIAP	MAPERNW	
						TIME TAKEN: .3		
1926829	X 01000				FWD UNDERLOOR MAINTENANCE DOOR OPENED AND SAFETY GRATE INSTALLED TO FOM	10193 FXSB AIASC	MAPERKH	C
						10194 FXSB CAIAN		
1926830	X 01000				AFT MAINTENANCE UNDERLOOR DOOR OPENED TO FOM	10193 FXSB AIASC	MAPERKH	C
						10194 FXSB CAIAN		
1926831	X 07000				IEA C/B PULLED AND COLLARED TO FOM T-27	10193 FXSB AIASC	MAPERKH	C
						10194 FXSB CAIAN		
1926832	X 3442TS002				RAD ALT R/T #2 REM FOR REPLACEMENT	10193 FXSB AIASP	MAPETBG	C
						10194 FXSB CAIAP		
1926836	X 2191AA001				#1 ECSC REM FOR R2	10193 FXSB AIASE	MAPETBG	C
	** 2191AA001	01 B R F 255 R2 ECSC #1, OPS CK GOOD, T O REF: 21JG-90-1(21-91-10-3)				10194 FXSB CAIAE		
						10195 CAIAE	MAPERRB	
						TIME TAKEN: 2.0		
1926837	X 07000				F 3 EA C/B INTS TO FOM, H-44, M-43, F-26. NOTE: DO NOT RE	10193 FXSB AIACB	MAPEJDA	C
					***			
MABR7117					DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209			
AIRCRAFT - 00000173								
JCN	MNC/FC	U T A W HOW				CREATE/CLOSE		
ASSOC JCN	WUC/REFDES	P M T D MAL				DATE BASE SHOP	USERID	O RPT
						REP/REC	C REC	EMP
								NBR

Line No	Code	Description	Time Taken	Location
1926838	X 2191AA002	#2 ECSC REM FOR R2	10194	FXSB IA1AB
1926839	X 07000	3 EA C/B INTS TO FOM, N-34, H-38, F-26. NOTE: DO NOT RE SET	10193	FXSB AIACB MAPEJDA C
1926840	- 3600	PNEUMATIC SYS OPS CK DUE IAW 361G-00-1 36-00-01 TASK 01 -1	10193	FXSB AIASE MAPEJDA C
1926842	X 5472CA074	#3 PYLON OUTBOARD SPLIT PNL REMOVED FOR TROUBLE SHOOTING	10194	FXSB AIASE MAPEBWK C
1926843	X 3611AS003	#3 ENG HIGH STAGE INLET PRESSURE SENSOR DISCONNECTED FOR R TROUBLESHOOTING	10194	FXSB AIASE MAPEBWK C
1926844	X 01008	T/R SAFETY PIN INST IN #2 PYLON	10194	FXSB AIACB MAPEJBO C
1926845	X 01008	#2 ENG ACCESSORY DOORS OPEN TO FOM	10194	FXSB AIACB MAPEJBO C
1926846	X 01008	#2 ENG T/R DOOR OPENED TO FOM	10194	FXSB IA1AB
1926847	X 3611UW006	#2 HIGH STAGE VALVE BRAIDED LINE REMOVED FOR R2	10194	FXSB AIASE MAPEBWK C

A0173 90 days Discrepance Report  
 \*\* 3611UU006 01 B R F 255 NEW LINE INSTALLED, PNEUMATIC OPS CK DUE  
 T O REF: 36JG-10-1 36-11-14-3  
 TIME TAKEN: 2.0  
 CAIAE MAPEBWK

1926848 X 3612UU008 F #3 HIGH STAGE PILOT VALVE BRAIDED LINE REMOVED FOR R2  
 \*\* 3612UU008 01 B R F 255 INSTALLED NEW LINE, PNEUMATIC OPS CK DUE  
 T O REF: 36JG-10-1 36-11-13-2  
 TIME TAKEN: 2.0  
 CAIAE MAPEBWK

1926849 X 07000 F IEA WARNING TAG INST TO FOM, PNEUMATIC GRD CONNECTION,  
 DO NOT APPLY AIR  
 10194 FXSB AIAFM MAPEBWK C  
 10194 FXSB CAIAF

1926850 X 07000 F IEA WARNING TAG INST TO FOM C-14. DO NOT RESET  
 10194 FXSB AIAFM MAPEBWK C  
 10194 FXSB CAIAF

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 MABR7117 DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 42

AIRCRAFT - 00000173  
 JCN NMC/FC U T A W HOW CREATE/CLOSE  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION DATE BASE SHOP USERID O RPT EMP

1926851 X 07000 F IEA WARNING TAG INST TO FOM, PNEUMATIC GRD CONNECTOR, D O NOT APPLY AIR  
 10194 FXSB AIAFM MAPEBWK C  
 10194 FXSB CAIAF

1926852 X 07000 F IEA C/B INST TO FOM, C-14, N-34, F-27, H-38 DO NOT RESE  
 T.  
 10194 FXSB AIAFM MAPEBWK C  
 10194 FXSB CAIAF

1927100 - 04000 F LIMITED DOPP INSPECTION DUE  
 \*\* 04000 01 Y INSP GW 10192 LXFB AIACD MAQBRS C  
 T O REF: IAW C-17 DOPP CL 10192 LXFB QA1AD

1941610 - 04199 S PERFORM NLG AND MLG ASSEMBLY LUBRICATION REQUIREMENT IA  
 W TO IC-17A-6WC-4. (2-D-001) DUE: 23JUL1  
 10194 FXSB WASH MAPEJGA C  
 10198 FXSB C9925

\*\* 04199 01 S LUBRICATION C/W  
 T O REF: IC-17A-6WC-4 PARA2-D-001  
 10198 C9925 MAPEJGA  
 TIME TAKEN: 16.0

1945331	- 04199	F	**** PART # 42-829-2 6 REMOVED BY USER MACODRS AT BASE DKFX	CEI MCO/86D SERIAL 000000050	10194 DKFX A1CC 10196 FXSB CA000	MAPEFNC C
	** 04199	01 S	SERIAL NUMBERS VERIFIED T O REF: 1C-17A-2-32JG-40-8 32-46-10-3	TIME TAKEN: 2.0	10196 CA1AG MAPEFNC	
1946811	/ 01000	F	FIRST AID KIT AT RIGHT SIDE FUSELAGE STATION 390 OPENED	10194 FXSB A1ACM 10195 FXSB CA1AM	MAPEAK2 C	
1946812	- 04199	F	LIMITED DOPP INSP DUE PRIOR TO NEXT FLIGHT ON REFUEL PA NEL AREA	10194 FXSB A1ACM 10194 FXSB CA1AM	MAPEAK2 C	
	** 04199	01 S	LIMITED DOPP CW FOR REFUEL AREA T O REF: AFI 21-101 AMC SUP ADDENDA C	TIME TAKEN: .5	10194 CA1AM MAPEAK2	
1946853	X 0413C	F	PRE I'S AND E'S MAINT ENG RUN	10194 FXSB A1ASP 10194 FXSB CA1AP	MAPEJ30 C	
	** 0413C	01 S	I'S AND E'S C/W IAW T.O. T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	TIME TAKEN: 1.5	10194 IA1AB MAPEJ30	
1946854	X 0413C	F	POST I'S AND E'S MAINT ENG RUN	10194 FXSB A1ASP 10194 FXSB CA1AP	MAPEJ30 C	
	** 0413C	01 S	I'S AND E'S C/W IAW T.O. T O REF: 1C-17A-2-71JG-00-1 TASK 01-1	TIME TAKEN: 1.5	10194 IA1AB MAPEJ30	
1956651	/ 4111	D	LOCKS 11/12 WOULD NOT RELEASE IN FLIGHT T O REF:	10194 FXSB A1ACM 10195 FXSB CA1AM	MAPETSU C	
	** 4111AA001	01 B R D 070	R2 LOW FORCE ACTUATOR R2 T O REF:	TIME TAKEN: 1.0	10194 CA1AM MAPETSU	
1956659	/ 3425	D	PILOT HUD DIFFICULT TO READ	10195 FXSB A1ACB 10195 FXSB IA1AB	MAPECGC C	
	** 3425AA001	01 B L D 230	CLEANED HUD AND PERFORMED OPERATIONAL CHECKOUT. O/C/G T O REF:	10195 IA1AB MAPECGC		
1956660	/ 3600	D	#2 SOV MALFUNCTION	10194 FXSB A1ASE 10195 FXSB CA1AE	MAPEMSK C	
			***	***		

DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 43

AIRCRAFT - 00000173										A0173 90 days Discrepance Report			
JCN	MWC/FC	U T A W	HOW	DISCREPANCY /	CORRECTIVE ACTION	CREATE/CLOSE	USERID	O RPT	EMP				
ASSOC JCN	WUC/REFDES	P M T D	MAL			DATE	BASE	SHOP	REP/REC	C REC	NBR		
**	360000	01 B X D	799	PERFORMED PNEUMATIC SYSTEM OPS CHK, OPS CHK GOOD		10195	CA1AE	MAPEMSK					
				T O REF: 36JG-00-1 36-00-01 TSK 01-1		1.2							
1956801	X 0413C		F	I'S AND E'S INSP DUE AFTER FLIGHT		10194	FXSB	ALASP	MAPEJRB	C			
**	0413C	01 S		I'S AND E'S CW NDN		10195	FXSB	CA1AP					
				T O REF: 1C-17A-6WC-1,WC 4-159/4-163		.3							
1956802	X 0413C		F	I'S AND E'S INSP DUE PRIOR TO NEXT FLIGHT		10194	FXSB	ALACM	MAPESHI	C			
**	0413C	01 S		I'S AND E'S C/W		10195	FXSB	CA1AP	MAPESHI				
				T O REF: 1C-17A-2-71JG-00-1 TASK 01-1		1.6							
1956803	- 04199		F	DOPP INSP DUE PRIOR TO NEXT FLIGHT		10194	FXSB	ALACA	MAPEEJ	C			
**	04199	01 S		DOPP INSP C/W		10195	FXSB	IA1AA	MAPEEJ				
				T O REF: AFI 21-101 AMC SUP ADDC		.5							
1956808	X 07000		F	IEA C/B COLLAR INSTALLED TO FOM D-15		10194	FXSB	ALACM	MAPETSW	C			
						10196	FXSB	CA1AM					
1956809	X 2823FV001		F	APU FUEL FIRE SHUT OFF VALVE DISCONNECTED FOR T/S		10194	FXSB	FUEL	MAPETSW	C			
**	2823FV001	01 B S F	800	RECONNECTED CANNON PLUG IAW 2823AA00		10196	FXSB	CE805					
				T O REF: 1C-17A-2-28FI-00-1		3.0							
1956813	X 07000		F	TEA C/B COLLARS INSTALLED TO FOM D-5 D-11 J-4 K-8 A-1 A		10194	FXSB	ALACM	MAPETSW	C			
				-4 A-9		10195	FXSB	CA1AM					
1956814	X 4111AA036		F	LEFT HAND ADS RAIL FOR LOCKS 11 AND 12 OPENED TO FOM		10194	FXSB	ALACM	MAPEKTM	C			
**	4111AA036	01 B X F	799	CLOSED ADS RAIL NDN		10195	FXSB	CA1AM	MAPEKTM				
				T O REF: 1C-17A-2-41JG-10-1 41-11-02		1.0							
1956816	X 4112BB007		F	#7 ADS LOW FORCE LENIAR ELECTRO MECHANICAL ACCUATOR RE		10195	FXSB	ALACM	MAPEKTM	C			

A0173 90 days Discrepance Report  
 MOVED FOR REPLACEMENT  
 10195 FXSB CALAM

\*\* 411288007 01 B R F 020 R2 LOW FORCE ACTUATOR IAW IC-17A-2-41JG-10-4 TASK 2-5 3 10195 CALAM MAPEKTM  
 T O REF: IC-17A-2-41JG-10-4 TIME TAKEN: 2.0

1956817 X 07000 F 4EA C/B INST FOR #7 ADS LOW FORCE LENATR ELECTRO MECH A 10195 FXSB ALACM MAPETSW C  
 CCUATOR REMOVED FOR R2, A10, B10, D11, D12 10195 FXSB CALAM

1956819 / 07000 F 2EA C/B COLLARS INST ON C-14, D-15 APU SHUTOFF VALVE IN 10195 FXSB ALASP MAPEOM5 C  
 OP NOTE: DO NOT RESET SEE PG. BL. 10208 FXSB CALAP

1956823 - 04199 F LT ADS RAIL LOW FORCE ACCUATOR REQ. 10195 FXSB ALACM MAPEKTM C  
 10195 FXSB CALAM

\*\* 04199 01 S OPS CHECK GOOD NDN 10195 CALAM MAPEKTM  
 T O REF: IC-17A-2-41JG-10-1 TASK 01-1 TIME TAKEN: .2

1956834 - 02003 F MINOR INTERIOR CLEANING DUE 10195 FXSB ENGI MAPEJGA C  
 10198 FXSB CE605  
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 AIRCRAFT - 00000173

JCN WMC/FC U T A W HOW CREATE/CLOSE USERID O RPT EMP  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION DATE BASE SHOP REP/REC C REC NBR

1956856 - 04199 F LIMITED DOPP INSP DUE 10195 FXSB ALACM MAPEJER C  
 10195 FXSB CALAM

\*\* 04199 01 S LIMITED DOPP ON FUEL PANEL CW 10195 CALAM MAPEJER  
 T O REF: AFI 21-101 AMC SUPP ADDENDA C TIME TAKEN: 1.0

1956869 X 0413C F POST FLIGHT I'S AND E'S DUE 10195 FXSB ALASP MAPETSW C  
 10196 FXSB CALAP

\*\* 0413C 01 S IAND E INSP CW PER 10196 CALAP MAPETSW  
 T O REF: -6WC-1 CARD 4-159-4-163 TIME TAKEN: 1.0

1956870 X 0413C F PRE FLIGHT I'S AND E'S DUE 10195 FXSB ALASP MAPETAK C  
 10208 FXSB CALAP

Task ID	Description	Time Taken	Personnel
1956871 - 04199	DOPP INSP DUE T O REF: 1C-17A-2-71JG-00-1 01-1	10208	CA1AM MAPETAK
** 0413C 01 S	IS AND ES INSP C.W T O REF: 1C-17A-2-71JG-00-1 01-1	10208	CA1AM MAPETAK
** 04199 01 S	DOPP INSP C.W T O REF: AFI 21-101 AMC SUP ADENDA C	10208	CA1AM MAPETAK
1956872 / 2854	UAR RFI SHROUD PUSH BUTTON FUEL EXCESSIVELY	10195	FXSB A1ACM MAPELAY C
** 2854 01 B X F 799	PERFORMED SHROUD DRAIN FI SYSTEM RETURN TO NORMAL. NO D T O REF:	10196	CE805 MAPELAY
1961700 - 02000	AIRCRAFT DUE WASH MPLETE _____ DATE COMPLETE _____	10196	FXSB WASH MAPEWTF C
** 04199 01 S	AIRCRAFT TAPED AND PREPPED FOR WASH T O REF: 1-1-691	10198	CE605 MAPEJGA
1961700001 X 04199	BATTERYS DISCONNECTED FOR WASH IAW 2-12JG-24-1, TASK 02-1. D, SEE PG _____ BLK _____ BATTERIES RECONNECTED FOR TOW T O REF: 12JG-24-1 TSK2-2 12-24-02-2	10196	FXSB A1ACM MAPECK5 C
** 2432BT001 01 B X F 799	6 EA WARNING TAGS INSTALLED, EXTERNAL PWR CLE, BATTERY SWITCH, 4 ELECTRICAL CONNECTORS PPLY POWER, SEE PG _____ BLK _____ ALL WARNING TAGS RMVD T O REF: 12-JG-24-1 TSK 2-2 STEP 7-9	10199	CA1AM MAPECK5
1961700003 X 2441JE001	RECONNECTED NLG DOORS T O REF: 52-80-1 TASK 3-1 STEP 6	10199	CA1AM MAPECK5
** 5281DR001 01 B X F 799	ALL 4 ENGINE INLET/EXHAUST COVERS AND FAN VERS INSTALLED FOR WASH	10196	FXSB WASH MAPEWTF C
1961700005 X 01006	LT AND RT. PITOT COVERS INSTALLED	10200	FXSB C9925
1961700006 X 2554UU076	LEFT INBD FWD GEAR DOOR LOWERED FOR WASH	10196	FXSB A1ACM MAPECK5 C
1961700007 X 5282DR007		10196	FXSB A1ACM MAPECK5 C

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A0173 90 days Discrepance Report  
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MABR7117		DISCREPANCY REPORT FOR AIRCRAFT - 00000173		FROM 10119 TO 10209		JUL 29, 10 / 06:54Z		PAGE 45			
JCN	MWC/FC	U T A W HOW	P M T D MAL	DISCREPANCY /	CORRECTIVE ACTION	CREATE/CLOSE	DATE	BASE SHOP	USERID	O RPT	EMP
ASSOC JCN	WUC/REFDES					DATE		REP/REC	C REC	RECE	NBR
1961700008	X 5282DR011	F		LEFT INBD AFT GEAR DOOR LOWERED FOR WASH		10199	FXSB CALAM	MAPECK5			
**	5282DR007	01 B X F 799		LT INBD FWD GEAR DR RAISED		10199	FXSB CALAM	MAPECK5			
				T O REF: 52JG-80-3 TASK3-1 STEP 19		.3					
1961700009	X 5282DR006	F		RT. INBD.FWD. GEAR DOOR LOWERED FOR WASH		10199	FXSB CALAM	MAPECK5			
**	5282DR011	01 B X F 799		LT INBD AFT GEAR DR RAISED		10199	FXSB CALAM	MAPECK5			
				T O REF: 52JG-80-3 TASK 3-1 STEP 19		.3					
1961700010	X 5282DR010	F		RT. INBD AFT. GEAR DOOR LOWERED FOR WASH		10199	FXSB CALAM	MAPECK5			
**	5282DR006	01 B X F 799		RT INBD FWD GEAR DOOR RAISED		10199	FXSB CALAM	MAPECK5			
				T O REF: 52JG-80-3 TASK3-1 STEP19		.2					
1961700011	X 01000	F		RT WING #1 SLAT AREA PNL5 OR DOORS FOR LUBRICATION IAW IC-17A-6WC-4		10199	FXSB CALAM	MAPECK5			
**	5282DR010	01 B X F 799		RT INBD AFT GEARDR RAISED		10199	FXSB CALAM	MAPECK5			
				T O REF: 52JG-80-3 TASK 3-1 STEP19		.1					
1961700012	X 01000	F		RT WING #2 SLAT AREA PNL5 OR DOORS FOR LUBRICATION IAW IC-17A-6WC-4		10198	FXSB CALAM	MAPECK5			
**	5282DR010	01 B X F 799		RT WING OUTBD LEADING EDGE PNL5 OR DOORS FOR LUBRICATION IAW IC-17A-6WC-4		10198	FXSB CALAM	MAPECK5			
				LOWERED		10199	FXSB CALAM	MAPECK5			
1961700013	X 01000	F		RT WING OUTBD LEADING EDGE PNL5 OR DOORS FOR LUBRICATION IAW IC-17A-6WC-4		10198	FXSB CALAM	MAPECK5			
**	5282DR012	01 B X F 799		RT MLG OUTBD GEAR DOORS RAISED TO MAINT POSITIONFOR LUB		10199	FXSB CALAM	MAPECK5			
				RT MLG OUTBD GEAR DOORS RAISED TO MAINT POSITIONFOR LUB		10199	FXSB CALAM	MAPECK5			
				T O REF: 6WC-4		.1					
1961700015	/ 5282DR011	F		LT. OUTBD MLG DOORS RAISED TO THE MAINT POSITIONFOR LUB		10199	FXSB CALAM	MAPECK5			
**	5282DR011	01 B X F 799		LT OUTBD MLG DRS LOWERED		10199	FXSB CALAM	MAPECK5			

A0173 90 days Discrepance Report  
T O REF: 6WC-4

1961700016 X 01000	F	LT WING #1 SLAT AREA PNLS OR DOORS FOR LUBRICATION IAW 1C-17A-6WC-4	LOWERED	10196 FXSB ENGT MAPEJGA C	10198 FXSB CE605	TIME TAKEN: .2
1961700017 X 01000	F	LT WING #2 SLAT AREA PNLS OR DOORS FOR LUBRICATION IAW 1C-17A-6WC-4	LOWERED	10196 FXSB ENGT MAPEJGA C	10198 FXSB CE605	TIME TAKEN: .2
1961700018 X 01000	F	LT WING OUTBRD LEADING EDGE PNLS OR DOORS FOR LUBRICATION IAW 1C-17A-6WC-4	LOWERED	10196 FXSB ENGT MAPEJGA C	10198 FXSB CE605	TIME TAKEN: .2
1961700019 / 01000	F	FLAPS / LEADING EDGE SLATS EXTENDED FOR WASH		10196 FXSB ENGT MAPEJGA C	10198 FXSB CE605	TIME TAKEN: .2
1961700020 X 2751AA001	F	FLAP/SLAT HANDLE GRND SAFETY PIN INSTALLED FOR BE IAW 1C-17A-2-057G-10-1, TASK 01-7	SLAT LU	10196 FXSB ATACM MAPECK5 C	10199 FXSB CALAM	TIME TAKEN: .2
** 2751AA001 01 B X F 799		RMVD FLAP/SLAT GRND SAFETY PIN T O REF: 057G-10-1 TASK 1-8		10199 CALAM MAPECK5		TIME TAKEN: .2
1961700021 X 07000	F	1 EA WARNING TAG INST. FOR FLAP CONTROL HANDLE LAP SWITCH ON FCS ACTR PANEL POSITION SWITCH	LOCK: F DO NOT R	10196 FXSB ATACM MAPECK5 C	10200 FXSB CALAM	TIME TAKEN: .2
1961700022 X 07000	F	AUX HYD SYS CB'S OPENED & INSTALL 6 EA WARNING TAGS(LL 10,LL11,LL68,LL69,H28,H29)FOR SLAT LUBE		10196 FXSB ATACM MAPECK5 C	10200 FXSB CALAM	TIME TAKEN: .2
MABR7117		DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209		JUL 29, 10 / 06:54Z		PAGE 46
AIRCRAFT - 00000173						
JCN MNC/FC U T A W HOW				CREATE/CLOSE	USERID	O RPT EMP
ASSOC JCN WUC/REFDES P M T D MAL		DISCREPANCY / CORRECTIVE ACTION		DATE	BASE SHOP	REP/REC C REC NBR
1961700023 / 5232AA010	F	7A-6WC-4,CARD#1-088.DO NOT RESET		10196 FXSB ATASH MAPECK5 C	10199 FXSB CALAH	TIME TAKEN: .2
** 5232AA010 01 B X F 799		RAMPT LOWERED TO ADS POSITION / CARGO DOOR CLOSEDFOR WAS T O REF:		10199 CALAH MAPECK5		TIME TAKEN: .2
1961700024 / 4114AA001	F	ALL CARGO ROLLER CONVEYERS REMOVED FOR WASH		10196 FXSB ATASH MAPECK5 C	10199 FXSB CALAH	TIME TAKEN: .1
** 4114AA001 01 B X F 799		REPLACED ALL ROLLERS T O REF:		10199 CALAH MAPECK5		TIME TAKEN: .1
1961700025 / 4112AA001	F	LOGISTICS RAILS RAISED FOR WASH		10196 FXSB ATASH MAPECK5 C		TIME TAKEN: .1



1966846 X 07000 F 1 EA W/T INST ON EMERGENCY LIGHTING CARGO COMPARTMENT L 10196 FXSB A1ACM MAPEMD1 C  
 10197 FXSB CA1AM

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 A0173 90 days Discrepance Report  
 IGH SWITCH. NOTE: DO NOT USE  
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DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 47  
 MABR7117  
 AIRCRAFT - 00000173

JCN MNC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION  
 1966847 X 07000 F 1 EA C/B COLLAR INST H-3. NOTE: DO NOT RESET  
 10196 FXSB A1ACM MAPEMD1 C  
 10197 FXSB CA1AM

1966848 - 3331AA051 F OPS CHK DUE ON INCANDESCENT LIGHT IAW 333JG-30-1 33-31-1 10196 FXSB A1ACM MAPESRM C  
 0-1 TSK 1-1 10207 FXSB CA1AM  
 \*\* 3331AA051 01 B X F 799 OPS CK CW IAW 1C-17A-2-333JG-30-1 TASK 1-1 10207 CA1AM MAPESRM  
 T O REF: 1C-17A-2-333JG-30-1 TIME TAKEN: .4

1971612 - 02003 A AIRCRAFT WASH DUE IAW TO 1-1-691 ZONE CHARTS 10196 FXSB WASH MAPEWTF C  
 10198 FXSB C9925  
 DUE:2010211

1976804 / 2823PP002 F CANNON PLUG 2823PP002 ON APU FUEL FEED LOW PRESSURE SWI 10197 FXSB A1ASE MAPEJWY C  
 TCH IS CORRODED REQ R2 10207 FXSB CA1AE  
 \*\* 2823PP002 01 B R F 170 CANNON PLUG 2823PP002 R2 OPS CHK GOOD 10207 CA1AE MAPEWBW  
 T O REF: TIME TAKEN: 3.0

1996805 X 01065 F NLG TOURQUE LINKS DISCO'ED FOR TOW 10199 FXSB A1ACM MAPETBG C  
 10199 FXSB CA1AM

2016806 X 2823PP002 F APU FUEL LOW PSI SWITCH CANNON PLUG REMOVED FOR R2 10201 FXSB A1ASE MAPETBG C  
 10207 FXSB CA1AE  
 \*\* 2823PP002 01 B R F 170 R2 CP 2823PP002 OP CHK GOOD 10207 CA1AE MAPEWBW  
 T O REF: 1-1A-14 SEC020 00 TSK 44 TIME TAKEN: 3.0

2016807 X 2432BT001 F MAIN BATT #1 DISCONNECTED TO FOM 10201 FXSB A1ASE MAPETBG C  
 10207 FXSB CA1AE  
 \*\* 2432BT001 01 B S F 800 MAIN BATT #1 RECONNECTED 10207 CA1AE MAPEWBW

A0173 90 days Discrepance Report  
 T O REF: 12JG-24-1, 12-24-02-2  
 TIME TAKEN: 1.5

2016808 X 2432BT002 F MAIN BATT #2 DISCONNECTED TO FOM  
 10201 FXSB AIASE MAPETBG C  
 10207 FXSB CAIAE  
 \*\* 2432BT002 01 B S F 800 MAIN BATT #2 RECONNECTED  
 T O REF: 12JG-24-1, 12-24-02-2  
 TIME TAKEN: 1.5  
 10207 CAIAE MAPEWBW

2016809 X 07000 F 2 EA WARNING TAGS INSTALLED TO FOM FOR APU CANNON PLUG  
 10201 FXSB AIASE MAPETBG C  
 10207 FXSB CAIAE  
 001 EXT PWR RECP 002 BATT SWITCH

2056801 - 03100 F REQS PRE FLIGHT UPDATE  
 10205 FXSB AIAACM MAPEOM5 C  
 10208 FXSB CAIAM  
 \*\* 03100 01 S PREFLIGHT C/W IAW 1C-17A-6WC-1 CARDS 1-001 - 1-053  
 T O REF: -6 WC-1 CARDS 1-001 - 1-053  
 TIME TAKEN: 1.5  
 10207 CAIAM MAPEDS7

2056802 X 01065 F NUG SCISSORS DISCONT FOR TOW  
 10205 FXSB AIAACM MAPELAY C  
 10205 FXSB CAIAM  
 2076803 - 03215 F FOLLOW PRE-FLIGHT WORK CARDS ARE NOT C/W IAW 1-C17A-2 W  
 10207 FXSB AIAACM MAPEWSJ C  
 10207 FXSB CAIAM  
 \*\* 03215 01 D A-1 4-011 4-015THRU021 4-034THRU 036 4-046 4-055  
 C/W INSP CARDS IAW 1C-17A-6W-1 4-011, 4-015-4-021, 4-034 10207  
 T O REF: 1C-17A-6WC-1  
 TIME TAKEN: 6.0  
 CE220 MAPEWSJ

2076824 X 07000 F 1 EA C/B INSTALLED TO FOM, NOTE: DO NOT RESET  
 10155 FXSB AIASE MAPEJWY C  
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 † MABR7117 DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209  
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 AIRCRAFT - 00000173

JCN MWC/FC U T A W HOW  
 ASSOC JCN WUC/REFDES P M T D MAL DISCREPANCY / CORRECTIVE ACTION  
 CREATE/CLOSE USERID O RPT EMP  
 DATE / BASE SHOP REP/REC C REC NBR  
 10207 FXSB CAIAE  
 10207 FXSB CAIAE

2076825 X 3347PS001 F LFT HAND RECOGNITION LIGHT POWER SUPPLY REM FOR R2  
 10155 FXSB AIASE MAPEJWY C  
 10207 FXSB CAIAE  
 \*\* 3347PS001 01 B R F 255 R2 LH RECOGNITION LT PWR SUPPLY OP CHK GOOD  
 T O REF: 33JG-40-4 TASK 3-1 33-47-12-3  
 TIME TAKEN: 10207  
 .6  
 CAIAE MAPEJWY

A0173 90 days Discrepance Report

2076826	X 07000	F	2 EA C/B PULLED AND COLLARED FOR FOM, B-13, B-14, NOTE: DO NOT RESET	10207 FXSB ALASE 10207 FXSB CA1AE
2086813	- 04199	F	LIMITED DOPP INSP DUE ON REFUEL PANEL AREA PRIOR TO NEX T FLIGHT	10208 FXSB A1ACM 10208 FXSB CA1AM
**	04199	01 S	DOPP INSPECTION C/W T O REF: AFI 21-101 AMC SUPP ADDENDA C	10208 CALAM TIME TAKEN: .4
2086823	/ 2300	F	PILOT CANNOT TRANSMIT	10208 FXSB A1ASC 10209 FXSB CA1AN
**	230000	01 B H F 948	OPS CK ALL RADIOS. COM 1, COM 2, UHF OPS CK GOOD. T O REF:	10209 CALAN TIME TAKEN: 4.0
2086824	X 07000	F	3EA C/B PULLED AND COLLARED FOR CCU #1 REMOVAL B-9 B-31 H-6	10208 FXSB A1AFM 10209 FXSB CA1AF
2086825	X 2381CM001	F	CCU #1 REM FOR REPLACEMENT	10208 FXSB A1ASC 10209 FXSB CA1AN
**	2381CM001	01 B S F 800	REINSTALLED CCU1. OPS CK GOOD T O REF: IC-17A-2-23JG-80-2, 23-81-11-3	10208 CALAN TIME TAKEN: 1.0
2086826	X 07000	F	3EA C/B PULLED AND COLLARED FOR CCU #2 REMOVAL T-35 B-3 2 H-6	10208 FXSB A1AFM 10209 FXSB CA1AF
2086827	X 2381CM002	F	CCU #2 REM FOR REPLACEMENT	10208 FXSB A1ASC 10209 FXSB CA1AN
**	2381CM002	01 B S F 800	REINSTALLED CCU2. OPS CK GOOD T O REF: IC-17A-2-23JG-80-2, 23-81-11-3	10208 CALAN TIME TAKEN: 1.0
2086831	- 04199	F	LIMITED DOPP INSP DUE ON AFI REFUEL PANEL PRIOR TO NEX FLIGHT	10208 FXSB A1ACM 10209 FXSB CA1AM
**	04199	01 S	DOPP INSPECTION C/W T O REF: LCL MXG/OA104	10208 CALAH TIME TAKEN: .2
2091639	- 04MD4	S	IAM AFI 21-101 MODE IFF MODE 4 CHECK IS DUE. DUE: 08AUG1	10209 FXSB A1ASC CALAN

A0173 90 days Discrepance Report

JCN	WUC/REFDES	P	M	T	A	W	HOW	DISCREPANCY / CORRECTIVE ACTION	CREATE/CLOSE DATE	BASE SHOP	USERID	O	RPT	EMP
									DATE		REP/REC	C	REC	NBR
2096801	X 0413C							I AND ES DUE AFTER FLIGHT	10209	FXSB ALACM	MAPETAK	C		
	** 0413C							IS AND ES INSP C.W T O REF: 1C-17A-6WC-1 CARDS 4-159-4-163	10209	FXSB CALAM	MAPETAK			
								TIME TAKEN: 1.2						
2096802	X 0413C							I AND ES DUE BEFORE NEXT FLIGHT	10209	FXSB ALACM	MAPETAK	C		
	** 0413C							IS AND ES INSP C.W T O REF: 1C-17A-2-71JG-00-1 01-1	10209	FXSB CALAM	MAPETAK			
								TIME TAKEN: .4						
DISCREPANCY REPORT FOR AIRCRAFT - 00000173 FROM 10119 TO 10209 JUL 29, 10 / 06:54Z PAGE 49														
AIRCRAFT - 00000173														
JCN	MMC/FC	U	T	A	W	HOW			CREATE/CLOSE DATE	BASE SHOP	USERID	O	RPT	EMP
ASSOC JCN	WUC/REFDES	P	M	T	D	MAL			DATE		REP/REC	C	REC	NBR
2096803	- 04199							DOPP INSPECTION DUE BEFORE NEXT FLIGHT	10209	FXSB ALACM	MAPETAK	C		
	** 04199							DOPP INSP C.W T O REF: AFI 21-101 AMC SUP ADDENDA C	10209	FXSB CALAM	MAPETAK			
								TIME TAKEN: .8						
2096804	/ 2300							VHF INTERMITTENT	10209	FXSB ALASC	MAPEOM5	O		
	X 07000							1 EA CB COLLAR INSTALLED TO FOM FOR WATT METER CHECK OF VHF RT -E31	10209	FXSB AIDBF	MAPEOM5	C		
								TIME TAKEN: 1.0						
2096815	/ 04199							LIMITED DOPP INSP DUE ON SPR CAPS AND REFUEL CAPS PRIOR TO FLIGHT	10209	FXSB ALACM	MAPEDFB	C		
	** 04199							LIMITED DOPP C/W T O REF:	10209	FXSB CALAM	MAPERKH			
								TIME TAKEN: 1.0						
AIRCRAFT TOTAL: JCN 431 WES 168 ASSOC JCN 0 MMN 0 OFF BASE 13 MDC 559 REP/REC														
MDS TOTAL: JCN 431 WES 168 ASSOC JCN 0 MMN 0 OFF BASE 13 MDC 559 REP/REC														
FINAL TOTAL: JCN 431 WES 168 ASSOC JCN 0 MMN 0 OFF BASE 13 MDC 559 REP/REC														

### U3. OPEN DISCREPANCY LOG

A0173 Open Disc---

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A/C CA0173  CALL SIGN T/A      PRI 2   LOC      STATUS PMCM (G)  WUC 4110      RMKS I-DUAL ROW AIRDROP PROHIBIT
SCHD DEPT 1530 28JUL
STATUS JOB 3666805 0000 26JUL      FUEL: REQUIRED 180 ON BOARD 105      LOX /
NITROGEN /
NEXT HSC 120CT      NEXT ISO      TOW/TAXI CODE I      ARRIVAL
WSC-T  MU/GF/OWS OWNING SQDN-CC      A/C ETIC 1930 28JUL      PF-COMP
DELAY T/O TIME      DELAY CODE      GROUND TIME
*****MAINTENANCE DISCREPANCY LIST FOR JOB CONTROL/PRE-PLANNING*****
G081H7115-2  10209/28 JUL 10/2131      ALL 781A      MAINTENANCE      SERIAL NR 00000173      DISCREPANCY
DISC      WUC/REFDES      ETJC      SUPPLY
IND JCN      EVENT/IND AT REMARKS DSR      WORK/NON-WORK
*****
SYMBOL:  JCN: 2097300  SHOP:      WUC/REFDES:      DISCOVERED BY:      TSR/DSR:      DOC NO.:
EMPLOYEE NUMBER:      EMPLOYEE NAME:
DISCREPANCY:
*****
SYMBOL:  JCN: 2097302  SHOP:      WUC/REFDES:      DISCOVERED BY:      TSR/DSR:      DOC NO.:
EMPLOYEE NUMBER:      EMPLOYEE NAME:
DISCREPANCY:
*****
SYMBOL:  JCN: 2097303  SHOP:      WUC/REFDES:      DISCOVERED BY:      TSR/DSR:      DOC NO.:

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EMPLOYEE NUMBER: A0173 open DISC---  
DISCREPANCY:

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SYMBOL: JCN: 2097304 SHOP: WUC/REFDES: DISCOVERED BY: TSR/DSR: DOC NO.:  
EMPLOYEE NUMBER: EMPLOYEE NAME:  
DISCREPANCY:

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SYMBOL: JCN: 2097305 SHOP: WUC/REFDES: DISCOVERED BY: TSR/DSR: DOC NO.:  
EMPLOYEE NUMBER: EMPLOYEE NAME:  
DISCREPANCY:

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\*\*\*\*\* MAINTENANCE DISCREPANCY LIST FOR JOB CONTROL/PRE-PLANNING \*\*\*\*\*  
\*\*\*\*\*  
9  
\*\*\*\*\*  
G081H7115-2 10209/28 JUL 10/2131 ALL 781A MAINTENANCE  
DISC WUC/REFDES ZONE TSR ETJC SUPPLY  
IND JCN EVENT/IND AT REMARKS DSR EDJC WORK/NON-WORK  
\*\*\*\*\* DISCREPANCY \*\*\*\*\*  
SYMBOL: JCN: 2097306 SHOP: WUC/REFDES: DISCOVERED BY: TSR/DSR: DOC NO.:

EMPLOYEE NUMBER:  
DISCREPANCY:

\*\*\*\*\*  
SYMBOL: JCN: 2097307 SHOP: WUC/REFDES: DISCOVERED BY: TSR/DSR: DOC NO.:  
EMPLOYEE NUMBER: EMPLOYEE NAME:  
DISCREPANCY:

\*\*\*\*\*  
SYMBOL: JCN: 2097308 SHOP: WUC/REFDES: DISCOVERED BY: TSR/DSR: DOC NO.:  
EMPLOYEE NUMBER: EMPLOYEE NAME:  
DISCREPANCY:



A0173 open disc---

SYMBOL: JCN: 2097314 SHOP: WUC/REFDES: EMPLOYEE NAME:  
EMPLOYEE NUMBER:  
DISCREPANCY:

DISCOVERED BY:

TSR/DSR:

DOC NO.:

\*\*\*\*\*

/ 0536802 3800 AMM  
TAG: FAT  
EMPLOYEE: - EST DEL:

A1ACM-POTABLE WATER DEACTIVATED FOR COLD WEATHER OPERA  
TIONS SEE P. B.

/ 1526845 2431  
TAG: -  
EMPLOYEE: - EST DEL:

A1ASE-TR #1 2431PS001 + 2431PS002 NOT COMPLIANT WITH T  
CTO:1777

- 1585331 04199  
TAG: -  
EMPLOYEE: - EST DEL:

A1ACM-\*\*\* PART # 1150020-6-2 CEI MC0622D SERIAL 01  
28C00186 REMOVED BY USER MACODRS AT BASE DKFX

/ 1616812 7100 ED  
TAG: FD 20091 0036  
EMPLOYEE: - EST DEL:

DEPOT #2 ENG AFT T/R BLOCKER DOOR LOWER FAIRING AT 6 0  
CLOCK POS. BROKEN AND MANGLED, FAI UNTIL DEPOT MX IAW  
ED 200910036

- 1821684 2621MM002 R  
TAG: FIRE EXT CONTAINER  
EST DEL:

ELEN -EVERY 10 YRS FROM HYDROSTATIC TEST DATE REPLACE  
(4 EA) ENGINE FIRE EXTINGUISHER CONTAINERS FOR HYDROS  
TATIC TEST PN 472555-2. (3-A-002) LOC:02 DUE:2010242

- 1831686 2621MM001 R  
TAG: FIRE EXT CONTAINER  
EST DEL:

ELEN -EVERY 10 YRS FROM HYDROSTATIC TEST DATE REPLACE  
(4 EA) ENGINE FIRE EXTINGUISHER CONTAINERS FOR HYDROS  
TATIC TEST PN 472555-2. (3-A-002) LOC:01 DUE:2010243

- 1831687 2621MM003 R  
TAG: FIRE EXT CONTAINER  
EST DEL:

ELEN -EVERY 10 YRS FROM HYDROSTATIC TEST DATE REPLACE  
(4 EA) ENGINE FIRE EXTINGUISHER CONTAINERS FOR HYDROS  
TATIC TEST PN 472555-2. (3-A-002) LOC:03 DUE:2010243

/ 1926824 7800  
TAG: -  
EMPLOYEE: - EST DEL:

A1ASP-#3 ENG INBOARD X PANEL 1 EA SCREW PULLED THROUGH

A0173 open Disc---

AIASC-IAW AFI 21-101 MODE IFF MODE 4 CHECK IS DUE.

DUE: 08AUG1

AIASC-VHF INTERMITTENT

ISSUED

TAG: / 2096804 2300 PARTS TN TUR 10209

EMPLOYEE: -

EST DEL:

AIACM-2 EA C/B COLLARED FOR COLD WEATHER PROTECTION; L  
-12, A-6 (FWD LM PANEL) SEE PG. BL. NOTE: DO NOT  
RESET

EST DEL:

TAG: / 2826816 07000 AMM

EMPLOYEE: -

DEPOT-ACFT IS PROHIBITED FROM DUAL ROW AIRDROP REGARDL  
ESS OF TCTO 1933 STATUS IAW AMC/A3V FCIF 08-12-XX

EST DEL:

TAG: / 3666805 4110 99

EMPLOYEE: -

\*\*\*\*\* TOTALS 12 \*\* 00000173 \*\*\*\*\*  
\*\*\*\*\* MAINTENANCE DISCREPANCY LIST FOR JOB CONTROL/PRE-PLANNING \*\*\*\*\*  
\*\*\*\*\*

PAGE 4

G081H7115-2 10209/28 JUL 10/2131 ALL 781K MAINTENANCE SERIAL NR 00000173  
DISC WUC/REFDES ZONE TSR ETJC SUPPLY  
IND JCN EVENT/IND AT REMARKS DSR EDJC WORK/NON-WORK  
\*\*\*\*\* DISCREPANCY \*\*\*\*\*

/ 0119550 0198537 02  
TAG: TCTO EST DEL: DEPOT-REPLACEMENT OF AFT MATN LANDING GEARSUPPORT, P/N  
17P2C1138-501 WITH 17P2C1138-503 AND NUT P/N1  
CW TCTO IC-17A-1856 WB/NA PRIME SHOP DEPOT

/ 0299565 0196816 02  
TAG: TCTO EST DEL: DEPOT-MODIFICATION OF LT AND RT WING TRAILING EDGE ASS  
Y  
CW TCTO IC-17A-1658 WB/NA PRIME SHOP DEPOT

/ 0309580 0196830 01  
TAG: DEPT EST DEL: DEPOT-REWORK OF FUEL TANK SYS  
CW TCTO IC-17A-1672 WB/NA PRIME SHOP DEPOT

/ 0439888 0110132  
TAG: TCTO EST DEL: AIASE-MODIFICATION OF AIR COND ELBOW DUCT  
CW TCTO IC-17A-2015 WB/NA PRIME SHOP AIASE

/ 0439896 0110142  
TAG: TCTO EST DEL: AIASE-REPAIR OF WIRING HARNESS CONNECTOR

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TAG:                                TCTO                                A0173 open Disc---
/ 0442615 4721                      AMM                                CW TCTO 1C-17A-2025    WB/NA    PRIME SHOP ALASE
TAG:                                IN TANK MX REQ'D
EMPLOYEE: 28969
/ 0509915 0110155
TAG:                                TCTO                                EST DEL: ISSUED
/ 0509923 0110070
TAG:                                TCTO                                EST DEL: FUEL -LT WING NEA FLAPPER CHECK VALVE BROKEN, FAT-NO R
ESTRICATIONS IPB 4-47/38/15
/ 0509931 0110092
TAG:                                TCTO                                EST DEL: AIASC-REPLACEMENT OF AERONAUTICAL OPERATIONAL COMMUNIC
ATION PRINTER, PART NO. 1781U4008-1 WITH PART NO. 1781
CW TCTO 1C-17A-2038    WB/NA    PRIME SHOP AIASC
/ 0721657 04199
TAG:                                SLAT TRACK INSP                    EST DEL: AIASC-MODIFICATION OF CENTERLINE TROOP SEAT KIT
DEPOT-EVERY 2.5 YEARS OR AT FLEET MX, INSPECT SLAT TRA
CKS FOR NEGLIGIBLE LIMITS AND WEAR PER TO 1C-17A-3-7
(2-E-001) CHG 3
DUE:2010077
- 0771661 3214MP041 X
TAG:                                MLG POST SWIVEL BOLT                EST DEL: AIACM-MODIFICATION OF TAILCONE RADOME ASSY
DEPOT-EVERY 2.5 YRS OR AT FLEET MX, WITH ACFT ON FUSEL
AGE JACKS, REMOVE/CLEAN/INSPECT/INSTALL ALL MLG POST
SWIVEL BOLTS PN 17P2C1220-501 IAW 3 LOC:AL DUE:2010077
- 0771662 3214MP041 X
TAG:                                MLG POST SWIVEL BOLT                EST DEL: DEPOT-EVERY 2.5 YRS OR AT FLEET MX, WITH ACFT ON FUSEL
AGE JACKS, REMOVE/CLEAN/INSPECT/INSTALL ALL MLG POST
SWIVEL BOLTS PN 17P2C1220-501 IAW 3 LOC:AR DUE:2010077
- 0771663 3214MP041 X
TAG:                                MLG POST SWIVEL BOLT                EST DEL: DEPOT-EVERY 2.5 YRS OR AT FLEET MX, WITH ACFT ON FUSEL
AGE JACKS, REMOVE/CLEAN/INSPECT/INSTALL ALL MLG POST
SWIVEL BOLTS PN 17P2C1220-501 IAW 3 LOC:FL DUE:2010077
*****MAINTENANCE DISCREPANCY LIST FOR JOB CONTROL/PRE-PLANNING*****
*****
G081H7115-2 10209/28 JUL 10/2131 ALL 781K MAINTENANCE SERIAL NR 00000173
DISC WUC/REFDES ZONE TSR ETJC SUPPLY
IND JCN EVENT/IND AT REMARKS DSR EDJC WORK/NON-WORK
*****DISCREPANCY*****
- 0771664 3214MP041 X
TAG:                                MLG POST SWIVEL BOLT                EST DEL: DEPOT-EVERY 2.5 YRS OR AT FLEET MX, WITH ACFT ON FUSEL
AGE JACKS, REMOVE/CLEAN/INSPECT/INSTALL ALL MLG POST
SWIVEL BOLTS PN 17P2C1220-501 IAW 3 LOC:FR DUE:2010077

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A0173 open Disc---

- 0771665	04199	FAN THRUST REVERSER	EST DEL:	DEPOT-EVERY 2.5 YEARS, INSPECT AND OVERHAUL LEGACY FAN THRUST REVERSER PN 17P8D8200 OR N/EAT FAN THRUST REVERSER PN 17P8D9200. (2-E-001) CHG 3 LOC:01 DUE:2010077
- 0771666	04199	FAN THRUST REVERSER	EST DEL:	DEPOT-EVERY 2.5 YEARS, INSPECT AND OVERHAUL LEGACY FAN THRUST REVERSER PN 17P8D8200 OR N/EAT FAN THRUST REVERSER PN 17P8D9200. (2-E-001) CHG 3 LOC:02 DUE:2010077
- 0771667	04199	FAN THRUST REVERSER	EST DEL:	DEPOT-EVERY 2.5 YEARS, INSPECT AND OVERHAUL LEGACY FAN THRUST REVERSER PN 17P8D8200 OR N/EAT FAN THRUST REVERSER PN 17P8D9200. (2-E-001) CHG 3 LOC:03 DUE:2010077
- 0771668	04199	FAN THRUST REVERSER	EST DEL:	DEPOT-EVERY 2.5 YEARS, INSPECT AND OVERHAUL LEGACY FAN THRUST REVERSER PN 17P8D8200 OR N/EAT FAN THRUST REVERSER PN 17P8D9200. (2-E-001) CHG 3 LOC:04 DUE:2010077
/ 0969967	0197946	DEPOT TCTO	EST DEL:	DEPOT-REPLACEMENT OF BRANCHED WIRING HARNESS WITH MOLD ED CABLE ASSEMBLY FOR MAIN LANDING GEAR, C-17A AIRCRAFT CW TCTO 1C-17A-1792H WB/NA PRIME SHOP DEPOT
/ 1029973	0120394	TCTO	EST DEL:	ALIASE-REPAIR OF OUTFLOW OUTLINE VALVE ASSEMBLY, PART N O. 17BIN7005-1 (REF DES 2131FV001), C-17A AIRCRAFT CW TCTO 1C-17A-2064 WB/NA PRIME SHOP ALIASE
- 1096833	3212WP003	C/W FUELVY TRPF/ BRAKE R2	EST DEL:	ALACM-#9 MLG AXLE DAMAGE WITHIN LIMITS (REGION C); REQ S INSPECTION EVERY #9 MLG TIRE OR BRAKE CHANGE AND ERY EVEN # HSC; IAW 1C-17A-23 PARA. 13-53
/ 1149976	0198615	TCTO	EST DEL:	ALIASC-REPLACE OF HIGH FREQUENCY ANTENNA COUPLER CW TCTO 1C-17A-1933 WB/NA PRIME SHOP ALIASC
/ 1189992	0110130	TCTO	EST DEL:	AERO -MOD OF TROOP DOOR LOWER FAIRING ASSEMBLY CW TCTO 1C-17A-2013 WB/NA PRIME SHOP AERO
/ 1377000	7832WP025	HOID NEXT GRIP	EST DEL:	DEPOT-ENG T/R DUCT ASSY #1 O/B, LWR SLIDER SUPPORT LUG SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS IS PER ENGINEERING. NCR260765N
/ 1377001	7831AA024		EST DEL:	DEPOT-ENG T/R DUCT ASSY #4 O/B, LWR SLIDER SUPPORT LUG SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS

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TAG:                HO1 D NEXT GRIP                A0173 Open Disc---
EMPLOYEE:          - 1                            IS PER ENGINEERING, NCR260783N

/ 1377002          7831AA023          01
TAG:                HO1 D NEXT GRIP
EMPLOYEE:          - 1                            EST DEL:
                                                    DEPT-ENG T/R DUCT ASSY #3 O/B, LWR SLIDER SUPPORT LUG
                                                    SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS
                                                    IS PER ENGINEERING, NCR260781N

9
*****MAINTENANCE DISCREPANCY LIST FOR JOB CONTROL/PRE-PLANNING*****
*****
G081H7115-2       10209/28 JUL 10/2131      ALL      781K      MAINTENANCE
DISC              MUC/REFDES              ZONE     TSR      ETRC      SUPPLY
IND   JCN        EVENT/IND AT REMARKS DSR      EDJC     WORK/NON-WORK
*****
DISCREPANCY
*****
DEPT-ENG T/R DUCT ASSY #2 I/B, LWR SLIDER SUPPORT LUG
SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS
IS PER ENGINEERING, NCR260779N

/ 1377003          7831AA026          01
TAG:                HO1 D NEXT GRIP
EMPLOYEE:          - 1                            EST DEL:
DEPT-ENG T/R DUCT ASSY #2 I/B, LWR SLIDER SUPPORT LUG
SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS
IS PER ENGINEERING, NCR260779N

/ 1377004          7831AA025          01
TAG:                HO1 D NEXT GRIP
EMPLOYEE:          - 1                            EST DEL:
DEPT-ENG T/R DUCT ASSY #1 I/B, LWR SLIDER SUPPORT LUG
SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS
IS PER ENGINEERING, NCR260777N

/ 1377005          7831AA028          01
TAG:                HO1 D NEXT GRIP
EMPLOYEE:          - 1                            EST DEL:
DEPT-ENG T/R DUCT ASSY #4 I/B, LWR SLIDER SUPPORT LUG
SHOWS .250 CRACK FWD OF THE DUCT LOOKING AFT. USE AS
IS PER ENGINEERING, NCR260775N

/ 1377006          7831AA026          01
TAG:                HO1 D NEXT GRIP
EMPLOYEE:          - 1                            EST DEL:
DEPT-ENG T/R DUCT ASSY #2 O/B, LWR SLIDER SUPPORT LUG
SHOWS .500 CRACK FWD OF THE DUCT LOOKING AFT. USE AS
IS PER ENGINEERING, NCR260772N

- 1701669         2344BT006          R
TAG:                CARGO WINCH RC BATT
EMPLOYEE:          - 1                            EST DEL:
DEPT-EVERY 365 DAYS REMOVE AND REPLACE (2 EA) CARGO WINCH
REMOTE CONTROL BATTERIES PN 689-6100-002.
DUE:2010189

/ 1726882         5257AA001
TAG:                BACK ORDERED
EMPLOYEE:          1AR6F10172ANDS          BQ          EST DEL: 0286
ALACM-MULTIPLE SPRINGS ON HYDRO SERVICING DOORS BROKE/
REMOVED

/ 1819518         0110097
TAG:                EST DEL:
EMPLOYEE:          - 1                            DEPT-MODIFICATION OF APU DOOR ACTIVATION SYSTEM
CW TCTO IC-17A-1981          WB/NA          PRIME SHOP DEPOT
    
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A0173 open disc---

/ 1896011	5312MP139		ISSUED	A1ACM-RESEVOIR LINER PANEL CRACKED UNDER WINCH ACCESS
TAG:	AWATTNG DOWNTIME		EST DEL: 0113	PANEL
EMPLOYEE:				S
/ 1906015	532410			SMCO -LAVATORY FLOOR PNL UNDER TOILET CORRODED, REQUIR
TAG:	AMT AFTO ?? NO TECH DATA		EST DEL:	ES REMOVAL FOR SMCO REPAIR -- FBI IAW BOEING DIRECTION
EMPLOYEE:				
/ 2049551	0197194			DEPOT-MOD OF INBOARD AND OUTBOARD FLAP ASSEMBLIES - BU
TAG:	TCTO		EST DEL:	SHINGS
EMPLOYEE:				CW TCTO 1C-17A-1686 WB/NA PRIME SHOP DEPOT
/ 2119685	0197989			DEPOT-MODIFICATION OF LEFT AND RIGHT RAM AIR SCOOP ASS
TAG:	TCTO		EST DEL:	Y
EMPLOYEE:				CW TCTO 1C-17A-1836 WB/NA PRIME SHOP DEPOT
/ 2137600	2344AA002	04C		DEPOT-DEACTIVATE SURE-COMM SYSTEM AND REMOVE FROM SERV
TAG:	SFE AMC/ADM MESSAGE		EST DEL:	ICE ON A RED DIAGONAL ON 781K IAW MESSAGE FROM A
EMPLOYEE:				MC/ADM DATED 25 JULY 2007
/ 2567285	7831AA009	04B		DEPOT #1 ENG R/H T/R DOOR EXHAUST DUCT (HEAT EXCHANGER
TAG:	HOLD FOR TR DOOR CHANGE		EST DEL:	) HAS TWO FLANGES CRACKED. REF RIDD 187P732AU
EMPLOYEE:				
*****MAINTENANCE DISCREPANCY LIST FOR JOB CONTROL/PRE-PLANNING*****				
*****				
G081H7115-2	10209/28 JUL 10/2131	ALL	781K	MAINTENANCE
DISC	WUC/REFDES	ZONE	TSR	ETJC
IND JCN	EVENT/IND AT REMARKS	DSR	EDJC	WORK/NON-WORK
*****	*****	*****	*****	*****
DISCREPANCY				
*****				
/ 2619962	0197506	CT		ALASE-REPLACEMENT OF CONVERTER 200 AMP
TAG:	J486T081614004	AU	EST DEL: 0364	CW TCTO 1C-17A-1777 WB/NA PRIME SHOP ELEN
EMPLOYEE:				
/ 2859988	0192938	02		DEPOT-REPLACEMENT OF BRIGHT DIM LOGIC PRINTED WIRING B
TAG:	TCTO		EST DEL:	OARD, P/N16040-2 WITH P/N16040-3
EMPLOYEE:				CW TCTO 1C-17A-1403 WB/NA PRIME SHOP DEPOT
/ 2859991	0196957	02		DEPOT-INSPECTION AND REPLACEMENT OF MAIN LANDING GEAR
TAG:				SUPPORT LOWER BRACE FRAME SHAFT, AFT& FWD TORQUE ARM A





Eng 170316 history

OFF-WING DRIVER IS: HUB, HPT  
CURRENT LCF: 05978; LCF REMAINING: 09022

ACFT HRS: 12370.8 FULL STOPS: 03378 LAND: 004758  
ENG TT:10628.9 TSOH:10628.9 N1 CYC:09080 STARTS:02338

13OCT09 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 09075, WATERMARK DATE: 09/22/09  
FORM 400 ENTRY: A/C TIME 12406, JCN 286Z126, AT S, FXSB  
HOW MAL 800 - NO DEFECT, REMOVED/REINSTALLED TO FACILITATE O  
WD 3. BORESCOPE CLEAN

13OCT09 HPT 1ST STAGE AND COMB CHAMBER BORESCOPE INSPECTION C/W  
NO DEFECTS NOTED. FXSB

21OCT09 ENG TT:10664.9 TSOH:10664.9 N1 CYC:09114 STARTS:02356  
ECO POWER WASH ACCOMPLISHED AT HSC # Z0. FXSB

26OCT09 ENG TT:10664.9 TSOH:10664.9 N1 CYC:09114 STARTS:02356  
POST DOCK 60-DAY DOCUMENT REVIEW C/W BY  
BOEING ENGINE MANAGEMENT, NO ADJUSTMENTS MADE FXSB

ACFT HRS: 12406.8 FULL STOPS: 03384 LAND: 004766

ENG TT:10664.9 TSOH:10664.9 N1 CYC:09114 STARTS:02356

29JAN10 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 09109, WATERMARK DATE: 10/09/09  
60-DAY DOCUMENT REVIEW C/W BY T. QUONG, BOEING ENGINE BOEING  
MANAGEMENT. ADJUSTED CEMS HRS (+37.6)  
GO81 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO  
CORRECT

02APR10 ACFT HRS: 12818.5 FULL STOPS: 03492 LAND: 04919  
ENG TT:11076.6 TSOH: 11076.6 CYC:09311 STARTS:02434  
DOCUMENT REVIEW C/W @ HSC BY T. QUONG, BOEING ENGINE FXSB  
MANAGEMENT. ADJUSTED CEMS HRS (+4.3). GO81 LCF LIFE  
REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT

TO DATE A TOTAL OF (0 SET) OF FAN BLADES HAVE BEEN CHANGED  
SINCE LAST SHOP VISIT/ON-WING VIBRATION SURVEY.

OFF-WING DRIVER IS: HUB, HPT  
CURRENT LCF: 3670; LCF REMAINING: 8630

ACFT HRS: 12965.8 FULL STOPS: 03529 LAND: 04991  
ENG TT:11223.9 TSOH:11223.9 N1 CYC:09541 STARTS:02466

12APR10 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 09525, WATERMARK DATE: 03/25/10  
FORM 400 ENTRY: A/C TIME 13013, JCN 102F123, AT S, FXSB  
HOW MAL 800 - NO DEFECT, REMOVED/REINSTALLED TO FACILITATE O  
WD 3. BOROSCOPE CHECK GOOD. ONLY MINOR DAMAG

15APR10 HPT 1ST STAGE AND COMB CHAMBER BORESCOPE INSPECTION C/W  
NO DEFECTS NOTED. FXSB

11MAY10 ENG TT:11284.2 TSOH:11284.2 N1 CYC:09571 STARTS:02483  
DOCUMENT REVIEW C/W FOR GRIP INPUT REQUIREMENTS BY  
, BOEING ENGINE MANAGEMENT. CEMS HRS ADJUSTED BY + FXSB

Eng 170316 history  
6.7, G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE  
TO CORRECT.

-  
OFF-WING DRIVER IS: HUB, HPT  
CURRENT LCF: 06477; LCF REMAINING: 08523

-  
ACFT HRS: 13103.8 FULL STOPS: 03577 LAND: 005091  
ENG TT: 11361.9 TSOH: 11361.9 N1 CYC: 09667 STARTS: 02503

08JUL10 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 09637, WATERMARK DATE: 05/03/10  
60-DAY DOCUMENT REVIEW C/W BY T. QUONG BOEING ENGINE  
MANAGEMENT NO ADJUSTMENTS MADE. G081 LCF LIFE  
REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT  
FXSB  
-  
ACFT HRS: 13284.0 FULL STOPS: 03628 LAND: 005151  
ENG TT: 11542.1 TSOH: 11542.1 N1 CYC: 09833 STARTS: 002537  
\*\* END OF MESSAGE 9035 \*\* PRESS PA2 FOR A 9035 FORMAT.



Eng 170333 history  
 REMOVAL REASON:255-INCORRECT OUTPUT  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08APR09 ENGINE ELECT, PART NR 1B8393, SERIAL NR 0200000353, FXSB  
 INSTALLED ON OOPW170333. ENGINE TSO AT INSTALLATION 07858.1  
 ENGINE CYCLES 6694.0 COMPONENT HOURS 8169.3  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

05JUL09 - \*\*\*\*\* PRE-DOCK DOCUMENT REVIEW \*\*\*\*\* FXSB  
 DOCUMENT REVIEW C/W AT ELMENDORF AFB, AK BY  
 BOEING ENGINE MANAGEMENT - NO CYCLES ADJUSTMENT REQUIRED  
 -  
 ACFT HRS:12056.3 FULL STOPS: 3291 TOTAL LAND: 4617  
 ENG TT: 8218.8 N1 CYCLES: 6978 TOTAL STARTS: 1991  
 - TSOH: 8218.8  
 N1 CYCLES ADJUSTMENT FROM ADEMS LCF LLP GADGET METER VALUE  
 ACCUMULATED FROM 02/07/09 = 6795 TOTAL METER VALUE  
 NO CYCLES ADJUSTMENT REQUIRED IN G081 >> 6978 TOTAL CYCLES

05OCT09 - FXSB  
 DOCUMENT REVIEW C/W @ HSC BY, BOEING  
 ENGINE MANAGEMENT, ADJUSTED CEMS ENGINE TIME BY + 41.2  
 -  
 TO DATE A TOTAL OF 0 SETS OF FAN BLADES HAVE BEEN CHANGED  
 SINCE LAST SHOP VISIT/ON-WING VIBRATION SURVEY.  
 -  
 OFF-WING DRIVER IS: PLATE, STAGE 2, HPT

CURRENT LCF: 06328; LCF REMAINING: 08672  
 -  
 ACFT HRS: 12370.8 FULL STOPS: 03378 LAND: 004758  
 ENG TT:08532.8 TSOH:08532.8 N1 CYC:07152 STARTS:02060  
 -  
 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
 VALUE: 06947, WATERMARK DATE: 09/22/09

13OCT09 - FXSB  
 HPT 1ST STAGE AND COMB CHAMBER BORESCOPE INSPECTION C/W  
 NO DEFECTS NOTED.  
 -

21OCT09 - FXSB  
 ENG TT:08568.8 TSOH:08568.8 N1 CYC:07184 STARTS:02077  
 -  
 ECO POWER WASH ACCOMPLISHED AT HSC # ZO.

26OCT09 - FXSB  
 ENG TT:08568.8 TSOH:08568.8 N1 CYC:07184 STARTS:02077  
 -  
 POST DOCK 60-DAY DOCUMENT REVIEW C/W BY  
 BOEING ENGINE MANAGEMENT, NO ADJUSTMENTS MADE  
 -  
 ACFT HRS: 12406.8 FULL STOPS: 03384 LAND: 004766  
 ENG TT:08568.8 TSOH:08568.8 N1 CYC:07184 STARTS:02077  
 -

29JAN10 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
 VALUE: 06979, WATERMARK DATE: 10/09/09 BOEING  
 60-DAY DOCUMENT REVIEW C/W BY T. QUONG, BOEING ENGINE  
 MANAGEMENT. ADJUSTED CEMS HRS (+37.6)  
 G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO  
 CORRECT

01APR10 - FXSB  
 ACFT HRS: 12818.5 FULL STOPS: 03492 LAND: 04919  
 ENG TT:08980.5 TSOH: 08980.5 CYC:07375 STARTS:02155  
 \*\*\*\*\*  
 -  
 REPLACED (1 SET) OF FAN BLADES ON ENGINE S/N: 170333  
 BLADE #'S 12 & 30  
 TO DATE A TOTAL OF (1 SET) OF FAN BLADES HAVE BEEN CHANGED

Eng 170333 history

SINCE LAST SHOP VISIT/VIB SURVEY

ENG TT: 09127.8 TSOH: 09127.8 N1 CYC: 07595 STARTS: 02187  
\*\*\*\*\*

02APR10 DOCUMENT REVIEW C/W @ HSC BY T. QUONG, BOEING ENGINE MANAGEMENT. ADJUSTED CEMS HRS (+4.3). G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT  
FXSB  
TO DATE A TOTAL OF (1 SET) OF FAN BLADES HAVE BEEN CHANGED

SINCE LAST SHOP VISIT/ON-WING VIBRATION SURVEY.

OFF-WING DRIVER IS: PLATE, STAGE 2, HPT  
CURRENT LCF: 7270; LCF REMAINING: 7730

ACFT HRS: 12965.8 FULL STOPS: 03529 LAND: 04991  
ENG TT:09127.8 TSOH:09127.8 N1 CYC:07595 STARTS:02187

15APR10 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER VALUE: 07376, WATERMARK DATE: 03/25/10  
HPT 1ST STAGE AND COMB CHAMBER BORESCOPE INSPECTION C/W NO DEFECTS NOTED.  
FXSB

11MAY10 ENG TT:09188.1 TSOH:09188.1 N1 CYC:07623 STARTS:02204  
DOCUMENT REVIEW C/W FOR GRIP INPUT REQUIREMENTS BY , BOEING ENGINE MANAGEMENT. CEMS HRS ADJUSTED BY + 6.7, G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT.  
FXSB  
OFF-WING DRIVER IS: PLATE, STAGE 2, HPT  
CURRENT LCF: 07543; LCF REMAINING: 07457

ACFT HRS: 13103.8 FULL STOPS: 03577 LAND: 005091  
ENG TT: 09265.8 TSOH: 09265.8 N1 CYC: 07720 STARTS: 02224

08JUL10 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER VALUE: 07486, WATERMARK DATE: 05/03/10  
60-DAY DOCUMENT REVIEW C/W BY BOEING ENGINE MANAGEMENT NO ADJUSTMENTS MADE. G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT  
FXSB

14JUL10 ACFT HRS: 13284.0 FULL STOPS: 03628 LAND: 005151  
ENG TT:09446 TSOH: 09446 N1 CYC:07880 STARTS:002258  
\*\*\*\*\*  
ENGINE S/N 170333, IS A LOW EGT MARGIN ENGINE SUSCEPTIBLE TO POSSIBLE EGT OVER-TEMPERATURE DURING FULL POWER TAKE-OFF OPERATIONS.  
\*\*\*\*\*

\*\* END OF MESSAGE 9035 \*\* PRESS PA2 FOR A 9035 FORMAT.



Eng 170049 history

05JUL09 - \*\*\*\*\* PRE-DOCK DOCUMENT REVIEW \*\*\*\*\* FXSB  
 DOCUMENT REVIEW C/W AT ELMENDORF AFB, AK BY ,  
 BOEING ENGINE MANAGEMENT - NO CYCLES ADJUSTMENT REQUIRED

-  
 ACFT HOURS:12056.3 FULL STOPS: 3291 TOTAL LAND: 4617  
 ENG TT: 12994.9 N1 CYCLES: 9717 TOTAL STARTS: 3042  
 - TSOH: 12994.9  
 N1 CYCLES ADJUSTMENT FROM ADEMS LCF LLP GADGET METER VALUE  
 ACCUMULATED FROM 02/07/09 = 9661 TOTAL METER VALUE  
 NO CYCLES ADJUSTMENT REQUIRED IN G081 >> 9717 TOTAL CYCLES

07JUL09 FORM 400 ENTRY: A/C TIME 12073, JCN 183K075, AT S, FXSB  
 HOW MAL 800 - NO DEFECT, REMOVED/REINSTALLED TO FACILITATE O  
 WD 3. INSTALLED

05OCT09 - FXSB  
 DOCUMENT REVIEW C/W @ HSC BY , BOEING  
 ENGINE MANAGEMENT, ADJUSTED CEMS ENGINE TIME BY + 41.2  
 -  
 TO DATE A TOTAL OF 2 SETS OF FAN BLADES HAVE BEEN CHANGED  
 SINCE LAST SHOP VISIT/ON-WING VIBRATION SURVEY.  
 -  
 OFF-WING DRIVER IS: TURBINE AIR SEAL, STAGE 3  
 CURRENT LCF: 13959; LCF REMAINING: 06041  
 -  
 ACFT HRS: 12370.8 FULL STOPS: 03378 LAND: 004758  
 ENG TT:13309.4 TSOH:13309.4 N1 CYC:09889 STARTS:03110  
 -

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
 VALUE: 09813, WATERMARK DATE: 09/22/09

13OCT09 - FXSB  
 HPT 1ST STAGE AND COMB CHAMBER BORESCOPE INSPECTION C/W  
 NO DEFECTS NOTED.  
 -

19OCT09 ENG TT:13345.4 TSOH:13345.4 N1 CYC:09921 STARTS:03128 FXSB  
 NUMBER 1C-17A-1872C DATA CODE 0198554 RELEASE DATE 07314  
 REVISION DATE 10315 COMPLIANCE DATE 09292 CODE LETTER D  
 STATUS CODE 01 HOW MAL 801, ACCOMPLISHED BY 00792, CORRECTIVE  
 ACTION-TCTO C/W NO DUPLICATE S/N  
 \*TCTO DESCRIPTION (/) INSPECTION OF DATA PLATES FOR DUEL SER  
 AL NUMBERS  
 CW TCTO 1C-17A-1872C WB/NA PRIME

21OCT09 - FXSB  
 ECO POWER WASH ACCOMPLISHED AT HSC # Z0.  
 -

26OCT09 ENG TT:13345.4 TSOH:13345.4 N1 CYC:09921 STARTS:03128 FXSB  
 -  
 POST DOCK 60-DAY DOCUMENT REVIEW C/W BY ,  
 BOEING ENGINE MANAGEMENT, NO ADJUSTMENTS MADE  
 -  
 ACFT HRS: 12406.8 FULL STOPS: 03384 LAND: 004766

ENG TT:13345.4 TSOH:13345.4 N1 CYC:09921 STARTS:03128  
 -

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
 VALUE: 09845, WATERMARK DATE: 10/09/09

29JAN10 60-DAY DOCUMENT REVIEW C/W BY [ ] BOEING ENGINE BOEING  
 MANAGEMENT. ADJUSTED CEMS HRS (+37.6)  
 G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO  
 CORRECT  
 -

ACFT HRS: 12818.5 FULL STOPS: 03492 LAND: 04919  
 ENG TT:13757.1 TSOH: 13757.1 CYC:10111 STARTS:03206

02APR10 DOCUMENT REVIEW C/W @ HSC BY [ ] BOEING ENGINE FXSB  
 MANAGEMENT. ADJUSTED CEMS HRS (+4.3). G081 LCF LIFE  
 REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT

Eng 170049 history

-  
TO DATE A TOTAL OF (2 SET) OF FAN BLADES HAVE BEEN CHANGED  
SINCE LAST SHOP VISIT/ON-WING VIBRATION SURVEY.

-  
OFF-WING DRIVER IS: TURBINE AIR SEAL, STAGE 3  
CURRENT LCF: 14482; LCF REMAINING: 5518

-  
ACFT HRS: 12965.8 FULL STOPS: 03529 LAND: 04991  
ENG TT: 13904.4 TSOH: 13904.4 N1 CYC: 10333 STARTS: 03238

-  
N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 10245, WATERMARK DATE: 03/25/10  
12APR10 FORM 400 ENTRY: A/C TIME 13013, JCN 102F158, AT S, FXSB  
HOW MAL 800 - NO DEFECT, REMOVED/REINSTALLED TO FACILITATE O  
WD 3. 0  
15APR10 HPT 1ST STAGE AND COMB CHAMBER BORESCOPE INSPECTION C/W FXSB  
NO DEFECTS NOTED.  
-  
ENG TT:13964.7 TSOH:13964.7 N1 CYC:10365 STARTS:03254  
11MAY10 FXSB  
DOCUMENT REVIEW C/W FOR GRIP INPUT REQUIREMENTS BY  
, BOEING ENGINE MANAGEMENT. CEMS HRS ADJUSTED BY +  
6.7, G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE  
TO CORRECT.  
-  
OFF-WING DRIVER IS: TURBINE AIR SEAL, STAGE 3  
CURRENT LCF: 14633; LCF REMAINING: 05367  
-  
ACFT HRS: 13103.8 FULL STOPS: 03577 LAND: 005091  
ENG TT: 14042.4 TSOH: 14042.4 N1 CYC: 10461 STARTS: 03274  
-  
N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
-  
VALUE: 10356, WATERMARK DATE: 05/03/10  
08JUL10 60-DAY DOCUMENT REVIEW C/W BY [ ] BOEING ENGINE FXSB  
MANAGEMENT NO ADJUSTMENTS MADE. G081 LCF LIFE  
REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT  
-  
ACFT HRS: 13284.0 FULL STOPS: 03628 LAND: 005151  
ENG TT:14222.6 TSOH: 14222.6 N1 CYC:10624 STARTS:003308  
\*\* END OF MESSAGE 9035 \*\* PRESS PA2 FOR A 9035 FORMAT.



Eng 170348 history

ACFT HRS:12726.0 FULL STOPS: 03501 LAND: 04519  
ENG TT:10635.4 TSOH:10635.4 N1 CYC:05517.0 STARTS:2456

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 05368, WATERMARK DATE: 05/29/09

23JUN09 OFF-WING DRIVER IS: 2ND STAGE HPT PLATE  
CURRENT LCF: 06935.0; LCF REMAINING: 08065.0  
DOCUMENT REVIEW C/W BY , BOEING ENGINE  
MANAGEMENT, NO ADJUSTMENTS MADE. PQWY

ACFT HRS: 12898.9 FULL STOPS: 03554 LAND: 004576  
ENG TT:10808.3 TSOH:10808.3 N1 CYC:05559 STARTS:02473

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 05410, WATERMARK DATE: 06/10/09

24JUN09 OFF-WING DRIVER IS: PLATE, STAGE 2, HPT  
CURRENT LCF: 07054; LCF REMAINING: 07946  
ENGINE 170348 REACHED A MAXIMUM EGT OF 656C, AREA  
A FROM 10 TO 15 SECONDS 3 TIMES.  
TOTAL OF 0 OCCURANCES IN AREA B AND 0 OCCURANCES IN  
AREA E. RESULTS: PQWY

ENG TT:10833.7 TSOH:10833.7 N1 CYC:05658 STARTS:02511

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 5508, WATERMARK DATE: 06/25/09

27JUN09 ENGINE 170348 REACHED A MAXIMUM EGT OF 656C- 658C, AREA  
A FROM 9 TO 28 SECONDS; 3 TIMES.  
TOTAL OF 0 OCCURANCES IN AREA B AND 0 OCCURANCES IN  
AREA E. RESULTS: NO ACTION REQUIRES PQWY

ENG TT:10855.2 TSOH:10855.2 N1 CYC:05690 STARTS:02520

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 5540, WATERMARK DATE: 06/29/09

02JUL09 A/C 00-0177 ENGINE POSITION #3, S/N 170348, IS A LOW EGT  
MARGIN ENGINE SUSCEPTIBLE TO POSSIBLE EGT OVER-TEMPERATURE  
DURING FULL POWER TAKE-OFF OPERATIONS. PQWY

22JUL09 ENGINE 170348 REACHED A MAXIMUM EGT OF 656C - 663C FOR 10  
PQWY

-35 SECONDS.TOTAL OF 0 OCCURANCES IN AREA 'B' AND 0  
OCCURANCES IN AREA "E".  
RESULTS: NO ACTION REQUIRED

ENG TT: 10970.7 TSOH: 10970.7 N1 CYC: 05803 STARTS: 2564

N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 5645, WATERMARK DATE: 07/15/09

04AUG09 ENGINE 00PW170348 REACHED A MAXIMUM EGT OF 656C, AREA "A"  
FOR 08 SECONDS.TOTAL OF 0 OCCURANCES IN AREA "B" AND 0  
OCCURANCES IN AREA "E".  
RESULTS: NO ACTION REQUIRED PQWY

Eng 170348 history

-  
ENG TT: 11046.2 TSOH: 11046.2 N1 CYC:05824 STARTS: 2581  
-  
N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 05665, WATERMARK DATE: 07-31-09  
\*\*\*\*\*  
10AUG09 - DOCUMENT REVIEW C/W @ HSC BY , BOEING PQWY  
ENGINE MANAGEMENT, NO ADJUSTMENTS MADE  
-  
-  
TO DATE A TOTAL OF 1 SET OF FAN BLADES HAVE BEEN CHANGED  
SINCE LAST SHOP VISIT/ON-WING VIBRATION SURVEY.  
-  
OFF-WING DRIVER IS: PLATE, STAGE 2, HPT  
CURRENT LCF: 07811; LCF REMAINING: 07189  
-  
ACFT HRS: 13173.3 FULL STOPS: 03654 LAND: 004676  
25AUG09 ENG TT:11082.7 TSOH:11082.7 N1 CYC:05824 STARTS:02581 PQWY  
ENGINE/ITEM REMOVED FROM AIRCRAFT 00000177, POSITION NR 3 ,  
A/C TIME AT INSTALLATION 08908.3 A/C TIME AT REMOVAL 13268.2  
ENG/ITEM TT: 11177.6 TSOH 11177.6 CSOH 5872.0 TCYCS 5872.0  
N1CSN: 5872 N1CSOH: 5872 STCSN: 2612 STCSOH: 2612 C  
REMOVAL REASON: 191-HIGH EGT  
A/C FULL STOP 003691 A/C TOTAL LAND 004716  
27AUG09 ENGINE REMOVED FROM A/C 00-0177, #3 POSITION PQWY  
DUE TO NEGATIVE EGT MARGIN  
-  
DOCUMENT/RECORDS REVIEW C/W BY BOEING  
ENGINE MANAGEMENT. NO ADJUSTMENTS MADE.  
-  
G081 LCF LIFE REMAINING VALUES ARE INACCURATE-UNABLE TO  
CORRECT.  
-  
-  
LRU S/N VERIFICATION & PHYSICAL INSP C/W   
NO DISCREPANCIES NOTED.  
-  
ACFT HRS:13268.2 FULL STOPS:03691 TOTAL LANDS:004716  
ENG TT:11177.6 TSOH:11177.6 N1 CYC:05872 STARTS:2612  
27AUG09 N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER PQWY  
VALUE:05710, WATERMARK DATE: 08/22/2009  
-  
ENGINE IS TRANSFERRING TO DEPOT @ UAL, SFO, CA  
-  
27AUG09 ENGINE PURGED AND PREPPED FOR SHIPMENT TO UAL-SFO PQWY  
-  
IAW T.O. 2J-1-18, 00-85-20, AND 1C-17A-10  
27AUG09 ENG TT:11177.6 TSOH:11177.6 N1 CYC:05872 STARTS:2612 PQWY  
-  
"TSOH VALUES ARE CORRECT AND HAVE BEEN ADJUSTED AS  
NECESSARY BASED ON EMB REVIEW OF AFTO 95 RECORDS".  
-  
27AUG09 ENGINE TRANSFERRED FROM PQWY TO WWYK ENGINE TSO 11177.6. PQWY  
ENGINE CYCLES 058720 OLD ENG STATUS C NEW ENG STATUS .  
31AUG09 VALVE, FUEL , PART NR 1B7023 , SERIAL NR DSGCAN6089, UTKY  
-  
-  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 10424.5  
REMOVAL REASON:876-NON TECHNICAL ORDER DIRECTED REMOVAL  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D  
31AUG09 PUMP/OIL,MAI, PART NR 1B7110 , SERIAL NR 0000001520, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6

Eng 170348 history

ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:876-NON TECHNICAL ORDER DIRECTED REMOVAL  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

31AUG09 #4 BEARING S, PART NR 1B5249, SERIAL NR DSGCAM5409, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:876-NON TECHNICAL ORDER DIRECTED REMOVAL  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

01SEP09 ENGINE TRANSFERRED FROM WWYK TO UTKY ENGINE TSO 11177.6. WWYK  
ENGINE CYCLES 058720 OLD ENG STATUS C NEW ENG STATUS .

01SEP09 - UTKY  
UNSERVICEABLE ENGINE RECEIVED AT SAN FRANCISCO AT  
ENGINE TSO 11177.6, ENGINE CYCLES 5872  
-

07SEP09 CORE THRUST, PART NR 17N8D0836, SERIAL NR 00000B0026, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 9487.2  
REMOVAL REASON:804-NO DEFECT, SCHEDULED MAINTENANCE, REMOVED  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08SEP09 ACTUATOR, EL, PART NR 1B6287, SERIAL NR 0000001503, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08SEP09 VALVE, AIR, PART NR 1B7768, SERIAL NR 0000002453, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08SEP09 ACTUATOR, 2., PART NR 1B5847, SERIAL NR 0000001431, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO  
N1CSN: 0 STCSN: 0 LCFSN: 0

08SEP09 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D UTKY  
AIR SOLENOID, PART NR 1B7774, SERIAL NR 0000010395,  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08SEP09 VALVE, PART NR 1B7770, SERIAL NR 0000000394, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08SEP09 TCA ACTUATOR, PART NR 1B8317, SERIAL NR 0000000840, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 10264.2  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

08SEP09 COOLER - AIR, PART NR 1B6051, SERIAL NR 0000001368, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11177.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO

N1CSN: 0 STCSN: 0 LCFSN: 0

Eng 170348 history

08SEP09 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D  
OIL COOLER , PART NR 1B7046 , SERIAL NR DSGCAL3128, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 12552.6  
REMOVAL REASON:880-OPPORTUNISTIC MAINTENANCE REMOVALS, APPRO

20SEP09 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D  
ROTOR & STAT, PART NR 1B6540 , SERIAL NR 0000A70422, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 5965.0 HOURS 9950.2  
REMOVAL REASON:872-REMOVED DURING PROGRAMED DEPOT MAINTENANC

07OCT09 N1CSOH: 5965 STCSOH: 2353 LCFSOH: 0 D  
HPC GROUP , PART NR 1B7954 , SERIAL NR 0000B73353, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 8083.0 HOURS 10610.0  
REMOVAL REASON:804-NO DEFECT, SCHEDULED MAINTENANCE, REMOVED

07OCT09 N1CSOH: 8083 STCSOH: 2748 LCFSOH: 0 D  
HPT MODULE , PART NR 1B7548 , SERIAL NR 0000C70469, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 6035.0 HOURS 10424.5

REMOVAL REASON:804-NO DEFECT, SCHEDULED MAINTENANCE, REMOVED

07OCT09 N1CSOH: 6035 STCSOH: 2487 LCFSOH: 0 D  
INTERMEDIATE, PART NR 1B1685 , SERIAL NR DCWKAJ4901, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 8736.0 HOURS 13093.6  
REMOVAL REASON:804-NO DEFECT, SCHEDULED MAINTENANCE, REMOVED

07OCT09 N1CSOH: 8736 STCSOH: 3130 LCFSOH: 0 D  
DIFFUSER CAS, PART NR 1B7477 , SERIAL NR DGGUAL1485, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 6035.0 HOURS 10424.5  
REMOVAL REASON:804-NO DEFECT, SCHEDULED MAINTENANCE, REMOVED

07OCT09 N1CSOH: 6035 STCSOH: 2487 LCFSOH: 0 D  
ROTOR & STAT, PART NR 1B6540 , SERIAL NR 0000A70316, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 7468.0 HOURS 11583.3

07OCT09 N1CSOH: 7468 STCSOH: 2924 LCFSOH: 0 J  
HPC GROUP , PART NR 1B7954 , SERIAL NR 0000B70289, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 7157.0 HOURS 6539.1

07OCT09 N1CSOH: 7157 STCSOH: 1801 LCFSOH: 0 J  
HPT MODULE , PART NR 1B7548 , SERIAL NR 0000C66003, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 9583.0 HOURS 6882.1

07OCT09 N1CSOH: 9583 STCSOH: 1674 LCFSOH: 0 J  
INTERMEDIATE, PART NR 1B1685 , SERIAL NR 0000WN7316, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 8784.0 HOURS 7481.9

07OCT09 N1CSOH: 8784 STCSOH: 1883 LCFSOH: 0 J  
DIFFUSER CAS, PART NR 1B7477 , SERIAL NR DGGUAL1489, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT CYCLES 8101.0 HOURS 7181.4

15OCT09 N1CSOH: 8101 STCSOH: 1674 LCFSOH: 0 J  
OIL COOLER , PART NR 1B7046 , SERIAL NR 0000FC5965, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 11032.4  
REMOVAL REASON:876-NON TECHNICAL ORDER DIRECTED REMOVAL

Eng 170348 history  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 D

15OCT09 CORE THRUS, PART NR 17N8D0836 , SERIAL NR 00000B0026 UTKY  
 INSTALLED ON 00PW170348, HOURS AT INSTALL WERE .0  
 CYCLES 5872.0 COMPONENT HOURS 9487.2  
 TSOH .0  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 T

15OCT09 OIL COOLER , PART NR 47111-1173 , SERIAL NR 0000FC5965, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 11032.4  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 STATUS CHG TO S UTKY  
 15OCT09 VALVE, FUEL , PART NR 1B7023 , SERIAL NR DSGCAK8856, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 5746.7  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 VALVE, AIR, , PART NR 1B7768 , SERIAL NR 0000002401, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 8415.4  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 HPT ACC VALV, PART NR 1B7771 , SERIAL NR 0000010057, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 5180.5  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 ACTUATOR, EL, PART NR 1B6287 , SERIAL NR 0000000945, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 13507.0  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 ACTUATOR, 2., PART NR 1B5847 , SERIAL NR 0000001533, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 8021.9  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 PUMP/OIL,MAI, PART NR 1B7110 , SERIAL NR 0000001198, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 12595.5  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 OIL COOLER , PART NR 1B7046 , SERIAL NR 0000FC5965, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 11032.4  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 #4 BEARING S, PART NR 1B5249 , SERIAL NR DSGCAM5473, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 9924.3  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 COOLER - AIR, PART NR 1B6051 , SERIAL NR 0000001052, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 14718.3  
 N1CSN: 0 STCSN: 0 LCFSN: 0  
 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J

15OCT09 TCA ACTUATOR, PART NR 1B8317 , SERIAL NR 0000000560, UTKY  
 INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
 ENGINE CYCLES 5872.0 COMPONENT HOURS 11620.8

Eng 170348 history  
N1CSN: 0 STCSN: 0 LCFSN: 0  
N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J  
15OCT09 VALVE , PART NR 1B7770 , SERIAL NR 0000000114, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 2713.5  
N1CSN: 0 STCSN: 0 LCFSN: 0  
15OCT09 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J UTKY  
NUMBER 1C-17A-1804 DATA CODE 0197958 RELEASE DATE 07059  
RECISION DATE 17059COMPLIANCE DATE 09288 CODE LETTER

CORRECTIVE-ACTION CW AT UAL SFO  
\*TCTO DESCRIPTION MODIFICATION OF FIRE DETECTION SUPPORT ASS  
15OCT09 - UTKY  
ACCOMPLISHED TASK NO. 99-005, BOROSCOPE AFTER TEST OF  
NO. 5 BEARING AREA.  
-  
15OCT09 - UTKY  
THE FOLLOWING S/B WERE INCORPORATED:  
TCTO 1C-17A-1804  
F117-72-0350  
F117-72-0362  
F117-72-0368  
F117-72-0378P  
F117-72-0382  
F117-73-0052  
F117-73-0059  
F117-75-0044  
F117-75-0046  
F117-79-0041  
-  
15OCT09 - UTKY  
THE FOLLOWING S/B WERE PREVIOUSLY INCORPORATED:  
F117-72-0242  
-  
-  
CONDUCTED HYDRAULIC SYSTEM CHECK FOR FOREIGN DEBRIS  
-  
15OCT09 - UTKY  
ANTI-ICE SHUTOFF VALVE P/N 3290180-2-1-1 IS INSTALLED ON  
THIS ENGINE (INLET COWL ASSEMBLY P/N IS 17N8D0940-1, S/N  
03950)  
-  
OIL TANK FLAPPER VALVE SEALS WERE REPLACED THIS DATE  
OF OCTOBER 15, 2009  
-  
TOWER SHAFT P/N IS DRUAAH0036, S/N IS 7A2489-001  
-  
TEC PN 8A2744 SERIAL NUMBER VAF0020 IS INSTALLED ON  
THIS ENGINE.  
15OCT09 - UTKY  
F117 REPETITIVE INSPECTION COMPLIANCE:  
-  
THE COMBUSTOR, T1 VANES AND THE T1 BLADES WERE  
REPLACED THIS SHOP VISIT. NEXT INSPECTION DUE AT NEXT  
HSC.  
-  
-  
ALL CHIP COLLECTORS WERE INSPECTED DURING THIS SHOP  
VISIT.  
-  
THE MAIN ENGINE FUEL AND OIL FILTERS WERE REMOVED AND  
REPLACED WITH SERVICEABLE UNITS DURING THIS SHOP VISIT.  
-  
15OCT09 - UTKY  
RECORDS ENTRIES ACCOMPLISHED DURING THIS SHOP VISIT.

Eng 170348 history

ENGINE TIME CHANGE ITEMS DATA HAVE BEEN UPDATED AND ARE CORRECT.

-

ENGINE TT: 11177.6      TOTAL N1 CYCLES: 5872    TSOH:11177.6

-

REASON FOR REMOVAL: NEGATIVE EGT MARGIN

-

ACTION TAKEN: INSTALLED ROTABLE HPT MODULE WITH 72-366 AND 72-369 UPGRADES

-

15OCT09      -      UTKY

MODULE SERIAL NUMBERS INSTALLED: LOW COMP A70316,  
HIGH COMP B70289 HIGH TURB C66003, LOW TURB D70348,  
MAIN GEARBOX FACG2798, ANGLE GEARBOX FACG2817.

-

26OCT09 FUEL PUMP , PART NR 1B8199 , SERIAL NR 0000001642, UTKY  
REMOVED FROM 00PW170348. ENGINE TSO AT REMOVAL IS 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 8397.5  
REMOVAL REASON:876-NON TECHNICAL ORDER DIRECTED REMOVAL  
N1CSN: 0 STCSN: 0 LCFSN: 0  
26OCT09 FUEL PUMP , PART NR 1B8199 , SERIAL NR 0000000848, UTKY  
INSTALLED ON 00PW170348. ENGINE TSO AT INSTALLATION 11177.6  
ENGINE CYCLES 5872.0 COMPONENT HOURS 12414.4  
N1CSN: 0 STCSN: 0 LCFSN: 0  
28OCT09 N1CSOH: 0 STCSOH: 0 LCFSOH: 0 J UTKY  
SFO-UAL CERTIFIES THAT THIS ENGINE HAS BEEN DRAINED AND  
PURGED ON OCTOBER 27, 2009 UNDER WORK ORDER 9PBL002280.

-

28OCT09      -      UTKY

THE ENGINE WAS INSPECTED, REPAIRED, MODIFIED,  
REASSEMBLED, TESTED AND ACCEPTED PER PRATT & WHITNEY  
SPECIFICATIONS AND F117-PW-100 ENGINE MANUAL. THE ENGINE  
WAS 100% BORESCOPE AFTER TEST AND ACCEPTED. ENGINE WAS  
PRESERVED FOR 180 DAYS OCTOBER 27, 2009. FUNCTIONAL  
TEST PERFORMED ON OCTOBER 27, 2009. PERFORMANCE TEST  
PERFORMED ON OCTOBER 27, 2009. 720 DAY ENGINE TEST CELL

-

RUN DUE OCTOBER 17, 2011, PER 1C-17A-2-71JG-00-3.

-

28OCT09      -      UTKY

EEC PROGRAM PLUG ASSY P/N 1B7142, S/N DSGCAM5067  
CLASS #8 INSTALLED.

-

EGT MARGIN- 54

-

ENGINE MADE SERVICEABLE AND TRANSFERRED TO BOEING

-

ENGINE TRANSFERRED TO MCCORD AFB.

-

30OCT09 ENGINE TRANSFERRED FROM UTKY TO WWYK ENGINE TSO 11177.6. UTKY  
ENGINE CYCLES 058720 OLD ENG STATUS S NEW ENG STATUS .  
03NOV09 ENGINE TRANSFERRED FROM WWYK TO PQWY ENGINE TSO 11177.6. WWYK  
ENGINE CYCLES 058720 OLD ENG STATUS S NEW ENG STATUS .  
03NOV09      -      PQWY

ENGINE S/N 170348 HAS BEEN ACCEPTED & RECORDS REVIEW C/W BY  
, BOEING ENGINE MANAGEMENT  
LRU S/N VERIFICATION C/W BY ,BOEING  
ENGINE MANAGEMENT

-

LAST PERFORMANCE TEST PERFORMED ON OCTOBER 27, 2009

LAST POWERPLANT FUNCTIONAL TEST PERFORMED ON OCTOBER

Eng 170348 history  
27, 2009 720 DAY RECERTIFICATION DUE ON OCTOBER 17,  
2011 LAST 180 DAY PRESERVATION PERFORMED ON OCT. 27, 2009  
NEXT PRESERVATION DUE APR. 27, 2010  
-  
OFF-WING DRIVER IS: SEAL AIR 17TH STAGE  
CURRENT LCF: 08576; LCF REMAINING: 11424  
-  
03DEC09 ENG TT:11177.6 TSOH:11177.6 N1 CYC:05872 STARTS:02628 PQWY  
ENGINE PURGED AND PREPPED FOR SHIPMENT TO: ELMENDORF AFB,  
-  
IAW T.O. 2J-1-18, 00-85-20, AND 1C-17A-10  
18DEC09 ENG TT:11177.6 TSOH:11177.6 N1 CYC:05872 STARTS:2628 PQWY  
-  
DOCUMENT/RECORDS REVIEW C/W BY \_\_\_\_\_, BOEING ENGINE  
MANAGEMENT. NO ADJUSTMENTS MADE. G081 LCF LIFE REMAINING  
VALUES ARE INACCURATE-UNABLE TO CORRECT.  
-  
ENG TT:11177.6 TSOH:11177.6 N1 CYC:05872 STARTS:02628  
-  
N1 CYCLES FROM ADEMS FLEET PERFORMANCE SUMMARY @ N1 METER  
VALUE: 05872, WATERMARK DATE: 08/22/09  
-  
20DEC09 ENGINE IS TRANSFERRING TO ELMENDORF AFB. PQWY  
ENGINE TRANSFERRED FROM PQWY TO FXSB ENGINE TSO 11177.6.  
ENGINE CYCLES 058720 OLD ENG STATUS S NEW ENG STATUS .  
22APR10 - FXSB  
-  
ENGINE S/N: 170348 RE-PRESERVATION C/W 04/22/10  
\_\_\_\_\_ BOEING CLOCK C371742 IAW TO  
1C-17A-2-71JG-00-3 NEXT PRESERVATION DUE ON 10/19/10  
-  
REMOVED AND REINSTALLED PRIMARY AND SECONDARY HYD PUMPS  
IAW 1C-17A-2-29JG-10-1. IPI C/W BY \_\_\_\_\_, BOEING  
CLOCK C405192  
-  
25JUN10 ENG TT:11177.6 TSOH:11177.6 N1 CYC:05872 STARTS:02628 FXSB  
ENGINE/ITEM INSTALLED ON AIRCRAFT 00000173, POSITION NR 4 ,  
AIRCRAFT TIME AT INSTALLATION 13262.5,  
ENG/ITEM TT: 11177.6 TSOH 11177.6 CSOH 5872.0 TCYCS 5872.0  
N1CSN: 5872 N1CSOH: 5872 STCSN: 2628 STCSOH: 2628 I  
08JUL10 A/C FULL STOP 003624 A/C TOTAL LAND 005147 FXSB  
60-DAY DOCUMENT REVIEW C/W BY \_\_\_\_\_ BOEING ENGINE  
MANAGEMENT NO ADJUSTMENTS MADE. G081 LCF LIFE  
REMAINING VALUES ARE INACCURATE-UNABLE TO CORRECT  
-  
ACFT HRS: 13284.0 FULL STOPS: 03628 LAND: 005151  
-  
ENG TT:11199.1 TSOH: 11199.1 N1 CYC:05872 STARTS:002628  
\*\* END OF MESSAGE 9035 \*\* PRESS PA2 FOR A 9035 FORMAT.

## U8. TOOL ACCOUNTABILITY LOGS



1.1.12.4

2010/07/28 19:29

D-040

**Tool Accountability System****Shift Change by Team**

ELMENDORF AFB, AKI703AMXS / 517 AMU CTK

Record Count: 48

Item ID	Nomenclature Name	Date/Time Issued	Quantity
CTK			
EL17RAD02	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD03	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD05	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD06	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD07	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD09	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD10	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD12	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD13	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD14	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/07 1:02:21PM	1
EL17RAD04	RADIO, HANDHELD 1Lt RADIO LMR	2010/05/26 9:01:26PM	1
EL17RAD11	RADIO, HANDHELD 1Lt RADIO LMR	2010/06/10 5:11:49AM	1
EL17RAD01	RADIO, HANDHELD 1Lt RADIO LMR	2010/06/11 3:00:43AM	1
EL17K0517	TOOLROOM (CTK) 517 AMU A1C	2010/07/28 5:48:21PM	1
EL17V0091	SNORKELIFT #1 Amn 5 BAY 5 BAY	2010/05/07 11:13:20AM	1
EL17V0092	SNORKELIFT #2 Amn 5 BAY 5 BAY	2010/05/07 11:13:20AM	1
EL17E0088	SUPPORT ASSY, ENGINE NA Civ WT/CERT DRAWER IIB 172	2010/03/12 1:19:40PM	1
EL17V0096	BOBCAT #2 SrA	2010/07/19 9:36:18AM	1



2010 / 07 / 28 19:29

## Tool Accountability System

### Shift Change by Team

ELMENDORF AFB, AKI703AMXS / 517 AMU CTK

Record Count: 48

Item ID	Nomenclature Name	Date/Time Issued	Quantity
EL17V0072	1.5 TON FLATBED, G7103539 SrA	2010/07/28 11:25:32AM	1
EL17BS009	BUNNY SUIT, ENGINE INTAKI SSgt	2010/05/07 11:12:11AM	1
<b>ENROUTE</b>			
EL17KEY99	ATGL BUILDING KEYS Civ	2010/05/07 10:14:11AM	1
<b>PRODUCTION</b>			
EL17MBT22	BATTERY, RADIO TSgt	2010/07/12 3:19:26AM	1
EL17V0011	MULTISTOP, G432939F TSgt	2010/07/22 3:52:15PM	1
<b>W2</b>			
EL17V0061	6 PACK, G632277H MSgt	2010/07/03 9:15:06AM	1
<b>W3 DAYS</b>			
EL17MBT20	BATTERY, RADIO SMSgt	2010/07/26 1:30:32PM	1
EL17MBT21	BATTERY, RADIO SMSgt	2010/07/26 1:30:32PM	1
EL17RAD18	RADIO, HANDHELD SMSgt	2010/07/26 1:30:32PM	1
EL17RAD25	RADIO, HANDHELD SMSgt	2010/07/26 1:30:32PM	1
EL17FCC02	TOOLBOX, FCC SrA	2010/07/28 5:00:13AM	1
EL17FCCK3	FCC KIT SrA	2010/07/28 5:00:13AM	1
EL17R0016	BAG OF RAGS SrA	2010/07/28 5:00:13AM	1
EL17TBK33	TOUGH BOOK KIT SrA	2010/07/28 5:00:13AM	1
EL17MBT17	BATTERY, RADIO TSgt	2010/06/29 9:21:30AM	1
EL17RAD17	RADIO, HANDHELD TSgt	2010/06/29 9:21:30AM	1

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## Tool Accountability System Shift Change by Team

ELMENDORF AFB, AK1703AMXS / 517 AMU CTK

Record Count: 48

Item ID	Nomenclature Name	Date/Time Issued	Quantity
EL17APEX2	APEX BIT SET TSgt	2010/07/26 7:46:49AM	1
EL17FCC07	TOOLBOX, FCC TSgt	2010/07/26 7:46:49AM	1
EL17R0013	BAG OF RAGS TSgt	2010/07/26 7:46:49AM	1
EL17TBK34	TOUGH BOOK KIT TSgt	2010/07/26 7:46:49AM	1
<b>W3 MIDS</b>			
EL17FCC05	TOOLBOX, FCC SSgt	2010/07/23 7:21:04AM	1
EL17FCCK5	FCC KIT SSgt	2010/07/23 7:21:04AM	1
EL17HSC11	BAG OF RAGS SSgt	2010/07/23 7:21:04AM	1
EL17TBK32	TOUGH BOOK KIT SSgt	2010/07/23 7:21:04AM	1
<b>W3 SWINGS</b>			
EL17FCC04	TOOLBOX, FCC SrA	2010/07/24 6:28:16AM	1
EL17FCCK1	FCC KIT SrA	2010/07/24 6:28:16AM	1
EL17HSC10	BAG OF RAGS SrA	2010/07/24 6:28:16AM	1
EL17TBK17	TOUGH BOOK KIT SrA	2010/07/24 6:28:16AM	1
EL17TBK37	TOUGH BOOK KIT TSgt	2010/07/28 10:27:00AM	1
EL17TBK38	TOUGH BOOK KIT TSgt	2010/07/28 10:27:00AM	1

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Log Search

Date	Tool Name	User Name	Work Location	Barcode Number	Qty	Logged In	EXTENDED COST	Shop Code
2010/07/23 08:53 AM	MINI KIT		Turn In	ELCFEC402	1			ELOF
2010/07/22 11:32 PM	MINI KIT		Not Required	ELCFEC402	1			ELOF
2010/07/22 11:32 PM	MINI KIT		Turn In QT	ELCFEC402	1			ELOF
2010/07/22 04:00 PM	MINI KIT		Not Required	ELCFEC402	1			ELOF
2010/07/22 04:00 PM	MINI KIT		Turn In QT	ELCFEC402	1			ELOF
2010/07/22 08:41 AM	MINI KIT		Not Required	ELCFEC402	1			ELOF
2010/07/20 07:44 PM	MINI KIT		Turn In	ELCFEC402	1			ELOF
2010/07/20 03:12 PM	MINI KIT		Not Required	ELCFEC402	1			ELOF
2010/06/30 04:14 PM	MINI KIT		Turn In	ELCFec402	1			ELOF
2010/06/30 03:49 PM	MINI KIT		Not Required	ELCFec402	1			ELOF
2010/06/23 07:15 PM	MINI KIT		INSPECTION COMPLETE	ELCFec402	0			ELOF
2010/06/23 07:15 PM	MINI KIT	2011/06/23	INSPECTION DUE	ELCFec402	0			ELOF
			2010/06/23 - ANNUAL					
2010/06/16 10:39 PM	MINI KIT		Turn In	ELCFec402	1			ELOF
2010/06/16 05:08 PM	MINI KIT		Not Required	ELCFEC402	1			ELOF
2010/03/02 03:57 PM	MINI KIT		Turn In	ELCFEC402	1			ELOF
2010/03/02 03:57 PM	MINI KIT		Not Required	ELCFEC402	1			ELOF
2010/02/18 04:17 PM	MINI KIT		Turn In	ELCFEC402	1			ELOF
2010/02/18 12:47 PM	MINI KIT		Not Required	ELCFEC402	1			ELOF

Printed 2010/07/29

**Log Search**

Date	Tool Name	User Name	Work Location	Barcode Number	Qty	Logged In	EXTENDED COST	Shop Code
2010/07/26 10:44 AM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/26 08:29 AM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF
2010/07/23 02:25 PM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/23 01:05 PM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF
2010/07/23 11:34 AM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/23 11:33 AM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF
2010/07/23 02:54 AM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/22 11:05 PM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF
2010/07/22 10:44 AM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/22 08:55 AM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF
2010/07/19 11:22 AM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/19 10:31 AM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF
2010/07/16 01:43 PM	LINE RESPONSE TRUCK		Turn In	ELCFTRK02	1			ELCF
2010/07/16 07:59 AM	LINE RESPONSE TRUCK		Not Required	ELCFtrk02	1			ELCF
2010/07/16 07:59 AM	LINE RESPONSE TRUCK		Turn In	ELCFtrk02	1			ELCF
2010/07/15 11:02 PM	LINE RESPONSE TRUCK		Not Required	ELCFtrk02	1			ELCF
2010/07/15 10:05 PM	LINE RESPONSE TRUCK		Turn In	ELCFtrk02	1			ELCF
2010/07/15 02:56 PM	LINE RESPONSE TRUCK		Not Required	ELCFTRK02	1			ELCF

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## Tool Accountability System

### Item History Report

ELEHFAB1 SHOP BOX 01&1 EA KEY W/TAG

ELMENDORF AFB, AK\3 EMS

Record Count: 14

Date	Action	Personnel Name	Operator Name	Qty
2010/07/19 7:36:55AM	ISSUED			1
2010/07/19 3:36:51PM	RETURN			1
2010/07/20 8:22:42AM	ISSUED			1
2010/07/21 12:18:24A	ISSUED			1
2010/07/20 4:07:23PM	RETURN			1
2010/07/20 4:43:16PM	ISSUED			1
2010/07/20 10:49:02P	RETURN			1
2010/07/21 8:22:56AM	ISSUED			1
2010/07/21 7:57:02AM	RETURN			1
2010/07/21 3:33:56PM	RETURN			1
2010/07/23 12:02:28A	ISSUED			1
2010/07/23 7:21:33AM	RETURNXF			1
2010/07/23 7:21:33AM	ISSUEDXF			1
2010/07/23 4:03:15PM	RETURN			1

2010 / 07 / 29 03:17



## Tool Accountability System

### Item History Report

ELEFHMAIN MAIN CTK

ELMENDORF AFB, AK13 EMS

Record Count: 30

Date	Action	Personnel Name	Operator Name	Qty
2010/07/20 7:07:34AM	RETURN			1
2010/07/20 7:07:40AM	ISSUED			1
2010/07/19 12:07:27A	RETURN			1
2010/07/19 12:07:38A	ISSUED			1
2010/07/19 7:24:54AM	RETURN			1
2010/07/19 7:25:00AM	ISSUED			1
2010/07/19 7:16:17PM	RETURNXF			1
2010/07/19 7:16:17PM	ISSUEDXFI			1
2010/07/19 11:17:58P	RETURNXF			1
2010/07/19 11:17:58P	ISSUEDXFI			1
2010/07/20 11:28:51P	RETURNXF			1
2010/07/20 11:28:51P	ISSUEDXFI			1
2010/07/20 3:36:08PM	RETURNXF			1
2010/07/20 3:36:08PM	ISSUEDXFI			1
2010/07/21 8:07:42AM	RETURN			1
2010/07/21 8:07:52AM	ISSUED			1
2010/07/21 3:58:57PM	RETURNXF			1
2010/07/21 3:58:57PM	ISSUEDXFI			1
2010/07/21 11:11:37P	RETURN			1
2010/07/21 11:11:43P	ISSUED			1
2010/07/22 1:23:09PM	RETURN			1
2010/07/22 1:23:19PM	ISSUED			1
2010/07/22 4:06:39PM	RETURNXF			1
2010/07/22 4:06:39PM	ISSUEDXFI			1
2010/07/22 11:24:41P	RETURN			1
2010/07/22 11:24:47P	ISSUED			1
2010/07/23 7:30:19AM	RETURN			1
2010/07/23 7:30:25AM	ISSUED			1
2010/07/23 4:02:02PM	RETURNXF			1
2010/07/23 4:02:02PM	ISSUEDXFI			1

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## Tool Accountability System

### Item History Report

ELEFHFB16 SHOP BOX 16&amp;1 EA KEY W/TAG

ELMENDORF AFB, AK13 EMS

Record Count: 28

Date	Action	Personnel Name	Operator Name	Qty
2010/07/19 1:53:25AM	ISSUED			1
2010/07/19 5:59:55AM	RETURN			1
2010/07/19 7:39:17AM	ISSUED			1
2010/07/19 3:30:40PM	RETURN			1
2010/07/19 3:42:21PM	ISSUED			1
2010/07/19 11:19:55P	RETURN			1
2010/07/20 12:11:57A	ISSUED			1
2010/07/20 6:07:11AM	RETURN			1
2010/07/20 1:25:32PM	ISSUED			1
2010/07/20 4:02:47PM	RETURN			1
2010/07/20 5:40:11PM	ISSUED			1
2010/07/20 10:48:51P	RETURN			1
2010/07/21 7:52:35AM	ISSUED			1
2010/07/21 5:07:19PM	RETURN			1
2010/07/21 5:07:24PM	ISSUED			1
2010/07/21 10:52:56P	RETURN			1
2010/07/21 3:57:51PM	RETURNXF			1
2010/07/21 3:57:51PM	ISSUEDXFI			1
2010/07/22 3:02:27AM	ISSUED			1
2010/07/22 8:01:49AM	RETURNXF			1
2010/07/22 8:01:49AM	ISSUEDXFI			1
2010/07/22 4:39:03PM	RETURN			1
2010/07/22 4:58:02PM	ISSUED			1
2010/07/22 10:55:05P	RETURN			1
2010/07/23 7:04:10AM	ISSUED			1
2010/07/23 1:56:49PM	RETURNXF			1
2010/07/23 1:56:49PM	ISSUEDXFI			1
2010/07/23 4:04:14PM	RETURN			1

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## Tool Accountability System

### Returned Items Report

ELMENDORF AFB, AKI703AMXS / 517 AMU CTK

Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	12:00:07AM	RETURN	EL17V0031		1
2010/07/28	12:02:06AM	RETURN	EL17BAT51		1
2010/07/28	12:03:28AM	RETURN	EL17BAT55		1
2010/07/28	1:13:44AM	RETURN	EL17BAT50		1
2010/07/28	1:14:16AM	RETURN	EL17K0143		1
2010/07/28	1:21:23AM	RETURN	EL17KEY04		1
2010/07/28	1:34:58AM	RETURN	EL17HM440		1
2010/07/28	1:35:26AM	RETURN	EL17LOX01		1
2010/07/28	1:36:25AM	RETURN	EL17LOX02		1
2010/07/28	1:37:27AM	RETURN	EL17MOBP1		1
2010/07/28	1:37:31AM	RETURN	EL17MOBP2		1
2010/07/28	1:37:38AM	RETURN	EL17LS008		1
2010/07/28	1:38:18AM	RETURN	EL17LS010		1
2010/07/28	1:42:19AM	RETURN	EL17K6176		1
2010/07/28	1:44:09AM	RETURN	EL17APG04		1
2010/07/28	4:44:13AM	RETURN	EL17TBK15		1
2010/07/28	4:44:35AM	RETURN	EL17HSC13		1
2010/07/28	4:44:48AM	RETURN	EL17FS003		1
2010/07/28	4:45:17AM	RETURN	EL17I0033		1
2010/07/28	4:45:37AM	RETURN	EL17PPE02		1
2010/07/28	4:45:48AM	RETURN	EL17HSC05		1
2010/07/28	4:48:25AM	RETURN	EL17APG05		1
2010/07/28	5:45:30AM	RETURN	EL17US025		1
2010/07/28	6:26:23AM	RETURN	EL17HS007		1
2010/07/28	6:31:04AM	RETURN	EL17US001		1
2010/07/28	6:31:09AM	RETURN	EL17RAD22		1
2010/07/28	6:31:11AM	RETURN	EL17MBT04		1
2010/07/28	6:39:53AM	RETURN	EL17US002		1
2010/07/28	6:39:58AM	RETURN	EL17US018		1
2010/07/28	6:40:02AM	RETURN	EL17US029		1
2010/07/28	6:40:07AM	RETURN	EL17MBT05		1
2010/07/28	6:40:31AM	RETURN	EL17RAD21		1
2010/07/28	6:40:54AM	RETURN	EL17HSC08		1
2010/07/28	6:42:11AM	RETURN	EL17E0532		1
2010/07/28	6:42:44AM	RETURN	EL17E0458		1
2010/07/28	6:43:05AM	RETURN	EL17I0033		1
2010/07/28	6:43:17AM	RETURN	EL17K1037		1
2010/07/28	6:43:30AM	RETURN	EL17RF008		1
2010/07/28	6:43:59AM	RETURN	EL17HSC12		1

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Received Time Jul. 29. 2010 9:17AM No. 0690

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## Tool Accountability System

### Returned Items Report

ELMENDORF AFB, AK1703AMXS / 517 AMU CTK

Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	6:44:04AM	RETURN	EL17RAD19		1
2010/07/28	6:44:06AM	RETURN	EL17MBT19		1
2010/07/28	6:44:14AM	RETURN	EL17US005		1
2010/07/28	6:44:38AM	RETURN	EL17HSC29		1
2010/07/28	6:44:41AM	RETURN	EL17TBK06		1
2010/07/28	6:45:10AM	RETURN	EL17HSC15		1
2010/07/28	6:46:14AM	RETURN	EL17APG02		1
2010/07/28	6:46:22AM	RETURN	EL17TBK14		1
2010/07/28	6:46:44AM	RETURN	EL17MAT07		1
2010/07/28	6:47:01AM	RETURN	EL17BS002		1
2010/07/28	6:49:59AM	RETURN	EL17HT002		1
2010/07/28	6:52:18AM	RETURN	EL17HT003		1
2010/07/28	6:52:27AM	RETURN	EL17MBT08		1
2010/07/28	6:52:30AM	RETURN	EL17RAD26		1
2010/07/28	6:53:03AM	RETURN	EL17I8050		1
2010/07/28	6:54:13AM	RETURN	EL17LK007		1
2010/07/28	6:54:26AM	RETURN	EL17I0014		1
2010/07/28	6:55:16AM	RETURN	EL17E0035		1
2010/07/28	6:55:27AM	RETURN	EL17I0349		1
2010/07/28	6:55:36AM	RETURN	EL17TBK12		1
2010/07/28	6:57:06AM	RETURN	EL17MMK01		1
2010/07/28	6:57:18AM	RETURN	EL17AV101		1
2010/07/28	6:58:35AM	RETURN	EL17MBT06		1
2010/07/28	6:58:38AM	RETURN	EL17RAD24		1
2010/07/28	6:58:51AM	RETURN	EL17US004		1
2010/07/28	6:59:39AM	RETURN	EL17TBK09		1
2010/07/28	7:00:06AM	RETURN	EL17HSC14		1
2010/07/28	7:00:13AM	RETURN	EL17US003		1
2010/07/28	7:00:24AM	RETURN	EL17MBT03		1
2010/07/28	7:00:27AM	RETURN	EL17RAD23		1
2010/07/28	7:00:47AM	RETURN	EL17HSC17		1
2010/07/28	7:00:53AM	RETURN	EL17TBK20		1
2010/07/28	7:15:38AM	RETURN	EL17RAD19		1
2010/07/28	7:15:41AM	RETURN	EL17MBT05		1
2010/07/28	7:17:57AM	RETURN	EL17RF013		1
2010/07/28	7:28:40AM	RETURN	EL17MBT12		1
2010/07/28	7:28:44AM	RETURN	EL17RAD20		1
2010/07/28	7:34:14AM	RETURN	EL17US012		1
2010/07/28	7:34:24AM	RETURN	EL17TBK04		1

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### Returned Items Report

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Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	7:45:57AM RETURN	EL17E0238			1
2010/07/28	7:49:26AM RETURN	EL17K0517			1
2010/07/28	9:01:58AM RETURN	EL17TBK06			1
2010/07/28	9:29:32AM RETURN	EL17MT004			1
2010/07/28	9:29:46AM RETURN	EL17TBK09			1
2010/07/28	9:31:25AM RETURN	EL17K6174			1
2010/07/28	9:31:54AM RETURN	EL17K6173			1
2010/07/28	9:41:54AM RETURN	EL17HS007			1
2010/07/28	9:57:06AM RETURN	EL17SG001			1
2010/07/28	9:58:05AM RETURN	EL17FCC06			1
2010/07/28	9:59:17AM RETURN	EL17FCC02			1
2010/07/28	9:59:35AM RETURN	EL17I0040			1
2010/07/28	10:01:00AM RETURN	EL17TBK31			1
2010/07/28	10:02:24AM RETURN	EL17APG03			1
2010/07/28	10:03:25AM RETURN	EL17HSC29			1
2010/07/28	10:04:27AM RETURN	EL17TBK05			1
2010/07/28	10:08:00AM RETURN	EL17V0013			1
2010/07/28	10:08:08AM RETURN	EL17MBT05			1
2010/07/28	10:08:13AM RETURN	EL17RAD19			1
2010/07/28	10:26:53AM RETURN	EL17TBK37			1
2010/07/28	10:26:55AM RETURN	EL17TBK38			1
2010/07/28	10:28:46AM RETURN	EL17MAT07			1
2010/07/28	10:29:38AM RETURN	EL17BS002			1
2010/07/28	10:53:13AM RETURN	EL17I0517			1
2010/07/28	11:01:25AM RETURN	EL17MBT07			1
2010/07/28	11:01:33AM RETURN	EL17RAD21			1
2010/07/28	11:04:25AM RETURN	EL17I0410			1
2010/07/28	11:24:22AM RETURN	EL17HM111			2
2010/07/28	11:36:08AM RETURN	EL17E0325			1
2010/07/28	12:00:59PM RETURN	EL17PPE02			1
2010/07/28	12:02:17PM RETURN	EL17HSC05			1
2010/07/28	12:02:50PM RETURN	EL17HSC17			1
2010/07/28	12:09:44PM RETURN	EL17V0062			1
2010/07/28	12:13:34PM RETURN	EL17V0013			1
2010/07/28	1:16:53PM RETURN	EL17BAT50			1
2010/07/28	1:23:13PM RETURN	EL17RAD21			1
2010/07/28	1:23:20PM RETURN	EL17MBT04			1
2010/07/28	1:31:30PM RETURN	EL17HYD05			1
2010/07/28	1:31:49PM RETURN	EL17RAD26			1

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### Returned Items Report

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Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	1:31:56PM RETURN	EL17MBT09			1
2010/07/28	1:36:17PM RETURN	EL17HSC29			1
2010/07/28	1:36:32PM RETURN	EL17BS002			1
2010/07/28	1:36:42PM RETURN	EL17MAT07			1
2010/07/28	1:47:53PM RETURN	EL17E0316			1
2010/07/28	1:48:40PM RETURN	EL17E0326			1
2010/07/28	1:49:29PM RETURN	EL17E0567			1
2010/07/28	1:50:38PM RETURN	EL17MT003			1
2010/07/28	1:51:06PM RETURN	EL17TBK29			1
2010/07/28	2:02:51PM RETURN	EL17ELE02			1
2010/07/28	2:03:25PM RETURN	EL17HSC26			1
2010/07/28	2:04:39PM RETURN	EL17TBK15			1
2010/07/28	2:11:38PM RETURN	EL17BAT51			1
2010/07/28	2:12:36PM RETURN	EL17K0143			1
2010/07/28	2:13:14PM RETURN	EL17TBK14			1
2010/07/28	2:13:44PM RETURN	EL17I0667			1
2010/07/28	2:14:19PM RETURN	EL17SG006			1
2010/07/28	2:14:51PM RETURN	EL17I0033			1
2010/07/28	2:15:17PM RETURN	EL17TS002			1
2010/07/28	2:16:09PM RETURN	EL17MBT03			1
2010/07/28	2:16:12PM RETURN	EL17RAD23			1
2010/07/28	2:16:45PM RETURN	EL17TBK20			1
2010/07/28	2:17:01PM RETURN	EL17FS002			1
2010/07/28	2:18:52PM RETURN	EL17HS006			1
2010/07/28	2:19:03PM RETURN	EL17MBT18			1
2010/07/28	2:19:06PM RETURN	EL17RAD20			1
2010/07/28	2:22:40PM RETURN	EL17APG04			1
2010/07/28	2:22:55PM RETURN	EL17HM217			1
2010/07/28	2:23:13PM RETURN	EL17E0125			1
2010/07/28	2:41:31PM RETURN	EL17V0003			1
2010/07/28	2:45:59PM RETURN	EL17KEY04			1
2010/07/28	2:47:01PM RETURN	EL17E0567			1
2010/07/28	2:47:55PM RETURN	EL17E0568			1
2010/07/28	3:21:25PM RETURN	EL17V0031			1
2010/07/28	3:23:26PM RETURN	EL17US018			1
2010/07/28	3:27:20PM RETURN	EL17RAD22			1
2010/07/28	3:27:23PM RETURN	EL17MBT10			1
2010/07/28	3:27:37PM RETURN	EL17R0011			1
2010/07/28	3:27:46PM RETURN	EL17FC002			1

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### Returned Items Report

ELMENDORF AFB, AK1703AMXS / 517 AMU CTK

Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	3:27:56PM RETURN	EL17HSC06			1
2010/07/28	3:28:18PM RETURN	EL17FUN02			1
2010/07/28	3:29:36PM RETURN	EL17PPE02			1
2010/07/28	3:30:07PM RETURN	EL17TBK12			1
2010/07/28	3:31:03PM RETURN	EL17V0097			1
2010/07/28	3:31:29PM RETURN	EL17APG02			1
2010/07/28	3:31:49PM RETURN	EL17R0012			1
2010/07/28	3:32:16PM RETURN	EL17TBK13			1
2010/07/28	3:33:17PM RETURN	EL17K6178			1
2010/07/28	3:34:30PM RETURN	EL17APG05			1
2010/07/28	3:39:53PM RETURN	EL17TBK01			1
2010/07/28	3:40:01PM RETURN	EL17K6176			1
2010/07/28	3:41:12PM RETURN	EL17PPE01			1
2010/07/28	3:42:31PM RETURN	EL17TBK04			1
2010/07/28	3:56:30PM RETURN	EL17V0031			1
2010/07/28	3:56:35PM RETURN	EL17KEY01			1
2010/07/28	4:02:10PM RETURN	EL17KEY04			1
2010/07/28	4:14:25PM RETURN	EL17RAD24			1
2010/07/28	4:14:28PM RETURN	EL17MBT11			1
2010/07/28	4:14:36PM RETURN	EL17I0014			1
2010/07/28	4:14:42PM RETURN	EL17US026			1
2010/07/28	4:15:20PM RETURN	EL17ELE03			1
2010/07/28	4:15:35PM RETURN	EL17TB010			1
2010/07/28	4:15:45PM RETURN	EL17TBK02			1
2010/07/28	4:42:30PM RETURN	EL17V0031			1
2010/07/28	4:42:34PM RETURN	EL17KEY04			1
2010/07/28	5:22:19PM RETURN	EL17TBK18			1
2010/07/28	5:23:05PM RETURN	EL17APG01			1
2010/07/28	5:48:16PM RETURN	EL17K0517			1
2010/07/28	7:02:24PM RETURN	EL17MMK10			1
2010/07/28	7:02:47PM RETURN	EL17I0656			1
2010/07/28	7:03:41PM RETURN	EL17E0316			1
2010/07/28	7:04:08PM RETURN	EL17E0567			1
2010/07/28	7:04:57PM RETURN	EL17E0357			1
2010/07/28	7:05:24PM RETURN	EL17US018			1
2010/07/28	7:05:32PM RETURN	EL17BS002			1
2010/07/28	7:05:45PM RETURN	EL17MAT03			1
2010/07/28	7:07:54PM RETURN	EL17AV101			1
2010/07/28	7:08:04PM RETURN	EL17I0014			1

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## Tool Accountability System

### Returned Items Report

ELMENDORF AFB, AKI703AMXS / 517 AMU CTK

Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	7:08:43PM	RETURN	EL17MMK01		1
2010/07/28	7:13:04PM	RETURN	EL17TBK10		1
2010/07/28	7:13:35PM	RETURN	EL17TBK08		1
2010/07/28	7:13:46PM	RETURN	EL17HSC29		1
2010/07/28	7:14:04PM	RETURN	EL17RAD23		1
2010/07/28	7:14:07PM	RETURN	EL17RAD19		1
2010/07/28	7:14:11PM	RETURN	EL17MBT23		1
2010/07/28	7:14:15PM	RETURN	EL17MBT24		1
2010/07/28	7:14:26PM	RETURN	EL17US017		1
2010/07/28	7:14:28PM	RETURN	EL17TBK09		1
2010/07/28	7:14:55PM	RETURN	EL17HSC08		1
2010/07/28	7:15:03PM	RETURN	EL17R0010		1
2010/07/28	7:15:03PM	RETURN	EL17CSS02		1
2010/07/28	7:16:14PM	RETURN	EL17AV102		1
2010/07/28	7:16:14PM	RETURN	EL17APG04		1
2010/07/28	7:16:33PM	RETURN	EL17US028		1
2010/07/28	7:16:41PM	RETURN	EL17MBT04		1
2010/07/28	7:16:44PM	RETURN	EL17MBT16		1
2010/07/28	7:16:47PM	RETURN	EL17MBT19		1
2010/07/28	7:16:57PM	RETURN	EL17RAD21		1
2010/07/28	7:17:01PM	RETURN	EL17RAD26		1
2010/07/28	7:17:07PM	RETURN	EL17RAD24		1
2010/07/28	7:17:42PM	RETURN	EL17TBK05		1
2010/07/28	7:18:24PM	RETURN	EL17K6173		1
2010/07/28	7:18:30PM	RETURN	EL17ELE02		1
2010/07/28	7:18:34PM	RETURN	EL17US025		1
2010/07/28	7:18:41PM	RETURN	EL17HSC26		1
2010/07/28	7:18:49PM	RETURN	EL17HS006		1
2010/07/28	7:18:52PM	RETURN	EL17US030		1
2010/07/28	7:18:58PM	RETURN	EL17RAD20		1
2010/07/28	7:19:04PM	RETURN	EL17MBT05		1
2010/07/28	7:19:08PM	RETURN	EL17MT004		1
2010/07/28	7:19:13PM	RETURN	EL17HM117		1
2010/07/28	7:19:22PM	RETURN	EL17TB006		1
2010/07/28	7:19:47PM	RETURN	EL17TBK06		1
2010/07/28	7:20:03PM	RETURN	EL17TBK07		1
2010/07/28	7:20:27PM	RETURN	EL17LD001		1
2010/07/28	7:21:34PM	RETURN	EL17APG03		1
2010/07/28	7:22:14PM	RETURN	EL17R0009		1

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## Tool Accountability System

### Returned Items Report

ELMENDORF AFB, AK1703AMXS / 517 AMU CTK

Record Count: 245

Date	Action	Item ID	Personnel Name	Operator Name	Qty
2010/07/28	7:23:13PM RETURN	EL17TB08			1
2010/07/28	7:28:36PM RETURN	EL17V0013			1
2010/07/28	7:28:46PM RETURN	EL17I0999			1
2010/07/28	7:28:57PM RETURN	EL17I0409			1
2010/07/28	7:29:04PM RETURN	EL17I0464			1
2010/07/28	10:37:41PI RETURN	EL17APG01			1
2010/07/28	10:37:49PI RETURN	EL17US003			1
2010/07/28	10:37:53PI RETURN	EL17US004			1
2010/07/28	10:38:01PI RETURN	EL17MBT03			1
2010/07/28	10:38:05PI RETURN	EL17RAD19			1
2010/07/28	11:35:27PI RETURN	EL17K0517			1

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U9. REFUELING LOG

STATUS	REQ TYPE	MDS	TAIL NO.	OPERATOR	LOCATION	REFUELER	QTY	REQ TIME	DISP TIME	ARRIVAL	DEPART	ESP TIME	DATE
Completed REFUEL	CO17A		173		H18	05L-301	15374	20:43	20:49	21:07	DP0726100	24	07/26/2010
Completed REFUEL	CO17A		173		H14	96L00170	1510	4:39	4:39	4:39	DP072810C	0	07/28/2010
Completed REFUEL	CO17A		173		H15	96L00204	5751	13:23	13:28	13:55	DP0728105	32	07/28/2010
Completed REFUEL	CO17A		173		H15	96L00183	5535	13:24	13:30	13:51	DP072810C	27	07/28/2010
Cancelled REFUEL	CO17A		173		H4		0	19:22			DP0727107	0	07/27/2010
Completed DEFUEL	CO17A		173		H10	05L-301	10744	19:54	21:52	20:24	DP0727108	30	07/27/2010
Completed REFUEL	CO17A		173		H14	06L00048	5615	2:32	2:34	2:54	DP0728107	22	07/28/2010
Completed REFUEL	CO17A		173		H14	96L00170	5672	3:24	3:25	3:25	DP0728102	1	07/28/2010

10 Refueler  
 1 Defueler

183 - Oc hold  
 202 - Oc hold DM - service bulletin  
 203 - Oc hold DM - service bulletin  
 204 - Oc hold

Ph1 - out hold  
 Ph2 - out hold

can be used if needed

1.1.2.4

**TAB V**

**WITNESS TESTIMONY AND STATEMENTS**

<b>V1. AIB TELEPHONIC INTERVIEW WITH</b>	<b>WITNESS 1</b>	<b>...3</b>
<b>V2. AIB INTERVIEW WITH</b>	<b>WITNESS 2</b>	<b>.....15</b>
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<b>V4. AIB INTERVIEW WITH</b>	<b>WITNESS 4</b>	<b>.....49</b>
<b>V5. AIB INTERVIEW WITH</b>	<b>WITNESS 5</b>	<b>.....62</b>
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<b>V26. AIB INTERVIEW WITH</b>	<b>WITNESS 26</b>	<b>.....339</b>
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**V1. AIB TELEPHONIC INTERVIEW WITH WITNESS 1**  
**VERBATIM TESTIMONY OF**  
**WITNESS 1**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

LEGAL: LEGAL REP

LEGAL REP Yes.

LEGAL: Were you able to view <sup>WITNESS 1</sup> taking the oath?

LEGAL REP I was. He did take the oath, and I am able to verify his identity as  
**WITNESS 1** by using his CAC card.

LEGAL: Thank you very much. At this time, sir, you can excuse **LEGAL REP**

PRESIDENT: That's good.

LEGAL: Thank you, Major--ma'am.

LEGAL REP You're welcome. Let me know if you need anything else.

LEGAL: All right.

[ LEGAL REP departed the remote interview room.]

PRESIDENT: Today is the 8<sup>th</sup> of September 2010. This time is now 1710 Zulu. This interview is being conducted telephonically. The base legal office at McChord Air Force Base has verified the identity of the witness. The AIB team, including:

Pilot Member;  
Legal Advisor;  
Maintenance Officer;  
Flight Surgeon;  
Maintenance Member;  
Court Reporter; and,

I, [Brigadier General Carlton D. Everhart, II, Board President]

are in Room 105 at Building 7309, Joint Base Elmendorf-Richardson, Alaska.

The witness is at McChord Air Force Base in Building 100, Room 2078.

The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your name and rank.

1A. **WITNESS 1** .

2Q. How long have you served in the Air Force?

2A. For approximately 5 and a half years.

3Q. What is your unit of assignment and location?

3A. 62d Operations Group, Standards and Evaluation Division.

4Q. How long have you been with his unit?

4A. 14 months.

5Q. What is your job title?

5A. Deputy Chief, 62d Operations Group, Standards and Evaluation.

6Q. How long have you been in this particular job?

6A. In this job as Deputy, I have been for 14 months.

7Q. Okay. Can you please describe your duties and responsibilities on 28 July 2010?

7A. As the Deputy Chief, I am responsible for answering to the Operations Group Commanders or deputies on all matters regarding AFI interpretation, and evaluations within the Group, as well as serving as the chief pilot for our demonstration team here at McChord.

PRESIDENT: Thank you,<sup>WITNESS 1</sup> I appreciate your time. I would like to turn this over to for his questions, if I may.

WITNESS: Certainly.

**Questions by the Pilot Member:**

PILOT: Good morning,<sup>WITNESS 1</sup>

WITNESS: Good morning.

8Q. We would like for you to start out and have you describe your aerial demonstration certification program.

8A. Okay. For the 62nd Operations Group we follow guidance contained within the AMC 246 Concept of Operations, or CONOPS, chapter 5 which details the pilot certification process. Going through the steps of that, we also mirror the certification process through a locally generated training guide of which all nominated members are taken through as part of their certification. From the con-ops, that begins with phase 1 and I'll say prior to actually getting to phase 1 each candidate is nominated by their respective squadron commander or the group commander. So, only those who have been given the nod by either of those people even begin the process. Phase 1, which talks about taking the candidates to become familiar with the applicable AFIs, guidances, all the AFIs that govern the aerial demonstration, they are taken through that before they begin any other training. The phase 2 process for us, for the pilots who are going to be the pilots flying as well as the co-pilots who can also be referred to as pilots monitoring per our T.O., they then go into the simulator and practice profile 3 which is the 12 minute demonstration which for the most part covers any and all maneuvers that would be covered in any of the other profiles, and except for profile 4 which is an air-ground profile.

9Q. When you said, "T.O.'s" that refers to technical orders and those are the technical orders that describe how to fly the aircraft?

9A. Yes. So they go in with--it's preferred they go in with myself or another operation--OGV or Operations Group Standards and Evaluation pilot and practice the profiles in the simulator. Then they move to a flight, a local here at McChord where again with an OGV level pilot, they fly the demonstrations here at McChord. Each candidate is given multiple opportunities to practice the profile here and once the OGV level pilot is satisfied with their performance, that's when they move to phases 3 and 4 in which the OGV pilot makes a

recommendation, by signing the training guide, to the squadron commander that they have met the standards. The squadron commander meets with each candidate through our normal review and certification board process, or RMC process, where they sit down with the squadron commander, review the training guide, and get the squadron commander's thoughts and comments on demo--on how to fly demos.

10Q. Okay. You mentioned that part of the phases you described as phases 1 through 4, the second phase would be the simulator phase. How many simulators do you require?

10A. We require only 1 simulator. Actually, that simulator can also be waived by the squadron commander.

11Q. Okay, so 1 is required and you mentioned that during that simulator you will fly what is called a profile. Can you explain what you mean by profile?

11A. The profile, the current AFI 11-246, volume 6, chapter 3, there are 4 standard profiles for the C-17 demonstration--that the C-17 can fly. Profile 3 is a capabilities demonstration which is known as our 12 minute demonstration. That one, for an air-land purpose, covers all the maneuvers that you would also fly in profiles 1 or 2.

12Q. Okay. When you say, "air-land" you mean that is employment of the aircraft in a capacity that delivers troops or cargo from one location to the other without dropping from the back of the aircraft?

12A. Yes. You are correct that the last half of the demonstration, that describes an air drop which is covered under profile 4.

13Q. You mentioned specifically profile 3. We would like you to talk about profile 3 and have you describe that and talk us through profile 3 specifically.

13A. Okay. I still had a couple more things with the certification process. Are you satisfied with what we had covered under that portion?

PILOT: Yeah, you can finish your thoughts on the certification if you like.

13A (continued). Okay. I just wanted to say after the squadron commander has met with the candidates, they sign their signature on the RMC minutes, signifying their approval which then is--they then go up to the Operations Group Commander and the Operations Group Commander's signature on both their training guide as well as the Operations Group RMC minutes then signifies the actual certification for the crew members and the C-17 no longer uses the Air Force Form 1381 in our flight evaluation folders which it used to be the record of certifications. We now process that through what is known as a Letter of X's. The Group Commander signs an Air Force Form 4324 which updates the crew member's ARMS record and that then updates the Letter of X's providing the circle of certification.

**Questions by the Board President:**

14Q. The ARMS record is what?

14A. I don't remember exactly what the definition of that acronym is.

15Q. Can you let me know what specifically that does?

15A. What that does is that updates a crew member's currency record. That signifies and loads a training table for that crewmember which in our case and our Group's case, now also loads a 2-year currency requirement for flying a demo profile to keep them what we would call as current. What do I mean by current? Meaning that they would not require a specific flight other than our mandated practice flight before taking off for a demonstration.

PRESIDENT: That's perfect <sup>WITNESS 1</sup> Thank you.

**Questions by the Pilot Member:**

16Q. Just to summarize, so you mentioned the process starts with the nomination?

16A. Yes, sir.

17Q. It requires at least 1 simulator flight unless that is waived?

17A. Uh huh.

18Q. Then you have the actual flight training?

18A. Yes.

19Q. Then you have signatures that starts with the Squadron Commander, ends up with the Group Commander as the final approval, and then that record is maintained in ARMS as a simplified summary. Is that accurate?

19A. Yes.

20Q. Okay. Thanks for explaining that. We would like to go back to where we were with profile 3 and have you describe that profile to us, if you can.

20A. The C-17, once cleared, will taxi onto the runway, and initially take off using a maximum power takeoff or what is known as our min maneuvering speed, or VMCO.

21Q. Okay. Can you define the "max power" takeoff?

21A. A max power takeoff is pushing the throttles all the way up and getting the maximum thrust available from the engines.

[The court reporter informed the pilot member that aircraft noise appeared to distort the audio, but this was not the case.]

22Q. Okay. Sorry, you'll have to backtrack just a little bit due to background noise. If you can start with step 1 of profile 3.

22A. Okay. Once on the runway and cleared for takeoff from either the tower or the air boss, the aircrew pushes the throttles for the engines up to the max power which is the maximum amount of thrust available from the engines for the takeoff. Once reaching our rotation speed after break release, we pitched the aircraft up to climb out at our minimum climb out speed, or VMCO.

23Q. Okay. If you can explain the rotation, that is when takeoff occurs, through when the aircraft goes from a three point to a take off attitude?

23A. Yes. Our slats are extended, our flaps are at their half setting which is our normal configuration for a departure. We are climbing at--for the initial climb up to 1,500 foot AGL or above ground level. At approximately 1,000 feet we begin to bring the nose down, one, to begin to actually level off at the 1,500 feet AGL as well as to begin our acceleration to a speed faster than our VMCO.

**Questions by the Board President:**

24Q. <sup>WITNESS 1</sup> the initial climb in degrees that you take when you rotate--or typically do you-- what normally would you see on that?

24A. I've seen anywhere from 20 to 30 degrees of nose high. Once reaching about approximately 1,000 feet AGL we would begin a level off maneuver to level off at 1,500 feet and begin our acceleration and then as prescribed at the preference of the aircraft commander or the pilot flying as to whether or not he will be the person directing configuration changes or it can also be delegated--or has been delegated to interaction between the safety observer which is an additional pilot in either--that would be sitting in either our left additional crewmember or right additional crewmember lack 'em or rack 'em seats which are behind the pilots-- the pilot and the copilot seat respectively.

25Q. When you talk about this delegation, you delegate that--is that still called for verbally by the pilot flying?

25A. That's what we leave up to the pilot flying. If he wants to still verbally ask for the configuration changes, or if he delegates to the safety observer to call out the configuration changes so that the pilot flying can concentrate on flying a stable profile without having to be calling those out.

**Questions by the Board President:**

26Q. So, <sup>WITNESS 1</sup> when you say they are calling them out, you still will hear that inside the cockpit as you would like on a normal takeoff?

26A. Yes, sir.

27Q. So it's still verbally acknowledged in the cockpit?

27A. Yes, sir.

**Questions by the Pilot Member:**

28Q. Can you just define what you mean by configuration changes?

28A. Yes, sir. That would be calling for the gear to be brought up--to be retracted into the aircraft, changes to the flap settings are that the flaps are being brought up to their fully up position as well as flaps being retracted to their up and stowed position and/or extension of those three items as well.

29Q. When you--do you have a specific time or specific speed that you use to accomplish those configuration changes?

29A. A normal gear retraction is once we have established a positive climb, so that is pretty much automatic once the aircraft has departed the runway. Taking it from a--switching the flaps setting from flaps half does not take place until we are past that thousand feet and start pushover and accelerating and then we have to pass a speed known as the VMFR or minimum flap retract speed that tells us when the flaps can be brought up from the half flaps setting.

30Q. Okay. You can continue to talk us through that first maneuver then.

30A. Once we are accelerating, we will begin an 80 degree turn away from the crowd line, or the side that the crowd is on. So, we always fly our demonstrations away from the crowd, or turns away from the crowd.

31Q. When you say 80 degrees, you mean 80 degrees----

31A. Of heading change.

31Q (continued). ----of heading change. Okay.

**Questions by the Board President:**

32Q. When you said crowd line, that's an extended line basically going down the middle of the runway or show center?

32A. Yes, sir.

33Q. How far do you think that line extends? Does it extend to field boundary or is it extended out to infinity?

33A. What we use and what I teach is I have it extended out for the pilot reference. I have it extended out 5 or 10 miles so it can be seen on our displays. That way, it helps the pilot and the copilot as well as safety to monitor the position of the aircraft in reference to the line because we want to treat that line as a no-fly on the opposite side.

34Q. So that 5 to 10 miles extended out on the visual presentation inside the airplane, is that a technique or is that a procedure?

34A. That is a technique.

**Questions by the Pilot Member:**

35Q. Okay. So, you mentioned--so, we were talking through the--you took us to the initial climb out and then you took us through a turn with 80 degrees of heading change.

35A. Eighty degrees of heading change and then depending on winds, winds always come into factor as well in flying, then a--it's called a course reversal, 260 degrees in the opposite direction of the initial turn to bring us around to the show line, heading in the opposite direction from takeoff.

36Q. That's 260 degrees of heading change, correct?

36A. Yes, 260 degrees of heading change, and then depending upon a crew's study of terrain in the area, that will depend on when the pilot begins his descent then from the 1,500 foot AGL down to 500 feet AGL for a clean pass which means the gear is retracted, the flaps are retracted, and the slats are retracted as well. This first pass is conducted either at 250 knots of airspeed or it can also be done at 300 knots with an FAA waiver, a speed waiver for being below 10,000 feet.

37Q. Okay. When you are conducting the 80 degrees of heading change and the 260 degrees of heading change, what does the profile say regarding the bank angle for those turns?

37A. All bank angles are depicted or specified to be 45 degrees of max bank and that is in both the textual description of the profiles as well as in AFI 11-209.

38Q. Okay, what does the profile say regarding the rudder use for that same turn?

38A. It says no ru--my understanding is, does not specify any use of rudder.

39Q. Do you have a particular technique that you use or teach?

39A. I teach people not to use it. If they fly the profile correctly in the way it has been designed, there should be no need for use of rudder. I have had pilots put in a little bit and I can't necessarily quantify a little versus a lot, maybe just a tap, but my technique is teaching the pilots to put both of their feet on the floor and keep their feet off the rudder pedals.

40Q. All right. You talked about deconfiguring the aircraft. We established what that was. Talking through the turn, the 80 degrees of heading change followed by the 260 degrees of heading change, can you describe the point during that sequence where the deconfiguring normally happens?

40A. The deconfiguration normally happens as the aircraft is accelerating and has passed to the min retraction speeds for the flaps and the slats. Those speeds change depending on the weight of the aircraft, but they are given to us from the mission computer as to what the speeds are.

41Q. Does this normally result, based on your experience, in a clean aircraft, a partially configured aircraft, partially configured meaning that maybe the slats are extended and the flaps are up, or clean aircraft meaning that the slats would be retracted and the flaps would be in the up position?

41A. It culminates in a clean configuration. The gear comes up first at initial takeoff. Then the flaps are retracted first. The slats are still extended. Then once we reach the slats retract speed, then the slats are retracted.

**Questions by the Board President:**

421Q. Let me just clarify, if I may, what I think I understand you to say. On speed, with the gear, and then about that time you make your initial 80 degree turn of heading change, that's about when you would bring on speed the flaps up. Then the way I understand what you are saying is about the time you start, or during the time that you are doing that 260 degree heading change, you would retract the slats on speed? Can you talk us through how you would do that?

42A. Typically because you are still at max thrust during the 80 degree heading change, the gear comes up within 100 feet of leaving the ground. The gear is up well before--is retracted well before we hit the start of the turn. The bringing up of the flaps and slats typically happens during the initial 80 degree of change because the aircraft, again, is at max thrust still and is accelerating. Usually since the aircraft is light, somewhere in the range of 320,000 pounds which is fairly light for us, those speeds come quickly. Usually by the time you have hit the 80 degree heading--80 degrees off heading and begin the turn in the opposite direction to do the 260 degrees of heading change, you are usually by that point, you are a clean aircraft.

[ departed the board room.]

**Questions by the Pilot Member:**

43Q. You mentioned that to get into a clean configuration, you said on speed earlier, and on speed is defined as the speed that the aircraft calculates as a safe airspeed to deconfigure the aircraft, correct?

43A. Correct.

**Questions by the Board President:**

44Q. Then again, to clarify, you said all these maneuvers are done at 45 degrees?

44A. Yes, sir.

45Q. Of bank?

45A. Yes, sir.

**Questions by the Pilot Member:**

46Q. As we continued to talk about this particular part of the profile, during this 80 degree of heading change to 260 degrees of heading change, have you noticed a propensity or have you--did you normally get any type of warnings from the aircraft during these maneuvers?

46A. No, I do not.

47Q. That would include warnings such as stall warnings where the aircraft is alerting the crew that it is approaching a potential stall condition?

47A. I have no recollection in my experience of getting a stall warning on that turn. I will say the C-17 does have--can--during a configuration change have a momentary lag where stall bars don't necessarily change as quickly with rapid configuration changes.

48Q. If we can, to define a stall, if you could define a stall for us.

48A. A stall is a point at which an aircraft begins to lose its aerodynamic qualities to be able to keep it in the air. The C-17 has automated warnings to calculate when the aircraft approaches those limits and orally warns the crew.

49Q. Meaning they will hear it through their headset and speakers?

49A. Will hear it through their headset as stall, stall as long as the aircraft is maintained within that envelope that the mission computer has calculated.

50Q. During your experience, you have not had noticed or you cannot recollect hearing that particular warning alerting the crew. Is that correct?

50A. At that point in time, no.

[ entered the board room and resumed his seat.]

51Q. Okay. You mentioned--we talked a little earlier about calling for the checklist and how that workload is divided inside the aircraft. Do you verbalized challenge and responses from the checklist just as you normally would, and by challenge and responses, I mean when there is a critical item and one pilot calls for it and the other confirms that it is in the position, do you run those challenge and responses just as you normally would during any other type of flight?

51A. Yes. Everything is verbally announced and as I said before, depending on the pilot flying, whether he wants to acknowledge those items which require a response from the pilot position or if he delegates to the safety observer to respond for him. Everything is dual, verbally enunciated.

52Q. Regarding checklist, do you have an approved, specific aerial demonstration checklist or do you use the standard flight manual checklist?

52A. Standard flight manual checklist. I know there are demonstration ones that are out there, but we do not have one in the 62d Operations Group.

**Questions by the Board President:**

53Q. Do you know if those other checklists are actually approved by MAJCOM?

53A. No, I do not.

54Q. By MAJCOM, I mean Major Command as in Pacific Air Forces or Air Mobility Command.

54A. There are none for Air Mobility Command that I am aware of. I believe the one I have seen was a technique.

**Questions by the Pilot Member:**

55Q. All right. Just to backtrack a little bit, when we described what a stall is, and we talked about the stall warning system of the aircraft, if you were to encounter that during your flight, during maneuvering, what would be your reaction to that?

55A. Confirming I'm in max thrust or getting the aircraft to max thrust as well as either decreasing my bank or decreasing my pitch to a level to allow the aircraft to accelerate.

**Questions by the Board President:**

56Q. So, would you actually do that during an air show profile also?

56A. Yes, sir.

**Questions by the Pilot Member:**

57Q. Have you, just for background, have you noticed or has anyone mentioned any unusual handling characteristics during any aspect of aerial demonstration flight?

57A. No, sir.

58Q. The last thing, and we know that you are aerial demonstration certified, have you ever flown an actual air show?

58A. I have flown the modified profile 3 which began and ended in the air because the demonstrations were over water. The only part of the standard profile 3 that I have not flown for an actual air show is the full stop and the backing.

LEGAL: I just wanted to clarify something on the record and it is actually just more for our record keeping, I just wanted to note that \_\_\_\_\_ had departed the interview room at the time when you were discussing max thrust and during the 80 degree heading change just before we were talking about stalls and what stalls were and then re-entered the room approximately 3 minutes ago. Thank you. <sup>WITNESS 1</sup> we are going to take a little break here. I'm going to put you on hold, so stay on the line.

WITNESS: Will do.

[The board recessed at 1742 Zulu, 8 September 2010.]

[The board reconvened at 1746 Zulu, 8 September 2010 with all members previously present being present.]

**Questions by the Board President:**

59Q. <sup>WITNESS 1</sup> are there any other things you would like to add to help us with this investigation?

59A. All I can say is that if the profile is flown as it was designed, it doesn't exceed any standard capabilities of the aircraft.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview.

[The board recessed at 1747 Zulu, 8 September 2010.]

[END OF PAGE]

**V2. AIB INTERVIEW WITH**

**WITNESS 2**

**VERBATIM TESTIMONY OF**

**WITNESS 2**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Today is the 8th of September 2010. This time is now 1417 local. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,

**WITNESS 2**

Pilot Member;

Legal Advisor;

Maintenance Officer;

Maintenance Member;

Court Reporter; and,

me, [Brigadier General Carlton D. Everhart II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your name and rank.

1A. **WITNESS 2**

2Q. How long have you served in the Air Force?

2A. 16 years--16 1/2 years.

3Q. What is your unit of assignment and location?

3A. 703 AMXS, Elmendorf Air Force Base, Alaska.

4Q. How long have you been with his unit?

4A. A year.

5Q. What is your job title?

5A. Maintenance production supervisor.

6Q. How long have you been doing this particular job?

6A. About 5 months now, sir.

7Q. If you would, would you please describe your duties and responsibilities on 28 July 2010?

7A. I was the swing shift production supervisor. My responsibilities are to manage production on the flight line, to include assigning jobs to specialists for any aircraft that may be broke and to the status aircraft accordingly.

8Q. And you said that your years of service is about 16 1/2? Is that correct?

8A. Yes, sir. December 13th will be my 17-year mark.

9Q. You said that your position in the maintenance organization was pro super, correct?

9A. Yes, sir.

10Q. Can you describe to me what a pro super is?

10A. A pro super manages the flight line production wise as far as--like I said, sir, when an aircraft that lands is broke, liaison personnel are assigned to fix the aircraft. I status the aircraft accordingly as far as whether it is non-mission capable, partial mission capable.

11Q. That is for C-17 aircraft, correct?

11A. Yes, sir.

12Q. C-17 only?

12A. Yes, sir.

PRESIDENT: Thank you. I will turn this now over to

**Questions by the Maintenance Member:**

13Q. Thank you for coming. Basically, a C-17, how much experience do you have maintaining the C-17 aircraft?

13A. In my whole career, I spent 2 years on it while stationed at Ramstein Air Force Base, Germany. Worked the en-route there and the last year I have been here, so a total of 3 years. That Ramstein timeframe was like 2001, 2002.

14Q. Can you describe what you're training is that you have gone through in order to be a pro super of this aircraft?

14A. I went through pro-super school here on the base just recently, actually. You're just talking specifically pro super or are you talking schools I went through as a jet engine mechanic?

15Q. Your total amount of training because that goes to your experience level.

15A. Okay. I also went to school in route to this duty assignment, at Jackson Air National Guard Base. Prior to that, when I was at Ramstein, I went through some schools as well there, through Charleston, C-17 run school, also went through another systems school there at Charleston. I believe that's it, sir, as far as I can remember.

16Q. You were at work on July 28th, the day of the mishap?

16A. Yes, sir.

17Q. Do you remember what aircraft you signed off or were involved with on that day?

17A. The subject aircraft, obviously, 173. I signed the ER, exceptional release, on that aircraft the line prior to the mishap.

18Q. The exceptional release, can you kind of give me a brief description of what that is?

18A. The exceptional release, that is basically calling the aircraft air worthy as far as maintenance is concerned. I review the forms to verify that the aircraft is maintenance worthy and then I sign off the ER and inform the pilots that the ER has been signed off and it's good to fly.

19Q. That wouldn't necessarily involve any maintenance yourself on the aircraft?

19A. No, sir.

20Q. You are just ensuring the other maintenance professionals did their job right?

20A. Yes, sir.

21Q. In your current job, what are your current responsibilities with respect to tail number 173, the mishap aircraft?

21A. On that subject day, only the ER.

22Q. Only the ER?

22A. Yes, sir.

23Q. Had you been on shift prior to the ER, or how long had you been on shift prior?

23A. I had been on shift--my shift starts at 2:30. The aircraft--no, it has been a little over a month. I'm thinking it launched around 1600 so I went to the aircraft around 1500, reviewed the forms, signed off the exceptional release, and that's the interaction I had with the aircraft.

24Q. So that's at 2:30 PM?

24A. Yes, sir.

25Q. So the ER was really the only interaction you had with it?

25A. Yes, sir.

26Q. Did you get a turnover of sorts from the previous shift?

26A. No, I did not get any turnovers as far as dayshift's pro super other than the aircraft is due to launch and I needed to go sign off the ER.

27Q. By turnover, I'm saying, from the previous shift pro super, did he tell you the status of that aircraft or if there had been any previous write ups on the plane?

27A. Yes. My turnover as far as dayshift was that aircraft had already launched out on one line. This was the second line that I was signing the ER off on and it was air worthy. There were no write ups as far as maintenance was involved. So when I came to the aircraft, I verified that.

28Q. Do you know who was the pro super on duty the shift prior?

28A. We have 3 pro supers on day shift. It kind of varies as far as which one is actually on the line. It's usually **MSGT M** or **MSGT W** I'm not sure which one because we are all kind of in the office together as far as the turnover. It isn't specific as far as which one was on the line that day.

29Q. You said you signed off on the second line for it?

29A. Yes, sir.

30Q. Again, can you explain what you mean by line?

30A. Line, there's like--a line is a flight, basically. The first line was the first flight with that aircraft. The second line was the second flight with that aircraft.

31Q. So, you had gotten a turnover as far as the shape the aircraft was the previous go. The status of the aircraft itself, it was--you got a turnover and they said it was?

31A. Partial mission capable, maintenance.

32Q. Kind of describe what that means.

32A. All of our aircraft, because they aren't dual role--they are dual role restricted. All of our aircraft are partial mission capable because of maintenance because it is dual role--it doesn't have dual role capability as far as air drops.

33Q. So, dealing with an air drop mission, it was not capable?

33A. Yes. That type of air drop mission, it wouldn't---

**Questions by the Board President:**

34Q. That's just because dual role is a specific configuration in the back of the airplane that will allow it to do that type of drop?

34A. Yes, sir. Exactly.

**Questions by the Maintenance Member:**

35Q. So the mission that this one was going to fly, that had no bearing on it?

35A. Yes.

**Questions by the Pilot Member:**

36Q. Would you classify the partially mission capable as the standard across the fleet due to a known previous condition that only has to do with air drop operations?

36A. Yes, sir. We don't have any FMC, full mission capable, aircraft because of exactly what you're saying, sir.

**Questions by the Maintenance Member:**

37Q. Sequence of events, I guess for the day it pertains to 173, the tail number. You turned over and did the ER. After you signed the ER, can you tell me what you saw and what you did?

37A. I signed off the ER and that was the second line, like I said previously. Engine running crew change, "urked" into the third line which a demo team took over and we had no maintenance interaction with the aircraft. I believe it was air worthy.

**Questions by the Board President:**

38Q. Do you know if the crew, the earlier go during that day, had called in any maintenance or anything like that, needed to have anything checked out on it prior to the engine running crew change?

38A. No. There was no call in as far as any maintenance issues.

**Questions by the Maintenance Member:**

39Q. Engine running crew change, not familiar with the standard procedures today. Did they crew change on the taxiway?

39A. Yes, sir.

40Q. On the ramps? You didn't martial it anywhere?

40A. No, sir.

41Q. We already covered it, but you stated there were no maintenance related discrepancies? No problems from the first mission that day?

41A. No, sir.

421Q. I know it was a quick turn, in other words, it wasn't on the ground very long. Do you know if any discrepancies were worked in between the missions from the first mission that morning to the second one?

42A. I know of none, and the forms were clean so I didn't see any other than the usual I's and E's, exhaust inspection.

**Questions by the Board President:**

43Q. So when you say the forms are clean, there are no hard write ups that would ground the airplane, or have to do some extensive maintenance on it? Is that what you're saying?

43A. Exactly, sir. Exactly.

**Questions by the Maintenance Member:**

44Q. There were no maintenance problems worked from previous write ups. If you are familiar with the term "red ball" maintenance, could you give me a brief description of what red ball maintenance would be?

44A. Red ball maintenance is a write up that needs to be worked and the maintainers have to pretty much rush out there and try to fix it before launch.

45Q. There were no red ball maintenance issues, nothing called in prior to launch time?

45A. No, sir.

46Q. Just for clarification purposes, a write up is a term I've used a couple times. That's meaning basically a discrepancy, and written up into the forms as a permanent record, and there were none on this aircraft from that first go?

46A. Yes, sir.

47Q. I think we covered all the maintenance issues. One thing, and I'm not sure if you said it before, did you see the actual mishap? Did you watch the mishap?

47A. I was actually upstairs in the production office when it happened. I was informed.

48Q. So you did not see the mishap?

48A. No, sir.

**Questions by the Maintenance Officer:**

49Q. When the jet landed on the first go, what was the status--what would you say the status code was?

49A. When it landed on the first go, that was day shift, I'm guessing it was----

50Q. What was your turnover?

50A. My turnover was it was mission capable. It was ready to go. I just needed to sign the----

51Q. Alpha 1?

51A. Yes, sir. Alpha 1.

52Q. What is Alpha 1?

52A. Alpha 1 is good to fly, no write ups, no major write ups, no grounding write ups.

PRESIDENT: WITNESS 2 thank you for your time and for coming in. I would just like to ask you one more, quick question and then I will read you out of this interview.

**Questions by the Board President:**

53Q. Are there any other things you would like to add that would help us in this investigation?

53A. Nothing I can think of, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview.

**V3. AIB INTERVIEW WITH**

**WITNESS 3**

**VERBATIM TESTIMONY OF**

**WITNESS 3**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on this accident. Any testimony you gave before the safety investigation board will be kept confidential, if you are so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the differences between your testimony in the safety board and this accident board?

WITNESS: Yes, sir, I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you affirm that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth?

WITNESS: I do.

PRESIDENT: Please be seated. Today is the 15<sup>th</sup> of September 2010. This time is now 1020 local Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      **WITNESS 3,**  
   Pilot Advisor;  
   Legal Advisor;  
                                 Maintenance Officer Advisor  
                                 Medical Advisor;  
                                 Maintenance Advisor  
                                 Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 3**

2Q. How long have you served in the Air Force?

2A. A little over 19 years now.

3Q. And what is your unit of assignment and location?

3A. 517<sup>th</sup> Airlift Squadron in Elmendorf.

4Q. In Elmendorf, okay. And how long have you been with this unit?

4A. A little over two years, sir.

5Q. What is your job title?

5A. I'm the ADO, Assistant Operations Officer.

6Q. And how long have you been doing this particular job?

6A. Since I arrived on station.

7Q. Can you please describe your duties and responsibilities on 28 July 2010?

7A. I was the -- can I use ADO interchangeably now?

8Q. You can now, you bet.

8A. I was the ADO on duty, and my duties were keeping the squadron running in a general sense when a snag came up that wasn't able to be handled by the younger officers or enlisted. And I was also in charge of signing orders and handling any kind of prioritization if assets were limited; tails, crews went DNIF, duty not including flying, things like that. I was in charge of juggling crews and aircraft to make sure the training got done.

9Q. Throughout this interview, I will be asking you questions related to the information in your previous statement. I would like to ask you now if you would like to adopt your previous statement for the record?

9A. Yes, sir.

**Questions by the Legal Advisor:**

10Q. Sorry. And let's just be clear, it's that you would like to adopt this previous statement that was in Tab R, pages R4 through R14, as part of your testimony today?

10A. I do.

**Questions by the Board President:**

11Q. What you have adopted and is now part of your testimony today, this means that some of the questions were based on your previous statement. Just for the record, do you understand?

11A. Yes, sir.

12Q. And if at any time you don't understand my questions, please feel free to ask for clarification. Are you familiar with the C-17 aerial demonstration program?

12A. Yes, sir, I am.

13Q. Can you describe your C-17 aerial demonstration background?

13A. I was trained up last year. I really don't remember what month, but I was trained up with the intent to bridge the gap between our outgoing cadre of demonstration pilots for the 517th and the next wave of people that were coming in. We were the initial standup squadron, so we had a large wave of people that was leaving, and I was to bridge the gap. So I was trained up last year to be the instructor for the new group of demonstration pilots. And then I ended up being chosen to go on a road show last year with the Thunderbirds where we did multiple demonstrations all over PACAF, the Pacific Air Force theater.

14Q. And who provided your training?

14A. MP MP

15Q. And who else trained with you?

15A. We had several other pilots. They were both -- two other instructor pilots that trained up with me. But once we were all qualified, I trained with a smaller -- call it a hard crew for that traveling demonstration circuit that we did.

The other two instructor pilots that trained with me were at the time . She's now WITNESS 26 And the other one was WITNESS 10, WITNESS 10. So the three of us trained up under MP instruction last summer. And then, additionally, we trained up WITNESS 8 as the safety. And he did travel with me as the safety.

And we trained up MSO as the copilot, and he was trained as hard crew with me as well.

And then our load masters, we had two that we trained up, and only one went with us. The one that went with us was SSgt BE . He has now PCSd.

16Q. Could you please describe your demonstration training?

16A. Yes, sir. It's been awhile. So, essentially what we did was he, MP sat down with the students that were going to get qualified, and we went through some ground training first and talked about the regulations that governed it. And he had some CVT -- not CVTs -- PowerPoint presentations that talked about the maneuvers and some of the limitations, some of the techniques that we could use, as well as how we would prep the jet for some of the stuff you would do on the computer. Our runways, even though they might say runway 06, for

heading 060, they are not really heading 060. They only mark them in 10 degree increments. So, for an appropriate run-in, we would have to program the jet and create a false field, or a home-built field, so that we could have an exact heading; 062 or 059, or something like that, based on whatever location.

He taught us here, so we flew simulators, and he flew in the right seat with us in the left seat, so he flew as copilot. And he could demo it. He demoed it from the right seat in the simulator, and then we would do it.

And we had recordings. The simulator instructor would record what our ground path looked like, and so you could see how initially it was all over the place. It was sort of a birds eye view of the ground path of our aircraft. And, initially, we could see how -- how our maneuvers were kind of sloppy and wavering, and not straight lines and good curves. And then as we practiced in the simulator, we got better and better. It was more consistent, and that's what we were going for.

And then after that, we would go up for a flight, and we -- depending on what the weather and the flying schedule here was, we would either train up here or we would go up to -- I did a sortie here and a sortie at Fairbanks. And I don't -- I really don't recall where the other two pilot candidates, flying pilots, flew.

So we practiced that. And we didn't practice as hard crew's in the sim at that point because he was in the copilot seat versus, say, **MSO** The first time I worked with him was -- the first time I worked with **MSO** was on a practice demo as my copilot.

Oh, I'm sorry, I talk with my hands. My apologies.

So, some ground training, some simulation. So he demoed and then I would fly it in the sim and then we would go up and fly a sortie. We would do all of the ground training that we would normally do for any training -- local training sortie. We would come in the day prior and sit down and talk about the forecasted weather and what airfield we're going to, and then we would go up and he -- he would fly a warm-up one from -- Initially, before we got qualified, he would fly one from the right seat to demo it again in the air. And then I would fly one from the left seat.

But, once we were qualified, then he wouldn't do that. He would sit in an ACM seat, an additional crewmember seat, and I would fly left seat, **MSO** would fly right seat, and <sup>WITNESS 8</sup> would fly safety. And he would sit in the right ACM seat, <sup>WITNESS 8</sup> would. So **MSO** -- or **MP** would sit in the left ACM seat during our practices.

And as we got closer to the show circuit, **MP** and I would change seats. We were supposed to have a hard crew, but we opted to take -- and I never really talked to him about this. This was my understanding of why we did it, is that we took two of us, because when you are an instructor pilot and you get qualified as a flying aircraft commander for the demo, you are qualified in all of the other positions. So I did train in each of the other seats for at least one profile in each seat, copilot and safety, so -- because he was also qualified in that respect. When we went on our circuit, we were interchangeable. I was the spare pilot for him and he was the spare pilot for me. And neither of us was -- either of us was capable of performing the duties as copilot or safety. So that's why we flew and watched the other guy.

17Q. For the record, CBT is computer-based training?

17A. Yes, sir.

18Q. And then when you said run-in, you mean just lining up so you can come back over the runway center line?

18A. Yes, sir. Well, we make the assumption that -- that our air shows are going to be done at an airfield. That was actually not the case during one of them, but we didn't fly that demo -- demonstration; the Hickam folks actually flew that one off of a beach. So there is always some kind of show center and some sort of azimuth or heading that they want you to come in so the crowd -- you're not going into the crowd or over the crowd. You are always running along in front of them. And so that's -- that's the reason we had such a critical heading.

19Q. You mentioned just a couple of minutes ago you said "false heading." What did you mean by -- you said, runway 060, it may be 062 or 063, or 061, but you -- "we'd set up a false heading." Could you describe that, please?

19A. Okay. When we are making our calculations for our turns, if a runway is actually five degrees off from what the runway heading says -- you know, we have these headings printed on the runways, 060, 070 -- but if the run-in heading is actually four or five degrees off -- excuse me -- it makes a difference because we don't want to be coming in at an angle where we are pointing at the crowd when we are doing our high-speed pass or our low-speed pass, or anything like that. So we want to go directly down the exact heading, the exact azimuth.

20Q. Okay. Good. And then once you got qualified, did you provide training for other crew members?

20A. No, sir, I did not. That was the intent, but the schedule did not permit me training of the new guys, so **MP** ended up doing it anyway.

21Q. In earlier testimony, you mentioned that you performed several demonstrations while you were certified as an administration pilot. Which ones were they and when, if you remember, when they occurred?

21A. Sorry. This is a while ago. We flew demonstrations -- I think it was number three. It was always the same one. Part of the -- Profile number three, sorry. There are four profiles in our -- and I haven't even looked at the regulations, but I think it is AFI 11- -- well, I know it is AFI 11-246, but I don't remember the other supplements that were governing this, but the four profiles that are prescribed for demonstrations. And part of our qualification required us to fly and demonstrate our capabilities in profiles number two and three. And, like I said, I haven't looked at it in quite a while because I haven't been doing any air shows this year, but number three was the profile that it's designed to take off from the place where the air show is happening, fly the demonstration, and land back at that place, as opposed to number two where you take off from somewhere else and go do an air show at a different field and then return to the initial base.

22Q. So, the air shows that you have flown in then, which ones were they?

22A. They were overseas. It's actually kind of hard to remember. I did at least two in Seoul, Korea, and one in Osan. And I think **MP** did the other ones. We did some in -- I was aboard the aircraft, but not the pilot flying on all of our demos in the Pacific theater. He did Misawa Air Base, Bangkok, Thailand, and Kuala Lumpur, Malaysia.

Part of the reason he did the front end of those, I was out with the crew -- we were -- I say dragging. We were the support aircraft for the Thunderbirds. And so I had the entire mission. I was actually the aircraft commander for the whole six weeks. And Major -- we were not supposed to demonstrate until the last three weeks. Hickam Air Force Base had the first three weeks of demonstrations.

So, I was out on the road for the first three weeks, and the regulations require a demonstration team to do a practice flight seven days -- within seven days of the show. And so they, the demonstration crew, had come out having done that just recently, except me. And so that's why I went with them. And then on a practice, **MP** was aboard as the instructor, and then I got my seven-day window accomplished. So, I did the latter ones.

23Q. Again, just for the record, who were the crew members again? It was you and **MP** and then who else?

23A. Yes, sir. **MSO** and <sup>WITNESS 8</sup> and **SSgt BE**

24Q. Did you need to modify any of those profiles that you flew in the air shows?

24A. No. They were all number three. We had little modifications. We'd call them techniques based on what cross wind was going to be. Sometimes show center was not in the center of the airfield. Sometimes show center would be way down near the end of a runway. And so where we did our maneuvering had to be adjusted for that.

A runway is typically two miles long, let's say, and if the show center wasn't right at the end of the first mile, then -- if it was closer down at the beginning of one end of the runway or the other, we were a couple of miles off set because of that just for our maneuvering to line up for show center.

25Q. So, **MP** would fly a profile first. Did you actually see **MP** or **MSO** fly the profiles of the air shows you conducted in the Pacific?

25A. I'm not sure I understand that one.

26Q. Well, did you happen to witness him fly a profile three? You said he flew in Bangkok and Kuala Lumpur.

26A. Yes, sir.

27Q. Did you see him fly those profiles?

27A. Yes, sir. I was aboard.

28Q. Okay. You were aboard?

28A. Yes, sir. I was in the left ACM seat.

29Q. And so you were aboard all of the time?

29A. Yes, sir.

30Q. Can you tell us about those flights?

30A. They were all very good. They were all very -- profiles were not complicated. It was the external factors that were complicated, you know, the language barriers, the airspace constraints, things like that. The profiles were pretty much cut and dry. They are the same every time with the exception of correcting for -- like any other traffic pattern for an airplane, crosswinds, tailwinds, things like that, you have to adjust for.

Temperatures were significantly different in places, which affected the turning radius of the aircraft and the climb performance. You know, we were -- it was fall. It was early October in Japan, and last year it was very cold, so it was significantly cooler there. And it was very hot in Thailand. So there was quite a bit of spread in temperature.

But as far as differences in profile, we flew them the same. We would adjust how long we would time outbound for a couple of seconds or something like that, but that was it.

31Q. Previously, you mentioned a target altitude -- and when I say previously, in the statement -- of 1500 feet AG on the initial takeoff and climb out?

31A. Yes, sir.

32Q. Did you ever use less than 1500 feet?

32A. Sometimes we hit less. We never planned it. We always planned for 1500 feet AGL. But the profile came at you very quickly, and when -- at your steep angle, the deck angle, you don't want to go negative Gs on the aircraft to push over, so you start your pushover early, so you're not over aggressive on your pushover, because you can't start a turn at that deck angle. The airplane won't fly like that. So -- sorry. I started using my hands for this. I'll stop.

So, we need to lead our pushover a little bit. And we started, depending on how hot it was, we kind of had to make a guess. If we had the opportunity for a practice session, then we had a very good guess based on the trials. But somewhere around 800 feet or so, we would start our pushover. And it was still a fairly aggressive pushover. You know, you're climbing very, very quickly and you have about 700 feet.

So, we might level off at 1350 or 1400 feet, or something like that, we would miss it. But by the time we would correct that 100, 150 feet, we would already need to be in the next segment of the profile, which was a descending turn, so we would adjust the rate of descent so not to come down as quickly because we were maybe a 100 feet low or something like that.

33Q. But, when you did that initial climb out, you pushed over, and then you started the -- I believe it's an 80 degree turn off set?

33A. Yes, sir.

34Q. If you were low then, would you -- was it common practice to come up to the altitude to be at that specific altitude either on that outbound 80 degree heading different leg, or would you just accept what you had?

34A. If we could correct it, we would.

35Q. You mentioned previously that you always shot for a 60 degree bank angle. You said it was something you always shot for. What were your considerations and planning for 60 degrees of bank, and when would you use it?

35A. The initial turn wasn't 60. It was 45 is what we shot for. But all of the others we tried for. It's a low energy state at that point. So --

**Questions by the Pilot Member:**

36Q. For clarification, you said the initial turn, you mean the first turn after your initial climb out?

36A. Right.

37Q. That's the turn you're referring to, 45 degrees?

37A. Right. Right.

So, you know, we've had a high deck angle and then we've pushed over, so the aircraft is still at max power and accelerating, and go to 45 degrees -- ours always ended up being to the left. It can be to the right, but show center always seemed to be that way in the winds. So, 45 degree turn to get our 80 degree offset, kind of an 80 degree to 60 course reversal, it's pretty common. Based on the winds, we might make it 70 degrees or 90 degrees, depending on what the winds were doing to us. More often than not it would be 70 or 60, not 90, adjustments, because of the direction we would be landing at the end of this thing.

38Q. And you're referring to the degrees of heading change and not the bank angle, correct?

38A. Correct. Correct.

So they take off straight ahead, high nose, push it over, left 45 degree bank turn, and to about an 80 degrees off of the runway heading from initial takeoff, and then accelerating for a few seconds. And after that, 60 degree was the target bank angle for the rest of it except the final turn, because then you are in a low energy state again. Final turn was like any other assault final turn.

**Questions by the Board President:**

39Q. So to clarify, then, any time during that -- the Pacific tour, if I may, did you ever see 60 degrees of bank on that initial turn, that initial 80 degrees of bank?

39A. Sometimes we would get close to it, but we would come back, we would correct. Because the goal was 45 and maybe we would hit 35 or 40, maybe we would hit 55, and then come back off of it. Sixty -- I don't remember seeing 60.

40Q. During the demonstration, you stated that at times you would use -- you would have to use full rudder. What considerations regarding -- what are your considerations regarding the use of full rudder?

40A. Full rudder is asking the jet to fly in an uncoordinated status, and it changes the aerodynamics of it a little bit. It has some uses. I'm not sure how to answer that. We -- we did

use it. Full rudder was not usually used, because when you push full rudder, you don't really get full rudder anyway in this jet. It's a request of the flight control computers.

But -- so, in theory, the airplane will keep you flying no matter what you ask for as long as you are in the electronic flight control status. But rudder -- a lot of rudder would be used to lead a turn sometimes. It's a different technique. The manuals don't tell you how to fly the profile. It tells you target altitudes, and headings, and things like that, and so you have to throw pilotage in.

So, if there is a strong crosswind, and your plane isn't turning as tightly as you need it to, and you're going to go across show center, over the crowd or towards the crowd, that's a really good candidate for using a lot of rudder, because that will tighten the turn. The aircraft isn't coordinated anymore, but it will tighten the turn significantly. It's a safety concern of overflying the crowd, so we try to avoid that. So you can use it for that.

Other places we would use the rudder -- in tightening a turn, you would use the rudder in the direction of the turn. But other possibilities are if you have put yourself in a 60 degree bank turn and your nose is low, so now you are aiming at the ground a little bit, and we are just talking a few degrees. But you can use uphill rudder as well, rudder in the opposite direction of the turn to raise the nose of the aircraft, rather than trying to pull really hard at 60 degrees and increasing the G limits on the aircraft. That's another technique to actually take it easy on the jet.

41Q. When you do that, what does it do to the airspeed?

41A. It depends on a lot of factors; the temperature outside, how heavy you are, power setting. It can -- well, it certainly adds drag. It absolutely adds drag. But in a light aircraft, when you have a lot of excess power, it may not reduce the airspeed at all. It may slow your acceleration.

42Q. And then just to clarify, when you say -- you said a -- the amount of rudder, just to clarify, when you say you may have to use more rudder, what is more rudder or less rudder; what does that mean to you?

42A. Okay. The flight controls on the C-17 are coordinated. The theory is, if you are doing a nice -- nice gentle airline-type turn, the rudder will be moved for you as you move the stick. It's all done by the flight controls, by the flight control computers, to keep the aircraft coordinated, to keep all of the lift centered on the aircraft.

And if you use rudder more than the aircraft needs, if you are looking at the airplane from the outside, it kind of looks like the plane is skidding a little bit in a turn. And so more or less rudder is -- I don't know how else to describe it -- but it's kind of a feel. The aircraft -- our aircraft has a way to tell whether you need to tighten the turn or not on multifunction displays, which is why we put such a precise runway heading -- you know, we know -- we know more than halfway through -- or less than halfway through the turn, a 180 degree turn, whether we are going to need to tighten up a turn or lessen the turn so that we are right over show center, as opposed to a 100 yards inside of show center or over the crowd.

So more or less rudder -- if you are at 60 degrees, you can't add any more bank. You would go beyond the technical order, the limitations of the aircraft. So the way to tighten up a turn, once you are at the limit of the bank is to add rudder in the same direction of the turn.

43Q. If I may, do we want to take just a quick break so we can get the door?

43A. Yes, sir.

[The interviewed recessed at 1048 hours, 15 September 2010, and reconvened at 1057 hours, same date, attended by all parties as listed above.]

LEGAL ADVISOR: And we are back on the record. All parties present before the interview are again present, to include WITNESS 3

**Questions by the Board President:**

44Q. We were talking a little bit about the use of the rudder.

44A. Yes, sir.

45Q. Just a follow-up question: Did any of others use full rudder? By others, I mean demonstration pilots.

45A. The only other two demonstration pilots that I flew with were during my training last year. And we were all pretty reluctant to go full out with the aggressive bank or anything. We were taking baby steps. Each time we flew, we got a little tighter, maybe a little more aggressive, because we got more comfortable with how fast it came at us. I don't know of any of -- myself, or WITNESS 10, or hat used full rudder. I mean we --

46Q. Would MP use full rudder?

46A. Some of the times he would. I don't know of him holding it in, foot on the floor, all of the way around the turn.

47Q. And you said that since you really didn't need it, do you know why he might have used it?

47A. If he used it, aside from one of the reasons that I already talked about, keeping it from going over the crowd, or correcting for crosswinds, or something like that, the only other reason would be to keep a turn tighter. If he didn't need it, it would still keep the turn tighter.

48Q. All right. And then a few minutes ago you stated that the electronic controls, if it was in electronic flight, that the airplane would basically allow you to fly without having to put much input or anything like that. Were you fighting -- when it's in electronic flight, are you fighting against controls, is the airplane fighting against you, or is it just trying to keep you safe?

48A. Oh, it's just trying to keep you safe. It's -- your movements with your feet and your hands are -- and the engine, the throttles for that matter, are requests to the series of computers, and they take a lot of data into an account, including the weight of the aircraft, atmospheric conditions, and so forth, your speed. And they keep you from -- they try to keep you from breaking the jet. They don't let you bank too quickly so you don't bend the aircraft. They try not to let you put the aircraft into a stall. They try not to let you come down at too fast of an angle, that type of thing.

**Question by the Legal Advisor:**

49Q. But just for clarification, when it does that, when it tries not to let you, it's not actually taking control of the aircraft from the pilot; is that correct?

49A. Only during the ALS. It's a safety system, AOA limiting system. That does take control away from the pilot.

50Q. Does it actually -- does it take the stick control out of your hands?

50A. No, it ignores your inputs.

**Questions by the Board President:**

51Q. When you say it ignores your input, how does it do that?

51A. The -- your stick movements are simply requests to the computers. And if you are at too high of an angle of attack based on what the computers have calculated, and you are asking to either continue at a level altitude with not enough speed, or if you are trying to raise the nose without enough speed, it's all based on angle of attack.

If you are trying to exceed the angle of attack that the computers have deemed as safe, plus a little bit of a margin, then the flight controls will not allow you to raise the nose. In fact, they will actually allow the aircraft nose to lower a little bit to keep the aircraft flying rather than dropping out of the sky.

52Q. And what condition would that be in? Is that like in a stall?

52A. That could happen in pretty much any realm of flight. If you take off on initial takeoff and pull back really hard on the stick right away, your heads-up display, you can see the ALS -- the letters ALS in your screen, letting you know that the -- you have asked for more than the aircraft is willing to give you. So, you could either stall the aircraft or bend it by doing that. If it's a lower energy state, you could stall the aircraft. If it's a high energy state, you could bend it.

53Q. Would you say the aircraft is willing to give you in a -- it's trying to keep you in a safe parameter; is that correct?

53A. Yes, sir. Yes, sir, it is. It is decided that either you are too slow, or you are asking too much flight control deflection and you are about to hurt the aircraft by -- if they gave you everything that you just asked for with your stick movements.

54Q. You talked about the 45 degree angle when you made the initial 80 degree turn, that 45 degree bank angle, and then 60 degree bank angle as you executed the 260. Could you fly at less than 60 degrees bank?

54A. Yes, sir, you could. You could fly at a 30 degrees of bank, or 10 if you wanted to. It's all about how far away from the air field you get, the displacement that you need to compensate for the turning radius of the aircraft at that bank angle.

55Q. So, if I were on that initial 80 degree turn, and I'm outbound, and I'm timing, if I timed for a couple more seconds, would that allow me to go to a shallower bank?

55A. Yes, sir. In fact, two years ago the demonstration crew, I heard them talking about it. They actually spoke about how they had to time outbound for something like 20 seconds because they were flying the demonstration in India, and it was very hot and humid, and the aircraft simply wouldn't accelerate and it wouldn't turn like it might up here in Alaska where it's cooler.

56Q. Can we talk through the cleanup portion of the initial takeoff during profile three?

56A. Yes, sir.

57Q. How do you do that? How do you deconfigure the airplane and deconfigure -- I mean -- what I mean, for the record, is to understand bringing the gear up, bringing the flaps up, bringing the slats up to a clean configuration?

57A. Okay. As soon as the pilot flying rotates, the gear comes up. Your standard calls that we train to for normal air land crew or air drop crew are not used because of the demonstration speed at which it comes. There is still the challenge and response.

58Q. Now, when you say the gear comes up --

58A. The landing gear handle.

59Q. Yes, you mean the pilot monitoring of the pilot -- or the copilot puts the gear up? It doesn't come up automatically?

59A. Yes, sir. Correct, yes, sir. The copilot raises the gear immediately after takeoff, and your configuration stays the same at that point. So, your flaps half, slats extended, and your gear is coming up, and then it is up during your high angle takeoff.

And then during the pushover, there are flap and slat retract speeds on your heads-up display to tell you when it's safe to retract those. And the copilot brings those up on speed, essentially. So, as the pilot flying makes the left 45 degree bank, 80 degree turn, or right-hand turn, he still has the power at max -- maximum, and the copilot cleans the aircraft up on speed. The flaps will come up first, once we pass that speed that's required for it, as indicated by the heads-up display, and then the slats will be retracted as such. Happens pretty quickly, actually, because it is such a light aircraft.

60Q. What would happen if you retracted below those speeds? Draw up those -- say, the flaps up below that speed that you talked about, the flap retraction speed, the minimum -- or you brought the flaps up -- or, excuse me -- the slats up prior to that minimum slat retraction speed. What would happen?

60A. The aircraft would be placed into a position where if you are low speed, it could be in position of where you are stalling the aircraft. And the jet would talk to you right away, and all of the -- all of the responses that you would expect from it, you know, stick shaker, the AOA limiting system, and so forth should be kicking as well.

61Q. Do you recall if the aircraft was usually cleaned prior to starting the 260 degree turn, or were you still cleaning it up during that turn?

61A. I can't think of any time that I flew it that it wasn't cleaned before we started the 260. It happens very, very quickly. Most of the time, our -- by the time we've timed out for the four seconds, or whatever it is, the slats are already up, because we are going around that turn usually 270, 280 knots, and accelerating. And those are the maximum speeds at which you want to retract the slats already. So, we are generally clean a significant amount of time before we start the 260.

62Q. Would you ever delay the turn to make sure the airplane was cleaned prior to starting a turn or it was just --

62A. I would. But I never got to it, never while I was flying.

**Questions by the Medical Member:**

63Q. If I may, sir, did the copilot just automatically put the flaps -- put the flaps up and retract the slats?

63A. Yes.

64Q. So, how much awareness would you have as a pilot flying as to what the copilot was doing with the flaps and slats?

64A. You can see everything that happens on your heads-up display as you're flying. You don't have to take your eyes off of that.

65Q. Okay. Would the copilot verbalize that, or was that just something that you briefed on your --

65A. No. That's a -- it's something you brief prior. When you train as a hard crew, you do things the same way every time. And so once the techniques are blended from the different crew members, and everybody gets comfortable with each other, then you just brief it beforehand and then everything works.

Really, the only speaking that happens during the whole profile are the challenge and response between the safety and the copilot, because they are running similarly required checklists, the approach checklist and the before landing checklist, and so forth. The only time the pilot flying really speaks to is if he has to call, what I call an audible, hey, we're going to change something a little bit, or the final call for the flaps, based on, you know, the slow speed pass, or the final configuration for landing.

66Q. So, in your mind when you were in the demo pilot position and flying a profile, did you expect the flaps and slats of the aircraft to already be cleaned? Was it something that you would check prior to making that right turn?

66A. Yes. You bet.

**Questions by the Board President:**

67Q. In your previous statement you mentioned flying at V Momma minus ten knots?

67A. Yes, sir.

68Q. Can you explain what that was intended to accomplish?

68A. During the slow speed pass, the intent of the maneuver is the go slowly in a configuration where everything -- they call it hanging out -- your gear is down, your flaps are full, and you are going slow so the crowd can see it.

V Momma is a -- we call it V Momma -- it's a minimum speed for full abrupt maneuvering capability. So, straight and level, you're not asking the aircraft to do anything anywhere near that. And that's a technique that was adopted, I guess, for the air show demo that slows us down about ten more knots, and we don't make any turns like that. We always add max power and wait until we get above V Momma before we make our turnout for the next maneuver. But you are no where near stall speed during that one.

69Q. And who taught you that technique?

69A. **MP** did. I've seen it around here, too. Saw it a McChord.

70Q. Overall, regarding AFI 11-246 C-17 profile, do you regard them as guidelines or procedures.

70A. They are procedures.

71Q. I'd like to talk to you a little bit about checklists. During the profile, which demo crew member would initiate a call for the checklist?

71A. That depended on what the crew decided, really. For mine, the checklist was initiated by the copilot. For instance, during our three -- coming around for the 360 degree turn at show center, my copilot would initiate the approach checklist so that it was done prior to our hitting show center, so nothing else was going on except good backups, and then the next checklist was ready to go. We weren't rushed into the before landing checklist.

So, I really don't know how the guys training this year were doing it. It's -- that's a technique. The fact that it has to get done before you land is procedure. When it happens is technique.

72Q. And then we talked about the gear, the flaps, and slats. Were any other portions of those checklists challenge and response?

72A. Everything was challenge and response. For instance, your standard before landing checklist is a challenge and response. For the purposes of the demonstration, it was modified so that the pilot flying and the pilot monitoring were not the challenge and response. It was the copilot and the safety. But they were still challenge and response. And that's something the pilot was listening for. I was always, okay, the flaps are half, okay, I heard the gear down call, the gear is down; pilot -- sorry -- copilot, safety, that's the stuff you're listening as the pilot flying.

**Question by the Pilot Member:**

73Q. What about the challenge and response on the clean-up portion where the flaps are being retracted, and the flaps are moving up and the side screen----

73A. For my crew, that was a standard pre-brief. As soon as we break ground and we have positive upward vector, you can raise the gear handle. As soon as we hit the speed, and once we've made our initial turn to offset 80 degrees, you are cleared to clean up on speed. And it has to be done very, very quickly, because the concern -- when I was flying it, the concern wasn't are we too slow for it; the concern is we are going to overspeed our flaps and our slats, because it accelerates so quickly.

74Q. And then regarding checklists, do you recall something called the aerial demonstration checklist?

74A. Yes, sir.

75Q. What was that?

75A. That was a checklist that was -- and I don't remember the exact verbiage, but the reg said it can be modified to account or accommodate for various situations. But it had some -- it was essentially our before landing checklist and our approach checklist, but it had a few other things that the copilot and the safety had to accomplish. And based on the techniques that were being used on the crew, a line might be added or moved, depending on how it was working. But it's a checklist.

76Q. Is it an official checklist?

76A. It is.

77Q. Then it's approved by the 3rd Wing?

77A. No. That one, I don't know. I don't know the answer to the final one on that one.

**Questions by the Board President:**

78Q. What would make you -- what would lead you to the conclusion that it's an approved checklist?

78A. The verbiage in the -- I wish I had the reg with me. But the 11-246 -- one of the regulations we actually looked at it during ground training, it said it could be modified to --

LEGAL ADVISOR: Just for the record, General Everhart has passed <sup>WITNESS 3</sup> a copy of 11-246, Vol 6, Chapter 3. <sup>WITNESS 3</sup> is reviewing it. And, <sup>WITNESS 3</sup> when you're done reviewing it, just look up and let us know you're done, and we will continue then.

WITNESS: Okay. Sure. Yeah, this might take a couple of minutes.

LEGAL ADVISOR: Sir, maybe at this time we should take a break and have review the document you just handed him.

WITNESS 3

PRESIDENT: Yeah. We'll take a break at this time and allow you to review.

WITNESS: Okay, sir.

PRESIDENT: And then when you are ready, just let us know.

WITNESS: Okay. Do you have the other reg too?

[The board recessed at 1115 hours, 15 September 2010.]

[The board reconvened at 1125 hours, 15 September 2010, attended by all persons who were present before the recess, to include WITNESS 3

LEGAL ADVISOR: All persons who were present before the break, are again present, to include WITNESS 3

Prior to the break, General Everhart had provided a copy of the C-17 standard profiles, 1 through 4, AFI 11-246, Vol 6, Chapter 3. It is a 14-page document. WITNESS 3 did you have a chance to look at this document?

WITNESS: Yeah, I thumbed through the first two or three pages of it.

LEGAL ADVISOR: Okay. And then also during the break, we handed WITNESS 3 a one-page document -- it's entitled 3WG Aerial Demonstration Checklist -- and asked him to review that. WITNESS 3 have you had a chance to review this document?

WITNESS: Yes, I have.

LEGAL ADVISOR: And does it contain the information that you were looking for prior to the break?

WITNESS: It does. There's a note there at the top that talks about -- well, I can read if you would prefer.

LEGAL ADVISOR: No, it's okay. Just that that's the note you were looking for prior to the break?

WITNESS: Yes, that gives the crew the ability to alter the checklist if required.

LEGAL ADVISOR: All right, sir. Thank you.  
Go ahead, General Everhart.

**Questions by the Board President:**

79Q. Continuing to question, we were talking about the demonstration checklist. When were you taught to use this document?

79A. Every time we did an aerial demonstration.

80Q. Okay. So were you taught in your initial upgrade training demonstration?

80A. Yes, sir.

81Q. And do you know where this came from? This, I mean the checklist -- the aerial demonstration checklist.

81A. No, sir, I don't.

82Q. Who approved it?

82A. I really don't know. I have no idea. There's no signature on it. It just says 3rd Wing. I really don't know.

83Q. And then, we initially talked about how it was utilized. Is there anything else you want to add, now that you have seen the documentation; is there anything else you want to add to that about how it is utilized?

83A. Not really, except -- I suppose so. The reason we have this versus our normal checklist is because we are not doing a normal air land, you know, direct delivery sortie where we are going to take off and take people in trucks somewhere and drop them off. We're not going to be at cruise for multiple hours. This is kind of a high-speed, very quick checklist, and different things need to happen; such as backing at a high-speed down the middle of a runway, and things like that. You don't do that during a normal sortie. And so this checklist keeps us from hurting ourselves or breaking the airplane while we are doing these unusual maneuvers.

84Q. All right. You stated before that during the demo profiles, you received stall warnings from the aircraft?

84A. Yes, sir.

85Q. I would like to discuss a few of those details regarding those. Which profiles did you receive stall warnings?

85A. Number three. Actually, I might have had one on profile number two, also. I flew it so seldom, I don't really recall.

**Questions by the Pilot Member:**

86Q. You mean profile two you flew seldomly?

86A. Yes. I mean, we really only did that to qualify and then I practiced it once more before I went on the road, three weeks before the rest of the demo team joined me, just to have done it. Because we didn't really know what profiles we would be asked to perform at these other bases. It turns out it was profile number three every time.

87Q. And where in the profile would you get these warnings?

87A. Most of the time, I would get it right at the beginning after I had made the 80 degree turn and had accelerated, and the flaps and slats were up and retracted, and I would establish the sixty degree bank turn. Sometimes, I just missed 60 degrees. Sometimes, I would hit 63 or 65, and the computers would bark at me and say "stall, stall," and, of course, it would immediately correct. So, other times, every now and then, I might get that in the 360 degree turn at show center. Those are really the only two times I can recall getting that. Never during any of the slow speed maneuvering.

**Questions by the Board President:**

88Q. You mentioned a few iterations of the stall stall. Can you estimate how long they occurred?

89A. Just a couple of seconds. It's an algorithm, and even when you test it for 800 milliseconds, it still gives you the word, "stall stall," and it kind of lasts, I don't know, maybe two seconds. So, it just runs through the algorithm whether you were coming up on a stall for a portion of a second or for a full two or three seconds, you're going to get the same amount of caution verbally from the computers.

89Q: And you get the stick shaker also?

89A: Yes. Yes, you do. That stops early though. The stick shaker, if you correct it, stops immediately. But the CAWS, the caution and warning system, the audible portion, continues. It's just an audible algorithm.

90Q. And then you also mentioned in your previous statement, you said some of these warnings were transitory, pending, and accelerated. Can you explain what you meant by these descriptions?

90A. Okay. I'm no aerodynamics expert, but when you stall an airplane, you are asking the wings -- in general, you are asking the wings to create more lift than they can in that configuration; whether it's that speed, that weight, that environment. So, most people equate a stall to something that happens at slow speed. An accelerated stall means you're going at a higher speed, normally where the aircraft would -- or the wing -- would continue flying just fine, and you've asked it to turn too sharply. You've asked it to create too much lift in an instant; not over time, but in an instant, which can happen by pulling back on the stick too fast, essentially, in layman's terms. If you put it into a turn -- and you can do it on autopilot -- and have it in a certain banked turn and punch off the autopilot and not move any of the flight controls, and then suddenly pull back on the stick and throw it into an accelerated stall. I don't know how else to describe that.

91Q. I think that's good. When you heard the stall warnings during your demonstration profile, what was the crew's response?

91A. Nothing. By the time I got the stick shaker, or, you know, the audible, I was already correcting it.

92Q. So, it's a natural pilot thing -- it's natural for the pilot to automatically correct for it? I mean, is that fair?

92A. It's a fair assessment, I think, that if the jet is telling you that -- if it's giving you a warning, you need to correct that situation. So, if it's telling you you're stalling, you need to change something. Whatever you just put in, you need to un-put.

**Questions by the Legal Advisor:**

93Q. If I may, sir, just to clarify, your typical response to a stall enunciation during a demo profile was to what?

93A. It depends on what I had done to cause it. For instance, if I had gone into the bank and put too much bank in, the computer will yell, "stall, stall" at me right away even though I'm not pulling back on the stick too much; I just over banked it in accordance to what the computers know are the limits. So, there's one way that I could do it. And, of course, the appropriate response would be to bring it back into the standard parameters, which is 60 degrees or less.

Another opportunity for that to happen would be if I was established comfortably in a 60 degree bank turn and accelerating around the turn, and myself or the safety or somebody on the crew might say, "Okay, we are going to need -- the turn radius that we have is not tight enough to make sure it's centered." The call might be something like, "You need to tighten it up." Seconds count, so you don't want to have a long conversation. So "tighten it up" would indicate that I either need to -- I can't add any more bank, so I could use inside rudder -- that would be, if it's a right turn, right rudder to tighten the turn up, or I need to slow my airspeed down a little bit so that I'm not continuing to have a large radius of turn.

So, if I added rudder and got the stall warning, my response to that would be to let the rudder back out. If I was in complete coordinated flight and I got stall, I would add power -- max power. If I was at max power in coordinated flight and I got stalled, well then I have to do something like put less bank in the aircraft to allow the wings to create more lift.

94Q. Thank you. And so overall, you would do something to correct the stall -- that's you----

94A. Immediate and positive response is what I would do.

**Questions by the Board President:**

95Q. You described previously that there was a huge spectrum regarding how demonstration profiles are flown. You mentioned that some look like radar patterns and others are really nice and tight. Can you explain what you meant by that comparison?

95A. Yes, sir. Some of the turns were -- the way -- the speed at which a crew would roll into a turn can have a great effect on how crisp the demonstration looks.

For instance, if you are very gentle, as though you were flying passengers, with the stick, your initial turn to -- your initial 45 degree bank turn to 80 degrees might take a whole lot of time. It might take -- I don't know -- 30 seconds or something like that. Whereas, if the pilot flying immediately put the stick over to the stop and then once 45 degrees were hit, come back to center on the stick, the roll rate would be significantly higher than the first crew. So the aircraft

would start its turn, and, therefore, be able to finish its turn faster. And so the amount of ground that it covered would be significantly less.

Same with all the other turns. The same with the pull up -- you know, take off -- if it's a nice, easy, gradual pull, the distance traveled away from the center, show center, would be greater than if it were a rapid pullback and a steeper climb out. That kind of thing will -- it can add up to quite a bit of difference, you know; a mile or more of distance from the show center.

Other items I've seen, other crews just not use 60 degrees in a lot of their stuff. I've seen some use what looked like 30 degrees. Sometimes visibility is hazy. You know, they are calling -- prevailing visibility is acceptable, but it's hazy. Gosh, I don't know, you could go on for hours on different factors that would play into why a crew would fly it differently.

96Q. You also mentioned that you felt a buffet during the demo profiles. First, what is a buffet?

96A. A buffet is -- well, it can be caused by several different things, but it is, in technical terms, you're feeling the boundary layer separation from the air foil. What does that mean? I have no idea. It means the aircraft -- you're trying to get it to -- the wings to create more lift than they can, and you are starting to stall the air foil.

I've never felt that on this jet before. I've felt it on other aircraft. On smaller airplanes, you feel it all the time because there's no automatic systems to tell you when you're about to stall. I didn't think it was possible to feel it on this aircraft, and I don't know what caused it.

We only had it one time. And I did, essentially, all of the same reactions that I just talked about for a stick shaker or a stall warning. I did all of those very same things. And it stopped almost immediately when I made the corrections, and so we reengaged in the demo, and we got it immediately again. And so I repeated the recovery that I had initially done, and it worked again. And at that point, I was not going to reengage a third time, so I decided to -- and I made an audible -- I said, "Crew, we are going to go over show center line. I'm not going to keep trying to turn." We weren't very fast; about 250 knots, so we didn't have a huge turning radius or anything.

But I don't know what caused it, whether it was atmospheric or -- we weren't any heavier that day or anything like that. It was just -- and we couldn't figure it out. The bottom line was the aircraft wasn't performing the way we expected it to, and we accepted to go over show center versus trying to match perform it and continue in the stall regime.

97Q. So, was this during an actual air show?

97A. Yes, sir, it was; the last one of the season in Seoul, Korea.

98Q. So, if you saw anything unsafe, or felt anything unsafe during an air show, you had no problems adjusting to that to alleviate the problem?

98A. No, sir.

99Q. Does that make sense?

99A. Sure. It does. I think it does. We didn't practice engine-out scenarios in the aerial demo or anything like that, but when we saw something that wasn't working, we just called an audible, you know, "Okay, knock it off." If somebody felt safe (sic), "Knock it off." That's

always a "timeout" or "knock it off." Both of them work. If somebody says, "You need to tighten it up or you are going to go over show center," then we try to do that -- at least on my crew. I just happen to be the one that recognized what was happening before anybody else, so I recovered.

And we sat down afterwards -- you know, the rest of the profile went fine. Everything worked exactly as advertised; the timing was identical as the day prior, but we don't know what happened. So, we landed and we talked about it, and we still don't know what happened. We never flew another demo because that was the end of the season. I haven't flown one since just because I wasn't on the docket this year for that.

100Q. Who was with you?

100A. **MSO** was in -- it was my hard crew; **MSO** in the right seat,<sup>WITNESS 8</sup> as the safety, and **MP** behind me in the left ACM seat, and **SSgt BE** as the loadmaster.

101Q. And where in the profile -- you said -- was it in that 260 -- the return?

101A. Yes, sir. The accelerating descending turn to effect down to a thousand feet AGL to show center.

And just so you understand, we did get -- I mean, the stall and the stick shaker happened with the buffet. They all happened at the same time, so the normal warning systems on the jet were working okay. It's just somehow we went right through it. I don't know what it was, you know. I don't know if it was a crosswind that was causing our vortices to hit a tail piece or something. We really don't know.

102Q. Did you happen to get ALS?

102A. No. And the jet flew fine. It responded perfectly to every input I made. We just had buffet, which is a very uncomfortable place to be.

103Q. And, then, did **MP** ever get a buffet like that?

103A. No. No, sir, not while I was flying with him.

104Q. And then how about the stall warning?

104A. We had those; same type of thing.

105Q. And did he try to remedy the situation by either, like you said, put max power in, or reduce the bank, or --

105A. He did. What I saw was -- he had been doing these longer -- so what I would see is he would correct it and then reattempt, and sometimes he would get it again right away. Sometimes it sounded like it was constant, but it was -- when you're listening to it, you hear "stall, stall, stall, stall, stall, stall, stall," but when you see it, you hear, "stall, stall." And if you are looking at the flight controls, you will see the rudder comes out or bank angle lessons, and then he puts it back in again to initiate another sequence of the stall warning before the first one finished. I don't know how else to describe that without using my hands.

106Q. What would he verbalize during that, if anything?

106A. None of us ever verbalized anything. Except for the one time where I had the buffet, none of us ever verbalized. There's a lot going on and your actions are immediate, you know, you come out of bank, or less rudder, or something like that.

107Q. We would like to go back to July 27th and talk a bit about the cruise mission planning. You were the ADO on the 27th?

107A. Yes, sir.

108Q. All right. Do you know what time the crew mission planned?

108A. They -- to my knowledge, they mission planned the day before. That's how we generally do things in our squadron. It was a 249th owned sortie, so they don't always plan the day prior when it's those guys, because some of them are traditionalist. But these were all full timers, and they generally try to do procedures like the active-duty squadron does when we fly with them.

So, I really don't know, but I would have expected them to have planned the day prior and talk about it a lot, and then show up normal show time to do the normal sequence of the last minute check the weather, flight plan, how is everybody feeling, run the ORM checklist, that kind of thing.

109Q. And were all the crew members present?

109A. They were. To my knowledge, they were. I don't have the oversight of the 249th sorties. I was the top three, and I made the tail change, because the pro super came to me because we own the other tail. But I do know that <sup>MCP</sup> excused himself from a meeting we were in to go do this demo. He said, "Okay, I've got to leave now. I've got to go do the demonstration planning and meet with the rest of the crew." But I don't know all that they talked about or what planning they did aside from the paperwork.

110Q. So, you didn't actually witness the mission planning the day before. Is that correct?

110A. No. No, I did not.

111Q. But you did the day of the mishap? Was that what you were referring to when --

111A. I was not in on their mission planning the day of either. I just know that they did get together and they did the required paperwork that they have, because I'm the one that got the paperwork and cordoned it off.

112Q. All right. Top three; what is that?

112A. To my knowledge, it's a fighter term. The only reason I say that is because I've never heard of it before coming here. It implies the squadron commander, the DO, the operations officer, or the assistant operations officer. And as me being the bottom person on the three-rung ladder, it usually falls to me, unless I'm unavailable for whatever reason. So, I carry a phone, I make a lot of decisions on behalf of the operations side of the house. I don't make -- I don't have G-series orders or anything like that. I don't have the ability to command anybody or punitive authority over anybody.

113Q. And that's what G-series orders means?

113A. Yes, sir. I have operational control of the day-to-day goings on in the squadron; I guess would be the right term. I'm also the guy that is on call for any kind of emergency if our crews need to call via the airborne phone, or we call it air live. But if anybody needs anything from the squadron and they can't find it, they're supposed to call the top three phone. It's the belly button, if you will, of the squadron; 24 hours a day, seven days a week.

114Q. And then you mentioned also they came to you for a tail swap, I believe were your words?

114A. Yes, sir.

115Q. Why was the tail -- why was the aircraft changed?

115A. Their -- God, I wish I could remember the cause. I think it was an obiggs which is a -- really, not a very important system for a local flight. It's a gas generating system for protecting the wing fuel tanks from exploding from too many harmful vapors, to be short about it.

I think there's a manifold that had failed on the jet that the demonstration crew was going to fly, and they had to get that fixed. And so the pro super -- the production supervisor for maintenance came to talk to me and said -- don't quote me on -- well, you are quoting me on this -- but I really don't remember exactly what he said, but he indicated that there was problem with the aircraft that the demonstration team was lined up against, and that if I wanted to change the tail, that I could do that, because there was another tail that was flying local sorties that day that was supposed to do an engine running crew change.

So the idea of that is one crew flies it, and instead of landing and shutting down and giving it back to maintenance, and then another crew takes the jet and pre-flies it and takes off, we simply keep the engines running, the new crew comes on board and assumes responsibility and ownership of the aircraft from the old crew, and maintenance doesn't get involved. So that was the plan for the other aircraft that was operating just fine.

And -- who was it -- MAJ N -- MAJ N was going -- he was the -- we'll call it the front end of the engine running crew change, the ERCC. So we called him and he had not yet taken off, and we told him, "Hey, when you go fly today, try to burn down a little more gas," because the characteristics of the planes change quite a bit based on how heavy the jet is. So, we wanted him to have the amount of fuel onboard about where the demonstration team had requested the now broken aircraft to be.

So, we -- MAJ N said, "No problem," and he went out and did his local sortie and came back and landed with almost exactly what the demonstration crew had wanted. And so that good flying aircraft was then handed over to the demonstration team, and the aircraft that was lined up against the team initially, they had maintenance performed on it, and the crew that was supposed to initially be on the backside of the engine running crew change had to wait with the broken jet to see if they could get it fixed in time for their training. I hope that wasn't too long.

116Q. Was there an inbound call called from Major --

116A. Yes, sir.

117Q. Did he report the status of the aircraft on that inbound call?

117A. He didn't make it to me. Inbound calls are made to Command Post. Generally, if there's a problem with the aircraft that doesn't actually take it out of service, the pilot will just tell the other pilot what's happening; you know, "Hey, this radio is not working quite right," or something like that; all minor stuff.

118Q. So if it was minor stuff that could still fly, they would fly it, but if it was major repair stuff, what would happen then?

118A. If it was significant, then they should have called in and said, "Hey, we're" -- to Command Post they should have said, "Hey, we're alpha three, or code three," which indicates that the aircraft is no longer mission capable for its intended purpose, in which case they would have taxied to parking and shut down and gone from there.

119Q. Okay. Back to the pre-briefing, or the mission briefing: Do you know if any leadership sat in that brief at all? I know you said you were in a meeting when they went to do their briefing. Do you --

119A. No, sir, I don't. That was in the evening they were supposed to take off, so I don't even know if any of them were around. I don't recall.

PRESIDENT: Okay. And then lastly, I understand that you have a demonstration that was -- a demonstration video that was taken inside the cockpit during your previous demonstration flight. I would like for you to provide a copy of that to me if you could.

And then with that, I would like to take a break now, and then we'll let you go to the break room and then we will call you back in. We're just going to collect our thoughts here and then we will close it up with a readout and then ask you a couple more questions if we have any clarifications. Okay?

WITNESS: Okay, sir.

PRESIDENT: Great. Thank you.

[The investigation recessed at 1231 hours, 15 September 2010.]

[The board reconvened at 1231 hours, 15 September 2010, with all parties present who were present before the recess.]

LEGAL ADVISOR: All parties and members who were were present in the interview are again present, to include WITNESS 3 Go ahead, sir.

**Questions by the Board President:**

120Q. WITNESS 3 just to follow up on a few more questions that I have. We talked a lot about stalls. When you flew the profiles, they were not -- the profiles are not designed to intentionally put the aircraft in a stall. Is that correct?

120A.No, sir, they are not.

121Q.All right. And then when the stall warning comes on, what is that warning doing?

121A.It's telling the crew that you're getting near the stall regime. You're not actually in it yet. If there is a buffer -- and I don't know what that buffer is, you would have to ask Boeing that question. I'm sure it's an algorithm, and I'm sure it varies based on what realm of flight you're in, but it's a warning that you are getting close to where the wings are going to quit flying.

122Q.Okay. In general, what's the aerial demonstration demos designed to do?

122A.It's kind of two parts; one is to demonstrate the capabilities of the aircraft, what the taxpayers have bought, you know, the combat capabilities. There's a lot of -- while the demonstration is being flown, the narrator speaks a lot to those features -- capabilities -- of the aircraft, and we demonstrate some of them; the short field takeoff, the steep angle of departure, the tight turns it can do, the extreme slow flight capability, the short field landings, the ability to back. All those things are unique features to this airplane in a lot of respects. And the second part is it's a recruiting tool, for lack of a better term.

123Q.And then is that max performing the airplane? Not the recruiting tool piece, but what you just previously described.

123A.No. Parts of it are getting close to max performing it, but in all my demos, we've always had a buffer, a -- some slop between where we are and where we think that the airplane is going to start being in a realm of danger.

124Q.How about during MP demos?

124A.The same.

125Q.Okay. We referred to the aerial demonstration checklist fan fold piece of paper, and this checklist was modified from the normal check list. Why was it modified, and then who modified it?

125A.The standard aircrew checklist that we all use is intended for basic peace time or combat operations, and it's not designed for an aerial demo. So a lot of that checklist doesn't apply in that we haven't been doing three hours of practice approaches where the IRUs may have gotten out of alignment. So we really don't need to check the realignment, or we just took off at an airfield six minutes ago, so we really don't need to worry that the altimeter setting has changed in the last six minutes since we're coming back to the same place: things like that.

126Q.IRU stands for?

126A.Inertial reference unit. Sorry about that.

So, a lot of what we would do on a checklist for takeoff from here and fly across an ocean and drop air jumpers or land somewhere don't really have application for when you are taking off and flying within the aerodrome for 10 minutes or something like that. They just don't apply; a lot of them. Everything that has to do with safety, like making sure your gear is down and so forth, those all are left in there.

As far as who changed it, I don't know. **MP** and I talked about changing a couple of them last year. I don't recall which they were. We use the standard checklist as a basis, and then it's really worrying about things like what the radar is set to, checking systems that after having not been looked at for several hours, you might want to do that on an approach checklist, but since we just took off a few minutes ago, they don't really apply, that kind of thing. I don't know. I don't even know if the one we are using this year is the one we used last year. I have no idea.

PRESIDENT: Okay. All right.

**Questions by the Pilot Member:**

127Q.If you could, can you talk us through some of the technique -- your technique, perhaps, on how you set the altimeter setting and what altitude is displayed in each pilot's respective heads-up display?

127A.Okay. One technique, which is the standard for normal air land, or air drop, is you just set the altimeter to the airfield altimeter setting, and you take off and you fly around. The tricky part is you have to do the math in your head of how high you are AGL, above ground level. If an airfield is, let's say, 347 feet above sea level and you --and that's what it reads on the runway and you take off, if you're looking for 1500 feet AGL, you now have to do the math of adding 347 feet to all your target altitudes to make sure that you are AGL. And that's a little bit too much math for an aerial demo. It's not that complicated, but as quickly as other things come. And you do it at different fields. You know, a demo team might do a demonstration at a place that's 1241 feet one day, and four days later, it might be right at sea level; 38 feet above sea level. So it can really throw you off your game.

Another technique is to use a switch that we call the "RABA Baba". It's a radar altitude, barometric altitude switch over where the radar altimeter shows the exact vertical distance above the ground. And that's a really confusing technique because the terrain is not flat and it's a very sensitive system. So, as you fly up away from the runway, a house, building, a rolling hill, a ditch, any of those things will set it off and your altitude will be bouncing all over the place. So, it's really impossible to maintain 1500 feet AGL or 1000 feet AGL. So the technique that we have adopted is setting our --

128Q. And when you say "we," you mean the demonstration program here at the 3rd Wing?

128A:Correct. Correct.

129Q.Okay.

129A.-- is a technique that was shown to me and it seemed to work out quite well, is to check the altimeter system settings, the normal method, and then before takeoff, is set them to read zero, so that you are sitting on the ground and they read zero and then you take off, and so when you see on your heads-up display -- or the standby instruments -- you see 1500 feet, well, that is 1500 feet above the aerodrome altitude. And it doesn't jump up and down like it would for the radar version, and you don't have to do the math like you would for the current airfield altitude typesetting. And so it's a very good way to -- unless you are in an extremely mountainous area, it's a really good way to ascertain whether you are on the altitude -- your target altitude -- or not.

130Q.And you mentioned that that was a technique you used here. And who taught that technique?

130A.           MP    sir.

131Q:And did he employ that technique also, to your knowledge, when he flew?

131A:Yes. Yes, he did.

PRESIDENT: Well, we thank you for your time. One last question.

132Q. Are there any other matters that we haven't covered that you believe will be important to our investigation?

132A. None that I can think of, sir.

PRESIDENT: Okay. I'm going to do a readout.

You're reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of the investigation is officially released to the public.

This concludes the interview. The time now is 1240, local Alaska time.

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**V4. AIB INTERVIEW WITH WITNESS 4**  
**VERBATIM TESTIMONY OF**  
**WITNESS 4**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is the 10 September 2010. This time is now 10537 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness, **WITNESS 4**  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name.

1A. **WITNESS 4**

2Q. How long did you serve in the Air Force, and then how long have you been with Boeing?

2A. 25 years in the Air Force, 4 years with Boeing.

3Q. A little bit about your background in the Air Force?

3A. I spent most of my career flying the C-130 in theater and operational positions or in staff positions. Two years of that, I spent flying the HC-130 search and rescue. The last 10 years of my career was up here in Alaska.

4Q. How much flying time do you have?

4A. About 5000 hours.

5Q. How long have you been with Boeing?

5A. Four years.

6Q. In your current job right now with Boeing?

6A. C-17 Aircrew Training System Instructor Pilot.

7Q. And your job title?

7A. Instructor pilot.

8Q. Can you please describe your duties and responsibilities of what you did prior to leading up to the events that happened to and 28 July 2010 and during that day also?

8A. We provide training in whatever media is needed, assistance and computer-based training, classroom instruction when required and then primarily in the aviation system weapons system trainer. The simulators is how we refer to that. That day in particular, it was one of those training sessions. We have scripted training scenarios that we provide specific instruction for. We observed the students, give them feedback, provide appropriate instruction, and we also are available to run training devices for times when our primary customer, the Air Force, chooses to use it for other reasons which will be known as Air Force time. That's what this was in particular, this having been an air show demonstration, its Air Force time. We are not allowed to providing instruction, but we are there to make sure the device is used properly and meets their purposes.

**Questions by the Pilot Member:**

9Q. You have already spoke a little bit to your background, but can you tell us how many years you have been operating the simulator?

9A. Four years.

10Q. Can you give an overview of your past experience with the situation that you mention such as those which would be Air Force time on July 28, 2010 and with an air crew during an aerial demonstration type of simulator event?

10A. First of all, ahead of time they make contact with our scheduler and tell them it is a tour for example, or they are coming over to do a specific event. In this case, we knew it was entered as an air show demonstration and had an idea of what to expect. When they arrived, MP had previously been-- MP working with us he is a contractor, so he stopped in the office and said I will take the remainder of the crew down to the break room. I will pre-brief them on what to expect. We will come and get you when we are ready. He did that. He gave me, I believe, a Xerox copy of his handwritten profile. He said these are the parameters I want. That's our primary interaction for that day, setting the initial settings and then resetting it after the sortie. In this particular case, he told us what he wanted, and if he want any cargo. The weight would be driven by cargo and fuel. Very light, I believe it was 20 to 25,000 pounds of fuel he wanted me to set. I asked him about winds, knowing what air show demonstration would entail. I said would you like light, over shooting ones typically from the north. I think that is always at, say approximately 02, 05.

11Q. An over shooting wind would be?

11A. A wind which would push the airplane towards the runway. So, his goal certainly was to first of all demonstrate to the a pilot's with him and then later on observe as they were practicing their show profile. What he asked me to do was to stay out of the way and be transparent. Whenever one pilot practiced the procedure, to reset them to the same place and the place in this particular case, instead of the departure end of the runway or the approach end of the runway, we would move down to where they were going to start the demonstration from. It was approximately abeam taxiway bravo.

12Q. So, you provided the overall background and how they wanted the simulator set up----

12A. The configuration.

13Q. The configuration of the simulator, and you mentioned that they were going to be flying practice profiles?

13A. Yes.

14Q. What is your understanding of a profile? Can you define that for us?

14A. Well, we understand that we are using an air show to demonstrate to the public our capability. We want to do that in a manner which showcases the ability of the airframe but

also takes into consideration the safety of the personnel demonstrating it and the safety of those attending the air show.

**Questions by the Board President:**

15Q. Do you recall, if I may, the timeframe that this particular practice session was?

15A. Yes. I believe it was the first of July, about four weeks before the air show.

**Questions by the Public Member:**

16Q. And if you could, during this process you would not be privy to the crew briefing. Is that correct?

16A. Unless they ask me to. Very similar to a check ride when they are pre-briefing a check ride, they will run it by us as instructors that they want us present or not.

17Q. As you previously mentioned then, the aircrew, **MP** in this case came to you and said they were ready and then he proceeded into the weapon system trainer, or simulator?

17A. Yes. In order to do that they need me present because it is behind a vault in a secure facility. I have to open the door and take them in there, yes.

18Q. Can you describe the setting of the simulator?

18A. The simulator replicates the C-17 cockpit almost exactly as far as up to the point of the pilot in the left seat, copilot in the right seat. Behind the copilot is an observer seat referred to the right additional crew member, or RACM, and then on the left side of the airplane is another seat, the left or LACM seat. That is not present in the simulator. That is where we, simulator instructors, sit. To our left, we have two screens, instructor operator screens which we refer to as IOS. That is where I can program the configuration of the simulator, I can program malfunctions when we are doing training, or I can observe them on the screens similar to a radar scope.

19Q. You mentioned you program to the simulator in accordance with the previous parameters that you mentioned earlier as far as the weather, the weights of the aircraft, etc.?

19A. Yes. The condition of the airplane and the ambient conditions of the weather.

20Q. The sim, if you can describe, is it full-motion or is it?

20A. Yes. Our simulator was the 18th one built. It is an all electric simulator so we have an electric simulator which in other words, it is computer actuated. It is programmed in order to replicate the airplane as accurately as possible. But when we are setting in there, for example when we set the intensity, altitude, or temperature that will make it respond just as an airplane would in the same environment.

21Q. You mentioned that you proceed after **MP** said they were ready to enter the simulator. He proceeded into the simulator and then do you remember where the aircrew members sat initially?

21A. It has been 10 weeks, but my best recollection, **MP** was initially in the left seat. I think he had <sup>WITNESS 15</sup> with him in the right seat and then <sup>CAPT SCO</sup>, but I can't remember. There was more than one crew. They had five or six total aircrew demonstration pilots. **MP** had done some previously so he was the acknowledged expert, the one with the most time flying a profile.

**Questions by the Board President:**

22Q. You said it was **CAPT SCO** ? Is that his name?

22A. I believe so. If <sup>WITNESS 15</sup> was in the right seat, that would have put <sup>CAPT SCO</sup> in the RACM, right observer additional crewmember seat.

**Questions by the Pilot Member:**

23Q. Based on that, do you know what their plan was to conduct the profiles that we previously mentioned?

23A. <sup>WITNESS 15</sup> at the time was fairly new, say she had been here about 6 months here. She was one of the more recent pilots so they were showing her how a profile looked since she had never flown it before and she was new into the demonstration. He was going to have both of them try to fly it with the non-flying pilot running the checklist from the RACM--helping from the RACM seat.

**Questions by the Board President:**

24Q. When you say right from the checklist, were they doing normal checklists?

24A. In addition to that, one of the biggest things they were trying to do--their intended maneuver was to depart on runway 24 which takes you towards the Chugach Mountains. That would keep all the people observing the air show off to their right as they departed. They would turn left away from the crowd approximately 90 degrees. I say approximately because I observed 6 or 7 iterations and it varied from 80 degrees to 120 degrees of turn to the left. Then they were timed for a specified period of time and as they refer to the checklist they would talk ahead of time, I want you to count 5 seconds, 7 seconds, 8. They varied it to see which worked best. Then they would make a right, approximately 260 degree turn and that would bring them back towards the runway or they would do the pass in front of the crowd.

**Questions by the Pilot Member:**

25Q. During a normal, non-aerial demonstration practice simulator profile, we would expect to hear checklists that are executed in a manner that is verbalized?

25A. Yes.

26Q. Is there anything different during--do you remember specifically during this event there being anything different in the manner in which they executed checklist?

26A. I can't recall. I'm sorry.

27Q. Do you remember if they were--the communication between the crew members, do you remember--if you don't remember specific checklists, do you remember the crewmember calling for a checklist and other crewmembers verbalizing responses?

27A. I know there was attention paid to the movement of gear and flaps and I remember that being addressed. Then calls are such as approaching, hitting or 10 degrees to rollout. I heard those a couple times as they were flying the profile.

28Q. That was true no matter who was sitting in which seat? That was their practice for that day?

28A. Yes.

#### **Questions by the Board President:**

29Q. Do you remember specifically how the profile was flown as far as how it was operated, maneuvering the airplane, those types of things? If you do recall, can you describe it for us?

29A. The best I can remember with **MP** flying the first one, he said I will demonstrate the first one. Having done it before, he took off to a few hundred feet, leveled off to gain some airspeed to use. As they were gaining airspeed, they made the normal pause to make the gear up call and started to make the turnout. As they made the turn out it was more abrupt than you would normally expect for the training we provide because most of our training isn't in a low-level type of environment. We are either practicing instrument procedures or air refueling. Again, this is more on smooth application and smooth control. He made a turn to the left and they did their timing which again I say somewhere in the 5 or 10 second range. As I watched it, I referred to the operating screen to see how far they went. I would say it was somewhere between 1 and 1.3 miles north of the field. When they obtained that point, they made an almost perfect semicircle, 300 degree circle coming back in over the airfield, made the low pass, went out to the west, did the tear drop towards Mount Sue Sidna, looked to be approximately a 330 degree heading, now passed the confines of the air base, out over the water which is staying within tower airspace, a left turn back inbound, came over runway 6 and landed. That completed the first iteration of the air show profile. We reset the simulator to the same location, starting at taxiway bravo. He had the other pilot try it. They went through that 2 or 3 times. One of the pilots, I can't recall which, I remember looking at the screen and when they did their first attempt they didn't turn as aggressively with as much pull. The RACM slid their seat over in between the pilot and copilot seat, so from where I was sitting they was screwing my vision up. I could see what it looked like out the windows. I looked in the IOS and that particular pilot, when they made the right turn they overshot the runway maybe by 500 feet or a thousand feet to the south which is an emphasis item. We can't cross show center. They verbally debriefed that before they flew the profile again talking about how they either need to time further to the north or have a more aggressive turn back inbound so they wouldn't overshoot.

30Q. You mentioned you saw them on IOS. Was that your display screen?

30A. The display screen to my left.

31Q. That's the instrument landing system?

31A. Instructor operating screen. I'm not sure exactly what it stands for, but that's the panel that we use to observe, much like you watching a radar scope and tracking airplane.

32Q. During these profiles, was there any discussion about the bank angles that they were using and the air speeds they were going to be flying?

32A. I think I recall something. You need to roll right into the bank and I can't remember if they said right to 45 or right to 60. Whatever it was, because the second pilot who did it after **MP** was much smoother and more genteel in the roll, that was part of the reason why they overshot. They weren't pulling as aggressively.

**Questions by the Board President:**

33Q. Do you recall during any of these profiles, with any three of the pilots, the stall warning system going off?

33A. Yes. I remember it going off for a few seconds. Acknowledged. I heard something to the effect of acknowledged, expected and then within 1 to 3 seconds it was out again. It was no longer going off.

34Q. In your mind, how would you describe the maneuver that he was able to--what caused the stall warning to stop?

34A. I don't remember a change in navigation power. I assume a release of back pressure and/or bank. I have to guess. I don't know because I couldn't see what they were doing.

**Questions by the Pilot Member:**

35Q. Did they verbalized any other response other than acknowledged and expected?

35A. No.

**Questions by the Board President:**

36Q. When you say back pressure, what do you mean?

36A. I mean knowing that when you are climbing--in this case we use a stick rather than a yolk so they would be pulling the stick back towards them. If they released the stick forward that would release some of the back pressure which would mean he would be able to get airspeed.

**Questions by the Pilot Member:**

37Q. In your experience as a simulator operator over the years, have you noticed stall warnings occur during other non-demonstration types of flying?

37A. Yes.

38Q. What were the reactions of the crewmembers to those at what phases did this occur?

38A. One of the things that is natural as a pilot, the young pilots in the airplane are very concerned because they haven't heard it and they know something is wrong, something is amiss. They tend to respond very quickly. Over time, as pilots we sometimes become immune to circumstances like that. For example, the TAS, terrain avoidance system that the airplane has, they felt it was giving false indications so people would become comfortable and complacent with that and were ignoring what might be warnings. Most likely, I would say some of the crew--I wouldn't say that they ignored it, but they tended to respect it less than they did when they first came into the airplane.

39Q. It is important to define what is a stall and stall warning. Stall warning, we mean--can you describe your understanding of stall warning?

39A. When you have an oral warning or you have--when you look on the display itself, primary flight display, in this particular airplane they are electronic screens, glass screens, and it is projecting an image of an attitude indicator. It projects and shows on the left side. It demonstrates their airspeed and their attitude. If they look at the airspeed, then it will give them a visual presentation. It will show them what safety margin they have for operating the airplane based upon a conditional flight which primarily would be tied to this particular case, airspeed and the flaps for example, how much lift you would expect to have in the aircraft.

40Q. You mentioned earlier attitude indicator. Can you explain?

40A. Certainly. When you fly an Air Force airplane, we teach the control and performance school flying which means you put a control in and then you try to see the airplane perform it appropriately. One of the major things we use to help ensure that we do that correctly is a display, an older instrument that was a hardwired instrument. Now we have replaced those gauges with electronic displays. When you look at it, it gives you an artificial representation of the horizon. In our particular airplane and the simulator, blue represents sky and brown represents ground so you will know if you are climbing or descending and if you are level or turning.

**Questions by the Board President:**

41Q. Going back to **MP** when he demonstrated the profile itself was the profile-- you say it was not as genteel, what do you think it was a red federal rate more than usual or do you think he was trying to stay as tight to the runway as possible? How do you describe that? I know you were sitting at the panel, but do you remember? Do you recall?

41A. All I can describe it is that he was aggressively turning. It was a fairly rapid roll rate. I didn't time it so I can tell you what that was, but again, his intent was to stay close to the airfield boundary. He didn't tell me how many miles, but it that's the only reason he was making the timing and trying to time it exactly so it had just enough roll so they rolled over the air field without either over shooting or under shooting.

42Q. When they would go to a timeout or a pause between scenarios, did they talk about bank angles? Those types of things? You said you had a hard time seeing it, but did they discuss what bank angles they would go to?

42A. After the second pilot who distracted not mimic his own because the plain overshot the runway, that is all the things he discussed, the roll rate and the degree of bank angles.

43Q. That's on the 80----

43A. I will call it an 80, 260 maneuver which would be turning left 80 degrees off heading, pausing, and then turning right approximately 260 degrees to bring you back over the opposite direction of where you had taken off.

**Questions by the Pilot Member:**

44Q. We were talking about roll rate. Roll rate is the rate at which the aircraft, based on the pilot's command, enters roll. Is that accurate?

44A. As you're flying, if you move the stick to the left or the right, depending on how rapidly you move it, you will turn at an increasing rate.

**Questions by the Board President:**

45Q. And you said--do you remember what they talked about, roll rates and bank angles and things like that?

45A. I know 45 degrees and 60 degrees were alluded to, but that's all I know.

**Questions by the Pilot Member:**

46Q. Did it appear that **MP** instruction to the other pilot was to increase the roll right?

46A. Yes.

47Q. That was to make sure that the aircraft turned as quickly as possible and would make parameters?

47A. Yes.

48Q. I did want to ask, in your experience if you noticed a difference between the way a crew who was for instance in a different training scenario or sorting responded to a stall warning in general versus a crew that was preparing for aerial demonstration?

48A. A very subjective question. I would say possibly in that they knew they were maximum performing the airplane in the air show and so they would be closer to the margin and if someone normally achieved a stall warning, it caught them by surprise. They weren't expecting that. They would expect to be 30 or 40 or 50% above their stall margin. They would have the wrong configuration of the airplane and they would not be performing correctly.

**Questions by the Board President:**

49Q. What you mean when you are saying max performing the airplane? What does that mean?

49A. When they made the turn to the north, they were trying to make it as expeditiously as possible, be liable, obtain enough altitude at enough displacement to make the 260 degree right turn, as I said, precisely rolling out over the runway in the opposite direction without any apparent break in the turn. In other words, a consistent turn at the degree of bank where it would be described as a perfect circle without breaking out into any tangents of level flight, one consistent turn.

**Questions by the Pilot Member:**

50Q. Were they accelerating throughout the turn?

50A. They were accelerating as they made the turn to the north. Yes, they were accelerating.

**Questions by the Board President:**

51Q. Have you ever flown the demo profiles?

51A. Not in a C-17.

**Questions by the Legal Advisor:**

52Q. I just had some clarifying questions from earlier. These will be very basic. This is all in the simulator?

52A. Yes.

53Q. You mentioned runway pictures. They are able to see the runway?

53A. Yes.

54Q. How does the sim do that, basically?

54A. The current grade of simulators, they grade the capability of it based upon how well you can depict the environment and then how well you can provide motion. In a particular simulator, they have taken satellite imagery and overlaid it on a digital database. The Air Force pays for extra definition, if you will. The closest comparison would be if you take your grandmother's analog TV and you replace it with an HD TV. You are at the same place, but you get a better picture. That's with the simulator does. It has higher resolution so it takes those pictures--when they sit on the runway, they see the hangars, airplanes, terrain, etc.

55Q. This is all computer-generated animation?

55A. Yes.

56Q. Is that computer-generated animation--it appears outside the simulator cockpit, but within the simulator structure itself? Is that correct?

56A. Yes. As they are sitting in the seats and I look out the windows, transparent to them, behind those windows are curved mirrors which are reflecting that imagery to them.

57Q. So they get basically a view of what they would see in actual aircraft?

57A. Yes.

58Q. Also, the simulator, how does it replicate movement of the aircraft?

58A. It is on 4 struts and each of those struts are now better than previous generations. They are hydraulically actuated. They receive digital signals.

59Q. You mentioned tear drop earlier. What did you mean by teardrop?

59A. After they did their initial pass, they would be flying down the longitudinal axis of the runway. They made a right turn at an angle of 30 to 45 degrees away from the runway. They would achieve enough displacement so that they would be able to make it turn back in the other direction toward the runway.

60Q. The teardrop refers to the pattern?

60A. Yes.

61Q. Earlier, you said IOS which was instructor operated screen?

61A. I believe. I'm not sure what the acronym stands for, but that is close enough.

62Q. Later, I thought you said ILS. I just want to make sure you meant IOS.

62A. When you are flying ILS, instrument landing system, that is an instrument recovery procedure which we also teach.

63Q. Earlier when you were talking about it, you were saying IOS?

63A. Yes.

**Questions by the Pilot Member:**

64Q. Did it appear that the students on the day we are speaking about with MP did they appear comfortable with the maneuvers that MP was demonstrating?

64A. I think they were a bit intimidated. It seemed second nature to me and I was very comfortable. It was stretching them beyond their comfort zone. That's the best assessment I can give you.

**Questions by the Medical Member:**

65Q. I realize that you were not able to visually see everything on the instrument panel controlling, but you were able to hear certain portions of conversations, a debrief between profile execution. Were there any conversations regarding the use of a rudder input to be used in whatever context during the profile flight?

65A. I think they might have alluded to it in the 260 degree turn back to the right, talking about forcing the nose to track, that they would have to consider their rudder input as they made their turn back in, but I can't tell you to what extent it was mentioned.

**Questions by the Pilot Member:**

66Q. Last thing I want to mention is that we have established that this was in July 2010?

66A. Yes.

67Q. Did we say the exact date? Do you recall the exact date this occurred?

67A. General Everhart had asked me, and I thought I said this was the 1st of July which was 4 weeks prior to the air show.

**Questions by the Board President:**

68Q. Were you at any other time with MP or the crew in the sim later, practicing those in the other time?

68A. I don't think I did anymore. I know I passed them in the hallway, in the 517th. I can't think of his name.

69Q. MCP

69A. MCP I remember him being in there one day. We passed when he had observed them on the ground the previous day. He made a comment to them about how they were tracking. It went back to what I talked about, a continuous turn. He said it looked like the bank was rolling in and out and they discussed that as I was passing, but I didn't have any interaction.

70Q. Are there any other matters that we haven't discussed the you believe would be important to our investigation?

70A. No.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1121 local, Alaska time.

**V5. AIB INTERVIEW WITH**

**WITNESS 5**

**VERBATIM TESTIMONY OF**

**WITNESS 5**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Today is the 13th of September 2010. This time is now 0922 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,

WITNESS 5

Pilot Member;

Legal Advisor;

Medical Advisor;

Court Reporter; and,

me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 5,** .

2Q. How long have you served in the Air Force?

2A. Since 2003.

3Q. Your current unit of assignment and location?

3A. 517th Airlift Squadron.

4Q. Here at----

4A. Joint Base Elmendorf-Richardson.

5Q. How long have you been with this unit?

5A. Since April 2007.

6Q. At the unit, what is your job title?

6A. I'm the NCOIC of 517th Tactics, Instructor Loadmaster.

7Q. How long have you been doing his job?

7A. I've been a loadmaster since 2003.

8Q. Can you please describe your duties and responsibilities on 28 July 2010?

8A. On that date, I was in the office. I was scheduled to fly the next morning for the air show. I was dropping a truck off to get a radio installed and that was it. I had--I was asked that day to fly, throughout the day.

9Q. So, you're familiar with the C-17 aerial demonstration program?

9A. Yes.

10Q. Can you describe the program for us?

10A. We were-- **MP** was upgrading pilots and other loadmasters in case any good deals came down for air shows so we would have more than just 1 group that could go.

11Q. What do you mean by good deal?

11A. Last year, there was an air show that was going with the Thunderbirds to all locations out in the Pacific. It was that same crew going to all the air shows.

12Q. Did you fly on any of those?

12A. No, sir.

13Q. Can you describe your aerial demonstration background?

13A. I had ground demo upgraded about 9 months prior in November and that was the only time I flew, getting my aerial demonstration upgrade. Coming up to the air show I had flown on all the practice flights except for the one the day the mishap occurred.

14Q. You stated that it was in your training process--what was your aerial demonstration training process? What were the steps you went through to become qualified?

14A. You had to be an instructor loadmaster and you would have to also be with a loadmaster that was already demo qualified so he could sign you off. You go through demo profiles in the aircraft and the instructor loadmaster teaching you would brief you on certain parts during the checklist.

15Q. Do you know which demo profile that you were training for and flying?

15A. I've only done the 12 and 10 minute profiles. If I have done the 6 minute, I don't remember.

16Q. You mentioned **MP** Do you recall any of the pilots that you might have flown the demonstration flights with or done your trading with?

16A. Yeah, I've flown with **MSO** and **MCP** WITNESS 15 WITNESS 18 WITNESS 8 CAPT SCO

17Q. You mentioned you flew with **MP** Do you remember flying with him in July 2010?

17A. Yes.

18Q. Do you remember what dates they were?

18A. It was on the 9th, the 12th, and I want to say the 17th. It was the following Monday after the 12th.

19Q. That's good. Do you recall who else was of those flights?

19A. I don't recall the name of the pilots. It was the list of pilots I gave you, I just don't remember, but all the flights were when I upgraded WITNESS 14 and then the 12th was **MLM** and then the following Monday, I think that was the 17th, was WITNESS 20

20Q. Now, once you are upgraded, he checked you out, right? That doesn't mean they are actually certified, that means there is still some process that they have to go through?

20A. After they fly with us in the C-17, they have to go meet with the Wing Commander to get his blessing. Then their name gets put on the letter of X's.

21Q. Do you remember on those flights in July what the plan was for the training flight that day? Was it a 10 minute? Was it the 6 minute? What was--were you just going to practice the profiles? Or was it---

21A. They do the 12 and 10 minute profile and in between the profiles we would go to Goose Bay and hold and they would debrief on what was going on with the profile.

22Q. Goose Bay is a point out--a navigational aid or a point out on the map that you go out that is an uncluttered area?

22A. Yeah. It's a place where we would hold even on training locals that the fighters were coming in, just go out to goose and hold.

23Q. So it just deconflicts the rest of the traffic?

23A. Yeah.

**Questions by the Legal Advisor:**

24Q. When you say hold, you go out to Goose Bay and hold, is the aircraft still flying or you have landed?

24A. The aircraft, it is in a holding pattern, sir. It's still flying.

25Q. It's kind of circling in an orbit?

25A. Yeah. That's just lets the brakes cool and all.

**Questions by the Board President:**

26Q. Were you at the pre-briefing for those flights?

26A. Yes.

27Q. And by pre-brief, I mean the brief prior to stepping out to the airplane to go fly?

27A. Yeah.

28Q. Do you remember what was discussed?

28A. It seemed like your standard brief that you go fly and then they would go into more of the air show stuff in the profiles.

29Q. Do you remember what specifically they would go into?

29A. It was the order of the profiles they were going to do, the 12 minute first and then the 10 minute.

30Q. Did they describe how they were going to fly the profiles?

30A. I don't remember.

31Q. If I may, I want to show you a PowerPoint brief and just give you a couple minutes to take a look at it and see if you recognize this at all. I just handed the PowerPoint brief over to WITNESS 5 for the record.

[The witness reviewed the document.]

31A. I do remember this brief.

32Q. This particular brief that I showed you, it's the 2010 air show upgrade brief and it will be submitted for the record. Was this for your upgrade or was this a briefing that you use every time? When did you get that briefing and what was its purpose?

32A. We only saw the PowerPoint briefing once, but I believe it was e-mailed to us afterwards as well. It was kind of like a mass brief where everybody does it at the beginning of the air show upgrade brief. It was in the auditorium.

33Q. The briefing that you mentioned prior to the--the briefing that you just mentioned earlier, prior to stepping to the jet, or going to the jet to fly, this briefing is separate? This is just your upgrade briefing?

33A. Yeah. I never saw a PowerPoint slide when we were stepping to go fly.

34Q. So it was just an author normal checklist briefing?

34A. Yeah.

35Q. So, just quickly with this one, can you walk us through kind of what you remember about how this briefing went and then how it was accomplished?

Legal: General, you are talking about the 2010 air show upgrade PowerPoint brief that you just had  
WITNESS 5 review?

President: Correct.

35A. During the PowerPoint slide he would go up there and explain just like it was a normal PowerPoint brief, here's the slide, what AFI's are applicable.

36Q. In this particular brief, this 2010 upgrade brief, there is a checklist in there. What is that checklist? Is that an official checklist for the Wing? What is that?

36A. It was a fan fold checklist. It was the air show checklist. Some of the stuff was in a different order than in our abbreviated checklist, I believe. That's why it was made like this.

37Q. So, did you use this checklist also? I know the pilots only use the fan fold, but in a loadmaster station, did you have a copy of this? How did that work?

37A. We should've had one on us at the time. The checklist for the loadmaster that we really run is going to be the before landing checklist and it's the--yeah, basically the before landing. The whole profile is pretty aggressive so you are sitting there on the back, strapped in. You are not really mobile.

38Q. When you say the back, strapped in, are you at the loadmaster station or are you at the paratroop doors in the back?

38A. Yeah, you're either on the last seat, left or right side of the aircraft, buckle down, and then you have your restraint harness which is of course clipped into the cargo floor, and your helmet.

39Q. So, when you practice these profiles, that's where the loadmaster always stays? He never would come up in the cockpit, on the flight deck, would he?

39A. No. The only time he ever would will be when we are at Goose, holding.

40Q. So, do you remember this being an unofficial checklist or is this a techniques guide? Do you remember at all?

40A. I don't know.

**Questions by the Pilot Member:**

41Q. You may not remember if it's an official checklist or if it was a technique, but do you remember how the crew, the flight deck, ran the aerial demonstration checklist that we are referring to in the PowerPoint presentation? Do you remember how they executed that?

41A. Not to my knowledge.

**Questions by the Board President:**

42Q. This upgrade PowerPoint, who actually briefed you on this?

42A. With the PowerPoint slide, **MP**

43Q. Going back to any briefings that you had, either pre flight briefings or this upgrade briefing, did the crew--let's just stay with your flights that you had, with those in July. Did you ever discuss or did the crew ever discuss bank angles and altitudes that they planned to fly?

43A. I don't remember, but I know the bank angles--I want to say it was 45 degrees.

44Q. Did the crew ever discuss when you would go out to Goose Bay to hold, to say how the scenario went for that profile? Did he ever discuss going to more bank or flying it into the bank?

44A. Not that I remember.

45Q. You said 45 degrees of bank. Was that done--why did you fly 45 degrees of bank?

45A. During the PowerPoint slide he said the AFI says 45, but you could do it at 60.

46Q. Do you remember where he said you could do it at 60? Did he said you could do it at 60 the whole time or just certain portions?

46A. I don't remember.

47Q. Do you remember, and there again just to clarify for the record, do you remember the bank angles that you all flew on your flights?

47A. No.

48Q. Did the crew ever discuss use of the rudder at all?

48A. I don't remember.

49Q. When you would go out to fly, how was the plan executed as far as the profile?

49A. What exactly do you mean, sir?

50Q. Did he say we are going to go out and say we are going to fly the 12 minute profile and we are going to do it in these parameters. Do you remember a discussion going on?

50A. They would brief what profile they were doing before hand and I don't remember anything else after that.

51Q. When you flew, do you remember hearing or seeing anti stall alerts or stall warnings or anything like that going off?

51A. Yeah, you would hear stall sometimes and that would get acknowledged, they'd say acknowledged, crew.

52Q. So they would acknowledge it, but would they do any maneuvering to prevent it or get the stall warning to stop? How long would you hear the stall warning?

52A. I don't remember how long you would hear it. You would hear it go off and then they would say acknowledge and then it would go away.

53Q. Would it go away immediately or would it be just carried through for a little bit longer and then it would go away at the completion or termination of that maneuver?

53A. Sometimes it would go a little bit longer and then go away.

54Q. So, if it was going off, did the crew just complete the maneuver and then it would just--again, I'm just clarifying for the record, would the crew just complete the maneuver and then once the maneuver was completed it would go off or cease?

54A. Yes, sir.

**Questions by the Pilot Member:**

55Q. When it did go off, did they mention during the pre-briefing that, specifically about what actions the crew would take if it were to go off, and by it, I mean the stall warning system?

55A. I remember him mentioning it during his brief that you would hear those going off, but I don't remember what he said. That's **MP**

**Questions by the Board President:**

56Q. To add on to that, just for clarification of the record, do you remember--he just said they would go off, but was there any brief that if they go off we are going to do this action, or we are just going to----

56A. If there was, I don't remember.

57Q. I want to touch again on the checklist. You said you are familiar with the checklist and you get the before landing checklist. You said that you were in the step that you were really concerned with. Do you remember how the crew executed checklists inside the aircraft when they were flying these profiles?

57A. Fairly quickly.

58Q. Were they challenge and response? Did they say gear up, acknowledged gear up? Slats retract, flaps up? How was that?

58A. I believe that was done or how the checklist is normally ran, with the gear up. They actually make the call over and say gear up.

59Q. Did you ever fly in an air show with **MP**

59A. I have never flown in an air show with him. It was just all for practices or upgrades.

60Q. There again, which checklist did they run? Was it this air show checklist or was it the normal -1 checklist? Would they call for this checklist or would they call for the normal--I see this checklist. I'm just trying to not confuse myself.

60A. I wasn't sitting up front so I know it's all part of our pro gear, to carry the abbreviated checklist. I'm sure that was up there with them, but I don't--I would assume they were using that one, the air show checklist, but then again I was never sitting up front for it.

61Q. Just again, for clarification of the record, what is the abbreviated checklist?

61A. We've got our amplified checklist in our -1 and the abbreviated checklist is the same checklist, just abbreviated.

62Q. So when you say amplified, inside the -1, amplified is a?

62A. It's a bigger checklist.

63Q. So it has little steps?

63A. There are more notes and warnings that are not in the abbreviated.

64Q. So the abbreviated is more like just the steps without the notes?

64A. Yeah, like what you should be looking for.

65Q. Just a couple more questions, if I may. Can you describe to me how **MP** flew, when you flew with him and the crew, how they flew the profile? Was it normal? Was it aggressive? Was it we've got to make this corner tight to show well for the crowd? How was that flown?

65A. I thought it was flown fine. I've never really flown the air show demo with any other pilots so I really have nothing to base it on as in what was wrong or right, but I felt safe in there.

66Q. Did you talk about the profiles or debrief after each demo training flight? Did you come back in together and debrief what went right and what went wrong?

66A. The pilots would have their debrief.

67Q. How about the rest of them? How do the other crew members feel when they flew these profiles?

67A. Everyone--it looked like everyone felt fine.

**Questions by the Legal Advisor:**

68Q. WITNESS 5 you said that you hadn't flown the aerial demonstration profiles with any other pilot. Is that prior to the mishap or you have not flown since the mishap date?

68A. I've flown, but----

69Q. I'm sorry, flown the aerial demonstration profiles.

69A. No, I have not flown in the aerial demonstration profiles since the mishap date.

70Q. MP was the only person you hadn't flown with at least consistently?

70A. Yes. He was the only one--he was on every demo flight I had been on.

**Questions by the Board President:**

71Q. He is the only one you have ever flown with?

71A. Basically, yes.

**Questions by the Medical Member:**

72Q. You said that MP would brief that they would get the stall warning during the demo profiles. Is that correct?

72A. Yes.

73Q. You mention that you flew with him on or about the ninth, 12 and 17th of July. Correct?

73A. Yes.

74Q. So, would he have briefed that same statement during those 3 briefings that you guys got, that the pilots would anticipate hearing the stall warning horn?

74A. I believe so.

75Q. You mentioned that when you were on board your aircraft during those flights that you would hear over your headset the stall warning horn going off sometimes. Is that correct?

75A. Yes.

76Q. Can you estimate how long? A second, 2 seconds or ballpark?

76A. I would say maybe 3 to 4 seconds, maybe.

77Q. One other area, did you fly with **MP** in any other routine training missions?

77A. No, sir.

78Q. So, the only time you flew with **MP** was during the demonstration profiles?

78A. Yes.

**Questions by the Pilot Member:**

79Q. You mentioned with the stall warnings that when you flew the demonstration with **MP** you would hear the pilot say acknowledged. Do you remember hearing that stall warning continue after stating acknowledged?

79A. Occasionally it would.

80Q. I would also like to step back to the 3 dates just quickly. We talked about the step briefing just prior to going to the aircraft. Do you remember anyone being present at those briefings besides the aircraft you already mentioned that was going to fly?

80A. No, sir.

81Q. How about the briefing that you discussed in the auditorium, a 2010 air show upgrade briefing, the one you defined as a mass briefing? Do you remember who was there?

81A. No.

82Q. Were there a lot of people? Were there a few people?

82A. I would say maybe there was 8 or 9 people, I think, total.

83Q. Was it only demonstration aircrew members?

83A. Yes, sir. It was only people that were going to be getting upgraded.

**Questions by the Board President:**

84Q. Just to clarify for the record, you said you heard stall warnings. Did you hear the other warnings?

84A. You're going to hear your normal terrain when you are flying into Elmendorf. We always get that warning when we are coming in, but that's just because of the way the runway is.

85Q. Do you remember when this 2010 air show upgrade mass brief was?

85A. It was in early July. It was before the first flights. It was either early July or very late June.

86Q. Of 2010?

86A. Yes.

**Questions by the Medical Member:**

87Q. When you have been on your training missions before, did the pilots or your flight crew ever brief that they would anticipate hearing the stall warning horn?

87A. As we are stepping out to the jet?

88Q. On routine missions?

88A. No.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

Do you understand?

Witness: Yes, sir.

This concludes the interview. The time is now 0949 local, Alaska time.

[END OF PAGE]

**V6. AIB INTERVIEW WITH WITNESS 6**  
**VERBATIM TESTIMONY OF**  
**WITNESS 6**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and to preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the differences between your testimony before a safety board and this accident board?

WITNESS: Yes, I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I swear.

PRESIDENT: Okay. Please have a seat.

[The witness did as directed.]

PRESIDENT: Today is 13 September 2010. Time now is 1431 Alaska local time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The members present are:

The witness,                   **WITNESS 6**  
Pilot Advisor;  
Legal Advisor;  
Court Reporter; and  
me, [Brigadier General Carlton D. Everhart, II, Board President].

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and your civilian status please.

1A. My name is **WITNESS 6**

2Q. What is your current occupation?

2A. I'm a C-17 flight simulator instructor for Boeing.

3Q. And Boeing's your employer and how long have you been with Boeing?

3A. I actually work for a subcontractor underneath Boeing called the Delaware Resource Group.

4Q. How long have you been with the Delaware Resource Group?

4A. About 3 -- correction. I got hired in November 2006 so --

5Q. What is your job title?

5A. C-17 Pilot Instructor.

6Q. How long have you been operating the simulators?

6A. Same amount of time.

7Q. How long have you been here at Joint Base Elmendorf-Richardson?

7A. I've been here the entire time of my employment as a C-17 simulator instructor.

8Q. Since 2006.

8A. Since November 2006.

9Q. Could you please describe your duties and responsibilities in July 2010?

9A. I've been a C-17 flight sim instructor the entire time so the whole month of July I have about 3 or 4 flight simulator events to instruct per week. I was the instructor operating station simulator operator for these two Air Force time events for the crews to practice air show profiles. One was on June 16 and the last one was on -- correction -- July 16. The last one was

on I believe the 26th. My recollection of the mishap date I thought it was on the 28th. Okay, so on the 26th I believe was my [inaudible].

PRES: If I may, just a quick break.

[The interview took a break at 1434 hours and resumed at 1437 hours, 13 September 2010.]

LEGAL ADVISOR: This is <sup>WITNESS 6</sup> We're back on the record. All those present when we took a break are again present. At this time <sup>WITNESS 6</sup> would like to make a clarification. He's considered some answers during the break. Mr. <sup>WITNESS 6</sup>

WITNESS: Yeah, I wanted to say that I believe the second of the July events was on the 27th instead of my earlier date; I had said the 26th.

**Questions by the Board President:**

10Q. Then you are familiar with the C-17 demonstration training program here at Joint Base Elmendorf-Richardson?

10A. I wouldn't say I'm familiar with it. I found out there was a regulation governing it or whatever. I didn't know about that, but I do know -- I have flown with several years' worth of -- I have been the instructor -- excuse me. I have been the operator of the sim during the training of a couple of different air show crews over the last 3 ½ years.

11Q. In that training program, what was your role?

11A. My role was to operate the sim and allow the crews to practice their events. They came over on an Air Force time, which is not a training event. It's just time that the Air Force has to use as they need. Pretty much we just operate the sim's motion control: bring it up and down off motion, run the instructor operator station as far as setting up the environmental conditions that the crew requests for that event relating to winds and the cloud ceilings and wind speed; the actual aircraft's simulated weight as far as how much the real airplane weighs and plus how much fuel or cargo if the crew asks for anything like that. We'll enter that into the simulation so that the simulator performs like the aircraft would under those conditions.

12Q. Could you please give us an overview of your interaction with -- I know you've loaded up the sims and all that kind of stuff, but the interaction you had with the aircrew during an aerial demonstration simulator event?

12A. During normal instructional event, I would have instructional topics to brief the aircrew on or Air Force directed topics that they want covered during those events. But for Air Force time, as I said, we pretty much just operate the sim to the requests of the customer. Therefore, I don't give any briefings or instructional stuff prior to the sim or after. The air crew did meet before the sim events on the occasions that I recall. Afterwards also they would have their own de-brief, but the instructor -- my fellow instructors or I didn't attend those.

13Q. If I just may for the record just to clarify then: In general terms you would set up the simulator prior to the sortie just to put the winds, weather, temperature, the cloud cover and then just bring it up on motion so the simulator's actually functioning now to act like -- replicate the performance of the airplane?

13A. That's true, sir.

PILOT MEMBER: If I may, sir.

**Questions by the Pilot Advisor:**

14Q. But you were actually present. Once the simulator started, you would be present during the simulator during their performance.

14A. That's correct. We would all be in the simulator and go up on motion and I would remain the entire time and bring it down at the end of their time.

**Questions by the Board President:**

15Q. Then besides these two times, 16 and 27 July 2010, how many times have you worked a simulator for demonstration aircrew practice?

15A. I would say approximately four more times maybe -- four or five over previous years.

16Q. Are you familiar with the profile 3, which is the 12-minute profile that the aircrews fly?

16A. The profile the mishap crew flew was a 12-minute profile. I did not -- I'm not aware of it being called profile 3. I never heard that.

17Q. Then you mentioned about the reg. Are you familiar with the AFI 11-246, Volume 6, Chapter 3?

17A. I'm not familiar with it.

18Q. Have you seen **MP** **MSO** and <sup>MCP</sup> fly the aerial demonstration profiles, specifically the 12-minute profile, in the simulator in July 2010?

18A. Yes, I did on the 27th.

19Q. On the 27th?

19A. Yes, sir. The three aircrew that you mentioned, all three were not in the event on the 16th.

20Q. Do you know who was in the event on the 16th? Do you recall?

20A. Yes. Yes, I do.

21Q. Who were they?

21A. It was **MP** **CAPT SCO** and I believe it was also **MCP** that was in the mishap crew. Mr. **MSO** -- or **MSO** **MSO** was not in the 16th event.

22Q. Then when **MP** was present in those simulator rides, the 12-minute demonstration, the practice, was he in the left seat?

22A. He was in the left seat for all the events on the 16th, but on the 27th **MP** flew in the left seat for the first two profile iterations. We did a total of five. **MSO** was in the left seat for the last three and **MP** was acting as the safety pilot. They basically swapped duties between the left seat and the safety pilot.

23Q. Now you briefly mentioned about the briefings. Were you present in the briefings that happened prior to going into the simulator at all, or in any of the de-briefs?

23A. I was not present. Actually during the 27th, which is the one I recall the best, it was a 3-hour block of time of Air Force time and the first hour was the tour for another aircrew member. So I came down about halfway into the 3-hour so it would have been about 9:30 local and they were finished with the first tour. I saw **MP** **MSO** -- **MP** **MSO** and **MCP** in the briefing room when I came down to get them. They were briefing -- I mean they were talking. They had kneeboards and charts out. A kneeboard, it's an aircrew has a board you can strap to your leg to keep papers and stuff like that on. They had pictorial diagrams, a color that looks like about a 4 x 8 sheet of paper or a half sheet -- a sheet of paper folded up and it had the overhead depiction of the air show profile on it. They looked busy. I caught **MP** eye and he gave me a head nod like he needed a few more minutes so I went out and got a drink of water, came back. They were ready and then we went up to the sim. But I wasn't aware of what they were discussing.

[numbering error noted]

23Q. Having watched **MP** **MSO** and **MCP** fly the aerial demonstration profiles in the simulator, can you describe -- or will you describe how they flew the departure portion from the time of brake release to the initial climb to the initial 80-degree turn and then the turn back around to the -- how did they fly that profile? Can you describe that for me?

23A. Yeah. We started with aircrafts positioned at about the 4,000 feet to the runway remaining marker and 20,000 pounds of fuel in the simulation is what they asked for. Whenever they were briefed -- they basically were already pre-briefed on what they were going to do prior to, I guess, so there was minimal briefing in the jet. They would get a simulated time hack, or everybody on the same time getting ready to go. The take-off clearances I gave them as simulating the air traffic controller. The pilot monitoring known as the co-pilot was **MCP** and he would give a countdown to brake release like a 1 minute and 30 seconds, 5-4-3-2-1 brake release. Max power, the power was at -- full throttle is the maximum power and they began the take-off roll at the appropriate take-off speed. The pilot flying, which was **MP** for the first two iterations, would lift the nose -- raise the nose of the aircraft off the runway and continue to rotate the nose upward to about 35 degrees or so for like -- and then pause for 1

second and push the nose back over relatively aggressively to about 15 to 20 gaining speed. Then they would perform a pretty crisp bank to the left to go into a heading of 33 or 340, something like that. The safety pilot was in the right aircrew additional crew member seat and he had his seat fully to the left limit where it placed him approximately centered between the two pilot seats in front of him so he could get a view of the configuration, those kind of things. He was making verbal callouts of 20 degrees to rollout, 30 degrees to rollout, 20 degrees, 10 degrees to rollout, rollout, helping the flying pilot roll out on the heading that they had planned, assisting that. Then continued to accelerate on the A-degree off-heading. I think it was like 300 -- 300 and some odd, do the math. But for about 6 to 8 seconds and then they would make a bank back to the right. The descending we were about 1200 feet. It seems like 12 to 1500 feet at that point. Then the turn inbound would be a descending turn towards 500 and accelerating to go have a high speed flyby the air show center line, which was the -- I believe it's mike taxiway. It's the taxiway paralleling runway 624. And then build up whatever speed they could at that point. They would be cleaning out the aircraft -- they would be deconfiguring the aircraft to a clean wing where as previously the takeoff said flaps at a half and slats extended. So they would retract the flaps and the slats during the acceleration to the high speed flyby show center.

24Q. Then you mentioned they would practice with 20,000 pounds of gas. That's what they would ask for?

24A. On the 16th, **MP** asked for 20,000 pounds and again, on the 27th, I asked him how much fuel he wanted -- or did he want 20,000 again. He said he wanted 20,000.

25Q. Then during the -- just so I can clarify: Were they at max power? You know, from brake release in performing these maneuvers, did the throttles ever get retarded, or did they stay at max power the entire time?

25A. To my knowledge they were at max power, but again I wasn't noting every single thing as well as -- sometimes I was working on watching the panel and I really didn't see every single configuration change. It's just to my recollection I believe that to be true.

26Q. Do you recall bank angles?

26A. Not really. It's 45 to 60. I don't remember any specific bank angle for any different maneuvers but, again, I had the safety pilot was right in front of me basically.

27Q. One more if I may. In this profile do you recall the use of rudders?

27A. I believe for the turns -- and this is what I felt -- I believe they were using -- I could see they were using pretty much maximum control stick into the turn to demand a turn. I believe they were using rudder to assist during the roll ins and the rollout because there's a condition called yaw and you can feel when the aircraft is a little out of trim or when you need to use rudder to keep it in trim, which is flying a lot with the wind.

28Q. What was the communication between the aircrew like inside the cockpit?

28A. I felt everything -- everything I heard was pretty -- was professional and I believe pre-briefed to the extent of each person knew the duties of what they were supposed to do during the conduct of the profile. There was configuration changes that were -- that had to have been

pre-briefed so the pilot monitor was able to select the next configuration required by the profile without each one being commanded by the pilot flying.

29Q. Did the pilot monitoring announce configuration change, and was it acknowledged as a normal C-17 checklist challenge or response that would be performed?

29A. I would not say that every -- it was more like configure on speed, which meant to go to whatever -- a certain configuration in this case. I remember the configuration -- configure on speed would mean -- or have the effect on the pilot monitoring of allowing him to extend the slats, extend the flaps to a half, put the gear handle down. And it was confirmed just like the aircrews do per checklist as in the pilot monitoring would say where the condition was of each slats, flaps, gear. The pilot monitoring would confirm that as -- excuse me. The safety pilot would confirm that very visually with the pilot monitoring on the completion of the configuration. Then the pilot flying would command each flap -- further flap change more than half flaps. For instance, flaps to three-quarters and flaps to full.

30Q. That was on the configuration. How about on the deconfig say like bringing the gear up, bringing the flaps up, bringing the slats up?

30A. I believe a pilot flying would call for the gear up, which would occur basically immediately after leaving the ground -- or after the pilot monitors would say pause the brake. Flaps up I believe was also called. I believe the pilot flying would command his -- the cleaning up of the aircraft, but I don't really recall every single time. I saw it 5 times. I've been trying to run through my mind what I remember and that's to my best recollection.

31Q. How about what checklist did they run? Did they run -- which one? Was it the fan-fold checklist? Was it --

31A. Yes, sir.

32Q. Just a normal --

32A. A normal VFR pattern-style checklist. After takeoff and then approach before landing checklist, they would call for all of those.

33Q. Then as far as -- did you specifically when it comes to the checklist, did you see the use of any other things other than a flight manual checklist?

33A. No. I saw a fan-fold and a pilot monitoring -- **MCP** had that. The safety pilot had the air show -- I call it the air show diagram, but it was that color picture 4 x 8 sheet of paper with the white drawn -- it looked computer-generated drawn profile of the 80, 260, another course reversal on the 06 end and then a slow flight and then another course reversal and like a 360 over in the show center area. He had that in his hand and it had headings on it, seconds to countdowns for -- on a certain heading they would fly 7 seconds or 9 seconds depending on which course reversal they were doing. That was specifically when **MP** was the pilot flying and **MSO** was the safety pilot. He had it in his hand right in front of him I believe as a memory aid to what seconds he needed to countdown and what heading he needed to ask the pilot monitoring to put in the heading reference.

34Q. At anytime during the practices did you hear any aircraft warnings or cautions?

34A. I did. I heard "stall stall" a couple of times. At one point I heard a "flap over speed." I looked down and it was about 100 feet to 2 knots or 252.

35Q. That over speed comes on --

35A. It comes on anytime you move the -- if you lower the gear or move the flaps to a half above 250 knots.

36Q. What were the aircrews reaction during the profile to these stalls? Warnings to the "stall stall"?

36A. It seemed to me that of the "stall stall," I think occurred during the roll into bank or during a configuration change to where the slats were not being lowered and it was momentary like "stall stall" right before -- or they rolled out of a little bank and it would go off -- it would stop, I mean. Or like I believe it occurred when extending slats to slow down, but then two warnings of maybe 2 seconds later the slats would reach the configuration commanded and again the warning would go off because the plane was -- the aircraft was configured appropriately.

37Q. How about on the 80, 260 maneuver?

37A. I don't really remember exactly which maneuver it happened on, but that maneuver would be a bank so if it occurred I would expect that it was due to bank and they would roll out or release that pressure. It was -- yeah, it was pretty much the way I can remember it.

38Q. Did everyone seem comfortable when they heard that or with the warnings or --

38A. Yeah, I believe they were comfortable. I didn't hear anybody say anything. It was more like they knew in just a second it was going to be corrected whatever made it go off. I mentioned getting to the slats extend, which decreases the stall rate -- the stall air speed and it would make the warning go off -- or stop.

39Q. Go away?

39A. Go away. Yes.

PRESIDENT: If I may, I think what we'd like to do is take a break right here just to collect what we've heard and then let you have anything that you may want to cover and then we'll come right back. So if we could take a break right now.

WIT: Okay.

[The interview took a break at 1502 hours and resumed at 1530 hours, 13 September 2010.]

LEGAL ADVISOR: This is \_\_\_\_\_ we're back on the record. All attendees to the interview that were present prior to the break are again present.

**Questions by the Board President:**

40Q. <sup>WITNESS 6</sup> you stated in the break that you would like to clarify -- make a clarification to the record of what you stated as far as the question was: At anytime during the practices did you hear anything in reference to the stall warnings or cautions, i.e., the "stall stall" that you hear. Then I asked you specifically "did everyone seem comfortable," and you said you had a clarification that you wanted to make to that.

40A. Yes, sir. When asked that question I said, I believe they were comfortable. I would like to clarify to say that was my belief, but I didn't have -- the only fact I had was they did not appear to be uncomfortable. They didn't say anything that would lead me to believe that.

PRESIDENT:

**Questions by the Pilot Member:**

41Q. <sup>WITNESS 6</sup> you had mentioned in your previous statements that you do recall a couple instances -- or maybe more, you can define how many times if you remember -- the stall warning occurring specifically. Can you put that into terms of how long you think you heard the stall warning at its longest? Maybe if we consider stall ... stall, that would be 1 second in between those.

41A. Okay, I said that a couple of times during the profile I heard "stall stall." I don't remember if it was every time we did the profile each of the five times, but it did occur during the profile -- during the five profiles somewhere. I would say that the longest that I heard "stall stall" was about four iterations of the warning system saying "stall stall." It did happen again where it maybe just stall one time before the situation was mitigated.

42Q. Is it accurate to say you said you heard the word "stall" iterated four times during one particular episode so that would lead us to say if each stall was 1 second, 4 seconds total, is that accurate?

42A. I believe that's accurate. Yes, that's accurate.

43Q. Do you remember if during that time they verbalized any reaction to that, or if they made a reaction?

43A. No one verbalized to my recollection any statements regarding the stall warning. But the stall warning stopped enunciating so there was -- the stall warning would stop so the condition would have had to have been handled.

44Q. Okay, so something made the stall warning stop?

44A. Yes. If the condition that creates a stall warning persists, the stall warning continues to persist.

45Q. Okay, but you don't know specifically what made that stall warning cease. Is that accurate?

45A. I do not know exactly what made it cease, but it did.

46Q. You had also mentioned earlier through the words that you'd used to describe parts of the profile were in the maneuvering portion of that was "aggressively" or "crisp." Can you elaborate a little bit on what you meant by crisp or --

46A. Okay, those are my words to describe what factually is/was the amount of control stick deflection into the direction of the turn. A small deflection to begin a turn results in a smaller rate of roll -- roll rate. A larger stick deflection would command a larger roll rate into or out of a turn and that is what I observed.

47Q. You talked about July 16. Just do you recall how many profiles mainly the 12-minute profile that **MP** flew on the 16th?

47A. No, I do not recall the amount -- the number of profiles that they accomplished, but the time allotted for their Air Force time event was 3 hours. I don't believe they actually used the entire 3 hours. But that amount of time would allow the crew to do the profile at least four or five times. I just don't know the number.

48Q. Did he use aggressively quick to crisp turns then also?

48A. Both events the control deflection was the same from **MP** and also from **MSO** during the 27th profile when he was the pilot flying. It was a similar control deflections and roll rates commanded.

49Q. Then in both events you mean the 16th and the 27th. Is that -- ?

49A. Right. **MP** was the only pilot flying on the 16th. There was a different safety pilot. On the 27th both the flying pilots, **MP** and **MSO** were using similar control stick deflections for turns.

50Q. Then on the 16th and 27th, what was the initial target altitude that the aircrews would climb out on after brake release prior to the 80 degree of heading change?

50A. I did not -- I was not told nor was I aware of a target altitude, but I did observe the target nose high demonstrating the climb capabilities of the aircraft would be between 30 and 35 degrees initially for 1 second and then a noticeable stick deflection to push the nose down to approximately 15 degrees, a 1 second pause and then a bank to the left to begin the 80 degree portion of the 80, 260 maneuver. I observed that altitude to be between 12 to 1400 feet on the radar altimeter display which the aircrew had selected on their instrumentation.

51Q. A radar altimeter gives you altitude above ground?

51A. Radar altimeter gives you altitude above the ground and that was the reference the aircrew were flying at primarily to descend to the 500 foot above the ground altitude once crossing the air show centerline. That was the floor of the altitude they would fly to.

PRESIDENT: Thank you, Anything else?

**Questions by the Board President:**

52Q. One last question and before I read you out, and <sup>WITNESS 6</sup> Are there any other matters that we haven't covered that you believe is important in our investigation?

52A. I believe -- I wanted to say that my -- I observed the demonstration aircrew conducting the profile -- or their actions inside the cockpit professionally with little with no chatter, no talking about anything that wasn't a subject at hand with the flying. Their words were concise and related to headings, airspeed changes, configuration changes, what the next desired heading would be. That kind of professional flying and I observed them treating the entire -- their entire time professionally and nothing taken lightly it didn't seem -- it didn't appear.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission and at any time before the report of the investigation is officially released to the public.

This concludes the interview. Time is now 1541 local, Alaska time.

**V7. AIB INTERVIEW WITH**

**WITNESS 7**

**VERBATIM TESTIMONY OF**

**WITNESS 7**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Today is the 14th of September 2010. This time is now 1441 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,  
WITNESS 7  
Legal Advisor;  
Maintenance Officer;  
Maintenance Member;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 7**, .

2Q. How long have you served in the Air Force?

2A. Just under 9 years.

3Q. What is your unit of assignment and location?

3A. 703 AMXS, 517 AMU.

4Q. How long with this unit?

4A. Since April 26 of 2002.

5Q. What is your job title?

5A. Crew chief.

6Q. How long have you been in this job?

6A. Eight years.

7Q. What type of aircraft are you responsible for?

7A. Here at Elmendorf, C-17.

8Q. How much experience do you have maintaining the C-17?

8A. Six years.

9Q. Did you work on 28 July?

9A. Yes, sir.

10Q. What were the shift hours?

10A. Seven to three, dayshift.

11Q. Please take us through that day on 28 July from when you start fulfilling your duties.

11A. It was a normal workday. I got assigned an aircraft by **TSGT G**. He took me to the aircraft and we started refueling. He told me what the fuel up was--refuel. We waited for the crew. They had 3 engines started and then we had shift changed.

12Q. What was that aircraft? Was that aircraft 0173?

12A. Yes, sir.

13Q. TSGT G is who?

13A. Our truck driver--expediter.

14Q. What was the status of aircraft 0173?

14A. It seemed good to go.

15Q. So, no hard write-ups?

15A. Now.

16Q. What typically happens when the maintainers recover an aircraft? What does recovery mean?

16A. Normally, we check oil, check serviceability, and verify any major discrepancies that we can find, if we do find any, and just look over the plane for cleanliness and serviceability of the aircraft.

17Q. What is a through flight inspection?

17A. It's an inspection that happens when there is not enough ground time for a post flight or BPO inspection which is a basic post flight inspection. You have to have a certain amount of ground time for that inspection versus a BPO which is a lot longer ground time and then there is also a quick turn which we were accomplishing. That's even a shorter ground time than a through flight.

18Q. When you reference times like that, is there a specific time, like a 20 minutes, or is it supposed to be an hour? Like basic post flight requires two hours? What drives you to what phase, whether there is going to be a through flight, basic post flight? Is there a time limit?

18A. Yes, sir. You have to review your Dash 6 work cards and it tells you exactly how much time you need on the ground. Say, if you're doing it with one individual then you need this much time. It specifies if you have this many people then you can do it in this many hours.

19Q. Was a through flight performed?

19A. No, sir. Not while I was there.

20Q. Why not?

20A. There wasn't sufficient ground time.

21Q. Based off the work cards?

21A. Yes, sir.

22Q. What typically happens when the maintainers launch an aircraft?

22A. First of all, we verified all the write-ups that are grounding or possibly grounding are cleared from the forms. The expediter comes out and verifies behind us. We wait for the crew to show and when the crew shows they check over the jet and when the jet is good to them our pro-super releases it to them and we wait for them to start engines and send it out.

23Q. So, launch means?

23A. To marshal it out.

24Q. How would you know if any maintenance was needed or done during that time?

24A. By reviewing the forms.

25Q. Were there any maintenance related discrepancies, problems debriefed in the previous day's mission?

25A. Not that I was aware of, sir.

26Q. Were there any man's related discrepancies or problems addressed between missions?

26A. When I got to the jet, it was ready to go.

27Q. Were there any maintenance related issues, such as red ball maintenance, during the launch process?

27A. No, sir.

28Q. Did you witness the mishap?

28A. No, sir.

President: At this time, <sup>WITNESS 7</sup> I would like to take a break. It shouldn't take too long. We will discuss some things here then will call you right back in.

[The board recessed at 1447, 14 September 2010.]

[The board reconvened at 1500, 14 September 2010.]

Legal: We are back on the record. All parties present before the break are again present.

President: <sup>WITNESS 7</sup> at this time I will turn the questioning over to you and

Questions by the Maintenance Member:

29Q. Do you know, was this the first mission of the day or was it the second sortie of the day?

29A. It was definitely the second.

30Q. Earlier, you stated on the record when I was asking you about the through flight inspection that it is determined by the -6 cards. Can you kind of expound on that and describe what they are?

30A. Dash 6 work cards are inspection criteria that help us verify what is good or bad on the jet.

31Q. According to the Dash 6 cards, you didn't have enough ground time to perform the through flight inspection?

31A. Yes, sir.

32Q. You stated before that you had gotten turnover and the aircraft was good to go. You are taking turnover from the expediter? Did you do an inspection yourself, go to the forms and check for yourself before you the refuel?

32A. Yes. Every time you go to a refuel or anytime you work on the jet, period, you always check the forms first and verify per your checklist that you are safe for refueling. You verify your checklist and let your checklist tell you what to do. That's what you do.

**Questions by the Maintenance Officer:**

33Q. Just step us through some of the crew chief duties that you do perform when you are running that, checking those forms and running the work cards.

33A. When you verify the forms, you verify the inspection times and dates are good. You verify that any red X's for open discrepancies are not grounding because we have taken care of those before hand. You check the overall serviceability of the hydraulic systems and verify--well, that should have been checked when it landed, verifying the engine oil is good. You verify--like on a refuel per se, you verify your checklist and it will tell you to do certain stuff like wipe down the struts properly, verify seals, and you use all your checklist.

34Q. When you were reviewing those forms, did you notice any grounding write ups?

34A. No, sir.

**Questions by the Board President:**

35Q. so, just one quick follow-up question to that then. When you check the forms, is that sufficient enough to determine if the jet is good for the next flight?

35A. As long as the inspection dates are--inspection times and dates are up-to-date, then yes.

36Q. Just one question, actually, a couple last questions. Just to clarify, what did you specifically do on the aircraft, 0173?

36A. I was the refuel supervisor and I started the launch process. In the middle of the launch process, we got shift changeover.

**Questions by the Legal Advisor:**

37Q. Just to build on and clarify a question, all the things you discussed and answered to Major questions about checking the forms and whatnot, and then you answered to General Everhart's question, as long as the inspection dates are up-to-date, do you remember if the inspection dates were up to date?

37A. They would have been if the jet left before we sent it out. At this time I don't remember.

38Q. Sure, but would it be correct to say you would not send out a jet to launch if the forms----

38A. With an overdue inspection? No, sir.

**Questions by the Board President:**

39Q. Do you have anything further to tell us that we have not covered that you believe would be important to our investigation?

39A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1505 local, Alaska time.

[END OF PAGE]

**V8. AIB INTERVIEW WITH WITNESS 8**  
**VERBATIM TESTIMONY OF**  
**WITNESS 8**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for the use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any of the confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and the accident board?

WITNESS: I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is 15 September 2010. The time now is 1455 local, Alaska time. This interview is being conducted in Building 7309, Room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      WITNESS 8,  
Pilot Advisor;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. WITNESS 8

2Q. How long did you serve in the Air Force?

2A. 5 ½ years.

3Q. What is your unit of assignment and location?

3A. 517th Airlift Squadron, Elmendorf Air Force Base.

4Q. How long have you been with this unit?

4A. Almost 3 years.

5Q. What is your job title?

5A. Chief of Scheduling.

6Q. How long have you been doing that job?

6A. About a year now.

7Q. Can you briefly describe your current duties and responsibilities?

7A. I manage an office of ten schedulers comprised of pilots and load masters. We make up the local flying schedule, the simulator schedule, and task all missions.

8Q. What was your unit of assignment from 2007 to 2010?

8A. 517th Airlift Squadron.

9Q. Are you familiar with the C-17 aerial demonstration program?

9A. Yes, sir.

10Q. Can you describe your C-17 aerial demonstration background?

10A. I started on the team in 2009. I was upgraded to safety position. At that time, I had ground training, simulator training, and training in the aircraft. I held that position for about a year. In the summer of 2010, I started my upgrade for the co-pilot position -- the same ground training, simulator training, and training in the aircraft. I have done 7 demonstrations, all international.

11Q. Who were the crew that you did those demos with?

11A. MP MSO and WITNESS 3 were the pilots for all seven of those, and the load master was SSgt BE .

12Q. At this time, did you complete your co-pilot training?

12A. No, sir.

13Q. Can you please describe your demonstration training. Would you go into it in a little more detailed, the safety training you had?

13A. Yes, sir. **MP** conducted all my training. It started out with ground training, going over the AFI applicable to the demo, going over the demonstration checklist that we use during the demonstration, and then more ground talk conversation about what the profiles consisted of, how they flow. The next step, we went into the simulator. We run through the 10-minute profile and 12-minute profile. Once you were able to successfully accomplish that, you would go to the aircraft and you do the same.

14Q. Would you say you were familiar with the profiles that are established in AFI 11-246, Chapter 3?

14A. Yes, sir.

15Q. Please explain in general terms how these profiles are used in aerial demonstration performances?

15A. Can you be a little more specific?

16Q. Sure. Which specific profiles did you fly -- or flew and participated in -- and what were those profiles that you flew?

16A. In training, I flew both the 10-minute and 12-minute profiles -- or participated in them. In the actual demonstrations, we always flew the 12-minute demonstration the longest.

17Q. Or Profile 3?

17A. Correct. The longest demonstration also meant departing the field and arriving at the same field. Usually, in our demonstrations, we were parked at the airfield that the air shows were being presented for. The 10-minute profile is meant more for departing an airfield that the air show is not present at or arriving in the air, so we never flew those in actual demonstration. The purpose of flying the demonstrations were to display the capabilities of the aircraft -- the C-17.

18Q. Do you think displaying the capabilities of the aircraft was at max performing the aircraft?

18A. I guess it depends on, maybe, parts of the profile where you are showing a high speed pass, which is max performing the high speed that you can go in the aircraft, the same at low speed. So, I would say, in a way, it is max performing the aircraft.

19Q. For the record, you said that you performed and certified in 7 air show demonstrations?

19A. Yes, sir.

20Q. And the pilots that you had, again, for the record, if you could state the pilots again?

20A. WITNESS 3 and MP were pilot positions, and MSO was co-pilot for all seven.

21Q. As a safety observer, did you ever feel the need to provide input or have an air show demonstration profile modified for any of the demos that you did?

21A. I know we talked frequently, prior to every show, on how we could change things to make them better and safer. I cannot think of anything specifically. I do know, one show in Korea, we had a terrain that was in our flying box. We discussed how we could modify or profile the altitude.

22Q. When you say "flying box," what do you mean?

22A. The altitude and radius of the field that we are flying in.

23Q. It is a pictorial schematic; is that what you are referring to as a box?

23A. I guess an operating area for the profile.

**Questions by the Pilot Member:**

24Q. You said you had terrain in it, meaning, you had to adjust certain parameters based on that terrain; is that accurate?

24A. Correct.

25Q. Do you remember how you had to adjust them?

25A. For that instance, it was fairly easy. There was a rising terrain; I cannot remember which direction from the field. But it was one of our turns, off-centerline, that brought us over that terrain. So, our normal altitude that we fly, we obviously had to make it higher just to clear that terrain safely, so that is what we did.

**Questions by the Board President:**

26Q. As safety observer, did you see MP or MSO fly the profiles during the Thunderbird Tour in the Pacific?

26A. Yes.

27Q. Tell us about those flies?

27A. There's not much -- what specifically?

28Q. How were they performed? Were they done specifically to AFI 11-246? Were they specifically there? Were they modified? How did they fly them? How did those pilots fly them?

28A. I would say they flew them according to profile.

29Q. Let me ask you, specifically, then. On initial takeoff, what was your target altitude on initial takeoff?

29A. I am trying to remember as to safety, not as involved in the specifics of how the profiles, altitudes, speeds, all that. I want to say 1000 feet to 1500 feet., in that range, on initial takeoff, we would climb up to.

30Q. I need a clarification, if I may. As a safety observer, what are you watching?

30A. Make sure the checklist are being accomplished. I am also giving responses on checklist. Making sure the landing gear and configuration of the aircraft is where it should be at proper times.

31Q. Do you watch bank angles?

31A. I do. Personally, I do. I do not believe it was ever briefed as a requirement of safety. I took the position of "safety," meaning, safety of the entire airplane, so, yes.

32Q. How about warnings inside the airplane? Do you bring them up to the crew? Do you announce them to the crew? How is that handled?

32A. Yes, I would say -- I cannot remember, specifically, the warnings that we had. I do know that **MP** **MSO** and <sup>WITNESS 3</sup> are all very good at acknowledging warnings. Usually, when we get to the point, where I would have to acknowledge it, the guys in the pilot and co-pilot seats would be quicker to acknowledge before I would have to bring it up. But, yes, that is something I am backing him up on, making sure that--

33Q. You are familiar with the 12-minute program Profile 3, correct?

33A. Yes, sir.

34Q. Describe the departure portion from the static takeoff and Profile 3?

34A. Static takeoff, meaning, breaks were held and throttles were advanced to full power. As full power is attained, pressure is released and we start the takeoff roll.

**MP** and <sup>WITNESS 3</sup> being in the pilot position, would rotate the aircraft and takeoff, usually, 5 to 10 knots over the rotate speed, taking in the extra speed for the climb. Then they would pull up, climbing to -- like I said earlier, I am not sure -- I think it depended on where we were. But somewhere in the 1000 to 1500-foot altitude, they would pull up to, climbing out at a VMCO -- the climb out speed -- sometimes above that, depending on that day and variables. Once reaching altitude, we would start, again, depending on the show, a left or right bank turn, usually a 60-degree bank, and the heading would be dependent on the location.

35Q. So, the initial, let's call it the 80/260, I think is what is inscribed; is that correct?

35A. Yes, sir.

36Q. The initial 80-degree turn -- 80-degree off that primary heading -- was done at 60 degrees of bank?

36A. Yes, sir.

37Q. And the 260 degrees back to show centerline, that was done at 60 degrees bank, or, at what bank angle?

37A. Max 60 degrees. Again, it would depend -- whatever bank, up to 60 degrees, to get you back to centerline. **MP** has always taught, either 45 degrees or 60 degrees.

38Q. That is what he taught. What did he fly?

38A. He would fly either 45 or 60 degrees. It was something he always said over and over. Sometimes, flying, in between there, I guess, would create the pilots to -- they are not focusing on that bank angle when they are not flying 45 or 60. Does that make sense? So, he would always say that to make sure people were paying attention. That is something, as a safety observer, I would always point out: if they are flying 40 degrees, I would say 45 or 60.

39Q. You mentioned a range of 1000 to 1500-foot altitude above ground level. Did you ever see the altitude stop at 1000 foot?

39A. I cannot specifically remember. I do not know.

40Q. What was the use of the rudder during the 80/260 maneuver?

40A. I know **MP** taught -- I'm not sure. I know it helped in increasing the turn diameter or decreasing it. As long as you maintained that 60-degree bank, you are getting a tire turn by using a rudder. Other than that, I do not really know much. Like I said, never flying a profile -- never used it or fly that. I do know that it was used to get that tire to turn.

41Q. Let me step back for a minute. You said you were upgrading in co-pilot training?

41A. Yes, sir.

42Q. Who was training you there?

42A. **MP**

43Q. Did you ever back him up? Did you follow him through on the stick and rudders, throttles, things like that?

43A. I was always ready to take control if I had to; so, yes, to that question.

44Q. As a co-pilot, you did not watch the bank angle, or sit as his co-pilot, in the upgrading?

44A. No, I would, depending on the -- as a co-pilot, you are running a lot of checklists and you are not as attentive as the safety is, in that aspect. It would depend on the phase of the flight. Yes, as a co-pilot, I am backing up the pilot; it is still my job. Does that answer your question?

45Q. Yes. During the 80/260 maneuver, how was the aircraft configured and de-configured?

45A. On takeoff, you want to see a positive climbing rate from the ground as you come up. Throughout the whole 80/260 maneuver, you are preparing for the high speed pass, which is

a clean configuration, so you would be on speed. The computer figures out what speed the flaps track/re-track, and on those speeds, we would be cleaning up the configuration of the aircraft.

46Q. On speed, was it a challenge or response between the pilot and co-pilot, as the normal Dash-1 checklist is ran, or how does that work?

46A. The normal Dash-1 checklist is a challenge response. I have only done, as a co-pilot, I have flown, once, the aircraft, doing those duties for the demonstrations. I cannot remember --

**Questions by the Pilot Member:**

47Q. When was the last time you flew -- co-pilot?

47A. It was a week from the Monday prior to the accident. I want to say the 19th?

48Q. So, fairly recent, right?

48A. Yes. I cannot remember, in the demo, if a pilot would challenge and there would be a response, or, if it was just a safety brief on speed.

**Questions by the Board President:**

49Q. Regarding the AFI 11-246, C-17 profiles, what were you taught about adherence to those profiles? By "adherence," were they regarded as guidelines, only, or procedures?

49A. I cannot remember. I do know that we had thoughts of changing profiles. I know that we talked about how there was approval processes to get that done, you can't just do it. I cannot remember if we were taught guidelines or procedures.

50Q. Let me just ask you this: If you see a regulation, is that a guideline, or is that a procedure?

50A. A procedure.

[Brief recess. All parties were again present.]

51Q. We were talking about the use of the checklist. Regarding the use of the checklist, again, which demo crewmember initiated or called for the checklist?

51A. The pilot, and sometimes the co-pilot, being proactive, would start a checklist -- would ask to start a checklist.

52Q. Would the pilot call for the checklist during the profiles?

52A. Yes.

53Q. Regarding the checklist, do you recall using something called an "aerial demonstration checklist"?

53A. Yes.

54Q. What was that?

54A. It was a checklist with a -- I received it from **MP** to my training, as did everyone. It had all the Dash-1 checklists for the aircraft that we normally used, with added steps -- things that we would use for the profile.

55Q. Do you know where it came from?

55A. I do not know.

56Q. Do you know who approved it?

56A. I do not know.

57Q. Could you talk us through how it was utilized?

57A. The same way the Dash-1 checklist was utilized, the checklist would be called for and then the steps would be completed by the co-pilot, pilot, and safety. Does that answer your question?

58Q. Yes, that is fine. We talked about warnings. But do you remember, specifically, getting warnings or alarms from the aircraft during aerial demonstration profiles?

58A. I do. Warnings: the only one I can think of is stall warnings.

59Q. When you heard the stall warnings during the profile, what were your crews' response?

59A. It would be acknowledged. For the stall warning, the pilot obviously has the controls over correcting that warning; so he would take action. And then safety would make sure the stall warning would go away. If it did not, then make sure it is still being acknowledged and something is happening to fix it.

60Q. The stall warnings happened when **MP** was flying?

60A. I would say it was pretty common for the profile to enter the stall margin.

**MP** -- I cannot remember specifically. I would say, yes, **MP** I do know that we got a stall warning with **MP** just recently. WITNESS 3 I cannot remember.

61Q. When **MP** got the stall warning, what was his reaction?

61A. It's hard to say. I cannot remember exact instances. I do know it would usually occur around the same points.

62Q. And where were they?

62A. Whenever we were in a high bank angle, 60 degrees, and at slower speed. It was always on the turn -- or, in a turn.

63Q. When you say "a turn," did it occur during a 80/260 maneuver?

63A. I cannot remember.

64Q. But you know that they occurred?

64A. Yes.

65Q. How long did the stall warning stay on?

65A. I cannot remember specifically. I cannot really say.

**Questions by the Pilot Member:**

66Q. Do you remember how many times you heard it -- heard the words "stall"?

66A. It was frequent in the profile. They were making those tight turns. It is hard to say, never actually flying the profile. Everyone is aware that we were looking at the speed tapes on the displays that show the margin speeds, everyone knew when you are close to it. That is where the crew would try to fly, max performing the airplane. I cannot say how long, or how many times, specifically.

**Questions by the Board President:**

67Q. So, you did consider flying the profiles? You just said max performing the airplane, is that what you are -- the capabilities -- is max performing the airplane?

67A. I would not say that is a true statement. The capabilities of the aircraft -- showing some of the capabilities require max performing the airplane. Does that make sense?

68Q. Let's step back for a minute. You were talking about configuration and de-configuring the airplane. When you made the initial 60-degree bank, 80 degrees off heading, that is when you would start cleaning up on speed, correct, to retract the flaps and retract the slats?

68A. Correct.

69Q. Did you ever know of the aerial demonstration pause initiating the 260-degree turn back to runway centerline, or the show center -- when they initiated that, were they always clean, or did they retract slats to turn? Can you describe that?

69Q. I think it was different every time you fly, at what point you reach the airspeed to retract flaps or slats. I do know, in that turn, you make the 60-degree bank to approximately 80 degrees heading, and then once you hit that heading, you rollout and we would timeout bound for a certain time, wings level. Usually, in there is when you would get the speed to retract anything. It varied. Like I said, we also varied the times that we flew outbound; it was different every time. I cannot say I remember, at what point, exactly, what was retracted; it was different every time. It was always when we reached that speed. If it was in the turn-back to runway, I would say, yes, it would probably happen at some point -- at that point in return.

70Q. What about on 19 July 2010?

70A. I honestly cannot remember. I was the co-pilot.

**Questions by the Pilot Member:**

71Q. You were sitting as the co-pilot; you would have been the person moving it?

71A. Correct.

**Questions by the Board President:**

72Q. You said you flew with **MP** during the air show tour and you did receive your initial training from him, correct?

72A. Correct.

73Q. Did **MP** have any particular strengths or weaknesses?

73A. I always knew **MP** as being a pretty sharp pilot. Usually, he will answer questions that a lot of the other pilots could not: technical stuff. I would say that is definitely one of his strengths was his knowledge of the aircraft, for sure. I cannot think of any weaknesses that I would have been able to see.

74Q. At any time before or after your training, did **MP** mentioned to you his philosophy or viewpoint regarding the aerial demonstrations?

74A. I think he made it clear to follow the 11-246. He never tried to put his personal touch, I would say, on anything -- if that is what you mean by philosophies.

75Q. Did he ever try to make it more crisp, or try to better improve the profile on how the aircraft performed, anything like that?

75A. When you say the word "crisp," he did always say -- he made it a point to do his rule-in and rule-out of his turns, his banks crisp, not do it slow, or do it half at once and continue. In that aspect, he tried to make it clean looking for the crowd, put on a good demonstration. That is all I can really say.

76Q. During your air show upgrade, did you review a PowerPoint slide show on an air show upgrade demonstration profile, those types of things; did you receive that?

76A. Yes, sir.

77Q. In that there was a segment where you could hyperlink into videos of air show performances, did you ever see those?

77A. I cannot remember.

78Q. You do not remember what you saw during your upgrade briefing?

78A. [Pause.]

79Q. I will remind you. For the record, I am showing the PowerPoint presentation of the 2010 air show upgrade [handed document to witness]. Do you recall seeing this?

79A. [Witness reviewed the documents.] I cannot say this is the exact presentation, but it is the same information presented. I cannot be sure if this is the exact one.

[The documents were retrieved from the witness. The board took a brief recess.]

[The board resumed with all members and the witness present.]

Board President:                   WITNESS 8 we are going to follow-up on some of the questions before we end this interview. I am going to turn it over to

**Questions by Pilot Member:**

80Q. We had talked previously regarding stall warnings and we got some testimony from you regarding how long you might have heard some of those stall warnings and how many times throughout the different profiles you might have received stall warnings, specifically. I did want to revisit that and ask you whether it was during the air shows, when you were safety observer, or during your upgrade to the co-pilot position, during the ground training, simulators, or during the flights, if you did receive the stall warnings, what was verbalized when the stall warnings went off from the crew?

80A. In general, it was usually the pilot or co-pilot that would acknowledge it -- say, crew, stall warnings, acknowledged. And effort by the pilot, would rule out that the banks -- I would say that is usually where the stall warnings came into play -- rolling out of bank, power is already at max, in those instances. We are rolling out of the bank -- getting rid of the stall warning, it would be a brief encounter -- the bank would be increased back to, maybe, going into slower -- redoing the process of getting rid of it -- I would say how it would occur.

81Q. Do you recall hearing the stall warning, maintaining the bank, and an acknowledge call being made, and still carrying on with the maneuver, while still hearing: stall, stall, stall?

81A. Yes, carrying on with maneuver would occur. But not without -- the same stall warning happening to that maneuver, that did not happen. Like I said, we would go out of a little bit of bank, which is usually right on the margin, there, on the stall, and then roll back in and maybe get it again, maybe not; I would say is how it occurred. The entire maneuver was never seized.

**Question by the Board President:**

82Q. It was just adjusted?

82A. It was adjusted to fix the stall warning.

**Questions by the Pilot Member:**

83Q. Do you remember any of the particular inputs -- and when I say inputs, I mean what the pilot flying was doing that might have caused the stall warning to come on, particularly?

83A. I would say that the high banking was the major cause. From what I remember, that was the only time I would ever hear the stall, was when we rolled onto that bank.

84Q. Do you ever remember it being tied to any specific movement? You mentioned bank. What about pitch or rudder? Do you remember that, particularly, having any effect on the stall warning?

84A. I cannot say pitch was ever -- it was always on a level turn. I do not remember hearing it in the climb. I guess, in that 80/260 turn, we are descending at the later part of it.

85Q. What about back-stick pressure, specifically?

85A. No. I cannot remember anything.

86Q. What does "acknowledge" mean to you as a crew member? Can you define that for me?

86A. Sure. Acknowledge means, one, you know that the warning is happening and you are going to do something to fix it. If you are not, you let the crew know what is going on, why it is not getting fix at that moment.

87Q. Were there ever times that you talked about it as a crew, versus doing an immediate correction?

87A. No. There was never -- it was always a correction in flight at that time. It was never anything like that.

88Q. So, once you interpreted acknowledged to mean "I have received and understood this warning and we are planning to do something to correct it," is that accurate? I will let you put it in your words.

88A. Yes.

89Q. If you want to put it in your words, that's fine.

89A. In my words "acknowledge that the warning is occurring and we are fixing it" is acknowledged.

**Questions by the Board President:**

90Q. In the 7 demonstrations that you flew in, in the pre-brief, did you ever brief the use of timeout and knock-it-off?

90A. Yes, every brief. It is in -- I cannot remember the name of the aircraft commander briefing.

91Q. But, specifically, for air shows? And, if so, did you ever see one, a timeout or knock-it-off occur?

91A. I have never seen one. Specifically, for the air shows, we talked about it the brief, but not for the procedures we were doing. The applications of those, I cannot say that we did. Just the general definition of timeout and knock-it-off and when you can use it. But I never saw one in the aircraft.

**Questions by Pilot Member:**

92Q. Did you ever pre-brief or brief during the aircraft particular areas where you might encounter stall warnings?

92A. I cannot say that we did.

93Q. You had mentioned earlier in your testimony that during your 80 degrees of heading change for the 80/260 maneuver, that you would plan a timing outbound after that 80 degrees of heading change. Can you put it in your words what that timing was for?

93A. Yes. The timing, I would say, was figured out during sim practices, mostly by **MP** and some input from the rest of the crew on ideas. But the timing, itself, was planned for the max bank angle, 60 degrees, to keep the aircraft closer to show center, as opposed to a lower bank angle, which would drive a further out, beyond the 80-degree rollout -- drive further out away from show center, using a lower bank angle. I would say the timing was derived from using a max bank angle.

94Q. Which, in this case, would be?

94A. 60 degrees. And that was always planned so that you would rollout on centerline and not overshoot. In the sim, it would have the printouts of our profile and it would have different timings and it would say: this one we did not overshoot and it was at this time. That was how it was narrowed down -- the timing that we would use.

95Q. You mentioned that it was to keep it closer to show center. Why would you want to keep it closer to show center?

95A. Me, personally, just for air show, displaying the aircraft and its capabilities, to me, that means you are not driving out 10 miles from the field, or whatever distance, but keeping it at a closer radius to the field.

96Q. Is the concept "keeping it closer" is better for presentation to the crowd; is that a fair statement?

96A. Yes.

**Questions by the Board President:**

97Q. Did you ever see another overshoot during the Pacific tour?

97A. Yes.

98Q. What happened then?

98A. You have to accept an overshoot and fix it. When you rollout, you just get back to centerline and stay away from the crowd, obviously.

**Questions by the Pilot Member:**

99Q. The other area I would like to touch upon, during and after the initial climb out and, again, for the Profile 3, and then as you maneuver to the 80/260. Can we talk more about the clean-up, in other words, when the flaps were put up and the slats were retracted? What speeds did you use; were they pre-briefed; and how was that announced to the crew?

99A. The speeds that were used were computed from the mission computer -- retract and flab tract speeds -- everyday, they were different. Those are the speeds you use to retract and clean the aircraft. We briefed on the ground before -- and got our TOLD--

100Q. Takeoff and landing data?

100A. Right. Once we got the numbers, this is flat retract, this is slat tract, cleanup on speed. That is when we would clean up.

101Q. So, the co-pilot would be the person that cleaned up, that moved the handle, correct?

101A. Right.

102Q. Would he just do that automatically with the safety observer watching, or?

102A. I have seen that happened without a -- I assume, you mean, no challenge from the pilot?

103Q. [Affirmative response.]

103A. Yes. I have seen that happened. Me, personally, I would verbalize it.

104Q. So, you verbalize it. Did you ever fly with **MP** Do you know what his preference was?

104A. I cannot say he had a preference. He never made it known that he had a preference, if he did.

105Q. You flew with him on the 19th, correct?

105A. Correct.

106Q. During that training, did you verbalize it, or did you just do it automatically?

106A. When I was in the [inaudible], I verbalized.

107Q. Can you remember -- can you try to recall for us where that cleanup occurred? Was it before the 260-degree turn? Did you ever do the 260-degree turn, partially configured, or were you usually clean?

107A. I would say usually clean. Cleanup on speed, if it happened at the beginning of the turn, we would do it at the beginning. We would not wait to configure before going in the turn, if that was the situation. I cannot specifically remember a time doing it. But I do know that that is how it would happen.

108Q. Is it fair to say, if that speed occurred after the 260 was initiated -- let's use minimum slide retraction speed -- if that speed were to occur after the right turn was initiated, is it your interpretation that the slides would be retracted at that point, whenever that speed occurred?

108A. Correct.

109Q. Is it fair to say that it was not really a consideration, as to whether or not you were in a turn, to be configured?

109A. Correct.

**Questions by the Legal Advisor:**

110Q. Building on \_\_\_\_\_ question, you said that the slant retractor/flap retract speed, when that occurs, that is when you execute those moments on speed?

110A. Correct.

111Q. And whenever they occurred is when they would retract?

111A. Correct.

112Q. Would the outbound time that you would do that initial 80 degree heading change, you go outbound for a certain amount of time, because you are planning for a 60-degree bank, 260 heading change, is that right?

112A. Right.

113Q. Would the time heading out adjust for the minimum slat retractor/flap retract speeds?

113A. No.

114Q. It would just, whenever it occurred, it occurred?

114A. Right.

115Q. And that is based on the mission computer in the aircraft?

115A. Correct.

116Q. And the mission computer takes up a number of variables?

116A. Correct.

117Q. In order to compute the slat retract and flap retract speed?

117A. Yes.

118Q. Earlier, you mentioned that **MP** taught and flew bank angles at 45 and 60 degrees during aerial demonstration profiles. Can you explain what that meant?

118A. Yes. It was basically just a way of reminding people to have that crisp display of bank rate and not -- this is kind of hard to describe. If someone is not paying attention to bank

rate and they are doing a 30-degree bank turn and not realizing it, they could be going up to 45, and now they are going to overshoot, it was kind of a way of him making people think about what their bank rate is and that they are using it to have the correct turn rate.

119Q. But why the two bankings?

119A. I cannot say why. At 45 degrees, a common bank angle that we use, 60 degrees is the max----

120Q. Are there different speeds at which these are occurring?

120A. At higher speeds, we would be using the 60-degree bank.

121Q. Why is that?

121A. You are in a safer configuration, I guess.

122Q. I think you used the term "safer regime"?

122A. Yes.

123Q. At higher bank angles, if the aircraft is going faster, it is safer to go to a higher bank angle, up to 60 degrees?

123A. Correct. And at slower speeds, a higher bank rate, a stall will occur.

124Q. A stall will occur?

124A. [Affirmative response.]

125Q. Executing a 45-degree bank, it can be done at slower speeds?

125A. It can be done at either slow or fast.

126Q. But a 60-degree bank, you would need more speed? You can go slower and do a 60-degree bank and avoid a stall?

126A. Right. It depends on what speed you are talking about. You could do a 60-degree bank and you are not in a stall.

127Q. But you can do it if you have enough speed, basically?

127A. Correct.

LEGAL ADVISOR: That is all I have, sir.

PRESIDENT: <sup>WITNESS 8</sup> is there anything else you would like to add that would aid us in this investigation?

WITNESS: [Negative response.]

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1626 local, Alaska time.

**V9. AIB INTERVIEW WITH**

**WITNESS 9**

**VERBATIM TESTIMONY OF**

**WITNESS 9**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Today is the 15th September 2010. This time is now 1642 local, Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,  
me, [Brigadier General Carlton D. Everhart II, Board President]

**WITNESS 9**  
Legal Advisor;  
Maintenance Officer;  
Maintenance Member;  
Court Reporter; and,

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 9**

2Q. How long have you served in the Air Force?

2A. 21 years.

3Q. What is your unit of assignment and location?

3A. 703d AMXS, 517 AMU, Elmendorf Air Force Base, Alaska.

4Q. How long have you been with his unit?

4A. Since April of last year, 2009.

5Q. Your job title?

5A. Production Superintendent.

6Q. How long have you been in this job?

6A. Since December 15th.

7Q. Please describe your duties and responsibilities on 20 July 2010.

7A. As far as duties, I oversee the flight line maintenance that goes on on the aircraft, and make sure everything is going expeditiously, but in a safe manner. I check on the people, make decisions on wherever we want to go depending on what our scheduled maintenance is, or any other maintenance that comes up like unscheduled maintenance. I make determinations on what has priorities according to the flying schedule and our other scheduling.

8Q. You said where you want to go. You mean how you want to conduct maintenance?

8A. Yes, in which order, basically, to give us the best outcome.

9Q. By order, you mean which order of aircraft?

9A. So, which order of aircraft and which order of jobs. Some jobs might be a little quicker to finish than compared to other ones, so you kind of prioritize and try and fit everything into your shift.

10Q. You said your position in the maintenance organization was pro super, correct?

10A. Yes, sir.

11Q. Can you describe to me what a pro-super is?

11A. That's the overall enlisted supervision on the flight line. Basically, we are responsible for everything that happens on the flight line.

12Q. For which aircraft did you perform these duties?

12A. All the C-17s that are out there.

13Q. How much experience do you have maintaining the C-17 aircraft?

13A. Besides a brief stint in TA, I have a little over a year.

14Q. TA stands for?

14A. Transient alert.

15Q. Can you describe your total training that you have gone through in order to be a pro super for the C-17?

15A. I'm still going through training. It's an everyday deal, but it's pretty much on-the-job training so far. I was scheduled to go to pro-super school at Fort Dix, but I believe that has been pushed off for a little while longer. It has been on-the-job training since day one in December, for the C-17s.

16Q. Were you at work on July 28, the day of the mishap?

16A. Yes, sir.

17Q. What shift hours did you work that day?

17A. I work midnights, basically from 10:30 to 6:30 in the morning.

18Q. Do remember what aircraft you signed off, or were involved with on that day?

18A. I do remember 173, yes.

19Q. If an exceptional release--let me rephrase it this way. Did you sign an exceptional release on that airplane?

19A. Yes, sir.

20Q. Can you briefly describe what an exceptional release is?

20A. An exceptional release is basically you are telling the air crew that everything is fine with that aircraft and you believe it is safe to fly.

21Q. What is a conditional release?

21A. A conditional release means there is a mission degrading problem with the aircraft or something we're working on. In that case, we have a dual role type of airdrop that we put a conditional release on just because they cannot perform part of their mission with that dual role system in the cargo area out. That is why it is a conditional release. It needs to be a highlighted area so that the air crew knows they can perform that part of their mission.

**Questions by the Maintenance Member:**

22Q. You are trying to say you can't do an airdrop for the overall mission?

22A. Right.

23Q. But as far as the profile, the mission that was scheduled for that day, was the aircraft able to perform that mission?

23A. Yes, sir.

**Questions by the Board President:**

24Q. An ER, exceptional release, or conditional release, would not necessarily involve any maintenance performed on the aircraft by you personally?

24A. No, sir.

25Q. You are just ensuring that the other maintenance professionals did their job right?

25A. Yes, sir.

26Q. In your current job, what are your current responsibilities with regards to tail number 173, the mishap aircraft?

26A. Basically, to make sure it was maintained. When we get the jet down, we check to make sure everything is good and the write ups are worked, or if they can be pushed off to a later date, or if we can make a determination if we can get them up and get it on time for the next mission, and make sure we have the fuel, quick inspection, and then send it out on its way.

27Q. For the record, you said, when we get the jet down. Does that mean from scheduling or what?

27A. When it lands from a scheduled flight or the previous night if it is flying.

28Q. What was your first interaction with the aircraft prior to the scheduled sorties on that day?

28A. Actually, we waited for it to land and then we did our--I believe we did a through flight, fueled it up and I can't remember the fuel off the top of my head, but we fueled it up. We had everything ready and everything looked good. We didn't have any write ups. If I'm not mistaken, they landed alpha 1 which was basically no maintenance write ups. It was ready for its next mission.

29Q. What is a through flight?

29A. A through flight is a quick inspection, not necessarily a quick inspection, but we check critical components. You don't go in depth like a post flight inspection where you check a lot more things, engine, different components like that, but you go through and you check the--if I'm not mistaking, because I don't have the cards in front of me, but the tires, gear, hydraulic servicing, and a few things like that to ensure that it's ready to go and nothing major happened when it was in flight that the air crew didn't notice. We take those things and then determine whether it can fly on its next mission or not.

30Q. How long had you been on the shift at this time?

30A. I would say about 5 1/2 months.

31Q. Now that particular day, you said you worked midnights so were talking midnight of the 27th through the 28th, correct?

31A. Yes, sir.

32Q. How long had you been on shift by the time the aircraft had come back then?

32A. Actually, I think it was landing as I was coming on, if I not mistaking.

33Q. What time did you start your shift?

33A. The shift actually started at 10:30, but normally we would show up around 10 and try to get an idea of what was going on. It also depends on if we are going to the gym that night before or not.

34Q. So, your preparation for tail number 173, what does that entail, again, to prepare it for flight? What specifically do you remember was accomplished?

34A. I remember we did a through flight. I know we've put gas on it and we performed intake and exhaust inspections, one for after flight and one before flight.

35Q. An intake and exhaust inspection, what does that accomplish?

35A. Basically come and makes sure there are no abnormalities inside the intake area, the blades are all straight and don't have any nicks on them, the sound suppression around them doesn't have any holes or damage, anything in the intake area that could be basically out of place, a little piece of metal that is up in the air or something like that that the wind could catch, take it into the blades, and cause damage to the engine. Behind the blades, they check in there for sound suppression as well and make sure there is nothing damaged on it. For exhaust, they check for cracks along the translating faring in the back, right above the tail cone. They check the tail cone, they check the blades, the turbine blades in the back of the engine. They check all that and make sure there is no damage to the aircraft or something that is not quite damaged yet, maybe it has a crack or something like that, that will prevent damage in the future.

36Q. Do you know who was the pro-super on-duty for the shift prior?

36A. I'm trying to remember. I believe it was WITNESS 2

37Q. What was your workload mission scheduled for this aircraft?

37A. Actually, it was fairly light. We didn't have a whole lot of things. We had to do the inspection and get all that straightened out, other than that, there was no heavy maintenance that had to be done.

38Q. So, there were no discrepancies to be worked?

38A. Not that I can remember.

39Q. In your own words, would you please describe a discrepancy?

39A. Basically, it's something the air crews found that is unsatisfactory with the airplane, a component that is not working properly, say, a radio or something of that nature.

Maybe they can receive or transmit from outside the aircraft. If we have anything, we will have one of our maintainers go out there and find out what the problem is.

40Q. What was the status of the aircraft when it departed for the very next flight?

40A. For the first flight of the day?

41Q. For the first flight, correct.

41A. It would be PMCM for dual role, pretty sure.

42Q. PMCM means?

42A. Partial mission capable for maintenance. That was to do with that dual role problem and us not having the capabilities.

43Q. So, if I understand this correct, it was a fully functional airplane with no problems, except for it was written as coded partial mission capable only for the dual role modification that was needed?

43A. Yes, sir.

44Q. Is that correct?

44A. Yes. There were no other limiting factors other than there was the one we had. That's the reason we had that conditional release.

45Q. How would you classify the mission capabilities at that time?

45A. I think other than the dual role airdrop, it was fully mission capable.

46Q. How about in between flights? What was the status of the aircraft?

46A. Once it landed, I believe it was PMCM as well, partial mission capable, as well. I don't remember a change in the status off the top of my head.

47Q. Are you familiar with the term red ball maintenance?

47A. Yes, sir.

48Q. Please give me a brief description of what red ball maintenance would be, or what it is.

48A. It is maintenance basically six hours prior to flight, any maintenance that happens on the aircraft. Most notably once the aircrew shows up to the airplane, you want to make sure that we have a little bit of a priority, letting them know it is pretty close to the schedule so we want to make sure everything is good. So, what happens is we supply priorities and things like that, and everybody pays little bit more attention because it is within our launch window of when we are trying to get the aircraft off the ground.

49Q. Were there any red ball issues for tail number 173 prior to its launch window that you know of?

49A. Not that I know of, sir.

50Q. Do you know the person who performed through flight on this aircraft?

50A. No, sir. Not off the top my head.

51Q. With a through flight, you said it was performed on your shift?

51A. Yes, sir.

52Q. Did you see the actual mishap?

52A. I did not.

President: Okay, <sup>WITNESS 9</sup> At this time we would like to take a break and collect our thoughts, and if I may, I'll ask you to step from the room and will bring you back in as soon as we determine if we have anything to clarify.

[The board recessed at 1655, 15 September 2010.]

[The board reconvened at 1703, 15 September 2010.]

Legal: We're back on the record. All those who are present in the interview are again present, to include <sup>WITNESS 9</sup>

**Questions by the Board President:**

53Q: <sup>WITNESS 9</sup> I want to briefly ask you two questions that we have. The first question is, you stated you worked on this airplane for a year, the C-17 airplane. I would like for you, if you would, to briefly state your maintenance experience throughout your career. What planes did you work with and the time that you worked those airplanes?

53A. The first 8 years, I worked C-130s at Little Rock. From there, I went to Korea and worked A-10s and F-16s. Then, I went from there to Mountain Home and worked KC-135s. Went to Fairchild and worked KC-135s there for little over a year, that I spent a little over 5 years in FTD teaching the electoral environmental systems for the KC 135. I worked as a scheduler there as well. I stayed in contact with aircraft during those 5 years. I went from there to here and started working C-17s.

54Q. FTD Stands for?

54A. Field Training Detachment.

55Q. The terms we talked about, red ball, exceptional release, conditional release and discrepancy, those terms are generically used throughout the maintenance career field, you are familiar with those terms and know what they are?

55A. Yes.

56Q. Are there any other matters that we haven't covered today that you believe are important to this investigation?

56A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1637 local, Alaska time.

[END OF PAGE]

**V10. AIB INTERVIEW WITH WITNESS 10**  
**VERBATIM TESTIMONY OF**  
**WITNESS 10**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is the 10th of September 2010. This time is now 1520 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness, **WITNESS 10**  
Pilot Member;  
Legal Advisor;  
Medical Member;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Would you please state your full name and rank?

1A. I'm **WITNESS 10**

2Q. How long have you served in the Air Force?

2A. 11 years.

3Q. Your unit of assignment and location?

3A. Currently, I'm assigned to the 3d Operations Group, Stan Eval, OGV office symbol.

4Q. How long have you been with Stan Eval?

4A. I was assigned to Stan Eval in November 2009. So, how long? It has been just less than a year now.

5Q. For the record, your job title?

5A. Chief, C-17 Standards and Evaluation.

6Q. There again, just one more time, how long have you been in this job as a chief?

6A. As the chief, the same amount of time, so, when I got here in November.

7Q. Could you please describe your duties and responsibilities for us that you had on that date of 28 July 2010?

7A. Well, it was a little bit of a mixed bag as we get in the Air Force here. I came over to Stan Eval in November and the big thing that was in front of our faces at that time was the ASEV which was coming up. The ASEV is the standards evaluation inspection, basically, for Stan Eval.

8Q. That is conducted by?

8A. That is conducted by the MAJCOM, so PACAF in this case.

9Q. Major Command?

9A. Yes. So, we wanted to get all our programs together and squared away for that and right after that I was also chosen to be the director for Arctic thunder 2010. As soon as the ASEV was over, I was the chief C-17 OGV pilot, but I was heavily weighted in my time and duties by directing the air show which encompassed everything from all the ground operations, putting the air show together, working with fire and police and just the whole system of the air show and pulling all the pieces together for that. So, the ASEV was May. Am I correct on that?

PILOT: I think I have heard that mentioned.

9A (continued). So, May, June, July, August, I guess is 3 months leading up, very heavily working on the air show.

10Q. Okay. Two questions for the record, if I may, OGV is?

10A. Basically, Standards and Evaluation office symbol.

11Q. Arctic Thunder is?

11A. Arctic Thunder is the biannual, every 2 years, the air show that happens at Elmendorf Air Force Base.

12Q. Prior to this, you made a non-privileged statement to the Safety Board. It is transcribed and is now part of what we call tab R. Did you have a chance to review it?

12A. I have.

13Q. That statement was not taken under oath. Would you like to adopt that statement as part of your testimony today?

13A. Yes.

14Q. If I may, I would like to go over just a few questions to clarify and to expand on what you stated in your statement which is now adopted and then we'll just pass it back and forth, questions per se, between Major [redacted] and myself. Can you describe your aircrew certification program and the documentation that you have to have for it?

14A. For the demonstration program?

15Q. Yes.

15A. The whole process, basically, well, let me back up just a little bit and talk about the program here at Elmendorf. It's a fairly recent program. We just stood up the C-17's in the summer of 2007 so we did not have a C-17 program at all. The people versed in the Stan Eval office created the demo program because there is a demand and so they went through a process by which to get 3rd Wing guidance and program management guidance together and they staffed that up to the PACAF level, Pacific Air Force, level. Once that had taken place, then came the task of qualifying crewmembers to crew those aircraft. The process there was basically to go through training programs. The training program basically involved doing simulators and flying the different profiles--the profiles we flew most frequently, the 10 minute profile or the 12 minutes profile.

16Q. That is profile one, or two, and three? Is that how it is described?

16A. There are four profiles. I don't remember which one correlates with each. I would be guessing without the reg in front of me. I know there is a 6 minute profile and one other. At any rate, so simulator, aircraft flight, flying the profiles, and then the documentation, a letter to be signed by the wing commander and I think, I don't know if it's the PACAF commander, I think it's less than that. I think it is the PACAF DO level, A through T Office. So

that letter is staffed up and there is also a face to face with the wing commander that says hey, you are on the demo program--the demo team now. You are demo qualified. These are my expectations as the wing commander for this.

17Q. That's once you have done all the certification?

17A. Yes, absolutely. Then, once all that has taken place, it is basically the certification is done on the paperwork is signed and you had the meeting with the Wing Commander and things like that.

**Questions by the Pilot Member:**

18Q. Is there a ground training?

18A. Yes, there is ground training as well. Usually, you do that prior to the sim. I didn't mention that.

19Q. All that is documented? You mentioned that documentation goes in the evaluation folder or is it documented in a different area?

19A. Yeah, I think reviewing it since the Safety Investigation Board which was 30 days ago, I think there is a statement, and I would be guessing at where it is, but there should be something in the FEF and upon my own review of that, I think that we did not have those in there.

**Questions by the Board President:**

20Q. TMS write-ups also?

20A. I believe so, yes.

21Q. Training management system?

21A. Yes.

22Q. Then, your FEF--FEF is?

22A. It's a flight evaluation folder. Basically, it's the place where we store all the crew qualification form eights, Air Force Form 8.

23Q. Certifying that a crew is qualified?

23A. Qualified, yeah. So, if you are basic qualified as a first pilot for a mission commander, that's where the documentation would be held.

24Q. You talked about the training profiles and how you were trained in your previous statement. Would you mind going back and telling us exactly who trained you and how you were trained to fly the profiles?

24A. Yes. Another thing, just picking up information as we have gone a long, when I was trained, basically I'm reading into your question a little bit. I'm reading into the specifics of their speeds and bank angles and things like that. Am I correct to say that, or not necessarily?

25Q. However you were trained. If you were trained to fly a specific bank angle or airspeed, sure. I'll let you describe that.

25A. I would--I don't--there are so many details in such a compact amount of time. I think the key things that come into my mind about it and things that I have also learned since the accident are that basically we are trained to the profile by the regulation. I think there is space, some gray area, maybe it is a little less gray now that you really go back and look at it, but initially it is a max power takeoff in the C-17, climb up to 1500 feet AGL usually. A majority of the demo profile is flown at 500 AGL, so basically----

26Q. AGL is?

26A. Above ground level. So, basically you are trying to display the max performance take off and short takeoff capability of the C-17. So, you have popped up to 1500 feet above ground level and you are at a pretty slow air speed. The VMCO which is min climb out air speed for the C-17, and then once you get to the 1500 feet AGL or a max bank angle or air speed, kind of whatever comes first type of thing, the piloting side of the thing, then you go into a 45 degree left-hand bank turn or right depending on the air show, and start pushing over to get down to that 500 foot AGL. This whole time, you should be in a max power to gain airspeed back and get the energy state that you want as the pilot. Then, there is a fly off. Once you get to 80 degrees off heading, then there is a fly off. For every turn in the demo profile, there is a fly off.

27Q. What does that mean? What is a fly off?

27A. What I mean is for the 80, 260 when you are speeding from--going from a slow airspeed to a higher speed, you're going to calculate based on your density altitude and things like other factors like that, how long do we need to fly off straight and level on 80 degree off heading to be able to do a 260 degree turn to be lined up on the runway and not over fly the crowd line? We get into a lot of deep stuff pretty quickly here, but the crowd line is usually a line that is 500 feet off the fence line for air show spectators. So, as a performer in an air show, it is one of the big things that people are thinking about, not to over fly the crowd line because then the FAA or the people that are monitoring safety of flight issues for performers may say, hey, this guy is not going to perform this demo because he is over flying the crowd and making it unsafe for the spectators. So, there is that in the back of the minds of the pilot performing the demonstration. So, the fly off timing is all set to get you far enough to be able to complete the maneuver and not over fly the crowd line, but also get lined up on your show line which is 500 feet off the crowd line.

28Q. Let me just make sure that I understand what I believe I've heard, and correct me if I'm wrong. So, you would do a static max power takeoff. The throttles are all the way in the max power with brakes held. Once the engine stabilized, I'm going to release the brakes and I'm going to start my initial role. As soon as I am at takeoff speed, I am going to rotate and I'm going to try to obtain VMCO, or the minimum climb out speed, to about 1000 feet above the ground level and then start to roll--start my push down to 1500 feet AGL.

28A. Yup. The only thing I would correct you on there is in the reg it says 1500 feet AGL is what you will climb to and to break that climb, basically you go into a 45 left degree bank turn and push. Going into that left degree--45 degree left bank turn helps that nose come down because you have taken some of the lift away.

29Q. Okay. As soon as I make that turn, then that fly out is where I'm actually going to fly out and away once I establish wings level and after I have gone 80 degrees of course change?

29A. Yes.

30Q. I'm going to time, fly out, straight and level?

30A. Absolutely.

31Q. Then I'm going to make my--once I hit my timing, then I'm going to start my 260 degree turn back to show center line to not go over the crowd. Is that correct?

31A. Yes. So, the other thing, and this gets back to the training, the training that I went through, the way I was taught was that I did a 45 degree left turn, the fly off, then a 60 degree right turn. The intent, I think there, is two things.

#### **Questions by the Pilot Member:**

32Q. Do you mean 60 degrees of bank?

32A. Yeah, 60 degrees of bank, right turn.

#### **Questions by the Board President:**

33Q. That is how you were taught to fly?

33A. Yes. So, there are a couple of thoughts that I have about that. One is, by the time you have descended down to 500 feet AGL and you are max power and you have done the fly off, you should have sufficient airspeed to go to 60 degrees of banked turn. The second thing that I am thinking about is when you look in the current regulation now, what it says in there is that you will complete a 45 degree bank, 80, 260. That's, if I'm correct, I think it's the only place in the regulation that says--that determines or says this is the bank angle that you will fly. As you go through the demo profile, any of the high-speed passes, you can go up to 60 degrees banked turn, and the other thing that is of note is that the max bank angle for the C-17 is 60 degrees of bank angle. So, those are a couple of things that I think the culture of the demo program and the way it has been taught--the third thing about that 60 degrees of bank turn, one additional point there is I think that the culture has been such that you are in the airplane flying it, you want to put a good show on for the crowd and to put a show on for the crowd means you

are close to the crowd and things like that. A 60 degree bank turn will keep you closer to the crowd than a 45 degree bank turn. I think there is some of that culturally in the education of the demo program.

**Questions by the Pilot Member:**

34Q. When you were taught, were you taught that was the--the 60 degrees of bank is better?

34A. That's a great question. If you just get to what I was taught, it was you go 45 degrees left bank turn. You get to your 80, you fly off, and then 60 degrees right bank turn.

**Questions by the Board President:**

35Q. Who was your instructor?

35A. My instructor when I went through the program, both in the sim and in the aircraft--when I did the aircraft profile it was **MP**

36Q. Just for the record, when I said reg, I was meaning regulation?

36A. Yes.

37Q. That reg was 11-246 that describes the profiles?

37A. Volume 6, yes.

**Questions by the Pilot Member:**

38Q. You mentioned the fly off distances that were used, and were calculated.

38A. Yes.

39Q. Did these come from graphs or charts or were they mathematically derived?

39A. Yeah, no. I think part of it is just a little bit of experience, like hey, in this turn you need three seconds. Going from a slow speed to a high speed, you need a 3 seconds fly off. Going from a high speed to a slow speed, you need five second fly offs. Some of that is just something that the guys--the folks who have been flying the demo profile kind of know. To my knowledge, there isn't a graph, an official table out there that says hey, at this pressure and altitude this should be your fly off. It would be a great document to have, but to my knowledge there isn't one available. So, you start with kind of a baseline and before you go actually fly a demo profile in an air show, you get a practice in that area which allows you to work on some of those things. So, you start with a baseline. Let's go three seconds on this turn, five seconds on this turn, four seconds on this turn and maybe the density altitude is off and it is taking a lot more space over the ground to do your turns at the speeds, density and altitude. So you go, oh man, we over flew the crowd line this day of practice so we need to adjust our fly off times and we need to go 6 seconds and 5 seconds.

40Q. Density altitude is the altitude corrected for temperature?

40A. Right.

41Q. Is that an accurate statement?

41A. Yes.

**Questions by the Board President:**

42Q. I believe in your previous statement you talked about the use of rudder. What does the rudder do for you? How does that work?

42A. Big picture, rudder is the control surface that controls yaw of the aircraft. Yaw is the pivot around the vertical axis, basically. If you stuck a pole through the center of the aircraft, top to bottom, it would make it swivel around that pole.

43Q. Like a fish tail?

43A. Like a fish tail, yes. Or like a weathervane. Perfect analogy. So, use of rudder in the C-17, culturally has not been taught to be used very well. A lot of times in the C-17 we are taught to have feet on the floor type of stuff because the C-17 has systems that basically introduce automatic rudder for you when you go into turns or things like that. When you turn an aircraft, you introduce usually aileron, and the aileron is the thing that changes the wing makeup and makes one wing have more lift than the other wing and basically lifts that wing and can turn the aircraft. You introduce yaw into that system and now what you are doing is you're going into a coordinated turn. The C-17 has a system that automatically puts rudder in for you and should automatically coordinate for you. The thing that helps out in the demo because what we tried to do in the demo is to make sharp turns, to be crisp, I guess. If we are straight and level and we want to go into a 45 degree bank turn, we want to go right to 45, stop it, and we don't want to be wavering around. You want to look crisp and sharp and we went right to the bank angle we want and stopped. Some of the thought process behind that is to introduce rudder and get it to be sharp and coordinated, hold it, and back off on the rudder once the system catches up. I want to-- I just had some thoughts, and this is kind of a little bit different than the statement that I made here. The statement I made here, as I reviewed it, was that I brought some of the use of rudder from the T-6, and that's kind of a true statement in the sense that an airplane is designed to be stick and rudder and fly the airplane and it takes all that. I will talk about the T-6 for just a second. The T-6 has a system on it, I don't remember the name of it, but it was-- do you remember the name of the rudder system?

PILOT: I do not.

**Questions by the Pilot Member:**

44Q. The T-6 is your previous aircraft which is a two seat training aircraft?

44A. Yes. I can't remember the specific name of it, but it was a rudder system that helped with p-factor, and p-factor is when there is a prop going, it adds left yaw to the aircraft. So, the pilot would have to introduce right rudder to correct that. The T-6 had a rudder system that was supposedly supposed to help put right rudder in automatically as the air speed increased. As Major [redacted] and myself could attest, that system did not work very well so it always took the

pilot to introduce yaw--right rudder. Similarly, the C-17 system works very well. If you are out there flying around and you go 30 degrees of bank which is what the C-17 is doing 90% of the time, the yaw and the rudder inputs for coordinated turns work very well. When you are out there and you are trying to do to do rapid rolls and things like that, it is helpful to add a little bit of rudder and fly coordinated turns that way. So, the other thoughts I have about rudder use in the C-17 is that a lot of times, I just know this from flying it, I don't know how systematically copilots are doing it up there, but I think in general people will use rudder around final turns for landing, lining up on the runway. Similarly, in the demo program, I know people will use rudder to help the airplane around a little bit. I specifically would also use rudder just because I felt comfortable, stick and rudder type of stuff, adding rudder, feeling the aircraft, having my feet and hands on all controls surfaces basically in dealing with the aircraft could give me or not give me. So, I think those are basically some of the things that I have thought about since the safety investigation interview and hopefully it's a good addition to this interview as well.

**Questions by the Board President:**

45Q. Now, in your previous statement you said that there could be possibly the addition of a significant amount of rudder. In your mind, what does "significant amount of rudder" mean?

45A. In my mind--do you remember in what context I said that? I can flip and look at it, if you don't mind.

PRESIDENT: Yeah. If you don't mind. We will take a break right here and that will give you a chance to.

[The board recessed at 1548, 10 September 2010.]

[The board reconvened at 1550, 10 September 2010.]

**Questions by the Board President:**

46Q. <sup>WITNESS 10</sup> earlier we were talking about the use of rudder. In your previous statement, **LT COL W** asked you, specifically, and I quote, "Okay, when you use the rudder for a 60 degree bank turn, how much rudder are you putting in, and are you putting in just a little or maybe to bring the tail around some, or have you gotten to a point where you have gone all the way with the full right rudder?" My question to you was, what does that mean, "a significant," and you answered and said, I don't think I've ever gone to full right rudder. I have gone to a significant amount of rudder to continue flying in a coordinated turn. What does a significant amount of rudder mean?

46A. I think to get quite detailed on how to use the rudder in the situation is--when I said a significant amount of rudder, what I meant was when I'm wings level and I'm going to go into a 60 degree bank turn in either direction, I would probably start with, as I introduce aileron, at the same time I would introduce about proportionally right rudder, probably up to half of right rudder deflection. As I set the wings to their 60 degree bank level, meaning as the wings

approach 60 degrees of bank, I would at the same time neutralize the ailerons. So, I would be putting right aileron in to go right 60 and I would be--once I got to 60, I would take the ailerons out to have clean wing and just hold it at that bank angle. At the same time I take the aileron out, I would release on the rudder as well. So, it would be input in together, input out together. So that's what I mean by coordinated. It is right foot, right hand and then release right foot, right hand at the same time.

47Q. When you say right hand, that's how you are describing it to me right now?

47A. Yes, or when you are actually flying it. It's what you are doing with your feet and hands. I don't think I would ever be in a situation where once my bank angle was set that I would have a significant amount of rudder in. I might be putting a little bit of pressure on the rudder, but I would not have a full rudder in no case. It would probably be an eighth of rudder input just to keep pressure on the side towards the turn and feel what the aircraft is doing. That is kind of how I think about it.

48Q. Now, if I may, you were talking about the systems that keep the C-17 flying coordinated. Will a C-17 fly coordinated at 45 degrees of bank and will it fly in a coordinated turn at 60 degrees of bank without putting rudder in?

48A. That's a great question. I can't say that I know the system design off the top of my head on that. It would be a guess to say that I think the system would continue to try to coordinate the turn. If the aircraft were in a bank angle, it will probably try to maintain rudder so that the plane is coordinated, but that would be a guess.

49Q. Okay. One follow-up question that we discussed earlier about the crowd and the extended runway center line. So, you don't want to cross that crowd line. Can you give me the boundaries--does that centerline extend to infinity or does it go to airfield boundary or does it go to the end of the runway? Where is that?

49A. Basically, every show is different. The boundaries--the key things are the distances of the crowd line. Where is the fence line? Where is for the crowd line? There is Cat 1, Cat 2, and Cat 3 lines off of crowd line. Cat 3 are slow moving aircraft and that is 500 feet away from crowd line.

50Q. Cat means category?

50A. Yes, category. Category 2 distance is 1000 feet. Category 1 distance is 1500 feet and that can be waived down to 1200 feet, but that is for your high performance aircraft, high speed, fast movers. Basically your major teams like Thunderbirds, Blue Angels, teams like that are going to be stuck out at the 1500 feet. So, for a C-17 demonstration, and not acrobatic by the way as well, you are going to have to stick out to that 500 feet away from the crowd line. The width, left to right basically, show left, show right, is up to the show. A lot of times they use things that are visibly identifiable on the ground, maybe the end of the runway, but it could be a building or a leg or something like that depending on what teams you have. They may extend that out. An example of that is you extended out a mile and three quarters for the Blue Angels if they are in town. They can do an inverted pass on one of their opposing solo passes. You give them that much space and time to get lined up on center line or on their show line, they can roll

inverted and complete the pass over crowd center and then roll out. There is a lot that goes into the design of show line and an aerobatic box area, but those are some of the things that are factors there.

51Q. Just to surmise, crowd line is basically a line where if I was to put an imaginary fence down, that is how close the crowd can stand to that fence and not cross over and still be in a safe zone. From the show center to 500 feet, crowds can be 501 feet more and they are over there in the safe area so you can actually perform in this area where it is safe?

51A. Yes. You've got it.

**Questions by the Pilot Member:**

52Q. <sup>WITNESS 10</sup> you mentioned in your previous statement, you did talk a little bit about different areas where you may encounter stall warnings from the aircraft, and by stall warning, I mean when the aircraft alerts you that you are approaching stall airspeed. Can you talk me through the ways that the aircraft alerts you to a potential stall condition?

52A. Yes.

53Q. Sorry, before you start, we should define stall.

53A. I can define it. A stall is basically any time a lift providing surface such as a wing basically stops producing lift. The airflow over the wing is incomplete and it is not providing the lift that is required to maintain flight. You can have one wing stall and not the other, or you could have both wings stall. One wing stall would cause a dip in one wing and a lift in the other, but those are some of the things that are a factor with a stall with basically any aircraft flying in general. For the C-17, it has got what I think is a remarkable system for preventing stalls, basically. We have PFD which is basically our attitude indicator which is an electronic image of horizon and ground within aircraft image in it.

54Q. PFD stands for primary flight display?

54A. Primary flight display. On each side of that we have both--on the right side of it we have altitude indication and on the left side of it we have airspeed indication. There are a lot of neat things about that. There is an electronic display that happens on the airspeed side of the house that indicates where either our stall speed is or where our over speed is. When flying, we basically refer to it as the stall bar or over speed bars.

55Q. Can you elaborate a little bit on the speeds?

55A. Yeah. Basically, the specific speeds? Is that what you are getting at?

56Q. What do you mean by stall speed and over speed?

56A. Yeah, depending on the configuration of the aircraft, you are going to have different stall speeds and different over speeds, or max speeds, I should say. If you're a clean aircraft, you are going to have a max speed of .68 mach and that's 350 where it comes up. You don't fly in that region very often, but I think its right up there at 350.

57Q. That would be 350?

57A. 350 knots, nautical miles per hour. If you start to configure, you start to put slats out or flaps out to different levels----

58Q. And that's what you mean by configuration?

58A. Yes. If you start to change the configuration of the aircraft, your max air speeds change, so to put this----

59Q. And the maximum?

59A. Maximum. So to put the slats out, you need to be at 280 knots. To put the flaps out or the gear out, you need to be at 250 knots. By gear, I mean landing gear. To continue to put the flaps out, there is also a couple other speeds in there that keep getting lower. The stall speed will also change with weight and configuration. So, typically, I want to say the stall bars will come down around 120 knots or something like that.

60Q. Depending on----

60A. Depending on weight and configuration. If you are configured for landing, a lot of times they will be right around 120 or maybe a little less than that.

61Q. Explain what you are seeing when you say the stall bar comes down. You were describing the stall warning systems in the aircraft, so explain what you see when you say a stall bar.

61A. For instance, if I'm just flying around with my gear down at my flaps at three quarters which would be normal landing configuration, and the slats extended, and I was flying straight and level, and I started pulling back on the nose of the aircraft, what I would see in the upper left-hand corner of my primary flight display would be a bar that's hashed that would kind of grow as I slowed down.

#### **Questions by the Board President:**

62Q. So, basically it starts extending?

62A. Yeah, it would start to extend down. It would be not visible if I was in a good flying envelope, and as I started getting out of a good flying envelope and started getting slower, it would start to extend down to meet whatever airspeed I'm at. If I was at 125 knots and I started pulling the nose up which would make the aircraft slow down if I didn't have power, the stall bar would start to extend to come down and meet my airspeed. I would get to 120 and it would start creeping down; 115, it would start creeping down some more. As that's when if my airspeed met, I would start getting some of the stall prevention system acknowledgments the airplane has.

**Questions by the Pilot Member:**

63Q. Can you describe those?

63A. Yeah. I think the first one you get is the stick shaker. The stick shaker is saying hey, you are reaching a percentage above actual stall and it's just--the intent behind stick shaker is a false stall warning. If you go back to primary aircraft flying that doesn't have any prevention--stall prevention systems in it, what you're taught is--what any pilot is taught is to learn the characteristics of the aircraft they are flying in. One of the leading characteristics of a stall is aircraft buffet. If you're flying a Cessna, or any airplane, really, they all have stall characteristics, and you would want to know the stall characteristics of your aircraft and as--one of the stall characteristics is aircraft buffet. A lot of systems that are designed to prevent stalls have done what is called a stick shaker and they introduce a stick shaker at a certain percentage above actual stall so it feels like aircraft buffet to the pilot.

64Q. In the C-17, can you explain what happens when you get the stick shaker?

64A. When you get the stick shaker, it's basically an indication to the pilot to release pressures on the stick, to stop demanding of the aircraft and let the aircraft fly on its own. The aircraft wants to fly. What happens is if the pilot is demanding a lot of the aircraft, meaning pulling back on the stick, demanding more than the aircraft could give, then it's going to go towards a stall region and those indications, like stick shaker, are built in to communicate to the pilot, hey, you're getting close to this. You don't want to be in this area. Do something to change it. The indication, or the intent, would be that the pilot would stop demanding from the aircraft and release controls. If the pilot just lets go of the controls of the aircraft, the aircraft would automatically seek flying airspeed. It would automatically pitch down. Depending on bank angle, it may even roll out a little bit.

65Q. The things you're mentioning, you are not mentioning C-17s specifically, right?

65A. No, just generally. Even C-17s specifically, if you let go at that point when you got stick shaker, the stick shaker would almost immediately go away.

66Q. Is that due to general aerodynamic principles?

66A. Yes.

67Q. And not something specifically the C-17 does versus any other aircraft?

67A. Right. That's the first indication, and we get into further indications. If the pilot flying at the time continues to demand from the aircraft, then he would get an oral warnings as well. The aircraft system would announce--I don't know everything specifically. I would have to get into the books to get all the details, but I think that next morning is an oral stall, stall warning.

68Q. By oral, you mean?

68A. It's announced over a loudspeaker and in the headset. So, if you're off headset or in headset, you should hear it. So, that is a second warning that everybody in the crew should get. I don't know, maybe skipping one, there may be another step in there, but the other system

that the C-17 has is alpha mode. That is if we have gone into--basically, the way I understand it is the C-17 is basically designed to not let you ever get to an actual stall. So, if you're wings level, if you are pulling back and you go through the stick shaker and you go through stall, stall oral indications, now you are closer to the stall but you haven't actually stalled the aircraft. Now, the aircraft is going to say, hey, I can't give you what you are asking me to do so I'm going to go into alpha mode, and alpha mode is a pitch mode for the aircraft, and it is going to say, I'm going to seek a lower pitch attitude to allow this airplane to fly and I've got more information than you've got, apparently. The system takes over and it's not going to allow you to pull back and demand of the aircraft.

69Q. Does the system actually move any of the control surfaces?

69A. No. Well, it potentially--it potentially moves the control surfaces. It doesn't move the stick. You could have the stick in your lap, maybe the pilot is thinking I am going to demand a lot of this aircraft, but the system will say, I know better. I'm going to relieve some of the elevator pressure and not demand this much nose high or pull, and by pull, I mean elevator pressure.

70Q. So, the aircraft would not take and actually move the control stick, but it will take control.

70A. Yeah. You can hold it back and it wouldn't really feel like anything. The only thing it would feel like to the pilot is the aircraft is sinking because that is what it would be doing, it would basically be lowering the nose and trying to seek flying airspeed again. That is what the system is trying to do.

#### **Questions by the Board President:**

71Q. So, if the airplane is sinking like that, if that is what the pilot feels, how does he get it to stop sinking?

71A. He would have to use normal recovery procedures which thinking back to just basic pilot training, how do you recover a stall aircraft? You lower the nose which is what your aircraft is trying to do for you. You max power and you roll wings level. On the reverse side you lower the nose, roll wings level, and then power in that order to recover. Those are the key things that are going to help you recover from a stall situation in any airplane. In the C-17 specifically, hopefully the early indications make you decrease or demand less of the airplane.

72Q. So the early indication would be the stall warning?

72A. Stick shaker. Yeah, this is the stall warning system. The stick shaker would be the first of those.

73Q. If I may, I just want to clarify a couple of definitions for the record. Aircraft buffet?

73A. Buffet would basically mean vibration or shake of the aircraft due to loss of smooth airflow over the wings.

74Q. So it's turbulent air over the wings?

74A. Yeah, turbulent air over the wings and most of the time you get buffet because that turbulent air over the wings--it doesn't buffet because of that, it buffets because the turbulent air over the wings hits the empennage of the aircraft which is the back end, the rudder and elevator section of the aircraft.

75Q. Okay. You said, and this is very basic, I understand that, but you said flaps and the slats. Where are the slots located and where are the flaps located in proportion as you look at a wing forward and aft? Where are they located and what do they do?

75A. The slats are basically movable surfaces on the leading edge of the wing. They act as the leading edge of the wing and they also extend forward and down once extended. The flaps are on the trailing edge of the wing and basically are the trailing edge of the wing and also extend out and down. The whole point of slats and flaps are to change the characteristics of the wings to allow for different airspeed flight, lift characteristics, things like that. So they change things like camber, wing area, all things that are basically in the equation of lift.

76Q. Subsequent to that, they also--if you had them extended then that would actually lower your stall speed, somewhat?

76A. Yes.

77Q. So, you can fly at a slower speed without them being--a slower speed with them extended out, so slats extended and flaps extended, because you changed the camber or curvature of the wing? Is that correct?

77A. Yes. That's the whole point. Anybody who has flown on an airliner would know that flaps get extended as you come in to land, and what that allows these airplanes to do is land at a slower airspeed which is the point.

78Q. Then, the last clarification for the record I would like is you said, mode. People who are unfamiliar with the C-17 may not know what that means. You said alpha mode. Is it a flight code? Is it a parameter that the computer would--this is a fly by wire aircraft, correct?

78A. Yes. So yes, exactly.

79Q. What I mean by the fly by wire is it flies by electronic input?

79A. Yes. So there are many modes in the C-17, but alpha is one of them. Air drop approach----

#### **Questions by the Pilot Member:**

80Q. Do you know if alpha has another term used to describe it?

80A. I'm sure it does. I don't know it off the top of my head. If you do, I would be happy for your input and I would say yeah, that's right.

**Questions by the Board President:**

81Q. Going back to the air show and the profiles and things like that, did MP ever discuss his philosophy about how to fly air shows?

81A. As I said, he did not with me. But this is one of the things I didn't clarify, so I went through the demo program with MP on August 24th. That was the flight day, August 24 of 2009. That was the first and only time that I have actually flown the demo in the aircraft. Unfortunately, while I was qualified, it had been a year or more now. It has been 13 months since I've flown the demo program. What I remember about going through that is one, just MP enthusiasm about it. He liked it, he enjoyed that he got to do it. He liked teaching it. He liked teaching everything about the C-17. He really enjoyed that and that really came across, not because he said it. I think I took his training, what he learned in flying the demo since he has done some, and some of the little things that he had learned actually flying our show demos and learned to do the demo, but I wouldn't say that he gave me a lot of philosophy on flying the demo. It was pretty much a matter of fact and when you think about it, it was 2 days, 2 1/2 days of ground training with MP in a sim and another flight with MP so we did not talk a lot of philosophy about it or his general attitude towards it, but--I think that's all I've got there.

**Questions by the Pilot Member:**

82Q. Now, just to wrap up from my perspective, to take a step back just for a second. I know we got very thorough with stalls and the alert system. What would be your reaction to the stall warning system?

82A. I think I touched on that in the earlier statement, but basically I'm a pretty big picture person. This touches on a little bit of the attitude that goes along with performing at an air show. You really need to have your ego in check, maybe, and I say that from a personal note, not that somebody else has an ego, but if you think about it, you're going to be out in front of the crowd. You want to put a good performance on and when you are right in front of the controls and they are staring right in your face, you think that this degree of bank or a sharp turn or this is going to make a difference. The fact, since I got to stand on the ground for the last air show, is that you don't really see that stuff. The crowd doesn't see that stuff. They just see an airplane flying. To your question, and to this situation, I think a couple of things. One, flying the demo program, you get comfortable getting the stick shaker. Just flying the C-17, you get comfortable flying and hearing the stick shaker when you are coming around the final turn and you are trying to do a full flap approach and you are trying to get down because the stall warning will come on a little more easily. You are in that slow airspeed regime and you will get some stick shaker and you do things to correct it. That is what everybody is taught. You do whatever is necessary to correct it. So, you push the nose over. To answer your question specifically about me, that's the way I fly it in every phase of flight. If I got a stick shaker, a stall warning, I would decrease bank. I would add power. I would do the little things that make the stick shaker go away because the stick shaker is trying to tell me something. Back to the other place where you get comfortable with the stick shaker, or in the way we were learning to fly the demonstration profile, it is going into the 260 degree turn back to the runway and going to 60 degrees of bank turn as you are speeding up. A lot of times, if you are demanding a lot of the aircraft and trying

to get back to the show and, you might say oh, it looks like we are going to overshoot and so the tendency would be because you don't want to over fly crowd line, to add a little more bank, and a little more pull, add a little more rudder to make that happen which may make the stall warning bar--the airspeed decreased to the point where you are getting stick shaker. I don't remember specifically if I got stick shaker when I flew the demo. I may have. I do know that I listened to the airplane. If I listened to the airplane, if the stick shaker is there, it's not feeling right in the airplane then I take less than what I want. I would rather over fly the crowd than demand so much from the aircraft that it is not going to give me what we need to keep flying. So, back to checking your ego, I think that is one of the things I thought. You just need to fly a safe airplane. The crowd is going to love it no matter what. You don't get sucked into that idea that everything has to be just perfect, real tight. Whatever you come up with is, this is a cool type of thing. I wouldn't say that was present with this group of demonstration pilots that we have here at Elmendorf, or this group that was in the accident, but I would say it is a systematic thing across the board for anybody who is out there flying a demonstration. It is something to consider. That's why we have the well defined profiles and we have to stick to those. So, it would be the individual input that doesn't take over, I guess.

**Questions by the Medical Member:**

83Q. Sir, just to follow up again, you were talking about show center and the different categories. You mentioned that there is a category 3 for the slow flyers and category 2 and category 1. Where would you put the C-17?

83A. The C-17 is category 3 for air show purposes because it is not aerobatic.

84Q. I think the number that you stated was maybe 1 3/4 miles off the runway for someone like the Blue Angels or whatever you said. It's very dependent upon the locale where the air show is being held. Do you know in fact what the distance of extended show line center is here at Elmendorf?

84A. We should. Off the top of my head, what we did for Arctic thunder 2010, Elmendorf's air show, was the west boundary was the approach end of runway 6, so right out the window. The east boundary--we had 2 boundaries. Category 1 line extended one and three-quarter miles off show center which is right in the middle of the crowd area. So, it went one and three-quarter miles to the east. That was for the Blue Angels since we had the Blue Angels here this year, and we had a secondary boundary for category 2 and category 3 aircraft. It was basically 500 feet off a road on the east side of the runway. It wasn't really aligned with the end of a runway, but it was inside of that a little bit so that we could have traffic flow and get people to come in and park on the airfield and not go underneath the aerobatic box. So, basically it was--I would say half a mile to three quarters of a mile from show center.

85Q. Following up with that, with that in mind, if during an air show practice or during an air show demonstration itself, if the crew were to misjudge or if there was a change in winds or whatever, if they were to cross that extended show line center beyond that mark, they would have a margin of error to come back and reestablish on that show line center prior to reaching that boundary. Is that correct?

85A. Yes. That's the other thing to point out. There is always misinterpretation with just about everything that we do as humans, I think. The other piece that goes into building a demonstration aerobatic box area for air shows is that there are corner markers which I didn't mention previously. Corner markers are basically markers that are 500 feet show left and show right, in line with the edges of the crowd fence line. So if you imagine a crowd fence line, at some point there is going to be a corner there. They can't extend forever, so there is going to be a crowd area and 500 feet off the right edge corner in line with the crowd line will be a corner marker and then 500 feet off the other end. The point of those markers is for things like what they called a banana pass or photo pass that a lot of demonstration aircraft do. They stay outside of those. You might have an aircraft that actually flies over the crowd line, but outside the corner marker. I would say that in the C-17 demo community, since the profile is set and we get lined up right back on the show line, we don't systematically want to cross that line. Would we be okay crossing that line? Yeah, probably. We would cross that line most likely past the corner markers. As long as we are back on track before we got to the corner markers, we are good to go. You see the Blue Angels or other teams behind the crowd all the time. They come out and they do a pass with their bank angle towards the crowd and they arch around the crowd and it gives that photo pass quality that the crowd likes, but that is a time where they are on the other side of the crowd line.

**Questions by the Board President:**

86Q. Just to clear this up a little bit, if I may, your main runway out there is how long?

86A. 10,000 feet. It's a little less than 2 miles.

87Q. A little less than 2 miles. Where the airplanes--for your demonstration, your typical take off is abeam taxiway bravo, correct?

87A. Yeah, I would say probably near bravo would be a good place to start there.

88Q. Then from bravo to the end of the runway, it gives you?

88A. 8000 feet approximately.

89Q. So, if I'm doing the math right, basically a mile is 6000 feet. Then another third is 8000 feet. So, if I do a take off and I climb out and then I do my initial 80 degree turn and then 260, I'm outside that center line anyway if it's a mile and a third. Does that logically sound right?

89A. Yeah, I mean in the way---

90Q. That's assuming show center is about at bravo taxiway.

90A. Show center is offset from bravo, so bravo would be left of show center in Elmendorf's specific layout.

91Q. So, in Elmendorf's specific layout, from show center to the departure end of the runway, how far is that, roughly?

91A. I want to say show center was about 6 to 7000 feet from departure end of runway 6, a little over halfway down the runway. So, the crowd--the majority of the crowd, a mass of the crowd was just east of center of the runway for the layout. Now, a C-17 taking off for the demo would take off just west of center of the crowd area. By the time it took off and started its bank angle, it would be outside of the 500 foot corner marker. If you overshoot in the specific situation, you would be outside the corner marker.

92Q. So there is room to maneuver?

92A. There would be room to maneuver.

93Q. Without crossing show center line?

93A. Yeah, well, yeah. Exactly. Without crossing the crowd boundary.

94Q. So, by the time the aircraft is speeding up and it starts its 260 degree turn back in at 45 or whatever bank, it has got enough turn radius out there to carry it far enough out that even if there was a slight mistake and it looked like they were going to cross show center line, they should, under normal conditions, make and correct and come across as a prescribed by 11-246 vol 6, chapter 3?

94A. Yes. That would not break the contract with the crowd and the show line. As I think about what you just described there in overshooting the intended flight path, as an air show director and putting together an air show, I say fine. It is totally fine for them to overshoot, get back on centerline and continue with their profile. It is definitely the preferred method if there is a problem with the time or you didn't work out or something like that. When I step in and put my demonstration pilot hat on, and I think about overshooting, I think about okay, overshooting isn't a problem but my intended flight path was to roll out on an 80, 260 and roll out right on the runway and do a straight, high-speed pass. Now I've introduced things that weren't initially a part of it which is overshoot which means I need to continue my bank around to correct to my line show prior to getting to the crowd area. Then I need to make a left-hand bank turned to get back on show line, show center, or my show line and then roll back out. So I've introduced a couple maneuvers in there that are not a part of the laid out demonstration profile. In the demonstration pilots mind, that doesn't look good. To the crowd who has no idea what the C-17 demonstration profile is, it would look like he banked, and then he banked, and then he banked again. Wow, that was really cool. I think we learn from a young age in the pilot world that if we are going to intend to do something, then that is kind of what we stick to. So, the pilot side of me feels like oh, I screwed up. I really messed that up and didn't look as sharp as I could have. There are the two sides of the coin now. My analogy to this is back to both my own pilot training and being a pilot training instructor with many of the pilot training bases having three parallel runways and the outside runways have patterns that go to them which involve turning towards the center runway. As you come around final, if you had an overshooting situation, you may want to bank more. You may want to pull more so that you don't encroach on other aircraft that are going to those other runways or the outside runway even. You may want to do and demand more of the aircraft then the aircraft is willing to give you in some of those situations. Maybe that's not the

safest thing to do. May be the safest thing to do is to just roll out of and over fly the wrong runway and go around and try it again. It's one of those things that I remember being taught in pilot training and it is one of those things that are taught in pilot training as well. It's that balance of accepting the overshoot and not trying to demand too much of the airplane and put it in a bad situation.

President: If I may, what I would like for us to do is take a break right now and then that will allow us to collect our notes and ask any other questions that we may have of you. If I may, if we could just take a break.

[The board recessed at 1639, 10 September 2010.]

[The board reconvened at 1710, 10 September 2010.]

**Questions by the Board President:**

95Q. WITNESS<sup>10</sup> just to follow up, I have just a few more questions that I want to clarify for the record, if I may. Earlier, you discussed the demo culture. You said it was to put on a good show. Where does that come from for you personally?

95A. From me personally, it's just kind of my personality to do the best that I can at everything I do. If the demo profile is X, Y, and Z, I want to do X, Y, and Z to the best of my ability. On top of that, I think that there is a culture in the Air Force and in the air show community that basically--everybody wants to do their best and put on a good show and wow the crowd. I think that it's kind of where it comes from, the culture and your personal desire for excellence, or what we perceive as excellence.

96Q. Also, earlier you said that when you get the stall warning, you said the aircraft is saying you are demanding too much?

96A. That is just a figure of speech. That talks about the pressures that the pilot feels during any phase of flight.

97Q. So when you say pressures, you mean how the airplane is flying?

97A. Yes, how it's flying, how it feels, how the pressures of the ailerons feel in your hand or the elevator feels in your hand or the pressures on the rudder or even the stick shaker.

98Q. So, Airmanship?

98A. Yeah.

99Q. Which means how you fly?

99A. Yes.

100Q. How long have you been a C-17 pilot?

100A. I've been a C-17 pilot since 2001. I flew at Charleston for 3 years there and I have been flying C-17s after a break flying the T-6 for 2 years here at Elmendorf, so 5 years of flying the C-17 total.

101Q. You flew the T-6 for 3 years at Laughlin Air Force Base.

101A. Yes.

102Q. So, 5 years total?

102A. Yes.

103Q. How many hours would you say you have?

103A. In the C-17, I have approximately 2000 to 2500. Total flying hours, I have approximately 2500 to 3000, somewhere in there.

104Q. Did you observe the incident on 28 July 2010?

104A. I did not see the actual incident. I had just arrived home, had heard about it through some phone calls and decided to come back to base. I was back on base shortly after the accident happened and saw some of the aftermath, but not at close range.

**Questions by the Legal Advisor:**

105Q. I have one clarifying question. We were talking about demo culture and your idea that you always wanted to do the best that you could do. That also is with the safe operation, within the bounds of safety. Is that correct?

105A. Absolutely.

**Questions by the Board President:**

106Q. I just want to close out with one last question before I read you out. Are there any other matters that we haven't covered today in your interview that might be important to our investigation that you want to discuss?

106A. Not that I can think of right now.

President: If you do think of anything, we can put you back on the record after we close this out and then we can talk about it then.

Witness: Do you have any topical thoughts or ideas that I should think about, or not necessarily?

President: No, not right now.

Witness: Okay.

President: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1714 local, Alaska time.

**V11. AIB TELEPHONIC INTERVIEW WITH WITNESS 11**  
**VERBATIM TESTIMONY OF**  
**WITNESS 11**

PRESIDENT: Today is the 11th of September 2010. This time is now 1216 local, Alaska time. My name is Brigadier General Carlton D. Everhart II. We are investigating the C-17 accident that occurred on 28 July 2010, tail number 00-0173 at Joint Base Elmendorf-Lent, Alaska. The Accident Investigation Board is in building 7309, room 106 at Joint Base Elmendorf-Lent, Alaska and we are conducting a telephonic interview with the witness, <sup>WITNESS 11</sup> who is in building 1535, suite AA 209, Joint Base Andrews, Maryland. Also present with <sup>WITNESS 11</sup> is <sup>LEGAL REP</sup>, the Staff Judge Advocate for the 316th Wing. Prior to the start of this interview, <sup>LEGAL REP</sup> positively identified the witness and accordance with AFI 51-503, chapter 6, paragraph 6.7.

The persons present for this interview are:

Myself, Brigadier General Carlton D. Everhart II, Board President;  
the Pilot Member;  
Legal Advisor;  
Maintenance Officer;  
Medical Member;  
Maintenance Member;  
the Recorder; and  
Court Reporter.

This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony you have given to the safety investigation board and the testimony to the accident investigation board?

WITNESS: Yes, sir. I do.

PRESIDENT: <sup>WITNESS 11</sup> do you consent to having this interview recorded?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this interview will be under oath. At this time,  
LEGAL REP will you please administer the oath to the witness?

LEGAL REP Yes, sir. WITNESS 11 please raise your right hand. Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

LEGAL REP The witness has been sworn.

PRESIDENT: Thank you, LEGAL REP for your service. You may be excused.

[ LEGAL REP exited the interview room.]

PRESIDENT: WITNESS 11 he does confirm with us, please, that LEGAL REP has left the room?

WITNESS: Yes, sir. He has.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. WITNESS 11

2Q. How long have you served in the Air Force?

2A. 10 years--just over 10 years.

3Q. What is your unit of assignment and location?

3A. Currently, I'm in the 99th Airlift Squadron at Andrews Air Force Base, Maryland.

4Q. How long have you been with this unit?

4A. Since April 2010.

5Q. What is your job title?

5A. Right now, I'm just a special mission pilot.

6Q. How long have you been doing this job?

6A. Since the same date, April 2010.

7Q. Can you briefly describe your current duties and responsibilities?

7A. I'm a pilot for DV airlift in the Gulf Stream Squadron here at Andrews.

8Q. What was your unit of assignment back in 2008?

8A. My primary assignment was in the 517th at Elmendorf and I had occasional duties at the 3d Operational Support Squadron.

9Q. Can you describe your duties and responsibilities at the time?

9A. With the 3d Operational Support Squadron, I was in current operations and I got there in the fall of '07 and remained until the spring of '09, but I flew with the 517th Airlift Squadron during that time.

10Q. Are you familiar with the C-17 aerial demonstration program?

10A. Yes, sir.

11Q. Can you describe your C-17 aerial demonstration background?

11A. I was one of the primary ones chosen to start the demonstration team and it was originally chartered for supporting the 2008 Elmendorf air show which I believe was in June of 2008. I was one of the current performing team squadron commanders at the time. I chose myself and a few other people to head that up.

12Q. Are you familiar with Air Force Instruction 11-246, Vol 6, Chapter 3, Air Show Demonstration Profiles?

12A. Yes, sir.

13Q. How many air shows did you perform while you were certified as a demonstration pilot?

13A. Four events. Included in those four events, some of those events have multiple shows. Actually, one of the events has multiple shows.

14Q. So when you say an event, what do you mean by that?

14A. The first of them would've been the Elmendorf air show being the event, but we performed three times to support that air show. It was a Friday, Saturday and Sunday performances. In the subsequent ones were a Defense Cooperation demonstration in India and I think there were 6 performances associate with that. One event and one show only in New Zealand, and one event and one show only in Canada.

15Q. Then, if I may, just briefly, can you define what a Defense Cooperation is?

15A. The Office of the Defense Cooperation is attached to the embassy in India and their primary function, as I understand it, not being the expert, is to assist in the export of US military services. In this case, the C-17--the Indian government was looking to buy the C-17 so the Boeing Corporation went through the Office of the Defense Cooperation in India and their talks with the Indian government to sell the C-17 to India.

16Q. Did you provide aerial demonstration training to the 3d Wing and 176th Wing crewmembers during your assignment to Elmendorf Air Force Base?

16A. I did. Subsequently, after the initial training was done by another source, then as the point guy on the team I provided the subsequent training to a degree at least.

17Q. By point guy on the team, you mean? What do you mean by that?

17A. Anybody who is a pilot flying, qualified instructor. They are one and the same if you are the pilot flying for the demonstration. You had to be at least an instructor pilot. All those individuals were able to provide instruction on the demonstration maneuvers and so I didn't--I cannot remember if I did more after that or if it was other instructor pilots that did the subsequent training.

18Q. Just for clarification on the record, can you tell me who trained you?

18A. WITNESS 12 At the time, it was Major. He was out of the 535th Aero Squadron at Hickam.

19Q. What was the certification process?

19A. Well, the process itself involved simulators, actual flights, demonstration flights and then forwarding the--PACAF has a requirement that only one team at the base can do it and had to be signed off by the numbered Air Force commander. After we had finished multiple simulators, finished the flight, then we put together a single team package that process through the 3d Wing Commander and onto the 11th Air Force Commander for signature.

20Q. Just to clarify, because I asked you who trained you and then I asked you a question, what I want to do is clarify this is the training that you--the upgrade training that you provided to the members at the 3d Wing and the 176th, correct?

20A. No, this was what I received when I was trained. Subsequently when I provided the training, I would do the simulators, do the flights, and process the paperwork through the 3d Wing and the 11th Air Force Commander.

21Q. I apologize for the confusion. Who did you train during this time as far as the 3d and 176th crew members?

21A. MP and WITNESS 13 WITNESS 13 was in the 517th Airlift Squadron, 3d Wing and MP was in the 249th Aero Squadron under the 176th Wing. I know for sure I worked with them that winter of 2008 and I cannot remember if I worked with other people beyond that. I think MP and WITNESS 13 primarily did the training after that.

22Q. Would you please describe that training?

22A. It involves the one simulator, but typically we did multiple simulators. In the simulator over at the Boeing building, we would have about 3 hours at a time and would execute all 3 profiles that you mentioned, 11-246, and I think they are labeled 6 minute, 10 minute and 12 minute profiles is how they are labeled in that C-17 demonstration. We performed each one of those multiple times, talked a little bit about the mission, computer set up for the actual C-17,

how we would perform the maneuvers with the mission computer, and then practice the maneuvers in the sequence that they were meant to be in. Once that was complete, we went out in the aircraft, scheduled the available aircraft time or as time availed itself, we would go out and practice at least the 10 and 12 minute demonstration which were not significantly different but were much more so different than the 6 minute which is an abbreviation of the 12.

23Q. Just for clarification of the record, the 6, 10 and 12 are known as profiles? Is that correct?

23A. They are, sir, and I wish I could come up with a better name for them but I believe they are called the 6 minute, the 12 minute, and the 10 minute profile. They are specific to the C-17, vol 6 there, that AMC--aerial demonstrations.

24Q. In general terms, can you just explain how these profiles are used for aerial demonstration performance?

24A. The profiles themselves, 2 of them are designed to take off from a field at land back at that same field, if you were doing the demonstration at that field. That's the 6 and a 12 minute profile. The 10 minute profile is sometimes referred to as the air to air profile and that is coming from another location, flying to the field you're performing at, doing the demonstration, and then going back to the original departure location. You kind of start the performance in the air and it is in the air flying away. All the maneuvers are the C-17 maneuvers that any C-17 pilot does. It's just in a compressed format, compressed timeline. The maneuvers themselves are very basic. They are designed to showcase--there is a narration that goes with it that is in that same 11-246 and that narration talks about-- it's a little antiquated, but it talks about the quietness of the engine, the capabilities of the aircraft, the turning radius, quick stopping distance, all the things we wanted to demonstrate that the C-17 is capable of.

25Q. In previous interviews we have had people describe the 12 minute profile as profile three. Are you familiar with that term?

25A. Yes. I am. Not having anything in front of me, I do remember that. Yes.

26Q. Could you provide, please, an overview of profile three?

26A. Again, not having it in front of me but going on the word that profile 3 is also the 12 minute profile, that starts with an assault take off which I believe is the verbiage in the profile. That is basically a max performance take off, level off at 1500 feet. You maneuver away from the crowd and set up for a high-speed pass. I think the maneuver is called an 80, 260 is how they've label it. Eighty degrees off, 260 back. There'll be a high-speed pass. That demonstrates the quietness. We usually go to idle at some point on that pass prior to passing the crowd to demonstrate the quietness of the engine. It will configure again for a slow-speed pass or will have the flaps and landing gear fully extended and slats fully extended and demonstrate the slow flight capability of the aircraft. Maneuver again to come back around and this time, it would do a 360 degree turn away from the crowd, demonstrating the turn radius. The final maneuver is a full stop assault landing where we do a maximum braking. Once we are fully stopped, we back a prescribed distance depending on what kind of runway we have available. We demonstrate the backing and that's the end of the profile.

27Q. For that profile, profile 3, can you describe how you've instructed crew members to fly the departure, specifically that 80, 260 maneuver?

27A. Primarily, what would do is after the initial climb we would level off at 1500 feet. Once we completed the level off we would make a left turn 80 degrees out-- I'm sorry. In the case of Elmendorf on runway 6, it's a left turn, but turn away from the crowd 80 degrees, whichever direction that may be, and rollout. The flaps and slats would be retracted when we reach the applicable speed automatically by the pilot flying in the right seat. So, when we had reached 140 knots, if that was the flap retract speed, he would automatically retract the flaps at 140 knots. The safety observer would verify that is accomplished, that the airplane is cleaning up. Typically, it depends on the field, but at Elmendorf we would run out about 9 seconds on an 80 degree course away from the crowd. Those 9 seconds allows us, and at the same time we are still at our takeoff power settings, to be accelerating quickly. I would say on average the flaps are retracted at about 3 seconds to 4 seconds after making the turn and then the slats are retracted within another 3 seconds of that and that about 3 or four 4 seconds after that is when we begin a right turn. Again, with runway 6 at Elmendorf it would be a right turn. We would accelerate to-- at that point you're already at about 210 or 220 knots and you would stay below 250 knots and go between 45 and 60 degrees to turn back to the runway. The initial takeoff was--the initial turn away from the runway was at 45 degrees and then the subsequent turn is 45 to 60 to judge the turn in order to not over shoot the extended runway center line. Once you have a guarantee that you are not overshooting it, you would accelerate. In practice, we could only accelerate to 250 knots. Where there is a terminal flight restriction, TFR, then we would accelerate with approval to about 310 to 320 knots. At that point we would bring the throttle to idle before crossing over the threshold of the runway at 500 feet--I'm sorry, we would also descend down to 500 feet in that turn and then we would bring the throttles to idle so that we go pass the crowd at idle and decelerating from about 310, 320 until we would get to mid field on the crowd, show center on the crowd, and then make a turn away from the runway.

28Q. If I may, I would like to clarify two things. You said you would deconfigure automatically and the checklists were run automatically. How did you know to do that? Is that in a pre-brief? How did you know?

28A. That was briefed. That was part of the training. We want to get it done as soon as possible so part of the training we discussed was as soon as you get a flap retract speed, retract the flaps. As soon as you get the slat retract speed, retract the slats. Over time it became much more habit pattern. You would always say flaps up, slats retract which was the verbiage we used in the C-17, but it was known that you maneuver those right away. At the speed you are accelerating, you would go through your--since you're going up to 310 knots you would over speed your flaps with the power setting you're at so you want to get those in as quickly as possible when you get to the safe speed.

29Q. What I think you just told me was that if you change the configuration, that was acknowledged, or stated, then acknowledged as per the normal checklist. Is that what you said?

29A. It was always verbalized, but it was initiated automatically so when you would get to the flap retract speed the pilot not flying would automatically say flaps up and retract the flaps. When he got to the slat retract speed, slats retract, and the pilots would acknowledge that but it

was initiated automatically. There was no command to bring them up just because of the rapid pace that you are accelerating.

30Q. What about the response? Did you get back a response from another crew member?

30A. I would not say it was--no, I wouldn't say it was guaranteed. It was a habit pattern built into most of us. I virtually always said it. When the copilot would say flaps retract, I would say flaps retract--flaps up. I'm already getting away from the plane here, but flaps up and I would acknowledge the flaps up. He has already moved the handle to begin the flaps tracking up.

31Q. Just to make sure that I understand, you actually taught the verbal response when you trained that?

31A. We taught to say that, that's what you were doing, that way you could cross check as the pilot flying. I would make sure that the copilot would verbalize what he is doing as a sanity check for all of us in the aircraft so we still know he hasn't tuned out. The second reason we would do that, especially when you're training somebody new, they would occasionally forget that. They would go through that speed and they haven't done anything and nobody has heard the flaps up yet and it would be me as the instructor saying okay, flaps up. Then they would go ahead with the handle up.

#### **Questions by the Pilot Member:**

32Q. Since we're talking about what you defined as configuration, moving the flaps and the slats you said you would call for the deconfiguration at an applicable and safe speed?

32A. No. It was called while it was automatically done. The pilot flying that would not say flaps up unless it was forgotten. The reason it was forgotten primarily was because I didn't hear him say or her say flaps up. The pilot not flying, the copilot if you will, would retract the flaps and say flaps up.

33Q. You defined that--that was supposed to be done at an applicable safe speed?

33A. At flap retract speed, correct. That is displayed in the heads-up display.

34Q. Am I reading this correctly that your statement of an applicable safe speed is the flap retract speed or the slat retract speed?

34A. That is correct.

#### **Questions by the Board President:**

35Q. You said that your initial turn was at 45 degrees of bank?

35A. That is correct. Well, 45 is what the profile called for. More often than not we didn't get up to 45 degrees on that because you were just slightly over the MCO, climb out speed.

36Q. When you started to execute the 260 degree turn back to the runway, he said that it was 45 to 60 degrees of bank?

36A. Yes, sir. For the rest of the profile, this was--the more the profile is worded, and again, I don't have in front of me and I haven't looked at in 2 years, but the weather profile was worded and the way we train to was the initial turn--gosh, I wish I could see this thing in front of me. It basically scripted the whole performance and the only time it talked about a bank angle was on the initial turn. They would say----

President: <sup>WITNESS 11</sup> if I may just interrupt, we can probably get--if we can take a break right now, we can get that to you via e-mail if that will help out.

Witness: That's fine. I remember why we did the bank and what we did, I just don't remember the exact verbiage.

President: Okay.

36A (continued). The way we read it was the initial turn was 45 degrees and the way the profile read was do this. It's an 80 degree turn, 45 degrees of bank then an 80, 260 back. It didn't specify bank angles for anything else and the way that bank angle was included in there, it made it sound as if the 45 degree bank angle was a limitation for the initial turn away from the runway which was not usually a factor in that way because of the slow speed you were at you would never want to do 45 degrees and the plane will actually not let you go to 45 degrees as far as--it will physically let you do it, but the stall bar which appears in the arc for your bank angle in the HUD will appear and warn you that you are not going to get 45 degrees of bank out of it. Typically in that first turn, though the profile says 45 degrees of bank, it was typically done about 30. That's the best you could get out of it before hitting that stall bar. Subsequent maneuvers for the rest of the profile, we shot between 45 and 60 degrees depending on the situation. At higher pressure altitude, we would tend to bank a little bit harder because of the turn radius implication. Turning back to the runway at 4000 or 5000 foot pressure altitude, you need a little more bank to get the turn without overshooting the runway centerline.

37Q. So, was that automatic then to a specific bank angle?

37A. No, definitely not. It was a situation dependent. We never went above 60, but 60 is a fairly common bank angle. It's a hard turn on a low level--combat low level environment. It's a fairly common bank angle for the C-17. The profile was done at 500 feet and typically we do this at 300 feet in combat maneuvering when we practice in the aircraft itself. We used 60 as a for sure stop, but a bank angle between 45 and 60 is necessary for the conditions.

38Q. So, he said the profile was at 500. It's at 500 on that--I just want to clarify for the record you said you would climb up to 1500 feet AGL, altitude above ground level, and then now you said 500?

38A. Yeah, I'm sorry. The first altitude is 1500 feet. You climb to 1500 feet. During the turn back to the crowd, you would descend to 500 feet. All your passes over the runway

were done at 500 feet, the slow speed pass, the high-speed pass, and the 360 degree turn were all done at 500 feet AGL except for the first climb which is at 1500 feet, all the subsequent climbs were to 1000 feet AGL. We would climb to 1500 feet, turn away from the runway into the 80, 260, descend to 500 feet and do a high-speed pass. After the high-speed pass we would turn away from the crowd and climb to 1000 feet AGL, maneuver a 45 degree turn away from the runway and then turn back to the runway descending to 500 feet AGL again. All the passes past the crowd were at 500 feet.

39Q. You mention that you trained **MP** What instructions specifically did you give him regarding bank angle on that 80, 260 turn?

39A. I wouldn't be able to tell you specifically what I said, the way I performed it in-- the way I think we--I would say it was **MP** <sup>WITNESS 13</sup> and myself that were the primary pilots for it in the way we handled it in practice was to get enough runway displacement on the initial turn away so once you get the initial departure you get the 80 degree turn away from the runway and get enough displacement that will allow you to do between 45 and 60 degrees on the way back. That was the goal. At a high pressure altitude you are going to run out 12 or 15 seconds depending on how high you are. At Elmendorf, we run out around 9 seconds or so before turning back. That, with no wind, should allow you turn back at about 45 degrees of bank, and sometimes you would go over that, 50 or 55 if the winds were blowing from north to south, so blowing you into the runway. They might have to go up to 60 to get the turn radius so they didn't overshoot the extended centerline of the runway.

40Q. What was your instruction to **MP** regarding maybe the use of the rudder in the 80 and 260 turn?

40A. I don't know there was any explicit instruction. I know there was no explicit instructions on the use of the rudder. I can tell you that I use the rudder to a degree. What I would do is judge it kind of through the turn. I would go my 9 seconds out, speaking just for Elmendorf it would be about 9 seconds, start my bank and if I had 30 knots of wind blowing me from the north to the south, even 60 degrees is going to be pretty tight on overshooting the centerline. I might throw in a little bit of rudder and just gradually put the rudder in to turn around the corner. It wouldn't be to the floor or anything like that, but it would just be enough to tighten that turn radius up and the bank and displacement should've done that. Typically we will account for that window with the winds anyways. If we knew the winds were from the south, instead of going out 8 seconds--from the north. Instead of going out 8 seconds or 9 seconds we'll go out 11 seconds to account for the wind.

41Q. Overall, regarding Air Force instruction 11-246, the C-17 profiles, what did you teach **MP** regarding adherence to these profiles and by adherence, did you teach them as guidelines or as procedures?

41A. The profile itself is pretty specific as far as the maneuvers, the sequence of maneuvers. It's pretty clear that's the law. It has become like that. I think in the profile, it talks about deviations to it had to be approved by MAJCOM. The profile was the profile. There was no modifying it all.

42Q. Just a quick clarification regarding the use of the checklist. Which demo crew member initiated a call for the checklist?

42A. That's a good question. The checklist were done at procedural times. Again, it was sort of automated. The approach checklist, for example, was done during the 360. It was all crew members responsibility to ensure that it got accomplished and ultimately it is the pilot flying, his responsibility to ensure that it-the aircraft commander's responsibility to ensure that it gets done. So, during a 360 maneuver I know the approach checklist should be running. If I don't hear it being run, because it still has to be verbalized, challenged and response, if I don't hear that being run then I will prompt the copilot to begin it. The safety observer was onboard too to also assist in making sure that the checklist are forgotten, all the steps are done correctly. The challenge and response are still normal, but the safety observer still needs to be involved in ensuring all the steps get done. The pilot flying is doing a 360 degree turn during the approach checklist. It's a little harder to back up the co-Palm everything.

43Q. Re: checklist, do you ever recall using an aerial demonstration checklist?

43A. Yes, sir. There was a checklist that came out of our sister squadron, the 535, that had some techniques, some really good techniques as far as setting altimeters and making sure you don't forget them. There is no checklist and 11-246. There has never been a checklist for aerial demonstrations. So what we did was we did a little bit of a modification of one, not changing any of the existing fan folder checklist which is the TO 2C-17-1CL-1 or CL-1-1, believe it is. We call it the fan fold. At a trifold piece of paper, or maybe even a quad folded piece of paper, that has an approach checklist, before landing checklist, all the quick axis checklist that we use in flight. So what we did was we were having basically logistical problems trying to get multiple checklist run and not missing steps when we were trying to ensure that we were in a safe configuration for the demonstration and we still met the TO requirements for the approach checklist and before landing checklist, so we took copies of the CL-1-1 or CL-1-1-1 or whatever it is, the fan fold, what are those copies and we would integrate our own but we boxed, and I did a lot of that, we boxed the TO checklist and we wrote the actual version and applicable date on it and boxed out the, for example, the approach checklist had a box around it so it didn't get intermingled, we didn't slide steps in there. It would just have that and then right next to it or below it in a separate area would be okay, remember to turn the landing lights on for the landing, poor example. We typically flew with the lights off for the profile, but the demonstration-- most of the airfields wanted the lights on for touchdown. So, trivial things like that, making sure we would put the landing lights on. Another issue we run into during the demonstration was we do multiple passes over the runway. Typically we would be in a habit of calling gear down, but in this scenario we kept flying over the runway at 500 feet and not calling gear down and we would forget to call gear down on the call that we--the one we are actually landing at. Would do this if you checks within the plane, but it is still an AFI requirement to actually say that prior to Crossing the threshold. So we would add that little note into the checklist as well. We basically took a checklist and edit notes to it, but we did it in a digital format we make sure we record the revision number of the official TO.

44Q. So, I guess my question would be then, is that an official checklist?

44A. No. The demo a checklist, they don't have a demo checklist. There is no demo checklist. The TO was not an official--the checklist that we kind of created was a TO extraction so that we can put notes on it. We needed more notes than what that fan fold would allow and the fan fold won't take the ink too well so we built this other one on top of that fan fold so that we could get more notes in there and get our demonstration specific notes in there.

45Q. So the small writing was basically notes then is what you are saying?

45A. It was digital, correct, because you can't write on that fan fold. It is tear proof paper and it won't take pencil. There's just not enough room to get all the demo things that we want to incorporate in there and not forget.

46Q. First of all, when you say the notes, or that portion, was it in MS Word that you did it?

46A. I think that's what we built the demo technique items on, but the TO checklist was actual copies of the checklist on there. Zap Grab? is a pretty common tool the C-17 community used to capture digital images, but they are not editable. It is a picture of the actual checklist and then we would put it on there. You can't change the--for example, the approach checklist was completely--it was a picture of the approach checklist put on the sheet of paper. You cannot change the words or the letters or anything like that.

47Q. I've seen an aerial demonstration checklist and on the top that says 3d Wing. Does that mean it was approved by the 3d Wing?

47A. No, I don't member what ours look like, but no. It was used as a technique for us. I don't remember if ours had the 3d Wing on top of it or not.

48Q. All right. When you were in training for your demonstration crew members, do you remember getting any warnings or alerts from the aircraft?

48A. Sometimes on takeoff when you brake release, if you are low on fuel and had about 20,000 pounds of fuel in the tank's, which for the 17 is fairly low, when you would release breaks for the takeoff you would get a master caution like a fuel warning master caution. It would go away halfway down the runway. It was just an initial sense of fuel that was sloshed to the back and you would get a master caution. It would be the only one that I would say was fairly predictable. If you took off with about 20,000 pounds, you were going to get that quite a bit just because the take off really lurches. You come off the brakes and it really lurches forward to take off.

49Q. So, you got no others in the profile itself or anything like that?

49A. No, anybody who is here on the C-17 will hear the stall warning on occasion, but if you get that, it was a very brief thing. Maybe you pulled a little too hard and it would say stall. Okay, you ease off right away. That's pretty standard for the C-17. You pull up to abruptly or make a bank to abruptly and you might get a momentary warning but it was half a second.

50Q. So, you are saying you would just take the appropriate action then?

50A. Usually, almost always, every time I got a stall warning is because I was pulling back on the stick. You ease off the stick right away and you are back in business.

51Q. So, if the folks you were training, say specifically **MP** those crewmembers that you trained, did you teach them anything like if they got a warning what they would do with it?

51A. No. We didn't really discuss it. They stall warning is a stall warning so you had to ease off. It was never really an issue. I can't even remember routinely hitting it. I'm sure I did just because in the C-17 if you pull back so hard you're going to get it, but I don't remember it ever going off in the profiles. I don't remember it being okay; it happens all the time. Let's talk about it. It happens in the C-17. It's not unusual in the C-17 to get that, but it is a standard response and anybody who was flown the C-17 knows to ease off the stick and get out of whatever's putting you in that stall parameter, but it wasn't anything we would deliberately go after for sure.

52Q. Just real quick, what is your assessment of **MP** performance during his training?

52A. I would say initially we had--he wanted to keep it a little bit more aggressive. He wanted to keep it a little bit tighter to the runway. So instead of the 9 seconds out he would want to go 5 seconds and try and make the turn back. In the simulator, especially, we show that doesn't work. You overshoot quite a bit. But when did the actual demonstration in the aircraft, we videotaped at all. That was a requirement, to send it up to the 11th Air Force Commander. Those videotapes, we could see to how it's a C-17. You can only make it so sexy. Making it 5 seconds out versus 10 seconds out, from the ground it looks the same. It was fairly benign, but the workload in the cockpit increased quite a bit. We would discuss that and it was early on in the training with the profiles. It's just not worth making it that tight because it looks the same from the ground. It's pretty boring from the ground, from the spectator point of view. From that point on and all the performances that we did, we would go a little bit further knowing that the crowd view--the crowd is really watching the takeoff and landing. That's about it. That's the most exciting part of the profile really, from that point.

53Q. You said that **MP** was wanting to kind of keep it more aggressive. Did he mention why he wanted to do that?

53A. I think he just wanted to make it look like a good performance, make it captivate the audience. I think there is a little bit of an uphill battle there at Elmendorf because you are in competition with the fighters, but again, after you watch it on the tape that is especially when it sinks in. It doesn't look any different. Five seconds out and 10 seconds out is more pilot workload and there is absolutely no effect to the crowd and the observer. Speculating as to why that is--it was nipped in the bud early on, and it never really became an issue after that.

54Q. So you're saying that, and I don't want to put words in your mouth, but you said you reviewed the tape with **MP** and then basically said see, you don't need to be as aggressive. Is that what you're telling me?

54A. Yes, sir. It's absolutely correct. That was a lesson for all of us to really look at and say you cannot change the parameters of the profile. Again, the profile is the profile. It is set down by law and that AFI and you can't change it, change the sequence, or change the maneuvers or anything like that. You are stuck with that profile and you can only--you can't dress it up really. There is no real way on that plane to dress it up. Speaks for itself. The point is not to go out and be the Thunderbirds. The point is to go up there and demonstrate what the C-17 can do. I think that was taken to heart by all of us, especially after you watch the video. This is what the profile is going to look like regardless of how fast you do it.

55Q. Getting back to **MP** training, if I may, were there any particular strengths or weaknesses that you recall?

55A. The training blurs together. I have flown with him for a number of years. The specific training of the demonstration blurs together with just the times I have flown with him and worked with him. I don't know that I can answer about that specific training.

56Q. Do you have any overall impressions of his performance?

56A. His flying performance, well, I thought he was very meticulous and in the books. When I was a brand-new aircraft commander I had flown with him several times in our own squadron at McCord and he was the go to guy for going into reg's and interpreting how would you do this, how would you do that? He was always on par. I wouldn't say he was world's best pilot, but he is also--there is nothing that sticks out in my head that goes oh, I would never want to fly with him. I would never have flown with him that was the case. He was a good pilot. I never had any issues with him.

57Q. Lastly, according to the TMS entry dated 30 December 08, you recommended **MP** to be a demonstration pilot. What considerations went into your recommendation?

57A. Certainly flying ability is the premium litmus test, if you will. That was a different requirement. If you couldn't do the profile then, then again, the maneuvers are not complicated. They are standard C-17 maneuvers but they are done in rapid succession. That was the most important thing, without question. Other things we looked at and evaluated before we even chose somebody to get involved with even go into the flying portion of it was to make sure the character of it in the situation we are in. PACAF was putting us into a lot of on our own situations where when you go, you manage your own missions, get your own diplomatic clearances, get your own flight plans and do everything to get to wherever PACAF was wanting us. Once you got there, you are the only Americans there so you needed to represent the wing and the country well. We looked at those long before we even put somebody in the simulator. We went off with that, we went off historical flying with that individual, then decided who is competent enough to fly this and then of course the simulator and the flight training portion was the ultimate critique. If you can fly it, you can do it. It is especially the case in this environment because training sorties are few and far between now. Locations, especially in Alaska, we are a

little bit challenged to find the time or we can do the performances in practice the performances. You need to be able to do this with limited practice before hand. We had a requirement of 7 days before every demonstration we had to practice it. You may only get to practice it twice and jump in the sim 3 or 4 times so you need to be able to knock the dust off quickly and those are the people that we chose, the people that were inherently good at flying and didn't take much to get the dust knocked off from the profile when they haven't done it in 6 months.

President: <sup>WITNESS 11</sup> or would like to do is to take a small break and then I want to discuss any other follow up questions that the group may have to ask, just for clarifications, and then we will proceed with you and that will conclude the interview for the day.

[The board recessed at 1305, 11 September 2010.]

[The board reconvened at 1316, 11 September 2010.]

Legal: We are back on the record. All members attending the interview on both end of the telephone are present.

#### **Questions by the Board President:**

58Q. I would like to follow up with two questions before I read you out. The first one deals with a statement that you made reference to the training sorties being few and far between. Do you believe that impacted the overall performance or do you believe there was enough training to stay current and proficient in that profile?

58A. My primary reference was in reference to the demonstration training and how often we get to do the demonstration practice. Prior to any demonstration, I think we walked out of there well-prepared. The primary avenue for that was the sim. We did multiple sims in preparation for whatever venue we were going to. That was actually more helpful, if you will, because we could train to pressure and altitude that we wouldn't be able to train to at home station. Taking an aircraft out was tasking on resources from the squadron. It is tough to get the generated aircraft with that low amount of fuel to go up and do a demonstration.

59Q. My second question I had was reference to **MP** You asserted initially that he was a little bit aggressive and then you nipped that in the bud. How did you do that? Was it the video? Was that through discussion? Once it was resolved, how did it stay resolved?

59A. The comment was aimed mainly at **MP** who wanted to make the profile look as good as possible, but especially the video, by watching the profile, the profile can't be changed. It is the letter of the law. That's what the profile is. You cannot change that. He wanted to make it as awe-inspiring as you could, if possible, for the crowd but after the initial training when he watched the video and saw the video and saw how difficult it was--one example that we discussed, **MP** <sup>WITNESS 13</sup> and myself, we discussed the outbound turns. When you initially departed and you climb to 5000 feet initially from the runway, how far do you go? Well, the further out you go the easier it is to make the turn back to the runway. He

wanted to keep it quick and keep it going fast so he would only want to go out a few seconds and then turn again. On the turn back he was working very hard to try and get the thing back in without overshooting the extended centerline. Now it's a more often than not that we did overshoot the extended centerline. We watched the video and we realize the difference between 4 seconds out, 5 seconds out, and 10 seconds out on the outbound from the runway and you realize it really looks the same from the crowd's point of view, but the workload on the pilot is exponentially less by going out 10 seconds. That was enough of a call right there. It reinforced it for the other 2 of us but it was definitely a sell for **MP** to say, you really can't see the difference. It doesn't look any different from the crowd's perspective but it is significantly different on the pilot's workload perspective by just going out that extra time. There was nothing that needed to go up to leadership. He was one of those where we just discussed it and there was no input in the profile for how far out you should go and rightfully so because it depends. At 4000 feet PA, you are going to go out 15 seconds, maybe.

60Q. That was done during his upgrade training, correct?

60A. Yes, sir. It was, which just based on the TMS, would have been December 08.

61Q. I apologize. I have one more question that just came to mind. You say 1500 feet is the profile. 1500 feet AGL is the profile. Was there ever a circumstance where you would like that profile at a lower altitude or was it always 1500 feet?

61A. The 1500 feet is what the profile says to do. I would say we would begin leveling off at 1200 to try and capture the 1500, but 1500 feet was the first turn and it was actually a little bit more of a challenge because you have to lose 1000 feet around the corner as you are making the descent. On the 80, 260 portion you are descending down to 500 feet AGL so you have to lose 1000 feet versus all the subsequent maneuvers where you are only at a thousand and want to lose 500 feet. It was a much more gentle descent to lose 500 feet. It was fairly easy.

62Q. Lastly, before I read you out of this interview, are there any other matters that we haven't covered that you believe may be important to our investigation?

62A. No. No, I don't think I do.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1322 local, Alaska time.

[END OF PAGE]

**V12. AIB INTERVIEW WITH WITNESS 12**  
**VERBATIM TESTIMONY OF**  
**WITNESS 12**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for use of claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and the accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

MAJOR All right. And this is Major If I can have, also,  
LEGAL REP make his appearance on the record, please.

LEGAL REP Yes. This is LEGAL REP I'm the Deputy Staff Judge  
Advocate for the 87th Air Base Wing legal office, at Joint Base McGuire-Dix-Lakehurst.

WITNESS 12? And thank you. And you are present, there, in the room with

LEGAL REP I am.

Hold on one second. We have some jets passing overhead. All right. And were you able to witness his swearing in?

LEGAL REP I did.

And taking the oath?

LEGAL REP I did.

And did you verify his identity?

LEGAL REP I have.

Thank you very much, <sup>LEGAL REP</sup> You're excused at this time.  
Thank you for your assistance. <sup>WITNESS 12</sup> are you still there?

WITNESS 12 I'm still here.

And has <sup>LEGAL REP</sup> departed the room?

WITNESS 12 He has departed.

This testimony is being taken telephonically. We have your permission to record it?

WITNESS 12 Correct.

Okay. Thank you. Go ahead, sir.

PRESIDENT: Today is the 10 September 2010. This time is now 0920 local, Alaskan time. This interview is being conducted telephonically. The base legal office at joint base McGuire-Dix-Lakehurst, New Jersey, has verified the identity of the witness. The persons present here are:

the Pilot Advisor;  
the Legal Advisor;  
the Medical Advisor;  
the Court Recorder; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

in room 105, at building 7309, joint base Elmendorf-Richardson, Alaska.

PRESIDENT: The witness, <sup>WITNESS 12</sup> is at joint base McGuire-Dix-Lakehurst, New Jersey, in building 2901, room 112. The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. My full name is **WITNESS 12**.

2Q. And how long have you served in the Air Force?

2A. I've been in the Air Force now 15 and a half years.

3Q. And what is your unit of assignment and location?

3A. Unit of assignment is the U.S. Air Force Expeditionary Center at Fort Dix.

4Q. And how long have you been with this unit?

4A. I have been here for four months now.

5Q. And what is your job title?

5A. I am an IDE student.

6Q. And IDE means?

6A. It's an Intermediate Development Education.

7Q. How long have you been doing this job?

7A. For four months.

8Q. And please describe your duties and responsibilities on 30 July 2007?

8A. 30 July 2007. I was an evaluator pilot with the 535th Airlift Squadron out at Hickam Air Force Base, Hawaii.

9Q. Okay. <sup>WITNESS 12</sup> thank you and I'm going to turn this over to to continue with the questions at this time.

9A. Roger, sir.

**Questions by the Pilot Member:**

10Q. Hello, <sup>WITNESS 12</sup> I'm the pilot member of the board.

10A. Hi.

11Q. I would like to start off and ask you are you familiar with the C-17 Aerial Demonstration Program?

11A. I am.

12Q. Can you describe for us your C-17 Aerial Demonstration background?

12A. My background was when I went up to Hawaii, PACAF did not have a C-17 Aerial Demo Team. When I was selected as the individual to start up a C-17 Demonstration Program for PACAF, at the time it was just the unit at Hawaii. Elmendorf hadn't stood up yet.

So, I was selected to start that program and became the first Team Commander and the first Demo qualified pilot for PACAF and the C-17.

13Q. And during that time, what was the certification process when you were certified?

13A. For us, for the first individuals, the certification process existed through AMC. So, we actually went TDY to Charleston and got trained by an Aerial Demonstration Pilot from Charleston and they trained our entire crew. And that was the crew we had for the first few air shows that PACAF performed.

**Questions by the Board President:**

14Q. And then, <sup>WITNESS 12</sup> this is Brigadier General Everhart again. I understand, just for clarification of the record, PACAF is Pacific Air Forces, AMC is Air Mobility Command, and TDY is temporary duty to that other location at Charleston, correct?

14A. Correct, sir.

**Questions by the Pilot Member:**

15Q. And after your certification process, what was the Pacific Air Forces certification process at that time?

15A. The process was similar to AMC's. They used the AMC standard and certification training guide until they could go through the wickets up through the Ops Group Stan Eval and then through PACAF Stan Eval to get a PACAF certification program established.

16Q. And is this what ultimately led to the Pacific Air Force Con Ops or concept of operations for aerial demo team?

16A. Correct, sir. It was modeled after AMC.

17Q. Can you describe the certification training guide that you used to develop -- that was used to develop the PACAF concept of operations?

17A. The certification training guide, again, was similar to AMC's. It consisted of the same training profiles. So, you had one simulator where you performed all of the profiles that are located in the 246, the AFI. And then you would go out and you would fly with a demo certifying pilot on the 6 and the 10 and the 12 minute profiles as well on the airplane.

18Q. And by "profile," you mean a segment that demonstrates the aircraft capabilities for the purposes of aerial demonstration, correct?

18A. Correct. And those are the standard profiles right out of, I think, Chapter 6, AFI 11-246.

19Q. How many air shows did you perform while you were certified as a demonstration pilot?

19A. I flew in three air shows while I was at Hawaii.

20Q. And in addition to that, did you provide Aerial Demonstration Training to any 3rd Wing crew members?

20A. I did. I provided training to 3rd Wing members. On one occasion, I think it was the first part of May of 2006, I was invited out there, myself and one of our loadmasters, got there and trained the initial crew for the 3rd Wing.

21Q. And do you remember who the crew members were for that initial crew?

21A. I remember one was -- or WITNESS 26, at the time. And then MP And there was a third member which I can't remember.

22Q. And you say that was in 2006. Did you, perhaps, mean 2008?

22A. I'm sorry. 2008.

23Q. I just wanted to clarify that. And moving back to your -- quickly moving back to your actual air shows that you flew, do you remember which profiles you flew during those air shows?

23A. We flew two of the 12 minute profiles and one of the 10 minute profiles.

24Q. And the 12 minute profile being profile 3, is that correct?

24A. Correct.

25Q. Moving back to your training in 2008 for the 3rd Wing crew members that you trained, can you describe the nature of that training?

25A. The nature of the training was that Elmendorf wanted to establish an Aerial Demonstration Program, which they didn't have at the time. And I went out there and trained their initial cadre. So, it was the first crew to get trained. The PACAF CONOPS at the time delegated the certification process to the Wing Commander and then to the NAF Commander, the Numbered Air Force Commander, and our Numbered Air Forces were different. So, I wasn't involved in the certification process, just the training part of it. So, I went out there and provided them the ground training, the sim training, and the flight training.

#### **Questions by the Board President:**

26Q. And WITNESS 12 if I may ask a question, the individuals that you trained, are you familiar at all with how they were selected as this initial cadre for the Elmendorf Demonstration Team?

26A. I was not, sir. When I showed up, I had no idea who I would be training, that I would just be training three individuals.

#### **Questions by the Pilot Member:**

27Q. I think you already mentioned that the AFI 11-246 contains the demonstration profiles that you were referring to, correct?

27A. Correct.

28Q. Can you explain in general terms how these profiles are used for an aerial demonstration performance?

28A. In general terms, they are used to demonstrate the capabilities of the aircraft to the general public. They show configured flight, maximum lift capabilities. So, max take-offs, assault landings, and then just general demonstration of flight characteristics.

29Q. And by "configured take-offs and configured performances," you mean with the flaps and slats --

29A. Correct.

30Q. -- meaning in a high lift --

30A. A high profile --

31Q. -- in a --

31A. -- with a full flap configuration with gear down, showing the capability of slow flight.

32Q. So, in a high lift configuration?

32A. After the initial take-off, it was a max power, max angle climb.

33Q. Can you define what a max angle climb is or a max power climb is for us?

33A. A max power climb is taking off at max power from a static take-off and, essentially, the goal was to be at least 1000 feet by the end of the runway, which with the amount of weight that we took off on on a demonstration profile, was fairly easily done. And then the initial climb went up to 1500 feet AGL. So, again, it was just a max demonstration of climbing to altitude quickly before the end of the runway.

34Q. Okay. Understand. And by "AGL," you mean above ground level?

34A. Correct.

**Questions by the Board President:**

35Q. And then by "static," you mean that you held the brakes, pushed the power up to max power, then released the brakes, correct?

35A. Correct.

**Questions by the Pilot Member:**

36Q. And then when you were talking about above ground level and those numbers, 1000 feet, you were referring to altitudes, correct?

36A. Correct.

**Questions by the Board President:**

37Q. Do you remember what, on your max power on that initial climb out, do you remember what speed that you would use?

37A. You mean for rotate speed, sir, or --

38Q. The climb out speed. What speeds were you looking for? Or how did you know what angle to climb out at, at what speed --

38A. Well, it's based on --

39Q. -- now how you do but what was your target?

39A. Well, VMCO is your target. So, that's your min climb out speed. So, it changes depending on the weight of the aircraft. VMCO is the term that we use on the climb out.

**Questions by the Pilot Member:**

40Q. Do you ever remember, during that climb out, getting below your VMCO or your minimum climb out airspeed?

40A. No.

41Q. And I believe you already started talking us through that but can you provide an overview of the 12 minute profile, also known as profile 3, specifically?

41A. Sure. The profile is a, like I said, a max take-off, climbing straight ahead. It's up to 1500 feet above ground level, AGL. I used 1000 feet as my starting off point to level off. That was a technique that I taught, just to begin their acceleration. The profile calls for a 45 degree bank angle 80/260 back to the runway.

42Q. And can you define the -- what you mean by "80/260 back to the runway?"

42A. Yeah. It's an 80 degrees offset from your runway alignment. So, your turn would be 80 degrees off. So, if I had a 290 runway heading, my turn would be to a 210 heading and then I would turn back the opposite direction 260 degrees to align myself with the runway the opposite direction of 290.

43Q. Okay.

43A. And then you would set up for a high speed pass. So, you would begin to accelerate out at -- a high speed pass is done at 250 knots or if there is a waiver, you can go up to 300 knots, and then at show center, you'll turn off runway center line approximately 50 degrees and come back in for a slow flight demonstration. So, you are configuring coming back in and I think that it's a full configuration. So, it's gear down, slats extended, flaps full, and you're flying at approach speed.

44Q. Okay.

44A. Approach speed is calculated based on wherever you are at the time that you approach the approach.

45Q. And "approach speed" is the speed at which the -- the landing speed for the aircraft during the approach phase?

45A. Correct.

46Q. Do you ever remember flying below that approach speed during any phase of the profile?

46A. No. You're fairly light, so you're flying pretty slow as it is just based on the weight. So --

47Q. So, there's really not even need -- it's just stay at approach? There's no any need to go any slower because -- I mean, what would happen if you did?

47A. You'd usually get the stick shaker. You know, guys in training, in the sim training, they'd get the stick shaker but you're going to have to be substantial -- well, it depends on the winds but substantially below your approach speed to get in any kind of trouble.

48Q. And by "stick shaker," you mean an alert from the aircraft that you are potentially approaching stall airspeed, correct?

48A. Correct.

49Q. So, specifically for the 80/260 maneuver, can you describe how you instructed crew members?

49A. Yeah. I instructed crew members on the initial take-off, again, to start lowering the nose at 1000 feet while continuing to climb to 1500 feet AGL. When you start to get flying airspeed, I chose a technique at 15 knots above your flap retract speed was a good time to begin your turn maneuver --

50Q. Okay. So, that 15 --

50A. -- I maintain 15 knots above whatever my min maneuvering airspeed was, we call it MUMAMA, and the airplane -- is a good indication for -- to turn using 30 degrees of bank.

51Q. You mentioned 15 knots above, so that would be 15 knots of extra speed that's required above the speed to move the flaps into the up position, correct?

51A. Not required. Per the Dash 1, you can move it at the flap retract speed.

52Q. Okay.

52A. So, you know, there is a flap retract speed that's indicated on the HUD and the MFD, the multi-function display, and the heads-up display, and you're cleared to move flaps up. The Dash 1 does recommend, or at least I think it used to, I've been out of the airplane for two years, but it recommended anymore than 15 degrees of bank that if you're right on your flap retractor, your flap retract speed, to -- you use caution when going beyond 15 degrees bank. But I don't know if that's still in there or not.

53Q. Okay.

53A. So, I was taught add 15 knots if you're going to go more than 15 degrees and it's a 30 degree turn.

54Q. So, your technique was to use 15 knots above that speed --

54A. Correct.

55Q. -- and how -- what reasons did you have for using 15 knots above that airspeed?

55A. It just, you know, it's extra airspeed for mom and the kids, so to speak. You know, it's just a little extra safety boundary. Because you are fairly slow taking off. You're lightweight. So, your speeds aren't usually what you're used to seeing on any typical mission taking off in a C-17. So, you're a lot lower in your speed. Granted the airplane does accelerate a lot faster. So, it's usually a non-factor but it's nice to have that extra 15 knots.

56Q. If you could continue talking us through that maneuver?

56A. Sure. So, the book calls for 45 degrees on that 45/60, but again, I never used 45 degrees of bank because one, you start the turn just for crowd pleasing and everything else like that. Once you establish a turn, we taught don't go back into the book because it makes it look like it's a sloppy profile, just accept what you have. So, I taught 30 degrees of turn for the 80/260 --

57Q. And you mean --

57A. -- and maintain slower airspeed so --

58Q. You mean 30 degrees of bank?

58A. -- if you're going 20 knots in that turn it's more than enough to maintain one, a good type boundary to the airfield and make it look clean throughout the maneuver. So, 30 degrees of bank, accelerate to 220, clean up, meaning bring your flaps up at your flap retract speed, slats up at slats retract speed, and then you set yourself coming back in. And once you're rolling out onto your crowd center line, and you're not going to overshoot, then you can begin to accelerate for your 250 knots or your 300 knots, whatever may be the case for your high speed pass.

59Q. So, to summarize, approximately 15 knots above your flap retract speed you would retract the flaps and then you would establish a bank angle somewhere around 30 degrees and then you would retract the slats on airspeed, on your minimum slat retract speed, and then you would continue to accelerate to 220 knots? And make --

59A. Correct. And just to clarify, the flap retract speed -- the flaps were retracted at flap retract speed but I didn't initiate any turns until 15 knots above flap retract speed.

60Q. Okay.

60A. So, it was a bank angle thing.

61Q. And you --

61A. Not so much a flap retract.

62Q. And you mentioned that that was for an extra safety margin before you started that turn, correct?

62A. Correct.

63Q. Yeah. Can you explain what you meant by "don't go back into the book?"

63A. The book calls for 45 degrees of bank. I didn't say "don't go back into the book." What I meant was if you've established a 30 degree turn, which is all you really need when you're at slower speeds, there is no need to go to 45 degrees because the crowd, they see you establish a 30 degree bank angle, and then they see you turn again another 15 degrees. So, just for the crowd, it makes it look like it's a sloppy turn and that's what I taught. So, 30 degrees is more than enough bank whereas the book calls for 45 degrees of bank angle for that turn. So --

64Q. And "by the book," you mean AFI 11-246, correct?

64A. Correct.

65Q. And during the configuration changes, "configuration changes" mean moving the flaps to the up position and retracting the slats, who called for those configuration changes? Was it the pilot, co-pilot, or safety observer?

65A. That's called for by the pilot.

66Q. And was that verbalized?

66A. That was.

**Questions by the Board President:**

67Q. And that's what you taught also?

67A. Yes, sir.

**Questions by the Pilot Member:**

68Q. Did you teach anything specifically or did you fly specifically with a plan for rudder use?

68A. No, sir. The rudder is a technique that has been out there. I know years back the reserves liked to use it but I always taught that there was no requirement for use of the rudder on this airplane.

69Q. And did you ever --

69A. The planes aren't that close in. They're just not that -- there's no requirement for it.

70Q. And so, you never found that the rudder was required at the bank angles that you flew to make the -- to make the profile work correctly?

70A. No, sir. And in fact, you know, usually on the 12 minute profile, we usually finished in about 10 minutes and 20 seconds. So, there was no need to tighten up the turns or do anything different.

71Q. And did you teach that also?

71A. I mentioned the technique but I also mentioned the fact that there wasn't a requirement to use that.

72Q. You mentioned that the checklist or the configuration was changed or called for by the pilot and it was verbalized. Were all checklists also verbalized?

72A. We used two checklists. All normal aircraft checklists, like the profile checklist, the approach checklist, and the before landing checklist, and the full stop taxi back checklist, those were the four checklists that were used on the profiles. Those were all called out normally and verbalized normally in the airplane just like you would on any given mission. There is another checklist that basically it's an aerial demonstration checklist and that was written by the reserves a long time back as well that kind of sets up the airplane internally so that it makes the switchology match what you want it to match and it also eliminates unwanted cause alerts or terrain calls, you know, from the caution warning system in the airplane. That was verbalized by the pilot flying -- or by the pilot not flying and the safety observer. So, there is two checklists. But that was never a checklist that configured the airplane or put it in anything unsafe. All that did was set the airplane and the box, the mission computer, up for the actual profile and then it set it up for the landing so you didn't miss landing lights, you got a good gear call, you got just a typical FAA required items prior to landing, that you got those knocked out. And the pilot wasn't required to call that but I always taught hey, give me at least one or two indications that you're running that step. Give me a chance to acknowledge it. If I don't, continue on. But everything else was normal.

73Q. And just a few things to clarify. By "switchology" you mean the position of the switches in the aircraft?

73A. Correct.

74Q. And the pilot not flying? That would mean the co-pilot in the air show demonstration configuration, correct?

74A. Correct.

75Q. And then FAA, you're referring to the Federal Aviation Administration?

75A. Correct.

76Q. And in regards to the checklist, was it common practice for aerial demonstration crews in the 3rd Wing to use the Aerial Demonstration checklist?

76A. I'm not sure what the 3rd Wing used. Like I said, I was out there for 72 hours. I trained those guys and I never saw them fly a profile, never saw their training program after that.

77Q. Was that checklist in use at your home station or was that just relevant to the 3rd Wing? Was that something that was specific to the --

77A. No, it was provided to me by Charleston and was trained to me at Charleston and I used it to train my folks. It did a great job of setting up the box and making sure you didn't miss anything. So --

78Q. And do you know if that checklist was ever certified as part of the 3rd Wing's approved checklist?

78A. Not that I'm aware of and it never was at Hickam, either. It was strictly technique only.

79Q. So, when you saw this checklist or your interaction with this checklist, did it have any certification written on it or did it appear to be an official checklist from any of the wings?

79A. It did not.

**Questions by the Board President:**

80Q. <sup>WITNESS 12</sup> can we just take one pause -- quick pause for the minute, if we may?

80A. Absolutely, sir.

MAJOR And we're back on the record. This is Major Go ahead, sir.

**Questions by the Board President:**

81Q. So then, <sup>WITNESS 12</sup> just to qualify what you were saying about the two checklists, the -- your normal checklist that you run is the Dash 1 checklist. The aerial demonstration checklist is the one that's used as technique only, just to make sure that the switches are in -- as a reminder that the switches can be placed in positions that are better for the demonstration. Is that correct?

81A. That is correct, sir. The Dash 1 checklists are mandatory. The technique checklists, the aerial demonstration checklist, was just there for our own benefit to make sure that we got the switches where they needed to be.

**Questions by the Pilot Member:**

82Q. And you never used that aerial demonstration checklist to take the place of any of the technical order, meaning the Dash 1 technical order checklists that are required?

82A. That is correct. They were run in conjunction with each other but one never took the spot of the other one.

83Q. Okay.

83A. Ever replaced it.

84Q. During the -- during your experience with training the demonstration pilots, you mentioned the profiles and you talked us through those. During any phase of the profiles, do you remember specifically a propensity or do you remember the aircraft stall warning system alerting?

84A. Not that I can recall. Again, it's been a little over two years. So -- the sim profile, each of the members I believe they got into the stall warning system but that's fairly typical for a brand new pilot that's jumping in to do the profiles, day 1 in the sim, after, you know, they've never seen it before. So, I want to say there were a few times in the sim that we got the stick shaker and I'm not sure about the airplane.

85Q. And we defined the "stick shaker" earlier as when the aircraft alerts the crew that it's approaching stall speed and the stall warning system also accomplishes that same task.

85A. Correct.

86Q. In the simulator when they -- when you -- when these students did -- were alerted by the stall warning system, what did you teach the students to do regarding the recovery or their response to that stall warning system?

86A. If it's on the initial take-off, usually it's because they pulled too quick which can lead to a tail scrape or something else. So, usually I just taught them it's a normal take-off, nice, smooth back pull, continuing to a steady climb. If the stick -- or the stall warning came in a turn, it was as simple as relaxing the stick and then rolling out.

87Q. Regarding the AFI 246 C-17 profiles, what did you teach your -- what did you teach your students or what did you teach members in aerial demonstration upgrade regarding adherence to these profiles?

87A. We printed out those profiles and made them into knee boards. So, we provided the folks I trained at Elmendorf with copies of those knee boards that they could use, where they put the entire profile, it's shrunk down into a easily readable format and it's placed on a knee board and strapped to their knee. So, they have access to those profiles visually within the airplane.

88Q. And by adherence, did you teach them as guidelines or procedures?

88A. Those were procedures.

89Q. And in regards to our previous conversation about stall warnings, what -- was there a lag time between the stall warning and the reaction or did you teach -- did you teach an immediate recovery to that stall warning?

89A. No. It's an immediate recovery and I think that's inherent in most Air Force pilots. You know, they're taught from an early age, when you get a stall warning that you immediately release back pressure and roll out. So, that's ingrained in us early on through pilot training.

90Q. And that's true even for demonstration profiles?

90A. Correct.

91Q. Previously you had mentioned that you trained **MP** Is that correct?

91A. Correct.

92Q. During that training, what was your assessment of his performance?

92A. Again, it was a 72 hour snapshot. I got one sim and one flight with him but overall I would say he wasn't one of the stronger of the three. In fact, he was probably the weaker of the three that I trained that day. Again, I chocked it up to he was a Boeing sim instructor full-time at the time of the training. So, I wasn't aware of his frequencies of flights or anything like that. So, I thought maybe he was just a little rusty but he would -- had been picked to be there and be the initial cadre on the Aerial Demonstration Team so I trusted the leadership knew that they were putting a good pilot up there to learn.

PRESIDENT: Hey <sup>WITNESS 12</sup> I'm sorry, again. We just got a knock on the door. So, we need to take a real quick break to answer this question and I'll be right back with you. Is that okay?

WITNESS 12 That's fine, sir.

PRESIDENT: Thank you for your patience.

WITNESS 12 You bet, sir.

### Questions by the Pilot Member:

93Q. Hey, it's again, the pilot member. You mentioned that **MP** was not the strongest of the three that you trained at the 3rd Wing. Were there any particular areas of weakness that you noticed?

93A. It's just basic flying skills, basic control. And again, it was -- I chopped it up to the fact that maybe he -- because he was the only reserve member of the three -- or guard member, that maybe he hadn't flown as much as the other two had flown frequently.

94Q. Following you -- following this training, did you certify **MP** to fly demonstration profiles?

94A. Again, I had no involvement in the certification process. All I did was recommend that he be certified in the position but the 3rd Wing has the process ownership of certifying all those individuals. And I recommended **MP** be certified as a safety observer.

95Q. And was there a reason you recommended him for safety observer in particular or was that your overall perspective at the time?

95A. That was just my overall perspective at the time. So --

96Q. Did you make any other recommendations regarding **MP** and his upgrade?

96A. I recommended he be upgraded to pilot flying at another time. I don't know if they used -- if I gave a time frame or if I just said at the earliest convenience.

97Q. And you did document that in the training management system. Is that correct?

97A. That's correct.

98Q. Lastly, did you, during your demonstration experience, notice any unusual handling characteristics of the aircraft at any time during the profiles?

98A. I did. I did have an ALS system go off and I can't remember what that stands for.

99Q. That's the AOA limiting system.

99A. There you go. On initial take-off, on one of ours, we were about 200 feet off the ground and continuing my pull up to -- usually we pulled to about 20 to 25 degrees nose high attitude for the initial take-off, and on that initial pull about 200 feet into that I got the ALS system that flashed in the HUD and took over the stick control and begin to pull back even further on the stick, which it's not supposed to do per the Dash 1. So, I ended up having to push forward on the stick to break the ALS system and then manually push the stick forward. That was the only odd thing I ever saw out of the airplane on a demo profile, though.

100Q. And to clarify, the ALS is the angle of attack limiting system and that's designed to prevent a stall from occurring. And the design of the system is to phase out back stick or nose high commands from the pilot or co-pilot positions and return the nose to a more level configuration.

100A. Correct.

101Q. When you mentioned that the ALS activated during take-off, you said at 200 feet, you mean 200 feet of altitude? So, above ground level?

101A. Correct. AGL. Above ground level.

### **Questions by the Legal Advisor:**

102Q. This is **MP**. I'm sorry, just to clarify, you're talking about -- the 200 feet during take-off, what time frame are you talking about? What year? Was this during your training of the demo pilots here or was this just in another experience that you had?

102A. No, that was at the Avalon Air Show in I believe it was February of 2007. I'm not sure on that date.

103Q. And did you have this ALS activation or signal, did you have this during your training time -- during your training period with the 3rd Wing here?

103A. No, I did not.

104Q. Also, I'm sorry, just to clarify, you also mentioned the "HUD." What is the HUD, please?

104A. It's a heads up display.

105Q. And what does it display in general?

105A. It displays the primary flight characteristics. So, airspeed, attitude, altitude and it will give you a flight director reference on the airplane -- on the HUD also.

106Q. And the "flight director" is?

106A. It's basically a superimposed airplane and shows your relative position of the airplane to the horizon.

107Q. And when you -- you mentioned several times the "stick shaker," the "stick," can you just tell me what the stick is, please?

107A. The stick would be the flight control stick. Basically you would call it a yoke in a big airplane.

108Q. And it's the stick that the pilot uses to direct the aircraft to change its heading and --

108A. Correct. To control all flight controls.

109Q. And you said that when the ALS system kicked in that you had to push the stick forward. Can you -- how much force did you have to use to push the stick forward?

109A. It wasn't much. The airplane has what's called force mode. So, if you push too much on a -- when it's got the automatic flight control system engaged, it'll go into force mode which is a different problem. So, this was maybe only one to two pounds of pressure, of forward stick pressure, to stop the ALS system from continuing to pull back on the stick.

**Questions by the Board President:**

110Q. <sup>WITNESS 12</sup> just to finish, just one last question if I may and that is for you. Are there any other matters that we haven't covered today in this interview that you feel might be important to our investigation?

110A. No, sir.

PRESIDENT: If I may, now, I would like just to read you, to close up the interview, if I may. You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview at this time. The time is now 1009 local.

**V13. AIB INTERVIEW WITH WITNESS 13**  
**VERBATIM TESTIMONY OF**  
**WITNESS 13 USAF**

[14 September 2010, 1311, local Alaska time.]

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II, President of the Accident Investigation Board, convened to investigate the C-17 mishap that occurred on 28 July 2010, Tail Number 00-0173, at Joint Base Elmendorf-Richardson, Alaska. The accident investigation board is in Building 7309, Room 106, JBER, Alaska. We are conducting a telephonic interview with the witness, **WITNESS 13**, who is in Building 52, Room 1715, Altus AFB, Oklahoma. Also present with the witness is **LEGAL REP** with the Altus AFB, Legal Office. Prior to the start of this interview, **LEGAL REP** positively identified the witness in accordance with AFI 51-503, Chapter 6, Paragraph 6.7.

The persons present in this interview are:

Brigadier General Carlton D. Everhart, II, Board President;  
Pilot Member;  
Legal Advisor;  
Medical Advisor; and  
Court Reporter.

This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for the use in claims, litigations, disciplinary actions, adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on this accident. Any testimony you may have given before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any of the confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public.

**WITNESS 13** do you understand the difference between any testimony you may have given before the safety investigation board and your testimony to the accident investigation board?

WITNESS: Yes, sir. I do.

PRESIDENT: **WITNESS 13** do you consent to having this interview recorded?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time,  
<sup>LEGAL REP</sup> please administer the oath to the witness.

LEGAL REP Yes, sir. Please raise your right hand.

WITNESS: [Did as directed.]

LEGAL REP Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, I do.

PRESIDENT: Thank you, <sup>LEGAL REP</sup> for your service. You may be excused.

LEGAL REP [Withdrew.]

PRESIDENT: I would like to start with the questioning.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 13**

2Q. How long did you serve in the Air Force?

2A. Sir, it has been 9 years.

3Q. What is your unit of assignment and location?

3A. 58th Airlift Squadron, Altus AFB, Oklahoma.

4Q. How long have you been with this unit?

4A. Sir, just almost a month.

5Q. What is your job title?

5A. Currently, I am in training to be a flight training unit instructor with the expectation of becoming an executive officer in the squadron once my certification is complete.

6Q. Could you briefly describe your current duties and responsibilities?

6A. Yes, sir. Currently, I will fly from familiarization rights in the aircraft, familiarizing myself with the local area -- just basic local training objectives here at Altus. I will also be observing and, also, conducting training sorties with students, to be ready to be certified as a flight instructor here at Altus AFB.

7Q. What was your unit of assignment from 2007 to 2010?

7A. 517th Airlift Squadron, Joint Base Elmendorf-Richardson.

8Q. What were your duties and responsibilities when you were stationed at Elmendorf AFB, or Joint Base Elmendorf-Richardson, at the 517th?

8A. Sir, in the beginning, I was a scheduler in the squadron. Then I became a chief scheduler, then assistant flight commander for support flight, then the support flight commander, then an assistant director of staff for the commander in the squadron, and then Director of Staff for the Commander, 517th Airlift Squadron.

9Q. Are you familiar with the C-17 aerial demonstration program?

9A. Yes, sir, I am.

10Q. Can you describe your C-17 aerial demonstration background?

10A. Yes, sir. In late December of 2008, I believe it was, I was brought into the office by my commander. He advised me that he had selected me to become a demonstration pilot in the squadron for the 3d Wing. From there, I went through a training upgrade with, basically, WITNESS 11 as my instructor.

11Q. You were an aerial demonstration qualified pilot?

11A. Yes, sir, I was. Initially, I went through the safety pilot upgrade to be a safety pilot. Once we flew the simulators a couple of times, it was determined I could become a full pilot for the aerial demonstration, based on the fact I was an instructor pilot. That was discussed by WITNESS 11 and my commander at the time. And then I become fully qualified as a pilot for the aerial demonstration.

12Q. WITNESS 11 what was his duty title? Who was he?

12A. His duty title, at that time, I'm not quite sure, to be honest with you. I believe it was in the current operations in the wing; I believe he was working there. He was fully qualified as a C-17 instructor pilot and, also, was fully qualified as a pilot for aerial demonstrations.

13Q. Also, you mentioned the squadron commander. Who was that at that time?

13A. That was WITNESS 23

14Q. Would you please describe your demonstration training?

14A. Yes, sir. From what I remember, we did multiple simulators, basically getting familiar with the three profiles, primarily, the 12-minute and 8-minute, I believe it was -- the shorter one and the longer one, with most of the practicing with the 12-minute profile, which is the most common. We did several of those simulators and then we went and did several local flights at Elmendorf, to further practice and become fully certified for the aerial demonstrations. That was also included, on the last flight, for the certification of videotaping, to get the full certification.

15Q. What was the certification process during your training?

15A. The certification training ----

[Note: Computer problem. Brief recess.]

16Q. <sup>WITNESS 13</sup> thank you for your patience. I want one clarification for the record. You talked about the profiles, Profile 3, or the 12-minute profile. That is the profile that you are most familiar with, correct?

16A. Yes, sir, it was.

17Q. What was the certification process during your training?

17A. Sir, from best I remember, I am pretty positive this is the way it went. We got a MFR type document which listed out the things to accomplish, which was reviewing the regulations pertaining to aerial demonstrations. I believe there was also an operations group amendment to that when I got trained, if I remember right. And then we would do several simulators and several flights -- I cannot remember numbers to be exact -- with the last flight we did a videotaped flight, which was for the Wing Commander, from my understanding. He could review and fulfill the final certification we could become aerial demonstration pilots. That was the training process I remember doing, December-January timeframe.

18Q. Who did you initially train with? Who were the other people being certified?

18A. Sir, it was <sup>WITNESS 11</sup> as my instructor who trained myself and, also, **MP** who was, also, in the process of getting certification, as a pilot, for the aerial demonstration.

19Q. Once you were qualified, did you actually provide demonstration training to other crewmembers?

19A. No, sir, I did not.

20Q. Are you familiar with AFI 11-246, Vol. 6, Chapter 3, Demonstration Profiles?

20A. Sir, if that is the regulation that talks about Profiles 1, 2, and 3 of the C-17, yes, I am pretty familiar.

21Q. And just for clarification, that is the regulation. Please explain in general terms how these profiles are used for aerial demonstration performance?

21A. Sir, can you explain that a little bit better?

22Q. Specifically, Profile 3, how would you perform that profile?

22A. Sir, the profile would start with takeoff from the place where the aerial demonstration was performed for the crowd, which was a high angle the tech climb out, it would be a max power static takeoff. The initial climb out, we would climb out, and once we approach the VMCO speed, we would lower the nose. The target altitude from what I remember was -- I believe it was 1000 to 1500 AGL was the window you were trying to hit, but, of course, the overarching thing was your air speed not getting below VMCO and lowering the nose. After

lowering the nose, there would be a turnout. You would turn depended on where the crowd was, you would turn away from the crowd. That would be to an 80 degree off-heading to perform a 260 during maneuver, which is an 80 degree turn, initially, and then 260 degree back around for the first pass. On the turnout, lowering the nose and turning out, we would be at max power, still, holding max power, and cleaning up the plane on speed, with the flaps up, then the flaps retract. Also, with that, we knew there was -- the way we determined was by timing -- with practicing, we would use timing and seconds. Once we rode out that heading 80 degrees, off from the takeoff, we would time -- I believe it was in the vicinity of 8 seconds from, what I remember for most cases, maybe a little bit more, if it was a higher pressure altitude, hotter temperature type thing, conditions, or maybe heavier fuel. The timing outbound and accelerating the whole time, cleaning up on speed, once we hit the timing and we are at a pretty decent speed, I would say, probably, in the 230 range of air speed, I would guess, from what I remember, we would start the turn back around 260 degrees towards the airfield. This was setting up for the high speed pass where we are trying to accelerate on up to -- the target was basically 330 knots, once you would cross the threshold, on the runway, before show center. Turning around for that 260 degree turn, the big thing for that first turnout was knowing that initial heading to turnout and then using the curve path to judge your rollout heading for getting on the threshold with an extended centerline we use on the NAV display.

23Q. You say "curve path," you mean the flight path predictor?

23A. Predictive flight path, I'm sorry.

24Q. And then you mentioned "VMCO"?

24A. Yes, sir.

25Q. What is that?

25A. There's a speed in your heads-up display, your minimum climb out speed.

Basically, you would not want to get below that speed, so we would lower the nose before that. That was like our minimum maneuvering speed in the takeoff mode for the plane.

26Q. How many air shows did you perform while you were certified as a demonstration pilot?

26A. I performed two air shows in India, at the India Trade Show, I believe it was called. It had another name and I'm blinking on the name. It was in India and it was a trade show. And then I did a practice and one air show in New Zealand. That was the extent of my air show demonstrations.

27Q. Do you remember when those air shows occurred?

27A. The India Air Show was early February 2009, and the New Zealand Air Show was the end of March 2009.

28Q. Who did you fly them with?

28A. The India Air Show was with WITNESS 11 and MP The New Zealand Air Show was with WITNESS 11 and WITNESS 26

29Q. Did you need to modify the demonstration profiles for any of the air shows you flew?

29A. No, sir. We did not do that. From my understanding, that needed a waiver process to do any modification.

30Q. What about distances, as far as how you flew out on the 80-degree heading change from show center, did you modify that at all?

30A. No, sir. I did not modify that. We, basically, had a basic idea -- our way of figuring out the distance without being heads down much was the timing. We used the timing that worked well for Elmendorf, because it was pretty close to a standard day in the summer. The India Air show is a good example; it was hotter and higher pressure altitude there. We had to extend the timing more for that air show.

31Q. In the India Air Show and the New Zealand Air Show, you were in the left seat as a demonstration pilot, correct?

31A. We did seven total demonstrations in India for the Trade Show. I did two of the seven. One of the seven was the practice air show which <sup>WITNESS 11</sup> flew. He flew two more actual demonstrations; **MP** flew two more; and then I flew the last two demonstrations there. Seven total at India.

32Q. Did you see **MP** or **MSO** fly profiles during the Thunderbird Tour in the Pacific?

32A. No, sir. I was not on that mission.

33Q. Going back to the performance demonstrations that you performed in India with **MP** flying, did you observe those flights?

33A. Yes, sir. I do not recall exactly. I was either the co-pilot, or the safety, or I might have been each of those positions -- I might have been the co-pilot on one of the flights and a safety on another flight. I do not recall, exactly, my crew position on those two.

34Q. With **MP** flying, could you elaborate how those flights were conducted and how they went?

34A. Sir, from what I remember, they went fine. The only demonstration I recall, specifically, was the practice demonstration where we were not accustomed to the higher pressure altitude, higher temperature. We used our normal timing we had used before, which made us -- we overshot the high speed pass turn, crossing the safety line, basically, on that practice, because we were at 60 degrees of bank, but that was the best we could do. That is the show I remember. That is when we decided we had to do more timing, extend out that 80-degree turnout for the next six shows to make it work.

35Q. For clarification, you said 60 degrees of bank because that's what stated in the Dash-1?

35A. Yes, sir. Sixty degrees would be the maximum banking we would use on the plane. We would never go over 60 degrees for the bank angle.

36Q. Let's go back to talk about some of the profiles. Please describe the departure portion, from the static takeoff for Profile 3.

36A. Okay, sir, what you just mentioned is a static max tire takeoff. I believe we would put a Delta-V rotate in to get a little more speed before rotating -- get a higher rotate speed. We would rotate to a higher than normal angle of attack, higher than 15 degrees. And then when we saw the speed approaching -- the minimum control speed for the takeoff -- we would lower the nose to not get below that. Once we had done all that, we would start the turnout for 80 degrees off, and go to that initial heading we had talked about prior to flying.

37Q. You said higher than normal AOA. Can you describe that? What were those degrees?

37A. Best I remember, you could get to about 30 degrees would be about as high as it would get -- angle of attack.

38Q. And what was your target altitude for the takeoff and climb out?

38A. From best I could remember, it was between 1000 and 1500 AGL was the target. But, again, in our minds, the min speed would be first thing before that, which would cause to get more like a 1000 AGL. I would say closer to that as an altitude reference.

39Q. 1000 feet AGL, what was the reason for that?

39A. Sir, from what I remember, you would hit the main control speed at about that point, or you would be approaching that. We did not want to get below that speed, so we lower the nose and that would start stopping the climb. From what I remember, it would be about 1000 AGL in most cases. I do not remember getting all the way to 1500 feet AGL.

40Q. What was your plan to fly, the target altitude or to fly the target speed? Can you describe that for me?

40A. The target altitude was in mind. We want to reach 1000 AGL, basically, per the flight profile. Speed, in our mind, was our biggest concern because, with that high of an angle of attack, you could get slow pretty fast. As soon we started approaching the minimum control speed, we would lower the nose and arrest that slowdown of speed.

41Q. Why was speed a bigger concern, versus altitude?

41A. In my eyes, you get into the stall region. You probably start getting ALS, maybe, flashing on the FMAs, or stall indications if you kept it going. I never remember that happening. But that would be my guess, as the first thing you would see.

42Q. "FMAs" stands for?

42A. I'm sorry, sir. I'm having a mind blank.

43Q. I think it is Flight Motor Annunciation, right, or Annunciator?

43A. That sounds right, sir.

44Q. What were you taught as far as the initial altitude? Were you taught 1000 feet? Were you taught 1500 feet?

44A. I am pretty sure I was always told 1000 to 1500. Every time we put it, it seems closer to 1000. But the altitude that really stands out in my head, you never want to be lower than 500 AGL for any of the maneuvers coming up -- the high speed pass, the low speed pass, all that kind of stuff.

45Q. You described the 80/260 maneuver. What was your instruction, specifically, regarding the bank angle for that turn -- for the 80 turn, degrees off, and then the 260 back to the runway, what was your instruction regarding bank angle?

45A. I remember the initial turnout no more than 45 degrees -- the bank angle there. From there on out, I would say most turns would be between 45 and 60 degrees, but never more than 60 degrees.

46Q. The 260 was no more than -- is 45 to 60 degrees. Was it initially 45 degrees, or did you go straight to 60? How were you taught?

46A. I think we were taught, after that first turnout, we could go up to 60 degrees. Again, it seemed to me that we were more dependent on the speed you were at when you started that turn back around, because you knew you had a growing flight path vector. I would say it was closer to 60 degrees on that that first turn back inbound.

47Q. What was your instruction regarding the use of rudder during those turns?

47A. I do not remember a specific instruction on how much rudder to use, or to use rudder. I knew I could use some rudder if I needed to. But I do not remember specific instruction as to use of the rudder, per se.

48Q. And then you say some rudder. How do you describe "some rudder"?

48A. I don't know. I don't remember a ton of rudder. Are you looking for degrees or how much pressure, maybe?

49Q. Was it half rudder, a little bit of rudder, full rudder?

49A. I don't remember going full rudder. I would say maybe half. But, 60 degrees, once you get to that point and, say, you were going to overshoot, in my mind, and the way I was taught, you accept it and you fix it the next time you did it. You did not fly out enough time -- what we base on time -- you did not fly out enough distance to make that turn. I do not remember going full rudder with 60 degrees.

50Q. Did you learn that based off your experiences?

50A. I would say that is experience-based. By then, once you are coming around that turn, you are accelerating, you are trying to get to 500 feet AGL, I would think a whole lot of rudder, it would be harder to keep it level, or keep the altitude you are trying to keep.

51Q. Why is that?

51A. It is quite a bit of bank angle. It seems like it would be -- I know you have to have a lot of back stick pressure with 60 degrees -- a decent amount, I should say. The rudder I would use, it would be a little bit more. I don't know how much full rudder would -- I don't know how much back stick pressure that would require. I would say quite a bit.

52Q. You said "decent" or "quite a bit." What is that?

52A. I remember pulling a pretty good amount, I would say. I don't know how to explain it in good qualifying terms. You definitely had to physically pull back on the stick to hold it level once you got to 500 feet with 60 degrees of bank. That might have been more because I might have to add some rudder in. I don't know how to quantify, if you add full rudder and full 60 degrees of bank.

53Q. During the 260 maneuver, if you were at 1000 feet, would you ever hold level flight, initially, and then descend? How would you do that with the stick pulled? You said you could go up to 60 degrees bank. If you went to 60 degrees bank, would you hold the stick back the whole level of flight and then eventually descend, or was it a descending movement once you started the 260 degrees?

53A. It was a descending turn for the 60-degree turn. From what I remember, when you roll-out, you were pretty close to approaching the threshold. If I delayed that descent more towards the end of the turn, from what I remember when I flew it, it was very difficult to get down to 500 AGL with that much time.

54Q. You said to the threshold of the runway?

54A. Yes, sir, usually to the threshold of the runway, basically, prior to pulling the power to idle to quiet the jet for the show center pass, to provide speed, yes, sir.

55Q. During this maneuver, the 80/260 turn, how was the aircraft configured or de-configured?

55A. We would do the 80-degree turnout and the plane would start accelerating, starting at turnout and lowering the nose and we would be lighter weight for aerial demonstrations. I don't remember being much more than 40 or 50 thousand pounds of fuel, I would say. When I flew the demonstrations, we would start that 80-degree turn outbound and de-configure on speed. I would always tell my co-pilot we wanted flaps up on speed, flaps retract on speed, everything on speed. I would try to announce that when I saw that point come. From what I remember, everything would be cleaned up, flaps and slats, before we turn back inbound.

56Q. Regarding the de-configuration and configuration process, with the use of a checklist, which demo crewmember initiated and called for the checklist?

56A. Well, when I flew it, I would try to call for flaps up and flaps retract. I told my co-pilot if I miss that and he saw the speed -- my VMFR speed -- the speed for flap retraction or the speed for flat retraction, if he saw that, I told him to announce flap up, basically, and I would confirm it. That was basically the way we ran that. There wasn't another checklist. The

first checklist we would run would be the approach checklist. Is that what you are referring to, the checklist?

PRESIDENT: Yes.

WITNESS: The first checklist we would run would be the approach checklist. That was the 160 knot, 360 degree turn where we would start that process.

57Q. Overall, regarding the AF 11-246, C-17 profiles, what were you taught in regard to adherence to the profiles? By "adherence," were they regarded as guidelines or procedures?

57A. Well, it was a regulation. I considered it guidelines you follow. From what I remember, reading that regulation, it was not specific as how to fly the profile. I say "specific," like, exact banking goes on everything, exact timing, distance type things, speed you are shooting for; I do not remember specifics like that. There were guidelines on the type of pass and the type of maneuver to get that pass, from what I remember.

58Q. Let's go back to the checklist. In regards to those checklists, do you recall using something called the "aerial demonstration checklist"?

58A. Yes, sir. I do recall that we had a fanfold which was a modified -- the modified areas I remembered were, basically, before the demonstration. I want to say there might have been some things after the demonstration. But it was more setup like having extended centerlines, so we could better judge our turns back inbound, that kind of thing. I believe there was a GPWS TAWS -- tactical mode, I believe, if I remember right.

59Q. GPWS and TAWS, what do they stand for?

59A. I'm sorry. Ground Proximity Warning System and Training & Awareness Warning System. I believe it went to tactical mode. It has been a while. But I believe that is what we went to before the profile.

60Q. Can you tell me where the checklist came from?

60A. No, sir, I cannot. I thought it was referenced from the regulation, but I cannot be for certain on that.

61Q. Do you know who approved it?

61A. From what I remember, that was a Wing CCV approval authority on that checklist.

62Q. CCV?

62A. I'm sorry. I am mixing up my acronyms and what they stand for. They called it CCV at Elmendorf. Basically, OGV, Standardization Evaluations Flight.

63Q. With the aerial demonstration checklist, tell us how that was utilized?

63A. It was utilized just like we utilize the fanfold in the airplane. We treat it like a fanfold for the checklist we would run for the profile, from before starting the profile, to the approach checklist, before landing checklist and after landing checklist.

64Q. Do you recall getting warnings or alerts from the aircraft during the aerial demonstration profiles?

64A. I'm sorry, I forget a lot about checklists. I don't know if that is important. All the required checklists were in there. Could you please repeat the question? I'm sorry, sir.

65Q. Do you remember getting warnings or alerts from the aircraft during the aerial demonstration profiles?

65A. The only alert I definitely recall from doing the profile would be the fuel quantity alert. Sometimes, we would be at 2000 pounds of fuel to start a demonstration, once you got the slush for banking, turns, stuff like that, I remember getting fuel quantity indication in tanks. Those are the warnings I remember.

66Q. I would like to ask you specifically. Did you ever get any stall warnings?

66A. No, sir. I don't remember stall warnings. I don't even remember a stall warning on final if you are DLC and not pushing -- Direct Lift Control -- using that button, and pushing the nose down -- not pushing the nose down to account for that. From what I remember, there was not even any of that, as far as a stall warning; I don't remember that.

67Q. How about when other people flew the aircraft?

67A. No, sir, not on the demonstrations.

68Q. You mentioned that you flew with **MP** during the air show tour. You also said that you received your initial training with **MP** correct?

68A. Yes, sir.

69Q. During your training, from your perspective, how did **MP** perform during that upgrade training?

69Q. I thought he performed fine. I kind of looked to him as being a little bit more experienced. I believe he was already qualified as, maybe, a demonstration co-pilot. I remember this warning from him, especially <sup>WITNESS 11</sup> who taught the speed demonstration pilots. From what I remember flying with him, Air India, which is the name of -- I liked the fact that we had to fly a lot of shows, but we had what I thought was really good CRM, Crew Resource Management, within the cockpit, I knew the way we flew and practiced together and we knew headings we were going to go to, timing, which is what we use as technique, to me I thought it gelled pretty well as a our group of three, especially in that air show.

70Q. Going back to the upgrade training with **MP** do you recall any particular strengths or weaknesses?

70A. No, sir. I do not recall that I can recollect at all.

71Q. Was he ever debriefed by the instructor, WITNESS 11 on any particular areas of his performance?

71A. I do not remember any, sir.

72Q. At any time before or after your training, did MP mentioned to you his philosophy or viewpoints regarding aerial demonstrations?

72A. From what I remember after we flew that Aerial India -- I don't remember talking to him much more about the aerial demonstrations. Like I said, I flew New Zealand with WITNESS 26, instead of MP. If we did discuss anything, it would seem like it would be more of the timing thing for the outbound legs, because that was always the thing we were trying to get better, especially when we were at Aerial India and we had multiple times to do the show. Other than that, I don't remember conversations beyond that.

[The board recessed.]

**Questions by the Board President:**

73Q. WITNESS 13 were you taught by any other demo instructors?

73A. No, sir. My only instructor was WITNESS 11

74Q. During the interview, you stated that you would shoot for target altitude at initial climb between 1000 and 1500 feet altitude above the ground. Where did you learn this?

74A. Sir, my recollection, that altitude was part of the profile in the regulation. I could be totally wrong on that, but that is my recollection, that was the target altitude.

75Q. Do you recall in the regulation what the target was -- attitude? Was it a range?

75A. From what I recall, I thought it was a range of 1000 to 1500 AGL.

76Q. There were several times during your interview you said "in my mind." What does that mean to you when you say "in my mind"?

76A. I believe, in those instances, it would have been "in my recollection" that is what I remember.

77Q. There were times when you talked about CRM. You would offer a challenge and be responded to as far configuration and de-configuration of the aircraft. Did MP did he use challenge and response -- Cockpit Resource Management, also?

77A. Yes, sir. We all did it. I referred to it as jelling -- especially down at Air India. Before every aerial demonstration, we would sit in the seats we would be in for that demonstration and we would, basically, chair-fly -- the big things we would hit with the chair-fly, the headings we were going to go to on every turnout, the timing we were going to use for that particular turn. Timing was not just for the initial turnout for the setup for the high speed pass. We had a timing on every turnout, except for the 360-degree turnaround. We went through all that stuff in our minds. I do not remember, ever, not using it. We would have a stick diagram of the profile, which had the headings we were going to go to. We already knew the

side the crowd was on, so we knew which side we were going to be turning away from the crowd. We had all those headings to pick. We had the timing on the stick diagram. In that sense, that is why I keep saying the CRM management -- what I thought was really good. I know from my personal experience flying that profile, it is very task-saturating and busy. Knowing those types of things in my head was huge to help me keep flying and keep my mind on what I should be doing, which is flying the aircraft.

78Q. Just for the record, "chair-flying," what does that mean?

78A. Chair-flying, in the sense, I am using it as -- we would sit in the seats we were going to be in for the demonstration we were about to perform. We would, step-by-step, go through the profile with each turn, each timing, each maneuver we were about to do, whether it be the high speed pass, the low speed pass, the 360-degree turn, the final landing, all the way to the getting the aircraft on the ground on the runway, and then backing the aircraft, we would step through that process all the way through.

79Q. You would do this on the ground prior to flight, going through it, mentally, in your head?

79A. Yes, sir, as a crew.

80Q. And then you did that in the aircraft, or, in a separate room, or?

80A. We definitely had talks during that show of how to improve. If we needed more time on a turn -- like I said, that first performance, we did not timeout enough because we were basing it on training at Elmendorf. But, yes, before every flight, in the plane, we walked through each part of the profile.

**Questions by the Pilot Member:**

81Q. You mentioned, during the 80/260 maneuver, on that initial 80/260, that after the 80 degrees of heading change, you would time outbound, correct?

81A. Yes.

82Q. About how long, in general, did you time outbound?

82A. I am almost 100 percent positive it was 8 seconds. I want to say, in India, it was more like 10 seconds; it was longer because of the higher pressure altitude, higher temperature.

83Q. You timed outbound in order to make your turn inbound without overshooting the runway or the show centerline, correct?

83A. Yes.

84Q. What bank angle did you plan to use in order to make that timing work out?

84A. That turn back inbound for the high speed, it was 60 degrees -- it was planned to be at 60 degrees, from what I remember.

85Q. Also, you mentioned, during the initial departure and the cleanup -- and we define cleanup as putting the flaps up and retracting the slats -- that usually occurred after the 80 degrees of heading change, but prior to making that 260-degree turn. In your recollection, I think you said you remember always having a clean aircraft, meaning, the flaps were up and the slats were retracted prior to making that 260-degree turn; is that accurate?

85A. Yes, that is accurate. I did not remember thinking about or cleaning up, at all, with that turn.

86Q. Do you ever remember, you or anyone else, actually retracting the flaps or the slats during that 260-degree turn?

86A. Are you saying as a pilot flying?

87Q. As a pilot flying, or, in another crew position during demonstration, do you remember any of the other pilots calling for that cleanup or initiating that cleanup during the 260-degree turn?

87A. I do not remember, ever, not being the co-pilot that would raise the handle for the flaps or the slats. But I am sure there were times that it might have been, even the safety, that would have sager at flat speed -- something to the nature, to get the flaps or slats up. That could have very well happened there. But I do not remember anybody but the co-pilot retracting the flaps or slats.

88Q. But when anyone else was flying, do you remember the cleanup occurring during the 260 degree turn?

88A. No. I just don't recall that ever happening.

89Q. <sup>WITNESS 13</sup> is there anything else you would like to add to assist us in our investigation?

89A. I would just say. You asked about strengths and weaknesses of **MP** I failed to add that -- Air India, especially. We had a lot of air shows -- when we flew that particular trade show, my impression was -- as we flew that air show over and over, day after day, **MP** and all of us, for that matter, would have the open the mind to -- whether it be getting our timing better or flying it better as a crew, we would always be trying to figure out ways to do it better. In my eyes, all three of us tried to excel to do it right and do it better -- or, more right, I should say.

PRESIDENT: Thank you.

You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

At this time, this concludes the interview. The time is now 1430 local, Alaska time.

[END OF PAGE]

**V14. AIB INTERVIEW WITH**

**WITNESS 14**

**VERBATIM TESTIMONY OF**

**WITNESS 14**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and will be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the differences between your testimony before the safety board and this accident board?

WITNESS: Yes, General.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Please be seated.

[The witness did as directed.]

PRESIDENT: Today is 16 September 2010, and time now is 1450 local Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,

**WITNESS 14**

Pilot Advisor;  
Legal Advisor;  
Medical Advisor;  
Court Reporter;

**MS S**, Civilian Attorney; and  
me, [Brigadier General Carlton D. Everhart, II, Board President].

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 14**

2Q. How long have you served in the Air Force?

2A. This November it'll be 8 years.

3Q. And your unit assignment location?

3A. 249th Air National Guard at Elmendorf Air Force Base.

4Q. How long have you been with this unit?

4A. One year.

5Q. What is your job title?

5A. I'm a C-17 Instructor Loadmaster.

6Q. How long have you been doing this duty?

6A. In the guard?

7Q. As an instructor loadmaster.

7A. As an instructor, since 2005.

8Q. Can you please describe your duties and responsibilities on 28 July 2010?

8A. I was returning from an off-station trainer that was taking place in England and Germany and I had landed that morning. I don't know the approximate time, but it was in the morning and that's pretty much it. We did our de-brief and then I went home that day.

9Q. Are you familiar with the C-17 aerial demonstration program?

9A. Yes, sir.

10Q. Can you describe your aerial demonstration background?

10A. Yes, sir. I became demo-qualified loadmaster around 2004 at Charleston Air Force Base in the 16th Airlift Squadron. There were a couple of flights involved. I got signed off and then I participated in I believe two or three air shows that year and then the following year. But like I said, I don't remember the exact dates on those.

11Q. What was your aerial demonstration training process?

11A. Process obviously, you had to go through a couple of the meetings, the briefings that occurred. In general you bring in a group of people from all I think three or four different squadrons that were there at Charleston and you'd be flying with other people from other squadrons as well. They'd get everyone on the same page. They'd go over what procedures were going to be used and then you'd go and you'd do one or two flights with an instructor and they would sign you off via TMS. After that that was it.

12Q. Then just to follow-up, TMS is the Training Manage --

12A. Training Management System. Yes, sir.

13Q. For the record you said "on the same sheet." You mean make sure everyone knew the same information. Is that what you're saying?

13A. Yes, sir.

14Q. Is that what you're saying?

14A. Yes, sir.

15Q. When you came to Elmendorf, did you have to go back through any training at all?

15A. Yes, sir. When I joined this unit, I was -- they took my instructor qual away and any other qualifications that I had and I pretty much started over. I think it was about 6 months later I had to go through a cert board again after I'd flown with a couple of their evaluators to regain my instructor qual. The other qual there showed demo. Yes, on July 9th I was brought in to fly a demo profile mission to become re-qualified on the demo team. Yes, sir.

PRESIDENT: I would like to show you a PowerPoint briefing that we have. If you could, please take a look at it and let me know after you're done.

PRESIDENT:

LEGAL ADVISOR: Yes. The general's handed me a 12-page PowerPoint presentation in hardcopy form. I'm handing that to <sup>WITNESS 14</sup> for him to review.

[The witness did as directed.]

WITNESS: Yes, sir. I've seen this before. Not in this full format though.

LEGAL ADVISOR: I've retrieved the PowerPoint hardcopy from passing it over to the civilian attorney, **MS S** to review.

WITNESS 14 I'm

**Questions by the Board President:**

16Q. So you recognize the PowerPoint brief?

16A. Yes, sir.

17Q. What is it?

17A. The PowerPoint brief that I saw was presented to me a couple of days prior to when we started flying the demos. They pretty much brought everyone in that was going to be involved in the upgrade process as well as crew members that had already been demo qualified. It was an introduction to the air show demo profile to what we do. I know for a fact I don't know the date that we had this, but I did come in late. I was working in my civilian capacities and I only saw the last couple slides of this demo. I was able with -- **MP** asked me to look this over afterwards and I did. I went through it.

18Q. So just as a follow-up, how do you recognize it? Do you recognize it through that --

18A. I did not see a hard copy of it. I saw it on a PowerPoint presentation in the conference room. I'm sorry, not the conference room -- the small theater room at the squadron.

19Q. So there, again, just for the record you did receive this briefing from **MP**

19A. Yes, sir. He was the one that was up front giving the briefing.

20Q. Can you talk us through what you remember about the briefing and how it was conducted?

20A. Like I said I showed up late; it was towards the end. Essentially **MP** was up front talking to everyone -- addressing everyone on the procedures, on the rules, how the profile demonstration was going to occur. He went over that there's different types of profiles based on what the air show coordinator wanted at the time. He also wanted us -- we talked about scheduling -- a little bit about scheduling in terms of try to make yourself available. I believe I was the only traditional guardsman there at the time so I remember having many conversations with **MP** afterwards in terms of when can I fly, what can I get out of this, how's it going to work in your schedule -- that sort of thing. I was going to school full time at the time. The briefing concluded and I sat around with **MLM** and briefly talked about it. He had asked about my experience, what I had done at Charleston and whatnot.

21Q. Then can you describe "traditional guardsman"?

21A. Yes, sir. A traditional guardsman is a person that is not considered an active guard/reservist or a fulltime person. Essentially I do my one weekend a month, my 2 weeks a year and I have an obviously currency to maintain and flying duties to maintain. So I fit those in my schedule as well.

22Q. Do you remember if anyone else was at the briefing besides yourself? You say

**MLM**  
22A. **MLM** was present at the brief. **WITNESS 5** I believe, was at the brief -- active duty loadmaster. **MCP** was there. **MSO** was there. Like I said **MP** was there. In terms of the guardsmen, I think that was about everyone that was present. There were quite a few other active duty that were there, but I don't -- I couldn't recall their names right now, sir. Pretty much anyone that had been called up to be on the demo to be qualified was at that briefing. There might have been a couple of people that weren't able to attend for certain reasons, but for the most part we were all there.

23Q. Do you recall which pilots you flew the demonstration flights with, or your training flights with, here at Elmendorf?

23A. Yes, sir. I flew on July 9 with **MP** with **WITNESS 5** **MCP** and with also **MSO** and **MLM** and

[numbering error noted]

23Q. You said that you were familiar or you had discussed demo profiles. Do you remember which demo profile you were flying or training for?

23A. It was brought up in the brief. I didn't remember and then when I spoke with -- I'm sorry. How do you pronounce your last name?

LEGAL ADVISOR:

23A. he told me that it was the profile 3, the longer version of it. Yeah. That clicked.

24Q. And the longer version meaning the 12-minute profile?

24A. Yes, sir. Yes, sir.

25Q. You mentioned that you flew with **MP** When did you fly these aerial demonstration profiles with him?

25A. On July 9, sir.

26Q. And that was the only day?

26A. Yes, sir.

27Q. Do you remember what the plan was for the training flight that day?

27A. Plan?

28Q. How were you going to conduct the mission overall?

28A. I showed up during the regular alert sequence. We sat down, we had our briefings. **MP** obviously, was the one running the -- he was the aircraft commander at the time running the show. **MSO** and **MCP** were both present there. I don't

know if they had done profiles before. I think it was brought up that they had and that this was continuing training, but I don't know that for a fact. WITNESS 5 was my instructor at the time. He was also -- it was not his first time doing this as well. So pretty much went through the sequence of events. I mean, really standard stuff in terms of when you show the aircraft, who's got primary duties, who's doing the pre-flights and then there was a lot of pilot talk, if you will, in terms of who's going to fly and how they're going to fly it. It seemed that I didn't -- if they had done any planning the day prior, I don't know if they did or not, but I wasn't privy to that. I didn't show for that planning. Stepped to the aircraft and -- do you want me to go into the flight?

29Q. Yeah, if you don't mind. Just a general plan overall.

29A. So we took off out of here. MSO was in the left seat. He did the first couple of iterations -- the shows, if you will. I believe there were three or four of those and then they swapped out and MCP got in the left seat. The whole flight MP was in the right seat acting as the instructor. The flight was really pretty standard, nothing that I wasn't too -- I hadn't done a demo profile in a few years. It's a rough ride in the back. I mean, you don't have very many initial references. You get sick. It's low; you're yanking; you're banking. So yeah, during the takeoff, we were in the back of the aircraft for the takeoff. We went right in. In terms of the duties of a loadmaster in flight, you land about halfway into the show the crew door gets -- I'm sorry. The paratroop door on the right side of the aircraft is opened, so we're waving at the crowd as the aircraft is backing and then it comes to a complete stop. So we waved goodbye to the crowd, closed the door up, buckle in and taking off again and do some more turns. So we did that for I guess that each pilot got about three or four of those and then he came back and landed.

30Q. When you doing your pre-brief, prior to heading out to the airplane, did the crew ever discuss bank angles and altitudes of what they were planning to fly?

30A. Specifically I don't remember. I'm sure it was discussed. I know it was just discussed throughout the flight. I mean, altitudes, obviously, you're going get some concern as well as your configuration of the aircraft and also the angle in which you're turning. So those are always brought up. After you do a 12-minute show, then you take off -- or we'd take back off and [inaudible] over Goose Bay, which is sort of a holding area and that's where we'd [whoop sound]. All right, everyone. Let's get back on the -- let's collect ourselves, let's de-brief how the show went, let's see what we can do to improve it, maybe what not to do, that kind of thing. Then we'd go back and we'd hit it again.

31Q. You said you thought they discussed bank angles. If they did, do you remember what those bank angles were?

31A. Obviously, the -- not obviously, but 60 degrees is always brought up. It's a don't-exceed angle.

32Q. Were they planning on flying the 60 degrees the whole entire profile?

32A. No, sir. No. The 60 degrees, like I said I'm not a pilot, so I don't remember which turns involved the 60-degree turn or what came closer to 60-degree turns, but almost all your turns in this profile are fairly steep.

33Q. Do you remember what altitudes were discussed?

33A. No, sir.

34Q. Did the crew ever discuss the use of the rudders? You say it was pretty rough back there.

34A. Yes, sir. Rudders. Nothing sticks out in terms of rudder usage, rudder control.

35Q. Then just for the record just to surmise, and tell me if I'm wrong: You said that **MSO** started off in the left seat first with three or four profiles and then <sup>MCP</sup> was in the left seat for three or four profiles. Then **MP** flew in the right seat for all of them.

35A. For the entire flight. Yes, sir.

36Q. For the entire flight and then after each profile you go out to a point and I think you said it was Goose Bay just to orbit and just to collect and debrief?

36A. That's right. In circles and debrief. After every show that we did, we did that. Yes, sir.

37Q. During an air show demonstration, the demo training flight, where were you stationed?

37A. Between myself and <sup>WITNESS 5</sup> the first flight we were both downstairs. He was showing me the ropes. I think the first two or three we were both downstairs and then I said -- I told him, I said "hey, I'd like to go upstairs and watch this from the front seat." So we asked that through **MP** He's like "I always welcome an extra set of eyes." So I went upstairs, sat upstairs for a few of these and then came back downstairs and then allowed <sup>WITNESS 5</sup> to go up and observe a few of these and then obviously, we recovered -- or returned to base, we were both downstairs doing our duties.

38Q. While you were downstairs, or while you were upstairs up on the flight deck observing, did you ever remember hearing or seeing aircraft alerts or stall warnings go off?

38A. Yes, sir.

39Q. Can you tell us about that, please?

39A. Yeah, the stalls -- I'm trying to think of all the warnings you hear. During the profile, CAWS is the term -- the caution and warning system is the lovely voice you have that tells you what you're doing wrong and this is not cool to the airplane.

PRESIDENT: If you could, I'd just like you to speak up because that --

WITNESS: Oh, yes, sir. I'm sorry.

39A. The stall horn you'd hear quite frequently. I'm trying to think of the other one. Stall was always what you heard it seemed like. And it always hit right as you were going out or more or less at the end of the maneuver before we were going to get straightened up [inaudible].

40Q. I'm going to walk you through and tell me yes or no. So you would do that initial climb out and you'd make the turn, what was called in the profiles an 80-degree turn. Do you remember that?

40A. Yes, sir.

41Q. Or the 80-degree offset?

41A. Yes, sir.

42Q. Would you it hear it there?

42A. I don't remember.

43Q. And then the big turn coming back around was the 260-degree maneuver back to come across show center. Would you hear it there?

43A. Yes.

44Q. Then how long would you hear that?

44A. Two or three times perhaps.

45Q. Two or three times?

45A. Yes, sir.

46Q. Can you recall what the crew's response was to that?

46A. Yes, sir. They acknowledged -- on my flight they were very good. They acknowledged every CAWS hit or caution warning system hit. The whole time it seemed that they would be talking through the maneuver. They were perfectly well aware of the fact that okay, if I continue this, stall's going to occur. But it never happened.

47Q. So when you say "acknowledged," what does that mean?

47A. We're good. We're visual.

48Q. That's what they would say?

48A. Yes, sir.

49Q. "Visual" means?

49A. Visual with the ground.

50Q. Did you ever hear the word "acknowledge" and then the warning continue to go on as they were trying either to finish a maneuver or did it cease immediately?

50A. No, sir. It pretty much would stop right at the end of the maneuver.

51Q. Are you familiar with the checklist that you would run during the demonstrations that you were training for?

51A. Yes, sir. We were each given one.

52Q. What checklist, you say each was given one. So what were you given?

52A. I was given a fanfold checklist similar to this right here.

LEGAL ADVISOR: For the record <sup>WITNESS 14</sup> has referred back to the hardcopy PowerPoint and the air show checklist slide that contains what is titled the "Third Wing Aerial Demonstration Checklist."

53Q. Do you remember how this checklist was executed?

53A. It was executed in a normal fashion that any other checklist would be executed -- the normal flying checklist that they would use. This is just used to supplement of the normal checklist. There's some additional responses at least from the pilot side of the house. From the loadmaster side of the house, it's all pretty standard for us in terms of what we do.

54Q. So if I understand you correctly, the regular fanfold normal checklist that you use, they use this one instead of that one. Is that ----

54A. Yes, sir.

55Q. Did they verbalize these checklists?

55A. Yes, sir. I remember very distinctly them saying "air show demonstration checklist." Everyone -- putting everyone on the same page, if you will.

56Q. Did they do normal challenge and responses during this checklist?

56A. Yes, sir. Yes, sir, they did. Between the pilots and then -- I mean, obviously the biggest one for me is the loadmaster's report. So yeah, they wouldn't continue with the checklist if it -- they wouldn't go onto the next one -- another step had not that one been closed out or completed.

57Q. So they always made sure that the step was closed out before they started the next portion of the checklist?

57A. Yes, sir.

58Q. Did they verbalize when the flaps were moved up and slats to retract, or did the co-pilot do it automatically?

58A. No, sir. It was challenge obviously, then there was a response after the movement had been done [inaudible].

59Q. Was that done between the pilot and the co-pilot or was that done between the co-pilot and the safety observer?

59A. Mostly between the pilot and the co-pilot. The safety observer was always there to double-check. To be eyes in the checklist as well backing them up.

60Q. So that's what the safety observer does. He really makes sure --

60A. He keeps an eye on the altitude; keeps an eye on the turns.

61Q. Bank angles and --

61A. All that kind of stuff. Yes, sir.

**Questions by the Pilot Advisor:**

62Q. On this day on 9 July, **MP** was in the co-pilot seat. So did he take that action to verbalize it? Did the pilot flying in the left seat, did they call for it -- for the de-configuration?

62A. Yes, sir.

63Q. Or did **MP** in this case just say "flaps up"?

63A. That I don't remember. It was done so many times. The flaps cycled numerous times during all the time so I don't remember voices.

64Q. We talked about you flying the profiles; how did that make you feel? When the pilots flew the profiles, how did you feel safety-wise -- not just airsick-wise. I don't mean that. But I mean overall your general impression?

64A. The first one we did I was sort of like wow. We're moving quick. We're moving -- we're slow, low configured, but ----

65Q. That was the first one here in the train --

65A. Yes, sir. The first one here. Then it sort of came back to me in terms of how you're going to feel. Yeah, this profile's aggressive. It's not considered standard operating procedures: How we do things on a daily basis here. The turns are aggressive. The climbs are aggressive. The checklists come a lot faster. The pilots are generally a lot busier. When I say "busier," reading checklists, configuring the aircraft, flying the aircraft that are normal procedures in a C-17. So yeah, there's an uneasy feeling, but I think anytime you do something outside your norm, or something different, there's an uneasy feeling. But at no point during the flight did I feel unsafe, that I felt like the crew didn't know what was going on.

66Q. Now just to clarify your background: You said you flew these at Charleston with the 16th. Correct?

66A. Yes, sir.

67Q. Did you notice even though in generalities the profiles are the same, did you notice any differences between the way Charleston in the Sixteenth would execute profiles as far as bank angles and warnings versus the way Elmendorf just ----

67A. No, sir.

68Q. They were the same?

68A. Very similar.

69Q. They were very similar?

69A. Yes, sir. Obvious, every air show is going to be a little bit different in what you train for. There's different distances involved, show center might not be show center, or air show coordinator might ask for a shorter profile or a longer profile. It seems as if everyone's just a little bit different and in terms of how the maneuvers were executed, that sort.

**Questions by the Pilot Advisor:**

70Q. Do you remember when you were at Charleston conducting the air shows, do you remember the warnings going off in same manner?

70A. Yes. The stalls you hear.

**Questions by the Legal Advisor:**

71Q. Just following up on that, at Charleston you said you hear the stall warnings. Was during training or the actual demo or ----

71A. Both, sir.

72Q. Both of them.

72A. Yes, sir.

73Q. So in the simulator you'd also hear it?

73A. I believe. I haven't done a simulator profile basically, but I assume you would. Very similar.

74Q. But you haven't done a simulator profile?

74A. No, sir.

75Q. But in the training flights and the actual performance of the aerial demonstration you have?

75A. Yes, sir.

**Questions by the Board President:**

76Q. There, again, just to follow up in the air show demo profiles, was it ever briefed that about the time out or knock-it-off calls?

76A. Yes, sir. That was briefed prior to us stepping into the aircraft and it was brought back up right before we took off. Everyone's familiar with it. Don't feel afraid to say it.

77Q. What do those calls mean to you?

77A. The first one being "time out," which anyone on the crew could say. Bring the jet straight and level away the ground if that's where you're heading to straight and level. The "knock it off" would be to return now to base.

**Questions by Pilot Advisor:**

78Q. Just follow up questions and then some of the things that you've already talked about. You said that they would go through the flight, either training or demonstration, and then they would go out to Goose Bay and do a holding pattern and then talk about it. Do you remember anything specific about what they talked about?

78A. The execution of the maneuvers, the timing, hey you could have done this a little bit steeper, you could have -- it's all pilot talk. They pretty much go at it and then they'd ask everyone how they felt. I mean, did everyone feel okay with that. Hey, load, how are you doing back there? Oh-h-h, I need help. Let's go home.

Legal: That sound was more like a - you know -- kind of a nauseous kind of thing.

WITNESS: Yeah, you get nauseous in the back. Yes, sir.

79Q. When you said that they could have done it steeper, do you know who was leading these conversations?

79A. Obviously, it was led by **MP** the instructor pilot. It would go back and forth and then the safety would give his input on that. I remember -- they asked me when I was in the LACM seat, hey how did that one feel over the last one? Yeah, I think that was -- like I said it's all pilot stuff.

80Q. Right, but what did you take from those conversations? What did you understand those conversations --

80A. Basically, **MP** did a very good job at allowing anyone on the crew to speak up and say something if they felt uneasy about something, or whatnot. But most of the talk was about timing, the turns. I don't think anything was brought up in terms of being over aggressive or under aggressive. Those are pretty standard and then we'd wait and then we'd head back in.

81Q. I know you said that it's all pilot speak and certainly I am not a pilot, and I don't know if **MS S** status as a civilian pilot or anything, but -- and she's indicated no. But I think we're on the only two non-flyers in here, so if you would help us understand what do you mean by the "pilot speak"? Do you remember any specific comments about bank angles?

81A. No, sir. Not specific comments. Bank angle is always brought -- was brought up.

82Q. You used the word "tighter" earlier.

82A. A tighter turn, more aggressive, or a tighter turn rate.

83Q. Just getting the aircraft around?

83A. Yes, sir. Because every maneuver needed to -- you want to bring that aircraft back over show center and so based on the inputs of the pilots and whatnot they would -- you'd have to adjust to bring that aircraft over show center and whatnot.

84Q. Do you remember who felt that they needed to be tighter, or that they could be tighter?

84A. **MP** obviously, was the one giving most of the input. The pilots of the other two were more or less okay. Like I said they were in training. They were practicing so you can always do something better I think.

85Q. At the time you said you were in the LACM seat. That's the left additional crew member seat?

85A. Yes, sir.

86Q. When you were there for your time, who was the pilot in the left seat -- or who was flying the aircraft?

86A. I was able to sit upstairs and observe while all three pilots were flying. So while **MP** was, obviously, in the right seat the whole time, I was able to watch **MSO** first fly and then also **MCP** first fly.

87Q. The term "flying" is very vague -- is very generalized for the general public, but I meant the person in control of the flight controls, the stick.

87A. Yes. It would be both **MSO** and **MCP**

**Questions by the Board President:**

88Q. Did the crew seem comfortable with each other?

88A. Yes, sir.

89Q. Were you able to tell whether the other crew members were comfortable with the way they were flying with the warnings?

89A. Yes, sir. They were comfortable.

90Q. So no one ever expressed, yes, you know, or make a comment or anything like that?

90A. No, sir. The warnings are expected. They were briefed.

91Q. So they were briefed, the way you ----

91A. Both during the presentation that he gave and also at the briefing prior to the mission departing.

92Q. So then the way you understand the -- just clarify for me then: They were understood and then how were they going to -- how did they brief to correct them? Did they brief any steps to correct them?

92A. No, sir.

**Questions by Pilot Advisor:**

93Q. Can you talk us through that part? Speaking of the warnings and the stall warning, you mentioned that the crew would say "acknowledged" and then they would discuss it. Can you talk through what you remember when the stall warning came on you said you would hear "acknowledge" and then they would discuss it. What types of things were discussing?

93A. Get the nose -- not the nose back up. They need to input more throttle input. But at no point did the aircraft during when I was flying stall or lose altitude. So I'm pretty sure the stall horn comes on to warn you that the aircraft is impending -- it's about to begin a stall. But most of the horns and the warning signs would go off after -- or I'm sorry. Not after, but shortly before the aircraft would be straightened on the [inaudible].

94Q. When you said when the maneuver was finished?

94A. Yes, sir.

95Q. And you said that it was pre-briefed and that they were expected. Did they say where they were expected or what that conversation was about?

95A. No, sir.

**Questions by the Board President:**

96Q. In your de-briefs, again, they were talking about steeper bank, which is believe is what you said?

96A. Yes, sir.

97Q. Did they ever say hey, you can use more rudder here?

97A. No, sir.

98Q. Or to get that turn around or anything like that?

98A. I don't remember that. No, sir.

PRESIDENT: If I may, we'd like to take a break now and we just want to get our thoughts and then we'll come right back just to clarify anything else we may have for the record.

[The interview took a break at 1524 hours and resumed at 1528 hours, 16 September 2010.]

LEGAL ADVISOR: This is \_\_\_\_\_ we're back on the record. All attendees of the interview prior to the break are again present to include \_\_\_\_\_<sup>WITNESS 14</sup> and his attorney,<sup>MS S</sup>

PRESIDENT: \_\_\_\_\_<sup>WITNESS 14</sup> again, we're back as you know. We have two questions to ask just for follow-up. First question:

**Questions by the Medical Advisor:**

99Q. Just to clarify: You said you were a traditional guard status at the time of the accident because you were in school. Correct?

99A. Yes, sir.

100Q. What's your current status now?

100A. Traditional guardsman.

101Q. You're still a traditional guardsman?

101A. Yes, sir.

**Questions by the Board President:**

102Q. Lastly, are there any other matters that we haven't covered that you believe may be important to our investigation?

102A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss this testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

LEGAL ADVISOR: I might add that doesn't include discussions with your attorney. You may discuss this matter with your matter with your attorney, but both are under the instructions not to discuss this with anybody else without General Everhart's permission.

WITNESS: Yes, sir.

PRESIDENT: This concludes the interview. Time is now 1530 local, Alaska time.

**V15. AIB INTERVIEW WITH WITNESS 15**  
**VERBATIM TESTIMONY OF**  
**WITNESS 15**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is the 16th of September 2010. The time is now 1635local, Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      **WITNESS 15**  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 15 .**

2Q. How long have you served in the Air Force?

2A. Seven years.

3Q. What is your unit and location?

3A. 517th Airlift Squadron, Joint Base Elmendorf-Richardson.

4Q. How long have you been with this unit?

4A. Approximately 6 months.

5Q. What is your job title?

5A. Resource advisor, instructor pilot, C-17A.

6Q. How long have you been doing this job?

6A. Six months.

7Q. Can you please describe your duties and responsibilities on 28 July 2010?

7A. I'm not sure I understand the question.

8Q. What were your duties in the squadron, and your responsibilities?

8A. Just doing more resource advisor work.

9Q. Are you familiar with the C-17 aerial demonstration program?

9A. Yes.

10Q. Can you describe your C-17 aerial demonstration background?

10A. Yes, sir. This was my initial qualification. I started early July to become an air show pilot for the upcoming air show.

11Q. So, you are a qualified demonstration pilot now?

11A. Yes, sir. I was supposed to fly the joint forces demo, the airdrop portion.

12Q. Joint forces demo, where was that?

12A. To be here.

13Q. It was going to be here?

13A. Uh huh.

14Q. What was involved in the certification process during the training?

14A. We had ground training, simulated training, and flight training.

15Q. Would you mind describing your demonstration training and those profiles or what you did on the ground, what you did in the sim and what you did in the air?

15A. Yes, sir. **MP** had the pilots who were upgrading meet in the squadron auditorium and we went over the applicable AFI and regulations. He explained a little bit of the background and the air show profile. He showed us 1 or 2 videos on profiles that have been flown in the past and then basically told us what the whole program entailed and what we are going to be doing as far as our responsibilities and what position we were upgrading to. The simulator profile, also with **MP** we flew the 10 minute profile and then talked about the 6 minute profile and then we did the same thing in the aircraft, flew the 10 minute profile and debriefed verbally the 6 minute profile.

16Q. So, **MP** provided your upgrade training for the entire upgrade process?

16A. Yes, sir.

17Q. You mentioned that--you said others. Who were your other people that trained with you?

17A. I flew with **WITNESS 18** and then as far as the other groups, I couldn't really say with certainty.

18Q. So, **WITNESS 18** was with you as a?

18A. He was upgrading to pilot as well.

19Q. Are you familiar with Air Force Instruction 11-246, vol 6, chapter 3, demonstration profiles?

19A. Yes, sir.

20Q. Can you explain in general terms how these profiles are used for aerial demonstration performances?

20A. Yes, sir, basically to give the crew a baseline, if you will, on how to fly the profile, whichever profile applied for the show.

21Q. When you say a baseline, what do you mean by that?

21A. Just as far as procedures for the crew to follow, i.e. high speed pass, low-speed pass, 360-degree turn, altitudes, and for the most part air speeds.

22Q. So as of right now as a demonstration pilot, you have flown in no demonstrations yet?

22A. Correct.

23Q. Except for your upgrade training?

23A. The training.

24Q. You said you are familiar with the 12 minute program or profile three?

24A. Yes, sir.

25Q. Please describe the parts or portion of the profile three from the static takeoff to the completion of the high speed pass, the initial high speed pass.

25A. Okay. It's a max climb performance takeoff to 1500 feet AGL and then a 45-degree 80/260 bank maneuver accelerating to 300 knots back to show center, clean configuration.

26Q. In your training, do you always go to 1500 feet AGL?

26A. At that first initial takeoff, no, sir. 1000 to 1500 AGL.

27Q. If I may ask you, why is it you have a range between a thousand and 1500 feet?

27A. For that initial portion, it was because losing 1000 feet while accelerating was quite difficult, we're told, for pilots and that your climb when you are away from the crowd needed to be 1000 feet minimum.

28Q. So it was due to basically----

28A. To enhance the profile, basically.

29Q. And 1000 feet was because it was difficult?

29A. Yes, sir.

30Q. But you did it at 1500 feet, correct?

30A. A range of a thousand to 1500 feet. I can't say what altitude we climbed to.

31Q. The reason I'm asking is because if you did it at 1500 feet, I'm just wondering if you thought it was difficult to get down and around it.

31A. To be honest, sir, I don't remember what altitude. It was in the range of 1000 to 1500.

**Questions by the Pilot Member:**

32Q. For clarification, did I understand that correctly, the range existed with 1000 being the lower end of that altitude because if you went all the way to 1500 then it could be difficult to lose that whole thousand feet during descending to the high speed pass? Is that accurate?

32A. It could be, if you don't get on top of it right away.

33Q. Who taught you that?

33A. **MP** taught a range of 1000 to 1500 AGL.

34Q. And that range was what was taught to you? 1000 feet was what was taught?

34A. Um.

35Q. You mentioned that it was difficult to lose 1000 feet during that turn. Was that your understanding from **MP**

35A. Yes, sir. That's what he said, that if you didn't get on top of your descent right away, it was difficult to lose 1000 feet.

36Q. Was it fair to say 1000 feet was his preferred altitude?

36A. No, sir. I think it was more for us in initial training, perhaps, but I think--to be honest, I don't remember what altitude he climbed to when he flew it. All I know is he briefed us 1000 to 1500 as the altitude.

**Questions by the Board President:**

37Q. You talked about that next portion of the profile after that static climb was the 80/260 maneuver?

37A. Yes, sir.

38Q. For the record, we talked about a thousand to 1500 feet AGL. AGL is above ground level, correct?

38A. Yes, correct.

39Q. On the 80/ 260 maneuver, it was the initial climb out and then it was an 80-degree turn off that initial heading?

39A. Yes, sir, a guesstimate. Before we flew the profile in the simulator or the aircraft, **MP** would give us an aerial snapshot from Falcon View of the airfield with our headings, so we would turn left or right respectively to those settings.

40Q. Falcon View is what?

40A. A computer program that has imagery of the terrain and airfields.

41Q. Then, just to complete that, once you did the 80 degree offset maneuver, you would take 260 degree and come back into show center?

41A. Yes, sir.

42Q. What was your instruction, specifically regarding the bank angle for the 80/260 degree turn?

42A. 45 to 60 degrees.

43Q. Were both segments, the 80 and the 260 degree turn, given the range of 45 to 60 degrees?

43A. Yes, sir.

44Q. What did **MP** teach you? What you're saying is **MP** taught you 45 to 60 degrees, correct?

44A. Yes, sir.

45Q. Did you ever use 60?

45A. Normally, 60.

46Q. Did he explain why there was a range there?

46A. No, sir.

47Q. What was your instruction regarding the use of rudder during the 80 and 260-degree turn?

47A. Up to full rudder?

48Q. Why is that?

48A. To enhance your turn capabilities.

49Q. What particular bank angles would you use full rudder on?

49A. 60 degrees.

50Q. Did you think you needed to use full rudder at 45 degrees?

50A. Again, sir, it was sort of depending on the situation. The rudder was basically used to align your predictive flight path vector with the extended centerline. Once you had that on show center line, you pretty much held what you had to maintain it onto the rollout.

51Q. Show center line, what were you taught about how far that extended? To infinity?

51A. No, sir. We built in the mission computer a 5-mile final approach fix using a custom database for the airports so you would have 5 miles, basically, from each runway, extending.

52Q. 5 miles from the center of the runway or from the---

52A. From the approach end. You had one continuous line that you saw on your multifunction display.

53Q. Did you use your--were you taught on the flight path predictor--was that the standard configuration that you used all time, the worm?

53A. Yes, sir.

54Q. Were you taught to use that all the time?

54A. Yes, sir.

55Q. Did **MP** use that all the time?

55A. Yes, he did.

56Q. Going back to the 80/260 maneuver, during that maneuver, how was the aircraft configured or deconfigured?

56A. It was briefed among the crew that copilot would auto clean up the aircraft, i.e. retract the landing gear, flaps and slats on initial departure and then throughout the rest of the maneuver the aircraft would be clean.

57Q. Was that done on airspeed?

57A. Yes, sir, with the exception of the landing gear which was once you received a positive rate of climb.

58Q. When that deconfiguration happened, you said it was on airspeed. Who called for it? Was it silently done or was it called for by the pilot with normal checklist response?

58A. No, sir. The pilot didn't call for it. The pilot briefed that the copilot would automatically retract, so for example, the copilot would say flaps but would have positioned them to the--or flaps up.

59Q. So, copilot would announce it?

59A. He would announce it while he was doing it.

60Q. Do you ever remember in your training where you always--once you made the 80-degree turn, by that time that is when you started hitting your speeds for flap retraction and slat retraction. Do you ever remember making the 260-degree turn deconfigured, i.e. slats extended?

60A. No, sir. Traditionally, we would fly outbound 5 to 8 seconds, normally about 7 seconds with the weights we were using on the fuel so you were clean a while before you started that right turn towards the runway.

61Q. But if you were not, you would still start your turn and then deconfigure on speed?

61A. I would imagine, sir. We never discussed that. Never came out.

62Q. Overall regarding the AFI 11-260 C-17 profiles, what were you taught about the adherents to the profile and by adherence, were they to be regarded as guidelines or procedures?

62A. I would say more guidelines, sir. They were a basis to start the profile, i.e. to fly the high speed passes, low speed and the turns. As far as bank angles, it was more guidelines.

63Q. Is that what you were taught?

63A. We weren't taught that, not specifically, that's what I understood after reading.

64Q. Regarding the use of checklists, there again just to follow-up on it, the copilot initiated the checklist and then it was monitored by the safety observer?

64A. Yes, sir.

65Q. Speaking of the checklist, do you recall something called an aerial demonstration checklist?

65A. Yes, sir.

66Q. What was that?

66A. It was a--I guess you could call a guideline that was produced from a compilation of our checklist that had all the required--not required, but the safety calls and the steps that we used to complete the profile.

67Q. So, would you use the normal checklist and the aerial demonstration checklist or did you just use one or the other?

67A. Traditionally, sir, we would have both checklists out. You would reference the demo checklist while flying.

68Q. Do you know where that came from?

68A. No, sir.

69Q. Was it given to you as a fan fold?

69A. Yes, sir. As part of our initial training, we were provided with that.

70Q. Was that the same type of fan fold you have in your normal checklist, or what was it?

70A. It was presented just like that, a piece of paper.

71Q. Who approved it?

71A. I don't think the checklist is official, sir. It's not really approved, but again, I don't really have any knowledge on the checklist as far as where it came from.

72Q. Can you talk to us about how it was utilized?

72A. Before the departure, you would run all the steps with the pilot and the copilot.

Legal: Major \_\_\_\_\_ is now handing <sup>WITNESS 15</sup> a one-page document marked 3d Wing Aerial Demonstration Checklist for her review.

72A (continued). So, you would run through, for example, the before takeoff checklist with the required responses from the pilot and copilot and then once you had reached the approach checklist, once you were flying, then the checklist would be run with the copilot and the safety verbalizing all response items. So, the pilot would not actually run the checklist and verbalize anything.

73Q. So, if the copilot was running the checklist, then how did you know to start the next following checklist, i.e. if you had the before takeoff, did the copilot called the before takeoff checklist complete in the next phase it would start the next portion? Does that make sense? In other words, the before takeoff checklist, it was called completed, and then the following before takeoff-- as I look at this document, the same document that you just reviewed, and that was--the before takeoff would be called complete and then in the next segment when you need to run the following before take off, that was, then that was completed, et cetera, et cetera?

73A. Yes, sir. We were briefed specific points in the profile to run these checklists as well.

74Q. Then, if the checklist was not called complete would you hold the checklist there?

74A. As the copilot? Yes, sir. I would imagine so.

75Q. Do you remember getting warnings and alerts on the aircraft during the aerial demonstration profiles?

75A. Yes, sir. I know when we flew in the sim, we got the stall warning. When we flew in the aircraft, we had the stab strut door on the way up, just a transient.

76Q. What was it?

76A. Stab strut door.

77Q. For the record, if you would describe that.

77A. It's the stabilizer on the aircraft, the door, that opens when they are extended which is usually done by the load masters on the ground. It's a fault, basically the sensor with the door.

78Q. I think you mentioned getting stall warnings in the simulator?

78A. I don't remember getting them in the aircraft. No, sir.

79Q. In the simulator, which profiles did you get them under?

79A. The 10 minute and the 12 minute profile.

80Q. So, when you heard the stall warnings during your training, was that verbalized between crew members?

80A. One of the pilots would typically say acknowledged.

81Q. What do you think acknowledged means?

81A. That they recognize the conditions and if needed, are taking corrective action.

82Q. So, when that happened, do you recall which part of the profile that occurred in?

82A. It was typically during turns. As far as that, I don't recall, sir.

83Q. Now, if you got the stall warning during the turn, and it was called acknowledged, do you recall as--first of all, was the profile ever demonstrated to you by **MP**

83A. Yes, sir. He flew the first profile in the simulator before the flight.

84Q. So, when he flew the profile, do you recall him getting a stall warning?

84A. I couldn't say with certainty, sir.

85Q. Now, you're flying the profile and you get the stall warning. Did you call acknowledged?

85A. No, sir. **MP** called acknowledged.

86Q. What did you do? Did you allow that to continue on until you completed the maneuver or did you----

86A. He would say acknowledged, continue, so I kept flying the maneuver.

87Q. That's what was taught to you in the training then?

87A. Just acknowledged. We are not stalling, continue.

**Questions by the Pilot Member:**

88Q. How did you know you weren't stalling?

88A. At the time, I didn't. It was my first with the profile and I was a little bit behind the aircraft.

**Questions by the Board President:**

89Q. But then, if you heard that in the airplane, the airplane is giving you-- if you're hearing that in the airplane, what is it telling you?

89A. Basically, you need to consider ceasing whatever maneuver you are doing until the enunciation stops.

90Q. How would you rectify that situation? When you say cease the maneuver, what does that mean?

90A. I.e. if I were in a bank, roll out, wing level. If I had my power back, to move the throttles to maximum power.

**Questions by the Pilot Member:**

91Q. You mentioned in the simulator when you got that, you were a little bit behind, heard the stall warning, continue the maneuver and you didn't know whether at that time you were in a stall condition, but was there any discussion from the other pilot, in this case,

**MP**

91A. We talked about in the debriefing and he said it was a transient when you roll into the initial bank that you get in the sim sometimes.

92Q. What do you think he meant by transient?

92A. i.e. when we were going from wings level to 60 degrees of bank. That's sort of a rapid rate and the simulator couldn't keep up or something.

93Q. Did he consider that----

93A. An anomaly in the sim.

94Q. In his perception, based on your conversation with him, he didn't think the simulator was----

94A. He wasn't concerned about us stalling in the profile we flew together and in that instance, no.

### Questions by the Board President:

95Q. I would like to talk to you a little bit about your demo training flight you took with **MP** on the 19th of July. How did that flight make you feel? Did that flight make you feel uncomfortable? Was it good? How was it?

95A. No, sir. Not at all. Actually, I left that flight very excited and a lot more comfortable with the profile since I had been in the sim. I had a much better grasp of how to actually fly the profile and make it look good.

96Q. What do you mean by make it look good?

96A. i.e. as a new demonstration pilot, for example, sometimes you would overshoot or undershoot bank and **MP** would teach us to, if, for example, you needed to use 30 degrees of bank to maintain your turn rather than maintain a shallow bank the whole time, to roll out and make two different maneuvers. i.e. 30 is the bank rollout until you about reach the center line and then roll back in, so.

97Q. Did you talk about or debrief each of the demo portions when you completed each profile?

97A. Yes, sir. We would typically fly the whole profile first and then go out to Goose Bay, a VFR point up here, hold----

98Q. VFR stands for?

98A. Visual flying. Hold there for 5 minutes or so, talk about what we just did, what we did wrong, what we did well, what we could improve on and then come back in for the 10-minute profile.

99Q. At any time you are doing all the flying, did **MP** actually fly a 10-minute profile on that day to demonstrate to you how it was performed?

99A. He flew a 12-minute profile, sir.

100Q. I'm sorry, a 12 minute?

100A. Yes, sir.

101Q. Do you recall how he flew the airplane?

101A. As far as?

102Q. Bank angles and---

102A. 60 degrees of bank.

103Q. Did he do that from a static takeoff?

103A. Yes, sir.

104Q. So his initial turn for the 80 was at 60 degrees of bank and then the 260 was at 60 degrees of bank?

104A. Uh huh. Yes, sir.

105Q. Did he ever say why he did that?

105A. No, sir.

**Questions by the Pilot Member:**

106Q. Do you know what altitude you went up to?

106A. No, I know it would be in the range of 1000 to 1500, but specifically, I don't know.

**Questions by the Board President:**

107Q. Did you catch any warnings going on at all during the 19th of July?

107A. Besides that stab strut we talked about that we already you talked about, no.

108Q. Were you able to tell whether other crew members were comfortable with the way you were flying or any of the warnings you might have gotten?

108A. No one voiced any concerns, so.

109Q. At any time before or after your training, did **MP** mentioned to you his philosophy or viewpoint regarding aerial demonstrations?

109A. Yes, sir. He kind of went off on that a little bit through the training. He was very, very serious about flying the profile well and providing a good show to the spectators, sort of what I already talked about, i.e. very professional, knowing how to fly the profile, chair flew a lot. Like if we messed something up during the profile we were flying, he would have us go back out to that Goose Bay point I talked about, hold, talk about it, come back and start over. He was very intent on putting on a good show for the crowd.

110Q. What does that mean, to put on a good show for the crowd?

110A. i.e. the profile should be 12 minutes. If you are flying it like it is supposed to be, it should take you no longer than 12 minutes. If it takes you 14 minutes, you have done something wrong. The crowd shouldn't have to be watching you fly around at 30 degrees bank and waiting for you to come back in.

111Q. So right around 12 minutes. What if it's less? Is that okay?

111A. He never really mention anything about that.

112Q. Did he ever mentioned anything about crisp turns?

112A. Yes, sir. He was also very intent on crisp turns, roll in, roll out efficiently.

113Q. What does that mean, crisp turns?

113A. Sort of an expeditious rolling in and rolling out as opposed to lackadaisically moving the control stick from the center position to left or right depending on which way you are going, but to move the stick at a fast rate.

114Q. Do you think you were taught to max perform the airplane?

114A. I wouldn't say max perform the aircraft. No, sir.

115Q. In your mind, what do you believe that definition to be?

115A. To perform the aircraft at the absolute limit of its capabilities, i.e. what test pilots do.

#### **Questions by the Pilot Member:**

116Q. You mentioned some of the weights you were at with the cleanup. Do you remember how much fuel you had on board on the 19th?

116A. The day we took off we had more than we wanted because of an issue with maintenance, but typically flying the profile he wanted around 20,000 pounds. I think we had somewhere around 50 or 60, but I can't say for sure.

117Q. And the simulator that you mentioned, do you remember how much fuel was put on then?

117A. No, sir. I don't remember.

#### **Questions by the Legal Advisor:**

118Q. You said they wanted about 20,000 pounds of fuel typically, but on a particular day it was 50 or 60. How does the fuel weight affect or does it affect flying?

118A. It affects the aircraft performance. The heavier the aircraft gets, the less responsive she is to maneuvering and climbing. i.e. if she is heavier, she will not be able to climb out as fast or roll as fast as a lighter aircraft would, or land in a shorter distance.

119Q. In the simulator, my understanding is you can program the fuel weights or the weights to load up the aircraft?

119A. Yes.

120Q. What weights did you use in the simulator?

120A. I can't remember in this one.

121Q. Do you remember if the weights ever changed, or you just can't remember, period?

121A. I don't remember what we used.

President: I would like to take a break now. I will just ask you to step out and then we will come back and get you when we are ready then we will continue.

[The board recessed at 1705, 16 September 2010.]

[The board reconvened at 1733, 16 September 2010.]

Legal: We are back on the record. All attendees to the interview are again present, to include  
WITNESS 15

**Questions by the Board President:**

122Q. We have some follow up questions from the course of your interview. Earlier, you mention that the initial takeoff range was from 1000 to 1500 feet AGL. You said it was because it was harder to do, harder to lose altitude, that thousand feet as you came back around from the initial 260 and during that 260. Who taught you that?

122A. I think I may have misled you their a little bit. The range that **MP** taught us in his notes for the 12-minute profile was 1000 to 1500 AGL and he stated on an unrelated occasion that if you didn't--if you weren't aggressive with your descent from 1500 AGL to 500 then you wouldn't be able to make it down to 500 AGL while accelerating to 300 knots at the same time. That is sort of what I interpreted as the reason for the range.

123Q. Would you consider that enhancing the profile?

12A. Yes, sir.

124Q. You also stated that you thought-- you specifically stated that AFI 11-246, vol 6, chapter 3 was guidelines. Why do you think that?

Legal: I'm handing <sup>WITNESS 15</sup> a copy of AFI 11-246, vol 6, chapter 3, a 14 page document.

125A. If you look on the front, you have the "will statement," will adhere. However, if you go to the end, after they finish talking about profile 4, they have the statement and the procedures and these profiles are general guidelines, emphasis on profiles plural, not singular.

**Questions by the Legal Advisor:**

126Q. You are indicating on page 3?

126A. Correct.

**Questions by the Board President:**

127Q. I would like to discuss this just so we get your interpretation on it. If you look at it itself, and you see how it is broke down into each section, correct?

127A. Correct.

128Q. So you see profile one, and it is in bold and it is underlined. Then it says profile two. Each time they start a new section, is says profile, correct?

128A. Correct.

129Q. But then on the page you referenced, there is not a break and it starts a new paragraph.

129A. Uh huh.

130Q. Does this go with profile 4?

130A. My interpretation was it didn't because it didn't say profile, singular. It says plural. It says, to clarify, it discusses different demonstrations within profile 4, but at no point does it call them different profiles. That was strictly my interpretation. **MP** never addressed that.

Legal: I'm retrieving AFI 11-246, vol 6, chapter 3 from

WITNESS 15

**Questions by the Board President:**

131Q. Earlier in your testimony you said you normally use 60 degrees of bank. I'm just curious, at what occasion would use anything less?

131A. If you are required to use less bank to roll out on runway centerline or show center. For example, if you were overshooting at 60 degrees of bank or 45, to roll out and use whatever bank you needed to roll out on centerline without overshooting or under shooting the runway.

132Q. To follow up on that, you said traditionally after you're climb out and through the range of a thousand to 1500 feet, you made the turn 80 degrees or so and then you would time. You would time for 5 to 8 seconds, you said, traditionally. Then you said usually it was 7 seconds. What was that based on?

132A. **MP** notes said 5 to 8 seconds time outbound for that turn. Before we would fly, be it in the simulator or the aircraft, he provided us with that graphical depiction I already talked about, and it would have how many seconds on there as well, or he would brief us

how many seconds to fly outbound. So, for the profile that we flew in the aircraft on the 19th, we flew outbound for 7 seconds.

133Q. Was that based off bank angle? Why did you fly 7 seconds?

133A. Weight and altitude, I believe.

134Q. If you fly at that weight and altitude, and you are at 60 degrees bank, you should roll out at center line based off that timing?

134A. Yes, sir.

135Q. When would you ever go to less than 60 degrees of bank?

135A. If you misjudged the winds or basically if you started, assuming you are on runway 6, you make that initial left hand turn for the 80/260 and when you start turning right back around, if you look inside at your multi-function display and notice your predicted flight path vector is not lining up on center line and that you needed to do less bank to get it there, then you would roll out of 60 and roll in 45, or roll out and drive it in--drive in the aircraft to the extended show center and roll back in. The goal was always to roll out without over shooting or under shooting on extended show center line.

136Q. But you said usually it was 7 seconds?

136A. That's what we flew the day I flew, sir.

137Q. What would happen if you used 5 seconds?

137A. You would have to make a tighter turn.

138Q. But you had 60 degrees of bank, correct?

138A. Yes, sir. Well, if you accelerated faster, say you were already at 250 on your outbound leg, then if you were at 5 seconds timing outbound versus 230 going outbound for 7 seconds, then it's also dependent on your airspeed as well.

139Q. You were briefed that in the use of the checklist you said it was auto cleanup. What does that mean?

139A. That the pilot was not going to call for flaps up, slats retract or gear up and the co-pilot would, once a safe airspeed was reached, cleans up the configuration without being told to.

140Q. Was that briefed?

140A. Yes, sir.

141Q. While we are talking about checklists, you said the aerial demonstration checklist was unofficial?

141A. My understanding, sir.

142Q. So, what makes you think it is unofficial?

142A. I never--it's not on our e-pubs, so, like I said, I don't really have any knowledge as to where the checklist originated from. That is strictly my interpretation.

143Q. In your demo training, did you ever brief, or was it ever briefed, knock it off or time-out calls?

143A. Yes, sir. We would brief them during the pre-mission briefing.

144Q. What does that mean to you? What are those definitions?

144A. If we were doing a maneuver that we had exceeded the parameters that we had set, someone calls terminate and it is acknowledged and you cease the maneuvering, talk about it and continue. Knock it off, you are pretty much done for the day and you come back to Elmendorf.

145Q. Land at full stop?

145A. Yes, sir.

146Q. When I asked you the last question about **MP** philosophy toward and regarding air show demonstrations, you said, if we mess something up. What did you mean by that?

146A. Um, if--if we did something like not towards the profile, for example, for the 360 degree turn you are supposed to fly up at 160 knots, do the 360 and then go outbound. On one occasion, we got slow and didn't complete the full 360 degrees so he sent the pilot out to Goose Bay to hold and talk about it and come back in and start the profile over from scratch.

147Q. Were you ever taught what would happen if you didn't execute a maneuver properly during an actual air show demonstration?

147A. I'm not sure if we ever discussed that, no, sir.

148Q. Talking about going out to Goose Bay, when you actually flew on the 19th in the VFR pattern doing orbit and you would discuss--you would debrief each profile that you flew, correct?

148A. Yes, sir. You would fly and then we would take a break, if you will, out there for 5 minutes, talk about it and come back in for the 10-minute profile.

149Q. What specifically do you remember being discussed?

149A. Position relative to show center, gaining or losing altitude during the 360-degree turn, whether you were under shooting or over shooting. That's about all the specifics.

150Q. In the profile, was it ever verbalized about temperature and altitude?

150A. As far as what, sir?

151Q. Checking temperature and altitude? Does temperature and altitude look good?

151A. You mean the altitude we were flying at?

152Q. Sure.

152A. It wasn't really ever discussed. No, sir.

153Q. Was it ever cross-checked?

153A. Yes, sir. It was not necessarily verbalized, but I think on the initial departure I would say approaching altitude, once you hit that range. Then if you were flying back in on that first initial takeoff, when you are coming back into show center, once you are approaching 500 feet, whether you were high, descend, or low, climb up. I remember that being referenced.

**Questions by the Pilot Member:**

154Q. If we could, I would like you to read this just for a second, aerial demonstration checklist.

Legal: I'm handing the 1 page document entitled Third Wing Aerial Demonstration Checklist for <sup>WITNESS 15</sup> to review.

154Q (continued). If you could maybe--I know you talked us through earlier, how it was utilized, but maybe you can provide a little more insight. If you take a look at that, there are some large font steps and there are some small font steps on there. Can you explain your understanding of the difference?

154A. The steps that are in bold are those items that we were most concerned with while flying the profile and the smaller items were those taken from the checklist that may or may not be applicable to us during the profile.

155Q. Is whether or not they are applicable decided real time or ahead of time?

155A. I can't remember us ever briefing it.

156Q. By real time, I mean during flight and why you are flying versus ahead of time.

156A. We never really briefed it, sir, so I would have to say in real time.

157Q. My last question would be, on the minimized items, are those items verbalized or not verbalized?

157A. I don't remember, to be honest, sir, whether or not we called them or not.

Legal: Retrieving the 1-page document from

WITNESS 15

**Questions by the Board President:**

158Q. I do have one last question. Are there any matters that we haven't covered that you believe may help us in this investigation?

158A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1121 local, Alaska time.

[END OF PAGE]

**V16. AIB INTERVIEW WITH WITNESS 16**  
**VERBATIM TESTIMONY OF**  
**WITNESS 16**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is the 20th of September 2010. The time is now 0923 local, Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      **WITNESS 16**  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Pleased state your full name and rank.

1A. **WITNESS 16**

2Q. How long have you served in the Air Force?

2A. 23 plus years.

3Q. And your unit of assignment and location?

3A. 3rd Ops Group, Elmendorf Air Force Base, Alaska.

4Q. How long have you been with this unit?

4A. I have been here for approximately 14 months.

5Q. And your job title?

5A. Ops Group Commander for the 3rd.

6Q. As Ops Group Commander, how long have you been doing that job?

6A. The same amount of time.

7Q. Would you please describe your duties and responsibilities as the 3rd Operations Group Commander?

7A. My job as the Operations Group Commander is to conduct the flying operations of the 3rd Wing and ensure that the efficiency, mission, and safety are all in compliance as well as up to speed so that we can take the aircraft and/or personnel to serve the nation whether that is in O-plans or relief or whatever other purposes.

8Q. Are you familiar with the C-17 aerial demonstration program?

8A. I am.

9Q. Who had oversight of the demonstration program once it was established here at Elmendorf?

9A. First and foremost, oversight of the program is largely within this situation, for instance, the Command. In this case, Air Mobility Command is the governing mother, if you will, much like ACC is to the fighter program. Nevertheless, for the actual demonstration team on Elmendorf Air Force Base, it would come down to a certification process from the Numbered Air Force Commander, himself, and at the same time, the current Standardization and Evaluation is the oversight for the particular program.

10Q. When the program was originally established, there were 2 units. There was the 49th Airlift Squadron on the Guard side and the 517th on the active duty side. How were those 2 units integrated as far as this program, this particular program, goes?

10A. I don't know the details to that. I can say that as the C-17s came to Elmendorf Air Force Base, you had both the Guard 249th as well as the 517th Airlift Squadrons both standing up together with that platform. So, I don't know exactly how it was established together.

11Q. You mentioned that the Operations Group Stan Eval had, I'm assuming, administrative oversight. Can you explain that a little bit more for me?

11A. As I understood it at the time and continued to understand it, Stan Eval simply, as much as Stan Eval is to every other program, is the IP instructor pilots of instructor pilots. They sit there and govern them and makes sure things are up to speed with regards to Form 8 processes and whatnot. In this case, what you had was oversight to where you had the demonstration pilot within the branch chief of the standardization and evaluation and he will sit there and watch and make sure things are being conducted or they are supposed to be conducted in accordance with AFIs.

12Q. So, as a branch chief, what you means is?

12A. Well, our Stan Eval program has a chief of Stan Eval, has a deputy chief of Stan Eval, and then has branch chiefs based upon the weapon system and their actual position within the weapon system. In some cases, for instance, like the E-3. In this case, we had Major <sup>WITNESS 10</sup>, then a Captain, at the point as our branch chief and our deputy chief of stan eval-- actually, our chief now is **MAJ B**, another C-17 pilot who is not demo qualified to my understanding.

13Q. What is the relationship of Stan Eval to the Operations Group itself, that overall encompassing relationship?

13A. Stan eval is there to ensure that we are--is as it sounds, standardization and evaluation. Plain and simple, standardization is to ensure that we are actually performing up to the ability to meet the mission that we are required to meet. Evaluation, they're also responsible for ensuring the evaluation portion of that and documenting it as such that we are able to meet our mission requirements whether that be within an F-22, F-15 or C-17, in this case, or even E-3. Their job as instructor evaluators and this case is to evaluate whether or not our air crews and or mission essential elements are up to speed and are being able to carry on the mission.

14Q. How do the 3rd Operations Group and the 176th Operations Group integrate with relationship to the aero demonstration program?

14A. It was very integral, as I understand it. One of the biggest things in the world was we had some of our most experienced pilots within the 249th Airlift Squadron. In this situation, we are bringing up individuals and many of them are being trained by the airlift squadron from the 249th and vice versa as well. For instance, by Deputy Group Commander was a demo pilot as well, so there was interaction back and forth without any hesitation.

15Q. Who was your Deputy Group Commander?

15A. WITNESS 29

16Q. He was with the--was he a Guardsman?

16A. No, he is active duty. He is the Deputy Group Commander of the 3rd Group. We have 2 deputies. One--I don't like to call them fighter or heavy deputies, but at the same time you have expertise in each round. One is an        who happens to be an F-22 pilot, former F-15 pilot. The other is an       , in this case, WITNESS 29 who happens to be a C-17 pilot.

17Q. He is a demo qualified pilot?

17A. Not currently. He was a demo qualified pilot at a previous location. I believe it was Charleston.

18Q. There were several air crewmembers, approximately 10, that were certified after July 2009. What was your role in the aerial demonstration certification process?

18A. What I would do and I have done recently prior to the actual accident itself was we had a few more people added to the demo currency. I would get a certification letter from the Squadron Commander of the 517th. I would then put my endorsement on that letter whether or not I approved. It would then go to the 3rd Wing Commander and I know it was to go from him to the 11th Air Force Commander, in this case.

19Q. In the process, what materials did you review?

19A. Typically, what I would review in this case is I would bring in my deputy, like I said, WITNESS 29, and say okay, are we on the up and up with this? What else is going on? He was able to inform me that it is governed by AFIs themselves. He was able to recite the regs. I did not know the actual nomenclature of them at the time. I do now. Nevertheless, it was more along the lines of did we followed the instructions? Yes, we have. Okay, press.

20Q. Instructions as far as getting crews and making sure those crews were a full up round?

20A. Yes

21Q. Meaning they were crew certified ready?

21A. Absolutely. As a former demo pilot, he was quick to add how stringent the whole process was and on numerous occasions we talked about the process and the amazing portion of the actual flight and how impressive it was and how you had to have very experienced individuals.

22Q. Then what did you do with the packages and materials, in other words, when you certified them--or, did you certify them, first of all?

22A. As I understood it, I was not authorized to certify them. I was there to recommend their certification by the Numbered Air Force Commander through the Wing Commander.

23Q. So, once the packages left you, what's the next step in the process?

23A. They went to the Wing Commander.

24Q. Did you happen to receive any feedback at all on the performance of the aircrews performing the aerial demonstrations, whether it is in their training, upgrade, or actually on the road performing a demo?

24A. No. I have not received feedback.

25Q. Did you ever receive feedback regarding **MP** performance, flying or teaching the aerial demonstration throughout?

25A. The feedback, I did receive feedback on **MP** and that was he was considered to be the most experienced and a certifying official because he had been with the program from its inception is was what I was told.

26Q. Was he allowed to certify as a Guardsman, because the program belongs to the 3rd Wing, correct? I just want to make sure I got the relationship correct.

26A. It is difficult to say definitively. However, the program belongs to the Air Force AFI and the mother MAJCOM, in this situation, AMC.

27Q. You were scheduled to fly with the mishap crew on the day of the mishap. We understand that you had a real world situation that you had to take care of with another major weapons system that prevented you from taking the flight. Why did you want to fly with the crew?

27A. Two reasons. First reason, shortly after I took over the job, about 14 months ago, I had spoken to a couple of the folks and found out we had a demonstration team here, the C-17. I thought it would be very, very interesting be able to see it, enjoyable to see it, as well as I thought perhaps I would be able to understand the aircraft a little bit better. Prior to the actual accident itself, I was reminded that we are going to be doing a demonstration for the air show here at Elmendorf and I wanted to do a couple of things. One, I want to be able to see for fun, and two, I want to be able to QC what exactly was going on and what my aircrew were actually doing. In the case of the day of the event--actually, I was originally going to go on an earlier flight approximately 3 days previous to that. I was given, as a matter of fact by **MP** a list of their demonstration practices they were going to be doing for two reasons. One, I could observe them from the ground, and two, I was being offered because I had inquired and asked if I would be able to get on one of the flights to observe and see what exactly it entailed. As it turns out, I was originally going to go on an earlier one, then I was moved to this one, the last one prior to the actual air show. While I was heading out the actual squadron to get on the airplane itself, that's when my Deputy for the fighter side took the actual cable in an F-22 causing F-22s

to be diverted to Anchorage. It was at that time that I chose I could not sit there and leave it to my deputy because he was the one actually involved in the incident and I had to go make sure the security was taken care of. I called approximately 25 minutes prior to actual going to the aircraft and told the Director of Operations I wasn't going to be able to make it. He offered potentially the next day that there might be another one. So, I told him, I can't make it.

28Q. I know you are busy at the time, but did you happen to see the accident?

28A. I did not. As a matter of fact, I was sitting at my desk and talking to the Supervisor of Flying, originally, up in the tower itself. Shortly after that I had gotten off the phone and was taking phone calls to <sup>WITNESS 30</sup> from the 249th over at Kulis to try and make sure that we were getting gas as well as security on our F-22s and that's when I got the phone call from the Supervisor of Flying that it was down, I looked out my window and saw the smoke. I did not actually see the crash.

29Q. When you say <sup>WITNESS 30</sup> at the 249th, you mean <sup>WITNESS 30</sup> was the 1----

29A. You're absolutely right, <sup>WITNESS 30</sup> with the 176th. That's a confusion between us. It's the 249th Airlift Squadron, 176th Air Wing.

30Q. Did you ever fly on any other demonstration flights, sims, or observe them on the ground or anything like that?

30A. I have not flown on a demonstration sim and/or flight. I have flown in the C-17 simulator and I have actually flown the C-17. I've flown on multiple flights.

31Q. Did you ever attend any demo planning or mission brief?

31A. I did not.

President: What I would like to do now is take a short break and then that will allow us to collect our thoughts and ask you any clarifying questions that we may have. I will bring you back in and we will be good to go.

[The board recessed at 0938, 20 September 2010.]

[The board reconvened at 0950 2, 20 September 2010.]

Legal: All attendees to the interview prior to the break are again present, to include <sup>WITNESS 16</sup>

### Questions by the Board President:

32Q. <sup>WITNESS 16</sup> you said that--we just want a clarification for the record. The crew the day of the accident obviously had a step brief that day, or mission briefing. Did you attend that brief?

32A. No, I did not.

33Q. You talked about standardization and evaluation and how they evaluate aircrews and programs and things like that, correct?

33A. Correct.

34Q. How do they perform their duties? How do they go through that function? How do they do that?

34A. Stan Eval will-- I don't know in particular what they do per se in detail to the demonstration program itself other than they have oversight and that you are to have an individual within your Stan Eval program who is a qualified demonstration pilot to be able to oversee it. For the normal mission, day-to-day events, Stan Eval will be able to tell whether or not you are instrument qualified and whether you are mission qualified in order to be able to perform the duties within your major weapons system.

35Q. Would it be fair to say the branch chief in Stan Eval is qualified in the aerial demonstration to provide checks and balances to the program?

35A. Likely, yes. I think so.

36Q. You mentioned that you had feedback from folks that **MP** was the most experienced, and I don't want to put words in your mouth, were they there to do an aerial demonstration and check out, those types of things, for other folks. Where did that come from?

36A. That came from the squadron commander, <sup>WIT 27</sup> He was telling me that **MP** was one of the original and one of the best out there qualified to teach people.

37Q. Do you know what his basis that was--what that was based on?

37A. No, I do not.

38Q. You talked about as he reviewed the packages in the certification process, they came up to you. As he reviewed the package with <sup>WITNESS 29</sup> you stated that it was a very stringent program or at least that's what he inferred to you and that is what you relayed to us. I just want to make sure I've got that correct.

38A. Okay.

39Q. What does that mean?

39A. I'm not sure if I meant to say stringent. I do know that I understood it to be and it was portrayed to me that it was very much AFI driven as far as Air Force Instruction. What does that mean to me? Just that there were rules and there were governing processes that you had to follow that were not necessarily technique or procedure.

40Q. That came from <sup>WITNESS 29</sup>

40A. Yeah, <sup>WITNESS 29</sup> as well as <sup>WIT 27</sup> told me it was AFI driven.

41Q. Do you know if while assigned here, did <sup>WITNESS 29</sup> ever watch the aerial demonstrations from the ground or participate in briefings or demo training?

41A. I don't know.

42Q. Just going back, right prior to the break I asked you if you had ever seen the demonstration program from the ground. Have you?

42A. I had seen parts of it from the ground from parking lots. I actually also observed it from my window, not in its entirety, but so much of it as it was over the field itself.

**Questions by the Legal Advisor:**

43Q. Just to clarify or to follow that last question about watching it from the ground. You said in parts, not in its entirety. Do you know what portion of the aerial demonstration you watched at that point, or what did you see?

43A. I just saw some of the turns, if you will. I do not know what portions, no.

44Q. When you said the parking lot or the office, how far was it from the aircraft? Could you estimate a distance in feet?

44A. My office is approximately a hundred and 50 yards from the actual runway itself, and has a window out-looking the runway. It is obscured in some cases by a hangar, but in many of the cases I could see much of it.

45Q. And the hangar is on the ground level, of course?

45A. Right.

46Q. And maybe just slightly above the roof you can see portions of the sky?

46A. Yes.

**Questions by the Pilot Member:**

47Q. Do you remember what dates, by chance, you happened to see it from the ground?

47A. I don't remember. I know that as stated earlier, I believe there were four dates that were given to me because I had inquired about getting onto the aircraft itself. For each one of those, something would incur and inevitably I would be driving back from whatever occurrence I had going on right before that and saying, ah, there it is. That is the demo. I should've been on that one, as we press towards it.

**Questions by the Board President:**

48Q. As you saw segments, or anything like that, did you ever have any concerns?

48A. I don't know if it was concerns. It was, in many cases, awe. When I would join my fellow pilots or anybody else, I would say that is impressive. What am I looking at? What kind of banks are we looking at and whatnot, so I made some inquiries on that and I was told 45 degrees of bank. I remember someone specifically saying you can't tell the difference, just like if

you do a max climb in an F-22, whether or not you are 70 degrees nose high or whether or not you are 90 degrees nose high. There are ways that--it's pretty impressive. I also remember inquiring to WITNESS 29 my deputy. He was telling me that nowadays the profile is much tamer than it used to be. It used to be up to 60 degrees of bank, is what he was telling me, and now its 45 degrees of bank, but that was it.

49Q. So, that was your feedback that you had with WITNESS 29 now?

49A. Yes, and there were others in this case. Largely, it was just myself and other pilots going that's an impressive show much like you say that's an impressive show for any of the demos that I have seen. I fly the F-22. I see the F-22 demo and I'm just in absolute awe that the aircraft can do that. I have flown in the C-17, observed, and flown the C-17. Once again, as I saw the demonstration going on overhead, I said wow, that's amazing. Were there concerns at the time? Only that the fact that I went, I don't know per se necessarily if I should be concerned. I went inquiring and they said oh, no. The thing is rock solid.

50Q. That's the reason why you wanted to QC it?

50A. Yeah. I wanted to see it, and I wanted to see it from the cockpit.

51Q. Is there anything else that you want to add that would help us in our investigation?

51A. I can't think of anything. No. I don't.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1001 local, Alaska time.

**V17. AIB INTERVIEW WITH WITNESS 17**  
**VERBATIM TESTIMONY OF**  
**WITNESS 17**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The accident investigation board is a legal investigation that was convened to inquire into the facts surrounding the aircraft and aerospace accident, to prepare a publicly releasable report and to gather and to preserve all available evidence for use in litigation, claims, disciplinary actions, administrative proceedings, and for all other purposes. A safety investigation was previously conducted on this accident. You did not provide testimony or a statement to the safety board. Your sworn testimony to me and to this board may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand how your testimony may be used?

WITNESS: Yes, sir. I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you're about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Please sit down.

[The witness did as directed.]

PRESIDENT: Today is 21 September 2010; time now is 0916 local Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                    **WITNESS 17;**  
myself, Brigadier General Carlton D. Everhart, II, Board President;  
   Pilot Member;  
   , Maintenance Officer Advisor;  
   Legal Advisor;  
   Medical Advisor;  
   Maintenance Advisor; and  
   Court Reporter.

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 17**

2Q. How long have you served in the Air Force?

2A. It's going like just over 7 years now.

3Q. What is your unit assignment and location?

3A. 517th here at Elmendorf flying C-17s and Chief of Training.

4Q. How long have you been with the unit?

4A. Just over 2 years.

5Q. Again, your job title?

5A. Chief of Training. That's changing now, but Chief of Training right now.

6Q. How long have you been with that job?

6A. Six months.

7Q. Can you please describe your duties and responsibilities?

7A. Yes, sure. As Chief of Training just overseeing all the currency and proficiency items, as an instructor pilot trying to look at training to try and get everybody a little bit more proficient in the job as well, and just ensure that's being done.

8Q. In previous testimony it was mentioned that you witnessed an aerial demonstration practice, and we believe or a show, from the roof of the squadron building. Do you remember this?

8A. I do.

9Q. Who else was present with you?

9A. <sup>MCP</sup> was there, <sup>WITNESS 21</sup> --WITNESS 21 **CAPT CM**, and I believe that was everybody.

10Q. And that was <sup>CAPT CM</sup> or <sup>CAPT CM</sup>?

10A. <sup>CAPT CM</sup>

PRESIDENT: **CAPT CM**. Okay.

11Q. When was this?

11A. The 19th, sir, it would be July 19th. I believe that's a Monday.

12Q. Please tell us what was discussed and said while that profile was going on.

12A. Well, they did a couple of profiles. I was a little bit late; we were there until 7 anyway that evening so we all were just kind of hanging out. We knew what time the demonstration was going to go so we all decided to go up there and watch it. So the first one I was a little bit late; I got there right as they were going -- taking off. Really nothing was discussed. We just kind of watched it. Nothing in particular, it was maybe work-related or family related or something like that, and I don't remember any specific conversations about that. The second one there was a little bit more discussion between <sup>MCP</sup> and myself. The thing that comes to mind -- a lot of it is fuzzy, the thing that does come to mind is when the second one started we kind of backed up because what we wanted to do is kind of count off when they started the turn after the initial pull-up. That was just interesting to both him and I just for whatever reason it was interesting. So we counted it off and I think we counted 5 seconds in that, which I've done the demonstration in a sim but never in the plane. I couldn't remember if that was aggressive or not. I just kind of looked at <sup>MCP</sup> and he kind of gave me one of those eyebrow-raising looks kind of like "wow". We were kind of off by ourselves and I looked at him and I said wow, that's a lot of rudder. And he said yeah, it is.

13Q. And that was on the initial turn or -- ?

13A. That's on the initial turn. Yes, sir. I said yeah, that's a lot of rudder. He said yeah, that is a lot of rudder. You should feel it in the plane. I said something like wow, I bet you can really feel it. I asked him -- I was like is that not too much rudder and he said no, no. I asked that question too and I asked that to **MP** and he said the rudder can -- or the EFC can take it and will not let you overstress the rudder.

14Q. And the EFC is the Electronic Flight Controls?

14A. Thank you. Yeah, Electronic Flight Control computer. So that made me feel better and just doing it. It was more of a question of ignorance on my part as I was just like yeah, I guess that's true. So that was the basic conversation. The only other thing was he looked at me and he said -- <sup>MCP</sup> looked at me and he just said it makes me nervous and just kind of gave me one of those looks again. I didn't know if he was confiding in me or anything like that so I looked back at him and said well, **MP** has been doing this -- **MP** has been doing this forever and he knows what he's doing and he's awesome. He nodded and said yeah. Yeah, he's awesome. I said **MSO** -- **MSO** sat there in front with him, and he interrupted me and said **MSO** awesome. That was it. We just both looked at each other, gave each other a nod and that was the end of any kind of conversation about the plane. Yeah, that sums up kind of the conversation that I remember. That does stick out in my head just because after the accident I think back at that conversation just -- I don't know I've never been through this before, but that's kind of what sticks out in my head.

15Q. The use of rudder, you say it was a lot of rudder?

15A. It was a lot of rudder, but that's I think pretty normal for the profile.

16Q. Did you and <sup>MCP</sup> discuss -- or you and <sup>MCP</sup> discuss why the rudder on that initial turn? What was the purpose of it? In your training was it -- you said you've had one simulator ride. Correct?

16A. Right. Correct.

17Q. So are you going through the training?

17A. I went through the training. I never certed. You have to go through the actual flight portion to be certed.

18Q. So you were in the process of being upgraded also?

18A. Yes, sir. I was. I went through -- my background is I went to a New Zealand airshow as just an air/land -- this was during my upgrade -- and I rode along. <sup>WITNESS 13</sup> was the demo pilot on that one. I rode along twice and had a blast. <sup>WITNESS 11</sup> was in charge of the program at the time. <sup>WITNESS 11</sup> asked me if I wanted to be part of it and, of course, I jumped at the opportunity and said yes. So I flew with <sup>WITNESS 11</sup> in the sim portion; and we did probably six profiles in the sim all of them. As a co-pilot I was sitting in the right seat then. That's my background. I never flew in the plane.

19Q. Now did they discuss -- so just part of your background between you and <sup>WITNESS 11</sup> -- I guess <sup>WITNESS 11</sup> now, and any other demonstrator, did you discuss why the use of the rudder on that initial turn? At all did that ever come up?

19A. I guess a little bit, but we just talked about obviously the rudder will help you get around. Because that first initial turn you want to get over centerline of the runway and line up with it and that just allows you to -----.

20Q. Is that the centerline out here at Elmendorf?

20A. Well, again, I only did that in the sim. When I flew it with <sup>WITNESS 11</sup> it was a little bit different. I would say he was well within any kind of limits and probably on the safer side of them. He would use the rudder, but -- when I was in New Zealand <sup>WITNESS 13</sup> used the rudder, but it was never uncomfortable. In the sim it was never uncomfortable. No maneuver was uncomfortable and that's hard to say in the sim because a sim doesn't really recreate the jet. Something that <sup>WITNESS 11</sup> told me was like make sure that you're showing off the aircraft and not yourself. Stay within the limits. So I always took that to heart as I went on. So sitting outside on top of that hangar top looking at it, it was more when I looked at <sup>MCP</sup> I was just asking how does that feel in the plane? Is that normal? I mean, because I've only done it in the sim and once in the aircraft and only seen it once and he seemed like it was completely normal -- felt completely normal.

21Q. Now you said that he said "it makes me nervous." Can you describe what portion he was looking at and said that makes me -- or did just the airshow profile make him ---- ?

21A. Yeah, and again, that's why it sticks out in my head because it was that initial turn. I should caveat that with I don't know specifically what he was talking about. He said that about other things before. We went out and flew some AR and he said the same thing. So it's not like saying he wasn't necessarily a red flag about that initial turn or anything like that. But in hindsight I look at it and I think maybe that's what he was talking about; I don't know. I can't speak specifically for him by any means.

22Q. So you don't know what was actually making him -- ?

22A. I have no idea what was making him nervous. I know that when he said it we were talking -- it was in the context of what we were talking about and that was it.

23Q. You said that you went to New Zealand?

23A. I did. Yes, sir.

24Q. Did you watch the profile from the ground?

24A. I was in the jet on both of those so I didn't see the profile.

25Q. Okay, so you were actually in the cockpit then?

25A. I was. Yeah.

26Q. Do you remember when you did the initial climb out and you made that first 80 -- you're familiar with the profiles. Correct?

26A. I am. It's --

27Q. And we're talking about profile III?

27A. -- again, it's been about a year and a half so it's a little fuzzy on exact procedures, but I am familiar.

28Q. Do you remember when you did the initial climb out and you make the 80-degree heading change from your runway centerline, do you remember the bank angle that was used typically?

28A. I don't remember. I want to say it was 45 is what we used, but I don't remember. I know that both <sup>WITNESS 13</sup> -- and <sup>WITNESS 11</sup> when we did it, they didn't use any rudder in that at all.

29Q. Do you remember what altitude they climbed to?

29A. I want to say 1200 or 1500.

30Q. Do you remember on the 260-degree turn coming back around, do you remember in the airshow do you remember what bank angle, and then do you remember what bank angle was used in the profile that you witnessed on top of the building? What your --

30A. Yeah, I don't know what bank angle was used in the profile that I witnessed. I didn't ask <sup>MCP</sup> what bank angle. We just talked specifically about rudder. Just because as you sat up there, you could really see the plane just kind of pivot on a axis when using the rudder and I was just -- we were just I think more amazed. That wow look was just amazed that the jet could do that, not anything else. So when I say "wow," it was like wow, that rudder really pushes the jet around. Bank angles, I want to say that it was 60, nothing over 60.

31Q. When was -- ?

31A. In that you talked about the 270 coming back around.

32Q. Yeah, the 260 maneuver, so in the profile that you saw -- and I'm sorry I gave you a two-part question. First of all, the profile that you saw on top of the building, what was the bank angle?

32A. I have no idea what it was.

33Q. What do you estimate it to be?

33A. It didn't look anything over 60 to me. So I would guess 60.

34Q. Then in New Zealand?

34A. Sixty again, yeah.

35Q. Do you recall when you were watching the profile on top of the building who was in the aircraft?

35A. I do. It was --

36Q. Actually flying the aircraft?

36A. Yeah, <sup>WITNESS 8</sup> **MP** was flying, I believe was upgrading to co-pilot demo and <sup>WITNESS 8</sup> **CAPT SCO** was safety and I know that <sup>WITNESS 8</sup> **MP** was flying because he would be the only qualified to fly it. As far as <sup>WITNESS 8</sup> and **CAPT SCO** I don't know who was flying what.

PRESIDENT: So MP was actually flying -- or MP

WITNESS: Sorry. Yeah, MP

37Q. There, again, I just wanted to touch on: What was your perception of MCP comfort level?

37A. In as far as the demo goes?

38Q. At any time.

38A. Well, I don't know if I can really speak for his comfort level. I don't really know. I mean I told you about that conversation, but I felt like he was completely comfortable. I know he was extremely proud to be part of it, and he enjoyed it. Any conversations that had it was always positive and he enjoyed it. As far as his comfort level, I can't really speak to that. It seemed like he was comfortable. Again, the only conversation we had was that one little bit and he said it just makes me nervous. I think he was just talking about in general that -- and specific with rudder, or whatever, it makes him a little bit nervous. Again, for<sup>MCP</sup> that doesn't really mean anything because he -- some of the maneuvers that we do like low levels or AR he would say that. I flew with him and he was just like yeah, this makes me nervous. So I think that was his kind of cue -- just like he always erred on the side of caution. So that was kind of his time-out call, if you will, which aviators use. That was just kind of his saying hey, I just take a step back kind of thing and he was really good at that. Every time I flew him just everybody what we do has a dangerous aspect to it. When he said that, that's how I took that statement specifically.

39Q. Do you know if<sup>MCP</sup> ever mentioned any concerns that he may have with the profiles to anyone else?

39A. To as far as the profile, no. I don't think he -- he never expressed any concerns about the profile to me.

40Q. How about to leadership or anybody like that?

40A. Not that I know of.

LEGAL ADVISOR: I am I'm the legal Advisor. I just had a couple of follow-up questions to some of the General's questions.

WITNESS: Okay.

**Questions by the Legal Advisor:**

41Q. You had mentioned that when you flew in New Zealand, you flew the aerial demonstrations with<sup>WITNESS 11</sup> and<sup>WITNESS 13</sup> it wasn't an uncomfortable feeling I think is how you described it.

41A. It wasn't uncomfortable.

42Q. In executing the turns and the bank angles and whatnot?

42A. Yeah.

43Q. Or even if they used the rudder, it wasn't uncomfortable.

43A. It was not uncomfortable.

44Q. What did you mean by "it's not uncomfortable"? What do you mean by it?

44A. I guess as an aviator you get kind of the feeling and when you're not at the controls, sometimes you just want -- you're like what-are-you-doing type of question when people are doing. It always felt like it was under control within the aircraft limitations. That's what I mean by uncomfortable. It seemed like it was all within limits and completely comfortable. That's from an observer, which sometimes that's hard to feel comfortable.

45Q. Because we are recording and this may be transcribed, or at least being recorded, you used the word "wow" a lot like to describe some of the reaction like wow?

45A. Right.

46Q. When you say it though, how are you describing "wow"? Was it in the amazed and excited kind of way, or is it another way?

46A. Yeah, and again, I wanted to -- let me just say that nobody ever said "wow." I was just saying that for the transcribe that he gave me a look of wow. It was kind of one of those looks that only<sup>MCP</sup> could give you, just kind of like -- and it was more amazed, excited, probably caveated with his statement that he said it makes me nervous. So it was like wow, I can't believe the plane that reacts like that. So when he said it in that specific context, we were watching the rudder. We'd both stepped back; we were watching how much rudder he used and it was "wow, I can't believe the plane -- a big plane like this can do that.

LEGAL ADVISOR: It's always hard to describe someone's look, but that was fine so I appreciate that.

47Q. How long had you known <sup>MCP</sup> by this point when you watched the aerial demonstration practice from the roof of the squadron?

47A. By that point we got here about the same time, so I've known him for the full 2 years.

48Q. Then you said you flew with him as well?

48A. You know what, I never flew with him until the week prior to that rooftop to the 19th. We went out and did a local and then a week after I did my check ride and he was on there with me and we did some air refueling at a low level and some other things. But those are the only two times I've ever flown with him.

49Q. I just wanted to verify: You had said you'd mentioned the word "time out," and that <sup>MCP</sup> would be the type to at least be able to say or he would be comfortable to tell you what's going on?

49A. Yeah, and like I said he always erred on the side of caution. Mission planning for our local he was always erring on the side of caution. I was down at IP school with him as well -- not flying with him, but he always was just on the cautious side, which I really enjoyed about him.

50Q. Lastly, you had mentioned earlier that you had asked **MP** about the use of the rudder, or the full rudder, or can the full rudder be used. When was that conversation?

50A. I'd never asked him specifically. When we were on the rooftop, <sup>MCP</sup> had asked him and I asked <sup>MCP</sup> I said, that seems like a lot of rudder and <sup>MCP</sup> asked **MP** can we use that much -- or it was like something about the rudder. I don't remember the exact specifics on it. What he said is yeah, that EFC, electronic flight computer.

51Q. So just to make sure I understand: It's the conversation between you two on the rooftop and he's relaying a separate conversation he had with **MP**

51A. Right, and I guess just to say that we talked about err on the side of caution. So what I took from that was that <sup>MCP</sup> had asked the question about it and he felt totally comfortable with the answer he was given; therefore, I felt totally comfortable too with the answer that was given to me.

LEGAL ADVISOR: Thank you, sir.

PILOT MEMBER: I just have one, sir.

**Questions by the Pilot Member:**

52Q. You mentioned your previous demonstration observer experience and then a little bit in the sim. Also, you mentioned that you're an instructor pilot in the squadron here. When you were with <sup>MCP</sup> on the rooftop on the 19th of July and you witnessed the profile being performed, what was your impression?

52A. Of the profile itself? I'd say my impression was that it was -- I'm choosing my words here. My impression was it was aggressive. That's not incriminating at all. I just thought that it was aggressive and more than what I had seen in New Zealand. I only have that one -- or these two experiences to base it off of. I did ask <sup>WITNESS 8</sup> afterwards about that specific profile and I said those words. I was like man, that seemed aggressive. He was like no, it actually wasn't. I was like well, it looked like it from the ground. He was like no, that actually wasn't. We're at heavier weights. I think they were at 90K probably for that profile, which usually when we do this profile, it's a lot lower. It's probably 30K -- 30,000 pounds on fuel. So he was at heavier weights and so I asked <sup>WITNESS 8</sup> I was like it seemed aggressive, and he said no, actually it wasn't. So, again, my perspective and my inexperience it really means nothing. It looked cool from the ground and if you ask for one word, I'd say aggressive, but not necessarily in a bad way.

PRESIDENT: If we could, I'd like to take a break and then just to collect our thoughts and we'll bring you right back in.

[The recessed at 0940, 21 September 2010.]

[The board reconvened at 0950, 21 September 2010.]

LEGAL ADVISOR: We're right back on the record. All attendees to the interview prior to when we broke are again present to include <sup>WITNESS 17</sup>

PRESIDENT: <sup>WITNESS 17</sup> thanks for coming back. I have one last question to ask you.

**Questions by the President:**

53Q. Are there any matters that we haven't covered that you believe are important to this investigation?

53A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

PRESIDENT: This concludes the interview. Time now is 0952 local, Alaska time.

**V18. AIB INTERVIEW WITH**

**WITNESS 18**

**VERBATIM TESTIMONY OF**

**WITNESS 18**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010, at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between the testimony before the safety board and accident board?

WITNESS: Yes.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes.

PRESIDENT: Today is 20 September 2010. This time is now 1540 local, Alaska time. This interview is being conducted in Building 7309, Room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness, **WITNESS 18**;  
Brigadier General Carlton D. Everhart, II, Board President;  
Pilot Member;  
Legal Advisor;  
Maintenance Officer Advisor;  
Medical Advisor;  
Maintenance Advisor; and  
Court Reporter.

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 18**

2Q. How long have you served in the Air Force?

2A. A little over 6 years.

3Q. What is your unit of assignment and location?

3A. 517th Airlift Squadron, JBER.

4Q. How long have you been with the unit?

4A. Since March of this year.

5Q. What is your duty title?

5A. I am currently the Assistant Flight Commander, Readiness.

6Q. How long have you been doing this job?

6A. Since August 6.

7Q. Please describe your duties and responsibilities?

7A. Currently, I am in charge of two shops: Plant Shop and Mobility Shop. I basically handle administrative responsibilities for all the officers and enlisted personnel in those two shops.

8Q. As part of this, you made a non-privileged statement to the Safety Board. It was transcribed as part of Tab R. Have you had a chance to review it?

8A. Yes.

9Q. That statement was not take under oath. Do you want to adopt that statement as part of your testimony today?

9A. That's okay.

10Q. As we go through this, if you have any clarifications, you may make them. Just let us know, and we will follow-up with any questions. Okay?

10A. Yes, sir.

11Q. When did you go through the upgrade process for the aerial demonstration?

11A. I did the upgrade process in late June, early July 2010.

12Q. How many demonstration flights and sounds did you fly during your upgrade?

12A. I flew one simulator and one flight in the training program.

13Q. Are you familiar with the 12-minute program, i.e., Profile 3?

13A. Yes.

14Q. Could you describe the departure portion of that profile from the static takeoff?

14A. Yes. We would adjust throttles to max. Once throttles are maxed, we released the breaks. Once we got to V-GO, we would pause approximately 2 seconds for delayed rotation, rotate to achieve a max rate of climb, typically, between 30 and 40 degrees, nose high. Once we got to that pitch altitude, we would lower the nose to approximately 25 degrees to make sure we maintain a safe airspeed, climbing to 100 feet, we initiate a left hand turn -- or right hand turn, depending on which runway we were on -- to begin our 80/260 maneuver, the whole time we would be accelerating. Once we reached our rollout heading, we rollout time; it varied about 7 to 10 seconds. Then we would begin our turn inbound and descend to 500 feet for the high speed pass.

15Q. You said you climbed out 1000 to 1200 feet during the climb-out, when you made that initial climb. The target altitude, the way we understand it, is 1500 feet. Why are you lower? Why not 1500 feet?

15A. We were briefed in training: 1000 to 1500 feet -- we were told that. To the best of my knowledge, from what I can remember from the ground training, we were told that climbing to 1500 feet, it would be hard to us to lose the thousand feet in the turn inbound to make our high speed pass at 500 feet.

16Q. It would be hard to lose. But, if you train to it, would it still be hard? Would it become routine?

16A. I can't really say, because I don't have any prior air show experience. I would say, if we train to that, probably, we could do it.

17Q. So, you never trained going to 1500 feet?

17A. Correct.

18Q. Who trained you that?

18A. MP

**Questions by the Pilot Member:**

19Q. Excuse me, sir. When you were trained, did your trainer state what was hard about losing it, why it was hard to lose that altitude?

19A. I cannot remember.

**Questions by the President:**

20Q. About the 80/260, what was your instruction regarding bank angle on the 80/260 turn?

20A. Initial turn: 45 to 60 degrees of bank. We were instructed not to go less than 45 degrees of bank.

21Q. What would you normally -- what was the normal bank angle you were trying to --?

21A. I think, normally, we were trained to 60 degrees of bank, although -- that's what we were taught to do.

22Q. At the 260 degrees of turn, what was your bank angle?

22A. We were taught to use 60 degrees of bank, although, it was, as required, to rollout on the center line of the runway. That is the way I understood it.

23Q. It was taught "as required" -- go to 60 degrees bank, but, as required?

23A. The technique we were taught was 60 degrees of bank. But, sometimes, you didn't need 60 degrees of bank, so it did not make sense to fly 60 degrees of bank if we were going to undershoot the runway.

24Q. So, when you hit -- at the 80 degree point before the initiation of that turn, was that based off timing? Airspeed? What was that based off?

24A. We would rollout and then we would time.

25Q. How long would you time for?

25A. I would say an average of 7 to 10 seconds.

26Q. Average of 7 to 10 seconds. But what was it, normally, your turn period?

26A. It was whatever was briefed prior to that particular flight.

27Q. What was normally briefed?

27A. I am trying to remember for the actual flight we did. I think it was briefed -- I want to say 9 seconds, but I can't be 100 percent sure on that.

28Q. For the record, let me understand. You said on your flight you timed for 9 seconds and then went to 60 degrees of bank, correct?

28A. Return inbound.

29Q. For that turn inbound?

29A. Correct.

30Q. And 60 degrees of bank is the maximum bank you can fly, correct?

30A. Correct.

31Q. What would happen, you timed, you went to 60 degrees of bank and you had the show center and you are going to over-fly show center?

31A. I would over-shoot.

32Q. What were you taught?

32A. I really can't remember addressing that specifically. I'm pretty sure  
**MP** never taught to exceed 60 degrees of bank on the turn.

33Q. If you were taught 7 to 10 seconds and you hit 7 seconds, 60 degrees of bank, and you are going to go over, you said you would go over. But you don't remember what was taught?

33A. As far as bank angles?

34Q. [Affirmative response.]

34A. I don't remember ever being taught to exceed 60 degrees of bank.

35Q. Are you saying "take what you got"? Is that what you're telling me?

35A. Personally, that's --

36Q. In your instruction?

36A. Just as far as bank angles, or, are you talking about the rudder?

37Q. The rudder is my next question. What would you do with the rudder?

37A. We were taught to use rudder, as required, to help increase the turn radius.

38Q. What does rudder do for you?

38A. Rudder would -- the way I understand rudder, it disrupts the horizontal lift over the vertical stabilizer and then causes the nose of the aircraft to yaw left to right. In a turn, it would help you increase your turn, or decrease your turn.

39Q. Does it increase drag if you put that rudder out?

39A. I would say yes.

40Q. In your testimony, you said you were hesitant to use the rudder, at first. As you gained more comfort in using it, do you use it routinely?

40A. I can't remember if I used full rudder, routinely, as part of the profile. I would say we were taught to feed it in every time we turned, initially, and then use it, as required, to maintain the centerline, I guess.

41Q. But then you just said you were taught to use full rudder? You said full rudder and then you said I was taught to feed it in. Is it feed it in? Is it full rudder? Or, is it feed it in to full rudder?

41A. Feed it in to full rudder.

42Q. At some point, you were using full rudder, because that is what you were taught?

42A. That's what we were taught, correct.

43Q. During the maneuver, the initial climb-out and then the turn to 80 degrees. When would you configure/de-configure? I should say, at that time, you already configured. When would you de-configure?

43A. We were taught that the co-pilot would retract the landing gear immediately after takeoff and then de-configure on speed.

44Q. Is that what **MP** taught you, to de-configure on speed?

44A. Yes.

45Q. When you de-configure, then, if it's always on speed, in your training, was there ever a time when you de-configured while, either, in the turn going into that 260 degree maneuver?

45A. I'm not sure. I cannot remember.

46Q. Regarding AFI 11-246, C-17 profiles that you were taught and adherence to these profiles, were they regarded as guidelines or procedures?

46A. Procedures.

47Q. Again, regarding the use of the checklist during the demo, who called for or initiated the checklist?

47A. It was primarily during a flight -- a co-pilot safety observer, challenge response checklist. When I was flying, I typically called for them out of habit, because I knew what checklist we were supposed to be running at the time.

48Q. So, the co-pilot would go -- when you say "challenge and response," someone would call for the checklist and the co-pilot would say gear up and the safety observer would say, roger, gear up?

48A. I think it was briefed that the co-pilot would initiate the checklist, automatically, at the right time.

49Q. The challenge and response items on the checklist, were they verbalized?

49A. Yes.

50Q. What did **MP** teach you about the checklist?

50A. That the co-pilot would initiate it at the appropriate time and there would be a challenge response between the co-pilot and the safety observer.

51Q. Do you remember getting warning alerts from the aircraft during the demonstration profiles, either in a simulator or an actual flight?

51A. The only ones -- I can only remember getting the oral alert, twice, while I was flying. I don't really remember getting it any other time. The two times I got it, I remember both of them were, to me, not normal, but what you might see on a local training sortie. One time, for me, I was a little below approach speed on the final turn, so I shoved the power in. In the low speed 360 degree maneuver, again, I just did not have enough power in, so, as soon as I got it, I added power to compensate. It did not seem abnormal to me. I really can't say for sure at the other times.

52Q. What did **MP** teach you about stall warnings?

52A. I can't remember him, specifically, addressing the stall warnings. I remember when we got it, he said add power, so I added power. I don't remember, specifically, being taught, if the stall warning happens, this is what we are going to do.

53Q. What would you do if a stall warning happened in a profile?

53A. One time I was flying, we got a wind shear warning. I rolled to wings level, I added power and raised the nose. That is what I would do -- not necessarily for a stall, raise the nose, but I would add power and roll to wings level.

54Q. We would like to ask you about the demo training flight you had with

**MP** When did you fly with him?

54A. July 12.

55Q. How did that make you feel?

55A. Could you be a little more specific, sir?

56Q. How did you feel about the flight? It was good, bad?

56A. I thought it was good. I thought it was challenging. It would be my first time ever doing it. But I thought it went okay.

57Q. How many profiles did you accomplish?

57A. I think I did three, myself.

58Q. After each profile, what happened?

58A. We would take off and go out to Goose Bay -- a point. I don't know whether it is east or west of the runway; I am still new here. We would haul her about 2000 feet and cool the gear, discuss the profiles.

59Q. How did that discussion go?

59A. Typically, we would start at the beginning of profile. **MP** would talk about what he saw that we did well, what we could improve upon. That was about it. Just normal debrief.

60Q. Did he ever talk about how you could roll on the bank, perform a maneuver, use a rudder, those types of things?

60A. I think so.

61Q. What did he say?

61A. It was like a normal -- if you ever shot in this turn, make sure you use more bank, or something, next time. I guess he would say -- because, I probably tend to use less bank in my turns and, consequently, I probably overshot. He's, like, hey, you didn't go to 60 degrees of bank, you just went to 45 -- or whatever you did -- you let it out while you were turning, stuff like that.

#### **Questions by the Pilot Member:**

62Q. Why did you use less bank?

62A. Habit, I guess, to be honest with you. We do train to use 60 degrees of bank a lot. I would say, for me, it was probably a little task management. It would just slip out of my cross-check the whole bank and I would just naturally let it out in the turn, because I was thinking about something else -- my climb, leveling off -- rather than trying to hold the bank the whole time. I would naturally roll a little bit -- less bank.

#### **Questions by the President:**

63Q. Did you find it harder to roll on a bank with no rudder, or roll on a bank feeding rudder, trying to hold that 60 degrees of bank?

63A. I would say it was probably -- I can't differentiate, really, in my brain, between the two. I thought it was -- like I said before, I thought it was -- you had to think about holding it at 60 and you tended to roll out. From that standpoint, I would say it was hard. But I can't differentiate between whether the rudder was being fed in or not. I don't know if that answers your question.

64Q. In your statement, you said that you had written copies of the notes that **MP** had?

64A. Correct.

65Q. When you get a chance, can you provide for us, please?

65A. Okay.

**Questions by the Pilot Member:**

66Q. I had asked you earlier about the altitude. Your instructor, **MP** said that it was hard to lose that thousand feet, if you went all the way up to 1500. Do you remember what you went to when you flew the profiles during your flight?

66A. If I remember correctly, typically, leveled off around 1200-1300 feet.

67Q. So, you never tried it at 1500 feet; is that correct?

67A. No. I never got all the way up to 1500 feet.

68Q. In your mind, or, in your judgment, what would you think would be hard about losing a thousand feet, versus what you were at 1200? The difference would be if you had to lose -- like you said before, if you went all the way to 1500, to get down to 500, you would have to lose a thousand feet. In your case, you had to lose approximately 700 feet; is that correct?

68A. Correct. I was thinking about this. Because, we do 80/260s to land and we lose that altitude, the only thing I could think of was -- we are accelerating all the way through that turn to get to the high speed pass. In my experience, the two or three times I flew it in the jet, when I had to -- at that higher air speed, to try and lose that altitude, it was coming a lot quicker and you had to have an uncomfortable descend rate, to me, to lose a thousand feet in that turn. I don't know if that makes sense. At a slower speed, it is easier; you have more time to lose the altitude. But accelerating up to 270-280, whatever we could get, it seemed like I had to -- typically, I'm not sure I even made it down to 500 feet on a lot of my passes in the turn -- it was kind of as we were crossing the runway, because I just did not descend enough. Does that answer your question?

69Q. Yes, I think it does. Maybe you could further clarify. When you started the 80/260, you would time outbound, you said, between 7 and 10 seconds?

69A. Correct.

70Q. During that time, based on the profiles that you previously described, if you went into 60 degrees, at 1000 or 1200 AGO -- or, let's say you went all the way to 1500. I can see where there would not be a lot of time in there to, also, get a thousand foot descent because of the way the profile is set up?

70A. Correct.

71Q. Am I wording that --?

71A. No, I think it is probably what I -- I would agree with that.

**Questions by the President:**

72Q. I understand what you describing about the use of rudder at the 260 degree turn point. On the 80 degree point, you were also taught to use rudder, correct?

72A. I think.

73Q. Do you remember what you were taught?

73A. No. I don't remember what -- I remember it being not as much of an issue to make that initial turn.

74Q. You said you practiced at 60 degrees of bank on that initial turn. Why would you use rudder there?

74A. There's really no reason to. Like I said before, the way I understood it, 45 to 60 degrees of bank, no less than 45 degrees of bank, which is always what I kept in the back of my head. But we were taught to use 60 degrees of bank.

[The board took a recess.]

**Questions by the President:**

75Q. You said on the initial turn to 80 degrees, you would time a range of 7 to 10 seconds. Did you ever use longer than 7 seconds?

75A. In the sim. I don't think it was planned that way. We just got a little bit behind, so we extend it.

76Q. You basically trained to 7 seconds all the time?

76A. Seven would be on the short end of it. I was never the first flight or the first sim that **MP** did. What would happen, they went in the sim the day before us, or they flew Friday before we flew -- and said this is what worked, so we'll use this. That is how it was briefed to us.

77Q. When you went out to the airplane, or in your simulator profiles, what was the heck on the clock?

77A. That is what I cannot remember. I think for the flight, I think it was 9 seconds.

78Q. On the flight, so why did you go to 9?

78A. I can't remember. They just that said it worked out better than what they had initially planned -- mission planned.

79Q. You confused me. You said I had a range of 7 to 10 seconds. Then I asked you: What did you train for? You said 7 seconds; but, I went to 9 seconds on the airplane. Is that correct? Did I get that right?

79A. No. The range was -- that was kind of an average range that I saw while I was flying. The actual time was never like: This is what we will do every single time. It was more of----

80Q. So, what was the standard that you trained to?

80A. 7 to 10 was what we were taught.

81Q. Why would you go to 10 versus 7?

81A. If we had winds pushing us farther out -- excuse me, headwind -- or, we did not have enough displacement.

82Q. If it was a no wind situation, what was it?

82A. I never had to do that because----

83Q. In a simulator, if you had no wind, what would time for?

83A. No, that's what I'm saying. It was always the -- like when we showed up for our simulator, **MP** sat with us and he showed us the profiles they flew in the sims using the same weather. And they said we did 8 seconds, for instance. I cannot remember if that's what it was. He said that that time gave us enough displacement to make the turn inbound. So that is what we would use.

84Q. When you say "to make the displacement," what was that displacement?

84A. It was never briefed. Like I said "displacement" enough to make the turn back inbound without overshooting the runway, or undershooting. That is the way I understood it.

#### **Questions by the Legal Advisor:**

85Q. I just want to clarify. "Displacement," what is displacement?

85A. Distance, offset from the runway. If the aircraft was parallel to the runway, the distance between the aircraft and the runway -- the centerline of the runway.

86Q. Displacement encompasses the area, within the turn, in order to get back to the runway?

86A. Correct.

87Q. You said "they" had worked it out in the sim the day before? Who is "they"?

87A. The day before, it was **MP** **MSO** and one other pilot. I can't remember who it was.

**Questions by the President:**

88Q. I have one question I need to clarify. As precise as these maneuvers are, you had a range of 7 to 10 seconds to get your displacement, but you all never talked about what displacement should be, never? You never talked about the parameters that you should fly, ever, is that what you're telling me?

88A. The actual distance displacement, I don't remember being briefed, no.

89Q. As precise as you are talking about maneuvering the airplane, that was never discussed?

89A. Not in the briefs that I was at, sir. They made us the mission planning cards. I was not at the mission planning when they determined the headings and the arrows and the timings that they based it on. I'm assuming they talked about it, to say: Hey, how long is it going to take us if we are flying this air speed to get a set displacement? But, no, I didn't, specifically, brief that. I was given a card that said this is what we came up with.

90Q. You did not question anything about the card? You just go: That's great; thank you; I'll fly?

90A. Because we had done it in the sim and it looked similar.

PRESIDENT: Are there any other matters you want to talk about this investigation that would help us?

WITNESS: No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission. Is that understood?

WITNESS: Yes, sir.

PRESIDENT: At any time before this report of this investigation is officially released to the public. This concludes the interview.

The time is now 1638 local, Alaska time.

[The board recessed at 1638, 20 September 2010.]

[The board reconvened at 1736, 20 September 2010.]

[The witness was reminded that he was still under oath.]

PRESIDENT: <sup>WITNESS 18</sup>, when we ended our interview today, I got the impression you may not have said everything you wanted to say and that my questions, tone, and pacing indicated frustration, on my part, in that I was seeking particular answers from you. I want you to know

that I was not targeting you or seeking specific answers from you. I want you to be able to answer my questions fully and to the best of your knowledge, ability, and recollection. With that in mind, I brought us back on the record to make sure that you have the full opportunity to clarify any questions that you gave during the previous interview.

91Q. We were last discussing your training regarding the timing on the outbound portion of the initial 80 degree heading from the initial takeoff and the 12-minute program. Do you want to add or clarify anything about that?

91A. I guess I would say that, I think there was a little misunderstanding when I said 7 to 10 seconds time outbound. It was not a range, if we turn in that window, we would be good. I was simply using that to refer to the average of what I saw every time I flew it, based on our notional time. But there was a time briefed, prior to each, either sim or flight, that we were expecting to use "a turn no earlier than time" based on what was a predicted displacement for the profile. What I was saying was when the mission planned for our flight, they used the notional time they had calculated in mission planning, I assume, and then when **MP** flew the profile the day before, realized that this time worked as a notional time to start in the training profile, so we were all briefed: We will use this time for our turn. So, it did not have to be in between 7 and 10 seconds, but there was a time that we did establish, as a crew, that we were going to wait before we started our turn inbound. And then there were a few times in the profile when **MP** being the instructor, specifically told us they were extending that time because he could see that we did not have the proper displacements. I remember him starting countdown from 10, maybe, when I expected him to count from 8, 7, 6, 5, and he would start from 10. I think there was a little confusion as to -- it wasn't like: Hey, we're going to use 7 to 10 seconds every single time. It was varied.

PRESIDENT: All right. Are there any other matters that we have not covered that you believe is important to this investigation?

WITNESS: No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission and at any time before the report of this investigation is officially released to the public. This concludes the interview.

The time is now 1745 local, Alaska time.

**V19. AIB INTERVIEW WITH**

**WITNESS 19**

**VERBATIM TESTIMONY OF**

**WITNESS 19**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are here investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on this accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any of the confidential testimony that you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, the testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony today in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you're about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Please be seated.

[The witness did as directed.]

PRESIDENT: Today is 20 September 2010, and time now is 1311 local Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness, [ **WITNESS 19**  
myself, Brigadier General Carlton D. Everhart, II, Board President;  
Pilot Member;  
Legal Advisor;  
Maintenance Officer Advisor;  
Medical Advisor;  
Maintenance Advisor; and  
Court Reporter.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 19**

LEGAL ADVISOR: I'm sorry, sir. You need to make a clarification that also the witness has been sworn.

PRESIDENT: And the witness has been sworn. Thank you.

2Q. How long have you served in the Air Force?

2A. Eight years.

3Q. What is your unit assignment and location?

3A. 517th Airlift Squadron, Joint Base Elmendorf-Richardson.

4Q. How long have you been with this unit?

4A. Approaching 3 years.

5Q. What is your job title?

5A. 517th Director of Staff.

6Q. How long have you been doing this job?

6A. Two weeks.

7Q. First of all, were you ever a Readiness Flight Commander?

7A. Yes, sir.

8Q. Can you please describe your duties and responsibilities as the Readiness Flight Commander?

8A. Yes, sir. As the Readiness Flight Commander I was responsible for ensuring that members were properly trained and equipped to deploy worldwide, for ensuring that we deploy members and re-deploy members with the proper training and equipment, and also monitor AF reporting to Defense Readiness Reporting System. That pretty much sums it up.

9Q. Prior to this you made a non-privileged statement to the safety board and it's transcribed as now as a part of Tab R. Have you had a chance to review it?

9A. Yes, sir.

10Q. That statement was not taken under oath. Do you want to adopt the statement as part of your testimony today?

10A. Yes, sir.

PRESIDENT: As we go through this, we understand that you may have some clarifications, which is perfectly fine. We'll also have some follow-up questions, but if you need to clarify them, we'll get there as we go along. Okay?

11Q. Are you a demo-qualified aircrew member?

11A. No, sir.

12Q. I would like to talk to you about some things that you mention in your earlier testimony. You talked about how good of a friend you and <sup>MCP</sup> were. Correct?

12A. Yes, sir.

13Q. Have you ever flown with him?

13A. Yes, sir.

14Q. Please tell us about those instances when you've flown with him?

14A. I have the upmost respect for <sup>MCP</sup> as an aviator as well as all the other facets of his life. The instances where I've flown with him, he's been a constant professional, an extremely competent pilot. I flew with him -- the last time that I definitely remember flying with him was just prior to his departure for Instructor Pilot School at Altus. We did a local training at Allan Army Airfield and <sup>MCP</sup> did a great job. Obviously, as a result of that flight, he was recommended to continue in his training and progressed towards Instructor Pilot School at Altus.

15Q. When you say he did a great job during that flight, what did he do that was so good?

15A. I specifically remember there was some issues with some pattern work at the beginning. I think he was just knocking some rust off, but there was definite progression with each pattern. By the end of that sortie after five or six VFR patterns, or visual flight ----

16Q. Visual Flight Rules?

16A. Yes, sir. He was back up to speed exactly where he should have been for the crew qualification that he held.

17Q. You said also that both of you were on the same wave length. What does mean?

17A. We both shared similar philosophies as far as flying the C-17, how we handled office work, the perspective that we had about our families and just a general attitude: Laid back is the word that comes to mind. I don't know if other people would agree with that, but -- and I don't know if laid back is the exact right word because MCP was kind of at both ends of that scale and that's a very complicated thing for me explain. You all probably don't care about that, but he -- I think we just looked at the world the same way.

18Q. Now when you said both ends of that scale, so he could be laid back at one time and then what we would call a Type A at another time?

18A. Yes, sir. I'll take a couple of minutes and try to sum this up the best I can. But I knew MCP since pilot training and he can get spun up very easily and he's always stressed is a good word. Good stress. He's always feels the stress to perform and it's the little things and the big things, but he never -- that stress doesn't affect his good nature and his personality, i.e., you can enjoy MCP when he's stressed or when he's not stressed. I would call that stress healthy for the most part. But he wore it more on his sleeve so you knew when he was dealing with a lot of stuff because he just talked about it and it showed.

19Q. Now as you said you flew with him, did that stress ever make it into the cockpit you think or --

19A. I think the best way for me to describe that is the stress made it up to the cockpit or up to the mission brief. He might talk a lot about how he was not looking forward to a certain aspect of the flight, or how -- I remember a lot of MCP from pilot training because that's a very influential time in your life. The guy would be through the roof going into a flight just almost work himself sick, but go up and do an incredible job. So the guy could perform. I would say that that's similar -- that was a similar mindset that he carried now but just toned back a lot because you don't have that intense day-to-day pressure to perform in this environment.

20Q. Also, you stated that he was a conservative flyer like you. What does that mean?

20A. I mentioned in that brief to the safety board about the two different aspects of the airplane: the tactical and the more strategic air/land portion. MCP -- or MCP didn't -- I think neither one of us really enjoy max performing the C-17 in a tactical environment. We prefer to take off, do an ILS, full stop, and dump the toilet paper and the fruit out the back and go to bed. I mean, that's really the best way to put it. Flying low levels and doing threat reactions, we did it because that was our job, but that's not the place that we like to really hang out.

21Q. You mean the hang out as far as the flying envelope?

21A. Yes, sir.

22Q. Then you said -- just then you mentioned "max performing," what is max performing? What does that mean to you?

22A. Well, it means taking the airplane to the limits that the regulations allow, which for a big airplane I'd say those are fairly liberal compared to other big airplanes.

23Q. And you base that off of?

23A. Well, opinion because I don't know -- I knew what I did in the C-21. That's the only other airplane I flew. It was a small airplane and we definitely fly this large airplane more aggressively than we did the C-21, but a completely different mission as well.

24Q. You talked with MCP on the day of the mishap?

24A. Yes, sir.

25Q. You said that he was in your office right before he stepped or right before he briefed.

25A. Yes, sir.

26Q. Was that before he stepped to the jet, or was it before he went to his mission brief for that flight?

26A. It was before the mission brief.

27Q. Can you tell us about that conversation please?

27A. It had been a stressful period in the squadron for MCP and I. It had been a stressful week, and I would say a particularly stressful day. Not extra-ordinary or extraordinarily stressful, but stressful: a lot going on and a lot happening that day that had to be taken care of.

MCP came to my office and shut the door and we just kind of shot the bull, de-briefed each other, which we did frequently just to relieve some of that stress. That particular conversation focused on some of the events that had happened that day, and I mentioned that in the safety investigation, i.e., the two missions that had dropped to the squadron that we had to fill. We had spent a lot of time trying to make that happen that day because those folks, I think they were -- I'm trying to remember. This may not be exactly accurate, but I'm pretty sure we were inputting two crews into a stage and one was leaving that next morning and the other one shortly thereafter. So it was extremely urgent.

28Q. The just for the record, a "stage" is?

28A. A stage is essentially a particular place, like Charleston, where we send an aircrew without an airplane and then Charleston utilizes that aircrew with their airplanes to go do the mission.

29Q. So you were talking about the conversation.

29A. We were talking about that. We were talking about -- MCP and I were both intimately involved in the booster club. I was the president and he was the vice president. It sounds a little silly, but like we were all in on that booster club and we had made a ton of money for the squadron and done a lot of things and this airshow was like the pinnacle of that.

We just had a great plan and everything that went into executing that plan was on our plate. MCP was involved in a lot of the aspects of the airshow from the demo to the booster club portion of it to being the Ops Flight commander and organizing some of the logistics of the crews that were going to man the airplanes and the flightline. So he was -- he had all that on his plate that week and those were the things we discussed in that conversation. Towards the end of that conversation we talked about this demo profile. It was not the first time we had talked about it, but it would be hard for me give you factual information about conversations previous to that. All I can tell you is that I know we talked about it. This conversation <sup>WITNESS 16</sup> was supposed to be on the airplane so that was a little added stress for him because of all the things that I mentioned earlier, MCP desire to perform. Then he talked about -- let me caveat this with I can't -- all I can give you is my general impression of what transpired in that conversation. I can't tell you exactly what was said. So this is the general nature, but not specific quotes from MCP. But he talked about how the profile made him nervous. I know that the word nervous was used, and I know that the word scared ---

PRESIDENT: It's okay. It's okay. Just hang on. We'll take a break right here.

[The board recessed at 1324 hours, 20 September 2010, due to an earthquake. The board resumed at 1327 hours, 20 September 2010.]

LEGAL ADVISOR: I just wanted to clarify that all attendees to the interview prior to when we took a break are again present to include <sup>WITNESS 19</sup>

**Questions by the President:**

30Q. <sup>WITNESS 19</sup> right prior to the break you were talking about the conversation that you had prior to MCP stepping to the aircraft. If you please, the floor is yours.

30A. So <sup>MCP</sup> mentioned that the profile made him nervous. In fact, he left my office at the end of the conversation and he actually stepped back into the doorway and said, "You know, it just scares me a little bit." That is a quote. Now let me be sure and caveat or put some context around all these statements that he made. That was he never alluded to the fact that that profile was being flown out of regulations. He never alluded to the fact that anybody on the demo team was -- you know -- scared him. It's just the nature of the profile that flying that aggressively that low to the ground. I mentioned this in my safety interview that I know that he said sometimes he felt like kind of putting his hand up and blocking the stick. I know that flying that profile with his head down for a majority of the time didn't make him feel good physically and it made him nervous because he had a lower situational awareness on what was actually going on with the jet at whatever point in the profile they were at.

31Q. Now you just said "putting his hand up and blocking the stick." What portion of the maneuver was that in?

31A. What I believe -- the impression that I'm left with now is that it was a bank angle that he wanted to -- he wanted to limit the bank angle on the airplane or the roll -- the rate of roll into that bank angle. Does that make sense?

32Q. In your statement you responded to a question by **CAPT H** about whether he mentioned the week prior or last week about the airshow profile itself. There, again, you said he wasn't comfortable there. What did you mean by "not comfortable there"?

32A. Could you read that question again, sir? I'm just trying to --

PRESIDENT: Yeah, you said Captain -- we'll get the question right here for you. But about whether he mentioned anything in that last week about the airshow profile, and you said he wasn't comfortable there. Please,

LEGAL ADVISOR: Yes, sir. I am reading from Tab R38.

33Q. The question from **CAPT H** was: Had he mentioned earlier than that last week or so practicing about the airshow profile. <sup>WITNESS 19</sup> response at the time: He had mentioned it before -- you know -- and I can't tell you a specific time and place, but it was -- it wasn't new news to me that day. Okay. I knew that he wasn't comfortable there.

33A. Wasn't comfortable -- he wasn't comfortable in that profile. I said this in the safety interview as well and I want to caveat this again with he was proud to be on the demo team. He was comfortable enough to fly the profile and I believe that he definitely had a threshold. I don't want to be insensitive, but prior to this I would have said that he had a very healthy safe threshold that would have prevented something like this from happening. But, obviously, we're here now. That's the label I would attach to **MCP** up there with the most conservative aviators that I know. He would definitely be in that category. So just by that classification, this demonstration profile would not be a comfort zone for **MCP** I also said in the safety investigation that that's not necessarily a bad thing in my opinion, the way that I -- the impression that I was left with: A bit of healthy fear, healthy respect for how close you are to the threshold of being unsafe.

34Q. What is a healthy fear? What are you saying?

34A. A healthy respect of how fine the lines are between being in control and out of control, being safe and unsafe. I mean, that's why we write regulations because there is a point we cross from being safe to unsafe. We try to build margins so that we stop short. But I believe that -- I do not know because I'm not a demonstration pilot, but I believe that the nature of this demonstration reduced those margins a little bit. Fear might not be the best word, maybe a healthy respect for sensitivity of that line.

PILOT MEMBER: If I may, sir.

**Questions by the Pilot Member:**

35Q. <sup>WITNESS 19</sup> have you had a chance to look at the demonstration profiles in the 11-246?

35A. I have not. I have not and I've purposely not looked so that I could convey my impressions. I have seen the -- I've obviously seen the demonstration, and I've seen the video of a practice demonstration.

**Questions by the President:**

36Q. You said that a significant part of that really bothered him and that you weren't the only person that he told that to. What significant part of the profile? That's what I believe that's what you were alluding to -- and correct me if I'm right or wrong.

36A. I apologize for it. I just want to make sure I get this question right. Can you read that one more time?

PRESIDENT: Sure.

LEGAL ADVISOR: I can assist.

**Question by the Legal Advisor:**

37Q. It was at the end of that same question about the last week or so of practicing about the airshow profiles. You were talking about the -- the quote is: I don't know any other way to say it other than there was just a significant part of it that really bothered him. And that I wasn't the only person that he told that to, you know. I know that.

37A. That really is -- I can try to clarify that, but the bottom line for WITNESS 19 and the impression that I had was that he was just -- he was not comfortable. Flying this demonstration profile was not a comfortable place for him relative to taking the airplane off and flying at a three-quarter flight -- visual flight rules pattern doing a touch-and-go, or doing an instrument approach to a full stop. There were just things that made him uncomfortable.

38Q. Do you think the discomfort was caused by the profiles, or was it caused by who was flying them, or it was caused by how they were flown?

38A. I believe, WITNESS 19 that it was caused by the aggressive nature of the profile itself, i.e., the maneuvers that are flown in the profile compounded by the aggressive nature that the profile was flown, i.e., rate of roll, bank angle, hard parameters.

PILOT MEMBER: If I may, sir.

**Question by the Pilot Member:**

39Q. Just to establish that when say the "aggressive nature of the profile," that's the profile that you are familiar with, that you have seen, but not necessarily that you can confirm is the same demonstration profile from the AFI 11-246?

39A. Correct because I've never read the 214.

40Q. Just one more clarification: Have you seen other profiles being flown other than here at Elmendorf and performed by other units?

40A. No, sir.

**Questions by the President:**

41Q. Talking about this part that bothered him, did you talk to him about that?

41A. I did. The context for me this is this general sense from MCP on this profile is not out of character with who I knew him to be and what I thought him to be as an aviator. Because I would have been -- I would have described myself as uncomfortable in that profile. Does that make sense? So when I use terms like "uncomfortable" and "aggressive," those are all relative terms towards WITNESS 19 and what I think that go back to me looking at MCP through my own eyes because I did believe that we think a lot alike. So that's why I project a lot of that onto him, the way I would think. So when I say a "significant part," I mean that he was proud to do it, but mostly MCP was uncomfortable doing it.

PRESIDENT:

LEGAL ADVISOR: Thank you, sir.

**Questions by the Legal Advisor:**

42Q. Just to clarify: You had mentioned earlier that you had watched the video of the demonstration flight. Is that correct?

42A. Correct.

43Q. Do you know who was flying in that video that you saw?

43A. Well, I ----

44Q. What video was that? When was flight, or when did you see the video?

44A. I saw the video recently when I provided it to this board.

45Q. So are we talking the 9 July video?

45A. Correct.

46Q. You saw it recently?

46A. Correct.

47Q. You didn't see it before the mishap?

47A. I did not.

48Q. Did you watch -- you just watched the video but not the actual demonstration flight itself in person?

48A. Correct. Well, I actually -- I have watched the demonstration flight and this is -- I just remembered this for the first time. I was in a car with folks from the squadron coming back from lunch and we pulled over at the end of runway 06 as those guys were taking off and practicing that profile and watched it.

49Q. Do you know who was flying on that day?

49A. Well, I don't know. That's probably the fairest answer.

50Q. Do you know what day it was? The date?

50A. I don't for sure.

51Q. If you do think of the date, can you let us know after this interview if you do remember the date?

51A. Yes. Yes. I'm fairly certain that it was <sup>MCP</sup> flying the profile that day -- or I don't know if he was flying; he was in the airplane.

52Q. So he was on the flight deck somewhere?

52A. He was somewhere in the airplane.

53Q. What makes you say that?

53A. Remembering the reason that we pulled over and some of the conversation in the car and that's one of those deals where I couldn't tell you exactly what we talked about, but I knew that we were laughing and joking about <sup>MCP</sup>

54Q. Laughing and joking in what sense?

54A. Just critiquing the profile in a joking manner.

55Q. So in other words just in a friendly manner?

55A. Yes.

56Q. Because he was one of your good friends?

56A. Correct.

57Q. You had the upmost respect for him and his flying abilities.

57A. Correct.

58Q. In critiquing him, you mean like oh, look at how he did certain things or look at how that aircraft is doing certain things?

58A. Yes. Yes. And the context of the joking was more on the conservative side because a lot of people had that impression of <sup>MCP</sup> as a conservative pilot and so flying the airshow profile conservatively.

59Q. So fair to say that when you saw that day when you pulled over in the car and watched the C-17 performing an aerial demonstration profile, it looked conservative to you?

59A. The portion that I remember -- somewhat remember joking about was the initial take off and yes, we were joking about the initial rotation attitude not being as aggressive as you'd normally see in an airshow profile.

60Q. What else did you see about that profile? You watched the initial take-off. How much more did you watch after that?

60A. We watched those initial two turns back to the flightline. I think they may have practiced that a couple of times, but I don't remember anything out of the ordinary.

61Q. Were you able to observe from your position anything about those turns, bank angles correct?

61A. Well, WITNESS 19 opinion again having zero knowledge -- or never having flown that profile, I remember thinking man, that's aggressive. I use that word a lot because I fly 30 degrees bank unless I ----

62Q. So aggressive in that instance meant what exactly?

62A. Just a high and accelerated rate of roll and bank angle that you're just not used to seeing from an airplane that big, that close to the ground.

63Q. Were you able to estimate the bank angle that you were not used to seeing? 63A. No, that would be -- I think it would probably be irresponsible for me to guess. Yeah.

64Q. What about that video? When you watched it, what did you observe?

64A. Well, similar to the -- I mean when I watched the video, there's a whole another context for looking at that thing so I don't think I could really offer a good opinion, an objective opinion about that video other than it invoked some of the same feelings when I watched that practice.

65Q. And you said you couldn't be objective; it's because you've watched it after the mishap. Is that correct?

65A. Correct.

LEGAL ADVISOR: Sir, that's all I have.

**Questions by the President:**

66Q. Going back to the significant part of your conversation, you said that he had talked -- that you were not the only person that he'd told that to. Who else did he tell it to?

66A. Well, he had watched that demo from the roof with some other guys in the squadron and essentially offered a running critique of the demo while somebody else was flying it to other guys in the squadron.

67Q. Do you remember who was flying it that day?

67A. I don't. I don't know who was flying the airplane.

68Q. Was it a habit or when people were practicing the aerial demo, would people go upstairs and watch it on the roof?

68A. I think that -- I don't know if it was a habit. I never did it. I mean, it's a great opportunity to get away from the office. I think everybody was always interested in watching that profile just because it's cool to watch. So when they had an opportunity, they would.

69Q. Then that day, do you remember who was watching the demo on the roof?

69A. The day of the crash? Oh, on the day that <sup>MCP</sup> was up there? I don't know -- I think that WITNESS 21 was up there with him.

70Q. Then were there people -- you just mentioned on the day of it -- on the day of the accident of 28 July, were there people up on the roof watching it then?

70A. That I don't know. I know that there were a lot of people that saw that accident. I just -- because of the time of day that it happened. I mean, that's -- so you have trouble deciphering who saw what where and for what reason. I have heard that -- I knew that Wing PA was supposed to video -- be videoing that day. And I knew that <sup>WITNESS 16</sup> was supposed to be flying on the airplane that day, so that was a -- it was close to the airshow, so that practice in particular seemed more familiar to me, but that was probably because I was with <sup>MCP</sup> all day and all week. That was part of the conversation; obviously, that leaves an impression on you when something like that happens.

71Q. Do you know of anyone else who had seen the accident?

71A. Well, I know that the reason that I was sitting at my dinner table when the phone call came into my wife -- somebody that works with my wife who saw the accident. In a round-about way they were trying to ask where I was and when they figured out I was at home, then they told her they just saw the plane crash.

72Q. Who was that?

72A. His name is **MP** something. I mean, I could figure it out, but I don't know it right now. **MP** -- yeah, I'd have to call my wife.

73Q. Did <sup>MCP</sup> ever mention -- <sup>MCP</sup> did he ever mention using knock-it-off calls or time-out calls during the profiles?

73A. I don't recall him ever mentioning that.

74Q. Did you ever attend any of the pre-briefs or aerial demonstration briefs?

74A. I did not.

75Q. <sup>MCP</sup> told you they get a lot of stall warnings during the airshow profile. You said that the impression that you had is that they were somewhat desensitized to the warnings?

75A. I want to clarify that statement just a little bit because I don't remember him saying anything about the stall warning necessarily. I think maybe that's an impression I developed as a result of -- I don't know exactly what -- I mean, it's probably for a good reason,

but I just can't tell you definitively where that came from. I do remember him mentioning the ALS flashing. That I do know.

76Q. What did he say about that?

76A. That was in the context of the conversation -- part of the conversation where he was talking about being a little uncomfortable and the profile being a little aggressive and him -- I can't quote him and I can't tell you exactly how much the ALS flashed, but it flashed enough for him to mention it.

77Q. Then for the record: If the ALS is flashing, that's a subsequent set of the stick shaker and the stall warning. Correct?

77A. Yes, sir.

78Q. So for the ALS to flash, then the stick shaker and the stall warning had to have been going off. Correct?

78A. That is the assumption that I had.

**Questions by the Legal Advisor:**

79Q. Just for clarification: When you say assumption, how long have you been -- your current rating is what?

79A. Instructor pilot.

80Q. In the C-17?

80A. Yes, sir.

81Q. How many hours do have?

81A. In the C-17?

LEGAL ADVISOR: Yes.

WITNESS: About 1200.

82Q. So based on your experience, the ALS flashing would come --?

82A. With the stick shaker and the stall.

**Questions from the Pilot Member:**

83Q. What is the ALS mean to you from your -- based on your experience?

83A. That I'm approaching a stall condition; that I need to -- it's basically a warning to gain situation awareness on what you're flight parameters are and fix something.

**Questions by the President:**

84Q. How would you fix that?

84A. Well, reduce my bank angle, push the power up and lower the nose.

85Q. The ALS constantly flashing, did you ever hear any other demo crew members talking about that?

85A. I did not. For the record: I never heard any other -- I work with a demo crew member in my office; I never heard anything from him that wasn't positive.

86Q. Who is that demo crew member?

86A. **WITNESS 18**

87Q. Have you ever heard anyone talk about the differences between flying the simulator profile versus actually flying it in the airplane the air demo profile?

87A. No.

88Q. <sup>MCP</sup> also told you that he wanted to -- well, we talked about that. Talking about stick my hand up there and stop the aggressive movements, but you said it was bank angle specifically just to clarify that.

88A. [Affirmative response]

PRESIDENT: Thank you.

89Q. You mentioned earlier that he felt -- <sup>MCP</sup> felt a little bit spun up about specifically really about flying the demo with <sup>WITNESS 16</sup>

89A.

PRESIDENT: <sup>WITNESS 16</sup> Thank you.

90Q. What was he spun up -- I mean, what was his concerns?

90A. Well, once again, this is completely consistent with the <sup>MCP</sup> that I've known from the beginning. Just the fact that you've got a senior officer on board the airplane and you don't want to look like an idiot in front of him.

91Q. He wasn't worried about the profile itself or anything like that?

91A. No. Nothing about -- just not screwing up.

92Q. Then you also mentioned that -- you said during the demo profiles the aircraft was "going to 60 or past 60 and that was an uncomfortable thing for MCP What did he tell you -- what did he specifically tell you about that?

92A. I think that I wasn't -- to clarify that statement I don't think I was quoting MCP I think I was quoting my impression of kind of the nature of the discussion with MCP So I was left with the impression that they were going to 60 degrees of bank, which is consistent in my mind with what I've seen of that airshow profile.

93Q. Did he ever mention going past 60?

93A. He -- I can't give you a definitive answer on that question.

94Q. Did he allude to it?

94A. I think he alluded to it. That's the best -- I apologize. That's a crappy answer, but I can't -- I'm going to tell you that I made that statement because I thought that he may have alluded to that. Unfortunately, that's the best I can do.

95Q. In the same conversation that you had with MCP you said that you got the idea that he was more comfortable with MSO in the seat other than with

MP Why was that?

95A. I know he was friends with MSO I know that MP was -- I'd call him a good dude, but he was -- probably the best analogy I can give if you've got to go up and fly a check ride and you've got to pick between MP or MSO I would have picked MSO and I don't even know him that well. Because MP seemed like a very by-the-book guy -- you know what I'm saying. It was a little intimidating in that sense and I don't think a quiet -- I think is what I said in the safety board, but thinking about my impression of MP a little further, he just seemed like a very knowledgeable intelligent by-the-book evaluator. I'd flown with him once a long time ago and the impression that I had with him when he flew that was fairly consistent is he's not scared to tell you when you're screwing up and he's not one to really sugarcoat things.

96Q. What makes you say he was by-the-book?

96A. He's an evaluator, which we think all those guys are by-the-book. I do. Very experienced in the C-17, just that's the impression I was left with. So I couldn't -- I'm not doing you a favor by giving you anything specific, but it's hard for me to recall anything.

97Q. Did MCP ever mention anything called the aerial demonstration checklist?

97A. Not that I remember.

PRESIDENT: Why don't you take a break right now and just so we can collect our thoughts here and then we'll give you a call in just a couple of minutes and then bring you back in if we may.

WITNESS: Okay.

[The board recessed at 1358 hours, 20 September 2010.]

[The board reconvened at 1409 hours, 20 September 2010.]

LEGAL ADVISOR: Yes, sir. All attendees to the interview are again present to include

WITNESS 19

PRESIDENT: Just have two questions for clarification in your testimony today.

**Questions by the President:**

98Q. You said that **MP** was by-the-book. What did you mean by that?

98A. What I meant is pretty much -- this is a perception that I had based on man, whatever. Working in the office and the interactions that I did have with him, which that's a hard thing to really define in this case for me. I perceived him as by-the-book because the few occasions that stand out in my mind were -- it was like a training day or something similar to that. It was an aircrew conversation. **MP** was a leader in that discussion and very adamant about procedure in the C-17 that was up for debate or discussion. He was, obviously, the most knowledgeable person in the room on the subject and had -- the answers that he offered were by-the-book in this debate versus whatever the conflicting opinions were out there. That's one conversation that I can think about.

99Q. And you know they were by-the-book because you went and referenced it afterwards or how did you --?

99A. He referenced the regs there.

100Q. He referenced it then?

100A. Yeah. I couldn't tell you what the conversation was about now though. That's the sense I got from everybody else about him was that he was an expert in the C-17 and he operated by the book and that's why he was an evaluator and I know that we're a guard and an active duty unit together. The active duty folks relied on the opinions and knowledge of the guard folks and he was one of them.

101Q. For my own edification then, what was his reputation in the squadron?

101A. He was respected. I would not -- this is strictly WITNESS 19 speaking. He's not the guy I'd want to go over and drink beer with at night, but I know some people did. I believe that he was well thought of in general, a good guy. Maybe not very outgoing and friendly by nature, but not to detract from what I think and what I think other people thought about his expertise in the jet.

102Q. Then you said if you had to fly with either **MP** or **MSO** you said you were more comfortable with **MSO**. Why was that?

102A. I'll first of all say that I had less interaction with **MSO** so probably an easier personality for me to digest, **MSO** that is versus **MP**

103Q. Then I think you used the word when you described **MP** as intimidating. What do you mean -- what did you mean?

103A. Yeah, that's an accurate word I think. Well, I would say I'm not easily intimidated, but I am somewhat intimidated by I think someone I would somewhat respect and I respect his knowledge base and my lack thereof at different times in my progression in this airplane. I would compare it to any young aviator in an aircraft that's somewhat intimidated to fly with a person that has a reputation for knowing an airplane very well and holding other folks accountable for what they do or don't know about that airplane. Obviously, as a young co-pilot you're not going to know everything.

LEGAL ADVISOR: I just wanted to ask a follow-up on that.

**Questions by the Legal Advisor:**

104Q. It sounds like he had a reputation for holding folks accountable for things, and by accountable I think you meant -- and I'm not sure what you mean, so tell me if I'm wrong. But that he would challenge -- or he would discuss certain viewpoints?

104A. He would not hesitate to verbalize a critique that he had or a better technique, if that's the way he felt.

105Q. What gave you this impression?

105A. That's a tough one. I flew with him a long time ago and I would say that's certainly where that impression started. I mean, I had it a little easier because I was a prior qualified pilot in another airplane, so I wasn't brand new. But I would say that most likely that impression has developed from seeing his interaction with other young co-pilots, hearing other young co-pilots talk about him. You know, you all, this is one of those things that really difficult to verbalize because it only takes one or two stories to form an impression about somebody that you don't know that well. That's the category that I would put this into.

106Q. Understanding that maybe one or two stories is all you've heard in the last year and you didn't know **MP** very well, but you do have this impression and I was just trying to figure out where it came from. You said you had talked to younger pilots. Well, let me ask you: first, did you ever talk to **MCP** about **MP** in this regard?

106A. I can't give you a definitive answer. That's a tough question. Like there's a lot of things I want to speculate about, but I can't -- it's hard for me to give you facts to back up things I speculate about. So it's a difficult question for me to answer.

107Q. Maybe if I may, it sounds like since your knowledge is based over -- you've been here for about 3 years and you may have heard things here and there, but you can't remember them specifically. Fair to say though that it sounds like from your answers that you do have this kind of idea about it, but you're not sure what exactly that brought you to that idea?

107A. That's a great way to describe it.

108Q. So you'd agree with that?

108A. Yes.

109Q. Then also that you -- fair to say that you had conversations with <sup>MCP</sup> maybe on the subject of **MP** but you can't remember exact conversations?

109A. Yes. That is fair to say.

110Q. Again, to be fair, you've had conversations with other younger aviators in the squadron along the same lines of **MP** reputation perhaps?

110A. Yes, but not recently.

111Q. Not recently. So again, your memory is not as good about specifics, but just the general feeling that you had?

111A. Correct.

112Q. And that's what you meant by you don't want to speculate because you only have a general feeling?

112A. Correct.

LEGAL ADVISOR: That's all I have, sir.

**Questions by the President:**

113Q. Were there any other matters that we haven't covered that you believe may be important to this investigation?

113A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission and at any time before this report of this investigation is officially released to the public.

PRESIDENT: This concludes this interview. Time now is 1421 local, Alaska time.

**V20. AIB INTERVIEW WITH**

**WITNESS 20**

**VERBATIM TESTIMONY OF**

**WITNESS 20**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is the 14<sup>th</sup> of September 2010. The time is now 1555, local Alaska time. This interview is being conducted in Building 7309, in Room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness, TSgt WITNESS 20,  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 20** .

2Q. And how long have you served in the Air Force?

2A. Just about 11 years.

3Q. And what is your unit of assignment and location?

3A. 249<sup>th</sup> Airlift Squadron, Elmendorf Air Force Base, Alaska.

4Q. And your job title?

4A. I'm an Instructor Loadmaster, C-17.

5Q. How long have you been doing this job?

5A. I've been a Loadmaster for about four years.

6Q. And please describe your duties and responsibilities in July 2010.

6A. As an instructor, I am responsible for upgrading loadmasters that come back from school or that have been downgraded or that require additional training. I was also being upgraded for demonstration qualification at that time.

7Q. Are you familiar then with the C-17 Aerial Demonstration Program?

7A. Yes, sir.

8Q. Can you describe your C-17 aerial demonstration background?

8A. I flew with a crew which included **MP** **MSO**  
WITNESS 3 **WITNESS 8** and **SSgt BE** . Last year we flew with the Thunderbirds throughout the Asia-Pacific area doing aerial demonstrations and then this upgrade in July of this year.

9Q. What was your aerial demonstration training process?

9A. I flew a couple of the practice runs last year with the crew, got a feel for what was going on with that, and then I also was the orator for the demonstrations for all those we did in the Pacific. And then we got briefed as to what was required for the demonstration team in about December of last year when we started talking about doing the demonstration program, and then we got an e-mail with all the AFI regulations we needed to review, sim schedules, and then the flight with an instructor to get checked out.

10Q. Do you know which demo profile you were training to fly or flying?

10A. I believe we were flying the Profile 3 which is the 12-minute profile, however, we did train on Profile 1 as well which is a 6-minute profile.

11Q. Do you recall which pilot you flew the demonstration flights or training with?

11A. Yes, sir. When I flew last year, it was with the people I previously described. And in July when I flew my upgrade flight, it was with <sup>WITNESS 5</sup> as my instructor, **MP** <sup>WITNESS 8</sup> and **CAPT SCO**

12Q. So **CAPT SCO** is still a captain now?

12A. Yes, sir.

13Q. I just wanted to make sure I had that -- the names correct. You mentioned you flew with **MP** When did you fly these aerial demonstrations profiles with him?

13A. I don't remember exactly which ones it were. It was last year when we did them in the Asia-Pacific. I flew one of the practices in Malaysia when we did the sight-over for the -- when we did a fly-by for the -- to survey the field prior to doing the demonstration. And then I flew again with them in Korea. And then I think there is one more, but I don't remember the locations, we flew so many. And then the last one was just flying, I believe, on the 9<sup>th</sup> of July of this year.

14Q. Okay. And, there again, you mentioned those previous crews. Was there anyone else at that time that was there?

14A. No, sir, just the four pilots, myself and one other loadmaster.

15Q. And then, for the record, if you would, just state those crew members again for us.

15A. Sure. The loadmaster is <sup>WITNESS 8</sup> **MSO** and <sup>WITNESS 3</sup> **SSgt BE** The pilots were **MP**

**Questions by the Legal Advisor:**

16Q. And this is Major **SSgt BE** first name, how do you spell that?

16A. It's **SSgt BE**, I believe.

**Questions by the Board President:**

17Q. You flew in several different countries. Did you need to modify the demonstration profiles for any of the air shows you flew?

17A. No, sir.

18Q. And then what about flying with **MP** in July of 2010? Do you recall what those dates were?

18A. I do not recall. I believe it was approximately the 9<sup>th</sup> of July.

19Q. And who else were on those flights or that flight?

19A. That was <sup>WITNESS 8</sup> **MP** **CAPT SCO** and <sup>WITNESS 5</sup>

20Q. Do you remember what the plan was for training the flight that day?

20A. Yes, sir. The primary focus was to upgrade myself, upgrade <sup>WITNESS 8</sup> and upgrade **CAPT SCO** <sup>WITNESS 8</sup> We were all new to being qualified for the demo teams. They each -- <sup>WITNESS 8</sup> and **CAPT SCO** had to fly Profile 1, the 6-minute profile and then Profile 3 each. And then that was pretty much all that we had to do. I think we did a total of six profiles that day.

21Q. All right. Were you at the pre-briefings?

21A. Yes, sir.

22Q. Do you recall what was briefed?

22A. Yeah, we briefed the profiles we were going to go through. We had charts of everything. We had the AFI 11-246, Vol.6 which shows the profiles that we were going to fly. We went through them in depth one more time, who was going to be in the seat, when we were going to do our seats-swaps. We verified that we had clearance with the tower, we weren't going to have the fighter window or anything else, that we were good for that flight that day, had to be a practice demonstration. I think that was pretty much all we went through.

23Q. Did you brief any things on safety or anything like that?

23A. Yes, sir. We talked about you're going to get a lot of enunciations which was apparent to the pilots in the simulator when they went through. They had to do extensive simulator training prior to actually flying the jet, and we talked about a lot of the enunciations you're going to receive. And then I also talked with my instructor loadmaster about what to expect because I never actually had opened the doors or anything and what profiles we were actually going to fly so --

24Q. Did you actually talk about knock-it-off calls or time-out calls or anything like that?

24A. Yes, sir. We followed the checklist that they have, the aircraft commander checklist that they go through prior to all off station departures. So you went through that and it goes over knock-it-off, time-outs. And **MP** was the AC for that one. He also said, "If you have any problems, let us know. We'll stop immediately. You know, we'll ascend to a safe altitude and we'll talk about it."

25Q. I want to show you a Power Point briefing that we have, and then I'm going to give you just a couple of minutes to take a look at it and see if you're, you know -- and let me know when you're done. And, for the record, the witness is going over the briefing at this time. Do you recognize that Power Point briefing?

25A. Yes, sir.

26Q. And what is it?

26A. It's a synopsis of the PACAF demo true con-ops, the 3<sup>rd</sup> Wing Aerial Demo Program. It's just a -- kind of a broken down version of that, makes it real easy to read, but it's the same stuff you got in the e-mail that follows the 11-246, Vol 6.

27Q. And so you recognize that through the e-mail?

27A. Yes, sir.

28Q. Is this the upgrade briefing that you received from **MP** during your July 2010 training?

28A. Yes, sir.

29Q. Could you walk us through what you remember about this briefing and how it was conducted?

29A. I honestly don't know because he briefed the rest of the crews, all the other guys that were going through the upgrade process which is on the 3<sup>rd</sup> Wing letter. I don't know who the other people were besides the guys that actually (inaudible), but everyone that was on the letter that was getting upgraded, they actually had a briefing where they went through the slides. I had them e-mailed to me just because I was on leave at the time, so I went through it after the fact.

30Q. So you don't recall who was actually at that break?

30A. No, sir.

31Q. We talked about the crew mission brief and then you said that there was one?

31A. Yes, sir.

32Q. We talked a little bit about what was discussed. What was your overall general plan again?

32A. My general plan was to get upgraded to be a loadmaster for the demo crew.

33Q. And then how about the overall plan as far as inside the aircraft how it was -- what the plan was to go out with those profiles?

33A. Our plan was to do a Profile 1, I believe, followed by a Profile 3 holdover inlet, let the brakes cool, and then do a cruise seat-swap, come back, do it again, and then the same thing, Profile 1, Profile 3, back on the inlet, seat-swap, and then finish it up.

34Q. Did the crew ever discuss bank angles and altitudes they planned to fly?

34A. I believe so. It's part of what's written in the profiles.

35Q. And do you recall what they were?

35A. I'd have to look at the profile.

36Q. Did the crew ever discuss the use of rudder?

36A. Not that I remember.



**Questions by the Pilot Member**

43Q. Can you talk us through what the teardrop is, what you mean by that?

43A. All I know is how it's written in the 11-246, Vol 6. I know it's like a 60-degree bank.

**Questions by the Legal Advisor:**

44Q. You can go ahead and take a look at the 11-246 excerpt that you brought. I mean, you're referring right now to the -- it looks like the Profile 3?

44A. Yes, sir.

45Q. And that is the 12-minute demo?

45A. Yes, sir.

**Questions by the Board President:**

46Q. So just to clarify again for the record, this is the -- Profile 3 is the initial 80/260?

46A. Yes, sir.

47Q. Is that what you're referring to?

47A. Yes, sir. On your initial 80/260 that's when we tend to get our sink rate enunciation, that's on our initial takeoff. And then when we make the circle and come back towards the flight line, that's when you tend to get your stall or sometimes sink rate as well, depending on how the pilot is flying I guess, but you definitely get them through there quite often.

**Questions by the Legal Advisor:**

48Q. As a follow-up to that, where are you when these enunciations are going on?

48A. I am seated at the rear of the aircraft by the troop doors. We do the whole flight back there because obviously you can't walk around while they're doing all the maneuvering, so we're strapped in the back by the troop doors and we're on headset, so we're in contact with the crew and we get all the oral and none of the vision.

49Q. So the enunciations come through the headset that you're wearing?

49A. Yes, sir.

50Q. Through some sort of --

50A. ICS, intercom system.

**Questions by the Board President:**

51Q. And how long would these warnings stay on?

51A. They're momentary warnings, however, sometimes they repeat. You'll get it once and then you'll get it again in the same turn and again in the same turn, so sometimes you get them numerous times, sometimes it's maybe once in the turn.

52Q. Did the crew ever acknowledge them or anything like that, or you said if you got warnings, you would call knock it off. So, if you were in an air show in the Pacific, did anybody ever knock-it-off or call time-out?

52A. No, sir, we didn't. However, when we were flying on the 9<sup>th</sup> of July, we had numerous stall indications on a turn and **MP** did call acknowledge to the crew and he did tell us that they are watching the altitude and we're okay, so he did call and acknowledge when we have the numerous stall indications.

**Questions by the Pilot Member:**

53Q. When you say, "numerous," now do you mean that you're continually hearing "stall, stall, stall"?

53A. Yes, sir.

54Q. Is that what you mean by numerous, not necessarily maybe multiple iterations, but you're actually hearing the stall repeated for an extended amount of time, is that what you mean? Or maybe you can clarify what you mean by --

54A. I'm not that familiar with the system, so it's kind of hard for me to say, but I'd say there's probably -- there is a small gap in between. I don't know how often it repeats. To me, there seemed like a gap in between but I honestly don't know. I'd have to look up in the Vol 1 and find out how often it is.

55Q. Sure. How many times do you think you heard the word "stall" repeated?

55A. We probably heard it -- I think the second time we heard it -- and it was pretty quick. I mean, it was like stall, stall, and then it got acknowledged and then we got another stall and another stall after that and then we came in and finished our profile.

56Q. So, after you heard to word "acknowledge," did you hear the word "stall" continue?

56A. Yes, sir.

57Q. And about how long did it continue after you heard acknowledge?

57A. I think maybe two seconds because then we finished our turn and then it went away and **MP** said, "It's still acknowledged." And then when we got out over the

inlet for our brake cool down, we debriefed it there and then we debriefed it again after we were done with the whole sortie.

**Questions by the Board President:**

58Q. So **MP** was flying in the left seat at that time?

58A. I don't know, sir. I know he was in control of the stick. I don't know if he was in a left seat or right seat, I was in back.

59Q. But usually, typically, the demonstration pilot is in the left seat?

59A. I honestly don't know. I honestly don't know -- I'm a back seater -- I don't know.

60Q. When you say you debriefed it, what was discussed?

60A. We discussed the numerous enunciations, and he asked us if we were comfortable with it. I told him that I was comfortable, and we talked to the rest of the crew and we also were comfortable with that. Me and the other loadmaster asked about what was going on and did we have any drop in altitude or anything and we didn't. Our third pilot up there was watching the altitude the whole time through the turn between that and calling out the profile terms. So, we all felt safe with it and we discussed what was going on with that.

61Q. So that teardrop turn, that big turn, the 260-degree turn back around, when you got those warnings, "stall, stall, stall," you said that they were watching the altitude. Was it a level turn? What were they watching?

61A. Yes. To my understanding, they are shooting to do a level turn and then descend after the turn down to 500 feet. We're not descending through the turn, so does that kind of answer your question, sir?

62Q. Do you remember what altitude they went to?

62A. I don't know. I know some of the profiles according to the Vol 6 there it says it's either 1,000 feet or 1,500 feet down to 500 depending on which profile you're applying, profile one or profile three.

63Q. Before the 9 July training, had you heard the stall warnings before?

63A. I have, but not repeated as much. Because when I flew with them, I wasn't a qualified demo load so I could actually fly during the demonstration. So I went through the practices. And when we did the practices, we're not flying the profile per say 100 percent because you're making sure you're clearing all the ground clearances, making sure you're not departing or whatever the seven-mile or ten-mile -- whatever air traffic control gives you as your corridor. And then we're also trying to line up and show center and make sure that our SA is where it needs to be.

**Questions by the Legal Advisor:**

64Q. Just to clarify, it's When you say did the practices, are you talking -- when are you talking about?

64A. Prior to flying a demonstration flight at -- before a foreign airfield, we have to do a practice flight at that airfield, and we did it the day prior.

65Q. And I'm sorry. I should clarify. I meant was this during the air shows in the Pacific?

65A. Yes, sir.

**Questions by the Board President:**

66Q. Are you familiar with the checklist you run for aerial demonstrations that you were training for?

66A. Yes, sir, I have it right here.

67Q. And just for the record, you're pointing to the aerial demonstration checklist 3<sup>rd</sup> Wing?

67A. Yes, sir.

68Q. Do you remember how the crew executed the checklist?

68A. To the best of my knowledge they follow the checklist. I also follow my dash one procedures in my checklist which for the loadmaster it's not very different for flying a demonstration versus flying a regular sortie because we are that active in the back of the jet.

69Q. So you had a dash one -- the operations manual dash one for the C-17 and they had this aerial demonstration checklist?

69A. Upfront, yes, sir.

70Q. Did they verbalize the checklist?

70A. Yes, sir.

71Q. Challenge and response?

71A. Yes, sir.

72Q. Did they verbalize when they moved the flaps up and down and retracted the slats or did they just -- or did the co-pilot do it automatically?

72A. No, sir, no, they did verbalize.

73Q. Not only during practices but also during air shows?

73A. I don't know during air shows. I just got certified on the 9<sup>th</sup> and I was scheduled to fly during the Elmendorf one which I never flew.

74Q. I'm going to ask you to describe a little bit about the way the crew flew the profile. You said comfortable. How did it make you feel overall?

LEGAL ADVISOR: Were you referring to the 9<sup>th</sup>, sir, the practice on 9 July?

PRESIDENT: Yes.

74A. I felt that we followed the Vol 6 and from what I had flown before and what I had read in the TO or the AFI-- excuse me -- I thought that we followed it well. It's kind of hard to tell from in the back. Your sight windows are about an eight-inch window, you know, so all you see is blue, green, blue, green, blue, green.

**Questions by the Board President:**

75Q. Do you mean sky, ground, sky, ground?

75A. Yes. So it's really hard to tell. You just feel the air moving left, right, left, right, you know, and then we're done and then they call for a checklist and then we prepare for it when we get on the ground and open the doors.

76Q. And then once you're complete, did you debrief each of the demo training flights?

76A. Yes, sir. We did an overall debrief with myself, the other load and all the pilots. And then myself and the other loader were released and then **MP** debriefed with each pilot as he was upgrading each.

77Q. And then what would you discuss in your debrief?

77A. We talked about the enunciations again. We talked about any kind of CRM issues.

78Q. Cockpit Resource Management?

78A. Yes, sir. Where maybe they were talking so fast, we couldn't interrupt or something like that. However, that wasn't the case with this, but that would be the sort of things that we would debrief.

79Q. You said again the enunciations. What would you talk about?

79A. We talked about the multiple enunciations, the audio or audible enunciations that we got. That's kind of one of the big items for myself and the other load just because we don't have any indications -- we don't know what's going on. So we told the pilots that it's great to say acknowledge, not just for the people in the cockpit, but for the people in the back, so it was high interest item for myself and the other loadmaster saying, yes, that was great, you did acknowledged because it's not something that always happens.

80Q. Well, when you hear "acknowledge," what does that mean?

80A. To me, that means that the pilot has seen the indication, he's verified that it's either a nuisance or that something is happening, and we're taking appropriate action.

81Q. If he says, "acknowledged" and it still goes on for some time after that, what does that mean to you?

81A. That's when I would probably call a knock-it-off or ask him to use one of our terms, you know, so that we can get away from the ground and discuss what's going on and such. However, **MP** acknowledged it multiple times, so it wasn't so much an issue at the heart.

**Questions by the Pilot Member:**

82Q. When you say, "acknowledged multiple times," after he said, "acknowledge," did I understand you correctly that the stall at a certain point continued for a little while, the stall warning continued to go off after he said, "acknowledged"?

82A. Yes, sir. In my estimation I'd say maybe one to two more seconds because doing that teardrop turn, it's a pretty rapid maneuver, but we had the indication to go for another one to two seconds and then he called another acknowledge at that point as well, so it wasn't, you know, he gave an acknowledge and then it just continued to go on and we just ignored it and then when he did the next one, he called acknowledge again. It was once and then when it continued to happen, he did another acknowledge as well.

83Q. And when he did that other "acknowledged", did he do anything different with the aircraft? What ultimately lead to it ceasing?

83A. Immediately after his second acknowledge we completed our maneuver and we leveled off and came in, descended down 500 feet.

84Q. And you had mentioned previously too that when -- earlier when you had gotten the stall warnings on July 9<sup>th</sup> and you had went up to -- while you were still airborne to talk about this, you had mentioned that the consensus was, in your words -- correct me if I'm wrong - - that the crew was comfortable with those enunciations. Is that accurate?

84A. Kind of. I think what we were comfortable with was how the crew was handling those enunciations. For one, they're pretty loud, so you have to talk over them. And then the second thing being the acknowledging them and describing especially to the loadmaster in the back what's going on. I think that's what we were all comfortable with was how we were handling those enunciations, not so much the enunciations happening themselves.

85Q. And how were they being handled?

85A. Like I said before, I think the pilots were aware of what was going on. They were watching their indications. They were watching their -- the altimeter and such. And when we did get those indications, they were acknowledged and then give us a quick update.

**Questions by the Board President:**

86Q. Now, when you got the stall, stall, you could hear the stick shaker also?

86A. I don't know. I don't know if you could actually hear that on the earphone. I don't recall hearing a stick shaker but I'm not familiar enough with the system.

87Q. Real quickly, the air shows that you did in the Pacific, were they filmed?

87A. Yes, sir. There were some that civilians videotaped and put on line and then I believe <sup>WITNESS 3</sup> got a couple on a personal camera from the cockpit point of view.

**Questions by the Legal Advisor:**

88Q. And what leads you to that belief?

88A. I know when we were flying one of the practices for the demonstrations, we set a camera up in there to see how we were doing as a crew and watching. However, there wasn't any audio with that, I believe, but I think we didn't get the video but I'm not 100 percent positive of that. You would have to talk to <sup>WITNESS 3</sup> and he could tell you for sure.

89Q. Did you see any other videos from the cockpit?

89A. Not from the cockpit, no, however, there is some on U-tube. You've got someone taking pictures here and there, so some of those were on U-tube, however, they're not very indicative of what you're doing, you know, because it's not been right on the flight line.

90Q. Just to clarify, you had said <sup>WITNESS 3</sup> Do you think <sup>WITNESS 3</sup> got a couple of videos with a personal camera? Did you actually mean two or at least one?

90A. I believe it's at least one. I don't know if he got a second one or not. Once again, I don't know if he got any audio on that or not either.

91Q. Do you remember seeing the video?

91A. I personally did not, no

92Q. But you remember seeing him set up the camera?

92A. Yeah, we set up the camera. It's a smaller camera just so we could kind of see how we were doing.

93Q. Do you remember what the camera looked like?

93A. I honestly don't. I just remember it being a smaller camera like -- maybe like a two by two-inch maybe. It kind of clips up on -- we ended up tapping it up onto the -- like a bulkhead, you know, so you could see down through the windows and then kind of see the center console.

94Q. Do you know -- when was this -- when was this attempt?

94A. I believe it was in Malaysia but it could have been Thailand. I honestly don't remember because we did so many over there, but it was definitely about in the middle of our tour.

95Q. Your tour of the air show in the Pacific?

95A. Yes, sir. Yes, sir.

**Questions by the Board President:**

PRESIDENT: <sup>WITNESS 20</sup> if I may, we'd like to take a break at this time and then I'll ask you to leave the room and then we just want to gather the rest of our notes that we have or any notes that we might have talked about and then we'll bring you back in. If we have any other questions, we'll definitely give you an update on the questions we're going to ask and you can be prepared and then we'll go from there. So at this time I would like to take a break

[The board recessed.]

[The board reconvened.]

LEGAL ADVISOR: All parties present before the break are again present, to include  
<sup>WITNESS 20</sup>

PRESIDENT: <sup>WITNESS 20</sup> it's Brigadier General Everhart. I have three questions to follow up on if I may.

**Questions by**

96Q. Yes, sir. <sup>WITNESS 20</sup> this is Doctor The first question is what's your guard status right now?

96A. I'm an active guard reservist AGR full-time duty.

97Q. And how long have you been in that capacity for?

97A. For about three years.

**Questions by the Board President:**

98Q. You mentioned earlier that in your upgrade you received an e-mail that contained the 2010 air show upgrade program and in that e-mail it had reference regulations and things like that. Who sent you that e-mail?

98A. I received that from **MP** sir.

99Q. And then that also had a copy of the aerial demonstration checklist in it?

99A. Yes, sir.

100Q. Are there any other matters that we haven't covered that you believe would be important to our investigation?

100A. I don't believe so, sir.

PRESIDENT: Okay. At this time I'd like to read you out. You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission or at any time before the report of this investigation is officially released to the public.

This concludes the interview at this time. The time now is 1644 local, Alaska time.

[END OF PAGE]

**V21. AIB INTERVIEW WITH WITNESS 21**  
**VERBATIM TESTIMONY OF**  
**WITNESS 21**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes.

The testimony that you provided in that safety investigation was privileged information and we have no access to privileged information.

LEGAL: Just to add, prior to that, General, just for the record, <sup>WITNESS 21</sup> had made a statement to the safety board but it was non-privileged. We received copies of that which have been placed in tab R of our report. If he has made any privileged statements to the safety board, we do not have access to those and they will remain privileged so long as you were promised that. Do you understand that definition?

WITNESS: Yes, sir.

PRESIDENT: Do you understand the differences between the testimony you gave the safety investigation board and the testimony you will give to this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Today is the 21st of September 2010. The time is now 1438 local Alaska time.

This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      **WITNESS 21**  
Pilot Member;  
Maintenance Officer;  
Legal Advisor;  
Medical Advisor;  
Maintenance Member;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A.                      **WITNESS 21**

2Q. How long have you served in the Air Force?

2A. Approximately 7 1/2 years.

3Q. What is your unit of assignment and location?

3A. 517th Airlift Squadron, Elmendorf Air Force Base, Alaska.

4Q. How long have you been with this unit?

4A. Approximately 2 1/2 years.

5Q. And your job title?

5A. Pilot, and Operations Flight Commander.

6Q. How long have you been doing that specific job?

6A. Operations Flight Commander sine the first of August and pilot since I got here.

7Q. Can you describe, please, your duties and responsibilities as the flight commander?

7A. Yes, sir. We are in charge of scheduling, training, and the SARM folks, the aviation research management folks, and administering all the people caring actions, the performance reports, the awards, the decorations, as well as the day-to-day care and feeding of the personnel.

8Q. Prior to this you made a nonprivileged statement to the safety board. It was transcribed and is now part of tab R. Have you had a chance to review it?

8A. Yes sir.

9Q. That statement was not taken under oath. Do you want to adopt that statement as part of your testimony today?

9A. Yes sir.

10Q. As we go through this, we understand you may have some clarifications to make about your testimony. Do you want to make any clarifications on anything in that statement now?

10A. No, sir.

11Q. The previous testimony mentions that you witnessed an aerial demonstration, a practice, I believe, from the roof of the squadron building. Do you remember this?

11A. Yes sir.

12Q. During that time, I believe you had a conversation with MCP Is that correct?

12A. Yes sir.

13Q. About the particular profile, and that was dated--do you remember the date?

13A. No, sir. I do not remember the specific date. It was approximately the week before the accident.

14Q. You stated in a previous statement, in your previous testimony, that MCP as you were discussing what you saw in the profile as the aircraft was going through the demonstration. You said that MCP said, look at the amount of rudder he is kicking in, he said, I don't believe it was during--and he said, I don't believe it was during that particular part when we were up there watching. It was a different time when he was like yeah, you know you wouldn't believe all the squawks that are going on. I'm heads down in the box, just running stuff, and you are hearing all the bells and whistles going off. Can you tell me, please, what he meant by the squawks, and bells, and whistles?

14A. Sir, just mostly the warnings that were going off and my understanding of the profile, having never flown it, in max performing the aircraft he was speaking specifically about the stall warnings that were going off because they were at higher bank angles as well as slower speeds.

15Q. You just mentioned that you have never flown a C-17 aerial demonstration profile. Have you ever been checked out in a program?

15A. No, sir.

16Q. Are you somewhat familiar, or are you familiar with the aerial demonstration profiles themselves?

16A. Sir, only because of what MCP described to me.

17Q. Do you know what MCP did you talk about the bells and whistles? He is talking about the warnings going off. Do you know what his comfort level was with the profile?

17A. Sir, not specifically. He had spoken to me then, the maximum performing of the aircraft capabilities was, and again, as I said in my previous statement, I don't want to put words into MCP mouth so without remembering specifically, exactly the words he used, I couldn't say. My impression of what he thought of that was that it was both slightly scary and a little bit exciting at the same time.

18Q. What is your definition of max performance of the aircraft?

18A. Doing more than a normal, local would entail, banking the aircraft up to levels we don't in a normal visual pattern when we are doing our local training patterns, performing at higher climb angles than what we normally perform, inducing the aircraft to provide warnings when you are intentionally trying to get it to give you those warnings.

19Q. So, you said just then, normal climb angles and different bank angles than what you normally perform, what are those?

19A. Sir, for me, normally in the pattern you're looking at 30 degrees of bank. You are climbing out at 15 degrees nose high, approximately, depending on the nature of the takeoff. Non-tactical, of course, when we are just doing our visual patterns--normal visual patterns.

20Q. A normal tactical pattern would include bank angles of?

20A. Up to approximately 60 degrees.

21Q. You just mentioned, so, if normal bank angles are 60 degrees on tactical, during those profiles did you happen to see bank angles that you thought maybe did that?

21A. I never have, sir. No.

22Q. Did MCP ever mention any concerns that he might have had to anyone else about the profiles?

22A. Sir, complete hearsay, I know in speaking with a couple other pilots in our squadron that he had talked to them about the profiles as well, but again, it would be completely hearsay for me to speak of that.

President: Okay. I would like to take a break now and then we'll get some clarification and then we'll call you back.

[The board recessed at 1446, 21 September 2010.]

[The board and reconvened at 1449, 21 September 2010.]

Legal: All attendees to the interview prior to the break are again present, to include

WITNESS 21

**Questions by the Board President:**

23Q. <sup>WITNESS 21</sup> is there anything else you want to add that you think may contribute to our investigation?

23A. No, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1450 local, Alaska time.

**V22. AIB INTERVIEW WITH**

WITNESS 22

**VERBATIM TESTIMONY OF**

**WITNESS 22**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II., and we are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for the use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and all other purposes. A safety investigation was previously conducted on this accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Please be seated. Today is the 18<sup>th</sup> of September 2010. This time is now 0933 local, Alaska time. This interview is being conducted in building 7309, room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,  
myself, Brigadier General Carlton D. Everhart, II, the Board President  
the Pilot Member;  
the Legal Advisor;  
the Maintenance Officer Advisor;  
the Medical Advisor;  
the Maintenance Enlisted Advisor; and  
the Court Reporter.

**WITNESS 22**

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 22**

2Q. And how long have you served in the Air Force?

2A. I've been in since September 21<sup>st</sup> of 1985, in the Air National Guard, so coming up on 25 years.

3Q. And what is your unit of assignment and location?

3A. 249<sup>th</sup> Airlift Squadron, Squadron Commander.

4Q. And location is --

4A. Is Joint Base Elmendorf-Richardson. Sorry.

5Q. Okay. And how long have you been with this unit?

5A. I started in 2007.

6Q. And your current job title?

6A. Squadron Commander.

7Q. And how long have you been doing this job?

7A. Since last year, approximately the summer time of 2009.

8Q. Okay.

8A. And I'd like to add to that, too, we were a detachment for a long time and we were working through the programming and the processes to become a squadron. So the squadron actually -- in fact, we just got federal recognition this last winter.

9Q. What has been your duty assignments while assigned to Joint Base Elmendorf-Richardson, and then just for the record, we'll refer to that now, from now on as Elmendorf Air Force Base.

9A. I came over -- before I came over to Elmendorf Air Force Base, I was the Director of Operations for the 211<sup>th</sup> Rescue Squadron. I was scheduled to be the squadron commander and then what happened was, is the Alaska Guard got the C-17 and I came over as the PIO, the Program Integration Officer, and then I was the DO, and then transitioned to the squadron commander.

10Q. Okay, and then you said the 11<sup>th</sup> Rescue Squadron, was that -- where was that?

10A. That's at Kulis Air National Guard Base.

11Q. Would you please describe your duties and responsibilities as commander for the 249<sup>th</sup> Airlift Squadron?

11A. Well, my duties are many-fold. Basically, the training and equipping and organizing of an Air National Guard squadron, and there's quite a bit to that. Hiring -- recruiting and hiring people. Training people for -- training aircrew members for the mission, and taking care of the people, responsible for the discipline, the morale. Squadron commander duties.

12Q. All right. Prior to this, you made a non-privileged statement to the safety board. It was transcribed and is now part of Tab R. Have you had a chance to review it?

12A. Yes, sir.

13Q. That statement was not taken under oath. Do you want to adopt that statement as part of your testimony today?

13A. That's fine.

14Q. As we go through this, we understand you may want to make some clarifications about that particular testimony, and we'll also follow-up with any questions, but does that statement contain any information that you previously provided?

14A. (No response.)

15Q. And what I mean by that is, you know, as far as the clarifications and things like that, if you want to go ahead and make clarifications now, you can do so.

15A. Not really. There are a couple of grammatically errors, but other than that, I think I'll just clarify as we go through the interview process.

16Q. Okay. When did the C-17s first arrive at Elmendorf?

16A. Of course it's a matter of record, but June, I think, we got the first one in June of 2007, and I wasn't here, I was down at Altus, at the schoolhouse, when the first one arrived. And then they trickled in over the next couple of months, or the next couples months I think we had all eight C-17s by the October/November, and that's all a matter of record. So...

17Q. Okay, tell us about the 249<sup>th</sup> Squadron; what's its mission, its relationship with the 517<sup>th</sup>?

17A. Okay, the 249<sup>th</sup> was a classic association. It's a C-17 airlift squadron and under the classic association arrangement, the 517<sup>th</sup>, the Third Wing, the aircraft belonged to the Third Wing. The 517<sup>th</sup> was the host and we were the associate, and so primarily, they were the -- they provided the operational direction. Of course, we had separate ad-con, but they provided the overall operational direction, they call it op-dir, and basically, working together to form the global mobility mission of the C-17.

18Q. What does associate mean?

18A. It's where we associate. Associate.

19Q. Like when you say it's an associate unit, what does that mean?

19A. It's the being two separate stand alone units. Under the classic association, there's a host and there's an associate.

20Q. Okay, and where was the Third Wing?

20A. The Third Wing was located at Elmendorf Air Force Base.

21Q. Okay.

21A. But they were the parent wing of the 517<sup>th</sup>.

22Q. So both units were here, at the base?

22A. Yes, the 249<sup>th</sup> and the 527<sup>th</sup>, yes. In fact, we were the first flying squadron from the Air National Guard to be assigned to Elmendorf.

23Q. Okay. **MP** was assigned to the 249<sup>th</sup>?

23A. **MP** was assigned to the 249<sup>th</sup>.

24Q. And what was his duty status?

24A. He was -- initially, when he started out, with his background, he was former active duty. He was at Charleston and he was at McCord as a C-17 pilot, original C-17 pilot, and we hired him as part of our initial cadre to stand up the squadron, and initially, we hired him as a part-timer, but they call it drill status guardsman, or a DSG, and then he was -- his fulltime civilian employment was at the Boeing simulator and I think the contractor that -- I think he actually worked for the DRG, and I'm not so sure what the -- Delaware Resource Group, which was the contractor that was running the sim for Boeing. He was a Boeing simulator instructor at the same time he was a pilot for us. And then, when we got a fulltime manning, because we were working the program because the C-17, we were late to come to the C-17 program, so we were doing a lot of programming as we were standing things up, and we got our fulltime manning later on, and then we hired **MP** as a technician.

25Q. Okay, and can you tell us about the hiring process he went through? And maybe what inputs you had into it?

25A. Okay, LT COL GY, like <sup>LT COL GY</sup> was the one who was screening all the folks.

26Q. And who was he at the time?

26A. He was the 176<sup>th</sup> OSS or OSF flight commander.

27Q. Operations Support Flight?

27A. Yes, and he was screening all the folks, and what happened was, is normally we would do a board interview, but what happened was, is with MP he came up and he came in, and this is when I was at the 211<sup>th</sup> as the DO. He came over to Kulis; he got off the airplane and came over to Kulis and I had an interview with him, and we brought him on. I hired him as a C-17 guy, but <sup>LT COL GY</sup> was doing the screening and then I interviewed him, and we hired him on.

28Q. Okay. Are you familiar with the C-17 Aerial Demonstration Program at Elmendorf?

28A. Somewhat. I'm not a detailed expert, but I'm somewhat. I knew that we had an air demonstration team. I know some of the details, but not much. I'm not a demo pilot and I'm not an expert in the profile or how it's flown or anything, but you know, I know that we had an aero-demonstration team. When we first started up -- when they were first starting it up, we wanted to have a total force, and the way we operate the airplanes is, is through this total force classic association. So we wanted to have guard participation and it was primarily an active duty team and we wanted to put some guard guys on it so we could show the total force -- the total force piece of the equation, and there was a lot of discussion about that because the Air National Guard doesn't do demo teams. So we went back to the guard --to the A3 to see if it was okay, and we got a sign-off on that, that it was okay to put a guard guy on the demo team.

29Q. And what was your duty position at that time, during that initial standup?

29A. The DO.

30Q. The DO, Director of Operations?

30A. Yes.

31Q. Okay. And then, how did the -- the demonstration program, how did it start here?

31A. You know, I'm doing this from recollection, and of course, as I get older my mind starts to get away from me, all the details, but what happened was, is I think it was <sup>WITNESS 11</sup> who was the initial cadre for the demo team and he started it up, and then he started training -- training folks and you had -- on the guard side initially, we only had MP and then everybody else was active duty, and he was the token guard guy in the show, the total force. And he started up the demo team and they did it over the years, and then it kind of built, and then on the guard side, we expanded it a little bit. We had -- we had MSO and then <sup>WITNESS 25</sup> as far as the pilots, and then we had loadmasters, we had LJ and then MLM <sup>WITNESS 14</sup> and <sup>WITNESS 20</sup>.

32Q. Okay.

32A. And we were in the process of getting some more guard participation. What happened was, is originally, when the air show demonstration team was set up, you know, there was very few people, and then there was these requests from PACAF to do these air shows in New Zealand and you know, Australia and other places. And what happened, they had a hard time manning it because there was few people, so they expanded it a little bit because of the -- you know, with everybody's schedules and so forth, so they expanded it. So they had a few more people so they could meet some of these requirements.

33Q. All right. And as the program stood up, who was in charge for standing up the Pacific demo program?

33A. It was the Third Wing Stan/Eval. WITNESS 11 was the -- I think WITNESS 11 was the main belly button. I guess that's not a very good technical term, but he was the --

34Q. Point of contact?

34A. Point of contact.

35Q. Right, and what was your involvement in the startup of the demo program? Your specific --

35A. Basically, I just provided -- I just provided a body for it, I provided **MP** and you know, we, like I said, the guard doesn't have demo teams, but we wanted to have somebody on the show, you know, total force, and he was our contribution and he was one of our more experienced C-17 pilots at the time, and of course, we didn't want to deny anybody the opportunity to participate.

36Q. So **MP** was your selection; why did you pick him?

36A. Because of his time in the airplane and he was a good pilot. He knew the airplane very well, and he had good flying skills, good hands, as they say.

37Q. And then, if I may, how do you know he had good hands? How do you know he had good flying skills?

37A. Because we had flown with him, his reputation.

38Q. And then do you recall how much time he had in the airplane?

38A. Oh, when he came to us, he had, I think, and this is a matter of record, but I think he probably had 20 -- and I'm just taking a guess at this -- it's a matter of record -- it's probably 25, 26, 27, 28, 2900 hours, somewhere in there.

39Q. Okay.

39A. It's a matter of record.

40Q. And then how much time do you have in the airplane then?

40A. Oh, I think I have about 800 hours.

41Q. Okay.

41A. But you know, I have over 6,000 hours in military time, but you know, C-17 time, I look at myself as a low time C-17 guy.

42Q. Have you ever flown a demonstration profile or simulator as an observer in any other crew position?

42A. No.

43Q. Did you ever fly a demonstration profile in the actual airplane with  
**MP** or **MSO** or **MCP**

43A. No, I did not. I hadn't thought about it, but I never acted on it. I thought, well, one of these days, maybe I'll go take a ride with them and take a look at it and see how it looks, but I never did. I never flew it in the sim or never flew it in the airplane.

44Q. Did you ever attend any of the aerial demonstration briefs?

44A. No, I did not.

45Q. How about upgrade briefs, or how about mission briefs? When they were getting ready to step out to the jet, that's what I mean by mission briefs.

45A. No, I never attended any mission briefs. I mean, I've walked passed the door when they were briefing, but I never stepped in and you know, listened to the brief.

46Q. And you've already mentioned this, but I just want to make a clarification, was the demo program integrated with the 249<sup>th</sup> and the 517<sup>th</sup>?

46A. I think it was -- primarily, I looked at it as a Third Wing program, and we were providing a body. That's been -- you know, in the guard, a lot of times it seems like with some of the stuff it seems like we're more of a manpower pool than anything else.

47Q. So if I -- I don't want to put words in your mouth, and please correct me. So if I understand correctly, the Third Wing provided the oversight, provided a standardization, evaluation for the -- maybe not the standardization, but they provided the oversight for the program and then as far as providing individuals to fly it, that was the contribution of the 249<sup>th</sup>?

47A. That was the contribution of the 249<sup>th</sup>, however, I know that **MP** was involved in it because he got involved in the training and because of the -- <sup>WITNESS 11</sup> trained him and I think **MP** out of -- I don't know if it was out of necessity, but just from the experience, I know he did training, but the guard and one of the regulations, and I can't remember which one, you know, we do not have "demo teams." So we went back to the guard drill and asked the A3, "Is it okay if we have a guard guy -- guard guys, on this demo team," and they said "Yes." And so the program, I look at it as a Third Wing program. We were providing bodies for the program -- personnel for the program, but I know of recent -- that **MP** had been doing some of the training and of the other folks, but you know, we have a lot of cross-flow as far as, you know, if they need an IP for checking on the new AC for LTMs or doing OMEs, we'll provide one and vice versa. So...

48Q. LTM?

48A. Line Training Mission. And OME, Operational Mission Evaluation.

49Q. And then when <sup>WITNESS 11</sup> PCS'd, permanent change of station, so he moved to another unit, did the program default to **MP** as taking it over and running, as far as the execution of it?

49A. He did a lot of work for it.

50Q. When you say "provided a body" for the demo team, did you all want to do that, or were you just asked to do so?

50A. Actually, we discussed it and it was to show that, you know, the way we operated the air plans was through the total force with the active duty and the Air Guard, and what it was, is to show the total force piece of the equation, and the -- it wasn't -- we weren't asked or we weren't told to do it, it was just a discussion between the two squadrons and we try and do a lot of stuff together. It's like, if we have like a high visibility mission, we'll try and have a guard person on it and we'll try and have an active duty person on it.

51Q. And then you talked about the discussion; who did you discuss that with?

51A. It was with the squadron commanders and the DOs.

52Q. Do you remember who they were?

52A. Initially, the first squadron commander was <sup>WITNESS 23</sup> and the DO was <sup>WITNESS 27</sup>

53Q. Okay, and then it was discussed with yourself and who owned that?

53A. Well, <sup>WITNESS 30</sup> and myself, and then you know, when he became the OG, then it was myself and with **LT COL FZ**, is the DO now, and there was a lot of discussion. And the demo team, there was a lot discussion when we first started it up, and then it was one of those programs where, "Hey, it's going, it's operating," and then it was kind of -- it wasn't like front-burner stuff anymore, it was like, you know, on the back burner.

54Q. And then, I'm sorry, OG means -- he was the --

54A. Ops Group.

55Q. -- and then he became the commander?

55A. The Ops Group Commander.

56Q. Okay.

56A. And with him, he wasn't with the aero demonstration team. When we had talked about it, he was not thrilled about it, but he didn't want to deny anybody the opportunity. I mean, that was his take on it, and I think some of that, he's an old SAC pilot, and I think, you know, heavies had not had -- historically have not had a good showing in air shows, with some of the stuff that has happened with B-52s and 135s in the past. So -- and I think that kind of influenced some of his attitude towards it.

57Q. So when the crews were -- based off what you just said -- so when the crews were checking out, did -- and I mean by checking out, I mean going through their upgrade program, did he or your or anyone else in the leadership take a -- just out and monitor the program? Did they go and monitor the program, make sure that hey it was done, how it was performed?

57A. Well, most of the people on the demo team, most of them were stan/eval folks. I mean, if you look at it in the past, that was mostly like on the active duty side, it was evaluator pilots, and you know, on our side it was **MP** who became our squadron stan/eval guy and you know, the program, did we get into the details on how the profiles were flown; no, we didn't. I mean, we figured it was pretty much of a standard thing, and the profile -- that I looked at the profile before, and I looked the 246, I read the reg and looked at the profiles and to tell you the truth, I didn't think too much of it because there was basically -- there's just not much you can do with a heavy airplane. I mean, it's like takeoff, a steep climb-out, some steep turns, some assault landing with some backing straight up on the runway, and I looked at it and it's just basic maneuvering of the airplane, and it was nothing more than what some people do -- what guys do on like tactical arrivals and departures.

58Q. Okay. You talked about <sup>WITNESS 30</sup> How did he provide the opportunity to your pilots? When you said opportunity, how did he provide opportunity for your pilots?

58A. It was -- the thing is, is he didn't want to deny the opportunity for like a guard guy to be able to participate on the aerial demo team. It's just like with the Thunderbirds, they have a reserve guy and have a guard now. For the community, went to show the -- you know, the association, because not only were we getting C-17s, the big thing was this total force initiative showing that the guard and the active duty, working together, to do the mission.

59Q. You talked about **MP** being the chief of stan/eval. What --

59A. Well, he was not OGV, he was the squadron stan/eval.

60Q. Okay.

60A. And on it with the Air National Guard, we have, because of the manpower issues, we have OGV. We don't really have stan/eval at the squadron level, but what we did is, and this is separate from what happens out at the Air National Guard at Kulis. What we do is, we have a squadron stan/eval guy because they were sitting in the office just for the communication flow and the cross-flow of information, and they sit together in the same office. Even though they're separate programs, it's so we have the -- and we have that in scheduling also, so they're next to each other. So there's a good working relationship between the squadrons.

61Q. So there's not really a chief, per se? Is that -- is that a correct --

61A. Well, we have a chief of stan/eval in the guard, but that resides at Kulis.

62Q. Okay.

62A. And since we have limited manning in the guard, our stan/eval is done at the OG level, and on active duty they have stan/eval at the squadron level, and they have it at the OG level, and what we did is, we basically took it out of hide to have somebody at the OG level, and then somebody at the squadron level, and then basically, the reason why we did that at the

squadron level is so we had good communication flow between the stan/evals because the stan/eval, if we had the OGB guy, he would be sitting over at Kulis and we wouldn't have that -- you know, we'd be cross-town. We wouldn't have that communication and that's why we did the squadron stan/eval to mirror the active duty.

63Q. So in that pyramid scheme then, would the OGV, your stan/eval and OGV, would they provide oversight for the squadron stan/eval? As we normally would do it on the active side?

63A. Yes.

64Q. So you always have a checks and balance?

64A. Yes.

65Q. Were they familiar with the aerial demonstration program?

65A. OGB -- our OGB was familiar, but the OGB stan/eval pilot, we had **LT COL BB**, as our OGB stan/eval -- well, originally we had **LT COL FZ** and then it went to **LT COL BB**, and they had -- you know, they were aware of it, but they weren't providing -- I didn't view the aero demonstration as a guard program. I viewed it as a Third Wing program. We were providing bodies, we were providing instructors for the training, like **MP** was doing a lot of the training because of his experience, but that's the extent of it.

66Q. And then a couple of statements earlier you mentioned a steep turn; what is a steep turn?

66A. A steep turn is 45 degrees of bank, or 60 degrees of bank; somewhere in that area.

67Q. Okay. What were your responsibilities toward -- you talked about an integrated unit -- what were your responsibilities, either specified or unspecified, towards the 517<sup>th</sup>?

67A. Responsibilities -- and actually, we're separate squadrons and with the administrative control staying within each squadron. However, the 517<sup>th</sup> being the host or the lead host for the classic association, they provide operational direction, and of course, operational direction is a very -- is a term that's open to a lot of interpretation and basically, a lot of times it's like a dance. You have a partner that leads and one that follows, and for the most part, we followed a lot of their lead stuff.

68Q. Okay. How did you certify demo air crews?

68A. Well, what happened was, is the -- in this process, I know they went through some ground training. They went and practiced the profile in the sim, then they flew the profile in the airplane, and then, of course, it had to be videotaped and there was, in fact, when we first started this up, there was like a MAJCOM had to -- is the one who had the final say on the crew. So what would happen is, is they would videotape it, they would have to go talk to the wing commander, and we had them going and talking to the Third Wing commander -- not our wing commander, because it's the Third Wing commander, so we had guard guys marching them to the office, talking to the Third Wing commander. He'd give them a briefing. That package

would be put back to PACAF and then the MAJCOM was the one who gave the thumbs up or the thumbs down on it.

69Q. Now, you mentioned it was videotaped; who -- at what level was that videotape reviewed?

69A. I think the videotape was for the MAJCOM. I mean, the wing PA, I think, is the one who videotaped the demonstration, you know, for the certification, but they would then videotape it and it would be sent up to the MAJCOM because like the MAJCOM couldn't be here in person. So I think that was the way they did it, and then it went up to the MAJCOM and the MAJCOM was the one who actually did the approval process. And with us, under a letter of Xs, we had -- for our guys, we had an aerial demonstration letter -- or under a letter of Xs we had a column for aerial demonstration, and guys that were certified were checked off on that, and with the pilots we had **MP** **MSO** was in the process. **WITNESS 25** who did it last year and then the loads, we had <sup>MSGT LJ</sup>, and then that Monday before the crash, we just had -- we just had some of the loads go talk to the wing commander, and the letter of Xs hadn't been updated yet, but we were getting that updated. And then the one individual, <sup>WITNESS 14</sup> he was gone on a trip, so he didn't get a chance to talk to the wing commander, so we couldn't do anything with him, you know, for the air show. You know, he was scheduled but he wasn't going to fly in it because he hadn't talked to the wing commander.

70Q. And there, just for clarification, a letter of Xs? What is that?

70A. A letter of Xs is a product or tool to show qualification and certification.

71Q. And then you mentioned, **MP** was initially certified. He went through a process, and then you mentioned **MSO** and your loadmasters going through. Did that process, certification process, stay the same, or was it changed significantly, or was it based lined the same? How was that?

71A. I think it was base lined the same. I mean, the exact details, I'm constantly putting out 100 fires or running to whatever fire is burning the brightest most of the time, and you know, it was like with the aero -- the air demo thing, there was a lot of discussion about it when it first started up, but you know, we had some experience with it, you know, where we've done it for a couple of years, and it was kind of like, okay, it's a program that's up and running, and so...

72Q. You mentioned about hard crews and crews themselves and things like that; in the original demo air crew members chosen to go through the process, who were they? When you finally had a crew, who were your crew members?

72A. Well, what they were doing is, is there were some requirements to fly hard -- or to do the demo, practice the demo before you actually did the demo in a public setting. So what would happen is, is they had this pool of folks, and then what they'd do is, they'd harden up the crews to do a particular air show. So what would happen is, is you'd have not a big pool, but a small pool of people, experienced people, to do the air show, or who were demo qualified. And then if there was a requirement for an air show, like Arctic Thunder, then what would happen is, is you would start to harden up the crew and they'd start practicing together for the air show, and that was kind of our concept of hard crews and what had happened was, is, I remember when

PACAF -- in fact, it was like -- they came down and it was like, "Hey, we need an air crew to go to India to do an air show," and there was one at New Zealand and then we followed the Thunderbirds around last spring, and what happened was, is you just started running out of, you know, qualified, certified guys to do air shows. So there was a pool and then you just harden it up for, you know, to meet the requirement.

73Q. Now, you talked about those air shows; what the last air show that the 249<sup>th</sup> participated in prior to 28 July of 2010?

73A. There was one in -- don't quote me -- it was in the spring time, I think it was April/May time frame, that there was a --

74Q. Of 2010?

74A. 2010, there was an air show and it was the Thunderbirds were making a tour of the Pacific, and there was a requirement to provide logistic support for the Thunderbirds, but they also wanted C-17 demonstrations. So, in that one, we had, I think, it was **WITNESS 3, MP** and **MSO** that did that trip, and I think it was like about a 17- or 18-day trip, and they toured the Pacific and they did air shows in several different locations.

75Q. So they were pretty current then as far as the profiles and things like that?

75A. I would think that -- I think that's a fair assessment.

76Q. Okay. Talking about the original air crew members, the air crew demo members, did you happen to interview the candidates when they were selected?

76A. Actually, what happened was, is we had discussions about it on our side of who we were going to provide -- you know, put forth, and we had some people that wanted to do it, and we said no, because we had like one part-timer who was flying for an airline out of state, and you know, his participation wasn't -- he was meeting the requirements, but it wasn't -- he wasn't flying the C-17s as much as we liked, so we said no. We said, there's some people that wanted to do it, so we said no to them, and we only had -- the only other person was our DO, <sup>LT COL FZ</sup> we said it was okay for him to do it, but you know, he never got around to doing it.

77Q. And then as the members went through their upgrade process, did you get feedback on their performance?

77A. The -- I'd say I didn't really get feedback per se. You know, sometimes I operate with just kind of management by exception A, is there a problem, and deal with the problems there, but I never got any feedback. I knew things were proceeding, but I never got any positive or negative feedback.

78Q. Just a minute ago you mentioned part time; what does that mean?

78A. Oh, that's one of our drill status guardsman, who's -- you know, we have full time folks and we have part time folks, and about 30 percent of our staff is -- about 25, 30 percent of our staff is full time, and the other 70 percent -- 75 percent is part time.

79Q. Okay.

79A. Which is, the drill status guardsman is what you normally think of as a guard unit.

80Q. All right. And then, going back to the demo crew members themselves, how they were chosen, were people asked to do it?

80A. Mostly what we had is people who -- people who would volunteer to do it, and then we would decide that way, but we were selective on who we put forth. In fact, I have no regrets on the individuals we selected for the air show. All of them were good pilots.

81Q. Now, was **MP** asked, or you just said --

81A. We did ask him when it came about, and at that time, when we first started up at that time, he was the only one that we would consider because of the experience in the airplane and two, with the part-timers, some of them, they're currently qualified in the airplane, but they're not flying the airplane like say a full-timer, and **MP** was flying quite a bit, and we thought his proficiency level was such that he'd be a good selection. And when we first started up, he was the only one that was doing it.

82Q. Okay. And then, we were talking about **MP** and then we also talked about gaining feedback; did you ever receive any feedback on how he was doing in his upgrade process, or during the profiles, or during -- when he came back from the air show?

82A. Not specifically. I never got feedback on how he was doing in the air show arena, but I got feedback from my active duty counterparts that, you know, like going on trips and stuff with him -- in fact, he took our first trip with **WITNESS 23** and **WITNESS 23** came back to me and said, "Hey, great." And I'd gotten feedback, positive feedback, you know, about him, as far being very -- knowing the airplane very well. And of course, you know, he was the sim instructor at the Boeing facility. So the airplane, he knew the airplane very well.

83Q. And just for clarification, that first trip was a standard trip, not a --

83A. Just a standard trip.

84Q. Okay.

84A. But as far as the air show, I never really got any positive or negative feedback. And the thing is, is that the folks that are on this, I mean, they're all -- on the air show -- I mean, you pick your best, and most of them were -- like on the active B side, it seems like almost all of them were like evaluator pilots, almost all of them. And so you're expecting, you know, there's expectations when you're sending a stan/eval pilot.

85Q. Okay. There again, feedback. Do you remember **WITNESS 30** receiving any feedback from **MP** -- on **MP**

85A. No, I don't --

86Q. In the upgrade process, or --

86A. No, uh huh. And the thing is, is when **MP** checked out, I think <sup>WITNESS 11</sup> was the one who checked him out, and they were pretty close because they had flown together at Charleston.

87Q. And then, one last question on feedback: do you remember <sup>WITNESS 27</sup> as a Director of Operations at the 517<sup>th</sup> receiving any feedback on performance?

87A. I don't know if he did or not. I mean, that would be a question for <sup>WIT 27</sup> The thing is, is if he'd got any feedback, he did not relay it back to me, but I think <sup>WITNESS 27</sup> would -- and I'll go out on a limb here, I think <sup>WIT 27</sup> would say that **MP** was, as far as on the guard side, he was the right guy for doing the demo team because of the experience and the proficiency.

88Q. Okay. In your earlier statement, you said that <sup>WITNESS 30</sup> wasn't thrilled about the demonstration program. Can you just elaborate on that?

88A. Well, he was -- you know, when we talked about it initially, whether we were going to have a guard guy on it, he had told me that he's -- it's kind of interesting because he doesn't go to air shows and aero demonstrations. You know, he wasn't opposed to it, but he was just like -- I think he had -- I don't know if he knew people or if he had seen an accident or something, but in SAC, with the B-52s and 135s, and he was an old SAC pilot. They have had some bad history. I'm thinking like they had the Fairchild incident. But we had talked about that a little bit, how that was a cultural thing, but I don't think -- we did not have that kind of culture. I mean, it wasn't -- like I remember on that one where the squadron commander went and flew with the one pilot because they had the one pilot who was the head of stan/eval and the squadron commander said, "I'm going to be the one to fly with it," because he didn't want anybody else, because all the other pilots were complaining about him. But we did not have that culture. It wasn't like -- I didn't feel like I had to go fly on the airplane like that. I mean, like you had in the Fairchild incident where you had kind of a rogue pilot, I guess, would be a way to characterize it.

89Q. Okay. You also said that -- going back to **MP** -- that he talked beyond the book. So he knew the system and he talked beyond the book. Could you please elaborate and maybe what examples you were thinking of?

89A. Well, with **MP** he had a degree in physics, and he was one of the guys where -- in fact, he was one of the guys I was thinking we might send to the WIC, the Weapons Instructor Course, because he was always constantly -- like for example, with the FMS box, it's like why does it do this, and he would go, you know, if he had -- he'd go beyond the dash-one where he would ask the engineers, "Hey, why does it do this." He'd call up people, you know, why does the box do this, and he was trying to just basically increase his understanding, and you know, flying the airplane like tactical arrivals. He would calculate it out to just -- you know like in the decent be where you would spool up to keep a low heat signature till the last moment till 500 feet or whatever was the safe altitude, then where you'd start powering up. But he was always trying to optimize and perfect everything, and he was always trying to increase his knowledge, which I think is an important thing in aviation. I think you've always got to keep on learning, because if

you don't, then you need to get out of the business, and then of course, you need to share what you learned.

90Q. After the air shows, especially on the overseas shows and things like that, did you ever see trip reports, or how it went, or --

90A. Oh, there's mission reports. I remember after the Thunderbird air show I asked how it went, and I remember asking **MSO** and **MP** and they said, "Oh, everything went okay." So I never got any feedback positive or negative that stood out.

91Q. And then you're also -- yeah, please.

**Questions by the Legal Advisor:**

92Q This is the legal advisor. I just have a clarifying question. When you answered the question, you did kind of a raised eyebrow kind of look to the side, like (gestured). Kind of like a hmmm, nothing.

92A. What question was that?

93Q. That was in response to General Everhart's question about when you asked **MSO** -- excuse me -- **MSO** and **MP** and --

93A. Yeah, I just --

94Q. -- did they make that facial expression?

94A. No-no-no, it was just -- it was a gesture; I didn't even know I was doing it. When I asked him about how things went with the Thunderbird trip and they'd go, "Everything was fine," nothing that stood out as far as, you know -- they did the trip and nothing. There was no positive or negative or nothing glaring that stood out.

95Q. Right, and it's because you're making those kind of -- it's body language in the interview --

95A. Okay, okay.

96Q. -- and that's why I'm discussing. No, it's fine, I'm just discussing it.

96A. I've got my -- yeah, I can't control my body -- or I guess I can control my body language. I'll just sit ...

97Q. Oh no, understood, sir. I mean, the body language is fine. I just wanted to clarify.

97A. I'll sit here with my hands in my lap.

98Q. And I'm sorry, sir, I don't mean to frustrate you or anything, I'm just trying to tell you that -- I'm just trying to clarify that that was not related to their response. That they did not respond that way.

98A. I don't know what to say.

**Questions by the Board President:**

99Q. You said that the FMS box -- what is the FMS box?

99A. Flight Management System, or the mission computer.

100Q. The mission computer, okay. And then you'd also talked about optimization of flights as we were talking about **MP** performance; did he ever optimize or the performance in tactical arrivals [sic], but did he also optimize performance in other profiles, such as the air demonstration?

100A. The aerial demonstration I don't know because I didn't fly the profile. I wasn't familiar with the details of the profile, but I know, you know, like with the tactical departures and with AR he was always trying to optimize things, and it was one of those things where he was pushing himself to be better, and he was pushing other people to be better. I mean, we relied on his pretty heavily to help us start up the unit, and he was -- you know, when you start up a new unit and you start a new airplane, you have to be very careful because of your inexperience in the airplane, and so we were building up our experience base and he was basically -- he was worried about the reputation of the unit and making sure that we had a good reputation. So -- prior to the ASAV, he sat down with almost everybody in the squadron and gave them a ground eval, and that's the kind of guy he was.

101Q. So then just to clarify, when you say "pushing people to be better," what did you mean by that?

101A. Well, not pushing people, not push in a bad way, but to increase your knowledge, to increase your proficiency, to know more about the airplane, to be a better pilot in a good way.

102Q. Do you recall who was the standard evaluations chief of the C-17 in the Operations Group at the time of the initial certification?

102A. You mean on the active duty side?

103Q. Uh huh (affirmative).

103A. It might have been -- **MAJ W** started out as the stan/eval person. That's a matter of record, but with the active duty, they seem to change out folks a lot more than we do. I think with us, we're more -- we keep people in a position for a lot longer time than, you know, we're not as concerned with like having bullets on your OPR like you did this position or that position, because usually in the guard, you know, we've got him for -- you're a C-17 pilot for the next 20 years of your career. So there's not the big push to make sure you got the -- you know, this job, that job, the square filling, that you see on the active duty. OGB, I think, there's been ...there's been **MAJ W** there's been **WITNESS 10**, there's been **MAJ B** and there's one or two other people in there, you know, who'd been, I think, stan/eval at the OG level.

104Q. Okay. At this time, what I'd like to do is take a break and let you go back to the break room, or if you need to head down the hall, and then we'll just check off any more questions that we may have and then we'll bring you back in and then we'll finish up.

104A. Okay, okay, and perfect timing.

(At 1025 hours, comfort break.)

(At 1052 hours, the interview resumed.)

This is we're back on the record. All attendees to the interview that were present prior to the break are again present to include WITNESS 22

105Q. WITNESS 22 we have just a few more questions to follow up on and it's for clarifications from your previous testimony you just provided. Initially, we were talking about the C-17 demonstration pilots, and we were talking about the program and how it came it about. Was the program announced overall, "Hey, we're going to start?" How did that work? Was it announced in the squadron and then you asked for volunteers, or you said -- was it discussed -- how did that --

105A. You mean initially, back in like 2007, 2008 time frame?

106Q. Right.

106A. Actually, we were so small at the time, that the squadron -- we weren't even a squadron, we were a detachment, and we didn't even start getting our full time manning until, I think it was -- it was that summer, so we were very small, and there wasn't really many options, and the thing is, is that MP -- you know, it was discussed at one of the TFI meetings about the aero demo team and you know if we were going to have guard participation and so forth, and basically, the only person at that time that had any appreciable C-17 time was MP and so -- except we had some other folks that did, too, but his name was the one that came up for doing it, for being a guard participant. But there was no -- there was no pressure on us to do it. It was one of those things where, you know, with this total force initiative, we wanted to have -- you know, we were trying -- guard and active duty were trying to show the, I guess, togetherness of the guard and the active duty working together, like when we did the -- hauled the elephant down to California, we made sure there was a guard pilot and an active duty pilot, and there's a lot of other missions where we've -- when we've done -- that have had high vis or PA. It's like make sure there's a guard guy and there's an active duty guy, and that's part of showing how we're doing the mission together.

107Q. And then just for my clarification, MP -- did the leadership talk to him, or did he say, "I'd like to do this? I would like to do the air" --

107A. Well, he came...well, he wanted to do it, but, it was kind of a mutual thing. I don't -- I can't -- the way it came about, in fact, there's -- we had another guy who was a part-timers who wanted to do it, and he came up to me and was like, "Hey," and we passed on him. And so it was -- you know, we had talked to MP about it, but he knew this was coming. I mean, a lot of times -- sometimes I'm the last one to know about stuff, or the rank and file talk about stuff, and I don't know how it came about, but yeah, it was discussed mutually between us. We didn't force him into doing it, and that was one of the things with MP that the guard -- it's like he

came off active duty and he felt like he had to -- you know, he felt obligated to do everything. It's like in the guard, is more based on volunteerism than it's like active duty where you're directed to do stuff. I mean, we ask people to do stuff more than task them.

108Q. You said that you were a detachment and then you got federally recognized? What is --

108A. Well, what happened was, is -- we were a detachment. What happened was, is the C-17s were originally supposed to go to the reserves, and then when the F-22 came, the reserves took the F-22 and then we took the C-17. And so the C-17, when we started up, there was no -- basically, we started from behind. There was no programming or anything, and we had to basically build a squadron -- build the squadron up. It wasn't like the Hawaii unit where they knew they were going to get C-17s. There was lots of -- we did a lot of the work concurrently for standing up the squadron, where instead of before, where you had a PIO office and spent -- like in Hawaii, they spent a couple of years dealing with it, and then they stood up the squadron. Where we started as a detachment and then had to go through all the programming and actions, all the working to get federal recognition, building the squadron and so forth. So we were working on building up the squadron at the same time as we were starting it, and we started out very small and started to grow.

109Q. So, federal recognition, is it an order that says you are now able to stand up as a squadron? Is that how that works?

109A. What it is, is it's federal recognition. Guard units have to be federally recognized, but it was us giving birth to the 249<sup>th</sup>, basically.

110Q. Okay. Do you remember the date?

110A. It's all a matter of record. I mean, I can -- that was -- we started as a detachment and we grew into a squadron.

111Q. We're talking about --

111A. And I can get you the dates. I mean, if you need it, it's ...

112Q. We were talking about -- there again, the demonstration program -- I don't mean to be skipping around on you, it's just that you jogged my memory. You said that you would pick the best and what I'd like to know is, to be a demonstration pilot or a demonstration crew, what does that mean? What criteria was used?

112A. Somebody who -- somebody who is basically -- somebody who is a good pilot, somebody who had good flying skills, somebody who was proficient, somebody who would take it seriously.

113Q. And then also you said that as you were doing the selection process, it was <sup>WITNESS 30</sup> yourself, <sup>WIT 27</sup> and Lt Col --

113A. For us providing bodies?

114Q. Yeah, and as you discussed --

114A. It was us providing -- what happened was, is it was <sup>WITNESS 30</sup> and I providing the guard bodies to the active duty, and that's what happened with **MSO** too. In fact, it was myself and **LT COL FZ** for the last couple -- like for **MSO** you know, making those choices, and we had a TRB, and at the end of the TRB we talked about it.

115Q. TRB is?

115A. Training Review Board, or they call it a TRP now, I guess. Training Review Panel.

116Q. And so where did <sup>WITNESS 30</sup> go in that process? To the --

116A. Well, he went to go become the Ops Group commander.

117Q. We talked a little bit about the Pacific air show with the Thunderbirds, and I asked you if you'd received any feedback per **MP** and **MSO** but then you just mentioned that you always hear rank and file talk. What was the rank and file talk about that? I mean, you were with the Thunderbirds.

117A. Well, I asked them how the trip went and they said it went fine. The only comment they really said was that it's just a long trip. That's all they said, but yeah, in rank and file talk, I didn't hear anything about -- pertaining to that trip, and I think that rank and file comment be out of context. I was just talking in general terms that sometimes, you know, something's coming up and it will be known on the active duty side before it gets over on the leader -- before it's cross-over on the leadership side, and you know, I'll have people coming over, "Hey, the active duty has done this. Are we going to do this?" And you know, sometimes the communication flow, sometimes the bottom beats the top on it.

118Q. So then, there again, about that Pacific air show, and the reason why I'm asking is because with the Thunderbirds, what was the scuttlebutt? I mean, would people say, "Hey" -- I mean, stories are always out there, but...

118A. Actually, I did not -- they just said that it was a long trip, and I didn't get any feedback, you know, I didn't get any feedback from anything. I don't know if there's any scuttlebutts at the lower rank and file, I don't know, but I wasn't aware of anything.

119Q. Okay. And then earlier, we talked about the standardization/evaluation; for clarification of the record, you said **LT COL BB**? Is that --

119A. **LT COL BB** is his actual name.

120Q. **LT COL BB**, okay.

120A. He's our **OGV**

121Q. He's at Kulis then?

121A. Well, he's over here, but that's been kind of a ...point of contention where we kind of wanted him over here. So the office, we had the **OGV** in the squadron stan/eval, but he's assigned to the **OGV** over there, and of course, the rest of Kulis is moving over here. So, you

know, people are starting to trickle in over here, and so it's like he's, in fact, he's assigned to the OGB, but his desk is over here. But he does go over to Kulis to work on stan/eval issues periodically.

122Q. So is he the chief of OGV

122A. He's not the chief of OGV he's the C-17 pilot. He's not the chief. LT COL DP  
the chief of OGV

123Q. Okay. All right. I have one last question. Are there any matters that we haven't covered that you'd like to -- think are pertinent to our investigation, may be important to assist us in our investigation?

123A. I just would like to get this on the record. You know, before the air show, I'd talked to our DO, LT COL FZ, and I said, "Hey, the air show is coming up. Make sure you sit MSO down and MP and talk about the air show and say safety is job number one," because there is kind of a -- sometimes if you look in aviation, there is kind of an air show mentality sometimes, and I had talked to LT COL FZ about -- LT COL FZ is his nickname -- I talked to I said, "Hey, set them down and make sure they understand safety is job one for flying the air show." And so he had sat them down that Tuesday and they had discussions about -- because WITNESS 16 was going to fly on the practice that Wednesday, and so there was some discussion about how to do the flight orders correctly, and then he did sit down and talk to -- in fact, he talked to WITNESS 25 MSO and MP in that setting. I was gone to New Orleans on a trip. We had -- I was supposed to fly with MP I was going to talk to MP on that Sunday prior. To the Wednesday mishap, I was supposed to fly with MP down to New Orleans, but the airplane broke, and I was going to talk to MP during the trip, and then what happened was, he had to drop off the trip because he had this air show demo practice that he had to do, and I ended up doing the New Orleans trip. And then so I had LT COL FZ sit down and talk to him, you know, about the flight orders and about safety is job number one, and I'd just like to get that on the record.

124Q. So did he give you feedback on how that discussion went?

124A. He said he talked to him and he said it went okay. I mean, you know, the big thing is that I was like -- most of my discussion with LT COL FZ was "Hey, did you sit down and talk to him?" "Yeah, I talked to him." So...that was -- but you know, no -- again, no, you know, no glaring, you know, feedback once or -- a lot of that is a one-way conversation. It's like, just make sure, reminding them, you know, from a leadership standpoint that safety is always job one.

125Q. Okay. Was there any specific in that briefing about the instructions of what was said beside safety? Anything else specific?

125A. Just safety. Making sure that they're safe.

126Q. Okay. And then, my follow-up then, you said that you were going to talk to him, or talk to the crews --

126A. Well, I was going to talk to MP on the flight.

127Q. What would you have said?

127A. I would have said, you know, because I've flown in air shows before and what I would have told him is, is that, "Don't worry about the crowd. Just concentrate on flying the airplane, being disciplined and precise, and you know, if you have to -- if you botch up a maneuver, just go around. Recover, straight and level, and basically not to -- make sure you go into the air show with the right mindset."

128Q. Now, you say you flew air shows before; was that -- with what airframe?

128A. In the 130, but not as -- just doing like air drops in the Elmendorf air show. I've gone out on about, oh, five or six times.

129Q. You just mentioned air show mentality; what does that mean to you?

129A. Well, you know, sometimes in aviation, sometimes people get in the air show mentality and they get into the showoff phase, and sometimes they fly more aggressively or they fly more on the edge than they should, and that's -- I'll go back to the B-52 incident down in Fairchild, and I don't think that was an air show, but it may have been a fini flight or a practice, but you know, where there's an audience and sometimes people have to try and get oohs and ahhs out of it, and you know the thing to do is fly disciplined and precise, and you know, and just kind of factor out the audience.

130Q. Yeah, there again, for my own clarification, you say flying the edge; what do you mean by that?

130A. You know, maybe max performing the airplane, or maybe over performing the airplane, or you know, flying steeper than -- flying steeper than -- or you know, banking steeper than you should be, or flying faster than you should be, or slower than you should be, or...

131Q. Okay. Okay. We've asked some other folks and I would just like to ask you also, in the aerial demonstration program, what is the aerial demonstration designed to do?

131A. It's designed to show the capabilities of the airplane, and just the regular capabilities of the airplane. It's not --

132Q. Just it's normal performance? Is that what you're saying?

132A. It's normal performance, yeah. It's not to show acrobatics or something that's wild. It's just to show the capability of the airplane. You know, what we do on a day-to-day basis. In fact, when you look at the profile, you look -- you know, like in these capability demonstrations for the 130 or C-17, you look at it and it's pretty plane Jane. It's what every crew member does every day. The only thing with when I looked at the C-17 demonstration, there was nothing cosmic about it. It was just basic maneuvering of the airplane. The only thing is, is it was in rapid succession. You know, there was a lot going on, you know, there was a lot going on in a short period of time, and that's how I look at the -- but I didn't see anything -- when I looked at it originally, I didn't see anything. I was, oh, this is pretty simple. There's not -- you know, there's nothing really too much here. Any crew -- any crew practicing tactical departures or arrivals, you know, this is the same kind of stuff they would do.

133Q. So it's pretty much set by -- the profiles are pretty much set by the regulation on how to perform?

133A. Yes. Yeah.

134Q. Those profiles, did you ever discuss them with **MP** and how they were described, or the purpose of them or anything like that?

134A. No, I did not. And the way I looked at it, the profile was a pretty canned profile. I mean, it's just like go fly -- in fact, when I looked at the reg initially, it's like there's very little guidance in the reg on how to fly it. You know, there's no warnings or cautions or anything. All it is, is most of the reg, when I looked at it, was like, well, it's basically narration. I mean, it's the narration of the air show, if you look at it. That was the bulk of the reg.

135Q. And then as far as the regulation goes itself, do you consider that guidelines, or do you consider it procedure?

135A. Well, regulation, I consider it -- it's a regulation. It's procedural. That's the way I look at regulations.

PRESIDENT: Okay. You're reminded of the official nature of this interview. You may not discuss the testimony with anyone without my permission, or at any time the investigation is officially released to the public. At this time, this concludes the interview. It is now 1113 local, Alaska time.

**V23. AIB INTERVIEW WITH WITNESS 23**  
**VERBATIM TESTIMONY OF**  
**WITNESS 23**

[17 September 2010, 1933 hours, local Alaska time.]

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II, President of the Accident Investigation Board, convened to investigate the C-17 mishap that occurred on 28 July 2010, Tail Number 00-0173, at Joint Base Elmendorf-Richardson, Alaska. The accident investigation board is in Building 7309, Room 106, JBER, Alaska. We are conducting a telephonic interview with the witness, **WITNESS 23** who is in Building 6875, Room C104, Al Udeid Air Base, Qatar. Also present with the witness, **WITNESS 23** is **LEGAL REP** with the Combined Air Operations Center, Al Udeid Air Base, Qatar. Prior to the start of this interview, **LEGAL REP** positively identified the witness in accordance with AFI 51-503, Chapter 6, Paragraph 6.7.

The persons present in this interview are:

Brigadier General Carlton D. Everhart, II, Board President;  
Pilot Member;  
Legal Advisor;  
Maintenance Officer Advisor;  
Medical Advisor;  
Maintenance Enlisted Advisor; and  
Court Reporter.

This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for the use in claims, litigations, disciplinary actions, adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you may have given before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any of the confidential testimony you may have given before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public.

**WITNESS 23** do you understand the difference between any testimony you may have given before the safety investigation board and your testimony to the accident investigation board?

**WITNESS:** Yes, sir.

PRESIDENT: WITNESS 23 do you consent to having this interview recorded?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, LEGAL REP please administer the oath to the witness.

LEGAL REP WITNESS 23 please raise your right hand.

WITNESS: [Did as directed.]

LEGAL REP Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Thank you, LEGAL REP for your service. You may be excused.

LEGAL REP [Withdrew.]

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. WITNESS 23

2Q. How long did you serve in the Air Force?

2A. Over 20 years active duty.

3Q. What is your unit of assignment and location?

3A. The 609th Combined Air and Space Operations Center, Al Udeid Air Base, Qatar.

4Q. How long have you been with this unit?

4A. Since June 2010.

5Q. What is your job title?

5A. Air Mobility Division Director.

6Q. How long have you been doing this job?

6A. Since June 2010.

7Q. What was your duty assignment while assigned to Joint Base Elmendorf-Richardson?

7A. I was the Commander of 517th Airlift Squadron for about 21 months, and then I was Deputy Support Group Commander for 3d MSG.

8Q. Please describe your duties and responsibilities as commander of the 517th Airlift Squadron?

8A. As Commander of the Airlift Squadron, I was in charge of training and equipping C-17 crewmembers based off our unit description for the amount of cruisers we are required to have. Also, we trained C-12 planes and execute the mission of two C-12 aircrafts and the crews required to execute that mission.

9Q. When did the first C-17s arrived at Elmendorf?

9A. I am pretty sure it was June 07.

10Q. Are you familiar with the C-17 aerial demonstration program at Elmendorf?

10A. Yes, sir.

11Q. How did it start at Elmendorf?

11A. What I remember, it was winter, maybe early spring of 08, a request from PACAF to have a demo team for the following year. I think that was to go do some shows in the PACOM AOR. I remember discussing that with the Wing Commander, to have a demo team prior to the air show at Elmendorf for the summer of 08.

12Q. Who was in charge of standing up the demo program?

12A. Standing up the demo program was a coordinated effort between PACAF STAN EVAL, approval by the NAF, and then recommendations for crew members from both the active duty squadron and the guard squadron.

13Q. What was the identification of that Guard Squadron? What was that unit?

13A. The 249th.

14Q. What was your involvement in the startup of the demo program?

14A. I was involved in selecting the active duty crew members.

15Q. Can you tell us about the 249th Airlift Squadron?

15A. The 249th Airlift Squadron is the Alaska Guard Squadron and they flew the C-17s, also, in '07. It was a total force initiative where the 517th active duty squadron and the Wing owned the aircraft. We shared facilities, buildings, and other support with the 249th Guard Squadron, and both squadrons flew the aircraft.

16Q. Is the demo program integrated with the 249th and the 517th?

16A. Correct.

17Q. How is it integrated?

17A. The demo team was integrated with two active duty pilots and one guard pilot, and then one active duty load master and one guard load master.

18Q. Do you recall who those members were?

18A. I remember the pilot, WITNESS 11 and WITNESS 26 and MP I do not remember who the load masters were.

19Q. Who had oversight over the demo program once it was established and the two units were integrated?

19A. I would say it was a combined oversight between the two squadrons for approval, for requests, for the demo team to fly, and then coordination to make sure the required practice training occurred with coordinated efforts.

20Q. In that coordination effort, what were your responsibilities to the 249th Airlift Squadron?

20A. I do not remember having formal responsibilities. I think the active duty side was more responsible to our leadership -- PACAF Headquarters -- to ensure we followed guidance and procedures to do the upgrade and accomplish the required event in accordance with directives.

21Q. How did you certify the demo aircrew?

21A. I do not remember exactly, except that I remember that we were required to bring up a current qualified crew. I remember coordination with PACAF Headquarters to ensure we followed the directives on upgrade process and that approval was required. I remember that the NAF -- the 11th Air Force Commander -- I remember that we coordinated and followed everything required.

22Q. Once training was complete, do you recall the exact method of how you certified the demo crewmembers, specifically, that initial crew?

22A. I do not remember.

23Q. Do you think subsequent crews would follow through the same procedures? How did that work?

23A. While I was there, that was the only crew we did. So, yes, I would think we would have followed that same procedure; it seemed pretty formal.

24Q. Did you only recommend active duty members for the demo team, or, was your endorsement required for all pilots, to include the 249th?

24A. I do not remember. I am sure I did the active duty. I don't think I did, but I thought very highly of MP and supported his endorsement.

25Q. Going back to the certification process, I know you said you didn't remember some of the pieces. Do you recall what was actually forwarded from the Squadron, to the Operations Group, or the next level in the echelon in the process, what specific documents or what was forwarded up: I sign off on these individuals?

25A. I do not remember.

26Q. Do you recall who the 249th Squadron Commander was at that time?

26A. I do. It was WITNESS 30

27Q. Is <sup>WITNESS 30</sup> his last name, or, is <sup>WITNESS 30</sup> his last name?

27A. WITNESS 30 <sup>WITNESS 30</sup> is his first name. <sup>WITNESS 30</sup> is his last name. He goes by  
WITNESS 30

28Q. Going back to that initial aircrew, do you recall how they were actually, specifically chosen?

28A. I do not recall specifically. I remember discussions with myself and the other squadron commander, both Dos, but I do not recall specifically.

29Q. Did you ever interview the candidates?

29A. I did with the active duty, specifically, <sup>WITNESS 11</sup> I do not recall a formal interview, but multiples discussions with him before, during, and after the upgrade of the team.

30Q. And what was discussed?

30A. Specifically how the upgrade was going, how the other members of the demo team -- were they meeting the requirements and getting the support they needed. What I remember, from those conversations and watching the demo, everything went very well -- very competent, professionalism and the skills of that entire crew.

31Q. You said that you watched the demo. Did you watch it from the ground when the aircraft was performing the demo?

31A. Correct, sir.

32Q. How was that demo performed?

32A. It was performed, flying at Elmendorf, in an Elmendorf pattern.

33Q. Are you familiar with the C-17 demo profile or profiles?

33A. I am somewhat.

34Q. Do you recall, when you were watching the aircraft fly the demo, do you recall what profile it flew?

34A. No, sir.

35Q. Was there a video that captured that flight?

35A. I think so. I remember something about a video and then that, also, being sent up for review by senior leadership.

36Q. When was that flight?

36A. I do not remember, sir.

37Q. You said that you knew that the aircrew performed the demo within parameters. How did you know it was within parameters?

37A. No indication from watching or talking with <sup>WITNESS 11</sup> that it was anything out of parameters.

38Q. Do you remember, specifically, how the aircrew performed; referenced bank angles, things like that?

38A. I do not, sir.

39Q. Going back to the aircrew members themselves, did you ever receive feedback on their performance and, if so, from whom?

39A. I received a feedback from <sup>WITNESS 11</sup> That is the only feedback I remember receiving.

40Q. Do you remember feedback given on **MP**

40A. No, sir. I do not remember specific feedback on **MP**

41Q. Do you know if <sup>WITNESS 27</sup> Director of Operations for the 517th, do you know if he received any feedback on **MP**

41A. I do not know, sir.

42Q. Who was the standardization evaluation chief for the C-17 in the Operations Group at the time of the initial certification of the demo crew?

42A. It was either **MAJ W** or **MAJ B** ; but I'm not sure at that time.

43Q. What is your C-17 experience?

43A. I started flying the C-17 in 1994. I have around 3000 hours experience, instructor and evaluator time.

[The board recessed.]

[The board reconvened.]

**Questions by the President:**

44Q.                   WITNESS 23 you stated that you highly regarded                   MP    Would you elaborate on that please?

44A.                   MP    sits in a simulator instructor and is a traditional guard member, and then became fulltime guard; that became his fulltime job. I accomplished training in the simulator with him as the contractor/instructor. He was an outstanding simulator/instructor, very thorough, and would provide additional training above what was required in a syllabus. I had flown with                   MP    He has outstanding pilot skills and instructor skills with younger, less experienced pilots.

45Q. Did you ever fly a demo flight or a demo simulator?

45A. No, sir, not that I can remember.

**Questions by the Legal Advisor:**

46Q. Can you tell us about the occasions in which you flew actual flights with  
MP

46A. I remember observing him instruct some junior pilots. He was very thorough and all the events he accomplished were excellent.

47Q. You said instruct junior pilots. What were the events; do you remember?

47A. I do not remember specifically. From what I recall, it was some local training with touch and go landings and, I think, air refueling. I do remember him doing and teaching landings. I vaguely remember, also, doing air refueling; but nothing significant to remember from that.

48Q. And then you said that you had done some simulator training with him, and that he had provided some additional instruction that was above the syllabus. Can you describe some of that, please?

48A. I remember                   MP    in additional to teaching the required syllabus items with us at several lessons, on cold obstacle clearance performance that he had researched on his own and would provide that instruction, I remember him covering, in further detail, cold weather procedures, since we were in Alaska and more specific to that location. I remember him providing good instruction while I was performing the required quarterly training events in the simulator.

49Q. From those interactions with him, were you able to get a sense of his style of teaching -- anything that stands out to you, sir?

49A. I remember him being very calm and very effective. He had excellent communication skills. I remember watching him with the younger pilots, being positive, patient, and just very thorough instruction.

**Questions by the President:**

50Q.                   WITNESS 23 is there anything else that you would like to add that would aid us in our investigation?

50A. I thought very highly of                   **MP** and the other pilots we discussed. No, sir, I can't think of anything further to aid you in the investigation.

PRESIDENT: Thank you. You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 2013 local Alaska time.

**V24. AIB INTERVIEW WITH**

**WITNESS 24**

**VERBATIM TESTIMONY OF**

**WITNESS 24**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 51-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, General.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that this testimony you are about to give in the matter under this investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

LA: This is I just wanted to ask you, <sup>WITNESS 24</sup> is it all right if we record your testimony today?

WITNESS: Yes.

LA: And **LEGAL REP** if you would please make your appearance for the record.

**LEGAL REP** : This is **LEGAL REP** I'm the deputy SJA at 13 Air Force, Hickam Air Force Base, Hawaii -- or actually I'm sorry, Joint Base Pearl Harbor Hickam, Hawaii.

LA: Thank you, ma'am. And you were in the room at the time when <sup>WITNESS 24</sup> had taken the oath?

LEGAL REP : Yes.

LA: And you witnessed him taking the oath; is that correct?

LEGAL REP : I did.

LA: And did you verify his identity?

LEGAL REP : I did. I used his military identification card to do so.

LA: Thank you, ma'am. As discussed, you do not need to remain in the room for the remainder of this interview.

LEGAL REP : Okay. Thank you.

LA: Thank you. And <sup>WITNESS 24</sup> it's again.

WITNESS: Yes.

LA: Has LEGAL REP departed the room?

WITNESS: She has.

LA: And are you alone in the room?

WITNESS: I am.

LA: Okay. Thank you. Go ahead, sir.

PRESIDENT: Today is the 10th September 2010. This time is now 1215 local, Alaska time. This interview is being conducted telephonically. The 13th Air Force Judge Advocate at Joint Base Pearl Harbor, Hawaii has verified the identity of the witness. The persons present here are:

The witness, <sup>WITNESS 24</sup>  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: In room 105 at building 7309 Joint Base Elmendorf-Richardson, Alaska. The

witness is at Joint Base Pearl Harbor, Hawaii in building 2043, room A102. The witness is sworn.

**Questions by the Board President:**

1Q. Can you please state your full name and rank?

1A. **WITNESS 24** United States Air Force.

2Q. How long have you served in the Air Force?

2A. Served in the Air Force 10 and a half years.

3Q. And what is your unit of assignment and location?

3A. Current unit of assignment is 13th Air Force, Joint Base Pearl Harbor Hickam, Hawaii. I am attached for flying with the 535<sup>th</sup> Airlift Squadron Joint Base Pearl Harbor Hickam, Hawaii.

4Q. And how long have you been with this unit?

4A. Been with this unit approximately one month.

5Q. And what is your job title?

5A. I am currently the aide-de-camp to the commander, 13<sup>th</sup> Air Force.

6Q. And your job title you just told me, just for the record, can you speak your job title, please, one more time?

6A. Sure. It's aid de camp to the Commander, 13<sup>th</sup> Air Force.

7Q. Okay. And how long have you been in that job?

7A. One month.

8Q. Okay. Perfect. Could you please describe your duties and responsibilities on 30 July 2007?

8A. My duties and responsibilities on 30 July 2007, I was the Chief of Wing Current Ops, Wing Current Operations, in the 15<sup>th</sup> Operations Support Squadron, in the 15<sup>th</sup> Wing, Joint Base Pearl Harbor Hickam, Hawaii.

9Q. Okay. And were you a Stan Eval pilot at that time?

9A. I was a C-17 Evaluator Aircraft Commander, correct.

10Q. And were you qualified in the C-17 aerial demonstration profiles?

10A. I was qualified in the C-17 aerial demonstration profiles, yes.

PRESIDENT: I will now turn the questioning over to

**Questions by the Pilot Member:**

11Q. Hello, <sup>WITNESS 24</sup> it's the Pilot Member of the board. We established that you're aerial demonstration certified and you have been certified since you were called in 2007, correct?

11A. Correct, I believe it was 2007 or 2008.

12Q. Okay. And have you flown actual air shows in this capacity?

12A. I have.

13Q. Can you describe the certification program for aerial demonstration?

13A. The certification program that we have is directed by the PACAF Con Ops. We have 15<sup>th</sup> Wing, it was called 15<sup>th</sup> Airlift Wing Certification Program. And basically it started off with selection. The selection was by the Wing Commander, but really through the Squadron Commander, who would select the pilot, copilot, safety and loadmaster on the demo team. After selection, was basically instruction in the regulations surrounding air show demo. Following just the instruction and the familiarization with the regulations, there was a simulator. Simulator went through the three profiles, 1 through 3, the 6, 10, and 12 minute profiles in the simulator.

14Q. Can you define a profile?

14 A. Sure. In the AFI 11-246, Vol 6, Chapter 3, defines the profile, the standard demonstration profile for the C-17. And there are, I believe it has four demonstration profiles. The three main ones that we practice and are certified for are the six minute profile, the 10 minute profile and the 12 minute profile. And they all involve various passes and landings and takeoffs over the airfield for demonstration. And obviously six and 10 and 12 minute is the total demonstration length.

15Q. Okay. And you were describing the certification program.

15A. Yes. So from the simulator we go to the aircraft. And in the aircraft and in the ground training, the simulator and the aircraft, when you're unqualified in demonstration, you have a qualified person with you instructing you. So for myself, I was instructed by MAJ A , who is another demonstration qualified pilot here in the 15<sup>th</sup> Wing. So you have the ground training, the simulator, and then the flight. And the flight, you perform the three demonstrations with a qualified demonstration pilot, followed by you have at least one profile that you do with your team.

16Q. Okay. And can you define "qualified"?

16A. Sure. To define trained and qualified, obviously it's used synonymously, but basically trained or qualified is someone who's been previously trained and certified in the aircrew, in the air show demonstration certification. And so they are basically trained and qualified per the 15<sup>th</sup> Wing syllabus and certified by the NAF Commander, which is the 13<sup>th</sup> Air Force here at Hickam.

**Questions by the Board President:**

17Q. And then, <sup>WITNESS 24</sup> it's Brigadier General Everhart. Just for clarification on the record. When you say "con ops," you mean Concept of Operations?

17A. Correct, sir.

PRESIDENT: Okay. Thank you.

**Questions by the Pilot Member:**

18Q. Okay. And you mentioned, you had talked us through the ground training, the simulator and the flight as part of certification. And then you mentioned that then the crew would fly together.

18A. Correct. And the flight together was either observed or taped for the Wing Commander and the numbered to Air Force Commander. In my case, it was taped and it was taped by a PA member who was in the tower while we were flying the demonstration profile. So we would fly that demonstration profile, they would tape that. Following the flight, if you were certified by the person who was instructing you on the air show, demonstration -- so for, again, for myself and the three people upstairs, there was a demonstration instructor pilot, and for the person downstairs there was a demonstration loadmaster who is certified. So if you were recommended for certification, it would be followed by a squadron commander's certification, then to the Wing Commander for certification, then to the numbered Air Force Commander for certification. Which at the time when I was certed, the 13<sup>th</sup> Air Force Commander was Lieutenant General Utterback. And there was a memo that traveled along with you in that certification, and the signed memo would reside in your flight evaluation folder. Following the certification from the numbered Air Force Commander, you were added to the letter of Xs, which is a document used by the squadron commander to document various certifications of aircrew members in the squadron.

19Q. Okay. And is this the standard PACAF, Pacific Air Force's Certification Program across Pacific Air Forces to your knowledge?

19A. It is my understanding that it is. The guidelines for it are written in the PACAF con ops. There may be some slight nuances that are different between the two Wings, but it is instructed by the PACAF, con ops, and that is what the training syllabus is designed around.

20Q. And you said slight differences between the two Wings, were you referring to the 15<sup>th</sup> Wing at Hickam and the 3<sup>rd</sup> Wing at Elmendorf?

20A. Affirmative.

21Q. Okay. And you had mentioned earlier, you had used the terms "upstairs" and "downstairs." Can you explain that for us?

21A. "Upstairs," meaning the flight deck or cockpit crew; the pilot, the copilot and the safety. And then "downstairs," referring to the loadmaster, demonstration loadmaster.

22Q. Great. You mentioned the AFI 11-246, Vol 6, Chapter 3 profiles. Can you describe specifically the profile number 3, the 12-minute profile?

22A. Sure. The profile number 3, 12-minute profile is obviously the longest profile that we do. It starts out with a max effort take off, so max power take off. Usually, depending on the runway length, you adjust the point of initiation where you release the wheel brakes and begin your takeoff roll so that you'll rotate roughly at show center.

23Q. Okay. And by rotate, you mean?

23A. And by rotate, I mean bring the aircraft from a three point attitude to a two point attitude.

24Q. And then proceed airborne from there?

24A. And then proceed airborne from there.

25Q. Okay.

25A. So rotate the aircraft, fly it airborne, and then rotate farther than normally to attain VMCO, which is the min climb out air speed for the initial takeoff.

26Q. Okay. And when you were speaking about the rotation, can you just talk us through what you mean from three point to the airborne?

26A. Certainly. So basically take the aircraft from the normal attitude of three wheels on the ground, and you pitch the aircraft back so that it will then have two wheels on the ground and you rotate it to 12 to 15 degrees nose high attitude.

27Q. Okay.

27A. And then basically a VMCO climb, up to 1500 feet. At approximately 1200 feet, begin a pushover maneuver to lower the nose, so that at 1500 feet you become level.

28Q. Okay. And you mentioned prior to getting to that 1500 feet that you climb out at VMCO?

28A. Correct.

29Q. So if you could define VMCO for us?

29A. It's basically the minimum air speed for climb out, normally used for an engine out scenario.

30Q. But in this case used --

30A. In this case used in a normal four engine scenario.

31Q. Great. And then you go to 1500 feet?

31A. Affirmative.

32Q. And is that above ground level or is that --

32A. That is above ground level. Again, at approximately 1200 feet, lower the nose to maintain a level attitude at 1500 feet AGL. From that you begin a right turn out for an 8260 maneuver.

33Q. And prior to your right turn, was it common for you to be slower than the VMCO that you had mentioned?

33A. Was it common to be slower than the VMCO? No.

34Q. Okay.

34A. You rotate the aircraft so that tames VMCO. Initially it may be approximately 25 degrees nose high.

35Q. Okay.

35A. And then you would lower the nose to maintain VMCO throughout the climb.

36Q. Great. And then you were talking to us, I believe you had mentioned, you said, "8260 maneuver." So if you can define that?

36A. It's basically 80 degrees of heading change from the initial takeoff heading, followed by a 260 degrees of heading change. So depending on the location of where the crowd was sitting, it could be a right or a left turn.

37Q. Great.

37A. So a heading change of 80 degrees followed by a heading change of 260 degrees, and back around for your initial pass.

38Q. Okay.

38A. The 8260 maneuver used -- you basically turned to that -- normally the pilot monitoring or the copilot would bug your heading. And by "bug," I mean he would select -- there's a heading select knob. And you would have that and it would bring up two bars in the window that would show you what heading you were turning to. You would turn to that heading, and then turn back around to a heading to align yourself with the runway centerline.

39Q. And there again, just for clarification of the record, when you say "bug," with the heading set knob, you're actually setting that heading with that knob into the instrument panel, correct? So you can see the display, your heads up display, is that what I understand?

39A. Affirmative, General.

40Q. Okay.

40A. So they would set that knob. You would turn to that heading. And then while you're turning to that heading, you're also beginning to accelerate and to de-configure the aircraft so that you approach the next pass in a clean configuration.

41Q. Okay. And during that turn, what bank angles do you use during that initial turn for the 8260 maneuver that you described?

41A. Again, that initial bank angle is probably no more than 30 degrees while you're accelerating through VMCO. And then as you get established in accelerating your airspeed, the bank angle can be all the way to 45 degrees.

42Q. Okay. And that 45 degrees is per in the regulation that you previously mentioned; is that correct?

42A. Per the 11-246, Vol 6, Chapter 3, yes.

43Q. Great. And you were talking us through – the term you used was “de-configuring the aircraft.”

43A. Affirmative. So basically de-configure the aircraft. So as the air speeds accelerate through, you have a minimum flap retraction speed, referred to as VMFR, and a minimum slat retraction speed, referred to VSR, VMSR. And so basically as you accelerate through those speeds, you either normally call for flaps up, or the pilot monitoring may say “flaps,” and then you'd say “flaps up,” and flap the track at the appropriate air speed. Following de-configuration, you would turn back around to the extended runway centerline and align for your high speed pass, which would be 250 knots or 300 knots with an FAA waiver, depending on what location you were doing your air show at. And you would descend to 500 feet AGL for the initial pass.

44Q. Okay. So to summarize, throughout the initial departure you will climb at, you stated in VMCO, and then you will initiate a right or a left turn to a predetermined heading of 80 degrees of heading change. And you will be accelerating and you will, in your term “de-configure” the aircraft, and you said at your VMFR, which is your flap retraction speed and VMSR, which is your slack retraction speed. What is your understanding of what those speeds provide to the aircrew?

44A. What does speed provide to the aircrew? They provide, they're basically a minimum safe speed and they provide a different percentage of speed above the normal stall envelope of the aircraft to a particular bank angle.

45Q. Okay. And can you define a stall or stall envelope, from your understanding?

45A. A stall, or a stall envelope is basically the point at where the air flow above the wing is being disturbed to a point of where lift is – I'm trying to think about how to describe this the best way. The airflow above the wing is disturbed to a point where you are losing lift and the angle attack is exceeding the point where the aircraft will stall, or basically no longer fly in the current configuration. And normally, a stall is perpetuated by angle of attack and will result in lowering the nose, un-commanded lowering of the nose or other similar maneuver.

46Q. And so is it, in summary, if your understanding of those airspeeds that you previously mentioned are provided to give you a margin above the speed at which the stall that you just referred to may or could potentially occur, is that accurate?

46A. Affirmative.

47Q. Okay. And you mentioned angle of attack, and if you could just describe your basic understanding of that for us, also?

47A. Basic understanding of angle of attack is basically the difference between the flight path of the aircraft versus the attitude of the aircraft.

48Q. Okay. So you mentioned that during the de-configuration, the pilot flying calls for that verbally, correct?

48A. Correct.

49Q. And does the pilot -- you said earlier pilot monitoring, is it accurate to say that that would be the copilot?

49A. Correct.

50Q. And do they verbalize when they move, when they begin de-configuring the aircraft?

50A. Yes.

51Q. Okay. You mentioned the bank angles during the 8260 maneuver. Does the 11-246, Vol 6 say anything about rudder, specifically?

51A. Not that I know of.

52Q. Do you have any personal techniques or employment of the rudder that you use or teach to other demonstration aircrews?

52A. Nothing specifically in the air show demonstration profile do I instruct the use of rudder, any more than normal instruction of the use of rudder.

53Q. And could you just clarify for the record what that is?

53A. The normal instruction on the use of rudder, I'd say I don't normally teach anyone to use the rudder, specifically. However, in the final turn to an approach to landing, there are times when you might add a small amount of rudder to bring the nose of the aircraft around to the runway centerline. And I would consider that normal use of rudder.

54Q. And then when you say "small amount," how do you describe a small amount?

54A. It's a displacement of rudder. As far as a quantifiable number, I don't know that I could quantify it for you, other than a large displacement would be a full displacement of the rudder, a medium would probably be half, and a small amount would be a small change in the use of rudder.

55Q. Okay. Do you instruct regularly to use -- would you consider it prudent to use full rudder? Do you find that normally throughout the flight profile or envelope, that you find yourself having to use full rudder during a demonstration?

55A. No.

56Q. Okay. And can you describe what the rudder does for the aircraft?

56A. The rudder is used to basically -- obviously three different axis; pitch, roll and yaw. And the rudder basically is controlling the yaw axis, which brings the nose of the aircraft to the left or the right.

58Q. Great. During this particular part of maneuver which we've been discussing, the 8260 maneuver, do you normally get stall warnings during a particular segment of that maneuver?

58A. No.

59Q. How about during other parts of the profile, during the demonstration profile?

59A. Not specifically in the demonstration profile. The only time that I would say where I may have had a stall warning occur, and I would define it as momentary, i.e., possibly one stall warning in a stick shaker, would be if you used DLC, which is directive lift control, which is used at times when you're on final approach to bring aircraft to a lower altitude, at times when you use the DLC, then you may have a momentary stall enunciation.

60Q. And what is your understanding of what the stall warning system provides to the aircrew?

60A. It basically notifies you that a stall condition is eminent, and is alerting you to correct your current flight path or configuration or what have you, to avoid a stall.

61Q. And how does it enunciate that to the crew?

61A. There is a stick shaker, so it's an actual mechanical hookup to the stick, which is the pilot and the copilot's control mechanism, and it moves the stick. And then also it audibly says "stall, stall" over the CAW system or caution and warning alert system.

62Q. And if you were to encounter that, what is your reaction?

62A. If I -- obviously it depends on the current maneuver that I was in. But most likely I'd be relaxing the pitch and moving the throttle forward to the max power range, and then followed by -- depending if I was turning or not, rolling wing levels.

63Q. And when you get the stick shaker that you referenced, how much does it move the stick? Is it enough to get your attention?

63A. It is enough to get my attention, yes. I don't know how to describe it. It basically vibrates the stick in your hand.

#### **Questions by the Board President:**

64Q. But it doesn't necessarily change the vector of flight, it's just a warning?

64A. Correct. Correct, General. It doesn't change the warning or the vector of flight.

65Q. Flight path?

65A. Flight path. It's just a warning to notify you that you're approaching a stall condition.

**Questions by the Pilot Member:**

66Q. You mentioned checklists earlier. Can you describe how you run checklists, such as the approach and before landing checklists?

66A. You mean in an air show demonstration?

67Q. Correct.

67A. The approach checklist and the before landing checklist are run similar to how we run it anytime in the C-17. However, I will say that the demonstration profile is a little bit busier and faster pace than a normal C-17 profile. So there may be times when rather than normally the copilot or pilot monitoring would be waiting for you to call the approach check, he may enunciate "approach checklist," and then you might say "approach checklist," rather than he just waiting on you to call for it. Basically, the checklists, though, are run similar to how we normally run them, through a full approach check and a before landing checklist. The only stipulation that we add on is everything that's challenge and response, we also have a safety on there, as well. So if the normal call would be "gear down," "copilot," "pilot," then we'd add in "safety," as well.

68Q. And these checklists are always called for verbally?

68A. Yes.

69Q. And the challenge and response is, and when I say challenge and response, that means when one pilot moves, when one pilot takes an action, he verbalizes that to the other pilot, and that pilot confirms it, are those challenge and responses always run according to the flight manuals?

69A. Yes.

70Q. And can you just explain in general the purpose of the checklists?

70A. The purpose of the checklists is basically, the checklists are basically, come out of the way the flight manual is written. And they are to configure the aircraft for different phases of flight. So for instance, the approach checklist is to configure the aircraft to prepare it for one approach to landing, and the before landing checklist is to configure the aircraft for a final landing. And there is different systems and configurations that you are basically preparing the aircraft for, getting the aircraft in appropriate configurations for that phase of flight.

71Q. And when do you run those checklists?

71A. The approach check, you normally run on an air show demonstration profile, you run it basically, sometime after the initial takeoff, after you de-configure. And you may run it again in the profile. Because there are times when you might do something to a system, such as when you do the slow speed pass to a go around, later on in the profile, if you initiate TOGA for

the takeoff go around button, you may have to reengage the approach mode so that you have to re-accomplish an approached check. So basically sometime prior to initiating the before landing checklist, you initiate the approach check. And then normally in the final turn before the final turn on final – while you're configuring the aircraft for landing, you run the before landing checklist.

72Q. And you always run these checklists, correct?

72A. The copilot always runs the checklist.

73Q. Yes, the crew always runs the checklist, correct?

73A. Yes.

74Q. And regarding checklists, do you use anything other than the flight manual checklist?

74A. No, not in the aircraft. Not airborne, I should say. There is a guide that many people use to set up the aircraft as far as the systems or the mission computer, in a way that we like to see it for the air show demonstration profile, just to remind you to set different things. But there are no checklists that we use that are any different than our normal checklists.

75Q. And then the purpose of a checklist is what?

75.A. The purpose of a checklist is to ensure that the aircraft is properly configured for different phases of flight and to ensure all the systems are set appropriately for those phase of flight. And to make sure that nothing is missed in preparing the aircraft for the appropriate phase of flight, to make sure that everything is covered per the flight manual or tech order.

76Q. And you mentioned earlier that some pilots fly with a guideline. Is it accurate to say, would you consider this a technique versus a checklist, is that accurate?

76A. Yes. And again, the technique is really on the ground before the demonstration begins.

PRESIDENT: <sup>WITNESS 24</sup> can we just put you on a – just take a real short break? We just want to collect our notes up, make sure we got everything covered that we need to cover.

WITNESS: Okay. Roger that, General.

PRESIDENT: We'll be right back with you.

WITNESS: Okay.

[The interview recessed from 1247 to 1300.]

LA: We're back on the record.

**Questions by the Board President:**

77Q. <sup>WITNESS 24</sup> you talked about the stall warning and what is heard and seen. Can you describe that, what goes on as far as what you hear, what you feel, what you see, what enunciations occur, if you're in that stall condition with the airplane? And then, secondly, how do you stop that from happening as far as those senses, what's going on? How do you prevent that from happening, if that enunciation, if that warning occurs?

77A. Okay. So the first question on describing some of the stall warnings, basically, you have an audible warning. So we refer to it often as "Betty." We'll basically have an audible warning that says, "stall." And it's enunciated over the headset intercom, over the speakers in the cockpit. And then in addition to that, there is a stick shaker, so a mechanical movement of the stick when the stall warning is going off, and it basically, physically shakes the stick, vibrates the stick. And then also you can hear it enunciate, the vibration of the stick, not only can you feel it, but you can almost hear it actuate. And then in addition, in the primary flight display or the heads up display, there's a graphical bar that comes down over your air speed, and basically shows you where the correct speed is to fly to exit that envelope, or how far in that stall warning envelope you are.

And then as you said, how do you prevent that or what do you do to recover from the impending stall condition? As we talked about before, it really depends on where you are as far as configuration, as far as bank angle, as far as altitude goes. Or I should say really configuration of the aircraft, whether you are going to turn, whether you're straight level and so forth, on what you do to recover from that impending stall or stall warning. And as we talked about before, basically, normally relaxing the pitch and then accelerating the aircraft and rolling wings level will get you out of that stall warning. Did I answer your question, General?

PRESIDENT: You did, thank you. Okay. I'm just checking the room here, and we have nothing further at this time. I do have one last question, if I may?

WITNESS: Of course.

PRESIDENT: Are there any other matters that we haven't covered that you might believe is important to our investigation?

WITNESS: No, General, none that I can think of.

PRESIDENT: And <sup>WITNESS 24</sup> there again, if I may, I just want to give you an official readout. You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission, or at any time before the report of this investigation is officially released to the public.

This concludes this interview at 1304 local, Alaska time.

**V25. AIB INTERVIEW WITH WITNESS 25**  
**VERBATIM TESTIMONY OF**  
**WITNESS 25**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. And we are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. The board does not have access to any of the confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and the accident board?

WITNESS: Yes, I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: You may be seated. Today is 13th of September 2010. The time is now 1133 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      **WITNESS 25**  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 25**

2Q. And how long have you served in the Air Force?

2A. For 11 years.

3Q. And what is your unit of assignment and location?

3A. 249<sup>th</sup> Airlift Squadron, Elmendorf, Alaska.

4Q. And how long have you been with this unit?

4A. Approximately two years.

5Q. And what is your job title?

5A. I'm the Chief of Squadron Weapons and Tactics.

6Q. And how long have you been doing this job?

6A. Same time, approximately two years.

7Q. Would you please describe your duties and responsibilities on the 28 July 2010?

7A. Yes, that was just a normal day. So my duties and responsibilities included going to the office and making sure the tactics shop was running as it should.

8Q. Prior to this you made a non-privileged statement to the safety board. It was transcribed as now as part of what we call Tab R. Have you had a chance to review it?

8A. Yes.

9Q. The statement was not taken under oath. Would you like to adopt that statement as part of your testimony today?

9A. Yes, with some clarifications that I think we can cover at the end of this.

10Q. And we'll give you the opportunity to do so. And if I may, can I just ask you to speak up, just for the mike purposes.

10A. Certainly.

11Q. We'd like to ask you some follow-up questions, if it doesn't touch on any of the clarifications you make. And we'll allow you to address those at the end. And if I may, I'd like to go ahead and proceed into the questions. Are you familiar with the profiles contained in AFI 11-246, Vol 6, Chapter 3?

11A. Yes.

12Q. And how do you regard these profiles?

12A. Well, those, sir, are an AFI, so those are procedure versus technique or some other suggestion of flying.

13Q. We had some follow-up questions to your previous statement. First of all, in your previous statement you mentioned that you flew the long program, ie., 12 minute Profile 3, and it was flown at 60 degrees at bank for the initial turns, the 80 degrees off initial alignment and then the 260 degree coming back toward runway show center. Was this typical?

13A. Yes.

14Q. And where did you learn this from, ie., who taught you?

14A. We learned that in our training. Who taught us? **MP** was my primary – I'm sorry, **MP** was my primary instructor.

15Q. Also you stated that the copilot would retract the flaps and slats on speed or at a safe speed. What is a safe speed to retract the flaps and slats?

15A. Depends on your bank angle and your energy level. A safe speed you can measure with – a safe speed varies with your weight and your configuration and your air speed and banking. So there's no set airspeed number that pilots would aim for a safe speed.

16Q. So how would you know what speed is safe?

16A. Well, you know when you're within the safe regime. We know that when you're cleaning up the flaps versus when you're cleaning up the slats, you have a stall margin built into your minimum maneuver airspeed, your VMMA, as we refer to, and that's one point three times your V stall for your flaps and one point four for slats. And so you can just do some quick arithmetic if you're going to be at 100 knots, then one point three would be roughly 30 knots, that's a 30 knot margin. Point four is roughly a 40 knot margin. Likewise, if you're 200, you can double that to 60 knots or 80 knots. So you can look at your airspeed and know when you are within that safe regime, when you're in that safe airspeed.

17Q. What is the pitch angle during the initial climb out of the Profile 3?

17A. The initial pitch angle is to hold 15 initially so you don't tail strike, and then we would pitch for min climb out airspeed, VMCO. So we would pitch for an airspeed and not an angle on our profile.

18Q. Then if I may, in your previous statement you mention 45 to 50 degrees of pitch.

18A. I did. And that was just an estimate of when we delayed our rotation, also, which is prior to your rotate speed, so you have more airspeed that you've gained on the ground when you're accelerating for takeoff, and so you can trade that initially to get back to your min climb out – I'm sorry -- and adjust your (inaudible.)

19Q. You're doing fine.

19A. So your banking – your pitch angle would increase from 15 to 25, 30 up to 45, 50, but I wouldn't – I guess I need to be certain that I've seen that, and I may not have, that may be a tad bit too steep.

20Q. Also you mentioned leveling off at 1500 feet.

20A. Correct.

21Q. Did you ever level off at a lower altitude in the profiles?

21A. No.

22Q. No? Okay. You also mentioned it was necessary, and we just discussed it, to bank at 60 degrees of bank with 2Gs, Gs being two times the force of gravity if it's 2Gs. Do you remember aircraft alerts or warnings such as stall warning during this turn?

22A. The initial turn?

23Q. In any of the turns of profile.

23A. Yes. The initial turn, no, the initial first 80 degree turn. Subsequent turns would come occasionally, and they were momentary. And they would occur, usually during the training, during the upgrade, when people were either overbanking or tracking the nose too far without having max power and cleaning up a little early.

24Q. And then you said, "momentarily." Do you have in your mind --

24A. A time?

25Q. Yes. What does momentary mean?

25A. Momentary, a couple seconds at the most. As pilots, you have that pilot feel of how long an alert lasts. And if it's too long you start knowing and saying something's not right.

26Q. So what was your reaction to these warnings?

26A. I'm sorry. My reaction was I've seen this before in simulator and other configurations. [Noise interruption.] My reaction was I've seen this before on other flights and I know that we're in energy increasing state and I know that it should go away, the warning should extinguish soon.

27Q. And then did you happen to address stall warning recovery or anything about the warnings in your pre-brief prior to going out to the aircraft or in your training?

27A. We addressed it in as much to say "roll out," "get level." Sure. "Knock it off," we talk about knock it off criteria (inaudible) criteria.

28Q. What does "knock it off" mean?

28A. I'm sorry. Knock it off is a term that means cease all maneuvers, flow away from where you are, fly level, slow down or speed up to maintain your energy state and make an orderly recovery back to base because usually something unplanned has happened.

29Q. There was an air show demonstration briefing during the early part of July or the end of June time frame held in the squadron auditorium. Did you attend that brief?

29A. No.

30Q. Did you see the accident on 28 July 2010?

30A. Yes.

31Q. Would you please describe what you saw?

31A. Without hand gestures it's hard. What I saw was the initial takeoff, climb out, initial turn on a left 80 degree turn, or whatever the initial left turn was, I don't know the degrees. I saw the aircraft fly outbound for a few seconds, level, and then I saw the aircraft make a right turn, and I saw the aircraft settling, losing altitude in the turn, and then I saw the nose drop down below the horizon a few seconds later. At the time I said out loud, "Man, those guys better recover quick." And then I saw the aircraft go behind the building, from where I was standing, and about, a short amount of time later, it's hard to measure, I saw an explosion.

PRESIDENT:

All right. If we may, just like to take a break right now.

[A recess was taken from 1146 to 1206.]

LA: This is We're back on the record and all parties present before the break are again present.

**Questions by the Board President:**

33A. WITNESS 25 just a few more questions from myself and Earlier we talked about the level off altitude, leveling off at 1500 feet and I asked you specifically if you had flown that profile at a lower altitude. Have you seen anyone else fly at a lower altitude or have they always been at 1500 feet or do you know of anyone who may have?

33A. I don't know of anyone who may have. I have never seen it and I'll even add that **MP** was very clear in our training that that was important because we use that altitude to trade for airspeed.

34Q. And then real quick, just to talk about checklists and things like that. Have you ever heard of an aerial demonstration checklist?

34A. Yes.

35Q. What type of checklist is that?

35A. It's a checklist that pilots will use for reference when they're flying the aerial demonstration profile.



**Questions by the Board President:**

43Q. Now you say, “your crew.”

43A. Correct.

44Q. Who was your crew? Who was on your crew?

44A. My crew was going to be me, MSO MSO and MP

**Questions by the Pilot Member:**

45Q. And you mentioned on speed. In that particular case, can you define what “on speed” was?

45A. Yes. On speed is defined in our head up display for our airspeed, and we have an indicator that shows the airspeed that the aircraft is calculated to retract flaps and retract slats.

46Q. So that’s what you mean by “on speed,” that under those conditions that you spoke of, it would be your flap retract speed or slat retract speed?

46A. Correct. And we talked about earlier, what – the math and the aerodynamics that go into determining -- identifying that speed.

47Q. You also previously mentioned that as part of your briefing for demonstrations, and maybe other flights, but specifically for this question, for demonstrations, that part of your briefing was for knock off plans, or knock it off plans. Did you ever have to execute any knock it off plans for during demonstrations?

47A. We had to – we didn’t stop the profile, but we debriefed where we had made mistakes and said we would go back and try it again. The most common one is – well, actually there’s two. The common places are the initial 260 turn to come back around on the high speed pass just because your airspeed is increasing so quickly and your turn radius is increasing, it’s common to overfly the target runway center line. And then a second area is on the final approach to landing, coming back around for a final.

48Q. Okay. So those were common areas where you remember encountering that. And was it specific to your crew, and then did you debrief that as a crew?

48A. We certainly debriefed it as a crew. My sense is it is not specific to the crew because it was something that we would talk about frequently with, talk about it with other guys, “Hey, so did you overshoot the initial turn?” Because it seems like everyone does that, especially in the sim the first couple of times trying it, as we’re trying to manage the dynamics of (inaudible.)

49Q. Now, were the overshooting, was the overshooting situation the only situation that you can recall having to execute that knock it off procedure for?

49A. Yes.

50Q. Previously also you mentioned that during the demonstration flights that you have heard before or the crew has heard before stall warnings go off, alerts go off. Can you talk about where those occurred and what was verbalized to the crew when you heard those stall warnings?

50A. Sure. First off, I'll say that hearing a stall warning or a stick shaker is not an uncommon thing in the aircraft and it happens on a variety of sorties. A common example is coming up initial for an overhead with a clean wing, with a young C-17 qualified aircrew member, and they'll do an overhead bank at 45 or 60 degrees bank and be surprised that the stall warnings went off while you have a clean wing and that will happen. So there are other times when the technology on the airplane does not accurately reflect the truth of what's happening right now. We talked about our (inaudible), we talked about our CAWs, the ground proximity warning system and our terrain awareness warning system, where we will get alerts inside the airplane that we will say, "acknowledged, I know what's going on here," and we are correcting the situation. Or the technology is not accurately reflecting what's going on. Okay. So, that happens on the air show profile at times. But it's momentary, like I said before. And it's because it's in an increasing state. So I've heard it when we're coming around that first initial turn, and we have max power range, so we're accelerating as we're cleaning up. And it doesn't happen every time. Does that answer your question?

51Q. Well, you mentioned that it incorrectly might have alerted a crew. And in your perception, what made those alerts, specifically talking again about the demonstration and that turn, that 260 degree turn. What made those alerts incorrect?

51A. Well, the alerts are a function of the ADCs, the aircraft data computer something. They're sensing the whole number of parameters that go into flying the aircraft. And especially on rapid aircraft movement, ie., from level to 45 or 60 degrees of bank very quickly, the ADCs are not computing fast enough to reflect what's going on. And they are – so you'll have a momentary stick shaker, a momentary stall, a warning. And now the whole duration of that morning can be and sometimes several seconds more than –

[Telephone rings loudly. A brief recess was had from 1216 to 1217.]

LA: This is We're back on the record. All those who were attending the interview are again present.

**Questions by the Board President:**

52Q. Please continue.

52A. So I was clarifying a momentary stall or stick shaker. It's momentary and it's not an uncommon thing for the technology on the airplane to not accurately reflect the truth. And so when the pilot would say "acknowledged," it's his way of saying I understand what's going on, I know what's happening here and we are, in the case of the air show, we were accelerating, the power's at max and so the warnings go away, if they're not already overcome. What I was saying before the phone rang was that the duration of the warning, for example, you hear stall, stall, that's a set amount of time. Well, the airplane may hit a stall – may meet the criteria for

that alert to go off. However, by the time that alert has terminated, the aircraft is likely already beyond those parameters, safe flying configurations.

53Q. So would you say that, so you would momentarily get a stall, but that's erred on the side of safety, then. Because even though the airplane is not the cause of the abrupt angle, or how rapid you went into the movement, you've got a warning. So the warning would be erred on the side of safety.

53A. Certainly. The warning –

54Q. Do you see what I'm saying?

54A. You're going to get the warning and you still have flying energy. So you're not actually going to stall in that configuration – or if you are, you're accelerating, so your airspeed will increase by several knots and so you're beyond the parameters. Or, your bank will decrease by a few degrees, so you're not in those parameters anymore. And generally, in our community, when a warning of some sort goes off, stall, terrain, flaps, what have you, the aircraft commander will state the term "acknowledged." And that term is commonly understood among the C-17 community as, "yes, I see we're getting a warning or an alert of some sort," and that, "yes, I understand that's it happening and it is being corrected right now," or it is already corrected.

PRESIDENT: Anything else?

55Q. If I may, I notice that you're a weapon school graduate, the WIC, Weapons Instructor Course. Can you give me a description of what that entails and what that means?

55A. Okay. The Weapons Instructor Course, the WIC, is a six month course, it's a flying course that instructs C-17 and WS qualified pilots to --

56Q. MWS, Major Weapons System.

56A. Major Weapons System, yes. Major Weapons System pilots into a deeper understanding of the aircraft and then the application of that depth to the broad application of air power that the Air Force packages themselves to other component commanders.

57Q. So is it fair to say it's at a master's level of knowledge of understanding?

57A. Some have said that.

PRESIDENT: Good. All right. That's all I have. What I'd like to do now, <sup>WITNESS 25</sup> is offer you the opportunity, you said you would like to have an opportunity to clarify your previous statement in Tab R. I'd like to offer you now that opportunity to make any clarification that you may have.

WITNESS: Okay. Thank you. Tab R, page R-51, it's the largest paragraph, right in the center of the page, I would like to clarify that on the initial takeoff, we briefed in my training and on our hard cruise that on initial rotation, rather than what is commonly done in the C-17 community of statement terms, positive rate gear up, we pre-briefed that the pilot not flying can look outside, measure whether we have a positive rate and bring the gear up themselves.

PRESIDENT: Okay.

WITNESS: Page R-52, in response to a question towards the bottom, response to a question from **CAPT H** about, "What is your opinion of flying guard and active together?" My intent in my response is to talk about a larger scale of TFI in general, not specifically to the 249<sup>th</sup> and the 517<sup>th</sup>. I think that as time goes forward the intent of TFI will not meet its criteria in that the active will want to reach out to an ANG unit and be able to have someone who is proficient and equipped at the same level that the active duty is. I have reservations on that one.

PRESIDENT: That's it. Okay, then one last question: Are there any other matters that we haven't covered that you believe may be important to our investigation?

WITNESS: No.

PRESIDENT: As part of the readout to conclude this interview, you're reminded of the official nature of this interview. You may not discuss this testimony with anyone without my permission or any time before the report of this investigation is officially released to the public.

At this time this concludes the interview. Time is now is 1224 local, Alaska time.

**V26. AIB INTERVIEW WITH**

**WITNESS 26**

**VERBATIM TESTIMONY OF**

**WITNESS 26**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating a C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 51-204 – thank you -- AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and to preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative procedures, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the differences between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: You may be seated. Just as a reminder, I'll have to have you to speak up, if that's okay?

WITNESS: Yes, sir.

PRESIDENT: Today is the 13th September 2010. This time is now 1641 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,                      **WITNESS 26**  
Pilot Member;  
Legal Advisor;  
Medical Advisor;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. Sir, it's            **WITNESS 26**

2Q. And how long have you served in the Air Force?

2A. Sir, I commissioned in 2002.

3Q. 2002, so?

3A. About eight years.

4Q. Eight years.

4A. Uh-huh.

5Q. And what is your unit of assignment and location?

5A. I'm with the 517<sup>th</sup> Airlift Squadron, Elmendorf Air Force Base, Alaska.

6Q. And how long have you been with the unit here?

6A. I PCSed here in December of 2007.

7Q. 2007. And what is your job title?

7A. I am the Chief of Stan Eval.

8Q. And how long have you been doing this job?

8A. I believe I moved over there February or March of this year, 2010.

9Q. 2010. And please describe your duties and responsibilities on 28 July 2010.

9A. I was Chief of Stan Eval at the time. I had an additional duty, I was the DO for the ground part of our air show.

10Q. And "DO" is?

10A. Director of operations. Also, I serve as flight commander for that, the stand eval flight group, so it's kind of both flight commander and Chief of Stan Eval.

11Q. And as a flight commander, you're responsible for how many people?

11A. It's about eight, I think, I believe I have eight Airmen, Airmen and Lieutenant's between both that work for me.

12Q. Are you familiar with the C-17 aerial demonstration program?

12A. Yes, sir.

13Q. Can you describe your C-17 aerial demonstration background?

13A. Sir, at McCord, was my previous base, I was at McCord Air Force Base. I entered training to be a safety observer. I completed the training because our flight was weathered out and it wasn't required at the time for a safety observer, but I never flew an actual demo. I came up here in December '07, and we had an air show July or August '08, I believe, that we wanted to stand up our demo team so we could fly. So I received training sometime spring of '08, and flew in that air show up here. And then also flew, the last time I flew was the only other time in, I believe, March of '09, I flew a New Zealand air show.

14Q. So you're familiar with AFI 11-246, Vol 6, Chapter 3, demonstration profiles?

14A. Yes, sir.

15Q. And then, just for the record, how many air shows have you performed while certified as a – now you're a demonstration copilot now?

15A. Correct.

16Q. And how many air shows have you been in, total?

16A. I believe – oh, I forgot one. We did a London, Ontario just before the New Zealand show, I believe. It was sometime around there, within a month of two of each other, so that would be three air shows

17Q. Three total. Okay. All flown with you as the copilot or pilot monitoring?

17A. Yes. Yes, sir.

18Q. And who did you fly with?

18A. Two of the demonstrations, I flew with WITNESS 11 And the New Zealand air show, I flew with WITNESS 13 .

19Q. And they were in the last seat, they were the pilot?

19A. Correct. Correct.

20Q. Can you provide some background information on the 3<sup>rd</sup> Wing Aerial Demonstration Program, specifically, the certification process?

20A. Sir, I'd have to review the program itself. It's been a while since I've even looked at it. Would you just like to know my upgrade process, is that what you mean?

21Q. What was your upgrade process?

21A. We had, WITNESS 12 flew up from Hickam, they had a demo team and they wanted to stand up our team. He did ground training with us to start, and maybe an hour or two of that, just sitting one day at work and talking about here's the demo, here's what we do, how it's flown. Then I don't know if it was the next day, it was all a short time span, we went to the simulator. Again, did a pre-briefing for an hour and went over a specific, where we were going to be flying, which was Allen Army Airfield, north of here. And that was with respect to the runways, so we had actual headings at that point, is what we were reviewing. And then he did a couple demos in the sim just to show us, teaching us, he wouldn't obviously because people hadn't done it yet. I don't remember if everyone was certified as a copilot. That's if my memory serves me, we all went through the copilot portion, also obviously the safety observer, someone was watching at all times. Once we were all slapped through that he put us in the pilot seat, which was over the course of several days, to get each of us enough simulator training, I think it was maybe two. We've done enough others that I'm not sure how many, initially. And then we went and flew an airplane, went up to Allen Army Airfield and he trained us with an actual flight.

22Q. When you say, "trained us," who else was in your training class, so to speak, or your fellow trainees?

22A. It was, I know for sure WITNESS 11 who was at the time. And the other pilot was MAJ W, and he's the one I'm trying to recall if he was in our training group. I'm definitely sure it was WITNESS 11 but I'm not sure about MAJ W. And then for loadmaster, I don't remember who trained him, the name anymore, but it was SGT MK, was the loadmaster who was trained in the initial group.

23Q. And earlier you said you were familiar with the demonstration profiles. Can you explain in general terms how these profiles are used for aerial demonstration performance?

23A. Sir, are you asking like basically how it would look from the ground?

24Q. Well, that. And then how would you use them, what was their purpose? What was the purpose of the profiles themselves?

24A. We discussed that. I'm trying to think how to say this. Sort of showcase the capabilities of the aircraft, highlight -- the particular thing that we were proud of was the assault landing with the backing. And then just because there was a high pass followed by a low-speed pass, kind of the contrast between we can fly fairly fast and also fairly slow.

25Q. Now, you say high pass?

25A. High speed.

26Q. High-speed pass.

26A. Yes, uh-huh. It was definitely a recruiting tool, just like most of the air show demos. Does that answer – do you have more questions about that?

27Q. No, we'll just keep going.

27A. Okay.

28Q. Can you provide an overview of Profile 3?

28A. Yes, sir. And as I mentioned, or I was thinking before, I hadn't -- at the time when I was interviewed for the safety board, I did not recall everything from the Profile 3. I've since reviewed it, so I'm more aware of some of the bank angles. I don't remember headings off the top of my head, but that was something we'd review in-depth before each practice. But it starts with a takeoff and climb to 1500. And that was one I didn't remember.

29Q. 1500?

29A. Feet AGL.

30Q. AGL, which is?

30A. Above ground level.

31.Q. Above ground level. Okay.

31A. Then it – there's an outbound turn for a certain heading. The objective is, you are accelerating so you're trying to get further offset from the runway. Because one of your main goals is not overfly the crowd line. We have very strict rules and the air boss can tell you to land if you break things like that. So you fly outbound, correcting for winds. At this time, takeoff, you're cleaning up the aircraft, which means pulling up the gear, retracting the slats, the flaps and slats. At that time you turn back around towards the airfield, descend to 500 feet above ground to pass by the crowd. And this is what we refer to as the high-speed pass. What we try and do is be a clean aircraft again within the configuration out. Depending on if you had a high-speed waiver during the air show or the airfield you can go about 300 knots. You try to pull idle without approach end, you still have the air speed, but that wasn't a concern, but just to make it quiet, the engines pull back so they're quiet. And at show center, which you've pre-briefed some sort of ground reference plane, accelerate the aircraft, again turn away from the airfield to get offset, so away from the crowd.

This is configuring for your low-speed pass. So this one you put up the slats, flaps, gear and you basically go to approach speed. So your approach speed configuration, turn back around, again descending. So you've climbed up to 1000 each time you turn around. Descend down 500 feet above the ground, pass the crowd again, show center, you turn it outbound away from the crowd. This one you are cleaning up to half flaps, so the rear will come up for the – it's a 360 degree turn at show center. It's just basically to give them, I think, a photo opportunity to be honest, for people. So you come back around to this again, at 500 feet above the ground. At the show center you 360 – 360 degree turn or a pivot, and you just perform a little circle there for everyone to see. And then that's the last maneuver before your landing. So you fly outbound, configure as you need for landing. And then to do the assault, and that's where you actually land

on the runway, full mass rigging, and then also use thresh reversers. On this, you leave the thresh reversers out, you have a loadmaster and the troop door to help you call out there there's any sort of unsafe condition. You begin, you let the aircraft back. I don't remember the airspeed but it (inaudible) before, then you stop at that point.

32Q. So if I may, just to make sure I understand. Maximum power, brake release – and I'm only going to go up to the initial turn, if I may?

32A. Yes, sir.

33Q. You said that you would – what would you normally rotate to at rotation speed? What deck angle? What pitch?

33A. Sir, I'm trying to remember. Sir, I really don't recall. I don't want to say something that could be wrong. We would review it before.

34Q. Did you look for a speed?

34A. I'm trying to remember. Sir, I was the copilot.

35Q. And that's okay if you don't recall.

35A. It wasn't a speed, it was an angle, because they would rotate and maybe begin to nose over, or push the nose over, and there was no lesson that we would watch, that that was the other – if we didn't get the nose up high enough, it would begin to push over. I want to say, if memory serves me correctly, I believe 25 degrees nose high.

36Q. All right. And then you would climb up to 1500 degrees A -- or 1500 feet altitude above ground.

36A. Yes, sir. That's one I did not remember until I reviewed the manual.

37Q. And then you would take whatever that heading was and turn 80 degrees offset, and then time outbound, and then start a 260 degree turn back inbound for your high-speed pass?

37A. Yes, sir. I don't remember if it was exact – if it was 80 degrees. I know there is an 8260 in the profile, I just don't remember if it was that specific turn. One of them is, but if – (inaudible.)

38Q. During that 8260 --

38A. Yes, sir.

39Q. -- degree maneuver, how is the aircraft typically de-configured? When would you de-configure that airplane? What I mean by de-configure, I mean retract the gear, retract the flaps, retract the slats, and when would you do that?

39A. Yes, sir. We pre-brief that it was clean up on speed, which means the copilot, and I would verbalize it and I'd say, "positive rate gear, up." And on my own, I wouldn't wait for the pilot necessarily, I'd pull the gear up, as the copilot. As we're going out, as soon as we get to flap retract speed, I'd say, "flaps up." I'd bring the flaps up. And then again as we got to slats. Which, this was all usually on the outbound leg, slats retract, and I'd pull the slats up.

40Q. So you're saying on outbound leg, you mean that 80 degree turn away from the runway that you just took off, or is it --

40A. Sir, that's more my memory. It was whenever the speed --

41Q. So it was done on speed?

41A. Exactly. So if we were on outbound leg, that was when we did it.

42Q. What was your instruction specifically regarding the bank angle during that 8260 degree maneuver?

42A. Sir, that's another one I have looked up since, so I've seen that it says 45 degrees. It does say that those are -- the whole profile is guidelines. So I think that was maybe -- I don't remember for sure because I wasn't necessarily flying. But I think our larger concern was not overflying the crowd, so I think I've seen the pilots go up to 60 degrees.

43Q. So your interpretation then is that the 11-246, that's procedure, or is that guideline?

43A. No, sir. And this is again, I'd have to review the regulation, I believe it says these basic profiles are general guidelines.

44Q. And so do you remember what -- you said 45 degrees at bank. Have you ever seen more or less in the initial turn or the turn in 260?

44A. Sir, I feel like I have, but it never struck me. So I'm not sure if it was just I assumed they were doing a certain angle of bank. I felt more it was what we watched. We have a, we call it the worm. We have something that shows us where we're turning.

45Q. The flight check -- a flight pad predictor?

45A. Yes, sir. Yes, sir. And you'd make sure you're not overshooting where you want to be. We do in the sometimes in the secondary flight plan, we'd show an offset where our line that we needed to not cross, so we could see if the pilot was overshooting or under shooting that line. So that's why I don't remember if they were setting a bank and then -- I feel like more what we were at doing was we'd try 45, and then if he wasn't quite making it I'd say, "you're overshooting," and he'd use a little more bank as needed.

46Q. That's on the 260 degree heading change back into the show center?

46A. Yes, sir.

47Q. How about the initial bank out, do you recall?

47A. I don't recall the initial bank being extremely aggressive. So I don't think it was  
60.

48Q. Do you remember any instruction during your upgrade and certification about the use of the rudder?

48A. Sir, I don't recall specific instruction on the rudder. Well, actually I do. Yes, sir, I do. That was something that came from our initial training. And what was said was that a wing flash is very obvious to the crowd, so if you were just correcting the center line, for example, on a landing or your show line, we call it, that you could use rudder to kind of turn yourself to get onto that line. It was less obvious. It made for a cleaner (inaudible.)

49Q. And then how much, when you say use your rudder, was it a lot, a little, full rudder, half rudder, a tap?

49A. Some – I think more my answer would be enough, as much you need kind of.

50Q. And then going back to your use of checklists, so there was no one who really during the actual demo would initiate the checklist, is that what you were saying? I guess my question is, my question specifically is: Regarding the use of checklists, which demo crew member initiated CAW for the checklist?

50A. The copilot would initiate the checklist.

51Q. And were challenge response checklist items verbalized?

51A. Yes, sir, they were with the safety.

52Q. With the safety, okay. Regarding checklists, do you recall using an aerial demonstration checklist?

52A. Yes, sir.

53Q. And is that an official checklist?

53A. No, sir. Well, actually, I don't recall. I'd have to review it. There is a note at the top, I don't remember what it says. Sir, if I remember, it was something like it involved deep pressurization, making sure we wouldn't be pressurized for the loadmaster to open the troop door, making sure I think it was like altimeter cross check with each other, just kind of going through some basic setups.

LA: If I may, sir? It's the Pilot Member.

**Questions by Pilot Member:**

54Q. So when you ran the checklist, how did you run the checklist? In other words, what checklist did you verbalize that you were initiating?

54A. Let's see. I'm trying to recall. I know during the 360 degree maneuver at show center, that was when the approach check would be run. And it was auto, but I'd go into it on my own. It wasn't call for, but we briefed that was during the 360 you do the approach check. The safety would remind you if for some reason you weren't doing it. And then before landing checklist was the same, which was initiated as soon as the gear went down.

55Q. And how about prior to departure?

55A. All of the – I would call for, I believe.

56Q. Do you remember which checklist you called for?

56A. No, sir, I don't. I mean, other than just the normal before takeoff and landing checklist. Is that what you're asking?

57Q. Yes. Just which checklist was verbalized.

57A. Uh-huh.

**Questions by the Board President:**

58Q. I mean, if I just may, just to --

58A. Yes, sir.

59Q. So was it the before takeoff checklist or was it be before takeoff aerial demonstration checklist? You see, I don't know how this particular – how is that used?

59A. Yes, sir. I see what you're saying. I'm trying to remember again. I believe we ran both. We did the normal checklists, but then we also did the extraneous to help us with the demo for the things that I said before. But it was -- we did both of them.

60Q. Do you remember getting warnings or alerts from the aircraft? And if you do, what were they?

60A. Sir, we get the stall indication, that is often during the approach portion where if a pilot might be using the DLC, the direct lift control to help the aircraft descend, and that's something we train to just in everyday flying, that if you're holding your deck angle and you're using the direct lift control to descend, you would have to push the nose over to compensate for that. It's a, I want to say standard. It's a common training thing that you have to address with copilot's, with everybody. So that was one I know I've heard. I don't remember off the top of my head any others.

61Q. Now, did you ever get stall warnings in turns or oral warnings in turns, or the stick shaker?

61A. Sir, I'm trying to remember the exact phase that I'd hear it, because I know I've heard it. I don't remember if it was in a turn.

62Q. Well, then, if I may, what response would be if you heard – you said okay, it occurred when we have the DLC. You would push the nose over because that would make it stop?

62A. Yes, sir, to help increase the air speed for backside (inaudible.)

63Q. What was your assessment of **MP** performance? Do you know anything about his training or how he performed the air show?

63A. Sir, I don't know – or actually, I should say I never flew with him, so I didn't have first-hand knowledge of him as a demo pilot. I saw some of the ground training, I know he was – just as in IP planning, he was very, very “in the books,” for lack of a better term, very motivated. Always working on the demo and trying to improve it, working on the demo team, making sure we had enough people upgrading. That was the extent of my knowledge with him and the demo team. I didn't get to – I don't think I even flew with a sim with him, to be honest.

64Q. And then if I may, can you elaborate, when you say you're trying to improve the demo, is that – it's a set profile, so can you elaborate on that?

64A. I'm trying to think what an example would be. Well, sir, I know for a while he and <sup>WITNESS 11</sup> who was the previous active-duty demo pilot lead, they discussed things like, on the initial turn out, after initial takeoff -- and I'd seen <sup>WITNESS 11</sup> do this. And he'd have the sim instructor kill his down wing basically – the number one engine as he's making a left turn.

65Q. So when you say “kill,” seemed like that it was, for some reason it had turned off?

65A. Flamed out or bird strike. But, so they'd train for EP, or emergency procedure basically, and just see if they could recover it. And once they establish that even as they're doing this banked turn with the engine now suddenly becoming inoperative, that they were able to successfully recover. So things like that, I guess that's a safety part of it. Some of it was just simply his enthusiasm. He made hats and patches for the team to wear, kind of as a pride thing. But yeah, you brought up the change in the profile. I don't think the profile is different, but it was, I mean just anything he could think of to make the experience better.

66Q. Part of the certification process is an interview with the squadron commander and the wing commander. What did this interview entail?

66A. Well, sir, my interview, and it's the only one I've been present for, the squadron commander was simply we've – the squadron commander told us, “We selected you for this because you have exhibited flying skills that are worthy of an extra level of flying,” I suppose, that, “We trust you to go out and make a good impression, please.” So a lot of just the public affairs type aspect. And I think it was the same with the wing commander, just, you're kind of a -- speech on – well, for -- actually the wing commander wanted to know a lot about our training, come to think of it. So it was a lot more interview type. I think the squadron commander was very into what we were doing day-to-day. He would show up in the initial planning room when we were getting ready to fly, so he knew the upgrade. So I think maybe that's why he didn't interview or ask. The wing commander did. He was very – it was General Tinsley at the time. He wanted to know all the training we have done, “So have you all had sims?” He was very anxious to know that we'd been trained properly, and then he gave us all the speeches about making sure that we set a good example, if we go international, we're not just representing our base, we're representing the United States. And it was that sort of a thing.

67Q. Was anything discussed about safety?

67A. Well, yes, sir. The -- be safe, that you're flying aircraft, I don't want to say max performing, but basically max performing aircraft, that you're doing some extremely demanding profile, and that's why you have a safety observer onboard. Be safe. Back each other up. Make sure you train for it before you go. And that was built in, but we'd always practice before.

68Q. Was there -- just as a side line away from the certification process, and those questions, but was there ever a discussion, did you ever brief that if you ever got into a maneuver or there was a maneuver that you do knock off, you know, or do what you needed to do to keep safely performing the profile, but continue on? Or you know, if it didn't, if it wasn't a motor going out or anything like that, you know what I'm saying? If you (inaudible) to a warning or something like that?

68A. Yes, sir. Well, I'll be honest, I don't think we talked about continuing after anything. Because during our training we would, sometimes when someone was learning, but WITNESS 11 for example, if he just completely overshot a turn or something, WITNESS 12 would say, "Hey, knock it off. We're going to go out here." We had a place they'd tell us to fly to in bold. So it was "timeout," we used timeout as a, "Let's stop everything."

69Q. Can you give me a definition of what timeout is?

69A. Timeout is just, it's a word we reserve for anyone on the crew to more or less say, "I don't like," or "I don't know what's going on." And then to the pilot flying, what that means is, "Come away from the ground. Get away." We use it in air fueling, "Get away from the tanker." Whatever the biggest threat might be, formation get away from another aircraft. And it's, anyone can use it. You know, we brief and try bring up what you object to first. Are you a little too close or too low, if no one's listening to you "timeout," and no matter what, stop what we're doing and climb away and fix the situation.

PRESIDENT: If we may, I would like to take just a short break, Allow us the time to gather our thoughts a little bit. And then when we're ready, we'll come back and get you.

WITNESS: Yes, sir.

[A recess was taken from 1709 to 1740.]

LA: It's We're back on the record. All attendees to the interview prior to the break are again present.

**Questions by the Board President:**

70Q. WITNESS 26 you talked earlier about the use of timeouts and knock it off calls. Would you ever have a problem making that call during an air show?

70A. No, sir.

PRESIDENT:

PILOT MEMBER: Yes, sir.

**Questions by Pilot Member:**

71Q. We just wanted to ask, just to build little more background. We got a little bit at the beginning, so just to clarify the background a little bit more. You mentioned that you did not fly with one of the mishap crew members, **MP** When did you last fly an air show practice?

71A. The air show, sir, I believe was March '09, March 2009 – last May --

72Q. And that's the last air show?

72A. Yes, sir. That was last air show, any sort of practice or sim or any real involvement in it.

73Q. So, that was the last air show type event that you did?

73A. Yes, sir.

74Q. Was in '09?

74A. Correct.

75Q. And you say that you never flew with **MP** Did you ever sim with him at any time?

75A. No, sir.

76Q. And did you ever seen any videos of any performances that you knew to be **MP** or any of the mishap crew members?

76A. No, sir. The only video I knew about was the one we made, that I was on initially (inaudible.)

77Q. Did you ever fly or sim with any of the other mishap crew members?

77A. No, sir.

78Q. Earlier you mentioned that, you mentioned overshooting and that that was something to avoid. Was this a major concern for the pilots flying?

78A. Yes, sir. It was very – it was emphasized. I'm trying to say – it was major is a little too strong, perhaps. It was a concern or an objective maybe. It was a, "You do not want to overshoot." Time -- we'd specifically create more time in practice flying away from the crowd for longer times, in the sim we'd experiment to make sure that we didn't overshoot. So it was kind of an objective is more what I would say.

79Q. And how about increasing bank angles and those types of maneuvers in order to not overshoot, was that a procedure or a method that was used to avoid overshooting?

79A. It was, yes, sir.

80Q. And then you had previously mentioned in the AFI 11-246 –

LA: Excuse me, and I'm sorry, I don't mean to interrupt. But you asked a question about, was that the guideline – or I'm sorry, was it a technique – or you gave a choice?

PILOT MEMBER: Procedures.

WITNESS: Procedure.

LA: What procedure, and she said, "Yes." So I was just clarifying as to what she was saying yes to.

WITNESS: I was saying more to the method, was the word that I used.

LA: Okay. Thank you.

PILOT MEMBER: Yes, sir.

**Questions by the Pilot Member:**

81Q. And you had mentioned previously also that we were talking about the profiles that we previously mentioned, and you had mentioned that they were, in your interpretation, were guidelines. And then you mentioned that in AFI 11-246, Vol 6, Chapter 3, that you believe that to be substantiated. And we'd just like to – I'm going to hand you actually, AFI 11-246, Vol 6, Chapter 3. And if you could just point to us or point out to the board your interpretation of that.

81A. Yes, sir. It's here, page 3, here at the top of the page. It says, "The procedures in these profiles are general guidelines." It talks about mission planners may adjust, it gives some examples.

82Q. Can you read the examples for us?

82A. Sure. "Mission planners may adjust them for cause to accommodate the requirements of a jump team or paratroopers, Static Line, HALO, etc., the requirements of the equipment, material to be airdropped, heavier CDS - container delivery system, the physical requirements of the drop zone or the unique requirements of the event itself. Aircrews will not deviate from the mission planned except for safety considerations. Planning and mission execution must comply with the AFI 11-2C-17, Vol 3, and other relevant DoD, U.S. Air Force, and FAA guidelines."

83Q. And for clarification, do you believe that paragraph to relate to all the profiles in the AFI?

83A. Yes, sir.

84Q. And not just the previous page, which would be page 2?

84A. Of the airdrop section?

85Q. Yes.

85A. No, sir. It's not necessarily broken out, I believe that was at the end of all the profiles.

86Q. You believe it applies to the entire regulation?

86A. Yes, sir.

87Q. And if you could, if you could go back to the front for us, I'll have you go back to I think we're on page 1.

87A. Yes, sir.

88Q. And if you could just read the first sentence in the very first paragraph for us. Great. Yes.

88A. All right. "General instructions. Aircrews from all MAJCOM's will adhere to the flying procedures and Profiles 1 through 4. Profiles 1, 2 and 3 are demonstrations of aircraft high-performance maneuvering."

89Q. And that was just to clarify the record, just to establish that in the record. So thank you for doing that. Another area that we had previously visited was stall warnings. And you had previously mentioned that one area that you have seen stall warnings before was during the approach or the final approach phase.

89A. Yes, sir.

90Q. Is that accurate?

90A. It is.

91Q. Were there other times when you witnessed stall warnings, specifically, occurring?

91A. Sir, I don't remember – I don't remember if it was any specific time, because it's been so long that I've flown, I just don't know remember exactly when.

92Q. I understand. So you don't know where in the profile in particular you heard them. Do you remember how long they occurred?

92A. Sir, not for an extended period of time. More it was sort of, we'd say, "In and out," of the stall warning. You'd hear it, someone would say, "push the nose over," or a correction would be made, basically, to stop it. And then perhaps it would come back, depending on the maneuver.

**Questions by the Board President:**

93Q. So just to clarify then, when you say, "In and out," so if you heard it, someone would make a correction to fix that immediately?

93A. Yes, sir.

**Questions by the Pilot Member:**

94Q. And lastly, we'll just revisit the check list usage a little bit. We had mentioned that -- we had talked about prior to takeoff and then we talked about the checklist that you run after takeoff.

94A. Yes, sir.

95Q. We also had mentioned that one of the checklists that was used was the aerial demonstration checklist.

95A. Yes, sir.

96Q. Was that something that was briefed prior to the flight, which checklist you would use and when you would use it?

96A. Sir, what I think you're asking is if we would run standard checklists? Is that what you mean?

97Q. Sure, if you want to elaborate on that.

97A. We did. We'd use whatever was applicable. So for example, on a short sortie we might say no need for after takeoff cruise decent, we'll go straight into approach check. So -- I'm sorry, it would be cruise and decent. So we'd clean up, confirm visually that the aircraft was clean. So again, that was running it, but not verbalizing all the steps necessarily. So for approach check, we'd brief, "Let's do it at this point." So a good time for the copilot to kind of go heads down, or which is -- excuse me -- be looking in the aircraft let's say during that 360 degree maneuver. And then also before landing checklists, as soon as the gear comes down you can initiate that. So that was briefed.

98Q. So can you explain then, maybe how you utilized the air show demonstration checklist specifically, then? And I can hand you this as a reference. And for the record, this is the air show checklist. And on top, for the record, it says "3<sup>rd</sup> Wing Aerial Demonstration Checklist." And we'd like to submit that to you and have you take a look at it, make sure that you are familiar with that.

98A. Yes, sir.

99Q. And if you are, if you could elaborate as to how that was utilized in conjunction with the other checklists.

[Male speaker tells the witness to take her time and look up when she is done.]

99A. [Reviews document.] Okay. And I'm sorry, what was the specific question?

100Q. If you could just maybe elaborate on how that was utilized with the other checklists.

100A. Sir, to be honest, from when I did it, it was two different pieces of paper. This wasn't exactly the same. I recognize what's on this piece of paper. And I know at the time even, when we were using different pieces of paper, it was always printed for optimization, basically, of our use, because it's such a fast profile. So I can see that they've got, some of the steps are small because of things that we've established or briefed ahead of time. Our NAF guidance, for example, really don't check – don't need to do that on a visual aerial demonstration.

101Q. So what is your interpretation of the small print items and then the large print items?

101A. The small print ones are – let me look for a second, please.

102Q. And again, I want to make sure that's based on your familiarity with those. If it's not, you don't have to comment on something that you're not familiar with, specifically.

102A. Well, sir, I'll say that the specific one I haven't seen, just like this. But when -- before when I was training, we would make small print for defensive system as required, for example, on approach check is sort of not applicable.

103Q. And so what would that mean? That would mean that it was something that's not run or applicable?

103A. You don't need to perform that. Correct. Yes, sir. But it's – defense system, as required, for example, it's as required, we've established ahead of time it's not required to perform.

**Questions by the Board President:**

104Q. So would you use this checklist or the items, use the items on this checklist, did you all establish a different checklist because you didn't want to write in your fan fold, or?

104A. Well, sir, I have to look at the fan fold. Our fan fold has other – there is an off stop checklist for example, and it's in between some things. So this was – I mean, this should be cut and paste directly from the fan fold, but just with the checklist that we use. And for, when I was doing it, with our different checklist, it was for ease of reading, that it flowed without skipping a step or flipping pages. And I think that was with the one we used, what our objective was.

**Questions by the Pilot Member:**

105Q. So again, just to clarify, so there were two checklists, then, when you – so taking this one aside, when you actually performed these duties, there were two separate -- you actually carried two physically separate checklists; one was the normal technical order dash one fan fold. Is that – I'll let you put it in your words.

105A. Sir, I can see on this page we had -- the aerial demonstration checklist was included following before takeoff, which is something we created. And then the following demonstration – or I'm sorry. There is also – there is following before landing.

106Q. So that would be something you would run and verbalize or?

106A. It was, if it was in quotations. So, I mean, gear down call completed.

LA: Well, if I may, this is

**Questions by the Legal Advisor:**

107Q. Just to, for the record, find out what <sup>WITNESS 26</sup> is talking about. She's referring to – has given her a one-page document entitled, "3<sup>rd</sup> Wing Aerial Demonstration Checklist," and has had <sup>WITNESS 26</sup> review it. She is referring to some items that she recognizes from her fan fold, from the dash one.

107A. Yes, sir.

108Q. And she has pointed out the following before takeoff portion on the left side of the page, and as well as the following demonstration portion on the bottom right corner of that page. She also did indicate that other items on the one-page document also included in the dash one checklists are -- and what was that?

108A. Sir, looks like the following before landing and after touchdown.

109Q. Portions?

109A. Correct.

110Q. How about any other portions that you recognize from the dash one?

110A. Sir, the rest of the checklists appear to be from the dash one, the fan fold that we're issued.

111Q. And also just to clarify, there are – the paper in front of you has different font sizes, as you can see; is that correct?

111A. Yes, sir.

112Q. But you just said that all of this is also included in the dash one. Are the different font sized items also included in the dash one?

112A. No, sir.

113Q. Also, when you were trained, you said that initially the one you had seen, there were two different documents.

113A. Yes, sir.

114Q. One, I'm assuming, and I don't want to put words in your mouth. One was the fan fold?

114A. Yes, sir.

115Q. From the dash one?

115A. The fan fold, yes, sir.

116Q. And then the other one was another list that seems to have the same information as this one page document in front of you?

116A. Yes, sir.

117Q. Just combined.

117A. Yes, sir.

LA: I just wanted to clarify.

PILOT MEMBER: Great. Thank you.

**Questions by the Pilot Member:**

118Q. And then my last question would be: Was it common practice for most or other demonstration crews to utilize that combination or to utilize those checklists in the same manner?

118A. Sir, don't remember from McCord. But I know our initial training, that was where we actually received the initial information.

LA: I do have one follow on, sir.

PILOT MEMBER: Yes.

LA: again.

**Questions by the Legal Advisor:**

119Q. When you had the two pieces of paper; one was the dash one checklist, which had some of those items, and then you had another separate piece of paper that had a list of items for aerial demonstrations?

119A. Yes, sir.

120Q. That list of aerial demonstration items, was that from a dash one?

120A. No, sir, it wasn't. They gave us from the dash one.

121Q. What was that list derived from, if you remember?

121A. Sir, I can look at some of them.

122Q. And you're looking at the smaller print items?

122A. No, sir, I'm looking at the following before takeoff portion, the following before landing, after touchdown and following demonstration portions. So I would say they're not from the dash one, but it's – so, for example, the engine NIS, here's one, on before – before landing. Because you know you're about to back. This, and we have told for the engine NIS on.

123Q. Told?

123A. Of the takeoff and landing data, the numbers will tell us if we can land on the (inaudible.) So it's more of a – it was a technique, but it was a technique to get you set up to do the maneuvers in the AFI 11-246, Vol 6, Chapter 3 profiles.

124Q. If I may, the difference between checklist items in the dash one and the technique, is there a difference?

124A. Sir?

125Q. What I'm asking is –

125A. Is it something we would do anyway?

126Q. Yes.

126A. Yes, sir. We do put the NIS on for backing

127Q. Right. But is that in the dash one checklist itself?

127A. Yes, sir. That one, for example, is.

128Q. I think I'm trying to hear what you're saying.

128A. Sir, maybe my point is that it's things that are in the dash one to do or going to do, it's not listed anywhere like this checklist, though.

129Q. And by "this checklist," you mean the one page –

129A. Sorry, following before takeoff.

130Q. The one-page checklist that you have in front of you?

130A. Oh, yes, sir, that also.

131Q. Right. It's not listed on that?

131A. No, sir.

PILOT MEMBER: Okay.

PRESIDENT: All right. Just a couple more questions, if I may.

**Questions by the Board President:**

132Q. During the profiles, as a copilot, you mentioned that you were watching inside, outside. Where was mostly your attention, was it inside the cockpit running checklists, was it outside, was it cross checking both? How would you characterize that?

132A. Sir, it's definitely most of the time outside. Now, we have a heads-up display, I can monitor the pilot's air speed, altitude and heading, those things through the heads-up display. As a guess or guesstimate I should say, maybe a third of the time inside, only for brief periods of time to cross check of winds, whatever drift you might have on the running course, the next heading we're about to fly to, to run the checklist also. But it was most of the time outside.

133Q. And then, just a thread to follow on, if I may. The safety observer, would they – they were typically in the rack em seat?

133A. Sir, we like to put them in the lacken seat, it's easier to view the gear.

134Q. And then lacken means?

134A. Oh, lefty, additional crewmember seat.

135Q. And so then they would slide toward the middle or how would they – where would they sit?

135A. Sir, I'm trying to remember. I didn't fly as a safety observer on in the actual demo. I've upgraded to it, but the sim is all you're required for that. Sir, I believe they just slid over towards the middle. I know it's the left side because I have (inaudible) there at them, when I flew. I don't think that was notated.

136Q. All right. You mentioned that you flew in the New Zealand and London air show?

136A. London, Ontario, Canada.

137Q. London, Ontario, okay.

137A. Yes, sir.

138Q. And Canada.

138A. A little different.

139Q. Were there any changes to the profiles you flew?

139A. No, sir.

140Q. So still standardized based off of the regulation?

140A. Yes, sir.

141Q. And then when you talked about Profile 3 during the 80/260 maneuver and the initial climb out, where would you typically, normally, clean up the aircraft?

141A. Sir, are you asking on the outbound leg or the turn, is that your question?

142Q. Right, exactly.

142A. Sir, my memory is that it was when the air speed became – there is a minimum slat retract speed, and it was, I believe it was usually on the outbound leg, still level.

143Q. So you made the turn from the 80 degrees off of that initial heading, and then outbound as you were timing?

143A. Yes, sir. So level – I will say we did 1000 feet, as I said, I've reviewed the regulation, but we did fly 1000 feet for takeoff.

144Q. So, did you fly at 1000 feet altitude above the ground, or did you go to 1500 feet altitude above ground?

144A. Sir, my memory is that we were trained to 1000 feet. And it was addressed that it said 1500. I asked, sir, I don't know why. But we were – the initial training, proceed to 1000 feet as the altitude.

145Q. So your interpretation is that the regulation stated 1500, but you were trained to 1000?

145A. Yes, sir.

146Q. And do you know why you were trained to 1000?

146A. No, sir, I don't.

PRESIDENT: Anything else,

PILOT MEMBER: No, sir.

[Negative response from other members.]

PRESIDENT: Okay. Are there any other matters that we haven't covered that you believe are important to this investigation?

WITNESS: No, sir.

PRESIDENT: I do have one other question, if I may, just to follow on.

**Questions by the Board President:**

147Q. 1000 feet on that initial training, who trained you to that?

147A. Sir, I believe it was the initial trainer,

WITNESS 12

PRESIDENT: All right. This is part of the readout, if I may.

WITNESS: Yes, sir.

PRESIDENT: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone except with my permission at any time before this report of this investigation is actually officially released to the public.

And this concludes the interview. At the time now, it is 1804 local, Alaska time.

**V27. AIB INTERVIEW WITH**

**WITNESS 27**

**VERBATIM TESTIMONY OF**

**WITNESS 27**

PRESIDENT: Today is the 15<sup>th</sup> of September 2010. Time now is 1145 local Alaska time. My name is Brigadier General Carlton D. Everhart, II., President of the accident investigation board convened to investigate the C-17 mishap that occurred on 28 July 2010, tail number 00-0173, at Joint Base Elmendorf-Richardson, Alaska. The investigation board is in building 7309 Room 106, at Joint Base Elmendorf-Richardson, Alaska, and we are conducting a telephonic interview with the witness, **WITNESS 27** who is in building P3, in the second floor deliberation room at Scott Air Force Base, Illinois. Also present with the witness is **LEGAL REP** with the Scott Air Force Base Legal Office. Prior to the start of this interview, **LEGAL REP** positively identified the witness in accordance with AFI 51-503, Chapter 6, paragraph 6.7. Persons present here in this interview are myself, Brigadier General Carlton D. Everhart, II, the board president; the pilot member; the legal advisor; the maintenance officer advisor; the medical advisor; the maintenance enlisted advisor; and the court reporter.

This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and to preserve evidence for the use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you may have given before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. The board does not have access to any confidential testimony you may have given before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. <sup>WIT 27</sup> do you understand the difference between any testimony you may have given before the safety investigation board and your testimony to the accident investigation board?

WITNESS: Yes, sir, I do.

PRESIDENT: <sup>WIT 27</sup> do you consent to having this interview recorded?

WITNESS: Yes, sir, I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, **LEGAL REP** will administer -- will you please administer the oath to the witness?

[The witness was duly sworn by **LEGAL REP** ]

LEGAL REP: Sir, the witness has been sworn.

PRESIDENT: Thank you, LEGAL REP for your service. You may be excused. And then  
WIT 27 if you would, just to clarify, once LEGAL REP has left the room.

WITNESS: Yes, yes, sir, he has left the room.

**Questions by the Board President:**

1Q. Will you please state your full name and rank?

1A. **WITNESS 27** United States Air Force.

2Q. And how long have you served in the Air Force?

2A. I was commissioned in 1991, so I guess that'd be about 19 years.

3Q. And what is your unit of assignment and location?

3A. I'm assigned currently to Scott Air Force Base in United States TransCom,  
JDPAC.

4Q. And how long have you been with that unit?

4A. Thirty-two days.

5Q. And then your job title?

5A. I'm the Chief of the Operations Support Division.

6Q. And what was your duty title while assigned at Joint Base Elmendorf-Richardson,  
and from this point forward, we'll just refer to the base as Elmendorf Air Force Base.

6A. I was the Commander of the 517<sup>th</sup> Airlift Squadron.

7Q. Were you also the Director of Operations for the 517<sup>th</sup>?

7A. Prior to the Commander, I was the Director of Operations for the 517<sup>th</sup> in 2007  
and 2009.

8Q. Please describe your duties and responsibilities as the Commander of the 517<sup>th</sup>  
Airlift Squadron.

8A. As commander of the squadron, I'm responsible for the mission and the people of  
the 517<sup>th</sup>.

9Q. Prior to this, you made a non-privileged statement to the safety board, it was  
transcribed and is now part of Tab R. Have you had a chance to review it?

9A. Yes, sir.



**Continue questions by the Board President:**

14Q. All right, and then could you -- we were talking about your duties and responsibilities. Can you give me the dates of, again, for the record, that when you were DO, Director of Operations, and the dates of when you were Commander of the 517<sup>th</sup>?

14A. Yes, sir. I became the DO on the date of the change of command from Gary Gottschall to WITNESS 23 which was in April of 2007. I forget the exact date.

15Q. Okay, that's fine.

15A. And I have been at the base since the end of December 2006, preparing for that role. I took command of the 517<sup>th</sup> Airlift Squadron on 13 February 2009, and I gave up command on the 6<sup>th</sup> of August 2010.

16Q. Okay. When did the first C-17s arrive at Elmendorf?

16A. Sir, they arrived on 12 June 2007, two aircraft, tail 169 and 172.

17Q. Are you familiar with the C-17 aerial demonstration program at Elmendorf?

17A. Yes, sir.

18Q. How did it start?

18A. It started as a requirement to prepare for the Elmendorf air show in 2008.

19Q. And who was in charge of standing up the demo program?

19A. The squadron the responsible party to stand-up the demo program, and the squadron commander would be the one that ensured that we stood-up that program.

20Q. And what was your involvement in the start-up of the demo program?

20A. My involvement was to discuss who were the right people to start-up that program, with the commander.

21Q. And when you say "who are the right people," what is your definition of "right people?"

21A. Highly experienced and mature aviators.

22Q. And again, when you say "highly experienced," again, what do you mean by that?

22A. What that typically would mean is they'd likely be an instructor or evaluator, or a highly experienced aircraft commander. Or I guess you might have someone who is little less experienced, but if they showed great maturity, they might be someone who is on there. Someone who you trust.

23Q. Okay. You talked about your duties as the 517<sup>th</sup> Squadron Commander; can you tell us about the 249<sup>th</sup> Airlift Squadron?

23A. Let's see, broad question. I can tell you when I think of the 249<sup>th</sup> Squadron, I think of a partner in every 517<sup>th</sup> operational action, an equal partner in many cases where they're

capable. It is a total force -- I mean it is an Air National Guard squadron that comprises about ten full time and somewhere around 70 part-time guardsmen. They're mostly an air/land squadron with designs to be an air/land air drop squadron, like the 517<sup>th</sup>.

24Q. And then, just for the record, air/land means what?

24A. It means that they don't perform the air drop mission.

25Q. Okay.

25A. I think positive thoughts whenever I think of the 249<sup>th</sup>. An instructor in the 249<sup>th</sup> or an evaluator in the 249<sup>th</sup>, I consider equal to any in the 517<sup>th</sup> squadron, specifically, WITNESS 22 and myself, and our predecessors, WITNESS 23 and WITNESS 30 made great effort at streamlining our processes so they were the same, if not very similar, and that we did everything close to each other, if not at that the same time to lay the environment that we would function as one operation.

26Q. Okay. Is the demo program integrated -- and I'm talking about the C-17 demo program -- is it integrated between the 249<sup>th</sup> and the 517<sup>th</sup>?

26A. Yes.

27Q. How is it?

27A. It's integrated in that the team members fly mixed crews. There's one Elmendorf team comprised of a C-17 cadre, and which squadron they come from is less relevant than their experience and maturity.

28Q. And then you say "fly as mixed crews," what does that mean?

28A. That means that it is normal to not distinguish between which squadron a person is from, even if the mission itself might be a guard mission or an active mission. The crew members on board are crew members, not from the specific squadron. And that would transcribe to any action that we do, mission or training oriented, where an instructor for a ground course didn't matter what patch they might be wearing, they were instructing the C-17 operation, or providing resources to the C-17 operation.

29Q. Who had oversight of the demo program once it was established and the two units were integrated?

29A. The primary oversight was by people that were in stan/eval and that's driven mainly because they were the experience on the demo team, and they insured that our training was accomplished and our paperwork required to get those crews certified.

30Q. Do you recall who those members were as far as the stan/eval?

30A. At the time of the crash, it would have been WITNESS 26 and MP. It could have possible have been LT COL BB but I think he didn't do the work. I think just primarily MP did the work for the guard.

31Q. All right, and when you say "do the work for the guard," what does that mean?

31A. Insure that we had any paperwork required accomplished, and the training was accomplished such that we were prepared for each air show.

32Q. Okay. Now, I just want to go a little deeper if I may. You said that the primary responsibility for the program is the five -- or the Third Wing; is that correct?

32A. No, the responsibility of the program would be the squadron commander, and the executors of that would be stan/eval.

33Q. Okay, which squadron commander?

33A. It would be both of us.

34Q. Okay. All right, so the fact that **MP** was overseeing the program, that wouldn't be abnormal; is that what you're saying?

34A. That's correct.

35Q. Okay. I know you were -- as previously stated, you're the Squadron Commander for the 517<sup>th</sup>, were there any unwritten responsibilities, or written responsibilities, to the 249<sup>th</sup> Airlift Squadron?

35A. I'm not aware of any written operational directions given to the 249<sup>th</sup> squadron or any particular memorandum of understanding or agreement...

36Q. Okay.

36A. ...relating to what duties they would perform and what duties we would perform.

37Q. Okay. Going back to the demo air crews, how did you certify the demo air crews?

37A. I did not certify the demo air crews. I certified the crew members, when they became aircraft commanders and instructors, but the demo certification process required the NAF commander to certify them, and not the squadron commander.

38Q. What was your role in that process then?

38A. To ensure that I provided qualified crew members, and scheduled aircraft to do that mission.

39Q. Okay, and then did you actually talk to the crew members during that -- as that certification process was happening? And what I mean by that, are there certain steps that you would have a conversation, and then it would proceed to the next level, and they would have a conversation?

39A. No, not regarding the certification process.

40Q. Then when did you talk to the crew members?

40A. I talked to the crew members in my interaction with them as instructors and crew members. I talked to them with regard to ensuring that they got the necessary practices done. Never in a formal setting, just to ensure that they were getting that mission accomplished.

41Q. Okay. Was there a certification board then, and if there was, was minutes accomplished?

41A. No, sir, there's no certification board at the squadron level for the demo crew. And when we certify crew members as instructors or aircraft commanders, we did not do minutes during that time, unless stan/eval recorded it. We did sign a form that indicated they had been certified. That's a standard Air Force form.

42Q. Okay, and when you say "we," who was that?

42A. It comprised of myself, stan/eval, safety, usually the DO, scheduling, but again, that wasn't for a demo crew, that was for their crew positions.

43Q. Okay. Who were the original demo air crew members chosen to be the first to go through the demo program?

43A. I think -- my memory is a little thin here, but **MAJ B** WITNESS 11  
**MAJ W** . I don't recall the loadmasters, nor the guard members. WITNESS 13 I think he was early in the program. But the was early in the program. WITNESS 13 I think he was early in the program. But the first original crew from 2008, I can't tell you specifically who they were, other than that was the -- those were a populate -- that was a population that I just gave you, and I don't know that that's all of them.

44Q. Do you recall who was part of that initial demo crew from the 249<sup>th</sup>?

44A. I seem to remember we had some difficulty getting -- I think we had one guard crew member and the problem was, we didn't have a lot of guard experience then, but we needed it to be a mixed crew, because that was one of our continuous goals, and so we did have a guard member on that 2008 crew, but I'm not remembering if it was **MP** or someone else.

45Q. Okay.

45A. I think the right person to ask there would be **MAJ W** or **MAJ B**.

46Q. All right. Talking about those original crew members that you just gave me their names, how were they chosen?

46A. I think they were looked at first because of the positions they were in as evaluators, and then considering the maturity that WITNESS 23 and myself perceived, that they would be the right candidates to go become a demo team. I recall conversations with "What do you think about **MAJ B**," or "What do you think about **MAJ W**," and I'd give the thumbs-up at the DO and I don't recall ever disagreeing with a particular person. They were all reasonable selections.

47Q. Did you interview those candidates?

47A. I did not interview those candidates.

48Q. During the course of the upgrade, did you receive any feedback on their performance?

48A. I don't remember a specific. There was certainly no formal time when I received feedback, but I remember -- I remember the process and the time it took to upgrade and recalling that the practices went -- well, or were not accomplished for whatever reason. So I followed the practices, but not the performance of how they did.

49Q. Do you remember who provided that feedback to you?

49A. It was usually one of the crew members. I'd ask him how it went after a flight.

50Q. Okay. Do you remember feedback that was given about

50A. I don't remember any feedback provided specifically about **MP** Not pre-crash. Not pre-investigation. And since then, I've talked to a lot of pilots in trying to sort this all out myself. But I never remember indication of **MP** performance.

51Q. Do you know if **WITNESS 28** I believe that was your Director of Operations for the 517<sup>th</sup>, did he receive any feedback on **MP**

51A. Sir, I've not spoken to **WITNESS 28** about that topic. Though I have considered doing so, because I want to know, but I have not asked him if he received that feedback and he did not give me any feedback about that -- **MP** or any other demo team member.

52Q. You said that you talked to lots of pilots about the performance and things like that, how it went. What did they say?

52A. Usually, it went well. No details, and I didn't drill in for details. I never got any indication that there was any limits exceeded or unreasonable behavior by the pilots. I'd say I just got positive, "It's going good, it's going well," which I'll begin to speculate if I think more about this.

53Q. Okay, and there again, you also talked about -- you said you had talked to lots of pilots about the mishap, what did they say?

53A. What I have -- I have gotten the sense in that, and where this information is coming from, I don't know, but I have gotten the sense on what the cause of the crash was, and that leads me to believe that the pilot flying, presumably **MP** was performing the maneuvers in a low energy state, and possibly doing things that got him in that state, and that surprises me that the would get himself in that position because of the quality aviator and mature officer that he was.

54Q. Now, when you said, "got himself into a low energy state," what are you hearing how specifically that occurred?

54A. I'm hearing that he over-rotated on takeoff, did not accelerate long enough on the first outbound leg, and accelerated to slat and track speed late in the profile and retracted slats, and lost control of the aircraft after hearing the stall warning for many seconds, and what seems to me unreasonable is that once the stall warning goes off, that he would not have rolled out, or

changed his power setting, or put the slats back out, or something to recover from that. To tolerate a stall warning in progress, does not seem reasonable, and certainly not normal for MP or anyone else.

55Q. Who was it that you were talking to?

55A. That -- that conversation has come from talking to two people, WITNESS 19 and WITNESS 11

56Q. Do you recall when?

56A. I spoke with WITNESS 19 on ... Monday or Tuesday this week, and WITNESS 11 this morning. I called Brett to find out the AFI number for the demo profile, so I could look at it again, and he had told me that he'd gotten some sense of what may have happened because we had also talked approximately two or three weeks ago where -- maybe it was three weeks -- actually, it was 32-plus days ago that I talked to WITNESS 11 when his theory was that there was control flight into terrain, and so since then, he had gotten a different opinion that perhaps they'd been tolerating the stall warning for many seconds.

57Q. Do you know how he might have gotten that opinion?

57A. I don't recall. I'm trying to think of how that conversation went. I would conjecture that that opinion is from talking with either the AIB, the SIB or other people, but I don't remember what he attributed it to. The main thing was, is that we were talking about the control -- I brought up control flight into terrain because that's what we had talked about before, and he said it might not have been that.

58Q. Okay. What I'd like to do there, WIT 27 is just take a break for a minute so we can collect some thoughts, and then get right back in touch with you.

58A. All right, sir.

(The interview paused momentarily at 1216 hours.)

(The interview resumed at 1248 hours.)

LA: And this is Major we're back on the record. All attendees present at the interview prior to the break are again present, to include WIT 27 Also, I want to make one correction for the record, and that is the date of today's interview is actually the 18<sup>th</sup> of September 2010. I think there was a misprint in the script and I apologize for that, sir.

59Q. WIT 27 one of the questions that I'd like to follow-up with is, did you ever fly a demonstration profile or simulator as an observer or as another crew position, air crew position?

59A. Sir, I flew in 2002 time frame for the Altus air show as a safety pilot, and the practices associated with that; at Elmendorf for the 2008 air show I observed practices and the performance leading up to that; and for the 2000 [sic] air show demonstration I did not observe any practices.

60Q. Okay, did you ever fly a demonstration profile with **MP** as an observer or additional crew member, and then how about, **MSO** and **MCP**

60A. I did not fly in a demonstration performance with those three pilots, or either one of them individually.

61Q. We just want to clarify the for the record some of the questions we asked you about the process as far as sending paperwork up for people who, at the squadron level, who were qualified to fly in the aerial demonstration profile. What was the mechanism that the squadron used, and if you recall, what was sent up?

61A. I do not recall what was sent up, but the proper mechanism is the demo team lead would do required documentation which ultimately would land at the NAF for certification. I do not recall reviewing or signing. However, it is entirely possible that I was brought that required documentation to sign and verify that that is a crew member that I wished to enter into the demo training program. But I cannot tell you that I remember signing a specific document.

62Q. And then for the mishap crew, who was the demo lead that would have provided that documentation?

62A. **MP** for this mishap crew.

63Q. All right, and then just for one clarification, would that be for both active duty and the guard, that paperwork? Or would it be because of the way the squadrons were integrated, or would you do separate?

63A. It would be together, and nothing formal establishes that it would be together except we do everything in those squadrons together.

64Q. Okay. And then so with **MP** bringing the paperwork to you, did stan/eval -- in that capacity, was stan/eval bringing the paperwork to you?

64A. I don't recall, and I don't recall actually seeing the paperwork except the night before, and we were providing additional documentation the night before than what had previously been sent up. The required documents, **WITNESS 26** explained to me, had already been provided to the NAF and on the 27<sup>th</sup> of July we were being asked for more detailed information about the crew members, and so **MP** **WITNESS 26** and myself, and **MLM** as well, and then some of the SELOs were putting that together. I was doing little work. I was mostly insuring that it got done.

65Q. Okay, and then if I recall, SELO stands for Standardization Evaluation Liaison Officer; is that what you're referring to?

65A. Yes, sir. Yes, sir, my apologies. I can't recall which standardization liaison officer was there, but there was at least one.

66Q. Okay. In the statement that you adopted on page R-30, you were in a conversation with **CAPT H** and you replied, the conversation revolved around **MP** reputation within the squadron, and then you specifically said, "But he liked getting into the weeds of how the aircraft worked. I remember a couple of times, especially on takeoff and

landing where he and I would kind of argue because that was my pet peeve, too.” Can you elaborate, please, on what you meant by “getting into the weeds?”

66A. Yes, sir. I would characterize **MP** as a very precise, academic and aviator, and I’m not sure if it was because of his job previously as a sim instructor, or if that’s what made him a good sim instructor, but he wanted to understand every electron that went through that aircraft and what it meant, and what it could do, and how to employ it. And he led many of our discussions at many of instructor training periods where all the pilots would gather and **MP** would lead a systems discussion, or a mission related instructional period, and he would get very deep into how the mission computer or the systems of the aircraft would work, and like any instructor, occasionally I thought he was incorrect, and I remember once, very clearly, and the other is vague, it’s from a couple years back, and what I was trying to articulate in my previous SIB testimony was that he handled disagreement very professionally and articulated that he might be wrong, and he’ll go figure it out and come back to the group, which he did.

67Q. Well, let me ask you, when he would go figure it out, would there be any other persons who would verify that data was correct, wrong, et cetera?

67A. No, it was not a formal process. It was more like, “Yeah, <sup>WIT 27</sup> was right,” and he’d let the squadron pilots know via email.

68Q. Okay --

68A. Or -- or, yeah, just the two times that we’re talking about I was right, but I think, to me, that is a good representation of a mature officer that can teach very well and when he finds he’s wrong, ensure that all the damage he may have done by teaching it wrong is undone.

69Q. Okay. And then just a couple more questions. Did you see the mishap air crew the day of the accident?

69A. Yes, sir.

70Q. And could you elaborate on that, please?

70A. Sir, I was leaving the squadron to join my wife and kids, who had arrived 18 hours prior, and I was entering the car and something occurred to me, and I don’t know what it was, but I no it’s not very objective, but I think it was God, and he said, “Hey, go say good-bye to the demo crew,” and so I ran back up -- told my wife I need to say good-bye to them, and I went up to the briefing room where the four of them were briefing, very intently. It’s an open briefing room; I assume you’ve seen it, near the operations desk. The door was open, and I interrupted them. I did not listen in before I interrupted them because I was in a hurry to get with my family. And I spoke to them versus them speaking to me. I think I said, “You guys ready? Make sure you debrief this very well, good luck, and I’m proud of you,” and the DO, <sup>WITNESS 28</sup> joined me during that very short sentence. I can’t recall if he said anything. I don’t think he did. Actually, he did. He joined me and said, about half-way through my blurb, “Hey, <sup>WITNESS 16</sup> not coming anymore,” because <sup>WITNESS 16</sup> the OG, Operations Group Commander, <sup>WITNESS 16</sup> was supposed to fly on this mission. He explained quickly why <sup>WITNESS 16</sup> could not fly, and

then we called it a day. And I said, "All right, guys, I'm proud of you," and I left. And that was approximately 1630 of the day of the mishap.

71Q. Do you remember why <sup>WITNESS 16</sup> couldn't fly?

71A. Yes, sir. Again, I know it's not objective, but I'd like people that read this in the future to know that the Lord was looking out for these guys as much as he could. There was an F-22 that took the barrier. If a fighter leadership was available in the Ops Group, <sup>WITNESS 16</sup> could have flown with that C-17, but the problem was his deputy was the one that took the barrier, and that diverted some F-22s, and so the only person available who was an F-22 pilot was <sup>WITNESS 16</sup> to ensure that he handled the divert. And so he backed out.

72Q. Okay, and then going back, when you saw the crew, when you left, how did they look to you when you left them?

72A. I remember their faces very clearly. Very happy, smiling. They were leaned over, much as I am right now on this desk, because they had been talking intently about their pre-brief, and it was kind of like, "Okay, you're interrupting us, but we're happy to hear you give me [sic] the thumbs-up and now <sup>WIT 27</sup> I'd like you to let us get back to pre-briefing." So it was a positive look on all of their faces.

73Q. And then just to clarify, you didn't hear any of the pre-briefing, correct?

73A. No, sir. I interrupted them, was in a hurry and I didn't sit down to join them as they closed out their pre-brief.

**Questions by the Pilot Member:**

74Q. Sir, it's <sup>WITNESS 16</sup> the pilot member. Were you present for any of the other demonstration briefings, whether that be practice or simulator briefings, prior to the mishap day?

74A. No. I was not --

75Q. How about mission planning?

75A. Not for that purpose, and I don't recall specifically, though we didn't make it a secret when people were mission planning, so I have heard pieces of mission briefs, but I have never audited or sat through or flown on that crew's or any other Elmendorf crew's mission.

76Q. Okay, the last question is: there was a mass briefing in the auditorium during the first two weeks of July; were you present for that? It was for aerial demonstrations upgrade.

76A. What day was it?

77Q. It would have been --

77A. I'm sorry, I don't recall, but it would help me if I knew the date because I was permissive TDY until ... I think 1 or 2 July, and then of course, it's the July Fourth holiday, and then I had a couple weeks -- I think <sup>WITNESS 28</sup> was gone, so ...

78Q. Okay, sir, I think -- I believe it to be after the Fourth of July, but the briefing was given for aerial demonstration upgrade, and it was kind of a mass briefing, if you will, where most of the upgrading members were present, and it was conducted by **MP** If that helps.

78A. No, I was not at that.

79Q. Okay.

79A. I would have remembered **MP** briefing.

80Q. Okay.

80A. Thank you for helping me.

PRESIDENT: Okay, are there any other matters that we haven't covered that you believe may be important to our investigation?

WITNESS: No, sir.

PRESIDENT: As a reminder, you are reminded of the official nature of this interview. You may not discuss with anyone, and I repeat, may not discuss with anyone without my specific permission, at any time before this report -- this investigation is officially released. Do you understand?

WITNESS: Yes, sir.

PRESIDENT: This concludes the interview at this time. The time now is 1303 local Alaska time.

**V28. AIB INTERVIEW WITH**

**WITNESS 28**

**VERBATIM TESTIMONY OF**

**WITNESS 28**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding this accident and to gather and preserve evidence for use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: Yes, sir.

PRESIDENT: Today is the 23rd of September 2010. This time is now 1050 local, Alaska time. This interview is being conducted in building 7309, room 105, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,

**WITNESS 28**  
Pilot Member;  
Legal Advisor;  
, Maintenance Officer;  
Maintenance Member;  
Court Reporter; and,  
me, [Brigadier General Carlton D. Everhart, II, Board President]

PRESIDENT: The witness has been sworn.

LEGAL: Sir, just to clarify the record, it's 0950 for local, Alaska time.

PRESIDENT: Yes, thank you.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 28**

2Q. How long have you served in the Air Force?

2A. 17 1/2 years.

3Q. What is your unit of assignment and location?

3A. Currently 517th Airlift Squadron, Elmendorf Air Force Base, Alaska.

4Q. How long have you been with this unit?

4A. 15 months.

5Q. What is your job title?

5A. Currently, Squadron Commander of the 517th.

6Q. How long have you been doing this job?

6A. Change of command was 6 August 2010.

7Q. What was your job prior to the change of command?

7A. Director of Operations for the 517th.

8Q. For the same unit?

8A. Yes sir.

9Q. You stated, for the record, you were the commander of the 517th Airlift Squadron?

9A. Yes sir.

10Q. . From now on, we will refer to Joint Base Elmendorf-Richardson, Alaska as Elmendorf Air Force Base. Please describe your duties and responsibilities as the commander of the 517th Airlift Squadron.

10A. Taking care of the people, taking care of the mission whether it be training and equipping, operating and executing, O&M hours or TWCF hours--I'm sorry, that's the training hours for operations and maintenance or the transportation working capital fund which is the C-17 version of flying the mission away from home station whether it be around the world or just down to the lower 48.

11Q. Tells about the 517th Airlift Squadron.

11A. Very tight-knit squadron. This is the first time I have been in an airlift squadron that has total force integration. Didn't have that in the 7 years I was at Charleston. The 517th is much different from what I have experienced at Charleston itself in that we are deploying to the expeditionary airlift squadrons over in the CENTCOM AOR. A lot of what we do is in support of Pacific Command and Pacific Air Forces and a lot of what we do is in a different context here in the environment of being a composite wing meaning fighters on the same base. You have combat air forces and mobility are forces on the same base which I have experienced before when I was a maintenance officer at Mountain Home back when they had the composite wing there under the 366th Wing, but they had since dissolved that one and this is the closest thing to that that I've experienced, so the 517th is just a single active-duty airlift squadron up here at Elmendorf and much more tight knit than anything I've experienced in a flying world.

12Q. You mentioned the acronym AOR. What is that?

12A. Area of responsibility, sir.

13Q. What is your relationship--you said total force integration. What is your relationship with the 249th?

13A. Outstanding. We have talked over the past year that I have been here that our total force and integration with the 249th is better than anything we have heard of or seen before. We fly blended crews together all the time whether it be on training missions or operational missions. We do safety days together, training days together, ground and flight training. It is all blended so they are welcome to jump on any flights that they have and they open seats to us to do the same.

14Q. When you say open seats to you, that means?

14A. When a mission comes down through the operational support squadron, there will be an offer to the 249th to take the mission kind of similar to what Charleston used to have where they would offer a mission to the reserves first. Since those guys have more control, they had the funding where they could fly and if they accept the mission you will see a note back saying the 249th accepts this mission, however, two seats are open for the 517th to fly with us.

15Q. For aircrew members?

15A. Yes sir. For aircrew members. So, it could be a pilot. It could be a loadmaster, either one. It is very rare that we walk out the door with just Firebird patches on for the 517th, all crew, or the Turn patches with the 249th. Almost every single time the crew steps, it's a blended crew for total force.

16Q. When you say Firebird, that is like your unit mascot?

16A. Yes, sir. That's the 517th.

17Q. You have a representation on your patch?

17A. Yes, sir. That is correct.

18Q. Do you have responsibilities, or what are your responsibilities to the 249th?

18A. Responsibilities to the 249th, we have several offices in the squadron that are integrated. The Guard has said they don't want to integrate in certain offices, and other offices they have integrated. My responsibility to them is none other than being charged with total force integration. If the Air Force wants us to do it, then I will try to make it happen as best as possible. I do get together every Wednesday at 1130 with the 249th Commander and DO as well as-- Director of operations, as well as my Director of Operations now and we sit down and talk total force integration issues. It can be everything from the inside of the house to the operations side to facilities to executing the mission.

19Q. You said there are some offices they did not want to integrate?

19A. Yes sir.

20Q. Can you elaborate?

20A. Our scheduling offices are not one of those integrated in the fact that my schedulers do not schedule their people. They do not reach out and grab a Guardsman and put them on a flight. However, they are sitting in the same office and we have gone to using virtual software similar to what they use so we can see everybody on the board. Those kinds of things. So, that, to me, is not fully integrated.

21Q. When you say see it right on the board, you mean the scheduling board so everybody is on the same sheet of music?

21A. Yes sir. The way I grew up, we used to do dry erase boards and writing names on the board. Now it is gone to electronics and a computer system called Patriot Excalibur and they display that on the wall. It is almost like looking at a Windows type product is what you are looking at for scheduling.

22Q. Are you familiar with the C-17 aerial demonstration program at Elmendorf?

22A. Yes sir.

23Q. Did you have any--when you say you are familiar, what do you mean by that? What you know about it?

23A. I know--as my role as the Director of Operations at the time of the accident, my role was to set aside sorties for those guys to fly up, work with the operational support squadron to get the right times for them to fly as well as to make sure that some of the behind-the-scenes work as far as Notices to Airman at the airfield, so every other unit or outside agency knew that we were going to practice, that those were published, and just making sure that the crew's orders were correct and we had performed what we call our go-no-go process which we would do for any training sortie or a mission where we checked currencies and they are ready to step.

24Q. Did you happen to have any involvement in the start up of the demo program itself, the aerial demonstration program?

24A. No, sir.

25Q. The demo program is integrated between the 517th and the 249th, correct?

25A. Yes sir.

26Q. How's that integrated?

26A. Its integrated in that we have a list of folks from both the Guard and the active-duty that are all approved through the Wing Commander to the Numbered Air Force Commander and certified to accomplish the C-17 demo. So, whenever we go--when there is a request for a demonstration to occur, we can pull from that list to form the crew.

27Q. You mentioned the certification process. What is your role--what was your role as a DO and your current role as a commander in that certification process. By DO, I mean Director of Operations.

27A. Did not have a role as the Director of Operations with the certification process. As the Commander, I have not certified anyone with the demo program yet, but as I understand it, going through and making sure we have the right folks on the team with the experience to execute the profile, folks that are top of the line folks from the squadron to be able to execute the profile on request.

28Q. How do you determine then if someone is capable of performing that program? What gives you that idea?

28A. We go back in and look at the training management software. I don't know that's the exact terminology. We call it TMS. There are write ups in there from folks ever since they came into the C-17. We go back and review their training, what the write-ups were from previous instructor pilots on how they have done, what the progress has been, if they had any areas for improvement. They are all supposed to be objective comments in the training software that we can look at and see exactly how they did during their upgrades at Altus, where our formal schooling is for the airplane. We can view all that and that's all there in that database for us to go back and do some research on how these folks have been doing even if they weren't in our unit before.

29Q. You mentioned that as a DO you did not have any involvement in the start up of the demo program. Did you have any involvement in the selection process for the people in the start of the demo program, in the initial startup?

29A. Sir, the only thing I would have had a role in was if I was asked for my opinion on one of the pilots.

30Q. Do remember that question being asked to you, what your opinion was on a pilot?

30A. No, sir.

31Q. Once in the process, in the demo certification process, once training is complete and now you have the paperwork, what happens then?

31A. Just from reading the instructions on what I'm supposed to do as a commander, again, having not done this before, that letter goes up through the Wing Commander and the folks that have accomplished the simulators--the ground training, the simulators and the flights. The Wing Commander approves that and it heads, in this case, to our Numbered Air Force Commander for final approval and certification. There is an interview process, as I understand it, for the pilots themselves that go and speak to the Wing Commander as well as the Numbered Air Force Commander for that final approval.

**Questions by the Legal Advisor:**

32Q. I just wanted to clarify since we have a couple Wings here at Elmendorf. Which Wing are you talking about?

32A. Third Wing Commander.

**Questions by the Board President:**

33Q. Do you know if anything is afforded to the Operations Group during the certification process?

33A. I cannot remember the 3rd Operations Group Commander being on the letter, but any of the information that goes to the 3rd Wing Commander, sir, it would normally go through the Operations Group Commander. We would not bypass his office to go direct to there.

34Q. Did you ever fly demonstration profiles in the simulator as an observer or any other crewmember?

34A. No, sir. I've never been in a simulator or the airplane for a demo.

35Q. So, just for clarification purposes then, you never flew a demonstration profile or anything like that with **MP** either as an observer or in any other aircrew position?

35A. No, sir.

36Q. How about **MSO**

36A. No, sir.

37Q. How about **MCP**

37A. No, sir.

38Q. Have you ever attended any aerial demonstration briefs, to include upgrade briefs or mission briefs prior to stepping out to be a point to go fly a profile and demonstration practice or anything like that?

38A. No, sir.

39Q. Do you remember feedback that was given about **MP** in regards to the aerial demonstration program?

39A. No, sir.

40Q. Then I think you have already answered this, but I just want to re-clarify. Did you have any involvement in the original demo air crewmembers?

40A. No, sir.

41Q. During your tenure as the Director of Operations, do you remember if your commander, **WITNESS 27** at that time, received any feedback on **MP**

41A. No, sir. Not that I know of.

**Questions by the Legal Advisor:**

42Q. When you asked--when the General asked the question he mentioned **WITNESS 27** but it was **WITNESS 27** Is that correct?

42A. Yes. That's correct.

**Questions by the Board President:**

43Q. Who has oversight for the demo program?

43A. The commander in each squadron.

44Q. The commander in each squadron?

44A. Yes sir.

45Q. How about the administration? Do they have the administrative oversight also for the program?

45A. Yes sir. It is a commander's program.

46Q. Can you tell me who was the Standardization and Evaluation Chief of the C-17 and the Operations Group at the time of the initial certification?

46A. Initial certification--when the program was stood up?

47Q. Original standup and original crews.

47A. The chief of standing out prior to **WITNESS 26** was <sup>CAPT BA</sup> who has since been permanently change of station down to Altus Air Force Base, and that is where he is at now.

48Q. Was he with the squadron or was he with the Operations Group?

48A. He was with the squadron.

49Q. Do you recall who it was for the operations group?

49A. The overall Chief of Stan Eval for the Group, I cannot remember his name. He was an F-22 pilot.

50Q. How about the C-17 Standardization and Evaluation pilot for the Operations Group?

50A. Our chief of Stan Eval--Standardization and Evaluation for the Group is MAJ B , and I forgot, sir, the exact time that she took over or who was there before her, but that is where she has been ever since I have been up here at Elmendorf Air Force Base.

51Q. We learned there was a time when you watched an aerial demonstration flight with <sup>WITNESS 19</sup> during a lunchtime period. Do you remember this?

51A. Yes sir.

52Q. Can you tell us about that? Can you tell us about the flight, what your impressions were, and those types of things?

52A. I've seen the aerial demonstration many times. It is always impressive to see the airplane fly during the demonstration and I don't think any of my comments to <sup>WITNESS 19</sup> were any different than what I normally would say when I see the demonstration. If you see an airplane with a 170 foot wingspan flying around the pattern, it's impressive. There was nothing different about what I had seen before that day.

53Q. When you say you have seen it many times before, where have you seen it before?

53A. Charleston--Charleston Air Force Base in South Carolina where I was stationed for 7 years.

54Q. Did you see a difference in the way that profile was--that lunchtime profile that you saw, did you see a difference in the way that profile was flown versus what you had seen at Charleston?

54A. The only difference I saw in the profile was normally at Charleston during the final landing they would land, do what we would call a rubber band which means you wouldn't even put your feet on the brakes and we used to do this in special operations, you put the engines in reverse thrust, back the airplane up and turn it 90 degrees to face the crowd at show center. They did not do that on the practice day. They just landed and stopped.

55Q. Did you see a difference on the practice day here at Elmendorf? Did you see a difference in the bank angles----

55A. No, sir.

56Q. ----than what you had seen that you remember at Charleston?

56A. No, sir. Nothing was noticeably different to me.

57Q. Do you think that profile here was flown as far as the maneuvers themselves? Were they--how do you think they were flown?

57A. Nothing looked out of the ordinary to me. Again, anytime I see the airplane flying in the pattern and it is up close, it looks like a big airplane flying tight turns in the demo profile. It didn't look anything out of the ordinary or different to me that day, sir.

58Q. What is your definition when you said tight turns? What is your definition of tight turns? What does that mean?

58A. During the demo profile you are going to perform an 80 degree turn off the runway with a 260 degree turn back to the runway. When you're performing these sorts of maneuvers in close to the airfield, that's a tight turn to me.

President: I would like to take a break right now and let you go to the break room. We'll call you right back in as soon as we are ready then finish up the interview.

[The board recessed at 1010, 23 September 2010.]

[The board reconvened at 1019, 20 3 September 2010.]

Legal: All the attendees to the interview prior to the break are again present, to include

WITNESS 28

### Questions by the Board President:

59Q. <sup>WITNESS 28</sup> are there any other matters that we have not covered that you would like to say a thing about to possibly aid us in our investigation?

59A. The only other thing I was going to tell you, sir, is I have personally flown with <sup>MCP</sup> once on a mission--overseas mission, and once on a local flight. My impression of him, like we talked about earlier, going back to training records and knowing how people fly just from other people's objective inputs was he was a very conservative guy in the airplane and my example to you would be on our local we had what we call an exceptional restart. He had never seen one of those before, and basically what happens is all the computer screens blank out momentarily. Nothing happens as far as the airplane flying other than the automation kicking off--going away. You are manually flying the airplane and he had ever seen that before. It was a good experience for him, but I was the one in the seat. He was sitting behind me in the left additional crewmember seat and we got a good chance to explain that sort of thing and he grew up a little bit in the airplane that day, but he was surprised by that. On the mission itself that we flew, again, very conservative guy. Conservative guy about assessing the weather, the fuel requirements and whatnot. That was my assessment of him. Did not have much exposure to **MSO** or **MLM** Had a little bit of exposure with **MP** He was always a very meticulous guy on how he went about doing its work and he worked in the Standardization and Evaluation office in the squadron and everything he did was to the "T" from the work that I saw from him. If that helps, that was my assessment on the two guys that I knew more about than the others.

**Questions by the Legal Advisor:**

60Q. When you described **MP** as a meticulous guy, can you give me an example of what you mean by meticulous?

60A. Just some of the products that I did see with the certification process for the crews, whether it be letters or the training documentation and whatnot, it was solid. There was nothing left out of what he documented on the profiles that they flown in the simulator or in the airplane or during the ground training.

61Q. When you say documentation, certifications for the aerial demonstration program?

61A. Yes.

62Q. Or was it in all respects?

62A. Well, the entire certification process whether it be the ground training, sim training, or the flight itself.

**Questions by the Board President:**

63Q. So **MP** ran that program. Is that correct?

63A. Yes sir. He was the lead on that program as far as assembly and the crews and the certification process

64Q. Anything else?

64A. No, sir.

President: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public.

This concludes the interview. The time is now 1022 local, Alaska time.

**V29. AIB INTERVIEW WITH**

**WITNESS 29**

**VERBATIM TESTIMONY OF**

**WITNESS 29**

PRESIDENT: My name is Brigadier General Carlton D. Everhart, II. We are investigating the C-17 accident that occurred on 28 July 2010, at Joint Base Elmendorf-Richardson, Alaska. This investigation, conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and preserve evidence for the use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. You did not provide testimony or a statement to the safety investigation. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand how your testimony before this board may be used?

WITNESS: Yes, sir, I do.

PRESIDENT: Your testimony in this investigation will be under oath. At this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you are about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Today is 24 September 2010. The time now is 0914 local Alaska time. This interview is being conducted in Building 7309, Room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are:

The witness,	<b>WITNESS 29</b>
Myself, Brigadier General Carlton D. Everhart, II, Board President;	Legal Advisor; and
	Court Reporter.

PRESIDENT: The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. **WITNESS 29**

2Q. How long did you serve in the Air Force?

2A. 20 years, 6 months.

3Q. What is your unit of assignment and location?

3A. Third Operations Groups, Joint Base Elmendorf-Richardson, 3d Wind.

4Q. How long have you been with this unit?

4A. Since June 2009.

5Q. What is your job title?

5A. I am the Third Operations Group Deputy.

6Q. How long have you been doing that job?

6A. Since June 2009.

7Q. Please describe your duties and responsibilities as the Third Operations Group Deputy Commander?

7A. I am the advisor to <sup>WITNESS 16</sup> who is the Third Operations Group Commander. I assist him in his daily execution of the mission in performance of the Third Operations Group flying operations; act as the Third Operations Group Commander in the absence of him or **COL S**, who is the other Third Operations Groups Deputy, and advise him on any flying matters that he may require assistance in.

8Q. What is you C-17 background?

8A. My C-17 background started in June 1995 at Charleston AFB, South Carolina. I have approximately 3000 hours of flight time in the C-17. My assignments range from 4 ½ years at Charleston, where I finished a tour as the assistant chief of stand eval, 14<sup>th</sup> Airlift Squadron. I had 3 years of experience at Altus AFB, Oklahoma, from 1999 until 2002. I flew and was attached with Charleston ,14th Airlift Squadron, while I was on the Air Mobility Command staff, from 2003 until 2006. I was the weapons instructor course director of operations at Maguire AFB, New Jersey, with the 57th Weapons Squadron. I am now the Third Operations Group Commander, currently evaluator qualified -- in air land. I am an air drop pilot here at Elmendorf.

9Q. You mentioned Altus, Oklahoma. What was that?

9A. That is the C-17 school house where they teach the initial qualifications for crewmembers going through C-17 training.

10Q. As the Third Operations Group Deputy Commander, what was your interaction with the 249<sup>th</sup> and the 517<sup>th</sup> Airlift Squadrons?

10A. I fly attached to the 517<sup>th</sup> Airlift Squadron approximately 3 to 4 times a month on local training sorties and on occasional off-station missions that could last up to a week or 10 days, typically not more than 10 days. The interaction I have with the 249<sup>th</sup> would be -- or has been interaction with them in the squadron building, itself, and occasionally flying on mixed crews.

11Q. Can you explain what is meant by attached -- when you say I fly attached wit that unit, what does that mean?

11A. The 517<sup>th</sup> Airlift Squadron consists of C-17 crewmembers. There are also C-17 crewmembers that are not assigned to the 517<sup>th</sup> Airlift Squadron that are qualified in the C-17 and they will go fly with the 517<sup>th</sup> to augment their crew force and their capabilities.

12Q. What is your C-17 aerial demonstration program background?

12A. I was a C-17 demonstration instructor pilot with the 14<sup>th</sup> Airlift Squadron for approximately 2 years, from 1997 timeframe until I PCS'd in 1999.

13Q. Are you familiar with the C-17 aerial demonstration program here at Elmendorf?

13A. Yes, sir, I am.

PRESIDENT: For the record, Joint Base Elmendorf-Richardson will be from now on known as Elmendorf AFB.

14Q. There were several air crewmembers, around ten, who were certified after 2009. Did you have a role in the aerial demonstration program certification at that time?

14A. Yes, sir, and informal role.

15Q. What was that informal role?

15A. I would look at the certifying crewmembers -- put a sanity check on it and advise WITNESS 16 on any concerns or issues I had, which I had none.

16Q. When you say "look at crewmembers," what did that entail?

16A. The 517<sup>th</sup> -- and the 249<sup>th</sup>, for the matter -- would come with a list of people that they wanted to certify for the aerial demonstration program. I would see that list of names, review their records, and then raise any concerns I had to WITNESS 16 which I had none. I do not think I ever saw the 249<sup>th</sup> squadron's list of crewmembers. However, I did see the 517<sup>th</sup> list of crewmembers.

17Q. You were talking about reviewing the records. What type of materials did you review?

17A. It was mostly what their crew qualification was, what they were going to be doing in the certification program. When I say "crew qualification," that means basic aircraft commander, co-pilot, instructor pilot, or evaluator, total time in the aircraft -- have a discussion with the 517<sup>th</sup> Squadron Commander, <sup>WIT 27</sup> or the operations officer, <sup>WITNESS 28</sup> and discuss with them what the qualifications were and why they were choosing the people that they choice to upgrade to demo qualification.

18Q. For the record, <sup>WIT 27</sup> and <sup>WITNESS 28</sup> were in those positions at that timeframe we discussed in July 2009?

18A. Yes, sir. They have been in that position since I have been here.

19Q. Once you reviewed those packages, that material, what did you do with it? What was the next step in the process?

19A. I was not a formal piece of the process. But if I had concerns with who was going forward, I would raise a concern to <sup>WITNESS 16</sup> As I stated earlier, I had no concerns with the people they were putting forward at the time. If I did have any concerns, I would have discussed it with <sup>WIT 27</sup> or <sup>WITNESS 28</sup> previously. If I may add one more thing? There were occasions, or an occasion I can think of where there was a demonstration crew performing demonstrations somewhere in the pacific. I cannot remember if it was Korea or Singapore. They needed to break the hard crew that had been set up due to other commitments that one of the crewmembers had. They sent a request to me to substitute one of those crewmembers with another highly <sup>WITNESS 16</sup> experienced crewmember; and I agreed to that switch and recommended it to <sup>WITNESS 16</sup> as well. I think that was last fall.

20Q. You talked about your inputs to the Third Operations Group Commander. Were there any inputs that you, specifically, provided to the 3d Wing Commadner?

20A. No, sir.

21Q. Did you receive feedback on the performance of aircrews performing aerial demonstrations?

21A. No, sir.

22Q. Did you ever receive feedback regarding **MP** performance: flying or teaching an aerial demonstration program?

22A. No, sir.

23Q. Did you ever fly on any demonstration flights or sims during your time here at Elmendorf?

23A. No, sir.

24Q. Did you ever attend any demo planning or mission briefs during your time here at Elmendorf?

24A. No, sir.

25Q. Did you ever observe aerial demonstration practices or flights while here at Elmendorf?

25A. Yes, sir. Informally.

26Q. What was your impression?

26A. I don't think I had an impression at the time. It looked like the standard demo profile, the week prior or 10 days prior, I knew that they were doing several demonstration pilot upgrades, so I watched those on occasion from the ground, just to observe to see if there was anything that seemed unusual to me. There did not seem to be anything unusual going on there.

[The board took a recess.]

**Questions by the President:**

27Q. Have you ever flown with **MP**

27A. I can't quite remember. I think I may have flown with him once during Operations Enduring Freedom when I took a crew from Altus AFB to augment the airdrop operations that were going on over Afghanistan. We had to have somebody who was familiar with the operation onboard the aircraft before they would let the Altus crew go in unsupervised. Essentially, he was what we would call the seeing eye pilot, to talk us through the procedures. That is my only recollection of ever flying with **MP**. He was not actually at the controls. I am not positive, but when I showed up last summer, he and I had talked and we thought that we had flown together in that operation.

28Q. And your impression at that time?

28A. At the time that I flew with him?

29Q. [Affirmative response.]

29A. He was very professional. Everybody was very focus on the mission at hand. It was a new dynamic mission with high the altitude airdrops that were going on, something that had not been done before in a C-17, and he was selected to guide us through the new combat procedures that we were implementing in Afghanistan. He seemed very sharp at the time.

30Q. Have you ever flown with **MSO**

30A. No, sir.

31Q. Have you ever flown with **MCP**

31A. Yes, sir.

32Q. Can you tell me when and how many times, and your impression?

32A. I only remember one time flying with MCP It was during an Red Flag.

33Q. "Red Flag" is what?

33A. Red Flag, Alaska, which is quarterly large force exercise, usually with aircraft from several units from the Air Force, sometimes even international. I cannot remember what the case was this time. I think it was a year ago. I think it was the one last fall, because I do remember some snow on the ground to the north. He was the co-pilot at the time. There was another aircraft commander onboard and I was the third pilot -- looking for threats, recording threats calls, providing general situational awareness to the crew. It was a successful mission and he seemed extremely confident to me at the time. I don't think he actually flew the aircraft. I think he was acting as the pilot not flying. But the radio calls were crisps. His situational awareness was good. And he seemed very professional.

**Question by the Legal Advisor:**

34Q. A couple of clarifying questions. When you said you were the third pilot coordinating, do you mean coordinating?

34A. The third pilot, yes, coordinating the threat calls. In other words, I would on headset. If the AWACS -- the aircraft warning control system aircraft -- or another fighter aircraft would call a potential threat to us saying somebody is coming to try to shoot you down or they knew of a threat on the ground that we needed to avoid, I would be the person who would copy that information down, plot it on a map, and determine if it was something that we needed to avoid, or if we were okay in our current course, and provide general route, awareness, and threat. In other words, when we are flying in low level environment, I would advise them of what was coming up, what type of terrain was ahead, what type of threats were ahead, what type of radio calls we needed to make, things of that nature.

**Questions by the President:**

35Q. And that is not to literally shoot you down, that is part of the exercise process?

35A. Exercise, exactly right.

**Questions by the Legal Advisor:**

36Q. As the third pilot onboard, were you sitting in one of the additional crewmember's seats?

36A. Yes, I was. I would occasionally move back and forth between the seats to scan out of one side of the aircraft or another, depending on what the situation was.

37Q. Moving between the seats, you mean moving between the right and the left? 37A. The right and the left -- ACM -- additional crewmember seat.

38Q. RACM and LACM?

38A. That is correct.

39Q. Is there anything else you would like to add to aid us in our investigation?

39A. I would say while not part of the formal process for the demo selection, I am familiar with most of the pilots in the 517th and 249th and as the names would--due come forward for any type of certification, upgrade, anything that requires an Operations Group Commander's attention, my interaction with the squadron and the routine flying I do with them aids me in understanding what their qualifications are, what their competencies are. If I think they are the right person to continue with the upgrade or be selected for some type of special qualifications, while it is not in writing, my attachment to that squadron, my familiarity with the folks that fly down there, I feel like I have a good understanding of the qualifications and competencies of most of the pilots here in the 517th, if that helps.

President: You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission at any time before the report of this investigation is officially released to the public. This concludes the interview.

The time now is 0941 local, Alaska time.

**V30. AIB INTERVIEW WITH WITNESS 30**  
**VERBATIM TESTIMONY OF**  
**WITNESS 30**

PRESIDENT: My name is Brigadier General Carlton D. Everhart II, and we are investigating the C-17 accident that occurred on 28 July 2010 at Joint Base Elmendorf-Richardson, Alaska. This investigation is conducted under AFI 51-503, is separate and apart from the safety investigation conducted under AFI 91-204. The purpose of this investigation is to produce a publicly releasable report on the facts and circumstances surrounding the accident and to gather and to preserve evidence for the use in claims, litigation, disciplinary actions, and adverse administrative proceedings, and for all other purposes. A safety investigation was previously conducted on the accident. Any testimony you gave before the safety investigation board will be kept confidential, if you were so advised, and can be used only for accident prevention purposes. This board does not have access to any confidential testimony that you gave before the safety investigation board. Your sworn testimony to us may be used for any proper purpose. Additionally, your testimony can be released to the public. Do you understand the difference between your testimony before the safety investigation board and this accident board?

WITNESS: Yes, sir.

PRESIDENT: Your testimony in this investigation will be under oath, and at this time, I will administer the oath. Please stand and raise your right hand.

[The witness did as directed.]

PRESIDENT: Do you solemnly swear that the testimony you're about to give in the matter now under investigation shall be the truth, the whole truth, and nothing but the truth, so help you God?

WITNESS: I do.

PRESIDENT: Please be seated.

[The witness did as directed.]

PRESIDENT: Today is the 20<sup>th</sup> of September -- or excuse me -- today is the 22<sup>nd</sup> of September 2010. Time now 1050 local Alaska time. This interview is being conducted in building 7309, Room 106, Joint Base Elmendorf-Richardson, Alaska. The persons present are the witness,

WITNESS 30 myself, Brigadier General Carlton D. Everhart, II, the board president;  
the pilot member; the legal advisor;  
the maintenance officer advisor; , the medical advisor;  
the maintenance enlisted advisor; and

the court reporter.

The witness has been sworn.

**Questions by the Board President:**

1Q. Please state your full name and rank.

1A. WITNESS 30 ,

(The maintenance advisor noted the Board President misspoke in referring to him as a and corrected the record.)

2Q. How long have you served in the Air Force?

2A. Thirty-two years.

3Q. And what is your unit of assignment and location?

3A. The 176<sup>th</sup> Operations Group at Kulis Air National Guard Base, Alaska.

4Q. And how long have you been with that unit?

4A. I've been the Operations Group Commander for 15 months.

5Q. And Operations Group Commander is your job title?

5A. Yes, sir.

6Q. Please describe your duties as the 176<sup>th</sup> Operations Group Commander.

6A. I oversee seven operational squadrons, three rescue squadrons, and air control squadron, a tactical airlift squadron, C-130s, and a C-17 flying squadron. And five of those are GSUs -- geographically separated units from the base, and I have a balancing act of critical resources that I have to spread out and share so that all units can meet their training requirements.

7Q. And what was your job title from July of 2007 until now? Or prior to becoming the Operations Group Commander?

7A. July of 2007, I was still the 210<sup>th</sup> Rescue Squadron's Director of Operations, flying HH-60s, as well as the C-17 Program Integration Officer for this new squadron that we're standing up. So kind of dual-hatted. And I remained the helicopter director of operations until going off to Altus for training, and then I relinquished that job and came back here at the Program Integration Officer for -- probably until half-year 2008 when we finally got a unit

manning document for the new squadron, and it became designated as a squadron, but it didn't actually receive federal recognition until -- into 2009.

8Q. Okay. In June of 2008, then, roughly the middle of the year as you say, did you become the squadron commander?

8A. Well, I was still the Program Integration Officer. I was called the squadron commander, but officially we couldn't have a squadron commander without a squadron that didn't exist. So I served in the same capacity as an equal with WITNESS 23 for the purpose of standing up the squadron.

9Q. Are you familiar with the C-17 aerial demonstration program at Elmendorf?

9A. Only on the periphery. I was not directly involved in putting that program together. It was a Third Wing program.

10Q. Do you know who had oversight of the demo program once it was established, and the two units -- the 249th or the unit that became the 249<sup>th</sup> and then the Guard -- the 517<sup>th</sup> Squadron?

10A. It's my understanding the Third Operations Group had oversight of the program; we simply provided bodies to it, and that program was -- that program had direct oversight from the Third OG, Operations Group Commander, through the Third Wing Commander for certification up to the PACAF commander.

11Q. So stan/eval's role then was -- what was stan/eval's role as you understand it in this demonstration program?

11A. I am really not sure what their role was. When we first provided bodies to that program, my understanding was this was a certification process and it was more in training's lane than stan/eval's.

12Q. When you say "training lane," who provided the training to the crews?

12A. The -- as a Third Wing program, it was the Third Wing that developed the training program to meet whatever profile they were going to designate as their standard profile, and so that training was conducted, simulator and flight training, through the 517<sup>th</sup>.

13Q. How did -- talking about your experiences as the 176<sup>th</sup> Operations Group Commander, how did you integrate the program, besides, was there any more than just providing bodies that you integrated with the Third Operations Group and then the 176<sup>th</sup> Operations Group?

13A. As far as the demonstration program?

14Q. The demonstration program itself.

14A. That was not integrated at all. That was -- when it first started up, the Third Wing was interested in making that have a TFI flavor to it, which was the reason we provided bodies. But the program itself was wholly an active duty program.

15Q. And TFI flavor, you mean total force integration?

15A. Total force integration; I'm sorry, yes.

16Q. And that's where it came in that you provided the personnel?

16A. Yes.

17Q. All right. And then who were those personnel that you provided for the demonstration program?

17A. At the time they were putting it together, I had -- we, the Air National Guard entity, had only one person I was comfortable allowing to go into that program, and that was

**MP** He came to us as a fully qualified IP, instructor pilot, and he was the only one that met the criteria.

18Q. And then when you say made you comfortable, please describe that. Why did he make you comfortable?

18A. The comment wasn't really in reference to **MP** That was my own personal feeling towards aerial demonstrations and air shows. I was not a fan of it. I personally did not want anything to do with it, having witnessed two Class A mishaps before, and lost a couple of boom operators. I didn't feel comfortable with having an aerial demonstration program with a big airplane, but that was a personal issue with me and I did not want to deny anybody an opportunity. This was an established program that had been successful up until that point, and so I wasn't going to deny anybody an opportunity to do it. So when I say that I was comfortable with **MP** being involved in that program, it's because there was an established program with a scripted profile that they were not allowed to vary from, and a training program associated with it, and that's the only reason I was comfortable being involved in it.

19Q. Okay. How did you come about choosing **MP** Did he come to you, did you make an announcement in the squadron? How did that work?

19A. With regard to the demonstration program or the unit?

20Q. To the demonstration program.

20A. Actually, it was -- we discussed -- **MP** expressed an interest in it when it was first brought up, and we had discussed it inside of the Air National Guard leadership about getting involved in something like that, and we agreed that **MP** -- if we were going to do it, that **MP** was the only one that we would be comfortable allowing to do that.

21Q. And there again, comfortable because of his?

21A. His experience, his experience as an instructor pilot. He came to us from active duty. He actually came highly recommended and had served as a simulator instructor here at Boeing for a year prior to us gaining him full time. He was very smart with the airplane, very knowledgeable.

22Q. When the training -- you said that they went through ground training, I believe, and then simulator training and then flight training. When crew members are complete with their certification or with their training, when their training is complete, what happens next? What is the process?

22A. I can only give you my understanding. Again, it wasn't -- nobody in the Air National Guard had direct oversight of the program. I do know that there was a process for briefing the wing commander and being certified by the PACAF commander to do, and I believe that process was by air show. So it wasn't a blanket approval to go off doing multiple air shows. Yeah, I don't want to confuse the issue. That's my understanding of the process post-training.

23Q. All right. And then, going back to your selection of candidates, were there interviews given to **MP** to be a candidate, or then subsequent people asked that as far as the National Guard goes, did you all happen to interview those people, or what was that process? You know, because you said, this is the initial guy, we've talked about it, we're going to pick him. Obviously, I think he's -- I would have talked to him. I don't know, I don't want to put words in your mouth.

23A. We did. We discussed it. I shared with him my feelings and concerns about aerial demonstration in big airplanes and he understood. We always emphasized that this is -- **MP** was very rule oriented, so he got it, that there was to be no deviation or anything, and safety was always job one, but as far as subsequent crew members and such, as the Program Integration Officer, I spent more time going back and forth to Washington or to the National Guard Bureau working the standup of the squadron, and I know that when other people expressed interest in being involved in that, that there was discussion with my director of operations who was **WITNESS 22** So there wasn't just -- people didn't just get signed up for it out of the blue there. We required them to be pretty experienced.

24Q. And then for the record, you said rule oriented?

24A. He was a stickler -- from my observation, he was a stickler for following AFI guidance for not varying out of -- for the lack of a better term, more AFI guidance in the operation of the airplane. I mean, he was very much about following the rules.

25Q. Okay. Did you ever review any of the materials and part of the certification process, saying that it was complete and you know, you give your blessing that it can go forth as far as the actual certification processing goes?

25A. Not their actual -- if you're referring to training records --

26Q. Right.

26A. -- for them? I did not review outside of the scope of the normal TMS review that shows up in the Boeing training system.

27Q. And then did you ever receive any feedback on how the aircrews were performing in their upgrade training for aerial demonstrations?

27A. No, I didn't.

28Q. Did you ever receive any feedback regarding **MP** performance or teaching in the aerial demonstration program? Either as a squadron commander or as a group commander?

28A. I only recall one feedback, back when <sup>WITNESS 23</sup> was still here, that he gave me a thumbs-up after the first thing that all of our folks, that included the active duty and **MP** that they did a really good job at the first air show that they did. I believe that was the spring of 2008.

29Q. There were several air crew members, approximately ten, that were certified after 2009; what was your role, if any, in that demonstration certification process?

29A. I had no role in the certification process.

30Q. Okay. Did you ever fly on any of the demonstration flights, or participate in any of the sims, or any part of the training at all?

30A. No.

31Q. Did you ever attend any demo planning, briefs or mission briefs?

31A. Actually, my intent was to attend some of those, but every single time an air show came around, they were prepping, I was either TDY or unable to make it due to other commitments.

32Q. Okay. Earlier you were describing the initial candidates for the aerial demonstration program, **MP** and you said he came to you highly recommended?

32A. Yes.

33Q. Who provided you with that recommendation? What did they say?

33A. Well, it was <sup>WITNESS 22</sup> that talked with the folks from where he came from on active duty, and the simulator folks here at Boeing just were very happy with his performance over there. What they really were grateful with **MP** is when he came up here to take that simulator job, we were already trying to hire him and he pushed us off for an entire year because he had committed to them for a year. They were brand new here, too. He said he would come up here and work with them for a year before doing anything else, and he kept that promise to them.

#### **Questions by the Medical Advisor:**

34Q. Sir, this is . You said he came up here for a year; was he traditional guard at that point during that year?

34A. Part way through that year, we hired him on as a drill status guardsman, and then after he left the simulator, we hired him as a full time.

PRESIDENT: Okay, <sup>WITNESS 30</sup> if we could, we'll just take a quick break and then we'll call you back in and then we'll finish up.

[The board recessed at 1108, 20 September 2010.)

[The board reconvened at 1117, 20 September 2010.]

Legal: Yeah, this is  
are again present, to include

All attendees present at the interview prior to the break  
WITNESS 30

**Questions by the Board President:**

35Q. <sup>WITNESS 30</sup> earlier in your testimony you said that **MP** could be described as a stickler to the rules?

35A. Yes.

36Q. What gave you that impression?

36A. He -- well, my interface with him, his, if you can remember back in UPT, the kind of ground evals that you would get, he was very much about digging right down into the weeds about every single issue. Not just why an answer was what it was, but where it came from. And he was very procedurally oriented. He would -- one of the times that I flew with him -- as an example -- for an air refueling sortie, would not close on the tanker until all the checklists were done, and in sequence, and all the right responses were made. He was very, very good at teaching younger folks.

37Q. How many times did you happen to fly with him?

37A. Honestly, I think it was probably only four times.

38Q. And your impression when you flew with him then was the same?

38A. Yes. A very good pilot.

39Q. Previously we talked about the candidates for the aerial demonstration program. Did anyone else express interest in being a part of that program?

39A. I had a couple of people come to me about that, and between myself and <sup>WITNESS 22</sup> denied their -- denied them entering the program until they got some more experience. So there was a great deal of interest. I mean, obviously, the program got to follow the Thunderbirds around the Pacific and go to India, and all of those kinds of things. So there was a lot of interest in being part of the program, but we did limit it.

40Q. Okay, and then how many folks did you have to choose from totally for the aerial demonstration program?

40A. Well, you mean at the beginning or during --

41Q. Uh huh, at the very beginning.

41A. At the very beginning, it was really only **MP** that I recall. He was the one with -- when we hired him, he obviously had the most C-17 experience in our program.

42Q. Yeah, but just for clarification, I mean, for as far as the population of your squadron, that you could have chosen from.

42A. I think when we hired **MP** we only had eight people. We were still at the very beginning of the standup. He was our first hire from outside of Alaska.

43Q. All right. When you flew with **MP** when was that?

43A. Without reviewing flight records, I'd have to say probably the fall of 2009 was the last time I flew with him.

44Q. All right. Did you ever see a demo from the ground, or a video of the aerial demonstration?

44A. Actually, no, I've never seen it actually accomplished.

45Q. Okay.

45A. The one air show they did here, I was TDY during the air show.

PRESIDENT:

Questions by the Legal Advisor:

46Q. Thank you, sir. Just had one follow-up question to the General's question. You mentioned that you thought -- or you flew with **MP** maybe about four times?

46A. Yes.

47Q. Give or take, without reviewing records --

47A. Yes, right.

48Q. -- or anything. And the last flight was in 2009, sometime in the fall of 2009?

48A. I believe so, yes.

49Q. Was there -- when was the first of those four? I mean, if you can give me a date range or a year range.

49A. It would have to be the fall of 2007 when we first got airplanes here in the program.

50Q. So would I be correct in saying that you flew with him approximately four times, give or take, between fall of 2007 to fall of 2009?

50A. Yes.

51Q. In the C-17?

51A. Uh huh.

PRESIDENT: Is there anything else, matters of importance that you think may help us in our investigation?

WITNESS: No, not in your investigation.

PRESIDENT: Okay. You are reminded of the official nature of this interview. You may not discuss your testimony with anyone without my permission, or at any time before the investigation is officially released to the public. This concludes the interview.

The time now is 1123 local Alaska time.

**V31. AIB STATEMENT FROM WITNESS 31**

**STATEMENT OF WITNESS 31**

I, **WITNESS 31**, of the 249th Airlift Squadron at Joint Base Elmendorf-Richardson, Alaska, hereby state I understand the difference between the nature of an accident investigation board (AIB) under AFI 51-503 and a safety investigation board (SIB) under AFI 91-204. An AIB is a legal investigation convened to inquire into the facts surrounding aircraft or aerospace accidents, to prepare a publicly-releasable report, and to gather and preserve all available evidence for use in litigation, disciplinary actions, administrative proceedings, and for other purposes. I understand the difference between an AIB and SIB. I understand that this statement may be used for any purpose and can be released to the public.

On July 28, 2010 I saw **MP** and **MSO** in the briefing room sometime after 1500 in the briefing room. I recall they were discussing a plan of how to move **MP** shed from his neighbor's property over onto his. I had gone into the briefing room to ask one of them a question but before I could interrupt them I had decided that the matter I was going to discuss (of which to this day I cannot remember) could wait. It was just **MP** and **MSO** in the room. I can only speculate that they were waiting on the rest of the crew to brief their sortie for the day.

**WITNESS 31** \_\_\_\_\_ **USAF**

Signed and sworn before me this 27 day of September 2010.

**CARLTON D. EVERHART II, Brig Gen, USAF**  
President, Accident Investigation Board

### V32. COCKPIT VOICE RECORDER

Previous Crew - I've been told--I figure you want to go off 24. The winds are calm and I got 6 in the landing. I got it this time with Homer. I don't know what you [expletive] high-speed guys do other than that.

MCP - Yeah, we got all kinds of crazy magic. I got it all, dude.

Previous Crew - Just do the ops stop checklist.

MCP - What step you on?

Previous Crew - I think, like 17 or something. I don't know. I just said get out and get in. Yeah, you're up to 17, clear to taxi.

MCP - Huh?

[Inaudible voices from outside aircraft.]

MCP - All right, dude. Thank you.

Previous Crew - All right, man. Have fun. I am outta here.

MLM - Test, one, two.

MCP - Loud and clear.

MLM - Thank you.

[Unknown voices from outside aircraft.]

Unknown 1 - I told them to take the 781 and you're going to do the extract.

Unknown 2 - [Inaudible.]

Unknown 1 - Yeah, they were going to leave it out here and I'm no, no, no, no, no.

MLM - All right, let me get my [expletive] in one sock, brother. All right. I need about 5 minutes and I will be ready to go.

MCP - Roger that, load.

Unknown 1 - Oh, okay. You sent it to **M** or **MP**

MCP - What are they calling it?

Unknown 2 - 4300.

Recorded Advisory- Elmendorf Air Force Base, information kilo. Weather at 0055 Zulu, wind calm, visibility 10, ceiling 2300 overcast, temperature 13, dew point 9, altimeter 3004, pressure altitude plus 102, runway 6----

MCP - If we just standby, huh?

MP - Can you get a hold of weather? Kind of talk to them and see if---

MCP - Just call [expletive] tower, dude, and tell them to give us an update. What do you think?

MP - Probably need to call weather. Tower is just going to be like, uh.

MCP - Weather doesn't have anything to do with the current observation, do they?

MP - True.

MCP - You know what I mean? That's the tower calling it. Weather is going to give you----

MP - Yeah, yeah. Work your magic and see what you can come up with.

MCP - Is that right or wrong, though, dude? All the [expletive] comes off the [expletive] at-- maybe not, dude. It might be weather. Let's call them. Hey, I'm off headset, brother.

MP - All right.

MLM - Load is going to be off for a minute in the back.

MCP - I'm delegating to the Major, dude. All right, you want me to get the secondary?

MP - Yes, please.

MCP - You already built the custom runway?

MP - Yeah.

MCP - What did you put it in as?

MP - Seven and 23. That's not right.

MSO - That's [expletive] up.

MCP - What's that, bud?

MSO - I don't know, the line. You got a phone number?

MCP - , ask for base weather.

MSO - Is this the operator?

MCP - Yes. You know what, it was actually MAJ N MAJ N just gave a pie rep of 2300.

MP - [Laughs.]

MP - 480.

[Buzz.]

AIRCRAFT - Stabilizer motion.

[Laughter.]

MCP - Close it back up.

MSO - I don't know why you guys are laughing. That's a legitimate question.

MCP - Absolutely.

MSO - And he says he will do it. He says if we go up there and do a weather check and we see 2500, we can give that pie rep and they will change their report. However, right now they are calling it 2400.

MP - [Expletive.] 100 feet, really?

MSO - Yeah. So, the way I see it, the options are we can [expletive] sit here with our thumbs up our [expletive] for a while and hope it comes up. He thinks it won't come up for a while. Or, we can go do a weather check and make a pie rep for 2500 if it is somewhat close, or that's it. We may be sitting here for a while.

MP - [Expletive] that. We are going to go look.

MSO - All right.

MP - Let's do the ops stop check. The question is, are we going to look at the same time we do the show?

MSO - That we do the what?

MP - That we do the show.

MSO - I don't think that is a good idea.

MP - [Laughs.]

MSO - I like it, I like where your head is at, but we gotta fly. You're the one who looked it up. If you wouldn't have looked up the [expletive] weather requirement we would be fine. What do we really need? We need a thousand foot [expletive] ceiling, 1500, 500 foot below that, VFR 1000 feet.

MCP - Where the [expletive] am I going? Ops stop. All right.

MSO - Projector has really low specs compared to the new [expletive]. 1100 lumens.

MP - Yeah.

MSO - 2500-1 contrast ratio. \$7,000 MSRP in 2005.

MCP - Just wait and we can update the weigh and CG.

MLM - You shouldn't need to. Ops stop. There's no cargo.

MCP - IRU alignment, mission computer data. Present position, flight plan and TOL.

MP - Alta.

MCP - All looks good. Check co-pilot.

MP - Pilot.

MCP - Toga man?

MP - Engaged.

MCP - Trust ring is max. Flap index is set 76. Stabilizer, rudder, and aileron trim are at .6 down  
00, co-pilot.

MP - Pilot.

MCP - Altimeters 3004. I've got 230 on 2. Sitkoba.

MP - 2004 showing 250.

MCP - Roger that. Skis off. Environmental panel is set.

MP - Roger.

MCP - Propane switch lights are coming on. Spoiler switch is armed. Radar, we will leave off.  
Defensive system not required. TAUS is--we will get that here in our next checklist.

MSO - I'm off headset for a minute. I need to make a call to the guy doing the video.

MCP - Okay. Flap is checked with the----

MP - We need to change some of that TAUS input stuff.

MSO - All right. Call that bottom number right there. Tell them our first take-off is not the air  
show. It's the combat camera guy. He is going to be videoing us.

MP - 27-376.

MSO - Just let him know what is going on.

MCP - Flaps checked with the park brake. Landing and taxi light. 700, 300 weight one in there.

MP - It should be off and that could be probably 400.

MCP - Roger. Flaps, check, co-pilot.

MP - Pilot.

MCP - Loadmaster report?

MLM - Check complete.

MCP - Ops stop checklist is complete. All right, crew, switching checklists. We are in the air  
show checklist now.

MP - Actually, we are just going to go up, take a look at the ceiling real quick, and hopefully if  
we can get the ceiling we will call in the pie rep and land and start all over.

MCP - Okay. Yup. Land opposite direction for the 180 with no thrust reversers.

MP - Yup.

MCP - Did you get the----

MP - So you can put probably land data for runway 23 in there.

MCP - Roder. Did you select 2 engine max?

MP - What's that?

MCP - Did you select 2 engine max?

MP - Don't worry about it.

MCP - Okay.

MP - We can get the majority of that once we are back on the ground.

MCP - All right. Cool.

MP - Have it programmed?

MCP - You got it, buddy.

MP - Ground, Sitka 43.

Ground - Sitka 53 [said in context] heavy, good evening, Elmendorf ground.

MP - 53?

MCP - 43.

MP - Sitka 43. We are ready to taxi. I would like to probably take off on runway 24. We would like to just basically go do a weather check and get an idea how high the clouds are.

Ground - All right. Copy all, sir. So you're just going to go out on a local VFR?

MP - Affirmative. We are just going to orbit up over the field, take a look at the clouds and land.

Ground - Copy all, sir, and verify you are the C-17 right around spot 19, 20 area?

MP - We are over on delta.

Ground - All right. Copy all, sir. Taxi up and hold short on runway 24 delta.

MP - Up 2 and hold short 24 at delta, Sitka 43. All right, here we go.

MCP - All right, man.

MP - He onboard, **MSO**

MSO - Positive comms with the camera dude.

MP - You are ready to go in the back, right, load?

MLM - Roger.

MP - And you're clear on the plan?

MLM - Yup.

MP - Okay.

MCP - Hey, **MSO** help me out. Let's get a sanity check of this overhead panel. What do we have on gas?

MP - 65. It checks.

MCP - All right, man. My needle is to the right, my balls are to the left. Got a 115, 115, looking good. Everything is swinging.

MP - All right. That should be lineup check, correct?

MCP - Let's do a before take-off checklist.

MP - We did the ops stop, right?

MCP - Yeah, I guess. That's fine. We can do that. We will do a lineup check. I said I was going to exit that and go to this. That's what [expletive] me up.

MP - I got ya.

MCP - All right, crew, standing by on the lineup.

MP - Inboards going to reverse. Hey, your radios----actually, you want the takeoff that way you can get one?

MCP - Yeah, that's fine.

Ground - Sitka 42 heavy, contact tower.

MCP - Switch.

MSO - Blue Angels. Wow, impressive. <sup>[expletive]</sup>.

MCP - All right, dude.

MP - All right, whenever you are ready.

MCP - Co-pilot is ready to drive.

MP - Co-pilot--aircraft pilot's radios.

MCP - All right, crew attention to brief.

MP - Tower, Sitka 43 is ready to go for runway 24.

Tower - Sitka 43, roger. Hold short runway 24 for inbound traffic, runway 6.

MP - Copy. Holding short, 24, Sitka 43.

MCP - It will be a max power takeoff on the right hand. Seeing anything prior to go we'll abort. Anything after that, take the aircraft airborne and handle that in airborne emergency. We will plan on vectors back around for either 24 or 6 as appropriate. 2400 foot ceiling is

what we are anticipating. We will just pull a VFR closed so it will be right close to 24.

We do have the barriers up so I've got to land past those.

MP - Oh, what the hell? Barrier 2 is up.

MCP - Yeah, that [expletive] needs to be gone.

MP - Yeah. Tower, Sitka 43.

MCP - Who coordinated all this?

Tower - Sitka 43, what's the request?

MP - Yeah, looks like barrier 2 is up. We will need that down for the performance.

Tower - Roger that.

MP - Just so you have a heads up, we are just taking off to do a weather check and then we will be landing for the performance. If they can take it down after we are airborne, that would work great.

Tower - Roger.

MCP - Next time you talk to them, can you let them know too it looks like number 3 is maybe just a little bit out of place there, like 3 had pulled just a little bit too far forward.

[Laughter.]

MCP - It could just be the angle of that.

MP - [Laughs.]

MCP - <sup>[expletive]</sup>.

MP - Actually, we need to make that radio call at some point.

[Beep.]

MP - Roger, seg 1. 1, shutting it off.

MCP - Is that [expletive] us up with the anti-ice?

MP - Tower, if you could go ahead and advise Blue Angels that number 3 is out of position.

[Laughter.]

MP - Number 3 looks [inaudible]. Too far forward. You might want to take care of that before the show.

MCP - We can wait and [inaudible].

[Laughter.]

MSO - No kidding.

MCP - What's the status on barrier 3 there? That [expletive] needs to come down too.

MP - Three is fine.

MCP - No, dude. This is show center right here.

MP - Yeah. We rotate right there. We will rotate at barrier two.

MSO - A couple of those we did last time, man, after that sling shot--I guess we're not sling shooting today.

MCP - Yeah, it----

Tower- 1709 is able to fly slowest practical airspeed on final for a heavy C-17 departing runway 24, northbound, VFR.

Unknown 3 - Verify and if able, turn right at that taxiway. Contact ground when off.

Tower - Sitka 42 heavy, wind 2--correction, 250 at 6, runway 24 clear for takeoff with a right turn out. Traffic is a C-130, 8 mile final on runway 6.

MP - Traffic is in sight. Clear for take off, Sitka 43

MCP - Dude, he's on a [expletive] 8 mile final.

MP - Someone is about to get smacked in the tower. Let's make it quick. Taxi back to there.

MCP - Okay, crew. Let's do a lineup check.

MP - [Inaudible] one half. Index, 76. Co-pilot?

MCP - Co-pilot.

MP - Lineup checklist completed and TOGA. 22 knots right now.

MCP - Max power. Rolling, crew.

MP - Gotta go. Our airspeed is alive.

MCP - Roger.

MP - 80.

MCP - Clamp.

MP - Rotate. Positive 8.

MCP - Gear up.

MP - Gear up.

[Beep.]

MP - Tank not inert. And, let's start the turn. Tower, Sitka 43 is in the turn and non stand, we would like to climb up and take a look at how high the weather is here.

Tower - Roger that. You're going to stay within my airspace, yes?

MP - Affirmative. Plan to go up to--we need to check and see if we can get 2500 feet.

Tower - Roger that. Just maintain at or below 3000, please.

MP - Wilco, at or below 3000 and that's it for Sitka 43. Let's see what we got.

Tower- 1709, winds 250 at 50, runway 6. Clear to land, caution [inaudible] C-17 departed runway 24.

MCP - I say let's go out there and hit this and potentially go out there to Goose. You want to, or do you just want to come in and land?

MP - I just want to see what we got here [inaudible].

MSO - Yeah, I think we need to check the weather and land before we waste all our [expletive] gas.

MP - Yeah, absolutely. 2500 right there. Hold back.

MSO - Actually, come up a little back. Go up and see where you [expletive] hit it.

MCP - 26.

MP - 27-ish. Get back down to 25.

MCP - Hold on. We got to get this back end area. We just got layers back here. It's going to be a--let's do a full flap from the right seat in accordance with the Dash 1. No questions, crew brief complete. Let's go on speed. Check. Let's go gear down.

MP - Gear down.

Tower - [Inaudible] proceed inbound for runway 6. Traffic is a heavy C-17 inside our airspace doing a weather check. He is going to be the demo for the C-17 later this evening.

MP - Tower, confirm with Sitka the area is cold.

Tower - Affirm.

MP - We are going to make a left 360 here and land on 24.

Tower - Roger that, sir. That cable is still up and operational.

MP - Copy that. We'll land past the barrier and taxi clear while we wait for it to be cleared off, if able.

Tower - Roger that. We do have barrier maintenance in route to get that taken down for you.

Standby one second. Coast Guard 1709 if able, right---[inaudible].

MP - All right, crew. Let's do an approach check.

MCP - Okay. Approach mode.

Tower - Sitka 43, that shouldn't be a problem. Traffic you're following, however, it is a B-20 over Goose Bay approximately your 10 to 11 o'clock at 2700 feet, inbound for a right base to runway 6. He will be following you.

MP - [Inaudible] for traffic. Confirm their landing runway.

Tower - They are landing runway 6. I will let you land runway 24. Just once he is down, we will get you inbound for runway 24. You can continue to circle current location.

MP - Copy, wilco.

MCP - Okay. We are good to go.

MP - Sweet. Approach checks. Let me double check that and make sure. Yup. Full flaps. Check co-pilot or pilot, rather.

MCP - 75 now. Post check, co-pilot.

MP - Full flap, no brakes, all reverser. Just past barrier 2 more than likely.

MCP - You got it. What's the runway available there, bud?

MP - In between them. It's about 5500.

MCP - Okay.

MP - Gear is already down, so.

MCP - Are we happy with 2500?

MSO - [expletive] yeah, we're happy with 25.

MCP - Gear is down, co-pilot.

MSO - Maybe half that.

MCP - [Inaudible], pilot.

MCP - Co-pilot.

MP - Loadmaster, approach check.

MLM - Check complete.

MP - Approach check completed. Let's go down to 1200.

MCP - That's where I'm down to now. [Inaudible checklist], co-pilot.

MP - [Inaudible repeat of checklist], co-pilot--uh, pilot.

MCP - Co-pilot.

MP - Gear's down, pilot.

MCP - Co-pilot.

MP - [Inaudible] search is on. Loadmaster report?

MLM - Check complete.

MP - Check complete.

Tower - Wind 340 at 3, runway 6----

MCP - Can we 17 for patterns or 12?

MP - 12.

MSO - 17 for overhead.

MP - 17 is for overhead.

MCP - That's what I'm thinking.

Tower - Sitka 43 heavy, continue in that turn and just line up for your base to come out of that turn to runway 24. Traffic you're following is the B-20 now 1 1/2 mile final--correction, 1/2 mile final runway 3.

MP - Traffic is in sight. We will probably continue opposite direction here and then enter into a downward for a right base, runway 24. Sitka 43. We are also descending to 1200.

Tower - Sitka 43, roger. Cable 1 and 2 are both up and operational. First one is 1780 feet from the approach end.

MLM - This is the standard landing report, right?

MP - Copy.

MP - Affirmative.

MCP - Correct.

MSO - You just said 24. Is it 24 we are going to?

MCP - We are. Yeah. Entering a downwind.

MP - You are good to turn. I think he is on the ground. SOA, over.

MCP - Good call.

Tower - [Inaudible] Roger that.

MCP - Got a lot of guys comin' in our [expletive] pattern that we are supposed to have. You know what?

MSO - Yup.

MCP - Are we cleared and hot? Where is this dude at?

MP - I'd just make the turn.

MSO - I thought he said you were clear to enter base, right?

MP - Yeah.

MCP - Clear right. Coming to base.

MP - Sitka 43 at base.

Tower - Sitka 43 heavy, wind 260 at 4, runway 24, cleared to land.

MP - Cleared to land, Sitka 43.

MCP - Clear to land, looking for the barrier. It's going to be just past. Let's do a sanity check on the runway here.

MP - You got the boxes in sight there?

MCP - Yeah.

MP - Two sets of boxes.

MCP - All right, bro-hama. Speed is checking. Let's go flaps full.

MP - Flaps full.

MP - ATT is set. Runway is clear. Clear to land. Config page.

MCP - Thank you.

MSO - Is anybody working on that [expletive] cable yet?

MP - No. They said they were in route.

MP - Right there is brick one.

MSO - Height good, safe. Check.

MP - Looks like there is a truck sitting there. They are ready to de-rig. 300 feet.

AIRCRAFT - Minimum.

MP - Stable.

MCP - No brakes, crew. No brakes.

AIRCRAFT - Fifty.

MP - Fifty feet. Little less, I know. [Inaudible]

MCP - Taking it to the end.

MP - Yup.

[Engines.]

MP - Tower, Sitka 43. Like to 180 at the end and from there wait for the barrier to be down.

Tower - Sitka 43, just taxi to the end and exit at Alpha North. I've got 2 more aircraft inbound.

One 8 miles final, the other approximately 13 to fly off on final.

MCP - We'll just clear here and do the [expletive] dance.

MP - Copy. We'll exit north at alpha. Sitka 43.

MCP - Alright I've got the flaps and slats, let's do an after landing.

MP - Alright.

MP - And uh we'll do a, I don't know, full stop taxi back.

MCP - Yeah that'll work too.

[Beep.]

MP - Slat disagree. Transient.

MCP - Clear right crew.

Tower - Elmendorf Tower Raider 46 eight mile final on the ILS runway 6, three unlocked.

Tower - Raider 46, wind 260 at 4, runway 6 clear to land, your landing is over a raised cable  
1780 feet from the approach end.

MSO - Did that NOTAM not make it in?

Tower - Raider 46 clear to land, runway 6.

MP - I specifically called 'em and give them the data on it, oh I guess----

MCP - We're down here to the----

MP - Oh, hang on, let's wait here and talk to tower.

MP - Tower Sitka 43 would like to taxi down to Bravo and hold short there.

Tower - Sitka 43 contact ground.

MP - [Expletive]

MP - Ground Sitka 43 has cleared the active at Alpha would like to taxi to Bravo and hold short.

Ground - Sitka 43 heavy Elmendorf ground approved as requested.

MP - Sitka 43.

MCP - Rollin crew.

MCP - Dude, you know what, I'm glad we didn't [expletive] have <sup>WITNESS 16</sup> with us.

MSO - No [expletive].

MP - Yeah.

MP - Well, we haven't done anything.

MCP - No, I just mean because it's just been such a cluster [expletive].

MP - Yeah.

MLM - Hey, we're going to be switching sides back and forth aren't we?

MP - I hear you like to switch sides.

MLM - Yeah, front, back, front, back. Hey ah, which side is the audience going to be on?

MP - They're going to be on the number four engine.

MCP - Number four will be the critical side.

MLM - Okay, so I need to be on the other side of the airplane?

MP - No, yeah you need to be on the number four side.

MLM - Okie dokie.

MCP - Hey bro, do you want to ask if we can pull into here?

MP - Why?

MCP - Kind of like we did the other day? Until these [expletive] have everything set up, and all their arrivals are in. Because depending on where we're parking those guys, we block that taxi way.

MP - That might not be a bad idea. I'm hoping they have it pretty much down by the time we get there if we taxi slow, and just yeah minimize brakes on the taxi.

MSO - Is that secondary FAF, is that overlaying or does that need to be fixed?

MP - I'm working on that right now.

MSO - Oh you're working on that, okay.

MP - I'm doing the co-pilots [expletive] job is what I'm doing.

MSO - This is tactical, this is tactical. Hey **MP** does \$1,000 to about to \$1,400 sound about right for that screen for a new.

MP - No.

MSO - Oh, ok.

MSO - Well that's what they're--the delight----

MP - Well it is pretty big.

MSO - Delight snap screens about that size, anywhere from \$1000 to \$1400 on Amazon and different spots.

MP - For that size, yeah maybe, it is a pretty big screen.

MSO - Screens, they don't really get [expletive] up unless they deliberately get [expletive] up, right?

MP - True statement.

MSO - So, wonder what I should offer him, he's just trying to get rid of, he told me that, he goes,  
I said how much you asking for and he said----

Tower - Calling ground 21A coming in completely unreadable.

MSO - He said, well I didn't really put a price on it I don't think, and I said I don't know I'm on  
the phone that I was looking at it on, and he said I don't know, I'm just trying to get rid  
of it, those were his exact words.

Tower - Calling 21A still coming in extremely unreadable.

MP - Good words.

MSO - So what does that say for you to price?

MP - Five, 400 maybe, probably go less than that. Hell.

MCP - Is this the Russian open skies flight that they still haven't gotten the FAA clearance form  
for us to fly tomorrow, or, uh, Friday

MP - Huh?

MCP - The [expletive] ruskies are here.

MP - What do you know? We'll show them.

MCP - So, we're holding for two dudes, right?

MP - Uh yeah.

MCP - Hercules and somebody else? Hercules...Hercules...Hercules.

MSO - Alright, well we got a minute Uh just got one thing for ya there, co-pilot. When you push  
the power up, I would be very [expletive] careful about what you did, because they were  
almost at idle and you pushed them all the way up.

MCP - What are you talking about?

MSO - Point on the takeoff.

MP - Yeah.

MCP - Okay.

MCP - Oh, you get the spool up?

MSO - And so what we ended up having was one was here, two was down here, three was here,  
and four was here.

MCP - Yup.

MSO - If these two would have been reversed, we would have been [expletive].

MP - You would have felt that.

MCP - You get the moment, as opposed to pushing a 1.15.

MSO – Yeah.

MCP - Yeah, trackin’.

MSO - Yeah, I mean because they take a while to spool up, but when they go they [expletive] go.

MCP - No, that’s a good feedback.

MCP - [Expletive], I hate it when MSO has legit [expletive].

MP - Doesn’t happen often. Alright, mission computer data is checked for the pilot and the [inaudible]. I’ll take it, you take the rest

MCP - Alright man you got inboards. Pilot has the aircraft.

MP - Hopefully they’re able to get some of that crap----

AIRCRAFT- Stabilizer motion.

MP - Down while they’re waiting, I bet they can’t.

MSO - Next time, don’t call me MSO I’m RACM.

MP - [Laughs.]

MCP - Well, Blue Angels sure can’t count. 1, 2, 3, 7, 5, 6. That’s what the critique is going to be.

MP - That’s the radio call.

MCP - And then they put 4 on the end, what the [expletive]?

MP - Be advised, it appears the Blue Angels cannot count.

MSO - Be advised the Blue Angels are out of order.

MCP - There’s a P3.

MSO - Awww man lets [expletive] hump this monkey.

MP - What did you tell the camera dude?

MSO - I told him the first take off would be a weather check and then the next time he saw us go we’d be, well I’ll call him again, just let him know we’re good, we’re legit, too legit to quit.

MCP - Is this a curtsey?

MP - Say again?

MCP - Is this a curtsey, a bow?

MP – Negative.

MCP - Aww this guy is doing a 180. Hopefully he's going down here. All right, I got the radios again.

MP - Yes you do.

MCP - You talking to him on victor or uniform.

MP - Uh victor, cause I couldn't hear these other guys coming in.

MSO - No fighters on frequency, supposed to be on victor I think.

MP - Yeah. Love, love

MCP - Tower Sitka 43 is checking in with you, holding short 24 at Bravo, we'll be waiting for barrier two to come on down.

MSO - Is that thing still up?

MP - Looks like it, I think they're waiting for the Herc to go over it and then they're going to drop it.

MSO - I'm going to go take a quick pee.

MCP - How much gas we got?

MP - Uh, 61K left we'll be fine, an hour and a half of flying, we'll probably burn 30. Probably land with 20.

MLM - Are we going to be here for a sec?

MP - Yes, we will.

MLM - I'm going to do a right troop door check.

MP - Copy.

MLM - Just to make sure it doesn't get hung up like <sup>WITNESS 5</sup> kept saying.

MP - You're cleared to open; he's the only person that's ever had that problem by the way.

MCP - Tower Sitka 43.

[Beep.]

MP - Troop door.

Tower - Sitka 43, Tower.

MCP - Yes sir, just wanted to make sure you guys copied, we're holding short 24 at bravo for the barrier.

Tower - Affirm and I have the barrier maintenance crew out there right now pulling down your cable for you.

MCP - No worries.

MLM - Door checks good.

MP - QB? Is that Quebec?

MCP - QB?

MP - No, that's Marines

MLM - Yeah, it used to be El Toro, I think, now its Miramar. Is it on a Herc?

MP - Yep

MSO - Hey, Trigger, I just want to say you look good in your helmet.

MLM - Yeah, it's starting to bring me--give me flashbacks of my Herc days. At least I'm not wearing goggles.

MP - Make sure were good on the checklist once that sucker is down.

MCP - I'm going to leave TCAS on since there are other airplanes out here.

MP - Okay, I like that.

MCP - TA/RA.

MSO - TA/RA

MCP - Were going to BA, set zero.

MP - Uh, yeah good call.

MSO - BA.

MCP - 29.79?

MP - I've got 29.82. How about 81, nope 80...nope 79 there it is

MP - 29.79 set.

MCP - Co-pilot. Alright, following before takeoff demo checklist is complete. We're standing by on the line up checklist, crew.

MSO - Alright, so how much--how much room do I need on the sides of the screen to be open, if any?

MP - What do you mean?

MSO - In other words if I put the screen up, do I need the sides of the screen to have any opening whatsoever?

MP - Like between the sides of the screen and the wall?

MSO - Yes.

MP - No, you do not.

MSO - Like, not an opening, but does there need to be a border there of any kind?

MP - No, not really. However, keep in mind the best screen--sitting position is one and a half screen lengths from the screen, so the larger the screen the deeper the room you'll need.

MSO - Right.

MP - To have decent viewing of it.

MSO - Right, assuming that means you use the whole width of the screen.

MP - True, but if you don't use the whole width of the screen then it will look like crap.

MSO - Yeah, okay.

MCP - 1..2..3..7..5..6..4.

MSO - So the width is 10, so I need 15 feet from the screen.

MP - Right.

MLM - Why don't you just paint the wall white or hang a sheet, save yourself fifteen hundred bucks?

MSO - I don't know. Why don't I do that?

MP - It kills the image quality.

MSO - Yeah, it kills the image quality.

MLM - Don't we have any of those old whiteboards lying around you could use?

MCP - You'll get a glare off the whiteboard.

[Laughing]

MP - Can't have glare, what the hell?

MLM - Dude, I still have a regular DVD and a 19...what '99 tv, so.

MCP - How can you watch <sup>[expletive]</sup> on that and still respect yourself?

MLM - I can on my MAC.

MP - Good point.

MLM - And on my I-phone.

MSO - Okay, so this thing says, let's see here----

MP - I think the barrier is off the runway now.

MSO - All right, he put in the ad on the screen; he said it is gray or deeper black.

MP - That's what you want.

MSO - Okay.

MP - It's not really gray, if you look at it, it still looks white.

MSO - It looks white in the picture.



MP - Alright, so looks like they're done. Lets prep tower, tell them were still ready to go as soon as they don't have any inbounds.

MCP - And tower, heads up for Sitka 42. Sir, were going need the air space completely cleared out for probably about ten minutes. So, looks like the barrier guys are done. If you guys don't have any inbounds we're ready to go.

Tower - And Sitka 43 heavy, I do have an inbound we got a BE-20 approximately twenty-five miles to fly for a TACAN visual to 6. I can get you airborne and get you over Goose Bay, and then once he's down bring you inbound if that will work for you?

MP - Nope, nope.

MSO - Twenty five miles I got a BE-20.

MCP -I got it.

MCP - Alright, sir that's not going to work for us. We need to do the full profile or nothing. Can you check for us and verify that the NOTAM made it in there?

Tower - The NOTAM did make it in there. We have it for you. We were just told to work in between your profiles for inbounds and out bounds. I didn't know if you wanted, basically your profiles going to start on takeoff and then you're going to run through your sequence. Is that accurate?

MP - Yep.

MCP - That is accurate, yup. We're going to--for takeoff we'll do--probably about three passes and we're going to land. We're going to have to go to goose in between to cool the gear, but we'll let you know when we're going out and when the profile is done.

Tower - Roger that, after this BE-20 comes inbound, I don't have any proposals for a little while. Would it be all right if we just waited for him to get down?

MP - Well what's the time, how much time does he need? Is he ten minutes out or is he?

MCP - Twenty five minutes on the TACAN circle.

MP - Twenty five minutes or miles?

MSO - Twenty five miles out and then he starts to circle.

MP - Yeah, so.

MSO - He's going to be forty [expletive] miles.

MCP - That's fine, sir, for Sitka 43. We'll wait for this one and then once the air space is cleared out, we'll go.

Tower - Roger that, thank you sir.

MP- That's what the [expletive] NOTAM's for, to kick them out.

MSO - I mean he can hold on the [expletive] TACAN.

MP - Yeah.

MSO - Jesus.

MCP - The only reason I said that is because it might be one of our guys. It's probably one of the north guys.

MSO - A BE-20?

MCP - Yeah, it's King Air, right?

MP - No.

MCP - What's a BE-20?

MP - No.

MSO - It's a Beech Craft.

MP - Yeah it's not a C-12. I don't think it is. BE-20.

MCP - [Expletive] it, we'll get it here.

MSO - Google it

MCP - [Laughing]. Dude how awesome would it be if we had <sup>WITNESS 16</sup> on board? Now I'm going to the other end of the spectrum, so right now.

MP - Right here, it would be awesome.

MCP - All of a sudden he sees our world.

MP - Uh huh.

MCP - We got a NOTAM published were trying to do the air show.

MP - And were waiting on a BE-20 on a twenty five mile TACAN.

MCP - Doin' practice approaches.

MSO - It's a King Air.

MLM - Hey **MP**

MP - Yep?

MLM - <sup>MAJ N</sup> texted me that they did 1.7 total flying with nine total landings, so we got to put those in the forms.

MP - Ah, he didn't do it? Slacker.

MLM - No, because he didn't know how much what his total flying time and stuff was.

MP - Okay, we'll write it in dude. You know where all that goes.

MCP - Yeah.

MP - Alright.

MLM - I'll do all of that crap after we take off.

MP - Well we've got ten minutes so, plus five minutes.

MLM - Well then I got to take the harness off, and then I got to put it back on.

MP - Oh yeah, yeah, you're way back there, never mind.

[Laughing.]

MP - You're scared of a little work, it's all good, I understand.

MLM - Crap, speaking of which, what was our first take off and landing?

MP - We did one of those?

MLM - Well you can get a dual AFTP.

MP - Yeah, I think so, we took off at 5:30 I think, and we landed at about 5:12, would you say,  
about 12 minutes?

MCP - Yeah that was definitely what time it was.

MP - I'm pretty sure that's what it was.

MLM - All righty.

MSO - Have you seen the new--have you seen the new track pad that Apple released?

MCP - What is it?

MSO - Track pad. You know, how you like, how your laptop, the Mac Book has a Track Pad on  
it?

MCP - Okay.

MSO - Well they released a new wireless track pad for like if you have a desktop computer.

MCP - No [expletive], huh.

MSO - It's actually the same track pad except it's bigger, pretty sweet.

MP - That is pretty cool.

MSO - So you can get a little wireless keyboard, little wireless track pad and then the only thing  
you need is to machine something.

MP - Is to what?

MSO - To like invent something that would hold those two items together in one.

MP - So it's like----

MLM - Duct tape and cardboard.

MP - So it's like a laptop?

[Laughing.]

MSO - Like what I've got at my house where you get a----

MP - Oh yeah.

MSO - Where you get like a--or--downstairs in a theatre or whatever you hook a Mac mini up to that thing.

MP - Hell yeah.

MSO - New track pad, see?

MP - Sweet.

MCP - That's cool.

MSO - Conveniently priced at \$69.

MP - They're still five minutes out.

MSO - Yup, [expletive] King Airs are not [expletive] fast, should have had them [expletive] turn and hold.

MCP - They got kicked out of the dissimilar formation for----

MP - Being too slow.

MCP - For being too [expletive] slow.

MLM - Hey, can I ask a favor?

MP - You can ask.

MLM - Can you guys keep track of the gears cycles?

MCP - It's ten, MLM

MLM - During the demo?

MCP - Yeah, absolutely. I will.

MCP - 1.

MLM - Yeah I already got that one.

MCP - 2...3.

[Laughing.]

MLM - So, it's just 10?

MCP - I'll let you know at the end. Now what constitutes a cycle, up? Or up and down? Is up and down one, or is up and down two?

MLM - Every time you put it down, that's the gear cycle.

Tower - [Inaudible] 8 miles on the TACAN runway 16 to circle to runway 6 [inaudible].

MCP - That's agreeable.

MSO - 8 miles out, and he's circling.

Tower - Northwest 7 approved as requested. Report gear down. Wind 240 at 5. Runway 6 clear to land.

NORTHWEST 7 - Northwest 7 is gear down. Clear to land runway 6.

MCP - Might have DV's on board or something.

MSO - DV's and he's doing a TACAN?

MP - I doubt it.

MCP - Oh yeah. What you got going on there, buddy?

MP - I really won't discuss that until after the air show.

MCP - Rhymes with itches?

MP - [Laughing.] I will say its **MSO** fault

MLM - What'd you do?

MP - It'll make for a humorous story, I'm sure.

MCP - You got to just tell us now.

MP - So, uh.

MCP - Doesn't look like it hurts to touch. It's obviously cutting some kind of a wound. You got stitches didn't you?

MP - Oh no. No it's to cut down on mobility. So, I got roped into going out the other night because **MSO** kept giving me [expletive].

MCP - [Laughing.]

MSO - Oh no you didn't.

MP - Dude, you gotta go out. You gotta go out. You gotta go out.

MSO - Hey, I'm going to try that number one SOV.

MCP - Give it a whack and try to turn it on there.

MP - So I finally said alright [expletive] it I'll go out, and Thursday what happens with **MSO** within five minutes he gets booted out of the bar for being too drunk and I'm sitting there on my own. Actually, I was with the rest of the guys at the wedding--with the wedding party because it was the brother in laws.

MSO - Aww, they're commencing the circle.

MP - It was his brother in law's bachelor party. So, of course what are we gonna do is ride the bull.

[Laughing.]

[Beep.]

MCP - What was her name?

MP - I was riding the [expletive] out of that bull, and environmental, shutting it off again. Underhand, and moved forward and twisted like this caught myself with the thumb, heard a crack over the music, over the music.

MSO - Ohhhh, ow.

MCP - It, doesn't look all that swollen though.

MSO - Does it rhyme with choke?

MP - Yeah, it does.

MSO - Oh. You gonna get a cast on it?

MP - Haven't decided yet.

MSO - You [expletive], why would you do [expletive] like that?

[Laughing.]

MCP - Didn't you mess this one up last time from snowmobiling? You messed up----

MP - No, this finger was broke last air show I did. My other hand is still sore from [inaudible] it on **MSO**

MCP - Dude, is that [expletive] coming down or is it me? Watch these freaks come in and steal it.

MP - That's a good call. Let's do a PIREP of 2300.

MCP - I'd like to give a PIREP of 2300. That's what I would've done.

[Laughing.]

MCP - If I was being a [expletive], be like all right [expletive], you don't want me to circle.

MP - [Laughing.]

MCP - It'd be funny too. I'd do it on like uniform or something like that so you guys--I know  
you guys could still hear me.

MP - [Laughing.]

MCP - But, I wasn't really calling it in. That'd be funny.

MP - What approach did they [expletive] do?

MCP - TACAN circle.

MSO - TACAN to 16 circle.

MP - I didn't think the TACAN was so long.

MSO - Yup, we would have had one down. I'm just saying.

MP - Yes, sir. We would have.

Tower - Northwest 7 if able left turn at delta, contact ground when off.

NORTHWEST 7 - Northwest 7 left turn at delta wilco thanks.

MCP - Yeah, he's a good dude. Alright, MLM you ready to go?

MLM - Rodger.

Tower - Sitka 43 heavy position and hold runway 6.

MCP - Onto hold runway six. Sir, we would like to taxi up some.

Tower - Like to taxi? What was that?

MP - Ah don't, just disregard, he doesn't care. It's our [expletive] field. We'll do what we want

MCP - Ah, disregard. I was just going to let you know were taxiing out, but I guess we pretty  
much have the air space so.

Tower - Affirm.

MSO - Blue Angels, 1...2...3...7...5...6...4

MP - [Laughing]. What time is it?

MSO - Game time.

MP - Damn right.

[Laughing.]

MP - What the [expletive]?

MCP - All right, crew. Slats are extended. Flaps are one half. Index 75 for the co-pilot.

MP - Safety, I'll be safety.

Tower - Sitka 43 heavy your discretion wind 240 at 4, runway 6, clear for takeoff.

MSO - That's your call on the takeoff, try to piss me off, I know what I'm doing here.

Tower - The space is yours, so advise when ready to land.

MP - Roger cleared for takeoff runway 6 Sitka 43.

MCP - Spoiler switch is armed, anti ice is off, TOGA mode hey how is this going to [expletive] with us while we're doing the profile with the icing on there?

MP - It'll be fine, I'll just minimize the use of number one.

MCP - All right, so.

MP - This is lovely.

MSO - As soon as you push 'em up I'll try it, if you want?

MCP - Hydraulic reservoir temperatures are checked, exterior lights are set, IFF we are squawking, line up checklist is complete.

MP - 15 seconds.

MCP - Want to fix you're wiper real quick?

MP - It won't, it'll be alright. It will fix itself when we're airborne.

MCP - Alright, 5...4...3...2...1 brakes, release.

MSO - Hack the clock if you want.

MCP - Air speeds alive. 80 Knots. Go. Rotate.

MSO - Gear, gear, gear, gear.

[Beep.]

MCP - Tank not inert, crew. Very nice, brother. Thirty to your heading...10.

MSO - Thousand 1...thousand 2...thousand 3...thousand 4...5...6...7...turn.

[Buzz, buzz, buzz.]

AIRCRAFT - Stall.

MCP - Acknowledged, crew.

Aircraft - Stall.

MCP - Temperature, altitude, lookin' good.

AIRCRAFT - Stall, stall.

MCP - Not so tight, brother.

MSO - Bank. Watch your bank, watch your bank.

AIRCRAFT - Stall. Sink rate.

MSO - Quick, grab it.

AIRCRAFT - Sink rate, sink rate.

MSO - Max power.

MCP - Oh my God.

MSO - Max power.

MP- Oh [explicative].

[Double alarm.]

[END OF AUDIO]

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**TAB W**  
**WEATHER OBSERVATIONS**  
**THIS TAB NOT USED**

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**TAB X**

**STATEMENTS OF INJURY OR DEATH**

<b>X1.</b>	<b>MP</b>	<b>CERTIFICATE OF DEATH .....</b>	<b>3</b>
<b>X2.</b>	<b>MCP</b>	<b>CERTIFICATE OF DEATH.....</b>	<b>4</b>
<b>X3.</b>	<b>MSO</b>	<b>CERTIFICATE OF DEATH .....</b>	<b>5</b>
<b>X4.</b>	<b>MLM</b>	<b>CERTIFICATE OF DEATH .....</b>	<b>6</b>

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X3. MSO CERTIFICATE OF DEATH

**CERTIFICATION OF VITAL RECORD**

**STATE OF ALASKA**

**CERTIFICATE OF DEATH**  
ALASKA DEPARTMENT OF HEALTH AND SOCIAL SERVICES  
BUREAU OF VITAL STATISTICS - 8441 COMMERCIAL BLVD.  
JUNEAU, ALASKA 99801-0873

150 10001922  
DATE OF ENTRY

TYPE/FAMILY OR RELATIONSHIP: BLACK/MSO

DECEASED'S NAME (LAST, FIRST, MIDDLE): MSO

DATE OF BIRTH: N/A

SEX: M

DATE OF DEATH (MONTH, DAY, YEAR): July 28, 2010

PLACE OF DEATH: Elmendorf AFB, Alaska

US CITIZENSHIP: YES

US RESIDENCE: Alaska

US MILITARY SERVICE: US Air Force

ETHNICITY: White

RELIGION: None

CAUSE OF DEATH: Multiple Trauma

DATE OF DEATH: July 28, 2010

TIME OF DEATH: 6:14 PM

PLACE OF DEATH: Elmendorf AFB, Alaska

REGISTRAR: State Registrar

DATE ISSUED: AUG 10 2010

ORIGINAL - STATE COPY

I CERTIFY THAT THIS IS A TRUE, FULL AND CORRECT COPY OF THE ORIGINAL CERTIFICATE ON FILE IN THE BUREAU OF VITAL STATISTICS, DEPARTMENT OF HEALTH AND SOCIAL SERVICES, JUNEAU, ALASKA

DATE ISSUED: AUG 10 2010

State Registrar

This copy not valid unless prepared on ungrated bond displaying the date, seal and signature of the Alaska State Registrar.



**TAB Y**

**DOCUMENTS APPOINTING THE AIB MEMBERS**

**Y1. INITIAL CONVENING ORDER, 4 AUG 2010.....3**

**Y2. AMENDMENT CONVENING ORDER, 12 AUG 2010 .....5**

**Y3. AMENDMENT CONVENING ORDER, 30 AUG 2010 .....7**

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**Y1. INITIAL CONVENING ORDER, 4 AUG 2010**



**DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES**

AUG 04 2010

MEMORANDUM FOR BRIG GEN CARLTON D. EVERHART II

FROM: PACAF/CC

SUBJECT: SUBJECT: Convening of AFI 51-503 Accident Investigation Board (AIB); Class A Mishap, C-17A, T/N 00-00173, 28 Jul 10, 3 WG, Elmendorf, Alaska

1. An Aircraft Accident Investigation Board (AIB) is hereby convened under the provisions of AFI 51-503 to investigate the subject mishap. This appointment letter is your authority to interview witnesses, take sworn testimony, and review all documents, files, recordings, and wreckage relevant to the investigation. Upon receipt of Part 1 of the Safety Investigation Board (SIB) report, you shall be relieved of all other duties until the AIB investigation is complete; and AIB tasks shall remain your primary duty until the report is approved.

2. The following personnel are detailed to serve on the AIB:

President:	Brig Gen Carlton D. Everhart II	618 TACC/CV
Legal Advisor:		AFLOA/JACC
Recorder:		AFLOA/JACC

3. The investigation will be conducted IAW the provisions of AFI 51-503. Your legal advisor is required to be present during all witness interviews, and must also review all evidence, documents, transcripts and statements prior to inclusion in the AIB report. The AIB report must include an Executive Summary, Summary of Facts, and Statement of Opinion as required by AFI 51-503. All witnesses, documents, records, and other evidence within control of the Air Force will be made available to you, other than privileged safety information. All witnesses who testify must do so under oath or affirmation. The AIB report will be releasable to the public and may not contain any privileged safety or Privacy Act-protected information.

4. Board Administration: PACAF/JA is delegated authority to detail additional members or substitute members, if needed. The legal advisor and recorder must remain detailed to the board until final completion of the report. Other members may be released early, as the AIB President deems appropriate.

5. The AIB President's Statement of Opinion must be supported by clear and convincing evidence contained in the AIB report. The legal advisor will assist in evaluating evidence. Do not include recommendations for corrective or disciplinary action in the report. Board members are not authorized to disclose findings or opinions, except to members of my staff, prior to my approval of the AIB report.

6. Travel and Funding: Travel orders should be cut locally using "10 JA AIB" label in DTS. Additionally, variations in travel should be authorized. All travel costs for witness interviews outside the Elmendorf AFB area should be coordinated with PACAF/JA in advance.

7. Logistics and POCs: A host installation liaison will be appointed to assist with arranging billeting, vehicles, facilities, administrative support, reproduction services and access to witnesses. Make contact with the host installation liaison officer through the office of the Host Installation Commander.

8. Your investigation and AIB report should be completed within 30 days of receipt of the completed Part I SIB report. Submit any requests for extensions, additional advisors, or other matters to PACAF/JA. Submit your final report to PACAF/JA, and they will forward it to me for approval. Your PACAF/JA points of contact are Lt Col \_\_\_\_\_ and TSgt \_\_\_\_\_.

GARY L. NORTH  
General, USAF  
Commander

cc:  
AMC/CC  
11 AF/CC/JA  
3 WG/CC/JA

**Y2. AMENDMENT CONVENING ORDER, 12 AUG 2010**



**DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES**

AUG 12 2010

MEMORANDUM FOR:

FROM: HQ PACAF/JA

SUBJECT: Convening of AFI 51-503 Accident Investigation Board (AIB); Class A Mishap, C-17A, T/N 00-00173, 28 Jul 10, 3 WG, Elmendorf, Alaska

1. An AIB is hereby convened under the provisions of AFI 51-503 to investigate the subject mishap. By this letter, you are hereby detailed as AIB members pursuant to authority delegated to me in AFI 51-503 and the PACAF Supplement. This appointment letter is your authority to assist the AIB President, Brig Gen Carlton D. Everhart II. The AIB will interview witnesses, take sworn testimony, and review all documents, files, recordings and wreckage relevant to the investigation. Upon receipt of this memo and direction from the AIB President to assemble, you are relieved of all other duties until the AIB is completed or you are relieved by the AIB President.

2. With your appointment to the board, the AIB now consists of the following personnel:

President:	Brig Gen Carlton D. Everhart II	618 TACC/CV
Legal Advisor:		AFLOA/JACC
Medical Advisor:		178 MDG/SGP
Pilot Advisor:		15 WG
Maintenance Advisor:		172 AW/MXG
Recorder:		AFLOA/JACC

3. The investigation will be conducted IAW the provisions of AFI 51-503. Your legal advisor is required to be present during all witness interviews, and must also review all evidence, documents, transcripts and statements prior to inclusion in the AIB report. All witnesses who testify must do so under oath or affirmation. The AIB report will be releasable to the public and may not contain any privileged safety or Privacy Act-protected information.

4. Board Administration: PACAF/JA is delegated authority to detail additional members or substitute members, if needed. The legal advisor and recorder must remain detailed to the board until final completion of the report. Other members may be released early, as the AIB President deems appropriate.

5. The AIB President's Statement of Opinion must be supported by clear and convincing evidence contained in the AIB report. The legal advisor will assist in evaluating evidence. Do not include recommendations for corrective or disciplinary action in the report. Board members

are not authorized to disclose findings or opinions, except to members of my staff, prior to COMPACAF's approval of the AIB report.

6. Travel and Funding: Travel orders should be cut locally using "10 JA AIB" label in DTS. Additionally, variations in travel should be authorized. All travel costs for witness interviews outside the Elmendorf AFB area should be coordinated with PACAF/JA in advance.

7. Logistics and POCs: A host installation liaison will be appointed to assist with arranging billeting, vehicles, facilities, administrative support, reproduction services, and access to witnesses. Make contact with the host installation liaison officer through the office of the Host Installation Commander.

8. Your investigation should be completed within 30 days of the AIB President's receipt of the completed Part I, SIB report. Submit any requests for extensions, additional advisors, or other matters to PACAF/JA. Submit your final report through our office and we will forward it to COMPACAF for approval. Your PACAF/JA points of contact are Lt Col \_\_\_\_\_ and TSgt \_\_\_\_\_).

\_\_\_\_\_  
Colonel, USAF  
Staff Judge Advocate

cc:  
11 AF/CC/JA  
3 WG/CC/JA  
PACAF/RG

**Y3. AMENDMENT CONVENING ORDER, 30 AUG 2010**



**DEPARTMENT OF THE AIR FORCE  
PACIFIC AIR FORCES**

AUG 30 2010

MEMORANDUM FOR

FROM: HQ PACAF/JA

SUBJECT: Convening of AFI 51-503 Accident Investigation Board (AIB); Class A Mishap, C-17A, T/N 00-00173, 28 Jul 10, 3 WG, Elmendorf, Alaska

1. An AIB is hereby convened under the provisions of AFI 51-503 to investigate the subject mishap. By this letter, you are hereby detailed as AIB members pursuant to authority delegated to me in AFI 51-503 and the PACAF Supplement. This appointment letter is your authority to assist the AIB President, Brig Gen Carlton D. Everhart II. The AIB will interview witnesses, take sworn testimony, and review all documents, files, recordings and wreckage relevant to the investigation. Upon receipt of this memo and direction from the AIB President to assemble, you are relieved of all other duties until the AIB is completed or you are relieved by the AIB President.

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Legal Advisor:		AFLOA/JACC
Medical Advisor:		178 MDG/SGP
Pilot Advisor:		15 WG
Maintenance Officer:		354 MXS/CC
Maintenance Advisor:		172 AW/MXG
Recorder:		AFLOA/JACC
Court Reporter:		AFLOA/JAJ

3. The investigation will be conducted IAW the provisions of AFI 51-503. Your legal advisor is required to be present during all witness interviews, and must also review all evidence, documents, transcripts and statements prior to inclusion in the AIB report. All witnesses who testify must do so under oath or affirmation. The AIB report will be releasable to the public and may not contain any privileged safety or Privacy Act-protected information.

4. Board Administration: PACAF/JA is delegated authority to detail additional members or substitute members, if needed. The legal advisor and recorder must remain detailed to the board until final completion of the report. Other members may be released early, as the AIB President deems appropriate.

5. The AIB President's Statement of Opinion must be supported by clear and convincing evidence contained in the AIB report. The legal advisor will assist in evaluating evidence. Do not include recommendations for corrective or disciplinary action in the report. Board members

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8. Your investigation should be completed within 30 days of the AIB President's receipt of the completed Part I, SIB report. Submit any requests for extensions, additional advisors, or other matters to PACAF/JA. Submit your final report through our office and we will forward it to COMPACAF for approval. Your PACAF/JA points of contact are Lt Col \_\_\_\_\_ and TSgt \_\_\_\_\_.

\_\_\_\_\_  
\_\_\_\_\_, Colonel, USAF  
Staff Judge Advocate

cc:  
11 AF/CC/JA  
3 WG/CC/JA  
PACAF/RG

**TAB Z**

**PHOTOGRAPHS (not included in Tab S)**

**Z1. ANIMATION LEDGEND.....3**

**Z2. RIGHT AILERON ACTUATOR.....4**

**Z3. RUDDER ACTUATOR.....4**

**Z4. RUDDER ACTUATOR.....5**

**Z5. RUDDER ACTUATOR.....5**

**Z6. RUDDER ACTUATOR ATTACH POINT .....6**

**Z7. RUDDER ACTUATOR.....6**

**Z8. RUDDER ACTUATOR.....7**

**Z9. RUDDER ACTUATOR.....7**

**Z10. ELEVATOR ACTUATOR.....8**

**Z11. RIGHT AILERON ACTUATOR.....8**

**Z12. ELEVATOR ACTUATOR ATTACH POINT.....9**

**Z13. ELEVATOR ACTUATOR ATTACH POINT.....9**

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**Z1. ANIMATION LEDGEND**

**C-17A T/N 00-00173**

Altitude: 1119.2 ft  
 Altitude AGL: 853.3  
 Mag Heading: 28.5 deg

Throttle: 92.5  
 Cal. Airspeed: 148.6 kts  
 Groundspeed: 116.4 kts  
 Vertical Vel: -177.60 ft/min

Bank: -56.0 deg  
 Pitch: 11.9 deg  
 Alpha: 19.0 deg  
 G-Force: 1.21 g

Stall – Stall Warning System  
 PPF – Pilot Pitch Force  
 PRF – Pilot Roll force  
 CPRF – CP Roll Force

Altitude – Barometric Altitude  
 Altitude AGL – Above Ground Level  
 Mag. Heading – Magnetic Heading  
 Throttle – Handle Position  
 Cal. Airspeed – Indicated Airspeed  
 RPP – Rudder Pedal Pressure  
 Bank – Roll Attitude  
 Pitch – Pitch Attitude  
 Alpha – Angle of Attack

RPP – Rudder Pedal Pressure  
 F/SHP – Flap/Slat Handle Position  
 F/SPOS – Flap/Slat Actual Position  
 ALS – AOA Limiter System

The red line represents a standard demonstration profile flight path.

Across the bottom are representations of (L to R):  
 Attitude Indicator  
 Airspeed Indicator  
 Heading Indicator  
 Angle of Attack Indicator  
 Vertical Velocity Indicator  
 Heads Up Display

These indicators are color coded to match the data points related to them.

STALL PPF PRF CPRF RPP F/SHP F/SPOS ALS  
 ON 11.5 2.8 -0.3 12.0 1/2 EXT 1/2 EXT OFF

00:00:27.32

**Z2. RIGHT AILERON ACTUATOR**



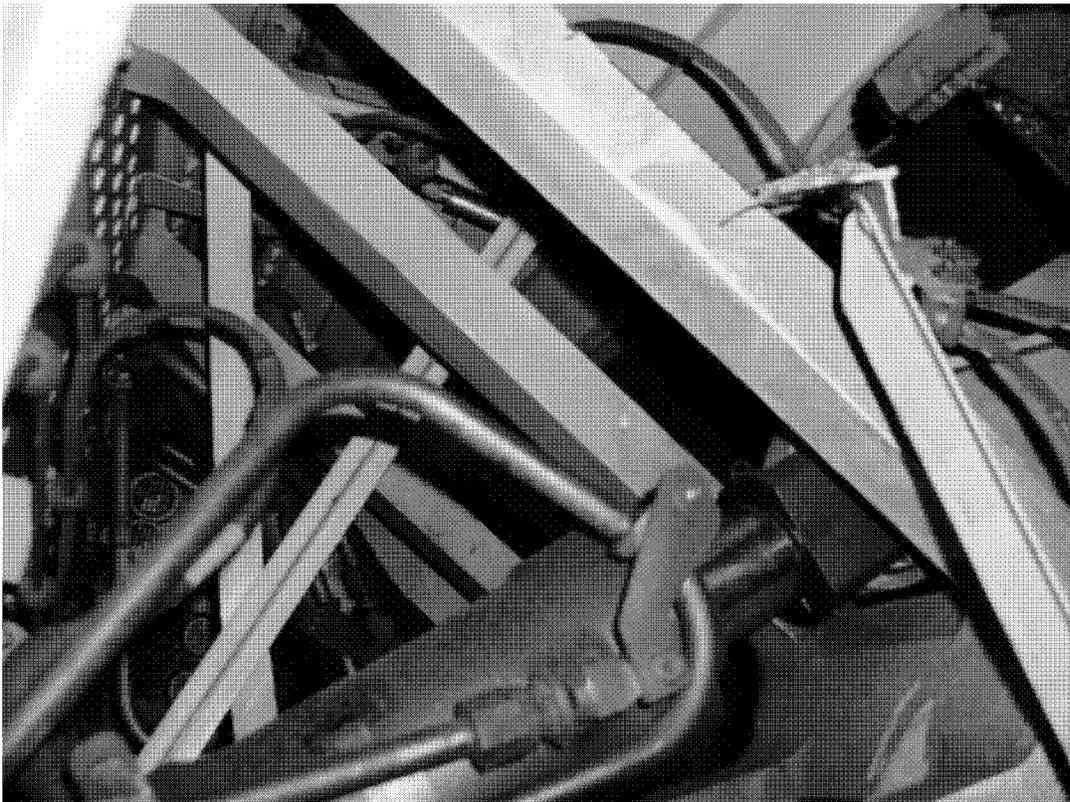
**Z3. RUDDER ACTUATOR**



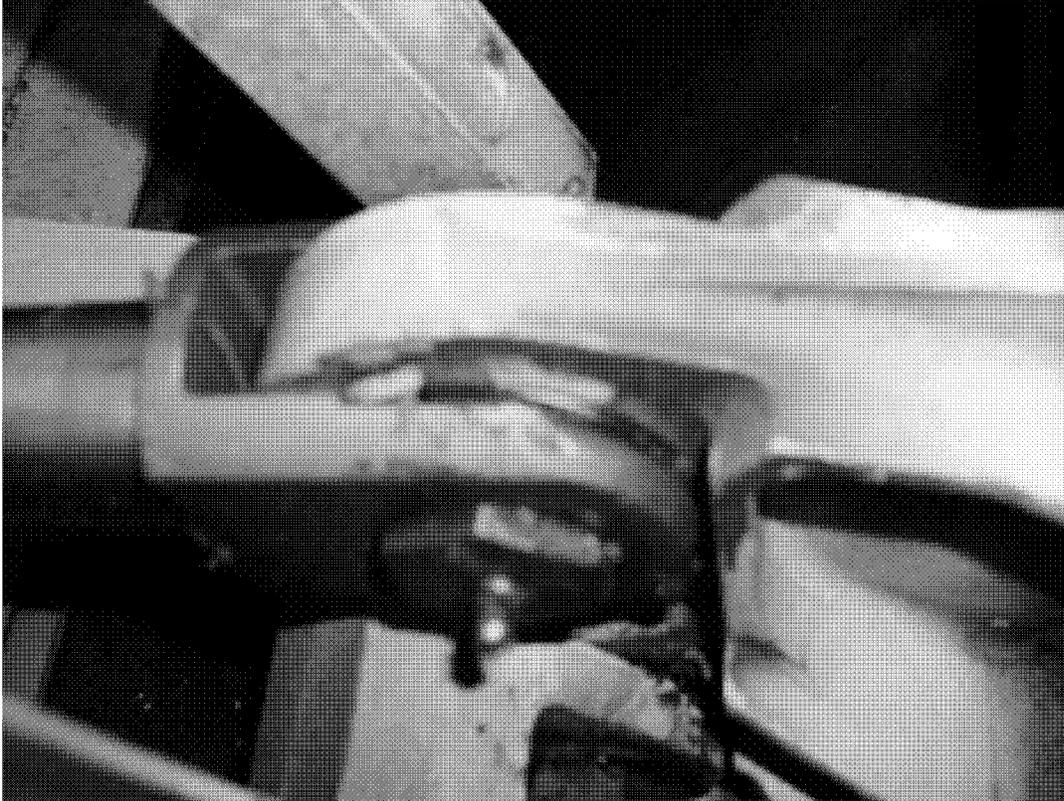
**Z4. RUDDER ACTUATOR**



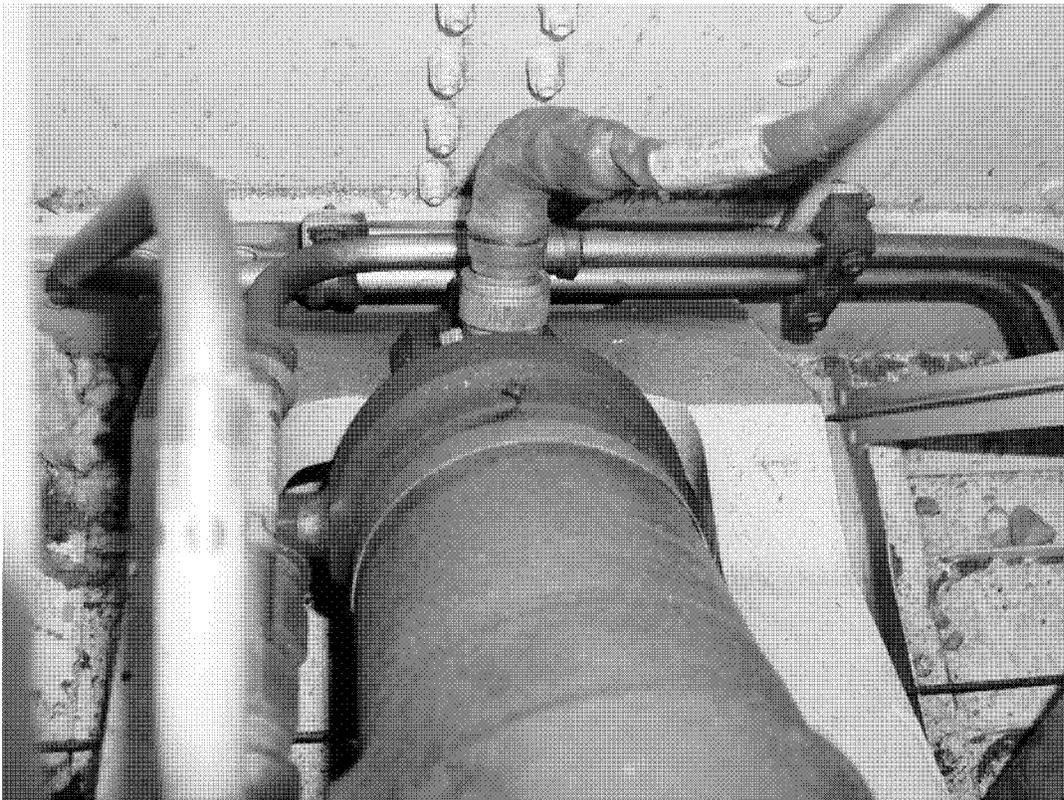
**Z5. RUDDER ACTUATOR**



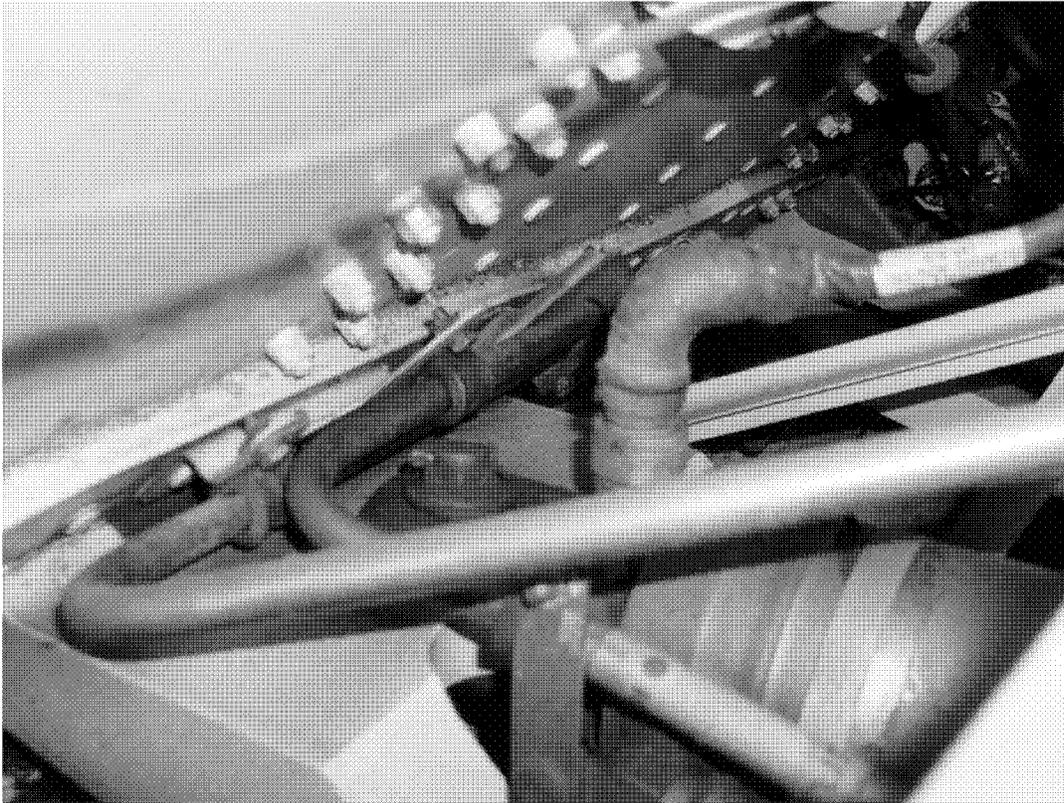
**Z6. RUDDER ACTUATOR ATTACH POINT**



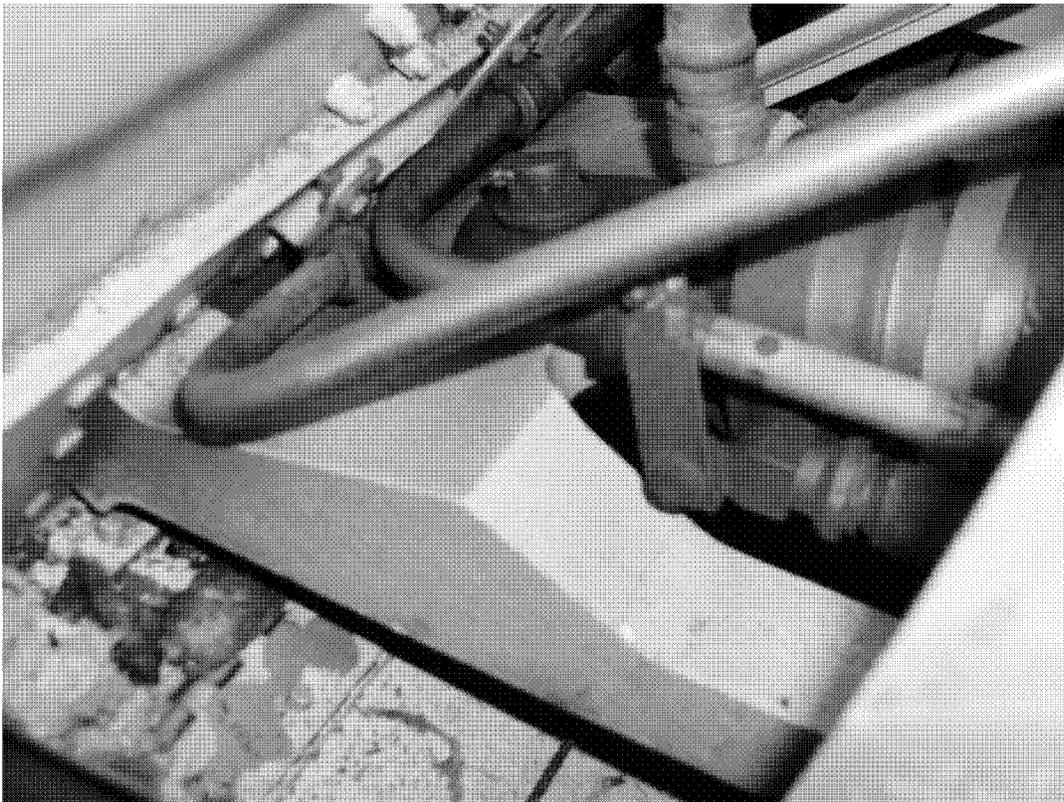
**Z7. RUDDER ACTUATOR**



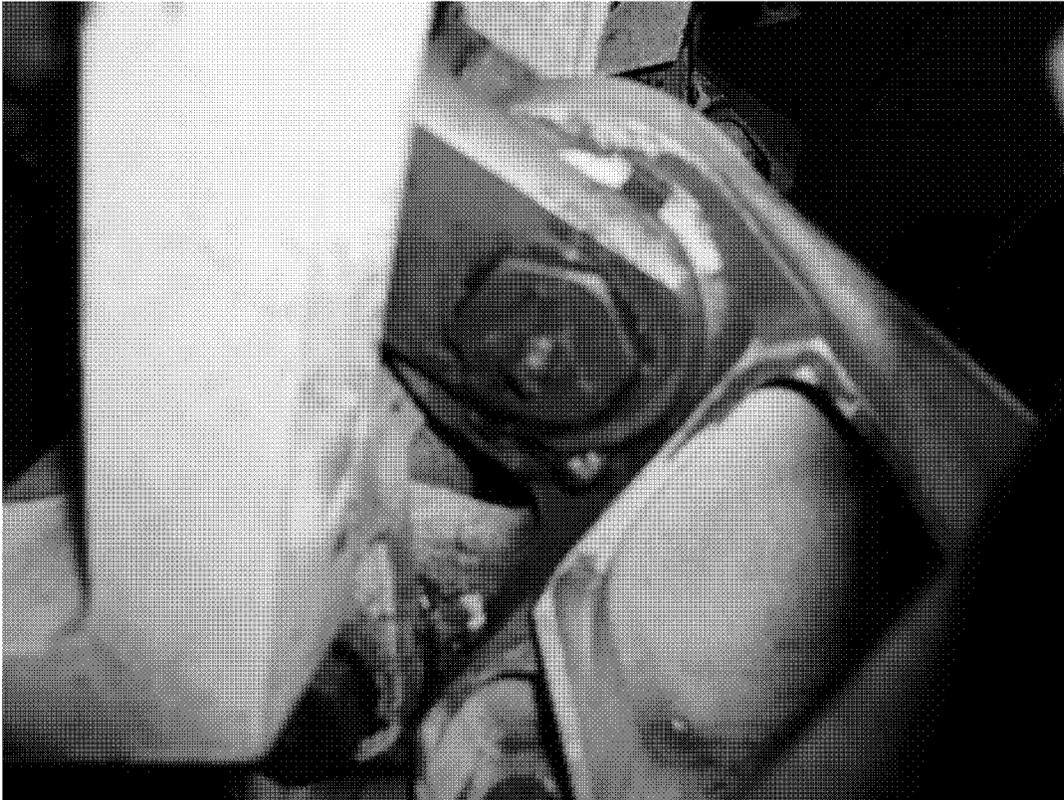
**Z8. RUDDER ACTUATOR**



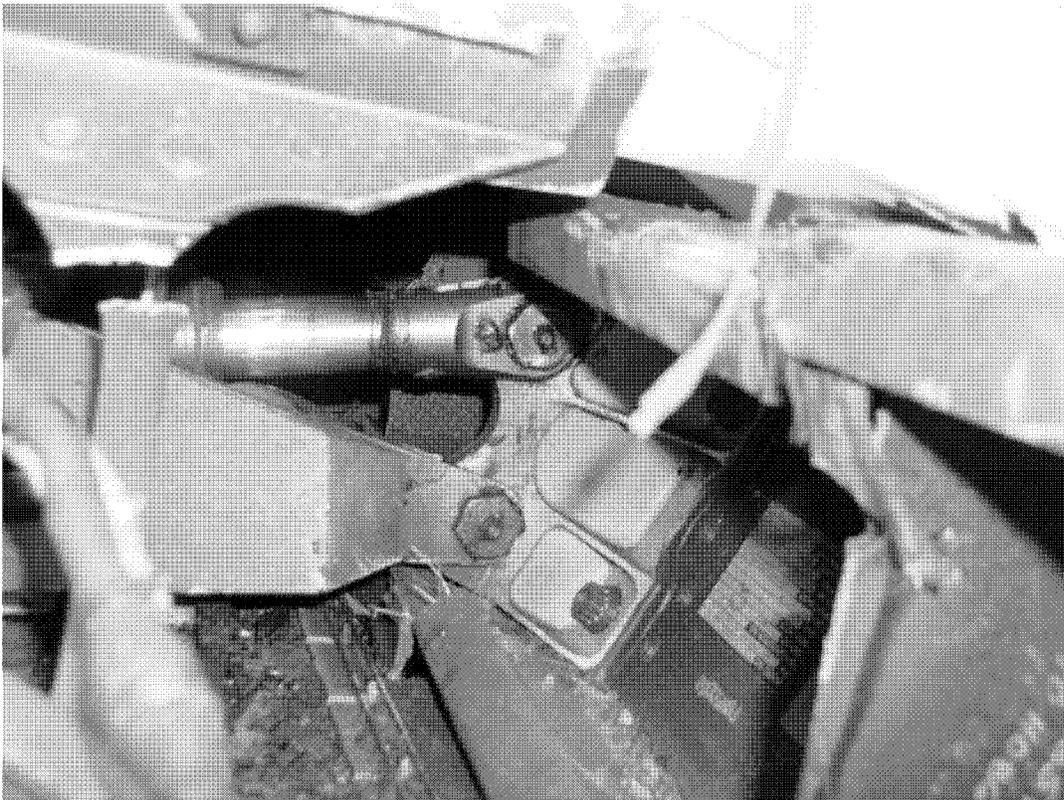
**Z9. RUDDER ACTUATOR**



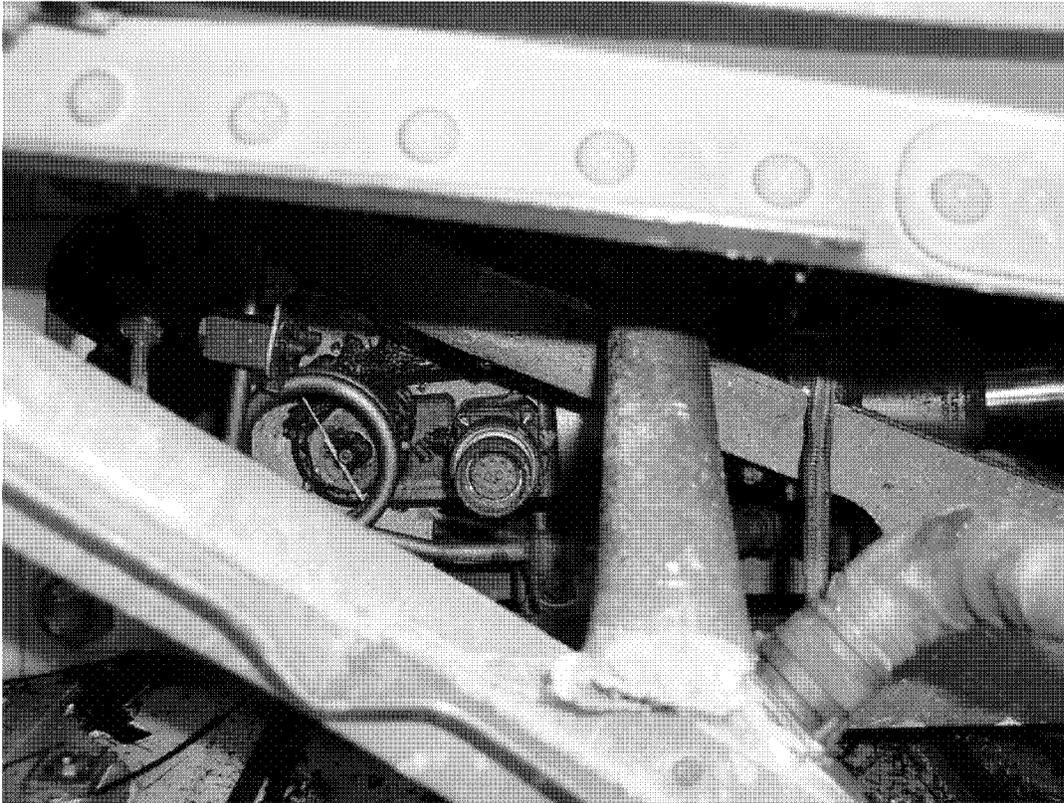
**Z10. ELEVATOR ACTUATOR**



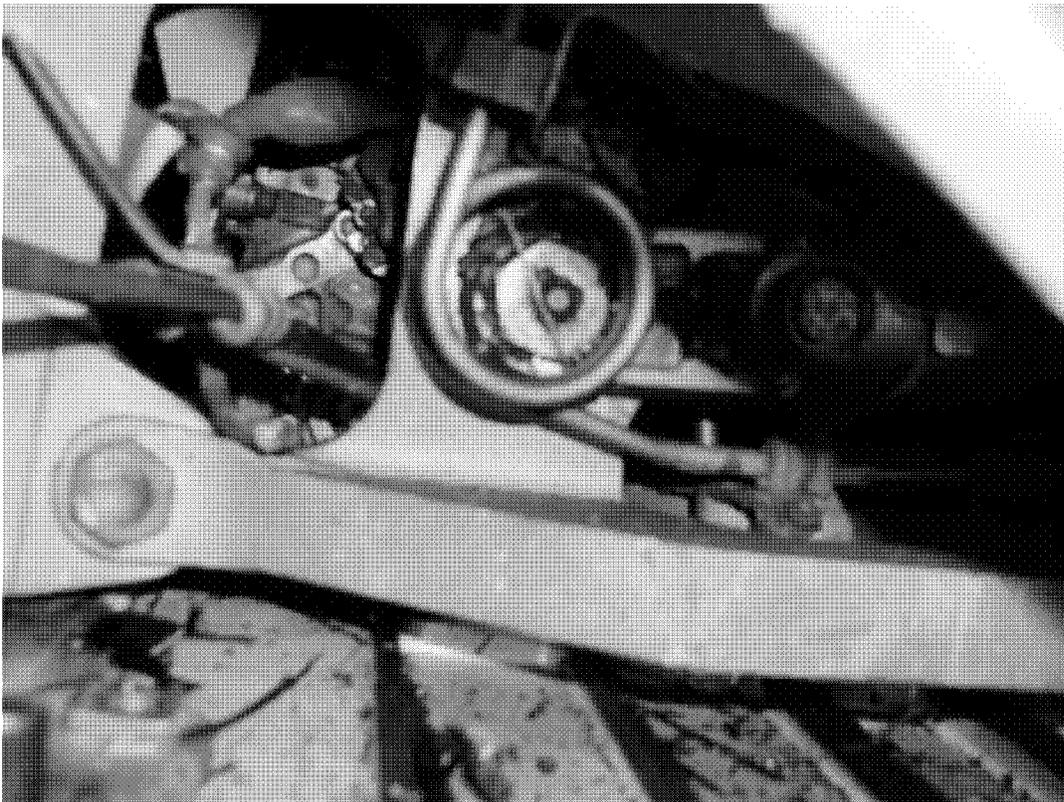
**Z11. RIGHT AILERON ACTUATOR**



**Z12. ELEVATOR ACTUATOR ATTACH POINT**



**Z13. ELEVATOR ACTUATOR ATTACH POINT**



**INTENTIONALLY**

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**TAB AA**

**FLIGHT DOCUMENTS (not included in Tab T)**

**AA1. AIRSHOW TEAM SCHEDULE EMAIL .....3**  
**AA2. ARTIC THUNDER AIRSHOW SCHEDULE .....5**  
**AA3. PREFLIGHT CHECKLIST .....8**  
**AA4. FLIGHT AUTHORIZATION, 9 JULY 2010.....9**  
**AA5. TRANSPORTATION VEHICLE DISPATCH REQUEST.....10**  
**AA6. 12 MIN PROFILE (           MP       NOTES).....12**

**INTENTIONALLY**

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**AA1. AIRSHOW TEAM SCHEDULE EMAIL**

**From:** MP  
**To:**  
**Subject:** RE: Airshow Team Schedule  
**Date:** Tuesday, June 29, 2010 1:19:26 PM  
**Attachments:** AFI11-246V6.pdf  
AFI11-209 PACAFSUP I.pdf  
AFI11-246V6 ch3.pdf  
3WG Aerial Demo Program (15 Apr 08).pdf  
3WG Aerial Demonstration Checklist.pdf  
PACAF C-17 C-130 KC-135 UH-1 Demo Crew CONOPS.doc

All,

Here are the regs we discussed this morning. Enjoy!

MP

-----Original Message-----

**From:** MP USAF ANG 249 AS/CCV  
**Sent:** Thursday, June 24, 2010 4:34 PM  
**To:**

Subject: Airshow Team Schedule

All,

This is the tentative schedule for your airshow upgrade program. Ground training starts on 29 Jun. Loadmasters will be released early, but please pay particular attention to the flying schedule. We need an instructor for the first flight and then we need to ensure LM coverage for the rest of the flights. Anyone not upgrading is not required to attend ground training, but it is encouraged as we could all use the refresher. Please make every effort to attend this training. If you have questions or concerns, please see me.

MP

3WG Aerial Demonstration Checklist  
(1c-17a-1d-1-1 REV 34)

NOTE:

Aerial demonstration profiles are inherently technique-oriented. This checklist is an aid to the profile and may be modified to suit the situation and the desires of the aircraft commander. It is intended to minimize CAMWS alerts and extraneous switchology while airborne.

- BEFORE TAKEOFF**
1. Brakes, Steering — "CHECKED" (PM, PF)
  2. Flight Instruments — "CHECKED" (PM, PF)
  3. Spoilers Switch — "ARM" (PM)

4. Radar — "AS REQUIRED" (PM)
5. Defensive System — "AS REQUIRED" (PM)
6. SKE FCS — "AS REQUIRED" (PM)

7. PROBE Heat Switchlights — "ON" (PM)
8. WAP — "CHECKED" (PM, PF)
9. Loadmaster's Report — "CHECK COMPLETED" (LM)
10. Before Takeoff Checklist — "COMPLETED" (PM)

**FOLLOWING BEFORE TAKEOFF**

1. GPWS Tactical (CP)
2. TOLD "Checked" (P, CP, S)
  - MAX REV selected
  - Determine T/O and LND ground roll
3. Displays "Set" (P, CP)
  - FAF displayed to both runways
  - PFP selected
  - Take-off TOLD displayed on MCD 1&3
  - Landing TOLD displayed on MCD 2&4
4. AFCs Panel "Set" (P, CP)
  - Initial heading set
  - Bug original Vmco
  - Armed alt > 2,000' above demo alt
5. TCAS/TAWS OFF (CP)
6. RA/BA Switch As Desired (P, CP)
7. Altimeters "As Required" (P, CP)
  - Set QNE or QNH as desired
8. Ignition Switch Man/Full Open (CP)
9. Outflow Valve Man/Full Open (CP)
10. Demo Checklist "Complete" (CP, S)

**LINEUP**

1. RNAV Guidance and Aircraft/Runway Position — "As Required" (PM)
2. Slats/Flaps — "SLATS EXTEND, FLAPS 1/2, INDEX" (PM, S)
- 2a. Spoilers - Arm (PM)
- 2b. Anti-ice - Off (PM)
3. TOGA Mode — Engaged (PM)
4. Hydraulic Reservoir Temperatures — Checked (PM)
5. Exterior Lights — As Required (PM)
6. IFF — As Required (PM)
7. Lineup Checklist — "COMPLETED" (PM)

**APPROACH**

1. Approach Mode — "ENGAGED" (PM)
2. Exterior Lights — "AS REQUIRED" (PM)
3. Altimeters — " (PM, PF)
4. Cabin Pressurization — Checked (PM)
5. TOLD — "CHECKED" (PM, S)
6. BTMS/VBO LDG DIST -Checked/Adjusted (PM)
7. Flap Index — "SET" (PM)
8. Thrust Rating — "AS REQUIRED" (PM)
9. Crew Briefing — "COMPLETED" (PF)
10. TAWS — "AS REQUIRED" (PM)
11. WAP — "CHECKED" (PM, PF)
12. Defensive System — "As Required" (PM)
13. Loadmaster's Report -"CHECK COMP" (LM)
14. Approach Checklist — "COMPLETED" (PM)

**BEFORE LANDING**

1. Slats/Flaps — "SLATS EXTEND, FLAPS INDEX" (PM, S)
  2. Landing Gear — "DOWN" (PM, S)
  3. Spoilers Switch — "ARM" (PM)
  4. Defensive System — "As Required" (PM)
  5. Loadmaster's Report — "CHECK COMPLETED" (LM)
  6. Before Landing Check -"COMPLETED"(PM)
- AFTER LANDING**
1. Flaps/Slats — UP/RET (PM)
  2. Spoilers Switch — Dearmed (PM)
  3. IFF — STBY (PM)
  4. SKE — As Required (PM)
  5. Radar — "OFF" (PM)
  6. Pressurization — Depressurized (PM)

7. IRCM IRCM Mode Control Knob — STBY (PM)
8. Exterior Lights — As Required (PM)
9. Cargo Door & Ramp — "AS REQUIRED" (PF)
10. Outboard Engines — As Required (PF)
11. After Landing Check — "COMPLETED" (PM)

**FOLLOWING BEFORE LANDING**

1. Landing/Taxi Lights EXT/ON (CP)
2. Engine Anti-ice ON (CP)
3. "Gear Down" Call COMPLETED (CP)

**AFTER TOUCHDOWN**

1. "80 knots" (P)
2. Flaps/Slats UP/RET (CP)
3. Spoilers Disarmed (CP)
4. Troop Door OPEN (LM)
5. WAP Checked (CP, S)

**FULL STOP TAXI-BACK**

1. Flaps/slats — UP/RET (PM)
2. SKE — STBY (PM)
3. SKE — "As Required" (PM)
4. BLOCK "1" W/O R/U 17 FIX R/U Alignment and GPS initialization — "As Required"
- 4a. Primary Flight Plan — Clear
- 4b. Secondary Flight Plan — Activate
- 4c. TOLD — Input
5. Mission Computer Data — "CHECKED" (PM, S)
6. TOGA Mode — "ENGAGED" (PF)
7. Thrust Rating — "SET" (PM)
8. Flap Index — "SET" (PM)
9. Stabilizer, Rudder, and Aileron Trim — "DEGREES, 0, 0" (PM, S)
10. SKE — "As Required" (PM)
11. Crew Briefing RE-COMPLETED" (PF)
12. TAWS — "As Required" (PM)
13. WAP — "CHECKED" (PM, PF)
14. Full Stop Taxi-Back Checklist — "COMPLETED"(PM)

**FOLLOWING DEMONSTRATION**

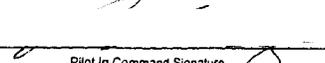
1. Outflow Valve "Auto" (CP)
2. RA/BA Switch As Required (P, CP)
3. Altimeters " (P, CP)
4. TCAS/TAWS/GPWS/As Required (CP)
5. Ignition Switch As Required (CP)



ARCTIC THUNDER						
2010						
Saturday, July 31 2010						
9:00	Gates Open				Road	
					Close	TFR
						2.5
10:07	Launch C130 Includes Streamer Drop		+	0:10		
10:17	101st Airborne & Wings of Blue Parachute Jump C130		+	0:30		
10:47	Third Strike Wing Walk		+	0:12		
10:59	Warbirds Harvard, T-6, DC3, C46, L-13, L2M PYRO		+	0:20		
11:19	Team Rocket		+	0:12		
11:31			+	0:10		
11:41	B-52 Fly-by PYRO Wall		+	0:12		
11:53	<b>Intermission</b>		+	0:30		
12:23	Launch Snowbirds		+	0:05		7/5
12:28			+	0:12		
12:40	Canadian Snowbirds		+	0:35	X	7/5
13:15	Harrier AV-8B Demo PYRO		+	0:20		
13:35	y		+	0:10		
13:45	Alaska Joint Forces CH-47, UH-60, F-22 x2, F-15 PYRO		+	0:20		Capt Ham
14:05	PA18		+	0:18		5
14:23	101st Airborne & Wings of Blue Parachute Jump C130		+	0:40		
15:03			+	0:12		
15:15	F-22 Demo Launch 5 (4 to HOBBS)		+	0:20	X	5
15:35	Missing Man Formation		+	0:10		5
15:45	Blue Angel Depers Ceremony		+	0:15		
16:00	U.S. Navy Blue Angels		+	1:15	X	5
17:30	Show Close					

ARCTIC THUNDER							
2010							
Sunday, August 1 2010							
9:00	Gates Open						
					Road		
					Close	TFR	
10:22	Launch C130	Includes Streamer Drop	+	0:10		2.5	
10:32	101st Airborne & Wings of Blue Parachute Jump	C130	+	0:30			
11:02	Third Strike Wing Walk		+	0:12			
11:14	Warbirds	Harvard, T-6, DC3, C46, L-13, L2	+	0:20			
11:34	Team Rocket		+	0:12			
11:46			+	0:10			
11:56	B-52 Fly-by	PYRO Wall	+	0:12			
12:08	Intermission		+	0:30			
12:38	Launch Snowbirds		+	0:05		7.5	
12:43			+	0:12			
12:55	Canadian Snowbirds		+	0:35	X		
13:30	Harrier AV-8B Demo	PYRO	+	0:20			
13:50			+	0:10			
14:00	Alaska Joint Forces	CH-47, UH-60, F-22 x2, F-15	+	0:20			
14:20	PA18		+	0:18		5	
14:38	101st Airborne & Wings of Blue Parachute Jump	Inc Streamer Drop C130	+	0:40			
15:18			+	0:12			
15:30	F-22 Demo	Launch 5 (4 to HOBBS)	+	0:20	X	5	
15:50	Missing Man Formation		+	0:10		5	
16:00	U.S. Navy Blue Angels		+	1:15	X	5	
17:30	Show Close						

AA3. PREFLIGHT CHECKLIST

AIRCRAFT COMMANDER'S FLIGHT PLANNING & PRE-DEPARTURE CHECKLIST																																																																																													
CALL COMMAND POST 552-3000 CHECK;																																																																																													
Parking <u>SPCC</u>		TAIL # <u>17</u>	FUEL <u>80 12</u>	CONFIGURATION <u>empty</u>	LOAD <u>MLM</u>	MX STATUS <u>1</u>																																																																																							
<p><b>Note: By initialing below, you are verifying you have assessed your physical and mental status and determined you are safe and prepared to fly the planned mission.</b></p>																																																																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Last Name (Print)</th> <th>Show</th> <th>Initials</th> </tr> <tr> <td>MP</td> <td><u>0520</u></td> <td><u>[initials]</u></td> </tr> <tr> <td>MSP</td> <td><u>1430</u></td> <td><u>[initials]</u></td> </tr> <tr> <td>MCP</td> <td><u>0901</u></td> <td><u>[initials]</u></td> </tr> <tr> <td>WITNESS 16</td> <td></td> <td></td> </tr> <tr> <td>MLM</td> <td><u>1430</u></td> <td><u>[initials]</u></td> </tr> </table>			Last Name (Print)	Show	Initials	MP	<u>0520</u>	<u>[initials]</u>	MSP	<u>1430</u>	<u>[initials]</u>	MCP	<u>0901</u>	<u>[initials]</u>	WITNESS 16			MLM	<u>1430</u>	<u>[initials]</u>																																																																									
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	1	2	3	4	5																																																																																								
<b>Factor</b>	<b>Low</b>	<b>Medium</b>	<b>Caution</b>																																																																																										
Mission Type	AR / LL / ALZ / AD / AL	Form, Night AR / NVG's	Complex / Demanding / Unfamiliar	SQ	AC																																																																																								
Crew Complement	Current	Non-Cur / Inst Req / >O-6		4	4																																																																																								
Crew Hours	AC>500 / >20/month	AC<500 / <20/month		1	1																																																																																								
Departure WX	Good (> 1500-3)	IFR (< 1500-3)	Dept. Alt. Req.	2	1																																																																																								
Enroute WX	No Hazards	Moderate Hazards	Severe Hazards	1	1																																																																																								
Arrival WX	Good (> 1500-3)	IFR (< 1500-3)	At / Below Mins.	2	1																																																																																								
Field Conditions	Dry	Wet / Patchy / Windy	RCR < 10 / High Winds > 20	2	1																																																																																								
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				<b>Total</b>	<b>15</b>	<b>14</b>																																																																																							
<p>Approximate an average value based on the above mission factors. If any one or more areas are identified with a value of 4 or 5, the TOP 3 representative will be notified. Explore ways to reduce mission risks. If the TOP 3 representative is notified, obtain their initials on the front of this form and concurrence on whether the mission should proceed or should be cancelled. If the total value is 25 or greater, OG/CC approval is required for the mission to proceed. This completed sheet will be placed in the mission folder and kept in base ops for the duration of the mission.</p>																																																																																													
<p>NOTE: TOP-3 initials/authorization is required to change crew authorization orders. Do not change crew names, AC designation, or add passengers/ACMs/MEGPs without authorization.</p>																																																																																													
<b>Complete the Following Mission Requirement Checklist</b>																																																																																													
<table border="0" style="width:100%;"> <tr> <td style="width: 5%;">1</td> <td style="width: 5%;"><input checked="" type="checkbox"/></td> <td style="width: 40%;">FCIF # _____</td> <td style="width: 50%;">All Crew Verified.</td> </tr> <tr> <td>2</td> <td><input checked="" type="checkbox"/></td> <td>Flight Plan (Fax to Base Ops 552-9333)</td> <td></td> </tr> <tr> <td>3</td> <td><input checked="" type="checkbox"/></td> <td>Airfield Suitability Restriction Report</td> <td></td> </tr> <tr> <td>4</td> <td><input checked="" type="checkbox"/></td> <td>NOTAMS - FDC, Military, and Local</td> <td></td> </tr> <tr> <td>5</td> <td><input checked="" type="checkbox"/></td> <td>NAV Kit # _____</td> <td></td> </tr> <tr> <td>7</td> <td><input checked="" type="checkbox"/></td> <td>CTK # _____</td> <td></td> </tr> <tr> <td>8</td> <td><input checked="" type="checkbox"/></td> <td>Crew Orders / Clipboard</td> <td></td> </tr> <tr> <td>9</td> <td><input checked="" type="checkbox"/></td> <td>Currency. Check...</td> <td></td> </tr> <tr> <td>9</td> <td><input type="checkbox"/></td> <td>Mission Briefing</td> <td></td> </tr> <tr> <td>10</td> <td><input type="checkbox"/></td> <td>Leave Mission Sign In Sheet and Original Orders in Squadron</td> <td></td> </tr> </table>	1	<input checked="" type="checkbox"/>	FCIF # _____	All Crew Verified.	2	<input checked="" type="checkbox"/>	Flight Plan (Fax to Base Ops 552-9333)		3	<input checked="" type="checkbox"/>	Airfield Suitability Restriction Report		4	<input checked="" type="checkbox"/>	NOTAMS - FDC, Military, and Local		5	<input checked="" type="checkbox"/>	NAV Kit # _____		7	<input checked="" type="checkbox"/>	CTK # _____		8	<input checked="" type="checkbox"/>	Crew Orders / Clipboard		9	<input checked="" type="checkbox"/>	Currency. Check...		9	<input type="checkbox"/>	Mission Briefing		10	<input type="checkbox"/>	Leave Mission Sign In Sheet and Original Orders in Squadron		<table border="0" style="width:100%;"> <tr> <td style="width: 5%;">11</td> <td style="width: 5%;"><input checked="" type="checkbox"/></td> <td style="width: 40%;">Allen AAF (DSN 873-4171 / COM 907-873-4171) PPR # _____</td> <td style="width: 50%;">N/A</td> </tr> <tr> <td>12</td> <td><input checked="" type="checkbox"/></td> <td>Trans Confirmed (552-2793) Bus Time _____</td> <td></td> </tr> <tr> <td>13</td> <td><input checked="" type="checkbox"/></td> <td>Mobility Bags (Circle Applicable Bag(s))</td> <td></td> </tr> <tr> <td>14</td> <td><input checked="" type="checkbox"/></td> <td>Meal Request Form (Fax to 552-4734)</td> <td></td> </tr> <tr> <td>15</td> <td><input checked="" type="checkbox"/></td> <td>Computer Flight Plan / IMT Package</td> <td></td> </tr> <tr> <td>16</td> <td><input checked="" type="checkbox"/></td> <td>Helmet / NVG's / Pole Knife</td> <td></td> </tr> <tr> <td>17</td> <td><input checked="" type="checkbox"/></td> <td>Civilian Travel Orders (ITO)</td> <td></td> </tr> <tr> <td>18</td> <td><input checked="" type="checkbox"/></td> <td>Weather 552-4903 / 4397</td> <td></td> </tr> <tr> <td>19</td> <td><input checked="" type="checkbox"/></td> <td>Training Folder Reviewed</td> <td></td> </tr> <tr> <td>20</td> <td><input checked="" type="checkbox"/></td> <td>Authentication Materials</td> <td></td> </tr> <tr> <td>21</td> <td><input checked="" type="checkbox"/></td> <td>PAX/Cargo Manifest</td> <td></td> </tr> <tr> <td>22</td> <td><input checked="" type="checkbox"/></td> <td>Weapons Issue</td> <td></td> </tr> <tr> <td>23</td> <td><input checked="" type="checkbox"/></td> <td>TOP-3, OG/CC Initials (if req)</td> <td></td> </tr> </table>	11	<input checked="" type="checkbox"/>	Allen AAF (DSN 873-4171 / COM 907-873-4171) PPR # _____	N/A	12	<input checked="" type="checkbox"/>	Trans Confirmed (552-2793) Bus Time _____		13	<input checked="" type="checkbox"/>	Mobility Bags (Circle Applicable Bag(s))		14	<input checked="" type="checkbox"/>	Meal Request Form (Fax to 552-4734)		15	<input checked="" type="checkbox"/>	Computer Flight Plan / IMT Package		16	<input checked="" type="checkbox"/>	Helmet / NVG's / Pole Knife		17	<input checked="" type="checkbox"/>	Civilian Travel Orders (ITO)		18	<input checked="" type="checkbox"/>	Weather 552-4903 / 4397		19	<input checked="" type="checkbox"/>	Training Folder Reviewed		20	<input checked="" type="checkbox"/>	Authentication Materials		21	<input checked="" type="checkbox"/>	PAX/Cargo Manifest		22	<input checked="" type="checkbox"/>	Weapons Issue		23	<input checked="" type="checkbox"/>	TOP-3, OG/CC Initials (if req)	
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9	<input checked="" type="checkbox"/>	Currency. Check...																																																																																											
9	<input type="checkbox"/>	Mission Briefing																																																																																											
10	<input type="checkbox"/>	Leave Mission Sign In Sheet and Original Orders in Squadron																																																																																											
11	<input checked="" type="checkbox"/>	Allen AAF (DSN 873-4171 / COM 907-873-4171) PPR # _____	N/A																																																																																										
12	<input checked="" type="checkbox"/>	Trans Confirmed (552-2793) Bus Time _____																																																																																											
13	<input checked="" type="checkbox"/>	Mobility Bags (Circle Applicable Bag(s))																																																																																											
14	<input checked="" type="checkbox"/>	Meal Request Form (Fax to 552-4734)																																																																																											
15	<input checked="" type="checkbox"/>	Computer Flight Plan / IMT Package																																																																																											
16	<input checked="" type="checkbox"/>	Helmet / NVG's / Pole Knife																																																																																											
17	<input checked="" type="checkbox"/>	Civilian Travel Orders (ITO)																																																																																											
18	<input checked="" type="checkbox"/>	Weather 552-4903 / 4397																																																																																											
19	<input checked="" type="checkbox"/>	Training Folder Reviewed																																																																																											
20	<input checked="" type="checkbox"/>	Authentication Materials																																																																																											
21	<input checked="" type="checkbox"/>	PAX/Cargo Manifest																																																																																											
22	<input checked="" type="checkbox"/>	Weapons Issue																																																																																											
23	<input checked="" type="checkbox"/>	TOP-3, OG/CC Initials (if req)																																																																																											
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<p>Per AF1 11-202V3, "The Pilot in Command (PIC) is responsible for, and is the final authority as to the operation of the aircraft." Your signature below indicates you have assessed all factors associated with the mission and accept responsibility for the flight.</p>																																																																																													
<u>10-6294</u> Flight Order #		 Pilot in Command Signature			<u>28 JUL 10</u> Date																																																																																								
OG FORM																																																																																													

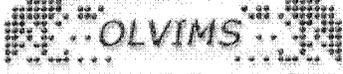
AA4. FLIGHT AUTHORIZATION, 9 JULY 2010

CREW FLIGHT (FA) AUTHORIZATION									
1. PREPARED DATE: 20100708		2. MISSION NUMBER: LUN72TA02190		3. DEPARTURE LOCATION: PAED Elmendorf AFB, AK			4. DESTINATION: PAED Elmendorf AFB, AK		
5. MISSION SYMBOL AND PURPOSE: N20CA AIRLAND-AM				6. SCHEDULED DEP DATE/TIME: 20100709 12:00 (L)			7. SCHEDULED RET DATE/TIME: 20100709 16:00 (L)		
				8. AERO VEHICLE: C017A		9. ACFT TAIL #: 09071		10. CALL SIGN: Togo 63	
11. CREW INFORMATION:									
A. NAME	B. GRADE MIL/GS	C. SSAN	D. SEC CLR	E. CREW POS	F. DUTY POS	G. REMARKS/ RES CODE	H. UNIT	I. CREW #	J. INITIALS FOR CHG
MP			TS	EP A	IP	A	0249		
MCP			SEC	IP	MP		0517		
MSO			TS	MP B	MP		0249		
WITNESS 5			SEC	IL B	MP		0517		
MLM			<del>SEC</del>	<del>EL A</del>	<del>EL</del>		<del>0249</del>		
WITNESS 14			SEC	IL	MC		0249		
12. REMARKS: (Variations in Itinerary Authorized)									
A=IN COMMAND B=NONCURRENT C=ACTING IN NEXT HIGHER QUAL FOR EVAL PURPOSES G=FEMALE CREW MEMBER H=INSTUCTOR/EVALUATOR CANDIDATE I=NMR J=ENPLANE/DEPLANE 1=PERFORMING DUTIES AS AIRDROP LEAD 3=PERFORMING DUTIES AS AD AIRCRAFT COMMANDER OR AD LOADMASTER 5=COPILOT									
13. AUTHORIZATION DATE: 20100708		14. FA NUMBER: 10-0743		15. DISTRIBUTION: 1 FILE/ AS REQ- BASE OPERATIONS/ AS REQ- CREWMEMBERS					
16. GO/NO-GO VERIFICATION: I certify go/no-go checks were accomplished for aircrew members listed below. As a minimum, flight physical, physical availability, physiological training, emergency egress, local area survival, current ASC, (AO effective date/term date), ACFT AOs, FCIF card, and any other grounding events were checked. Individuals non-current for aircrew training or aircrew qualification have appropriate remarks codes assigned and an instructor is on-board for their specialty. Reserve personnel not on extended duty are subject to the provisions of the uniform code of military justice, while performing this duty.									
1C0X2 Initials: _____				Aircraft Commander Review: _____					
IF CHANGES TO ORIGINAL CREW MEMBERS: I certify the above go/no-go checks were performed for aircrew member (s) added:									
Aircraft Commander Signature: _____									
17. UNIT DESIGNATION AND LOCATION OF AUTHORIZING AGENCY: DEPARTMENT OF THE AIR FORCE 517TH AIRLIFT SQUADRON ELMENDORF AFB, AK 99506-2530					18. SIGNATURE ELEMENT OF AUTHENTICATING OFFICIAL: _____ CAPT, USAF ASST. DIRECTOR OF OPERATIONS				
19. ACCOUNTING CITATION: <span style="float: right; font-size: 2em; font-weight: bold;">ORIGINAL</span>									

AA5. TRANSPORTATION VEHICLE DISPATCH REQUEST

OLVIMS - Operations

Page 1 of 1



**OLVIMS**  
Online Vehicle Interactive Management System

## Dispatch



Home | User Guide | Help | Logout

Operations | Site | Reports | System

- Dispatch
  - Requests
  - Vehicles
  - **PROB**
  - Rental
  - Fleet Credit Card

Logged in as (FXSB - 7)

### Dispatch Request

Confirmation Number	17132076	Est Pax	5
Category Code	03 AIRCREW SUPPORT	Est Cargo Weight	175
Requester	MP	Credit Card	
Using Org	9U 517 AS	Reimbursable	Non R/D
Requester Phone Number	551-5192	Project Name	
Date/Time Required	28 Jul 2010 1830	Combined With	
Pickup Location	517TH	Date/Time Requested	28 Jul 2010 1447
Destination	DELTA RAMP	Dispatcher Name	
Type Code	Drop-off	Status	
Est Return Date/Time	28 Jul 2010 1800	High Visibility Req	<input checked="" type="checkbox"/>
Est Miles	5	Recurring Control Master	

Vehicles Remarks Combined Request

Requested Vehicles

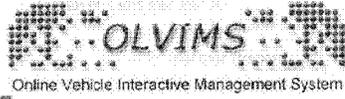
Select Management Code	Registration Number	Miles	Pax	Cargo Weight	Date/Time Dispatched	Date/Time Arrived	Date/Time Pickup	Date/Time Released
<input checked="" type="checkbox"/> B121 - BUS SCH 25-29 PAX 4X2 DE 09B00444		5	5	175	28 Jul 2010 1815	28 Jul 2010 1823	28 Jul 2010 1830	28 Jul 2010 1715

Vehicle Operators

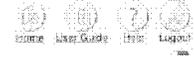
Select Last Name	Employee ID
<input checked="" type="checkbox"/>	42998

OLVIMS
Home | User Guide | Help | Logout
Contact FAS

9/4/2010



### Dispatch



Operations | Site | Reports | System

Logged in as (FXSB - 7)

- Dispatch
  - Requests
  - Vehicles
- Project
- Rental
- Fleet Credit Card

#### Dispatch Request

Confirmation Number	17132076	Est Pax	5
Category Code	03 AIRCREW SUPPORT	Est Cargo Weight	175
Requester	MP	Credit Card	
Using Org	9U 517 AS	Reimbursable	No R/D
Requester Phone Number	551-5182	Project Name	
Date/Time Required	28 Jul 2010 1630	Combined With	
Pickup Location	517TH	Date/Time Requested	28 Jul 2010 1447
Destination	DELTA RAMP	Dispatcher Name	
Type Code	Drop-off	Status	
Est Return Date/Time	28 Jul 2010 1800	High Visibility Run	<input checked="" type="checkbox"/>
Est Miles	5	Recurring Control Master	

Save Delete Cancel Print Carry Over Add New Request

Variables Remarks Combined Request

ENGINE RUNNING CREW SWAP. 3 OG/CC  
WILL BE WITH THE CREW. SAW

## AA6. 12 MIN PROFILE ( MP NOTES)

12 MIN PROFILE

Line-Up - 1 min warning, runup @ 7sec, brake rel

Takeoff - delay rotation about 2sec

- pull to 35°-40°, pause, push to 25°, pause

straight to 45°-60° bank - level 1000-1500A

Time outboard 5-8 sec (longer at high alt)

- accel entire time

- 60° bank back to RWY - use full rudder

- Descend to 500A in turn

- Stop accel when PFF hits line

- When turn is assured, MAX pow + Accel to highest speed possible

PM - Bug tracking

Idle at RWY - Spd Brakes if over 300KIAS

Call show center "5,4,3,3,3,2,1 Show Center" (5)

Retract Spd Brake - hurts roll rate

45°-60° Bank turn - Extend brakes again + slow

- time outboard about 2sec or 270 knots

- (5) count down on every outboard "5,4,3,2,1, turn"

Turn back to RWY 45°-60° bank

- Slow through turn, hold speed until PFF hits RWY then hold speed

- PM - App mode, 1/2 Flaps, gear automatically on the turn

- PF calls for full flaps

- Finish slowing on final to  $V_{app} - 10$

Safety calls "show center, go around" with countdown  
 Wait 2 sec for Airspeed + Flaps then Pitch to 60° bank  
 PM set 160 KIAS SPD/THRUST + engage ATS  
 Roll out for 1 sec + turn back - 60° w/ rudder  
 - PM be ready to re-engage if there's an overbank  
 Start app check after roll-out (PM)

5) Make show center countdown about 1 sec early  
 160 KIAS 360° turn - optional gear flash  
 - On 1st half of turn:  
 - overshooting wind, shallow initial turn ( $\frac{\text{pushing in}}{\text{in}}$ )  
 - undershooting wind, steep initial turn ( $\frac{\text{pushing out}}{\text{out}}$ )

Ensure approach check complete  
 Roll out of turn, wait 2 sec, then back into  
 turn, climbing to 800-1000 ft  
 Time 7-10 seconds outboard @ 160KT then turn  
 - gear, 1/2 flaps, lights, Anti Ice, before land check  
 - all automatic

Hold speed through most of turn with overshoot  
 - on final slowdown 3/4 through turn the  
 overshoot goes away  
 - Spap turn if necessary  
 - Descend in turn slightly - IWA final = 500 ft  
 - IF starting at 800A, 30 sec turn = 600 VVI

MAX Brake at touchdown until stop  
 - Call "80 knots", auto door (crowd side), Flaps/stats/spoilers  
 - Feet on floor, once moving take out some power  
 - 20Kts ground speed

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**TAB BB**

**GOVERNMENT DOCUMENTS AND REGULATIONS**

**BB1. C-17 RELEASABLE TECHNICAL DATA.....3**

**BB2. AIR FORCE INSTRUCTION 11-246, VOLUME 6, 20 APRIL 2004 (STANDARD  
PROFILES).....4**

**BB3. HQ AMC/A3V INTERPRETATION OF AFI 11-246, VOL , C-17 STANDARD  
PROFILES PG 3, PARA 1.....13**

**BB4. DOD HFACS GUIDE.....14**

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## BB1. C-17 RELEASABLE TECHNICAL DATA

### C-17 Technical Data Authorized for Public Release (Reviewed and Approved by ASC/WLME)

1. The C-17A includes a Stall Warning System which provides stick shaker and aural "STALL" alerts to the pilots. This system is continuously active and provides stall warning to the pilot when flight conditions approach a predetermined speed range, which is a function of a combination of flight conditions and aircraft configuration. In the event of invalid aircraft angle of attack (AOA) and/or aircraft configuration signals, a warning message will be displayed in the cockpit when stall warning is not fully functional. Reference: TO 1C-17A-1, Paragraph 1-1128.
2. The aircraft also has a deep stall protection system called the Angle of Attack Limiter System (ALS). The purpose of the ALS is to preclude the aircraft from attaining AOA attitudes that could result in a deep stall from which the aircraft is not recoverable. AOA limiting is available throughout the flight envelope. The ALS is active when the electronic flight control system is operational. ALS operates by limiting commanded nose up elevator position. A warning message will be displayed in the cockpit when the ALS is not fully functional. Reference: T.O. 1C-17A-1, Paragraph 1-1130.
3. Minimum climb-out speed is the minimum speed recommended for three-engine obstacle clearance. Reference: TO 1C-17A-1-1, Paragraph 3-32.
4. The C-17 flight manual limits bank angle to 60 degrees in level flight during an abrupt maneuver. Reference: TO 1C-17A-1, Paragraph 5-59.

**BB2. AIR FORCE INSTRUCTION 11-246, VOLUME 6, 20 APRIL 2004 (STANDARD PROFILES)**

BY ORDER OF THE  
SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 11-246  
VOLUME 6

20 APRIL 2004

Flying Operations



AIR FORCE AIRCRAFT DEMONSTRATIONS  
(C-17, C-130, C-141, C/KC/NKC-135, UH-1)

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

**NOTICE:** This publication is available digitally on the AFDPO WWW site at:  
<http://www.e-publishing.af.mil>.

OPR: HQ AMC/DOO

Certified by: HQ AMC/CC  
(General John W. Handy)

Supersedes AF11-246V6, 13 December 2002

Pages: 15  
Distribution: F

This instruction implements guidance in AFD 11-2, *Flight Rules And Procedures*, and AFI 11-209, *Air Force Aerial Events*. It provides guidance and procedures in performing specified aircraft capabilities demonstrations using specific Air Force model, design, series (MDS) aircraft. It designates Air Mobility Command as lead command for aircraft capabilities demonstrations applicable to C-5, C-9, C-12, C-17, C-20, C-21, C-22, C-32, C-37, C-38, C-130, C-141, E-4, KC-10, KC-135, C-135, NKC-135, UH-1N, and VC-25 aircraft. For the purpose of this instruction, the Air National Guard is functionally considered to be a major command (MAJCOM). MAJCOMs, field operating agencies (FOA) and direct reporting units (DRU) may supplement this instruction. Forward one copy to HQ AMC/A33 and HQ USAF/XOOO after publication. See **Attachment 1** for a glossary of references and supporting information. Ensure all records created by this AFI are maintained and disposed of IAW AFMAN 37-139, "Records Disposition Schedule."

**SUMMARY OF REVISIONS**

IC 2004-1 accomplishes the following: 1) Corrects the AMC web site address; 2) Clarifies Flyover and Aerial Review concepts; 3) Expands the definition of Aircraft Capabilities Demonstration; 4) Explains the process for changing or creating new Standard Profiles; 4) Modifies the Standard Profiles for the C-17 and C-130, adding formation airdrops; 5) Modifies the UH-1N Standard profiles, adding formation and AIE procedures (authorizes insertion/extraction of personnel); 6) Expands options for "Critique and Review Process;" 7) Adds Table A-1 to the Terms section of **Attachment 1**; 8) Adds selected Terms to **Attachment 1**; and, 9) Updates the Standard Profiles on the AMC web site to reflect these changes. See the last attachment of the publication, IC 04-1, for the complete IC. **NOTE: A VERTICAL BAR IN THE LEFT MARGIN IDENTIFIES TEXT CHANGED BY IC 2004-1.**

### Chapter 3

#### STANDARD PROFILES

**3.1.** The Standard Profiles for the C/KC/NKC-135, C-141, C-130, C-17 and UH-1N aircraft are at the AMC web site (A330 home page). Click on the desired MDS aircraft to view a specific standard profile. The profiles are based on the aircraft capabilities demonstrations listed in paragraph 1.4., having been compiled from basic flying maneuvers common to the MDS selected. The profiles by MDS are summarized here.

**3.2. KC-135 Stratotanker (Includes C-135 and NKC-135).** Profile 1 is an aircraft capabilities demonstration of approximately seven minutes duration. It begins with a take off to a VFR closed pattern followed by high-speed and low-speed passes and ends with a full stop at the same airfield.

**3.3. C-141 Starlifter.** Profile 1 is an aircraft capabilities demonstration that starts with the C-141 already airborne. The aircraft capabilities demonstrated follow in this sequence: personnel airdrop; airdrop escape; VFR overhead pattern; and, finally a full stop landing. Profile 2 is an aircraft capabilities demonstration that begins with a C-141 on the airfield. The aircraft capabilities demonstrated follow in this sequence: take off; spiral-up tactical departure; overhead VFR pattern; and, full stop recovery at the same airfield.

**3.4. C-130 Hercules.** Profile 1 is an aircraft capabilities demonstration (airdrop) flown by a single-ship C-130 or a C-130 formation. A C-130 formation may contain multiple elements involving a number of aircraft up to the limits authorized by DoD, USAF and AMC guidance. Mission planners may use any combination of C-130 single-ships and formations to airdrop heavy equipment (HE), Container Delivery System (CDS) supply containers and personnel—all as part of the same capabilities demonstration—to present the full range of C-130 delivery capabilities. The aircraft capabilities demonstrated include: Personnel airdrop (HALO / Static Line); Equipment airdrop (heavy equipment / CDS); Random steep or shallow approach; Assault landing; Backing demonstration (optional ERO or upload); and, Assault takeoff (maximum effort takeoff). Profile 2 is an aircraft capabilities demonstration that starts with an assault takeoff (maximum effort takeoff) and includes the following: Random shallow or steep approach; Assault landing; Backing demonstration (optional ERO or upload); and, Optional assault takeoff (maximum effort takeoff). Profile 3 is an aircraft capabilities demonstration starting with a C-130 already airborne and includes the following: Random shallow or steep approach; Assault landing; Backing demonstration (optional ERO or upload); and, Optional assault takeoff (maximum effort takeoff).

**3.5. C-17 Globemaster.** Profiles 1, 2, and 3 are aircraft capabilities demonstrations involving the performance maneuvering of the aircraft in a runway environment, each with a different duration: 6, 10, and, 12 minutes, respectively. Profile 4 depicts three separate aircraft capabilities demonstrations—basic airdrop, overhead pattern to a simulated short-field landing (optional backing demonstration and ERO/upload), and, an assault takeoff (maximum effort takeoff). The airdrop demonstration is flown by a single-ship C-17 or a C-17 formation. A C-17 formation may contain multiple elements involving a number of aircraft up to the limits authorized by DoD, USAF and AMC guidance. Mission planners may use any combination of C-17 single-ships and formations to airdrop heavy equipment (HE), Container Delivery System (CDS) supply containers and personnel—all as part of the same capabilities demonstration—to present the full range of C-17 delivery capabilities.

AFI 11-246, VOL 6, Chapter 3 (13 December 2002)  
(Incorporates IC 2004-1)



## C-17 Standard Profiles 1 Thru 4

**General Instructions:** Aircrews from all MAJCOMs will adhere to the flying procedures in Profiles 1 through 4. Profiles 1, 2 and 3 are demonstrations of Aircraft High Performance Maneuvering.

**Profile 3 Synopsis:** This 12-minute profile is an aircraft capabilities demonstration consisting of a takeoff followed by a maximum performance climb (max performance climb angle) to 1,500' AGL. The C-17 then executes a 45° bank angle 80°/260° reversal turn descending to 500' AGL, aligning with the runway to perform a high-speed pass. Once past show center, the C-17 executes a 50° teardrop turn and reversal while climbing to 1,000' AGL. The aircraft is configured for landing with slats/full flaps and gear. The C-17 descends to 500' AGL for a slow-speed pass. At show center, the aircrew advances

the power setting to MAX and reconfigures the aircraft (gear/slats/half flaps). The aircraft performs a 50° teardrop turn while climbing to 1,000' AGL and then descends to 500' AGL for the third pass, once again aligned with the runway. At show center, the aircraft demonstrates a low-speed 360° turn. At the end of the turn, the aircraft continues down the runway and uses a 45° teardrop reversal climb to 1,000' AGL, setting up for a full-stop assault landing. The aircraft stops at show center and demonstrates a backing maneuver but does not do any turning while backing. After backing up an adequate distance (no turns), the aircraft executes a forward turn toward the crowd. This is followed by a turn to exit the runway. Approximate duration: 12 minutes.

The third demonstration depicted is the Assault Takeoff (Maximum Effort Takeoff). In this illustration, the assault takeoff follows the backing demonstration. The C-17 climbs with ½ flaps at maximum power, holding airspeed at or above V<sub>mc0</sub> to 5,000' AGL.

**AFI 11-246, VOL 6, Chapter 3 (13 December 2002) (Incorporates IC 2004-1) 3**

The procedures in these profiles are general guidelines. Mission planners may adjust them, for cause, to accommodate the requirements of the jump team or paratroopers (static line, HALO, etc.), the requirements of the equipment (material) to be airdropped (HE or CDS), the physical requirements of the drop zone or the unique requirements of the event, itself. Aircrews will not deviate from the mission plan except for safety considerations. Planning and mission execution must comply with AFI 11-2C-17, Vol 3, and other relevant DoD, USAF and FAA guidance.

**Narration for the C-17 Standard Profile 3 (12-Minute Demonstration):** The following narrative is illustrative only—the narrator should edit it as needed to suit the venue for the event, the supporting C-17 unit, the mission plan for C-17 participation (scenario), and the audience.

**Introduction – 45 Seconds Prior To Engine Run-Up For Takeoff:** *Good (morning / afternoon) ladies and gentlemen. I'm (Rank/Name) from the Air Force's (Wing) at (Base) Air Force Base, (State). It's my pleasure this afternoon to describe for you today's flight demonstration by America's newest airlifter, the Boeing C-17 Globemaster III – the aircraft that ensures rapid global mobility for America.*

*The aircraft will takeoff performing a maximum angle climb, demonstrating its impressive power and the ability to depart an airport where enemy resistance is suspected. With a departure climb angle just over 25° nose up, the aircraft will reach over 1,500 feet before crossing the departure end of the runway.*

**AFI 11-246, VOL 6, Chapter 3 (13 December 2002) (Incorporates IC 2004-1) 7**

**After Takeoff:** *The pilots for today's demonstration are (Rank/Name) and (Rank/Name). The loadmaster is (Rank/Name). This crew has a combined total of over (XX) thousand flying hours in various aircraft including (i.e., the C-5 Galaxy, C-141 Starlifter, C-130 Hercules, KC-10 Extender, KC-135 Stratotanker, B-52 Stratofortress, T-1 Jayhawk, T-38 Talon and T-37 Tweet).*

**As Jet Begins 80°/260° Maneuver:** *The C-17's first pass today will be a high-speed pass. After completing a teardrop maneuver to align with the runway, the crew will accelerate to 250 / 300 Knots [460 / 550 kilometers per hour] demonstrating the rapid strategic capability of the airplane.*

*The C-17 design includes 1) a modern computerized glass cockpit, 2) heads-up displays at both pilot stations, and 3) advanced cargo handling system – allowing it to operate with a crew half the size of current aircraft. Only three crewmembers are required to fly the C-17. The aircraft's advanced design allows it to accomplish its entire mission with this minimum crew.*

**As Aircraft Approaches Show Center:** *Notice how quiet the C-17 is while passing show center. This gives the Globemaster a tactical advantage while flying low over hostile territory and is also environmentally friendly.*

**As Aircraft Begins 50° Teardrop:** *The C-17 provides a direct delivery capability that combines the intercontinental cargo carrying capabilities of large aircraft, such as the C-5 Galaxy and C-141 Starlifter, with the short runway capability of the much smaller C-130 Hercules. It can routinely land on runways only 3,000 feet [1,000 meters] long.*

*Four Pratt and Whitney F-117 engines power the C-17. These are the same engines used on the Boeing 757. Each engine delivers over 40,000 pounds of thrust. This amount of thrust allows the Globemaster III to carry over 170,000 pounds [75,000 kilograms] of cargo. The Range of the C-17 with this amount of cargo is 2,400 nautical miles [4,000 kilometers]. However, the C-17 can reach anywhere in the world, nonstop, using its air refueling capability.*

**Wings Level Inbound:** *As the aircraft passes, please notice the wing leading edge slats and large, powered-lift wing flaps. These devices change the shape of the C-17 wing, and are the key to its low final approach speed enabling this aircraft to land and stop in short distances.*

**On Go Around:** *The aircraft is now performing a go around maneuver using maximum power to demonstrate its ability to depart an airport where enemy resistance is suspected.*

**As Aircraft Begins 50° Teardrop Maneuver:** *The C-17 will now maneuver to show its ability to fly at slow speeds and demonstrate its advanced aerodynamics in action. The aircraft is performing a series of steep bank turns to maneuver for a low-speed pass and circle over the airfield.*

**Wings Level Inbound:** *And in case you're wondering how big it is, the wingspan (tip to tip) is about half the length of a football [soccer] field, the tail is over 5 stories tall. Empty the C-17 weighs almost 280 thousand pounds [127 thousand kilograms]. But with maximum cargo and fuel loaded, that gross weight rises to over a half a million pounds [266 thousand kilograms]. Notice the up-turned wing tips or winglets – these decrease aerodynamic drag and increase fuel economy. To give you a better idea of the aircraft's overall size, those winglets are over 9 feet [3 meters] tall!*

**After Jet Completes First 90° Of The 360° Turn:** *The aircraft is extremely agile at both high and low speeds making it easy to operate in any tactical situation including the combat delivery capability of paratrooper or heavy equipment airdrop.*

**During The Last 90° of 360° Turn:** *The C-17 uses a quadruple redundant fly-by-wire system to run its flight controls. The fly-by-wire system means the aircraft's flight controls are electronically operated by inputs from the control sticks. There are four separate flight control computers, each of which can manage the entire system by itself. The computers continuously monitor the flight controls and each other. If there are any problems they automatically work around the disabled system. In addition to these features, the C-17 still has a mechanical back up.*

**As Aircraft Begins 45° Teardrop:** *The aircraft is maneuvering to demonstrate a full flap approach to a simulated short field runway. This short field capability allows the C-17 Globemaster III to land at over 6,000 more airfields worldwide than currently available to the C-141 Starlifter, C-5 Galaxy, and commercial wide-body aircraft. In fact, during the NATO peacekeeping mission to Bosnia, C-17 crews airlifted nearly one-half of the total cargo in only one-fourth of the missions while boasting and impressive 96% reliability rate.*

*The C-17 you see today weighs almost 400 thousand pounds [200 thousand kilograms]. On final, its speed is approximately 120 miles [200 kilometers] per hour.*

**As Aircraft Turns Final:** *Approaching the end of the runway, the crew is simulating arrival to an airfield with hostile forces nearby. This approach tactic can also be used from very high altitude to avoid enemy fire.*

*The C-17 made its inaugural flight in September 1991. Since then the C-17 set over 20 world records – including payload-to-altitude and time-to-climb records. McDonnell Douglas (now, Boeing) delivered the first operational C-17 to Charleston Air Force base in June of 1993.*

**When Touchdown Is Assured (Otherwise Go To Go-Around Filler Material):** *Now the crew will demonstrate the very short landing distance of the C-17.*

**While Backing, But Out Of MAX Reverse:** *The aircraft is demonstrating a capability limited to a very few aircraft – the ability to routinely back under its own power. Ground maneuverability is extremely important when space is limited for off-load operations on a day-to-day basis.*

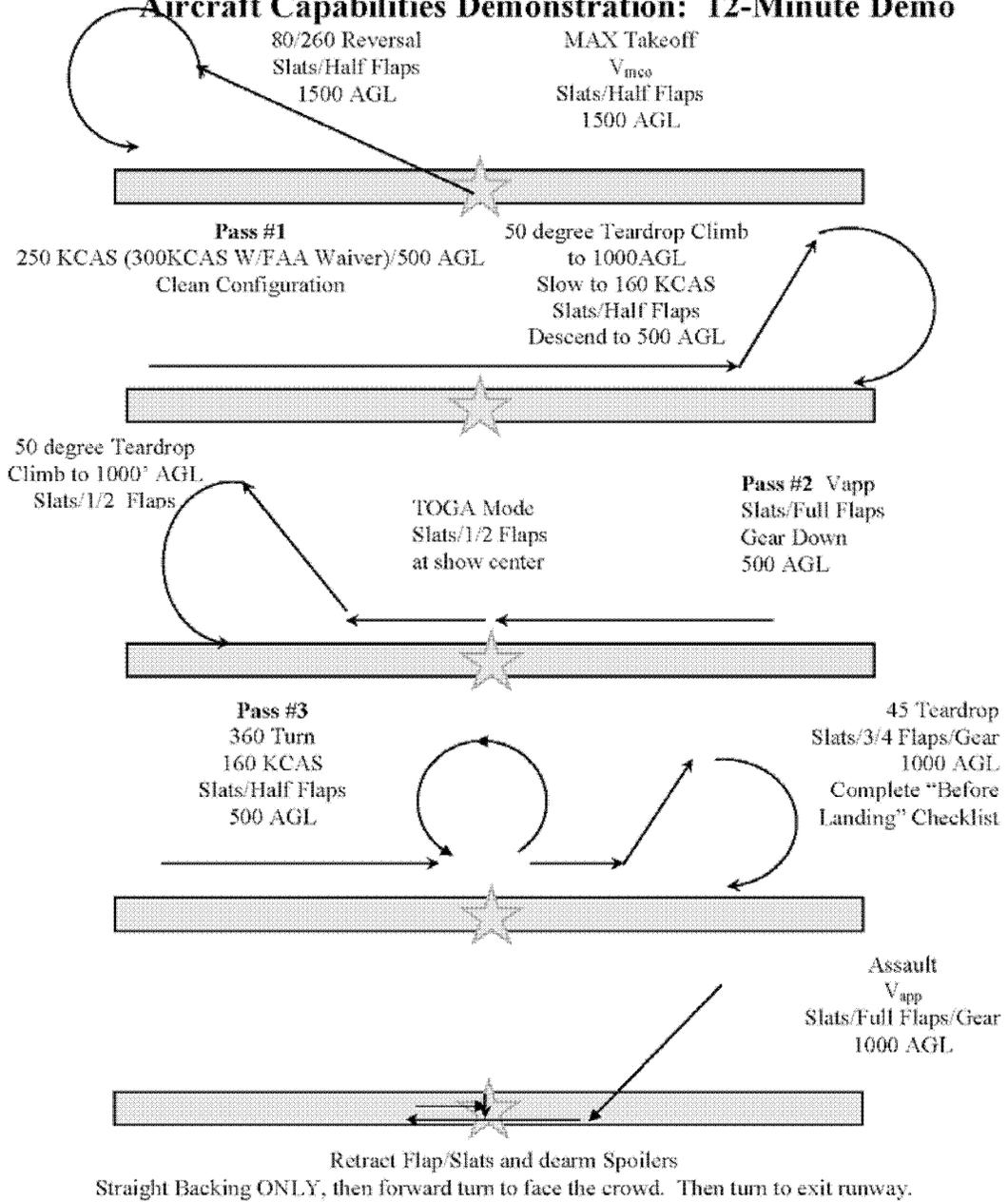
**As Aircraft Taxis Clear:** *All the maneuvers you have seen here today are representative of those flown by our operational aircrews everyday, as they provide the highly responsive and flexible airlift capability for America...*

*Ladies and Gentlemen, this concludes today's demonstration of the C-17 Globemaster III and just some of its unique capabilities. On behalf of the men and women of the United States Air Force, (insert appropriate MAJCOM), and XX AFB, we thank you for being with us today. We hope you enjoyed this brief look at the C-17 Globemaster III, the United States Air Force's core airlifter and work horse, providing rapid global mobility for America – today, tomorrow, and throughout the 21<sup>st</sup> Century.*

AFI 11-246, VOL 6, Chapter 3 (13 December 2002) (Incorporates IC 2004-1) 13

### C-17 Standard Profile 3

#### Aircraft Capabilities Demonstration: 12-Minute Demo



**BB3. HQ AMC/A3V INTERPRETATION OF AFI 11-246, VOL , C-17 STANDARD PROFILES PG 3, PARA 1**



**DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND**

22 Sep 2010

MEMORANDUM FOR C-17A, T/N 00-0173, 28 JUL ACCIDENT INVESTIGATION BOARD

FROM: HQ AMC/A3V  
402 Scott Drive  
Unit 3A1  
Scott AFB, IL 62225

SUBJECT: Interpretation of AFI 11-246, Vol. 6, C-17 Standard Profiles Pg. 3, para 1.

1. This letter establishes HQ AMC/A3V interpretation of AFI 11-246, Vol. 6, C-17 Standard Profiles Pg. 3, para 1. Brig Gen Everhart, the board president for the 28 July C-17 mishap at Joint Base Elmendorf-Richardson, Alaska, requested AMC/A3V interpretation to support the investigation.

2. The paragraph in question states the following:

“The procedures in these profiles are general guidelines. Mission planners may adjust them, for cause, to accommodate the requirements of the jump team or paratroopers (static line, HALO, etc.), the requirements of the equipment (material) to be airdropped (HE or CDS), the physical requirements of the drop zone or the unique requirements of the event, itself. Aircrews will not deviate from the mission plan except for safety considerations. Planning and mission execution must comply with AFI 11-2C-17, Vol 3, and other relevant DoD, USAF and FAA guidance.”

3. The guidance in this paragraph is poorly written and in future revisions should be clarified to state that its provisions apply to all four profiles and not only to Profile Four. The second sentence of the paragraph begins with examples which apply only to profile four, leading the reader to conclude the “general guidelines” statement in the first sentence may only apply to profile four. However, the first sentence states “these profiles”, and the second sentence concludes with “or the unique requirements of the event”. Using the plural form of profile(s) and a broad example (“event”) leads to the conclusion that the paragraph applies to all the profiles, not just the airdrop profile. Regardless, it is clear that crews flying demonstration profiles are to follow the mission plan as described, deviating only for safety considerations. Additionally, as stated in AFI 11-246, Vol. 6, C-17 Standard Profiles page 1, para 1, profiles 1-4 should be regarded as procedure, and should be planned in accordance with each profile’s textual and graphical depiction.

//signed – Col [redacted] – mdc – 22 Sep 10//  
[redacted], Col, USAF  
Chief, AMC Aircrew Standardization/Evaluation

**UNRIVALED GLOBAL REACH FOR AMERICA... ALWAYS!**

## BB4. DOD HFACS GUIDE

### DoD HFACS

#### Department of Defense Human Factors Analysis and Classification System A mishap investigation and data analysis tool

##### Executive Summary

This Department of Defense Human Factors (DoD HF) Guide explains procedures for investigating and reporting all DoD mishaps. It supports DoDI 6055.7, *Accident Investigation, Reporting, and Record Keeping*. The DODI directs DOD components to “Establish procedures to provide for the cross-feed of human error data using a common human error categorization system that involves human factors taxonomy accepted among the DoD Components and U.S. Coast Guard.” It is intended for use by all persons who investigate, report and analyze DoD mishaps, and is particularly tailored to the needs of persons assigned to Interim Safety Boards and formal Safety Investigation Boards following all Classes of mishaps. There are myriad potential human factors, all of which need to be assessed for relevancy during a mishap investigation. No investigator, flight surgeon, physiologist, human factors consultant or aviation psychologist can be expected to be fully familiar with all potential human factors

When using this human factors model, the investigator should consider applying the model to three distinct areas of consideration: environmental, individual and the event or mishap. The mishap crew, operator, or team reacts to the environment to which they are exposed. The environmental factors cover not only the physical environment to which the individual members are exposed, but also the organizational and supervisory environments and specific physical and technological preconditions. The individual factors cover acts, precondition and supervision factors. The mishap factors can cross all four tiers of the model. The investigator can apply this model by entering at any tier that is specifically related to environmental, individual or mishap factors discovered during the analysis. This model can be used as either a primary or secondary tool to investigate both active and latent failures. Our model is designed to present a systematic, multidimensional approach to error analysis. This human factors model covers human error from three perspectives:

- Cognitive Viewpoint and Human System Interaction and Integration
- Human-to-Human Interaction
- Sociocultural and Organization

When using our DoD HF Taxonomy for either primary investigation or secondary analysis, we must assume error can mean several things:

- Error as the failure itself. For example: The operator’s decision was an error (decision, perceptual, or skill-based errors).
- Error as the cause of failure. For example: This event was due to human error (failure to provide guidance).
- Error as a process or, more specifically, as a departure from some kind of standard (exceptional, routine, intentional or unintentional).

A reasonable synthesis of these assumptions, as suggested by Senders and Moray (1991), is the following: Human error occurs when human action is performed that was either (1) not intended by the actor, (2) not desired according to some specified set of rules or by some external observer, or (3) contributed to the task or system “going outside its acceptable limits.”

This DoD Guide starts with a brief history of the development of the DoD HFACS, followed by an introduction and description of the human factor and human performance application of this model. The Guide concludes with a high-level structural overview of the taxonomy and definitions.

##### History

The Secretary of Defense published a memorandum 19 May 2003 stating, “World-class organizations do not tolerate preventable accidents. Our accident rates have increased recently, and we need to turn this situation around. I

challenge all of you to reduce the number of mishaps and accident rates by at least 50% in the next two years.” These goals are achievable, and will directly increase our operational readiness. We owe no less to the men and women who defend our Nation.” This memorandum resulted in the creation of the DOD Safety Oversight Committee to provide guidance to the DOD and individual services on best practices and methods to accomplish this mandate. The Secretary of Defense established the Defense Safety Oversight Council to:

- Review accident and incident trends, ongoing safety initiatives, private sector and other governmental agency best practices, and to make recommendations to the Secretary of Defense for safety improvement policies, programs, and investments.
- Assess, review and advise on improving all aspects of the coordination, relevance, efficiency, efficacy, timeliness and viability of existing DoD-wide safety and injury prevention information management systems.
- Promote the development and implementation of safety initiatives, including Systems Safety for Acquisitions and operations, to improve mission success as well as preserve human and physical resources throughout DoD.
- Coordinate with other federal agencies and industry leaders, to facilitate communication, coordination, and integration of best practices into DoD planning, development and implementation of initiatives and programs that support research to improve human performance, safety education standards/procedures, and equipment.

The Aviation Safety Improvement Task Force (ASI-TF) was established to meet these DOD requirements. The ASI-TF subsequently established the Human Factors Working Group with a charter to identify data-driven, benefit-focused, human-factor and human-performance safety strategies designed to identify hazards, mitigate risk and reduce aviation mishaps inherent in aircraft operations throughout DoD. The ASI-TF chair directed the HFWG to accomplish the following tasks:

- Promote common Human Factors Analysis and Classification System for DoD-wide implementation
- Recommend standardization of human factor and human performance terminology
- Provide human factors subject matter experts to all ASI-TF working groups, and hazard identification and intervention analysis teams
- Identify and analyze top human factor and human performance mishap focus areas
- Identify, catalog and recommend approaches to improve organizational/cultural assessments

This guide is produced to meet the first two tasks of the Human Factors Working Group. The guide was initially developed to investigate aviation mishaps, and therefore uses an aviation-centric language. During production the authors have attempted to modify definitions to ensure the tool can be used in the investigation of multiple types of events. This guide was developed based on the evolution of the works produced by Jens Rasmussen, James Reason as well as Douglas Wiegmann and Scott Shappell. As this dynamic document evolves, we plan to ensure that it can be seamlessly applied across all services, and will be used to investigate aviation, ground, weapons, afloat, space and off-duty mishaps and events.

## Introduction

Mishap or event investigation can be extremely difficult, time-consuming and stressful, but it can also be rewarding when we recognize that the contributions we make will improve safety. A thorough mishap investigation is absolutely necessary to determine the cascading events causal to a mishap, and to recommend corrective actions to prevent recurrence. This guide provides the accident investigator with a proven template that aids in organizing the investigation while providing a detailed analysis of human error for on-scene investigation and post-hoc mishap data analysis, revealing previously unidentified human-error trends and hazards.

Human error continues to plague both military and civilian mishaps. Analysis indicates that human error is identified as a causal factor in 80 to 90 percent of mishaps, and is present but not causal in another 50 to 60 percent of all mishaps, and is therefore the single greatest mishap hazard. Yet, simply writing off mishaps to "operator error" is a simplistic, if not naive, approach to mishap causation and hazard identification. Further, it is well established that mishaps are rarely attributed to a single cause, or in most instances, even a single individual. Rather, mishaps are the end result of myriad latent failures or conditions that precede active failures (Shappell in "*The Naval Flight Surgeon's Pocket Reference to Aircraft Mishap Investigation*"). The goal of a mishap or event

investigation is to identify these failures and conditions in order to understand why the mishap occurred and how it might be prevented from happening again.

This reference is an adjunct to formal instructions that govern mishap investigation and is not meant to supplant the other references that address service-specific guidance for mishap investigation. Use this guide as a ready reference in the field to ensure that your data retrieval is complete and that you preserve perishable evidence. This guide is also designed to ensure uniformity of inter-service human factors definitions and data driven analysis.

## Description

This guide is designed for use as a comprehensive event/mishap, human error investigation, data identification, analysis and classification tool. It is designed for use by all members of an investigation board in order to accurately capture and recreate the complex layers of human error in context with the individual, environment, team and mishap or event.

In the past, investigators have thrown human factors analysis to the medical investigator and have asked him or her to do this work on their own. This practice has sometimes produced human error analyses that differed considerably from the boards' investigation and findings of fact. Integrating human factors analysis into all aspects of the investigation will result in a much more coherent final product.

As described by Reason (1990), *active failures* are the actions or inactions of operators that are believed to cause the mishap. Traditionally referred to as "error", they are the last "acts" committed by individuals, often with immediate and tragic consequences. For example, an aviator forgetting to lower the landing gear before touch down or showing off through a box canyon will yield relatively immediate, and potentially grave, consequences. In contrast, *latent failures* or *conditions* are errors that exist within the organization or elsewhere in the supervisory chain of command that effect the tragic sequence of events characteristic of a mishap. For example, it is not difficult to understand how tasking crews or teams at the expense of quality crew rest can lead to fatigue and ultimately errors (active failures) in the cockpit. Viewed from this perspective then, the actions of individuals are the end result of a chain of factors originating in other parts (often the upper echelons) of the organization. The problem is that these latent failures or conditions may lie dormant or undetected for some period of time prior to their manifestation as a mishap.

The question for mishap investigators and analysts alike is how to identify and mitigate these active and latent failures or conditions. One approach is the "Domino Theory" which promotes the idea that, like dominoes stacked in sequence, mishaps are the end result of a series of errors made throughout the chain of command.

A "modernized" version of the domino theory is Reason's "Swiss Cheese" model that describes the levels at which active failures and latent failures/conditions may occur within complex operations (see Figure 1).

Working backward from the mishap, the first level of Reason's model depicts those *Unsafe Acts of Operators* (operator, maintainers, facility personnel, etc.) that lead to a mishap. Traditionally, this is where most mishap investigations have focused their examination of human error, and consequently where most causal factors are uncovered. After all, it is typically the actions or inactions of individuals that can be directly linked to the mishap. Still, to stop the investigation here only uncovers part of the story.

What makes Reason's model particularly useful in mishap investigation is that it forces investigators to address latent failures and conditions within the causal sequence of events. For instance, latent failures or conditions such as fatigue, complacency, illness, and the physical/technological environment all affect performance but can be overlooked by investigators with even the best of intentions. These particular latent failures and conditions are described within the context of Reason's model as *Preconditions for Unsafe Acts*. Likewise, *Supervision* can promote unsafe conditions of operators and ultimately unsafe acts will occur. For example, if an Operations Officer were to pair a below average team leader with a very junior/inexperienced crew, the result is increased risk of mission failure. Regardless, whenever a mishap does occur, the crew naturally bears a part of the responsibility and accountability. However, latent failures or conditions at the supervisory level are often equally responsible for poor hazard analysis and subsequent increased mission risk, and may ultimately cause the mishap. In this particular example, the crew was set up for the opportunity for failure.

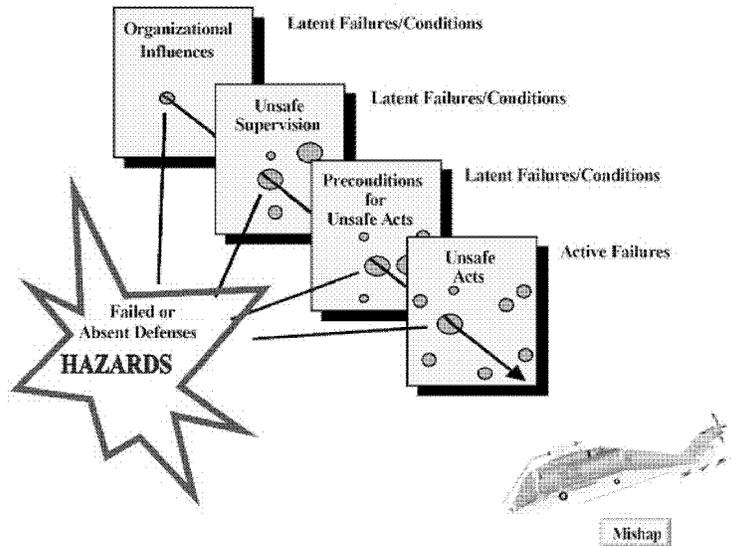


Figure 1. The "Swiss Cheese" Model (adapted from Reason, 1990)

Reason's model does not stop at supervision; it also considers *Organizational Influences* that can impact performance at all levels. For instance, in times of fiscal constraints, funding may be short and may lead to limited training opportunities. Supervisors are sometimes pressed to task "non-proficient" crews with complex missions. Not surprisingly, unintended and unrecognized errors may appear, and mission performance will consequently suffer. As such, hazards and risks at all levels must be addressed if any mishap investigation process is going to be effective.

The investigation process then endeavors to detect and identify the "holes (*hazards*) in the cheese" (see Figure 1). So how do we identify these hazards? *Aren't they really too numerous to define? After all, every mishap is unique, so the hazards will always be different for each mishap ... right?* Well, it turns out that each mishap is not unique from its predecessors. In fact, most mishaps have very similar causes. They are due to the same holes in the cheese, so to speak. The hazards identified in each new mishap are not unique to that mishap. Therefore, if you know what these system failures/hazards or "holes" are, you can better identify their roles in mishaps -- or better yet, detect their presence and develop a risk mitigation strategy correcting them *before* a mishap occurs.

### Department of Defense (DoD) Human Factors Analysis and Classification System

Drawing upon Reason's (1990) and Wiegmann and Shappell's (2003) concept of active failures and latent failures/conditions, a new DoD taxonomy was developed to identify hazards and risks called the DoD Human Factors Analysis and Classification System. DOD-HFACS describes four main tiers of failures/conditions: 1) Acts, 2) Preconditions, 3) Supervision, and 4) Organizational Influences (Figure 2). A brief description of the major tiers with associated categories and sub-categories follows, beginning with the tier most closely tied to the mishap.

Attachment 1 is the in-depth reference document, and contains all the currently accepted definitions for the sub-codes that fall within the 4 major tiers of human error. This document is subject to review and update every 6 months by the Human Factors Working Group of the Joint Services Safety Chiefs. For comments please contact the Command Flight Surgeon of the Naval Safety Center.

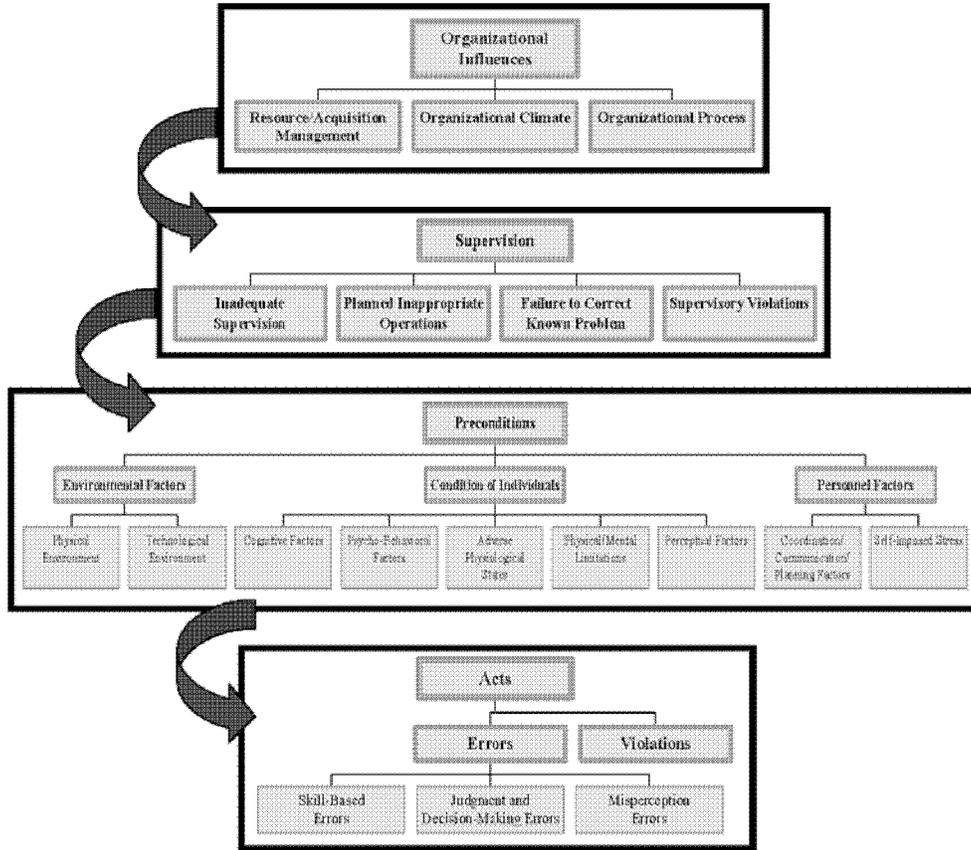


Figure 2. DOD HFACS Model

Note In the electronic version of this document each of the HFACS Model boxes are hyper-linked to more in-depth descriptions

**1. Acts**

Acts are those factors that are most closely tied to the mishap, and can be described as active failures or actions committed by the operator that result in human error or unsafe situation. We have identified these active failures or actions as *Errors and Violations* (see Figure 3).

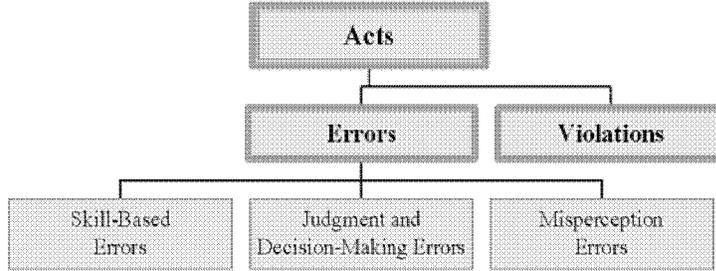


Figure 3. Categories of Acts of Operators

**Errors:** Errors are factors in a mishap when mental or physical activities of the operator fail to achieve their intended outcome as a result of skill-based, perceptual, or judgment and decision making errors, leading to an unsafe situation. Errors are unintended. We classified Errors into three types: *Skill-Based*, *Judgment and Decision Making*, and *Misperception Errors*. Using this error analysis process, the investigator must first determine if an individual or team committed an active failure. If so, the investigator must then decide if an error or violation occurred. Once this is done, the investigator can further define the error.

**Skill-based Errors:** Skill based errors are factors in a mishap when errors occur in the operator’s execution of a routine, highly practiced task relating to procedure, training or proficiency and result in an unsafe a situation. Skill-based Errors are unintended behaviors. (Table 1)

**Judgment and Decision Making Errors:** Judgment and Decision making errors are factors in a mishap when behavior or actions of the individual proceed as intended yet the chosen plan proves inadequate to achieve the desired end-state and results in an unsafe situation (Table 1).

**Misperception Errors:** Misperception errors are factors in a mishap when misperception of an object, threat or situation (such as visual, auditory, proprioceptive, or vestibular illusions, cognitive or attention failures) results in human error (Table 1).

**Violations:** Violations are factors in a mishap when the actions of the operator represent willful disregard for rules and instructions and lead to an unsafe situation. Unlike errors, violations are deliberate. (Table 1)

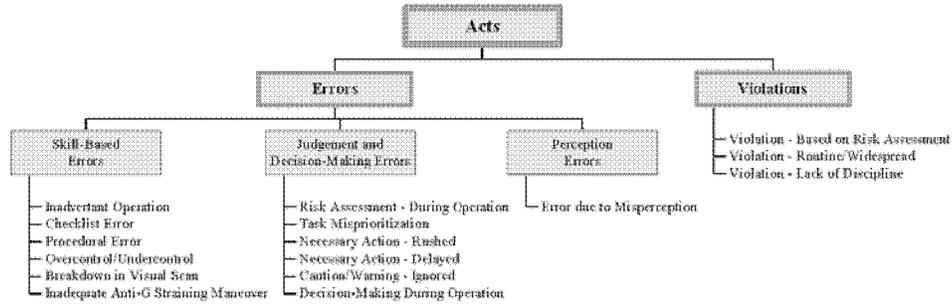


Table 1 Acts

**2. Preconditions**

Preconditions are factors in a mishap if active and/or latent preconditions such as conditions of the operators, environmental or personnel factors affect practices, conditions or actions of individuals and result in human error or an unsafe situation (Figure 4). In this error analysis model preconditions include *Environmental Factors*, *Condition of the Individuals* and *Personnel Factors*.

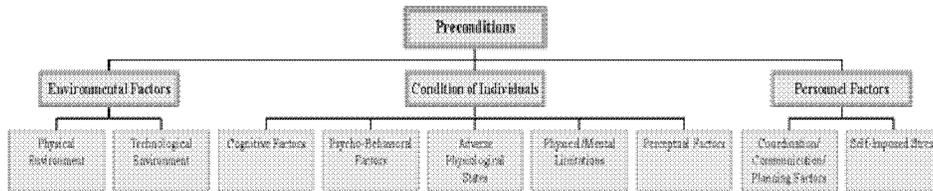


Figure 4. Categories of Preconditions for Unsafe Acts

**Environmental Factors:** Environmental factors are factors in a mishap if *physical* or *technological* factors affect practices, conditions and actions of individual and result in human error or an unsafe situation. *Environmental factors* include:

**Physical Environment:** Physical environment are factors in a mishap if environmental phenomena such as weather, climate, white-out or dust-out conditions affect the actions of individuals and result in human error or an unsafe situation. (Table 2)

**Technological Environment:** Technological environment are factors in a mishap when cockpit/vehicle/workspace design factors or automation affect the actions of individuals and result in human error or an unsafe situation. (Table 2)

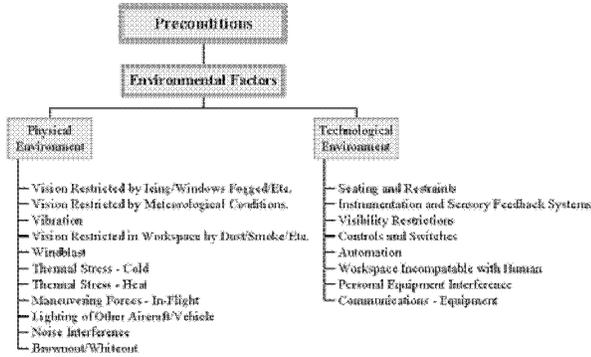


Table 2. Environmental Factors

**Condition of the Individual:** Condition of the individual are factors in a mishap if cognitive, psycho-behavioral, adverse physical state, or physical/mental limitations affect practices, conditions or actions of individuals and result in human error or an unsafe situation. Condition of the Individuals include:

**Cognitive Factors:** Cognitive factors are factors in a mishap if cognitive or attention management conditions affect the perception or performance of individuals and result in human error or an unsafe situation. (Table 3)

**Psycho-Behavioral Factors:** Psycho-Behavioral factors are factors when an individual’s personality traits, psychosocial problems, psychological disorders or inappropriate motivation creates an unsafe situation. (Table 3)

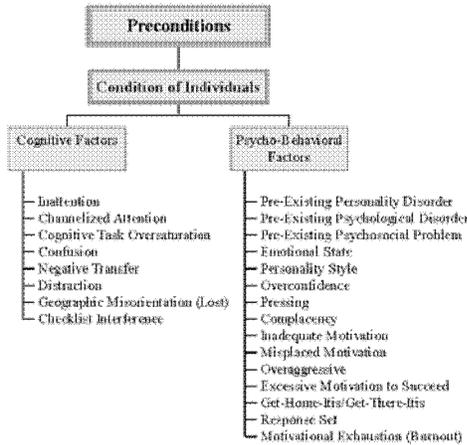


Table 3. Conditions of the Individual (part 1)

**Adverse Physiological States:** Adverse physiological states are factors when an individual experiences a physiologic event that compromises human performance and this decreases performance resulting in an unsafe situation. (Table 4)

**Physical/Mental Limitations:** Physical/mental limitations are factors in a mishap when an individual lacks the physical or mental capabilities to cope with a situation, and this insufficiency causes an unsafe situation. This often, *but not always*, indicates an individual who does not possess the physical or mental capabilities expected in order to perform the required duties safely. (Table 4)

**Perceptual Factors:** Perceptual factors are factors in a mishap when misperception of an object, threat or situation (visual, auditory, proprioceptive, or vestibular conditions) creates an unsafe situation. If investigators identify spatial disorientation (SD) in a mishap the preceding causal illusion should also be identified. Vice versa, if an illusion is identified as a factor in a mishap then the investigator should identify the resultant type of SD. (Table 4)

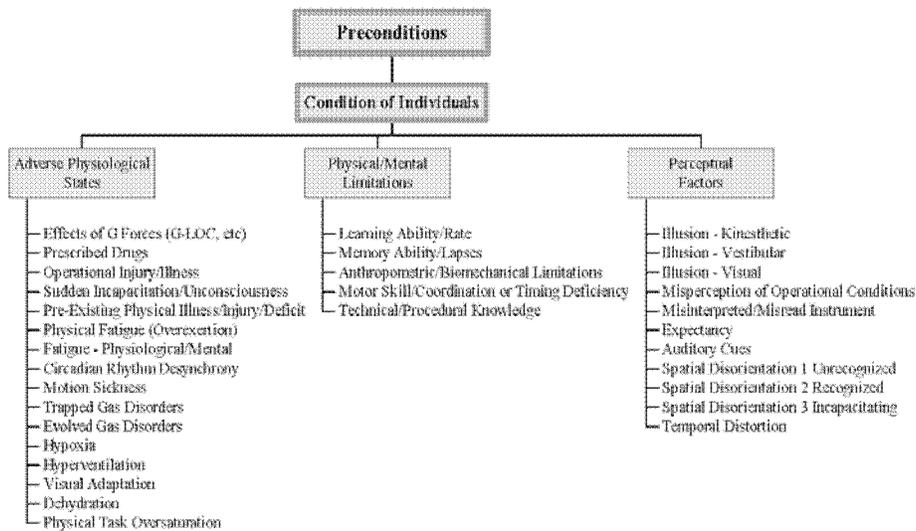


Table 4. Conditions of the individual (part 2)

**Personnel Factors:** Personnel factors are factors in a mishap if self-imposed stressors or crew resource management affects practices, conditions or actions of individuals, and result in human error or an unsafe situation. Personnel factors include:

**Coordination / Communication / Planning:** Coordination / communication / planning are factors in a mishap where interactions among individuals, crews, and teams involved with the preparation and execution of a mission that resulted in human error or an unsafe situation

**Self-Imposed Stress:** Self-imposed stress are factors in a mishap if the operator demonstrates disregard for rules and instructions that govern the individuals readiness to perform, or exhibits poor judgment when it comes to readiness and results in human error or an unsafe situation. These are often violations of established rules that are in place to protect people from themselves and a subsequent unsafe condition. One example of self-imposed stress is drinking alcohol prior to operating a motor vehicle.

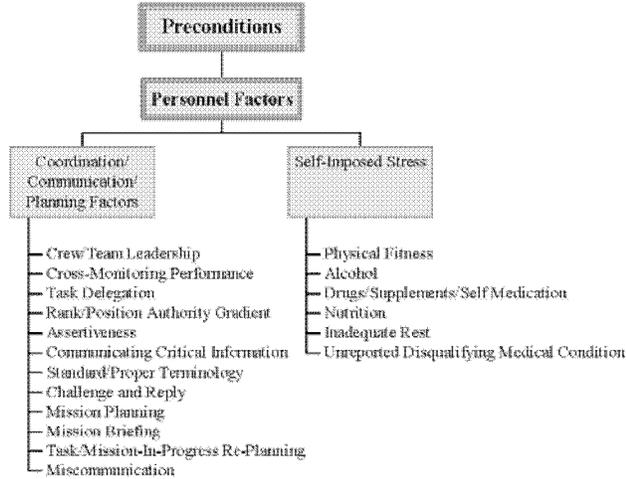


Table 5. Personnel Factors

### 3. Supervision

The Human Factors Working Group has determined that a mishap event can often be traced back to the supervisory chain of command. As such, there are four major categories of Unsafe Supervision: *Inadequate Supervision*, *Planned Inappropriate Operations*, *Failed to Correct a Known Problem*, and *Supervisory Violations* (see Figure 5).

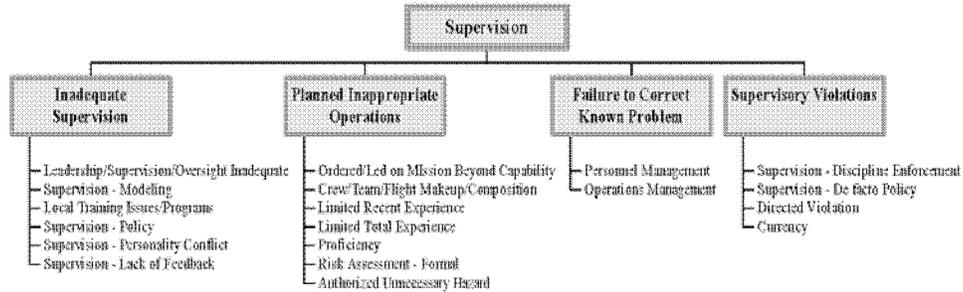


Figure 5 / Table 6. Categories of Unsafe Supervision

**Inadequate Supervision:** The role of supervisors is to provide their personnel with the opportunity to succeed. To do this, supervisors must provide guidance, training opportunities, leadership, motivation, and the proper role model, regardless of their supervisory level. Unfortunately, this is not always the case. It is easy to imagine a situation where adequate CRM training was not provided to an operator or team member. Conceivably, the operator's coordination skills would be compromised, and if put into a non-routine situation (e.g., emergency), would be at risk for errors that might lead to a mishap. Therefore, the category Inadequate Supervision accounts for those times when supervision proves inappropriate, improper, or may not occur at all (see Table 6). Inadequate Supervision is a factor in a mishap when supervision proves inappropriate or improper and fails to identify a hazard, recognize and control risk, provide guidance, training and/or oversight and results in human error or an unsafe situation.

**Planned Inappropriate Operations:** Occasionally, the operational tempo or schedule is planned such that individuals are put at unacceptable risk, crew rest is jeopardized, and ultimately performance is adversely affected. Such Planned Inappropriate Operations, though arguably unavoidable during emergency situations, are not acceptable during normal operations. Included in this category are issues of crew pairing and improper manning. For example, it is not surprising to anyone that problems can arise when two individuals with marginal skills are paired together. During a period of downsizing and/or increased levels of operational commitment, it is often more difficult to manage crews. However, pairing weak or inexperienced operators together on the most difficult missions may not be prudent (see Table 6). Planned Inappropriate Operations is a factor in a mishap when supervision fails to adequately assess the hazards associated with an operation and allows for unnecessary risk. It is also a factor when supervision allows non-proficient or inexperienced personnel to attempt missions beyond their capability or when crew or flight makeup is inappropriate for the task or mission.

**Failure to Correct a Known Problem:** Failed to Correct a Known Problem refers to those instances when deficiencies among individuals, equipment, training or other related safety areas are "known" to the supervisor, yet are allowed to continue uncorrected. For example, the failure to consistently correct or discipline inappropriate behavior certainly fosters an unsafe atmosphere and poor command climate (see Table 6). Failure to Correct Known Problem is a factor in a mishap when supervision fails to correct known deficiencies in documents, processes or procedures, or fails to correct inappropriate or unsafe actions of individuals, and this lack of supervisory action creates an unsafe situation.

**Supervisory Violations:** Supervisory Violations, on the other hand, are reserved for those instances when supervisors willfully disregard existing rules and regulations. For instance, permitting an individual to operate an aircraft without current qualifications is a flagrant violation that invariably sets the stage for the tragic sequence of events that predictably follow (see Table 6). Supervisory Violations is a factor in a mishap when supervision, while managing organizational assets, willfully disregards instructions, guidance, rules, or operating instructions and this lack of supervisory responsibility creates an unsafe situation.

**4. Organizational Influences**

Fallible decisions of upper-level management directly effect supervisory practices, as well as the conditions and actions of operators. These latent conditions generally involve issues related to *Resource/Acquisition Management*, *Organizational Climate*, and *Organizational Processes* (see Figure 6). Organizational Influences are factors in a mishap if the communications, actions, omissions or policies of upper-level management directly or indirectly affect supervisory practices, conditions or actions of the operator(s) and result in system failure, human error or an unsafe situation.

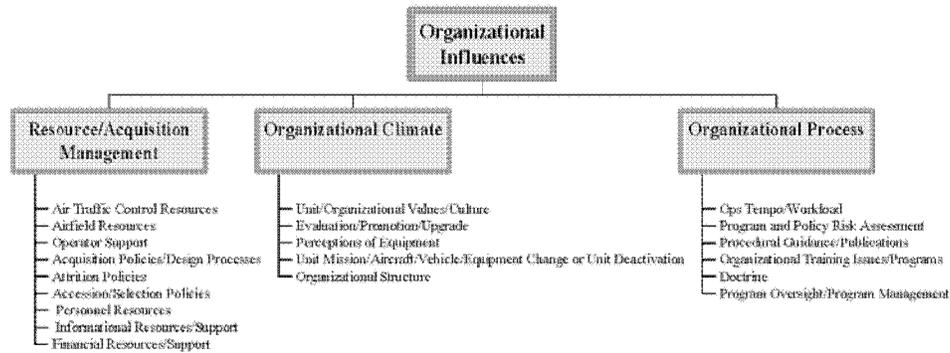


Figure 6 / Table 7. Categories of Organizational Influences

**Resource / Acquisition Management:** This category refers to the management, allocation, and maintenance of organizational resources--human, monetary, and equipment/facilities. The term "human" refers to the management of operators, staff, and maintenance personnel. Issues that directly influence safety include selection (including background checks), training, and staffing/manning. "Monetary" issues refer to the management of nonhuman resources, primarily monetary resources. For example, excessive cost cutting and lack of funding for proper equipment have adverse effects on operator performance and safety. Finally, "equipment/facilities" refers to issues related to equipment design, including the purchasing of unsuitable equipment, inadequate design of workspaces, and failures to correct known design flaws. Management should ensure that human-factors engineering principles are known and utilized and that existing specifications for equipment and workspace design are identified and met (see Table 7). Resource / Acquisition Management is a factor in a mishap if resource management and/or acquisition processes or policies, directly or indirectly, influence system safety and results in poor error management or creates an unsafe situation.

**Organizational Climate:** Organizational Climate refers to a broad class of organizational variables that influence worker performance. It can be defined as the situational consistencies in the organization's treatment of individuals. In general, Organizational Climate is the prevailing atmosphere or environment within the organization. Within the present classification system, climate is broken down into three categories--structure, policies, and culture. The term "structure" refers to the formal component of the organization. The "form and shape" of an organization are reflected in the chain-of-command, delegation of authority and responsibility, communication channels, and formal accountability for actions. Organizations with maladaptive structures (i.e., those that do not optimally match to their operational environment or are unwilling to change) will be more prone to mishaps. "Policies" refer to a course or method of action that guides present and future decisions. Policies may refer to hiring and firing, promotion, retention, raises, sick leave, drugs and alcohol, overtime, accident investigations, use of safety equipment, etc. When these policies are ill-defined, adversarial, or conflicting, safety may be reduced. Finally, "culture" refers to the unspoken or unofficial rules, values, attitudes, beliefs, and customs of an organization ("The way things really get done around here."). Other issues related to culture include organizational justice, psychological contracts, organizational citizenship behavior, *esprit de corps*, and union/management relations. All these issues affect attitudes about safety and the value of a safe working environment (see Table 7). Organizational Climate is a factor in a mishap if organizational variables including environment, structure, policies, and culture influence individual actions and results in human error or an unsafe situation.

**Organizational Processes:** This category refers to the formal process by which "things get done" in the organization. It is subdivided into three broad categories--operations, procedures, and oversight. The term "operations" refers to the characteristics or conditions of work that have been established by management. These characteristics include operational tempo, time pressures, production quotas, incentive systems, and schedules. When set up inappropriately, these working conditions can be detrimental to safety. "Procedures" are the official or formal procedures as to how the job is to be done. Examples include performance standards, objectives, documentation, and instructions about procedures. All of these, if inadequate, can negatively impact employee supervision, performance, and safety. Finally, "oversight" refers to monitoring and checking of resources, climate, and processes to ensure a safe and productive work environment. Issues here relate to organizational self-study, risk management, and the establishment and use of safety programs (see Table 7). Organizational Processes is a factor in a mishap if organizational processes such as operations, procedures, operational risk management and oversight negatively influence individual, supervisory, and/or organizational performance and results in unrecognized hazards and/or uncontrolled risk and leads to human error or an unsafe situation.

**DOD HFACS**  
**Quick user instruction and in-depth Nanocodes (definitions)**

**HFACS Quick Users Guide**

After any event investigators must gather human factors evidence. One method to do this is to start with the event outcome and create a time line documenting each step that leads up to the event. As you probe backwards determine whether a material (a part failed) event occurred or an individual committed or failed to commit an act the resulted in the outcome event.

At each step the investigator must document who committed the act then utilize the taxonomy to further classify the act. Once the investigator has identified the nanocode that reflects the act he/she must dig deeper.

The next step is to look evaluate the preconditions that resulted in the unsafe act. A method that may help evaluating preconditions is to review each of the categories and sub categories in this tier of HFACS and rule in or eliminate the various preconditions that lead to the act. Once the investigator has fully devolved into the preconditions and has recorded all preconditions for the act the focus must move on to supervisory and subsequent organizational issues that contributed to the precondition.

I recommend that for each nanocode chosen the investigator write a short narrative discussing the nanocode

Conduct an evaluation of each item in the time line. This should give the investigator a thorough human factors picture of all the events that lead up to the mishap.

## **DoD HFACS Nanocodes**

### **Acts**

**Are those factors that are most closely tied to the mishap, and can be described as active failures or actions committed by the operator that result in human error or unsafe situation.**

### **Errors (AE<sub>xxx</sub>)**

**Are factors in a mishap when mental or physical activities of the operator fail to achieve their intended outcome as a result of skill-based, perceptual, or judgment and decision making errors leading to an unsafe situation. Errors are unintended.**

### **Skill-Based Errors (AE<sub>1xx</sub>)**

Are factors in a mishap when errors occur in the operator's execution of a routine, highly practiced task relating to procedure, training or proficiency and result in an unsafe a situation.

#### **AE101 Inadvertent Operation**

Inadvertent Operation is a factor when individual's movements inadvertently activate or deactivate equipment, controls or switches when there is no intent to operate the control or device. This action may be noticed or unnoticed by the individual.

#### **AE102 Checklist Error**

Checklist Error is a factor when the individual, either through an act of commission or omission makes a checklist error or fails to run an appropriate checklist and this failure results in an unsafe situation.

#### **AE103 Procedural Error**

Procedural Error is a factor when a procedure is accomplished in the wrong sequence or using the wrong technique or when the wrong control or switch is used. This also captures errors in navigation, calculation or operation of automated systems.

#### **AE104 Overcontrol/ Undercontrol**

Overcontrol/Undercontrol is a factor when an individual responds inappropriately to conditions by either overcontrolling or undercontrolling the aircraft/vehicle/system. The error may be a result of preconditions or a temporary failure of coordination.

#### **AE105 Breakdown in Visual Scan**

Breakdown in Visual Scan is a factor when the individual fails to effectively execute learned / practiced internal or external visual scan patterns leading to unsafe situation.

#### **AE106 Inadequate Anti-G Straining Maneuver**

Inadequate Anti-G Straining Maneuver is a factor when the individuals AGSM is improper, inadequate, poorly timed or non-existent and this leads to adverse neuro-circulatory effects.

### **Judgment and Decision-Making Errors (AE2xx)**

Are factors in a mishap when behavior or actions of the individual proceed as intended yet the chosen plan proves inadequate to achieve the desired end-state and results in an unsafe situation.

#### **AE201 Risk Assessment – During Operation**

Risk Assessment – During Operation is a factor when the individual fails to adequately evaluate the risks associated with a particular course of action and this faulty evaluation leads to inappropriate decision and subsequent unsafe situation. This failure occurs in real-time when formal risk-assessment procedures are not possible.

#### **AE202 Task Misprioritization**

Task Misprioritization is a factor when the individual does not organize, based on accepted prioritization techniques, the tasks needed to manage the immediate situation.

#### **AE203 Necessary Action – Rushed**

Necessary Action – Rushed is a factor when the individual takes the necessary action as dictated by the situation but performs these actions too quickly and the rush in taking action leads to an unsafe situation.

#### **AE204 Necessary Action – Delayed**

Necessary Action – Delayed is a factor when the individual selects a course of action but elects to delay execution of the actions and the delay leads to an unsafe situation.

#### **AE205 Caution/Warning – Ignored**

Caution/Warning – Ignored is a factor when a caution or warning is perceived and understood by the individual but is ignored by the individual leading to an unsafe situation.

#### **AE206 Decision-Making During Operation**

Decision-Making During Operation is a factor when the individual through faulty logic selects the wrong course of action in a time-constrained environment.

### **Perception Errors (AE3xx)**

Are factors in a mishap when misperception of an object, threat or situation, (such as visual, auditory, proprioceptive, or vestibular illusions, cognitive or attention failures, etc), results in human error.

#### **AE301 Error due to Misperception**

Error due to Misperception is a factor when an individual acts or fails to act based on an illusion; misperception or disorientation state and this act or failure to act creates an unsafe situation.

## **Violations (AVxxx)**

**Are factors in a mishap when the actions of the operator represent willful disregard for rules and instructions and lead to an unsafe situation. Violations are deliberate.**

### **AV001 Violation - Based on Risk Assessment**

Violation- Based on Risk Assessment is a factor when the consequences/risk of violating published procedures was recognized, consciously assessed and honestly determined by the individual, crew or team to be the best course of action. Routine "work-arounds" and unofficial procedures that are accepted by the community as necessary for operations are also captured under this code.

### **AV002 Violation - Routine/Widespread**

Violation - Routine/Widespread is a factor when a procedure or policy violation is systemic in a unit/setting and not based on a risk assessment for a specific situation. It needlessly commits the individual, team, or crew to an unsafe course-of-action. These violations may have leadership sanction and may not routinely result in disciplinary/administrative action. Habitual violations of a single individual or small group of individuals within a unit can constitute a routine/widespread violation if the violation was not routinely disciplined or was condoned by supervisors. These violations may also be referred to as "Routine Violations."

### **AV003 Violation - Lack of Discipline**

Violation - Lack of Discipline is a factor when an individual, crew or team intentionally violates procedures or policies without cause or need. These violations are unusual or isolated to specific individuals rather than larger groups. There is no evidence of these violations being condoned by leadership. These violations may also be referred to as "exceptional violations." (NOTE: These violations may also carry UCMJ consequences. Boards should consult the Judge Advocate of the convening authority.)

## **Preconditions**

**Are factors in a mishap if active and/or latent preconditions such as conditions of the operators, environmental or personnel factors affect practices, conditions or actions of individuals and result in human error or an unsafe situation.**

## **Environmental Factors (PExxx)**

**Are factors in a mishap if *physical* or *technological* factors affect practices, conditions and actions of individual and result in human error or an unsafe situation.**

### **Physical Environment (PE1xx)**

Are factors in a mishap if environmental phenomena such as weather, climate, white out or brown out conditions affect the actions of individuals and result in human error or an unsafe situation.

#### **PE101 Vision Restricted by Icing/Windows Fogged/Etc**

Vision Restricted by Icing/Windows Fogged/Etc is a factor when it is determined by the investigator that icing or fogging of the windshield/windscreen or canopy restricted the vision of the individual to a point where normal duties were affected.

#### **PE102 Vision Restricted by Meteorological Conditions**

Vision Restricted by Meteorological Conditions is a factor when weather, haze, or darkness restricted the vision of the individual to a point where normal duties were affected.

#### **PE103 Vibration**

Vibration is a factor when the intensity or duration of the vibration is sufficient to cause impairment of vision or adversely effect the perception of orientation.

#### **PE104 Vision Restricted in Workspace by Dust/Smoke/Etc.**

Vision restricted in workspace by dust/smoke/etc. is a factor when dust, smoke, etc. inside the cockpit, vehicle or workstation restricted the vision of the individual to a point where normal duties were affected.

#### **PE105 Windblast**

Windblast is a factor when the individual's ability to perform required duties is degraded during or after exposure to a windblast situation.

#### **PE106 Thermal Stress – Cold**

Thermal Stress – Cold is a factor when the individual is exposed to cold resulting in compromised function.

**PE107 Thermal Stress – Heat**

Thermal Stress – Heat is a factor when the individual is exposed to heat resulting in compromised function.

**PE108 Maneuvering Forces – In-Flight**

Maneuvering Forces – In-Flight is a factor when acceleration forces of longer than one second cause injury, prevent or interfere with the performance of normal duties. Do not use this code to capture G-induced loss of consciousness

**PE109 Lighting of Other Aircraft/Vehicle**

Lighting of Other Aircraft/Vehicle is a factor when the absence, pattern, intensity or location of the lighting of other aircraft/vehicle prevents or interferes with safe task accomplishment.

**PE110 Noise Interference**

Noise Interference is a factor when any sound not directly related to information needed for task accomplishment interferes with the individual's ability to perform that task.

**PE111 Brownout/Whiteout**

Brownout/Whiteout is a factor when dust, snow, water, ash or other particulates in the environment are disturbed by the aircraft, vehicle or person and cause a restriction of vision to a point where normal duties are affected

**Technological Environment (PE2xx)**

Are factors in a mishap when cockpit / vehicle / control station / workspace design factors or automation affect the actions of individuals and result in human error or an unsafe situation.

**PE201 Seating and Restraints**

Seating and Restraints is a factor when the design of the seat or restraint system, the ejection system, seat comfort or poor impact-protection qualities of the seat create an unsafe situation.

**PE202 Instrumentation and Sensory Feedback Systems**

Instrumentation and Sensory Feedback Systems is a factor when instrument factors such as design, reliability, lighting, location, symbology or size are inadequate and create an unsafe situation. This includes NVDs, HUD, off-bore-site and helmet-mounted display systems and inadequacies in auditory or tactile situational awareness or warning systems such as aural voice warnings or stick shakers.

**PE203 Visibility Restrictions**

Visibility Restrictions is a factor when the lighting system, windshield / windscreen / canopy design, or other obstructions prevent necessary visibility and create an unsafe situation. This includes glare or reflections on the canopy / windscreen / windshield. Visibility restrictions due to weather or environmental conditions are captured under PE101 or PE102.

**PE204 Controls and Switches**

Controls and Switches is a factor when the location, shape, size, design, reliability, lighting or other aspect of a control or switch is inadequate and this leads to an unsafe situation.

**PE205 Automation**

Automation is a factor when the design, function, reliability, use guidance, symbology, logic or other aspect of automated systems creates an unsafe situation.

**PE206 Workspace Incompatible with Human**

Workspace Incompatible with Human is a factor when the workspace is incompatible with the mission requirements and mission safety for this individual.

**PE207 Personal Equipment Interference**

Personal Equipment Interference is a factor when the individual's personal equipment interferes with normal duties or safety.

**PE208 Communications – Equipment**

Communications - Equipment is a factor when comm. equipment is inadequate or unavailable to support mission demands. (i.e. aircraft/vehicle with no intercom) This includes electronically or physically blocked transmissions. Communications can be voice, data or multi-sensory.

**Condition of Individuals (PCxxx)**

**Are factors in a mishap if cognitive, psycho-behavioral, adverse physical state, or physical/mental limitations affect practices, conditions or actions of individuals and result in human error or an unsafe situation.**

**Cognitive Factors (PC1xx)**

Are factors in a mishap if cognitive or attention management conditions affect the perception or performance of individuals and result in human error or an unsafe situation.

**PC101 Inattention**

Inattention is a factor when the individual has a state of reduced conscious attention due to a sense of security, self-confidence, boredom or a perceived absence of threat from the environment which degrades crew performance. (This may often be a result of highly repetitive tasks. Lack of a state of alertness or readiness to process immediately available information.)

**PC102 Channelized Attention**

Channelized Attention is a factor when the individual is focusing all conscious attention on a limited number of environmental cues to the exclusion of others of a subjectively equal or higher or more immediate priority, leading to an unsafe situation. May be described as a tight focus of attention that leads to the exclusion of comprehensive situational information.

**PC103 Cognitive Task Oversaturation**

Cognitive Task Oversaturation is a factor when the quantity of information an individual must process exceeds their cognitive or mental resources in the amount of time available to process the information.

**PC104 Confusion**

Confusion is a factor when the individual is unable to maintain a cohesive and orderly awareness of events and required actions and experiences a state characterized by bewilderment, lack of clear thinking, or (sometimes) perceptual disorientation.

**PC105 Negative Transfer**

Negative Transfer is a factor when the individual reverts to a highly learned behavior used in a previous system or situation and that response is inappropriate or degrades mission performance.

**PC106 Distraction**

Distraction is a factor when the individual has an interruption of attention and/or inappropriate redirection of attention by an environmental cue or mental process that degrades performance.

**PC107 Geographic Misorientation (Lost)**

Geographic Misorientation (Lost) is a factor when the individual is at a latitude and/or longitude different from where he believes he is or at a lat/long unknown to the individual and this creates an unsafe situation.

**PC108 Checklist Interference**

Checklist Interference is a factor when an individual is performing a highly automated/learned task and is distracted by another cue/event that results in the interruption and subsequent failure to complete the original task or results in skipping steps in the original task.

**Psycho-Behavioral Factors (PC2xx)**

Are factors when an individual's personality traits, psychosocial problems, psychological disorders or inappropriate motivation creates an unsafe situation.

**PC201 Pre-Existing Personality Disorder**

Pre-existing Personality Disorder is a factor when a qualified professional determines the individual met Diagnostic and Statistical Manual criteria for a personality disorder.

**PC202 Pre-Existing Psychological Disorder**

Pre-existing Psychological Disorder is a factor when a qualified professional determines the individual met Diagnostic and Statistical Manual criteria for a psychological disorder.

**PC203 Pre-Existing Psychosocial Problem**

Pre-existing Psychosocial Problem is a factor when a qualified professional determines the individual met Diagnostic and Statistical Manual criteria for a psychosocial problem.

**PC204 Emotional State**

Emotional State is a factor when the individual is under the influence of a strong positive or negative emotion and that emotion interferes with duties.

**PC205 Personality Style**

Personality style is a factor when the individual's personal interaction with others creates an unsafe situation. Examples are authoritarian, over-conservative, impulsive, invulnerable, submissive or other personality traits that result in degraded crew performance.

**PC206 Overconfidence**

Overconfidence is a factor when the individual overvalues or overestimates personal capability, the capability of others or the capability of aircraft/vehicles or equipment and this creates an unsafe situation.

**PC207 Pressing**

Pressing is a factor when the individual knowingly commits to a course of action that presses them and/or their equipment beyond reasonable limits.

**PC208 Complacency**

Complacency is a factor when the individual's state of reduced conscious attention due to an attitude of overconfidence, undermotivation or the sense that others "have the situation under control" leads to an unsafe situation.

**PC209 Inadequate Motivation**

Motivation – Inadequate is a factor when the individual's motivation to accomplish a task or mission is weak or indecisive.

**PC210 Misplaced Motivation**

Misplaced Motivation is a factor when an individual or unit replaces the primary goal of a mission with a personal goal.

**PC211 Overaggressive**

Overaggressive is a factor when an individual or crew is excessive in the manner in which they conduct a mission.

**PC212 Excessive Motivation to Succeed**

Motivation to Succeed – Excessive is a factor when the individual is preoccupied with success to the exclusion of other mission factors leading to an unsafe situation.

**PC213 Get-Home-Itis/Get-There-Itis**

Get-Home-Itis/Get-There-Itis is a factor when an individual or crew is motivated to complete a mission or reach a destination for personal reasons, thereby short cutting necessary procedures or exercising poor judgment, leading to an unsafe situation.

**PC214 Response Set**

Response set is a factor when the individual has a cognitive or mental framework of expectations that predispose them to a certain *course of action* regardless of other cues.

**PC215 Motivational Exhaustion (Burnout)**

Motivational Exhaustion (Burnout) is a factor when the individual has the type of exhaustion associated with the wearing effects of high operations and personal tempo where their operational requirements impinge on their ability to satisfy their personal requirements and leads to degraded cognitive or operational capability.

**Adverse Physiological States (PC3xx)**

Are factors when an individual experiences a physiologic event that compromises human performance and this decreases performance and results in an unsafe situation.

**PC301 Effects of G Forces (G-LOC, etc)**

Effects of G Forces (G-LOC, etc) is a factor when the individual experiences G-induced loss of consciousness (GLOC), greyout, blackout or other neuro-circulatory affects of sustained acceleration forces.

**PC302 Prescribed Drugs**

Prescribed Drugs is a factor when the individual uses a prescribed drug with measurable effect interfering with performance.

**PC303 Operational Injury/Illness**

Operational Injury/Illness is a factor when an injury is sustained or illness develops from the operational environment or *during* the mission and this injury or illness results in an unsafe situation. This includes toxic exposure. Details of injury, illness or toxic exposure should be captured in the medical investigation. Do not use this code to capture injury or illness that does not cause an unsafe situation or contribute to the mishap sequence.

**PC304 Sudden Incapacitation/Unconsciousness**

Sudden Incapacitation/Unconsciousness is a factor when the individual has an abrupt loss of functional capacity / conscious awareness. (NOT GLOC) Capture medical causes for the incapacitation in the AFSAS medical module.

**PC305 Pre-Existing Physical Illness/Injury/Deficit**

Pre-Existing Physical Illness/Injury/Deficit is a factor when a physical illness, injury or deficit that existed at the time the individual boarded the aircraft or began the mission/task causes an unsafe situation. This includes situations where wavered physical defects contribute to an unsafe situation and situations where vision deficit or loss of prosthetic devices during the mission cause an unsafe situation. An individual must board

the aircraft or begin the mission/task with prior knowledge of illness/injury/deficit otherwise mark and rate PC303. Details of injury, illness or deficit should be captured in the medical investigation. Do not use this code to capture injury or illness that does not cause an unsafe situation or contribute to the mishap sequence. (i.e. medevac patient whose condition deteriorates during flight).

**PC306 Physical Fatigue (Overexertion)**

Physical Fatigue (Overexertion) is a factor when the individual's diminished physical capability is due to overuse (time/relative load) and it degrades task performance. (The effects of prolonged physical activity, or the effects of brief but relatively extreme physical activity, either of which taxes a person's physical endurance or strength beyond the individual's normal limits.)

**PC307 Fatigue - Physiological/Mental**

Fatigue - Physiological/Mental is a factor when the individual's diminished physical or mental capability is due to an inadequate recovery, as a result of restricted or shortened sleep or physical or mental activity during prolonged wakefulness. Fatigue may additionally be described as acute, cumulative or chronic.

**PC308 Circadian Rhythm Desynchrony**

Circadian Rhythm Desynchrony is a factor when the individual's normal, 24-hour rhythmic biological cycle (circadian rhythm) is disturbed and it degrades task performance. This is caused typically by night work or rapid movement (such as one time zone per hour) across several time zones. Referred to as "shift lag" and "jet lag." (Time in the new time zone will lead to adaptation and recovery; the amount of time depends on the number of time zones crossed and the direction of travel. Recovery from shift lag may never occur.)

**PC309 Motion Sickness**

Motion Sickness is a factor when the symptoms of motion sickness impair normal performance. Motion sickness symptoms include nausea, sweating, flushing, vertigo, headache, stomach awareness, malaise, and vomiting.

**PC310 Trapped Gas Disorders**

Trapped Gas Disorders are a factor when gasses in the middle ear, sinuses, teeth, or intestinal tract expand or contract on ascent or descent causing an unsafe situation. Also capture alternobaric vertigo under this code. If the alternobaric vertigo induces spatial disorientation you must mark and rate PC508, PC509 or PC510.

**PC311 Evolved Gas Disorders**

Evolved gas disorders are a factor when inert-gas evolves in the blood causing an unsafe situation. This includes, chokes, CNS, bends or parasthesias or other conditions caused by inert-gas evolution.

**PC312 Hypoxia**

Hypoxia is a factor when the individual has insufficient oxygen supply to the body sufficient to cause an impairment of function.

**PC313 Hyperventilation**

Hyperventilation is a factor when the effect of ventilating above the physiological demands of the body causes the individual's performance capabilities to be degraded.

**PC314 Visual Adaptation**

Visual Adaptation is a factor when the normal human limitation of dark-adaptation rate affects safety, for example, when transitioning between aided and unaided night vision.

**PC315 Dehydration**

Dehydration is a factor when the performance of the operator is degraded due to dehydration as a result of excessive fluid losses due to heat stress or due to insufficient fluid intake.

**PC316 Physical Task Oversaturation**

Physical Task Oversaturation is a factor when the number or complexity of manual tasks in a compressed time period exceeds an individual's capacity to perform.

**Physical/Mental Limitations (PC4xx)**

Are factors in a mishap when an individual, temporarily or permanently lacks the physical or mental capabilities to cope with a situation and this insufficiency causes an unsafe situation.

**PC401 Learning Ability/Rate**

Learning Ability – Rate is a factor when the individual's relative efficiency with which new information is acquired, and relatively permanent adjustments made in behavior or thinking, are not consistent with mission demands.

**PC402 Memory Ability/Lapses**

Memory Ability/Lapses is a factor when the individual is unable or has lapses in the ability to recall past experience needed for safe mission completion. (Experience includes any information a person receives through any means, any cognitive functions he or she performed on that information, and any response he or she made as a result of it.)

**PC403 Anthropometric/Biomechanical Limitations**

Anthropometric/Biomechanical limitations are a factor when the size, strength, dexterity, mobility or other biomechanical limitations of an individual creates an unsafe situation. It must be expected that the average individual qualified for that duty position could accomplish the task in question.

**PC404 Motor Skill/Coordination or Timing Deficiency**

Motor Skill/Coordination or Timing Deficiency is a factor when the individual lacks the required psychomotor skills, coordination or timing skills necessary to accomplish the task attempted.

**PC405 Technical/Procedural Knowledge**

Technical/Procedural Knowledge is a factor when an individual was adequately exposed to the information needed to perform the mission element but did not absorb it. Lack of knowledge implies no deficiency in the training program, but rather the failure of the individual to absorb or retain the information. (Exposure to information at a point in the past does not imply "knowledge" of it.)

**Perceptual Factors (PC5xx)**

Are factors in a mishap when misperception of an object, threat or situation, (visual, auditory, proprioceptive, or vestibular conditions) creates an unsafe situation

**PC501 Illusion – Kinesthetic**

Illusion – Kinesthetic is a factor when somatosensory stimuli of the ligaments, muscles, or joints cause the individual to have an erroneous perception of orientation, motion or acceleration leading to degraded performance. (If this illusion leads to spatial disorientation you must mark and rate PC508, PC509 or PC510.)

**PC502 Illusion – Vestibular**

Illusion – Vestibular is a factor when stimuli acting on the semicircular ducts or otolith organs of the vestibular apparatus cause the individual to have an erroneous perception of orientation, motion or acceleration leading to degraded performance. (If this illusion leads to spatial disorientation you must mark and rate PC508, PC509 or PC510.)

**PC503 Illusion – Visual**

Illusion – Visual is a factor when visual stimuli result in an erroneous perception of orientation, motion or acceleration, leading to degraded performance. (If this illusion leads to spatial disorientation you must mark and rate PC508, PC509 or PC510.)

**PC504 Misperception of Operational Conditions**

Misperception of Operational Conditions is a factor when an individual misperceives or misjudges altitude, separation, speed, closure rate, road/sea conditions, aircraft/vehicle location within the performance envelope or other operational conditions and this leads to an unsafe situation.

**PC505 Misinterpreted/Misread Instrument**

Misinterpreted/Misread Instrument is a factor when the individual is presented with a correct instrument reading but its significance is not recognized, it is misread or is misinterpreted.

**PC506 Expectancy**

Expectancy is a factor when the individual's expects to perceive a certain reality and those expectations are strong enough to create a *false perception* of the expectation.

**PC507 Auditory Cues**

Auditory Cues is a factor when the auditory inputs are correctly interpreted but are misleading or disorienting. Also when the inputs are incorrectly interpreted and cause an impairment of normal performance.

**PC508 Spatial Disorientation (Type 1) Unrecognized**

Spatial Disorientation is a failure to correctly sense a position, motion or attitude of the aircraft or of oneself within the fixed coordinate system provided by the surface of the earth and the gravitational vertical. Spatial Disorientation (Type 1) Unrecognized is a factor when a person's cognitive awareness of one or more of the following varies from reality: attitude; position; velocity; direction of motion or acceleration. Proper control inputs are not made because the need is unknown.

**PC509 Spatial Disorientation (Type 2) Recognized**

Spatial Disorientation is a failure to correctly sense a position, motion or attitude of the aircraft or of oneself within the fixed coordinate system provided by the surface of the earth and the gravitational vertical. Spatial Disorientation (Type 2) is a factor when recognized perceptual confusion is induced through one or more of the following senses: visual; vestibular; auditory; tactile; proprioception or kinesthetic. Proper control inputs are still possible.

**PC510 Spatial Disorientation (Type 3) Incapacitating**

Spatial Disorientation is a failure to correctly sense a position, motion or attitude of the aircraft or of oneself within the fixed coordinate system provided by the surface of the earth and the gravitational vertical. Spatial Disorientation (Type 3) Incapacitating is a factor when an individual is unable to make proper control inputs for safe operation of the aircraft or system due to a conflict (often extreme) between the sensory systems identified in type 2.

**PC511 Temporal Distortion**

Temporal Distortion is a factor when the individual experiences a compression or expansion of time relative to reality leading to an unsafe situation. (Often associated with a "fight or flight" response.)

**Personnel Factors (PPxxx)**

**Are factors in a mishap if self imposed stressors or crew resource management affect practices, conditions or actions of individuals and result in human error or an unsafe situation.**

**Coordination/Communication/Planning Factors(PP1xx)**

Refer to interactions among individuals, crews, and teams involved with the preparation and execution of a mission that resulted in human error or an unsafe situation.

**PP101 Crew/Team Leadership**

Crew/Team Leadership is a factor when the crew/team leadership techniques failed to facilitate a proper crew climate, to include establishing and maintaining an accurate and shared understanding of the evolving mission and plan on the part of all crew or team members.

**PP102 Cross-Monitoring Performance**

Cross-monitoring performance is a factor when crew or team members failed to monitor, assist or back-up each other's actions and decisions.

**PP103 Task Delegation**

Task delegation is a factor when the crew or team members failed to actively manage the distribution of mission tasks to prevent the overloading of any crewmember.

**PP104 Rank/Position Authority Gradient**

Rank/position authority gradient is a factor when the differences in rank of the team, crew or flight caused the mission performance capabilities to be degraded. Also conditions where formal or informal authority gradient is too steep or too flat across a crew, team or flight and this condition degrades collective or individual performance.

**PP105 Assertiveness**

Assertiveness is a factor when individuals failed to state critical information or solutions with appropriate persistence.

**PP106 Communicating Critical Information**

Communicating critical information is a factor when known critical information was not provided to appropriate individuals in an accurate or timely manner.

**PP107 Standard/Proper Terminology**

Standard/proper terminology is a factor when clear and concise terms, phrases and signals, etc per service standards and training were not used.

**PP108 Challenge and Reply**

Challenge and reply is a factor when communications did not include supportive feedback or acknowledgement to ensure that personnel correctly understand announcements or directives.

**PP109 Mission Planning**

Mission planning is a factor when an individual, crew or team failed to complete all preparatory tasks associated with planning the mission, resulting in an unsafe situation. Planning tasks include information collection and analysis, coordinating activities within the crew or team and with appropriate external agencies, contingency planning, and risk assessment.

**PP110 Mission Briefing**

Mission briefing is a factor when information and instructions provided to individuals, crews, or teams were insufficient, or participants failed to discuss contingencies and strategies to cope with contingencies.

**PP111 Task/Mission-In-Progress Re-Planning**

Task/mission-in-progress re-planning is a factor when crew or team members fail to adequately reassess changes in their dynamic environment during mission execution and change their mission plan accordingly to ensure adequate management of risk.

**PP112 Miscommunication**

Miscommunication is a factor when correctly communicated information is misunderstood, misinterpreted, or disregarded.

**Self-Imposed Stress (PP2xx)**

Is a factor in a mishap if the operator demonstrates disregard for rules and instructions that govern the individuals readiness to perform, or exhibits poor judgment when it comes to readiness and results in human error or an unsafe situation.

**PP201 Physical Fitness**

Physical Fitness is a factor when the relative physical state of the individual, in terms of a regular rigorous exercise program or a physically active lifestyle, is not adequate to support mission demands.

**PP202 Alcohol**

Alcohol is a factor when the acute or residual effects of alcohol impaired performance or created an unsafe situation.

**PP203 Drugs/Supplements/Self medication**

Drugs/Supplements/Self-medication is a factor when the individual takes any drug, other than prescribed, that interferes with performance. This includes nicotine or caffeine in sufficient quantities to cause impairment of normal function. This also includes any chemical compound taken for purposes of prevention of disease, treatment of disease, weight management, mood alteration, birth control or sleep management, etc. The effects may be direct or residual. Alcohol is captured under PP206.

**PP204 Nutrition**

Nutrition is a factor when the individual's nutritional state or poor dietary practices are inadequate to fuel the brain and body functions resulting in degraded performance

**PP205 Inadequate Rest**

Inadequate rest is a factor when the opportunity for rest was provided but the individual failed to take the opportunity to rest.

**PP206 Unreported Disqualifying Medical Condition**

Unreported Disqualifying Medical Condition is a factor when the operator intentionally operates/flies with a known disqualifying medical condition that results in an unsafe situation.

## **Supervision**

**Is a factor in a mishap if the methods, decisions or policies of the supervisory chain of command directly affect practices, conditions, or actions of individual and result in human error or an unsafe situation.**

### **Inadequate Supervision (SIxxx)**

**Is a factor in a mishap when supervision proves inappropriate or improper and fails to identify hazard, recognize and control risk, provide guidance, training and/or oversight and results in human error or an unsafe situation.**

#### **SI001 Leadership/Supervision/Oversight Inadequate**

Leadership/Supervision/Oversight Inadequate is a factor when the availability, competency, quality or timeliness of leadership, supervision or oversight does not meet task demands and creates an unsafe situation. Inappropriate supervisory pressures are also captured under this code.

#### **SI002 Supervision – Modeling**

Supervision – Modeling is a factor when the individual's learning is influenced by the behavior of peers and supervisors and when that learning manifests itself in actions that are either inappropriate to the individual's skill level or violate standard procedures and lead to an unsafe situation.

#### **SI003 Local Training Issues/Programs**

Local Training Issues/Programs are a factor when one-time or recurrent training programs, upgrade programs, transition programs or any other local training is inadequate or unavailable (etc) and this creates an unsafe situation. (Note: the failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. Capture these factors under PC401 "Learning ability/rate" or PC405 "Technical/Procedural Knowledge." The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem. Capture these factors under PC402 "Memory/ Ability lapses" or other cognitive factors such as PC104 "Confusion," PC106 "Distraction," PC105 "Negative Transfer," etc.)

#### **SI004 Supervision – Policy**

Supervision – Policy is a factor when policy or guidance or lack of a policy or guidance leads to an unsafe situation.

#### **SI005 Supervision – Personality Conflict**

Supervision – Personality Conflict is a factor when a supervisor and individual member experience a "personality conflict" that leads to a dangerous error in judgment / action.

**SI006 Supervision – Lack of Feedback**

Supervision – Lack of Feedback is a factor when information critical to a potential safety issue had been provided to supervisory or management personnel without feedback to the source (failure to close the loop).

**Planned Inappropriate Operations (SPxxx)**

Is a factor in a mishap when supervision fails to adequately assess the hazards associated with an operation and allows for unnecessary risk. It is also a factor when supervision allows non-proficient or inexperienced personnel to attempt missions beyond their capability or when crew or flight makeup is inappropriate for the task or mission.

**SP001 Ordered/Led on Mission Beyond Capability**

Ordered/Led on Mission Beyond Capability is a factor when supervisor / management directs personnel to undertake a mission beyond their skill level or beyond the capabilities of their equipment.

**SP002 Crew/Team/Flight Makeup/Composition**

Crew/Team/Flight Makeup/Composition is a factor when, in the opinion of the investigator, the makeup of the crew or of the flight should have reasonably raised obvious safety concerns in the minds of crewmembers involved in the mission, or in any other individual directly related to the scheduling of this mission.

**SP003 Limited Recent Experience**

Limited Recent Experience is a factor when the supervisor selects an individual who's experience for either a specific maneuver, event or scenario is not sufficiently current to permit safe mission execution.

**SP004 Limited Total Experience**

Limited Total Experience is a factor when a supervisor selects an individual who's individual has performed a maneuver, or participated in a specific scenario, infrequently or rarely.

**SP005 Proficiency**

Proficiency is a factor when an individual is not proficient in a task, mission or event.

**SP006 Risk Assessment – Formal**

Risk Assessment – Formal is a factor when supervision does not adequately evaluate the risks associated with a mission or when pre-mission risk assessment tools or risk assessment programs are inadequate.

**SP007 Authorized Unnecessary Hazard**

Authorized Unnecessary Hazard is a factor when supervision authorizes a mission or mission element that is unnecessarily hazardous without sufficient cause or need. Includes intentionally scheduling personnel for mission or operation that they are not qualified to perform.

## **Failure to Correct Known Problem (SFxxx)**

**Is a factor in a mishap when supervision fails to correct known deficiencies in documents, processes or procedures, or fails to correct inappropriate or unsafe actions of individuals, and this lack of supervisory action creates an unsafe situation.**

### **SF001 – Personnel Management**

Personnel management is a factor when a supervisor fails to identify an operator or aviator who exhibits recognizable risky behaviors or unsafe tendencies or fails to institute remedial actions when an individual is identified with risky behaviors or unsafe tendencies.

### **SF002 – Operations Management**

Operations management is a factor when a supervisor fails to correct known hazardous practices, conditions or guidance that allows for hazardous practices within the scope of his/her command

## **Supervisory Violations (SVxxx)**

**Is a factor in a mishap when supervision while managing organizational assets willfully disregards instructions, guidance, rules, or operating instructions and this lack of supervisory responsibility creates an unsafe situation.**

### **SV001 Supervision – Discipline Enforcement (Supervisory act of omission)**

Supervision – Discipline Enforcement is a factor when unit (organizational) and operating rules have not been enforced by the normally constituted authority.

### **SV002 Supervision – Defacto Policy**

Supervision – Defacto Policy is a factor when unwritten or “unofficial” policy perceived and followed by the individual, which has not been formally established by the properly constituted authority, leads to an unsafe situation.

### **SV003 Directed Violation**

Directed Violation is a factor when a supervisor directs a subordinate to violate existing regulations, instructions or technical guidance.

### **SV004 Currency**

Currency is a factor when an individual has not met the general training requirements for his job/weapon system and is considered “non-current” and supervision/leadership inappropriately allows the individual to perform the mission element for which the individual is non-current.

## **Organizational Influences**

**Are factors in a mishap if the communications, actions, omissions or policies of upper-level management directly or indirectly affect supervisory practices, conditions or actions of the operator(s) and result in system failure, human error or an unsafe situation.**

## **Resource/Acquisition Management (ORxxx)**

**Is a factor in a mishap if resource management and/or acquisition processes or policies, directly or indirectly, influence system safety and results in poor error management or creates an unsafe situation.**

### **OR001 Air Traffic Control Resources**

Air Traffic Control Resources is a factor when inadequate monitoring of airspace, enroute nav-aids or language barriers in air traffic controllers cause an unsafe situation.

Note: If the unsafe acts of an individual air traffic controller are determined to be a factor in a mishap then the controller must be added and investigated as a mishap person.

### **OR002 Airfield Resources**

Airfield Resources are a factor when runways, taxiways, ramps, terminal ATC resources or nav-aids, lighting systems, SOF/RSU resources or the environment surrounding the airfield are inadequate or unsafe. If the airfield or environment created a visual illusion that contributed to the mishap sequence you must also mark and rate PC503 "Illusion - Visual."

### **OR003 Operator Support**

Operator Support is a factor when support facilities (dining, exercise, quarters, medical care, etc) or opportunity for recreation or rest are not available or adequate and this creates an unsafe situation. This includes situations where leave is not taken for reasons other than the individual's choice.

### **OR004 Acquisition Policies/Design Processes**

Acquisition Policies/Design Processes is a factor when the processes through which aircraft, vehicle, equipment or logistical support are acquired allows inadequacies or when design deficiencies allow inadequacies in the acquisition and the inadequacies create an unsafe situation.

### **OR005 Attrition Policies**

Attrition Policies is a factor when the process through which equipment is removed from service is inadequate and this inadequacy creates an unsafe situation.

### **OR006 Accession/Selection Policies**

Accession/Selection Policies is a factor when the process through which individuals are screened, brought into the service or placed into specialties is inadequate and creates an unsafe situation.

**OR007 Personnel Resources**

Personnel Resources is a factor when the process through which manning, staffing or personnel placement or manning resource allocations are inadequate for mission demands and the inadequacy causes an unsafe situation.

**OR008 Informational Resources/Support**

Informational Resources/Support is a factor when weather, intelligence, operational planning material or other information necessary for safe operations planning are not available.

**OR009 Financial Resources/Support**

Financial Resources/Support is a factor when an organization or operation does not receive the financial resources to complete its assigned mission and this deficiency creates an unsafe situation.

**Organizational Climate (OCxxx)**

**Is a factor in a mishap if organizational variables including environment, structure, policies, and culture influence individual actions and results in human error or an unsafe situation.**

**OC001 Unit/Organizational Values/Culture**

Unit/Organizational Values/Culture is a factor when explicit/implicit actions, statements or attitudes of unit leadership set unit/organizational values (culture) that allow an environment where unsafe mission demands or pressures exist.

**OC002 Evaluation/Promotion/Upgrade**

Evaluation/Promotion/Upgrade is a factor when an individual perceives that their performance on a task will inappropriately impact an evaluation, promotion or opportunity for upgrade and this pressure creates an unsafe situation. Other inappropriate supervisory pressures are captured under SI001 Supervision – Inadequate.

**OC003 Perceptions of Equipment**

Perceptions of Equipment is a factor when over or under confidence in an aircraft, vehicle, device, system or any other equipment creates an unsafe situation.

**OC004 Unit Mission/Aircraft/Vehicle/Equipment Change or Unit Deactivation**

Unit Mission/Aircraft/Vehicle/Equipment Change or Unit Deactivation is a factor when the process of changing missions/aircraft/vehicle/equipment or an impending unit deactivation creates an unsafe situation.

**OC005 Organizational Structure**

Organizational Structure is a factor when the chain of command of an individual or structure of an organization is confusing, non-standard or inadequate and this creates an unsafe situation.

## **Organizational Processes (OPxxx)**

**Is a factor in a mishap if organizational processes such as operations, procedures, operational risk management and oversight negatively influence individual, supervisory, and/or organizational performance and results in unrecognized hazards and/or uncontrolled risk and leads to human error or an unsafe situation.**

### **OP001 Ops Tempo/Workload**

Ops Tempo/Workload is a factor when the pace of deployments, workload, additional duties, off-duty education, PME, or other workload-inducing condition of an individual or unit creates an unsafe situation.

### **OP002 Program and Policy Risk Assessment**

Program and Policy Risk Assessment is a factor when the potential risks of a large program, operation, acquisition or process are not adequately assessed and this inadequacy leads to an unsafe situation.

### **OP003 Procedural Guidance/Publications**

Procedural Guidance/Publications is a factor when written direction, checklists, graphic depictions, tables, charts or other published guidance is inadequate, misleading or inappropriate and this creates an unsafe situation.

### **OP004 Organizational Training Issues/Programs**

Organizational Training Issues/Programs are a factor when one-time or initial training programs, upgrade programs, transition programs or other training that is conducted outside the local unit is inadequate or unavailable (etc) and this creates an unsafe situation. (Note: the failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. Capture these factors under PC401 "Learning Ability/Rate" or PC405 "Technical/Procedural Knowledge." The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem. Capture these factors under PC402 "Memory/ Ability lapses" or other cognitive factors such as PC104 "Confusion," PC106 "Distraction," PC105 "Negative Transfer" or one of the forms of Fatigue, etc.)

### **OP005 Doctrine**

Doctrine is a factor when the doctrine, philosophy or concept of operations in an organization is flawed or accepts unnecessary risk and this flaw or risk acceptance leads to an unsafe situation or uncontrolled hazard.

### **OP006 Program Oversight/Program Management**

Program Oversight/Program Management is a factor when programs are implemented without sufficient support, oversight or planning and this leads to an unsafe situation.

**TAB CC**

**TECHNICAL REPORTS AND ENGINEERING EVALUATIONS (not included in Tab J)**

**CC1. BOEING TECHNICAL ANALYSIS OF SFDR .....3**  
**CC2. BAE ANALYSIS OF FLIGHT CONTROL COMPUTERS .....28**  
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**CC1. BOEING TECHNICAL ANALYSIS OF SFDR**

MDC 10K7172

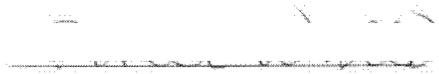
**BOEING TECHNICAL ANALYSIS OF STANDARD FLIGHT  
DATA RECORDER (SFDR) DATA**

**For C-17A, Serial # 00-0173  
Mishap at Elmendorf AFB on 28 July 2010**

24 September 2010  
The Boeing Company  
Long Beach, CA

Prepared for: USAF Accident Investigation Board

Issue Date: 24 September 2010

Reviewed by:   
Aero Performance - Sr. Manager

Reviewed by:   
Stability, Control, and Flying Qualities - Manager

## Boeing Technical Analysis of SFDR Data

Mishap Aircraft: C-17A, Serial Number 00-0173

Mishap Date: 28 July 2010

### Background

Boeing was tasked by the C-17 00-0173 Accident Investigation Board (AIB) to provide engineering, technical, and supplier support to the investigation of the mishap at Elmendorf AFB on 28 July 2010. Boeing provided the following support:

Engineering - Boeing engineers, primarily out of Long Beach and Field Services (Boeing Elmendorf and Dover AFBs) responded to technical questions and provided the following analysis of the Standard Flight Data Recorder (SFDR) information provided.

Supplier Support: Boeing Engineering requested GE Aviation to review SFDR decoder log to analyze errors.

### Scope

This document provides a factual summary to support the accident investigation into the mishap of aircraft 00-0173 on 28 July 2010. Team developed the attached plots and timeline summary based on the SFDR data provided.

Attachment A provides verification that the recovered Line Replaceable Units (LRU) were functioning properly at the time of the mishap.

The information in this report does not contain any Boeing proprietary information.

## Observations

### Takeoff Planning (TOLD) Data Summary

Takeoff data are calculated based on gross weight and pressure altitude recorded at takeoff brake release from the SFDR data, plus temperature and wind data as reported by the tower.

Elmendorf AFB - Runway 06

Runway Length: 10,000 ft

Runway Slope: +0.3%

Tower Reported Altimeter Setting (QNH): 30.04 in Hg

Pilot Altimeter Setting: 29.834 in Hg (resulting in display baro-altitude of zero ft, see Attachment B for detailed explanation)

Field Elevation: 174 ft

Pressure Altitude: 80 ft (at ground roll start)

Temperature: 13°C

Wind: from 240 at 4 knots

Takeoff Gross Weight: 344,960 lbs

Rotation Speed: 103 knots calibrated airspeed (KCAS)

Minimum Climbout Speed: 133 KCAS

Minimum Flap Retract Speed: 150 KCAS

Minimum Slat Retract Speed: 193 KCAS

Minimum Maneuver Speed: 193 KCAS (clean configuration)

### Time-History from SFDR data

The events during the flight are presented chronologically with notes describing the condition of the aircraft and the actions taken by the crew. Key parameters are listed for each event.

- Delta Time: Time referenced from the SFDR time of 87403.938 sec which is approximately GMT 02:21:31
- Speed (KIAS): Knots indicated airspeed (KIAS) which does not include position error corrections
- Pressure Alt (ft): Pressure Altitude corrected for position error
- Local AOA (deg): Local Vane Corrected Angle of Attack (AOA) is the average of the three local vane pairs' angle of attack corrected for sideslip effects.
- Pitch Attitude (deg): Inertial Reference Unit (IRU) derived Pitch Attitude
- Roll Attitude (deg): IRU derived Roll Attitude.

SFDR time history plots of flight and aircraft parameters are presented in Attachment C, Figures 1 – 4. Figure 5 includes calculated parameters and smoothed SFDR parameters. These figures are the basis for the following timeline event descriptions. Attachment D is a description of the SFDR parameters used to create figures in Attachment C.

**Event: Brake Release**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>2.38</b>	0	80	2.5	1.1	0.0

- Maximum Thrust was set for takeoff and was maintained throughout the flight with the exception that the throttles were retarded and immediately advanced back to Maximum Thrust at Delta Time 64.45 seconds.

**Event: Rotation**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>17.50</b>	115	88	0.2	0.0	0.0

- Calculated pitch rotation rate = 7 degrees per second

**Event: Liftoff and Climbout**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>21.13</b>	128	88	17.8	19.3	1.8

- Calculated airspeed = 128 KCAS
- Calculated fuselage AOA = 12.0 deg
- Decelerates during climb
- Pitch attitude reaches a maximum of 40 degs
- An anomaly in indicated airspeed occurs near the time of maximum pitch, most likely due to wake from the nose landing gear door transition
- Master caution annunciates shortly thereafter ("TANK NOT INERT")
- Minimum speed reached during climb = 107 KCAS
- $V_{MCO}$  = 133 KCAS

Calibrated Airspeed Calculation Description

The SFDR data stream records indicated airspeed which is not corrected for position errors typically present at the 4 pitot-static probe locations on the aircraft. The position errors are caused by the pressure field created by the aircraft, and vary as a function of aircraft flight condition and flap position. During the original C-17 flight test program, air data calibration tests were conducted to define the corrections to be applied to the measured static pressure and total pressure for each pitot-static system to accurately account for position error. These corrections were implemented in the Air Data Computer (ADC) software which outputs calibrated air data parameters for display to the flight crew at all times, e.g., calibrated airspeed, pressure altitude, true Mach number, and true airspeed. Analysis of the SFDR data required calculations to obtain the calibrated air data parameters noted above, in accordance with the software algorithms defined in the ADC software.

Fuselage Angle of Attack Calculation Description

There are six Angle-of-Attack (AOA) vanes on a C-17A aircraft. Each AOA vane measures a local AOA. The local AOA values measured by each of the six AOA vanes are used to compute the Fuselage Angle of Attack (FUAOA). In addition to the local AOA measured by each of the six AOA vanes, the computation of FUAOA is a function of roll rate, pitch rate, flap position, and true Mach number. The local AOA recorded by the SFDR includes the corrections for sideslip and roll rate. The SFDR does not record fuselage AOA; therefore, fuselage AOA is calculated using local AOA, true airspeed, true Mach number, pitch rate, and flap position. The calculation is consistent with the Flight Control Computer (FCC) computation of fuselage AOA.

**Event: Landing Gear Up & Locked**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>31.20</b>	111	856	9.5	24.1	2.8

- Calculated airspeed = 107 KCAS
- Calculated fuselage AOA = 6.2 deg

**Event: Initiates Left Turn**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>32.51</b>	111	904	13.0	24.1	-0.7

- Calculated airspeed = 108 KCAS
- Calculated fuselage AOA = 8.5 deg
- Rolls from wings level to a maximum of 58 deg left wing down (LWD)
- Average roll rate = 15 deg/sec
- $V_{MMA} = 138$  KCAS for flaps  $\frac{1}{2}$  - slats extended

**Event: Max Left Roll Attitude**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>36.07</b>	111	1016	16.0	15.5	-57.7

- Calculated airspeed = 115 KCAS
- Calculated fuselage AOA = 9.5 deg
- Vertical acceleration (Nz) increases to 1.5g
- Accelerates during turn

**Event: Initiates Return to Wings Level**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>43.57</b>	142	984	17.0	6.5	-48.0

- Calculated airspeed = 144 KCAS
- Calculated fuselage AOA = 10.0 deg
- Rolls back from LWD to wings level
- Average roll rate = 20 deg/sec

**Event: Moves Flap/Slat Handle to 0/EXT**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>45.32</b>	150	936	17.0	7.2	-13.4

- Calculated airspeed = 151 KCAS
- Calculated fuselage AOA = 9.6 deg
- $V_{MFR} = 150$  KCAS

**Event: Initiates Wings Level Acceleration**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>46.07</b>	155	936	14.2	7.2	1.1

- Calculated airspeed = 154 KCAS
- Calculated fuselage AOA = 8.5 deg
- Accelerates at approximately 4 knots/sec
- Constant altitude

**Event: Flap Retract Begins**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>46.32</b>	155	936	14.2	7.2	1.1

- Calculated airspeed = 155 KCAS
- Calculated fuselage AOA = 8.0 deg
- Flaps begin retracting: current average flap 19 deg

**Event: Moves Flap/Slat Handle to UP/RET**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>53.31</b>	188	888	8.2	8.3	1.4

- Calculated airspeed = 188 KCAS
- Calculated fuselage AOA = 6.3 deg
- Pilot commands A/C nose right rudder pedal force
- Pilot commands right wing down roll
- $V_{MSR} = 193$  KCAS

**Event: Initiates Right Turn**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>53.50</b>	188	888	8.2	9.0	1.4

- Calculated airspeed = 189 KCAS
- Calculated fuselage AOA = 6.5 deg
- Average roll rate = 24 deg/sec
- Current average flap: 2.25 deg

See stability and control assessment presented in Attachment E.

**Event: Flap Retract Complete**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>54.12</b>	188	888	8.3	6.7	16.5

- Calculated airspeed = 191 KCAS
- Calculated fuselage AOA = 7.1 deg
- Current average flap: 0 deg
- Slats still extended

**Event: Pilot Holds Roll Attitude: Approximate 60 deg Right Wing Down (RWD)**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>56.06</b>	194	888	18.5	6.5	58.0

- Calculated airspeed = 197 KCAS
- Calculated fuselage AOA = 11.0 deg
- Holding steady speed and altitude during roll
  - aircraft is no longer accelerating or climbing, even though engine thrust has not changed
  - aircraft has no excess energy
- Full A/C nose right rudder pedal force
- Vertical Acceleration (Nz) at approximately 2 g's
- Stall roll limit displayed on heads up display (HUD): 60 deg (0/EXT), 57 deg (UP/RET)

**Event: Slats Retract Begins**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>57.19</b>	194	888	20.5	4.9	52.4

- Calculated airspeed = 199 KCAS
- Calculated fuselage AOA = 11.9 deg
- Holding steady speed and altitude during roll
- Full A/C nose right rudder
- Yaw damper is active to eliminate yaw rate
  - Only the lower rudder provides yaw damping below 15 deg of fuselage AOA and both rudders provide yaw damping above 17 deg
  - Yaw damping indicates that the fuselage AOA is at or below 15 deg

**Event: Stall Warning Activates**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>57.45</b>	194	888	20.5	4.9	52.4

- Calculated airspeed = 199 KCAS
- Calculated fuselage AOA = 11.4 deg
- Stall warning is active after first slat starts to retract
- Stall warning is based on UP/RET Aircraft/Propulsion Data Management Computer (APDMC) stall warning activation logic
- Aural stall annunciation ("STALL") comes on and remains on for eight seconds and then is overridden by the ground proximity sink rate annunciation ("SINK RATE") and subsequent first portion of the ground proximity terrain, fly up annunciation ("WHOOOP, WHOOP")
- Stick shaker commences simultaneously with aural stall warning and continues for the remainder of the SFDR data
- Full A/C nose right rudder pedal force
- Pilot maintains A/C nose up control stick force
- Pilot allows roll attitude to continue increasing despite stall warning annunciation

**Event: Pilot Applies LWD Control Stick to Control Bank**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>58.20</b>	194	888	17.0	3.2	55.5

- Calculated airspeed = 199 KCAS
- Calculated fuselage AOA = 9.6 deg
- Cross controls commanded: LWD control stick with A/C nose right pedal
- Pilot maintains A/C nose up control stick force

Note: A/C was controllable as evidenced by the pilot's ability to control to ~ 60 deg roll attitude

**Event: AOA Limiter System (ALS) Activates**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>61.63</b>	198	888	20.8	0	61.9

- Calculated airspeed = 200 KCAS
- Calculated fuselage AOA = 12.4 deg
- ALS activates approximately 3.5 sec after 5 of the 8 slats indicate not extended
- Pilot continues cross controls commands: LWD control stick with A/C nose right pedal
- Full A/C nose right rudder pedal force
- Pilot maintains A/C nose up control stick force
- Slat retraction continues

**Event: Aircraft Stalls**

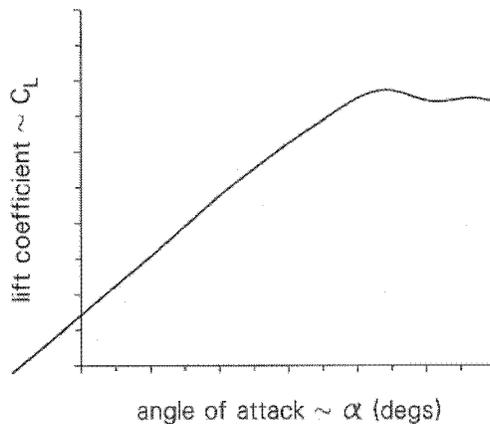
Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>61.75</b>	198	888	20.8	0	61.9

- Calculated airspeed = 200 KCAS
- Calculated fuselage AOA = 12.5 deg
- Aircraft enters stall as defined by conventional stall criteria (g break, loss of control about a single axis, AOA effects, or excessive sink rate)
  - Vertical acceleration (NZ) peaks at 2.42 g's and subsequently decreases, while AOA continues to increase
  - RWD roll rate increases to approximately 8 deg/sec
  - Fuselage AOA increases at a rate of approximately 1 deg/sec
  - Pitch begins decreasing
- Pilot goes to full LWD control stick force
- Pilot changes rudder pedal force from full A/C nose right to A/C nose left
- Pilot maintains A/C nose up control stick force

**Stall Onset** - During slat retraction, while executing a 2.4 g, 63 deg right turn with full nose right rudder, the aircraft stalled. The calculated fuselage angle of attack of the aircraft at this time is 12.5 degrees. The flight test derived wings level stall angle of attack is approximately 24 degrees for the 0/EXT configuration, and approximately 14 degrees for UP/RET.

Attachment C, Figure 5 presents a comparison between the aircraft calculated calibrated airspeed and the flight manual calculated stall speed derived from the SFDR vertical acceleration,  $NZ$  (g), and estimated slat effectiveness. At the initiation of the right turn there is approximately \_\_\_ knots stall speed margin. As the aircraft reaches a 60 degree bank, this margin has been reduced to approximately \_\_\_ knots. With the slats retracting, the stall warning activates. As the slats retract over the next 4.5 seconds and the vertical acceleration increases to 2.4 g's (63 deg bank) the aircraft stall speed margin has been eliminated and the aircraft stalls. At the time of decreasing airspeed and increasing AOA, the calculated stall speed is \_\_\_\_\_ KCAS, <CAS above the aircraft speed. This analysis does not include the effect of sideslip on stall speed. Insufficient data exists to compute sideslip effect on stall speed given the large bank angle and cross-control configuration of the aircraft, however sideslip would increase stall speed.

The nature of a powered-lift airplane, such as the C-17, is such that a wing stall does not produce an abrupt break in lift. At stall, there is a gentle round-over of the lift curve and not a sharp drop-off of the lift as shown in the following diagram:



**Event: Outboard Slat Retract Complete**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>63.20</b>	191	840	25.8	-3.3	70.7

- Calculated airspeed = 197 KCAS
- Calculated fuselage AOA = 15.5 deg
- ALS is reducing the A/C nose up elevator deflection
- Final commanded A/C nose left rudder pedal force is reached
- Pilot reaches maximum LWD control stick force
- RWD roll rate decreases but RWD roll attitude continues to increase
- AOA continues to increase
- Pitch continues to decrease
- Altitude is decreasing
- Decreasing airspeed is consistent with increasing AOA after stall

**Event: Aircrew Initiates a Momentary Throttle Reduction**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>64.45</b>	182	800	30.0	-7.2	78.8

- Calculated airspeed = 189 KCAS
- Calculated fuselage AOA = 17.4 deg
- Negligible effect on thrust
- Total event approximately 1 sec

**Event: Slat Retract Complete**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>65.20</b>	175	736	31.0	-12.1	80.5

- Calculated airspeed = 185 KCAS
- Calculated fuselage AOA = 18.1 deg
- RWD roll rate and AOA rate have been arrested
- Pitch continues to decrease
- Altitude continues to decrease

**Event: GPWS Sink Rate (Mode 1) Initiates**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>65.63</b>	175	736	32.0	-14.4	82.6

- Calculated airspeed = 183 KCAS
- Calculated fuselage AOA = 18.7 deg
- Sink rate (pressure altitude) = -3300 FPM
- Stick shaker (stall warning) remains active
- Copilot applies A/C nose up and LWD control stick force inputs, consistent with the pilot inputs

**Event: A/C Response to Aircrew and ALS Commands**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>67.00</b>	175	640	32.0	-18.5	82.6

- Calculated airspeed = 181 KCAS
- Calculated fuselage AOA = 19.2 deg
- Pitch stabilized
- AOA stabilized
- Roll rate reverses to 5 deg/sec LWD
- Both pilots continue to apply LWD control stick force
- Pilot nose up control stick force decreases, while copilot nose up control stick force increases

Note: The stabilization of pitch, AOA and roll rate indicates that the aircraft is responding to pilot and ALS inputs.

**Event: End of SFDR Data Stream**

Delta Time (sec)	Speed (KIAS)	Pressure Alt (ft)	Local AOA (deg)	Pitch Attitude (deg)	Roll Attitude (deg)
<b>69.30</b>	175	304	32.0	-16.9	63.6

- Calculated airspeed = 184 KCAS
- Calculated fuselage AOA = 19.6 deg

**Conclusion**

Based on a thorough analysis of SFDR data the Boeing technical team reached the following conclusion:

The aircraft systems responded as expected to aircrew inputs throughout the flight. The aircrew configured the aircraft into a stall condition by transitioning the slats from extended to retracted position at the initiation of the right bank turn. Pilot delayed in responding to the stall warning. This resulted in the aircraft stalling at the large bank angle while the slats were retracting. Although the aircraft responded to aircrew and ALS commands, sufficient altitude was not available to recover from the stall condition.

Attachment A

## **Analysis of data from recovered Line Replaceable Units (LRUs)**

After the mishap USAF recovered 1 Air Data Computer (ADC), 1 Aircraft/Propulsion Data Management Computer (A/PDMC), 1 Core Integrated Processor (CIP), 2 Flight Control Computers (FCC), 1 Spoiler Control/Electronic Flap Computer (SC/EFC), the Standard Flight Data Recorder (SFDR) system's Crash Survivable Memory Unit (CSMU) LRU and 1 Warning and Caution Computer (WCC). These LRUs were sent to their respective manufacturers for download of the Non-volatile Random Access Memory (NVRAM). A summary of the NVRAM for each of the LRUs is provided below.

### **Air Data Computer (ADC)**

The modernized ADC, Part Number 4090200-901, is capable of storing fault data for the current flight and four previous flight legs. Once five flight legs have been reached, the initiation of a new flight leg will overwrite the oldest flight leg and the data contained in that flight leg will no longer be available for retrieval. When a fault occurs the ADC will store pertinent data to aid in fault isolation of LRU/aircraft issues. Each ADC will store the following data per occurrence:

- Flight Leg No.
- Fault ID
- Fault Count
- PBIT 1
- PBIT 2
- DV1
- DV2
- Ps (in Hg)
- Pt (mB)
- Baro Set
- TAT
- GMT
- GMT Valid

Each ADC contains two independent air data modules capable of computing air data. Each air data module stores the last five flight legs. ADC Serial Number 32083773, was received and NVRAM from each of the air data modules was downloaded in accordance with Honeywell Engineering Specification EB409337. No fault codes/engineering information was present in either of the LRUs two air data modules for the last five flight legs. Since there were no faults in the previous five legs, no engineering parameters were stored in the unit for the mishap. These result along with the SFDR data are indications that this ADC was functioning within acceptable operating limits.

### **Aircraft/Propulsion Data Management Computer (A/PDMC)**

The legacy APDMC, Part Number 17B1U6005-547, is capable of storing 256 12 bit words, approximately 20 seconds, in fault history. Fault history is retrieved on a "first in last out" basis (i.e. current faults are stored at the end of the 256 word memory). In addition to fault history, aircraft parameter data is stored in the Electrically Erasable Programmable Read-Only Memory (EEPROM), address range x3A000 to x3E27F.

Serial number 97010788 was received at Hamilton Sundstrand with damage to the chassis and power supply that prevented the LRU from being powered. The I/O Processor CCA, which appeared undamaged, was removed and installed in a lab LRU. The LRU completed checkout and the NVRAM was downloaded. The NVRAM has been forwarded to the APDMC Software Engineer for a complete

analysis. The analysis is expected to be completed by October 01, 2010. The EEPROM data was requested from Hamilton Sundstrand and analysis will require three to four days after receipt. From observing the FDR data it appears that the No. 2 APDMC was functioning normally, since all of the data recorded by the SFDR is calculated or transmitted through APDMC 2. In the SFDR data we are able to see that APDMC 1 output Stall Warning to APDMC 2 as an indication that APDMC 1 was functional.

#### **Core Integrated Processor (CIP)**

The downloaded flash memory is typically used to extract the event logs which provide information related to CIP restarts and is used to trouble shoot anomalies. The NVRAM provided is not in the usual format for analysis and will need additional processing. The CIP is being shipped to the Avionics Integration Support Facility (AISF) Lab to support data collection and analysis. Using available data the Software Engineers estimate one week to complete their analysis. From the SFDR data and CVR audio there were no indications of a CIP degraded mode or loss of mission computer function.

#### **Flight Control Computer (FCC) / Spoiler Control/Electronic Flap Computer (SC/EFC)**

The FCC Fault History and Pre-flight Built in Test (PFBIT) data did not contain any faults.

SC/EFC Fault History data did not contain any faults. SC/EFC Hydraulic PFBIT contained a BLIN code CDS (Flap Fail Lamp FCS Panel Lamp Failure) fault. This fault was most likely caused by one bad light bulb in the Flap Fail light of the FCS Actuator Panel.

#### **Standard Flight Data Recorder (SFDR)**

Data was decoded using GE Aviation's Integrated Ground Software (IGS). Errors detected during decoding were associated with an unclosed file associated with loss of power. GE Aviation confirmed that all available data was extracted and available for analysis.

Analysis of the SFDR time history tables, used to reconstruct a timeline of the mishap, found no missing or invalid data; indicating all of the systems sending data to the SFDR were functioning normally.

#### **Warning and Caution Computer (WCC)**

The WCC contains 32Kbytes of NVRAM for the storage of BIT detected faults during power on built in test (POBIT), initiated built in test (IBIT) and periodic built in test (PBIT). The NVRAM is time stamped with GMT or the WCC's Elapsed Time Indicator (ETI) value if GMT is not available.

The NVRAM was downloaded from the LRU and provided to Boeing for analysis.

Preliminary Analysis shows flight leg no. 3 is the current flight leg. Several faults were indicated in the NVRAM. WAP, HCU2, ADS, OBG2 FDR and ECS2 were faulted one time at 2:22 GMT. ECS1 showed 3 faults. However, ECS1 type faults (environmental systems) would not be a contributor to the mishap.

As there are no faults prior to 2:22 GMT and the mishap occurred at 2:22 GMT, it appears as though the WCC was functioning properly up to that time. Additionally, the WCC is the bus controller for the Warning and Caution System (WACS) bus. The APDMC and SFDR are remote terminals on the WACS bus, since these LRUs were operating normally, this would also imply that the WCC was functioning normally.

Attachment B

**P-73 AIB Pressure Altitude versus Baro-Corrected Altitude**

The aircraft landed from the previous flight with a Baro Correction of 30.047 in-Hg.

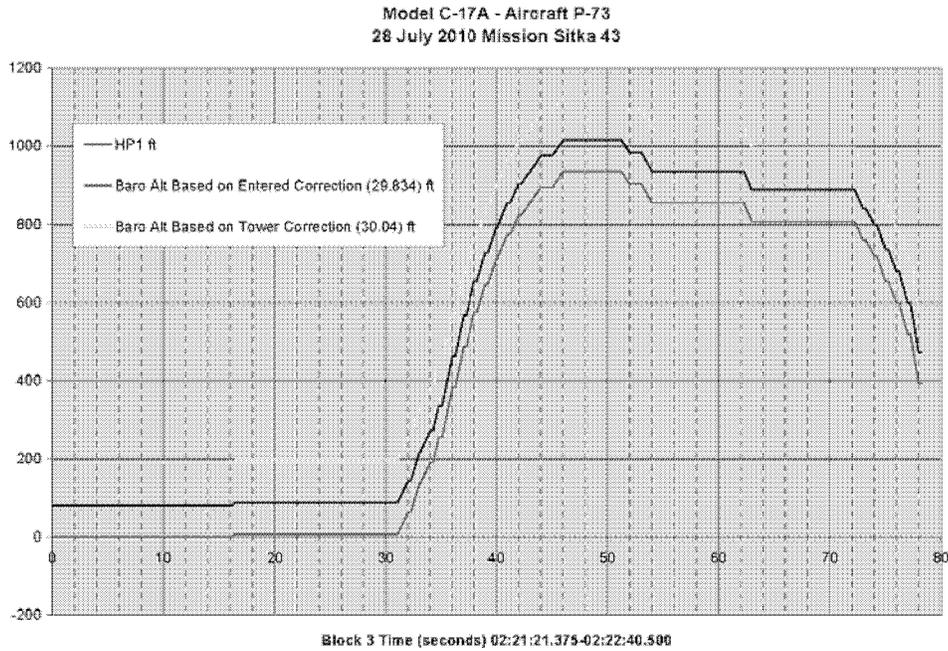
The tower reported Baro Correction was 30.04 in-Hg.

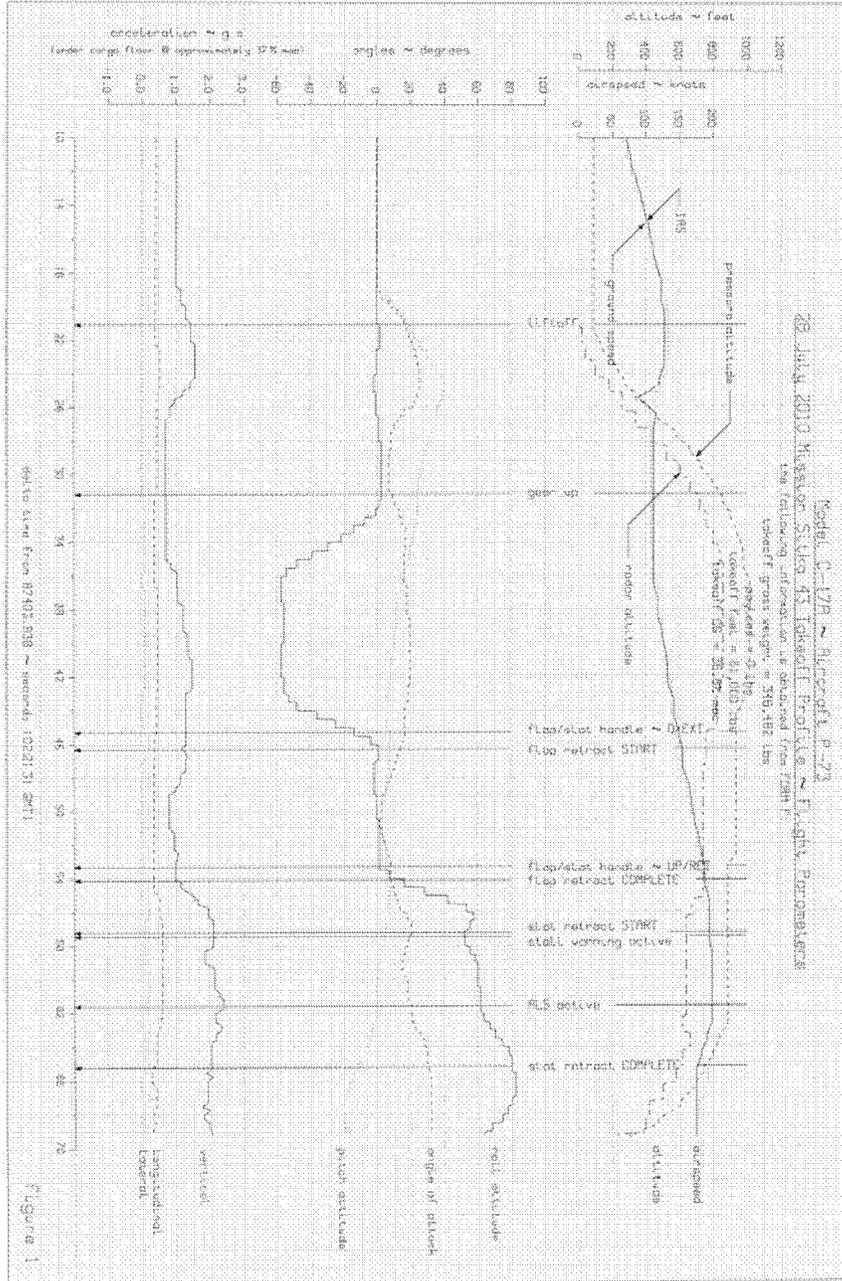
For the incident flight, the SFDR recorded Baro Correction was 29.834 in-Hg throughout the flight.

The Baro-Corrected altitude computed by the ADC during the ground roll, with a Baro Correction (BC) of 29.834 in-Hg and Pressure Altitude (HP) of 80 feet, would be approximately zero feet. Therefore, the Baro-Altitude displayed in the HUD/PFD would be approximately zero feet when the brakes were released.

The SFDR Mishap Data does not record Baro-Corrected Altitude. Baro-Corrected altitude was computed using the SFDR Baro Correction (BC) and Pressure Altitude (HP1).

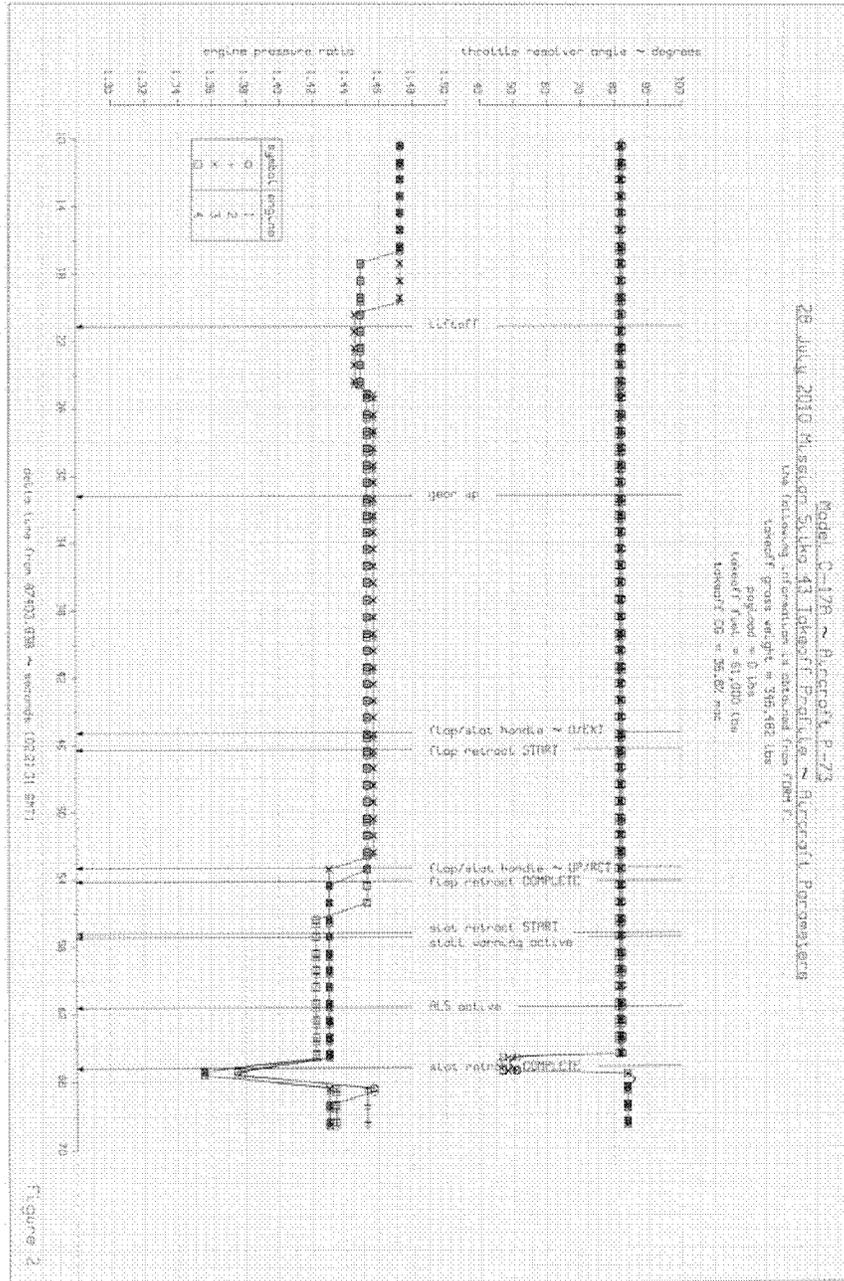
The plot below shows the Pressure Altitude (HP1) recorded by the SFDR, along with the Baro-Corrected Altitude based on the Baro-Correction set in the aircraft (29.834 in-Hg) and the Baro-Corrected Altitude based on the Baro-Correction reported by the tower (30.04 in-Hg)





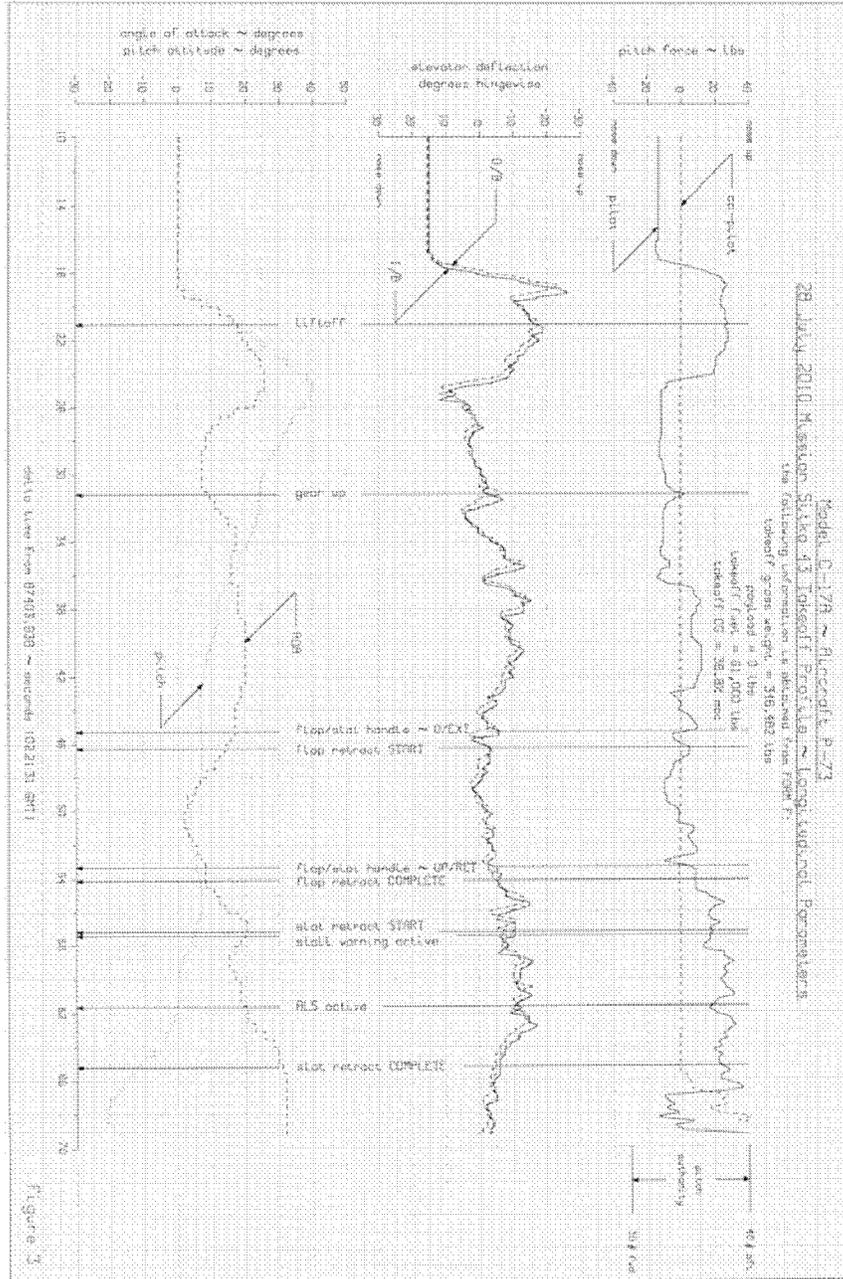
Attachment C - Figure 1





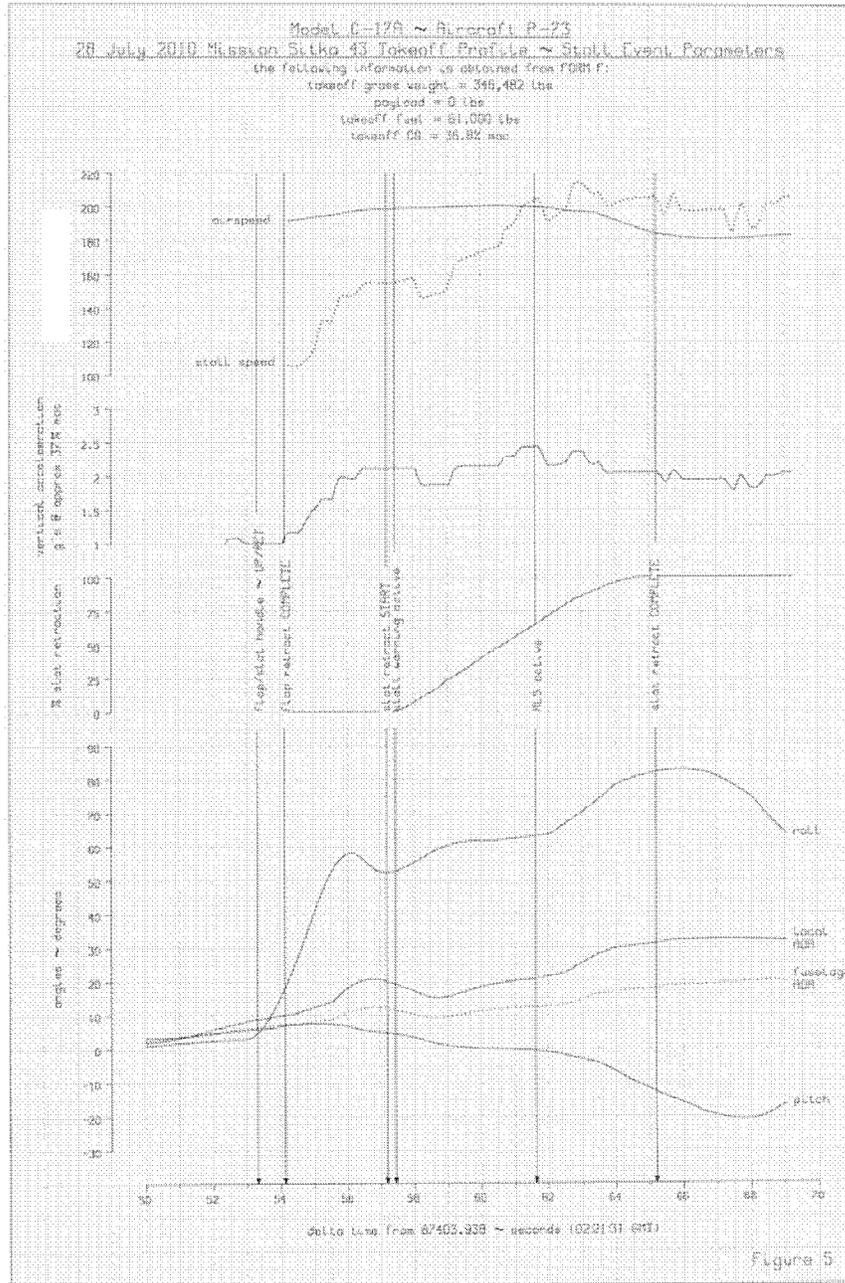
Attachment C - Figure 2





Attachment C - Figure 3





Attachment C - Figure 5



Attachment D

**Selected Measured and Discrete SFDR Parameters**

Signal Label	Parameter	Sample Rate (Hz)	Recording Resolution (LSB)	Minimum Change to Record
<b>AIRCRAFT PARAMETERS</b>				
GW	Total (Gross) Aircraft Weight	1	320 lbs	640 lbs
FQT	Total Fuel Quantity	1	200lbs	400lbs
CG	CG of Aircraft	1	1/10 % MAC	0.8 % MAC
<b>ENGINE PARAMETERS</b>				
TA1	Throttle Lever Angle 1	1	1/2 deg	2 deg
TA2	Throttle Lever Angle 2	1	1/2 deg	2 deg
TA3	Throttle Lever Angle 3	1	1/2 deg	2 deg
TA4	Throttle Lever Angle 4	1	1/2 deg	2 deg
EPR1	Engine Pressure Ratio Engine 1	1	1/256	1/42
EPR2	Engine Pressure Ratio Engine 2	1	1/256	1/42
EPR3	Engine Pressure Ratio Engine 3	1	1/256	1/42
EPR4	Engine Pressure Ratio Engine 4	1	1/256	1/42
<b>CONTROL SURFACE PARAMETERS</b>				
HSTAB	Horizontal Stabilizer Position	1	1/16 deg	1/4 deg
F_SHP	Flap/Slat Handle Position	1	1/4 deg	2 deg
LIFLAP	Left Inboard Flap Position	1	1/8 deg	1 deg
RIFLAP	Right Inboard Flap Position	1	1/8 deg	1 deg
LOFLAP	Left Outboard Flap Position	1	1/8 deg	1 deg
ROFLAP	Right Outboard Flap Position	1	1/8 deg	1 deg
PPF	Pilot Pitch Force	4	1/4 lbs	1 lb
CPPF	Copilot Pitch Force	4	1/4 lbs	1 lb
LIELEV	Left Inboard Elevator Position	4	45/128 deg	45/64 deg
RIELEV	Right Inboard Elevator Position	4	45/128 deg	45/64 deg
LOELEV	Left Outboard Elevator Position	4	45/128 deg	45/64 deg
ROELEV	Right Outboard Elevator Position	4	45/128 deg	45/64 deg
PRF	Pilot Roll Force	4	1/4 lbs	1 lb
CPRF	Copilot Roll Force	4	1/4 lbs	1 lb
LAIL	Left Aileron Position	4	45/256 deg	45/32 deg
RAIL	Right Aileron Position	4	45/256 deg	45/32 deg
LSPL1	Left No. 1 Spoiler Position	1	45/128 deg	45/64 deg
LSPL2	Left No. 2 Spoiler Position	1	45/128 deg	45/64 deg
LSPL3	Left No. 3 Spoiler Position	1	45/128 deg	45/64 deg
LSPL4	Left No. 4 Spoiler Position	1	45/128 deg	45/64 deg
RSPL1	Right No. 1 Spoiler Position	1	45/128 deg	45/64 deg
RSPL2	Right No. 2 Spoiler Position	1	45/128 deg	45/64 deg
RSPL3	Right No. 3 Spoiler Position	1	45/128 deg	45/64 deg
RSPL4	Right No. 4 Spoiler Position	1	45/128 deg	45/64 deg
RPP	Rudder Pedal Position	4	2 lbs	4 lbs
URUD	Upper Rudder Position	4	45/256 deg	45/64 deg
LRUD	Lower Rudder Position	4	45/256 deg	45/64 deg

Attachment D

Signal Label	Parameter	Sample Rate (Hz)	Recording Resolution (LSB)	Minimum Change to Record
<b>FLIGHT PARAMETERS</b>				
TAT	True (Total) Air Temperature	1	1/2 deg C	2 deg C
PTHDG	Present True Heading	1	1/512 sc	1/256 sc
HP1	Pressure Altitude-1 (MSW)	1	8 ft	32 ft
HR1	Radar Altitude-1 (MSW)	1	20 ft	20 ft
BC	Baro Corr (Hg)	1	1 bit	any bit
IAS	Indicated Airspeed	1	1 kt	4 kts
GS	Groundspeed	1	2 kts	4 kts
AOA	Average Angle of Attack	2	1/4 deg	1 deg
PATT	Pitch Attitude	2	1/1024 sc	1/512 sc
RATT	Roll Attitude	2	1/512 sc	1/128 sc
NX	Longitudinal Acceleration	4	1/256 g	1/8 g
NY	Lateral Acceleration	4	1/128 g	1/16 g
NZ	Vertical Acceleration	4	1/128 g	1/8 g
<b>DISCRETES</b>				
SL1AEX	Slat L1A Extend	1	Discrete	any
SL2AEX	Slat L2A Extend	1	Discrete	any
SL3AEX	Slat L3A Extend	1	Discrete	any
SL4AEX	Slat L4A Extend	1	Discrete	any
SR1AEX	Slat R1A Extend	1	Discrete	any
SR2AEX	Slat R2A Extend	1	Discrete	any
SR3AEX	Slat R3A Extend	1	Discrete	any
SR4AEX	Slat R4A Extend	1	Discrete	any
SL1ART	Slat L1A Retract	1	Discrete	any
SL2ART	Slat L2A Retract	1	Discrete	any
SL3ART	Slat L3A Retract	1	Discrete	any
SL4ART	Slat L4A Retract	1	Discrete	any
SR1ART	Slat R1A Retract	1	Discrete	any
SR2ART	Slat R2A Retract	1	Discrete	any
SR3ART	Slat R3A Retract	1	Discrete	any
SR4ART	Slat R4A Retract	1	Discrete	any

Attachment E

Stability and Control Assessment of the SFDR Data

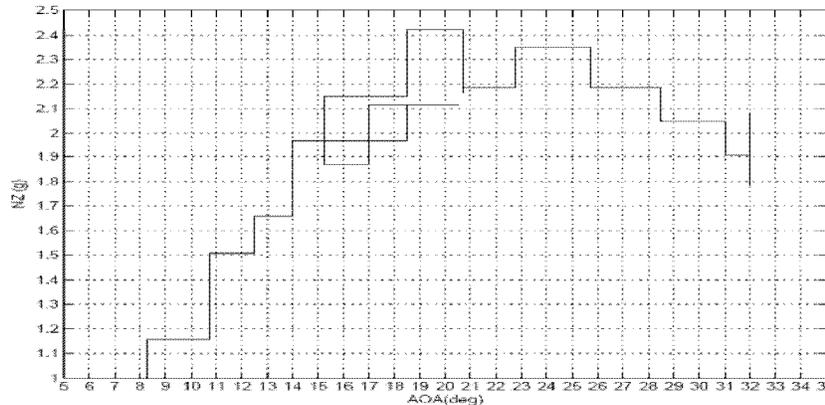
Overview:

Beginning at 53.5 seconds, a roll rate of approximately 20 degrees/sec was applied to achieve a 60 degree bank angle. Rudder pedal input was applied concurrently in the same direction as the desired roll, and occurred in two major steps.

- A 20 pound Aircraft-Nose-Right (ANR) input was initially applied. The upper rudder goes from 2 degrees Aircraft-Nose-Left (ANL) to -2 degrees ANR. The lower rudder shows apparent Yaw Damper response.
- Subsequently, and from about 55 to 62 seconds, the ANR rudder input is much more significant, yielding around -15 degrees of rudder, which slowly ramps out.

That significant pedal input (ANR) appears to gradually increase the roll attitude (Roll rate due to sideslip effects). For most of the larger rudder pedal force (ANR), the roll control stick input is actually in the *opposite* direction (Left-Wing-Down; LWD), resulting in an alarming cross-controls situation while at a high angle-of-attack and a large bank angle (unlike a steady-heading sideslip, where bank angles are much lower).

By this time (about 62 seconds), the data indicate that the aircraft has stalled. The following chart compares the vertical load factor (Nz) to the local angle of attack (AOA), showing that the latter continues to increase while the former holds fairly steady and then drops somewhat. This confirms that the aircraft entered a stall condition (post-stall lift curve) during the right turn. This chart plots SFDR data from time 54 seconds onwards, corresponding to the flaps retracted/slats retracting portion of the event.



At approximately 62.5 seconds, both airspeed and altitude begin decreasing. At the same time, roll rate builds up in the Right-Wing-Down (RWD) direction, increasing the already-high RWD bank angle. Pitch falls as roll builds up. The pilot reacts to this increase in roll with significant LWD control stick, deploying the left wing spoilers to near maximum. As the altitude decreases, alpha continues increasing, as expected. Vertical acceleration, though, as previously noted, stays fairly constant confirming the aircraft has stalled. The pilot then removes the large ANR pedal input and instead makes an ANL input in an apparent attempt to get out of the right turn, but runs out of altitude.

## Attachment E

### Chronological Account:

1. Thrust was greater than "thrust for level flight" for most of the event (i.e. there was excess energy available) since the airspeed and/or altitude generally increased until the final right turn was well established.
2. Bank angle above 60 deg was reached in the final right turn, thus reducing the margin to stall.
3. For the right turn, what looks like an unusual and large rudder pedal input was made during the turn. Such aggressive and large inputs are typical of trying to "kick" the aircraft into the bank/turn more rapidly than roll control stick alone would achieve.
4. While the bank angle appeared to be beyond the target value, additional rudder pedal input was made. The SFDR data show that the pilot then commanded opposite (cross-control) roll control stick input. The roll attitude stabilized (low roll rate) to a bank angle that was higher than the target.
5. Some sideslip angle resulted from this configuration/condition (SFDR  $N_y > 0$  g's), likely further increasing aircraft drag.
6. During the right turn, the previous "excess energy" from the engines has dissipated (airspeed and altitude are now constant, EPR hasn't changed significantly). The flaps are retracted while the slats are still deployed, which would have resulted in less drag than before (i.e. with 1/2 flaps when the aircraft showed excess energy), except that now the aircraft was facing additional drag due to high-alpha, cross-control (spoiler + sideslip), and possibly rudder drag. The aircraft is on the verge of stalling. It looks like it is flying in the roundover/separation region of the lift-alpha curve, if it hasn't already stalled. The wings are still producing some lift, however, since vertical acceleration hasn't dropped appreciably.
7. As the slats continue to retract as commanded, the SFDR shows a negative energy situation. Airspeed and altitude both drop leading to an increase in alpha without a corresponding increase in  $N_z$ . This is indicative of post-stall operation. Drag has likely increased further.
8. In this post-stall condition (>62 seconds) roll rate builds up to several degrees per second (approx 10 deg/sec) from the existing already-high bank angle (approx 60 deg). At such regions of high-alpha/post-stall, lateral (and pitch) control effectiveness diminishes. Rudder input is still in the RWD direction at this point. Because the rudder probably loses less effectiveness than the spoilers, the rudder is "winning" in the cross-control battle to roll the aircraft. Meanwhile pitch attitude is dropping - as expected if roll builds up with no increased pitch control inputs and/or reduced pitch control effectiveness.
9. The pilot then abruptly reverses pedal input (ANR to ANL) and commands full LWD control stick. However, the high RWD roll rate takes time to reverse. Given the stall, the lateral controls' effectiveness is limited and the LWD input generates a smaller-than-normal negative roll acceleration. As the roll attitude stabilizes and then starts to reverse toward wings level, pitch attitude stabilizes.
10. Aircraft runs out of altitude before the LWD roll rate can significantly build up and reduce the extreme roll attitude

## CC2. BAE ANALYSIS OF FLIGHT CONTROL COMPUTERS

**From:**  
**To:**  
**Subject:** Elmendorf Units  
**Date:** Monday, September 20, 2010 6:28:47 AM

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BAE Systems received four LRUs from the Elmendorf crash. These units are Flight Control Computers (FCCs) serial numbers 00H0434 and 96H0209, Spoiler Control Electronic Flap Computer (SCEFC) serial number 00J0259, and Core Integrated Processor (CIP) serial number 06D0533.

FCC 434, SCEFC 259 and CIP 0533 came in with their factory seal intact, and the SRUs in the LRUs matched the shipped configuration.

FCC 209 was returned in 2000 for an upgrade from a G14 to a G201 configuration. Since that time, the factory seal was broken on FCC 209, and the PS2 module was replaced in the field since the shipment in 2000. The unit originally shipped with SN 96G1203 PS2. It was received with SN 94B1101 in the PS2 slot. At some point I-Level repair of the unit was performed which BAE Systems does not receive records for.

Each of these unit's external chassis was damaged so no attempt to test the units at the LRU level was made. The units were opened and inspected. The inspection of the SRUs found all SRUs to be in a condition consistent with other field return units.

The IOP CPUs from the FCCs and SCEFC were removed and placed in a slave FCC and SCEFC so that the NVM data could be retrieved and decoded. There were no issues retrieving the NVM data.

The NVM data was consistent with other working unit's NVM data on other LRUs returned from the field.

The CIP IOP, CPM, IOM and AIM were removed and placed in a slave CIP allowing the NVM data to be retrieved and decoded. The fault history was also retrieved from the IOP. There were no issues retrieving the NVM or fault history data. The NVM data was consistent with other working unit's NVM data on other LRUs returned from the field.

Please contact me if additional information is required.

Best Regards,

Deputy Director, Boeing Fixed Wing Programs  
BAE Systems Electronics, Intelligence, & Support

Phone  
Cell  
Fax  
e-mail

## CC3. FUEL TESTING RESULTS

1.1.3.5

AFFET LABORATORY REPORT  
HQ AFFET/PTDIA

FUEL TEST 1 OF 5

Wright-Patterson AFB, OH 45433-7632

## AMENDED REPORT

Lab Report No:2010LA26444003 Date Received:07/31/10 0905 hrs\* Date Sampled: 07/29/2010\*\*  
 Cust Sample No:1002162 Date Reported:07/31/10 1507 hrs\* Protocol:FU-AVI-0013

Sample Submitter:  
3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
 Product: Aviation Turbine Fuel, Kerosene  
 Specification: MIL-DTL-83133G Grade:JP-8

Source: 96L00204

Qty Submitted: 2 gal

Qty Rep: 6,000 gal

Method	Test	Min	Max	Result
MIL-DTL-83133G	Workmanship			Pass
ASTM D 3242 - 08	Total Acid Number (mg KOH/g)		0.015	0.015
ASTM D 1319 - 10	Aromatics (% vol)		25.0	19.4
ASTM D 3227 - 04a	Mercaptan Sulfur (% mass)		0.002	0.001
ASTM D 4294 - 10	Total Sulfur (% mass)		0.30	0.09
ASTM D 86 - 09	Distillation			
	Initial Boiling Point (°C)			144
	10% Recovered (°C)		205	167
	20% Recovered (°C)			176
	50% Recovered (°C)			205
	90% Recovered (°C)			253
	End Point (°C)		300	274
	Residue (% vol)		1.5	1.0
	Loss (% vol)		1.5	0.2
ASTM D 93 - 10	Flash Point (°C)	38		44
ASTM D 4052 - 09	API Gravity @ 60°F	37.0	51.0	42.4
ASTM D 5972 - 05e1	Freezing Point (°C)		-47	-49
ASTM D 445 - 09	Viscosity @ -20°C (mm <sup>2</sup> /s)		8.0	4.6
ASTM D 3338 - 08	Net Heat of Combustion (MJ/kg)	42.8		43.1
ASTM D 3343 - 05	Hydrogen Content (% mass)	13.4		13.6
ASTM D 1322 - 08	Smoke Point			
	Smoke Point (w/allowable Naphthalenes) (mm)	19.0		22.0
ASTM D 1840 - 07	Naphthalenes (% vol)		3.0	0.1
ASTM D 130 - 04	Copper Strip Corrosion (2 h @ 100°C)		1 (Max)	1a
ASTM D 3241 - 09e1	Thermal Stability @ 260°C			
	Change in Pressure (mmHg)		25	0
	Tube Deposit Rating, Visual		<3 (Max)	1
ASTM D 381 - 04	Existent Gum (mg/100 mL)		7.0	1.4
ASTM D 5452 - 08	Particulate Matter (mg/L)		Report Only	0.1
MIL-DTL-83133G	Filtration Time (min)		15	3
ASTM D 1094 - 07	Water Reaction Interface Rating		1b (Max)	1
ASTM D 5006 - 03	FSII (% vol)	0.07	0.20	0.11
ASTM D 2624 - 09	Conductivity (pS/m)	50	700	220
GC	Gas Chromatographic Analysis			See Below

## Dispositions:

Material meets specification requirements with respect to the test(s) conducted.  
 GC is typical for a JP-8 type fuel.  
 Report amended to add GC comment.

\* Date reflects Eastern Standard Time (EST)

| Report Generated: 07/31/10 15:07\*

\*\* Date as provided by customer

AFPET LABORATORY REPORT  
HQ APEP/PTPLA

Wright-Patterson AFB, OH 45433-7632

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**AMENDED REPORT**

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Lab Report No:2010LA26444003      Date Received:07/31/10 0905 hrs\*      Date Sampled: 07/29/2010\*\*  
Cust Sample No:1002162              Date Reported:07/31/10 1507 hrs\*      Protocol:FU-AVI-0013

Sample Submitter:  
3 IRS/LGRF

Elmendorf AFB, AK 99506-3145

Approved By	Date
_____, Chief	07/31/2010*

\\SIGNED\\

This report was electronically delivered to:

---

\* Date reflects Eastern Standard Time(EST)  
\*\* Date as provided by customer

| Report Generated: 07/31/10 15:07\*

1.1.3.6

 AFPET LABORATORY REPORT  
 HQ AFPET/PTPLA

FUEL TEST 2 of 5

Wright-Patterson AFB, OH 45433-7632

 Lab Report No:2010LA26444003 Date Received:07/31/10 0905 hrs\* Date Sampled: 07/29/2010\*\*  
 Cust Sample No:1002162 Date Reported:07/31/10 1416 hrs\* Protocol:FU-AVI-0013

 Sample Submitter:  
 3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

 Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
 Product: Aviation Turbine Fuel, Kerosene  
 Specification: MIL-DTL-83133G Grade:JP-8

Source: 96L00204 Qty Submitted: 2 gal Qty Rep: 6,000 gal

Method	Test	Min	Max	Result
MIL-DTL-83133G	Workmanship			Pass
ASTM D 3242 - 08	Total Acid Number (mg KOH/g)		0.015	0.015
ASTM D 1319 - 10	Aromatics (% vol)		25.0	19.4
ASTM D 3227 - 04a	Mercaptan Sulfur (% mass)		0.002	0.001
ASTM D 4294 - 10	Total Sulfur (% mass)		0.30	0.09
ASTM D 86 - 09	Distillation			
	Initial Boiling Point (°C)			144
	10% Recovered (°C)		205	167
	20% Recovered (°C)			176
	50% Recovered (°C)			205
	90% Recovered (°C)			253
	End Point (°C)		300	274
	Residue (% vol)		1.5	1.0
	Loss (% vol)		1.5	0.2
ASTM D 93 - 10	Flash Point (°C)	38		44
ASTM D 4052 - 09	API Gravity @ 60°F	37.0	51.0	42.4
ASTM D 5972 - 05e1	Freezing Point (°C)		-47	-49
ASTM D 445 - 09	Viscosity @ -20°C (mm²/s)		8.0	4.6
ASTM D 3338 - 08	Net Heat of Combustion (MJ/kg)	42.8		43.1
ASTM D 3343 - 05	Hydrogen Content (% mass)	13.4		13.6
ASTM D 1322 - 08	Smoke Point			
	Smoke Point (w/allowable Naphthalenes) (mm)	19.0		22.0
ASTM D 1840 - 07	Naphthalenes (% vol)		3.0	0.1
ASTM D 130 - 04	Copper Strip Corrosion (2 h @ 100°C)	1 (Max)		1a
ASTM D 3241 - 09e1	Thermal Stability @ 260°C			
	Change in Pressure (mmHg)		25	0
	Tube Deposit Rating, Visual	<3 (Max)		1
ASTM D 381 - 04	Existent Gum (mg/100 mL)		7.0	1.4
ASTM D 5452 - 08	Particulate Matter (mg/L)	Report Only		0.1
MIL-DTL-83133G	Filtration Time (min)		15	3
ASTM D 1094 - 07	Water Reaction Interface Rating	1b (Max)		1
ASTM D 5006 - 03	FSII (% vol)	0.07	0.20	0.11
ASTM D 2624 - 09	Conductivity (pS/m)	50	700	220
GC	Gas Chromatographic Analysis			See Below

## Dispositions:

Material meets specification requirements with respect to the test(s) conducted.

 Approved By \_\_\_\_\_ Date \_\_\_\_\_  
 , Chief 07/31/2010\*  
 \\SIGNED\\

 \* Date reflects Eastern Standard Time(EST)  
 \*\* Date as provided by customer

Report Generated: 07/31/10 14:16\*

AFPET LABORATORY REPORT  
HQ AFFECT/PTPLA

Wright-Patterson AFB, OH 45433-7632

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Lab Report No:2010LA26444003	Date Received:07/31/10 0905 hrs*	Date Sampled: 07/29/2010**
Cust Sample No:1002162	Date Reported:07/31/10 1416 hrs*	Protocol:FU-AVI-0013

Sample Submitter:  
3 IRS/IGRF

Elmendorf AFB, AK 99506-3145

This report was electronically delivered to:

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\*\* Date as provided by customer

| Report Generated: 07/31/10 14:16\*

1.1.3.7  
FUEL TEST 3 of 5

APPET LABORATORY REPORT  
HQ APPET/PTPLA

Wright-Patterson AFB, OH 45433-7632

Lab Report No:2010LA26444002 Date Received:07/31/10 0905 hrs\* Date Sampled: 07/29/2010\*\*  
Cust Sample No:1002161 Date Reported:07/31/10 1415 hrs\* Protocol:FU-AVI-0013

Sample Submitter:  
3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
Product: Aviation Turbine Fuel, Kerosene  
Specification: MIL-DTL-83133G Grade:JP-8

Source: 96L00183 Qty Submitted: 2 gal Qty Rep: 6,000 gal

Method	Test	Min	Max	Result
MIL-DTL-83133G	Workmanship			Pass
ASTM D 3242 - 08	Total Acid Number (mg KOH/g)		0.015	0.015
ASTM D 1319 - 10	Aromatics (% vol)		25.0	20.1
ASTM D 3227 - 04a	Mercaptan Sulfur (% mass)		0.002	0.001
ASTM D 4294 - 10	Total Sulfur (% mass)		0.30	0.09
ASTM D 86 - 09	Distillation			
	Initial Boiling Point (°C)			153
	10% Recovered (°C)		205	168
	20% Recovered (°C)			176
	50% Recovered (°C)			205
	90% Recovered (°C)			253
	End Point (°C)		300	273
	Residue (% vol)		1.5	1.3
	Loss (% vol)		1.5	0.3
ASTM D 93 - 10	Flash Point (°C)	38		44
ASTM D 4052 - 09	API Gravity @ 60°F	37.0	51.0	42.4
ASTM D 5972 - 05e1	Freezing Point (°C)		-47	-49
ASTM D 445 - 09	Viscosity @ -20°C (mm²/s)		8.0	4.6
ASTM D 3338 - 08	Net Heat of Combustion (MJ/kg)	42.8		43.1
ASTM D 3343 - 05	Hydrogen Content (% mass)	13.4		13.6
ASTM D 1322 - 08	Smoke Point			
	Smoke Point (w/allowable Naphthalenes) (mm)	19.0		22.0
ASTM D 1840 - 07	Naphthalenes (% vol)		3.0	0.0
ASTM D 130 - 04	Copper Strip Corrosion (2 h @ 100°C)		1 (Max)	1a
ASTM D 3241 - 09e1	Thermal Stability @ 260°C			
	Change in Pressure (mmHg)		25	0
	Tube Deposit Rating, Visual		<3 (Max)	1
ASTM D 381 - 04	Existent Gum (mg/100 mL)		7.0	1.6
ASTM D 5452 - 08	Particulate Matter (mg/L)		Report Only	0.1
MIL-DTL-83133G	Filtration Time (min)		15	3
ASTM D 1094 - 07	Water Reaction Interface Rating		1b (Max)	1
ASTM D 5006 - 03	FSII (% vol)	0.07	0.20	0.11
ASTM D 2624 - 09	Conductivity (pS/m)	50	700	213
GC	Gas Chromatographic Analysis			See Below

Dispositions:

Material meets specification requirements with respect to the test(s) conducted.  
GC is typical for a JP-8 type fuel.

Approved By \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_, Chief 07/31/2010\*  
\\SIGNED\\

\* Date reflects Eastern Standard Time(EST) | Report Generated: 07/31/10 14:15\*  
\*\* Date as provided by customer

AFPET LABORATORY REPORT  
HQ AFPET/PTPLA

Wright-Patterson AFB, OH 45433-7632

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Lab Report No:2010LA26444002	Date Received:07/31/10 0905 hrs*	Date Sampled: 07/29/2010**
Cust Sample No:1002161	Date Reported:07/31/10 1415 hrs*	Protocol:FU-AVI-0013

Sample Submitter:  
3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

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APPET LABORATORY REPORT  
 HQ APPET/PTPLA

 1.1.38  
 FUEL TEST 4 of 5

Wright-Patterson AFB, OH 45433-7632

 Lab Report No:2010LA26444001 Date Received:07/31/10 0905 hrs\* Date Sampled: 07/29/2010\*\*  
 Cust Sample No:1002160 Date Reported:07/31/10 1414 hrs\* Protocol:FU-AVI-0013

 Sample Submitter:  
 3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

 Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
 Product: Aviation Turbine Fuel, Kerosene  
 Specification: MIL-DTL-83133G Grade:JP-8

Source: TK 741 Qty Submitted: 2 gal Qty Rep: 420,000 gal

Method	Test	Min	Max	Result
MIL-DTL-83133G	Workmanship			Pass
ASTM D 3242 - 08	Total Acid Number (mg KOH/g)		0.015	0.015
ASTM D 1319 - 10	Aromatics (% vol)		25.0	18.0
ASTM D 3227 - 04a	Mercaptan Sulfur (% mass)		0.002	0.001
ASTM D 4294 - 10	Total Sulfur (% mass)		0.30	0.09
ASTM D 86 - 09	Distillation			
	Initial Boiling Point (°C)			147
	10% Recovered (°C)		205	167
	20% Recovered (°C)			176
	50% Recovered (°C)			205
	90% Recovered (°C)			252
	End Point (°C)		300	276
	Residue (% vol)		1.5	1.0
	Loss (% vol)		1.5	0.1
ASTM D 93 - 10	Flash Point (°C)	38		44
ASTM D 4052 - 09	API Gravity @ 60°F	37.0	51.0	42.4
ASTM D 5972 - 05e1	Freezing Point (°C)		-47	-48
ASTM D 445 - 09	Viscosity @ -20°C (mm²/s)		8.0	4.5
ASTM D 3338 - 08	Net Heat of Combustion (MJ/kg)	42.8		43.1
ASTM D 3343 - 05	Hydrogen Content (% mass)	13.4		13.6
ASTM D 1322 - 08	Smoke Point			
	Smoke Point (w/allowable Naphthalenes) (mm)	19.0		22.0
ASTM D 1840 - 07	Naphthalenes (% vol)		3.0	0.0
ASTM D 130 - 04	Copper Strip Corrosion (2 h @ 100°C)		1 (Max)	1a
ASTM D 3241 - 09e1	Thermal Stability @ 260°C			
	Change in Pressure (mmHg)		25	0
	Tube Deposit Rating, Visual		<3 (Max)	1
ASTM D 381 - 04	Existent Gum (mg/100 mL)		7.0	1.6
ASTM D 5452 - 08	Particulate Matter (mg/L)		Report Only	0.1
MIL-DTL-83133G	Filtration Time (min)		15	3
ASTM D 1094 - 07	Water Reaction Interface Rating		1b (Max)	1
ASTM D 5006 - 03	FSII (% vol)	0.07	0.20	0.11
ASTM D 2624 - 09	Conductivity (pS/m)	50	700	222
GC	Gas Chromatographic Analysis			See Below

**Dispositions:**
 Material meets specification requirements with respect to the test(s) conducted.  
 GC is typical for a JP-8 type fuel.

<b>Approved By</b>	<b>Date</b>
_____, Chief	07/31/2010*
\\SIGNED\\	

 \* Date reflects Eastern Standard Time (EST)  
 \*\* Date as provided by customer

Report Generated: 07/31/10 14:14\*

AFPET LABORATORY REPORT  
HQ AFPET/PTPLA

Wright-Patterson AFB, OH 45433-7632

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Lab Report No:2010LA26444001	Date Received:07/31/10 0905 hrs*	Date Sampled: 07/29/2010**
Cust Sample No:1002160	Date Reported:07/31/10 1414 hrs*	Protocol:FU-AVI-0013

Sample Submitter:  
3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

This report was electronically delivered to:

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1.1.3.9

AFPET LABORATORY REPORT  
HQ AFPET/PTPLA

FUEL TEST 5 OF 5

Wright-Patterson AFB, OH 45433-7632

Lab Report No:2010LA26444004 Date Received:07/31/10 0905 hrs\* Date Sampled: 07/29/2010\*\*  
Cust Sample No:1002165 Date Reported:07/31/10 1417 hrs\* Protocol:FU-AVI-0013

Sample Submitter:  
3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
Product: Aviation Turbine Fuel, Kerosene  
Specification: MIL-DTL-83133G Grade:JP-8

Source: TK 737 Qty Submitted: 2 gal Qty Rep: 420,000 gal

Method	Test	Min	Max	Result
MIL-DTL-83133G	Workmanship			Pass
ASTM D 3242 - 08	Total Acid Number (mg KOH/g)		0.015	0.015
ASTM D 1319 - 10	Aromatics (% vol)		25.0	20.2
ASTM D 3227 - 04a	Mercaptan Sulfur (% mass)		0.002	0.001
ASTM D 4294 - 10	Total Sulfur (% mass)		0.30	0.09
ASTM D 86 - 09	Distillation			
	Initial Boiling Point (°C)			151
	10% Recovered (°C)		205	169
	20% Recovered (°C)			176
	50% Recovered (°C)			204
	90% Recovered (°C)			252
	End Point (°C)		300	273
	Residue (% vol)		1.5	0.7
	Loss (% vol)		1.5	0.3
ASTM D 93 - 10	Flash Point (°C)	38		44
ASTM D 4052 - 09	API Gravity @ 60°F	37.0	51.0	42.4
ASTM D 5972 - 05e1	Freezing Point (°C)		-47	-49
ASTM D 445 - 09	Viscosity @ -20°C (mm <sup>2</sup> /s)		8.0	4.5
ASTM D 3338 - 08	Net Heat of Combustion (MJ/kg)	42.8		43.1
ASTM D 3343 - 05	Hydrogen Content (% mass)	13.4		13.6
ASTM D 1322 - 08	Smoke Point			
	Smoke Point (w/allowable Naphthalenes) (mm)	19.0		22.0
ASTM D 1840 - 07	Naphthalenes (% vol)		3.0	0.0
ASTM D 130 - 04	Copper Strip Corrosion (2 h @ 100°C)		1 (Max)	1a
ASTM D 3241 - 09e1	Thermal Stability @ 260°C			
	Change in Pressure (mmHg)		25	0
	Tube Deposit Rating, Visual	<3 (Max)		1
ASTM D 381 - 04	Existent Gum (mg/100 mL)		7.0	1.6
ASTM D 5452 - 08	Particulate Matter (mg/L)		Report Only	0.1
MIL-DTL-83133G	Filtration Time (min)		15	3
ASTM D 1094 - 07	Water Reaction Interface Rating		1b (Max)	1
ASTM D 5006 - 03	FSII (% vol)	0.07	0.20	0.12
ASTM D 2624 - 09	Conductivity (pS/m)	50	700	222
GC	Gas Chromatographic Analysis			See Below

**Dispositions:**

Material meets specification requirements with respect to the test(s) conducted.  
GC is typical for a JP-8 type fuel.

Approved By \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_, Chief 07/31/2010\*

\\SIGNED\\

\* Date reflects Eastern Standard Time(EST)

| Report Generated: 07/31/10 14:17\*

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APPET LABORATORY REPORT  
HO APPET/PTPLA

Wright-Patterson AFB, OH 45433-7632

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Lab Report No:2010LA26444004	Date Received:07/31/10 0905 hrs*	Date Sampled: 07/29/2010**
Cust Sample No:1002165	Date Reported:07/31/10 1417 hrs*	Protocol:FU-AVI-0013

Sample Submitter:  
3 LRS/LGRF

Elmendorf AFB, AK 99506-3145

This report was electronically delivered to:

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1.1.3.10

**AFPET LABORATORY REPORT**  
 HQ AFFECT/PTPLA

Wright-Patterson AFB, OH 45433-7632

Lab Report No:2010LA26590001      Date Received:08/10/10 1157 hrs\*      Date Sampled: 08/03/2010\*\*  
 Cust Sample No:1002268      Date Reported:08/11/10 1522 hrs\*      Protocol:FU-AVI-0013

Sample Submitter:  
 673 LRS/LGRF

Elmendorf AFB, AK 99506

Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
 Product: Aviation Turbine Fuel, Kerosene  
 Specification: MIL-DTL-83133G Grade:JP-8

Source: C-17 00000173      Qty Submitted: 5 mL

Method	Test	Min	Max	Result
SEM/EDS	Scanning Electron Microscopy with Energy-Dispersive X-ray Spectroscopy			See Below
GC/MS	Gas Chromatography (Mass Spectroscopy)			See Below

**Dispositions:**

For information purposes only.  
 Sample had a high percentage of particulates. The GCMS of the filtered sample was that of a typical JP-8 type fuel. SEM/XRF analysis showed that the particulates are composed primarily of oxygen, aluminum, and silicon, with minor amounts of iron, chromium, and zinc. They are most likely clay particles. The particle size ranged from 10-400 micrometers.

<u>Approved By</u>	<u>Date</u>
\\SIGNED\\	08/11/2010*

This report was electronically delivered to:

\* Date reflects Eastern Standard Time(EST)  
 \*\* Date as provided by customer

Report Generated: 08/11/10 15:22\*

POC fuel Results D-003

**New Result**

Refueler/Hosecart Downstream

Test Item ID: 96L00183

Set Result: Passed

Sample Number: 1002161

Sample Size: 1

Gallon Represented: 0

Previous Sample:

Retest?

Test Set Date: Wednesday, July 28, 2010

Performed By:

Supervisor:

Temp

Hint: 64.86

Tests in this Set:

Test	Measurement	Date	Performed By
Water	0	07/28/2010	
Flow Rate	600	07/28/2010	
Solids Use	0.4	07/28/2010	
Filtration Use	6	07/28/2010	
Mercury per i...	24	07/28/2010	
Temp	72	07/28/2010	

Memo:

SAMPLE DO TO A/C CRASH

OK Cancel

1.1.3.2

**New Result**

Refueler/Hosecart Downstream

Test Item ID: 98L00204

Set Result: Passed

Sample Number: 1002162

Sample Size: 1

Gallon Represented: 0

Previous Sample:

Retest?

Test Set Date: Thursday, July 29, 2010

Performed By:

Supervisor:

Adjusted DP:

Hint: 0.15

Tests in this Set:

Test	Measurement	Date	Performed By
Adjusted DP	11	07/29/2010	
Water	0	07/29/2010	
Flow Rate	600	07/29/2010	
Solids Use	0.1	07/29/2010	
Filtration Use	6	07/29/2010	
Mercury per i...	24	07/29/2010	
Temp	77	07/29/2010	

Memo:

SAMPLED DO TO CRASHED A/C

OK Cancel

## CC4. HYDRAULIC FLUID

**From:**  
**To:**  
**Cc:**  
**Subject:** P-73 Hydraulic Fluid Analysis  
**Date:** Thursday, September 23, 2010 8:37:30 AM

---

Below is the analysis of the hydraulic fluid sample gathered from the P-73 mishap site.

Best regards,

C-17 Air Safety Investigator  
Boeing Defense, Space, & Security

Office:  
Mobile:

---

**From:**  
**Sent:** Thursday, September 23, 2010 9:32 AM  
**To:**  
**Subject:** RE: Hydraulic Fluid Analysis

After reviewing the laboratory report for the C-17 00-0173 hydraulic fluid sample, I've concluded that the results are fairly typical for a sample of in-service fluid, particularly for one from a hydraulic system that had been open to the air for some length of time.

The acid number requirement for new MIL-PRF-83282 fluid is 0.10 maximum rather than 0.20, but the measured result of 0.22 is not unusual for in-service fluids. Viscosity @ -54 degrees C is not required for MIL-PRF-83282. The viscosity requirements @ -40, +40, and +100 degrees C are actually 2200 max, 14 min, and 3.45 min, respectively, so all of the measured viscosities are either within or very close to the spec limits. Lastly, the measured water content at 470 ppm is considerably higher than our on-aircraft limit of 300 ppm given in OATP 17TOC3601, but this may be attributed to the system's exposure to atmospheric moisture or liquid water as a result of the incident.

Please let me know if you have any other questions.

Thanks,

C-17 Materials & Processes

**CC5. MISHAP AIRCRAFT FLUIDS TESTS**

1. 1. 13. 4

**AFFET LABORATORY REPORT**  
HQ AFFET/PTDIA

Wright-Patterson AFB, OH 45433-7632

Lab Report No:2010LA26595001 Date Received:08/10/10 1315 hrs\* Date Sampled: 08/06/2010\*\*  
Cust Sample No:1002269 Date Reported:08/11/10 1514 hrs\* Protocol:PP-HYD-0006

Sample Submitter:  
673 LRS/LGRF

Elmendorf AFB, AK 99506

Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
Product: Hydraulic Fluid, Aircraft, Petroleum Base  
Specification: MIL-PRF-5606H(3)

Qty Submitted: 2 vial

Source: C-17A 00-0173 unknown K strain filter

Method	Test	Min	Max	Result	Fail
MIL-PRF-5606H(3)	Workmanship				Pass
ASTM D 664 - 09a	Acid Number (mg KOH/g)		0.20	0.22	X
ASTM D 5949 - 08	Pour Point (°C)		-60	-72	
ASTM D 445 - 09	Viscosity @ -54°C (cSt)		2500	11488	X
ASTM D 445 - 09	Viscosity @ -40°C (cSt)		600	1968	X
ASTM D 445 - 09	Viscosity @ 40°C (cSt)	13.2		13.9	
ASTM D 445 - 09	Viscosity @ 100°C (cSt)	4.90		3.50	X
ASTM D 6304-07	Water, Coulometric Karl Fischer Titration (ppm)		100	470	X
MIL-PRF-5606H(3)	Color				Pass
GC	Gas Chromatographic Analysis				See Below

**Dispositions:**

Coordinated with   
For information purposes only.

GC was that of a typical MIL-PRF-83282 for both bottle "A" and "B".  
The stated limits in this report are for new unused fluid and are provided for reference purpose only. The condition of the fluid and how the sample was taken will affect the test results.

**Approved By** \_\_\_\_\_ **Date** 08/11/2010\*

\\SIGNED\\

This report was electronically delivered to:

\* Date reflects Eastern Standard Time(EST) | Report Generated: 08/11/10 15:15\*  
\*\* Date as provided by customer

Continuing with yesterday's email, the following additional information is provided for your consideration:

Per SAE AIR 810C, the MIL-PRF-83282 new fluid requirements and in-service limits for the fluid properties tested in the subject lab report are as follows:

**Acid Number** (mg KOH/g): New Fluid Reqmt: 0.10 max. In-Service Limit: 0.30 max.

**Pour Point** (deg C): New Fluid Reqmt: -55 max. In-Service Limit: none recommended

**Water** (ppm): New Fluid Reqmt: 100 max. In-Service Limit: 300 max.

**Viscosity** (cSt): -40 deg C New Fluid Requirement: 2200 max. In-Service Limit: none recommended

40 deg C New Fluid Requirement: 14.0 min. In-Service Limit: +10%, -15%  
(or 15.4 to 11.9)

100 deg C New Fluid Requirement: 3.5 min. In-Service Limit: none recommended

Based on these values, the pass/fail status of the fluid samples is as follows:

**Acid Number:** The 0.22 mg KOH/g result exceeds the new fluid requirement, but does meet the in-service limit.

**Pour Point:** The -72 deg C result meets the new fluid requirement.

**Water:** The 470 ppm result exceeds the new fluid requirement, as well as the in-service limit (by 170 ppm). Exposure to elevated temperatures during a fire would tend boil out any water that may initially be in the hydraulic fluid. Afterwards however, the hygroscopic nature of the MIL-PRF-83282 fluid, coupled with the fluid's exposure to the elements (i.e., not contained within a closed system after the incident), may explain the fluid's higher than recommended water content in the as-tested condition.

**Viscosity:** At -40 deg C, the 1968 cSt result meets the new fluid requirement.

At 40 deg C, the 13.9 cSt result nearly meets the new fluid requirement, and does meet the in-service limit.

At 100 deg C, the 3.50 cSt result meets the new fluid requirement.

Regards,

**Mechanical Fluid Systems  
C-17 Aircraft Systems  
Boeing Defense, Space & Security**

With regard to the attached fluid test report, the following observations are provided:

- o The Min/Max values that are listed for the tested fluid parameters are for hydraulic oil per MIL-PRF-5606. This is consistent with the entries provided in report's "Product:" and "Specification:" headers which state "...Petroleum Base" and "MIL-PRF-5606H (3)", respectively. However, the C-17A hydraulic systems use a synthetic hydrocarbon base fluid per MIL-PRF-83282. The Gas Chromatography results in the "Dispositions:" section of the report bear this out. As such, the Min/Max values for the MIL-PRF-83282 fluid will be different than those listed in this report.
- o The Min/Max values that are listed are for "...new unused fluid". However, it would be more appropriate to compare the measured values against In-Service Limits when assessing the operating condition of the hydraulic fluid.
- o Both of the above two issues will affect the pass/fail status of the measured fluid properties.
- o In-Service Limits for MIL-PRF-83282 fluid properties can be found in the attached SAE Aerospace Information Report (see Table 2 on page 5 for new fluid properties, and Table 3A on page 11 for In-Service Limits).

Lastly, for any in-depth technical questions related to issues of fluid chemistry, you may want to involve one of the following experts:

Boeing, C-17 Materials and Process Engineering  
Oils, Lubricants and Hydraulic Fluids cognizant engineer

USAF, AFRL (retired)  
Senior Materials Engineer  
at Univ. of Dayton Research Institute

USAF, AFRL  
Senior Materials Research Engineer

Regards,

Mechanical Fluid Systems  
C-17 Aircraft Systems  
Boeing Defense, Space & Security

11.3.10

AFPET LABORATORY REPORT  
HQ AFFECT/PTPLA

Wright-Patterson AFB, OH 45433-7632

Lab Report No:2010LA26590001      Date Received:08/10/10 1157 hrs\*      Date Sampled: 08/03/2010\*\*  
Cust Sample No:1002268      Date Reported:08/11/10 1522 hrs\*      Protocol:FU-AVI-0013

Sample Submitter:  
673 TRS/TGRF

Elmendorf AFB, AK 99506

Reason for Submission: Aircraft Crash/Incident IAW T.O. 42B-1-1  
Product: Aviation Turbine Fuel, Kerosene  
Specification: MIL-DTL-83133G Grade:JP-8

Source: C-17 00000173      Qty Submitted: 5 mL

Method	Test	Min	Max	Result
SEM/EDS	Scanning Electron Microscopy with Energy-Dispersive X-ray Spectroscopy			See Below
GC/MS	Gas Chromatography (Mass Spectroscopy)			See Below

**Dispositions:**

For information purposes only.  
Sample had a high percentage of particulates. The GCMS of the filtered sample was that of a typical JP-8 type fuel. SEM/XRF analysis showed that the particulates are composed primarily of oxygen, aluminum, and silicon, with minor amounts of iron, chromium, and zinc. They are most likely clay particles. The particle size ranged from 10-400 micrometers.

Approved By	Date
\\SIGNED\\	08/11/2010*

This report was electronically delivered to:

\* Date reflects Eastern Standard Time(EST)      | Report Generated: 08/11/10 15:22\*  
\*\* Date as provided by customer

HYDRAULIC FLUID SAMPLE LOG

TIME	SAMPLE	TURNED IN	EXPEDITER	NAME	SYSTEMS AIRCRAFT SERIAL NUMBER		LAB RESULTS		TIME/NAME	MOC	NOTIFIED	Initials of Person Entering Sample Into Status Sheet	REMARKS
					1	2	1	2					
1	2010 07 30	0910					HT87	1.61					
2							KAT1	1.81					
3							HT84	2.11					
4							HT86	2.41					
5							HT85	1.71					
6							HT63	1.71					
7							HT62	2.21					
8							HT60	1.01					
9							HT61	1.81					
10							HT59	2.11					
11							HT67	2.01					
12	2010 08 17	2010					HT87	1.98					
13							ACFT 191	1.54 / 1.5%					
14							ACFT 192	1.9 / 1.7					
15							193	1.5 / 1.4					
16							190	1.5 / 1.4					
17							190	0.16 / 0.15					
18	2010 07 30	1100					193	1.61					
19													
20													

1.1/3.5

## CC6. BAE SYSTEMS ANALYSIS

**From:**  
**To:**  
**Subject:** Elmendorf Units  
**Date:** Monday, September 20, 2010 6:28:47 AM

---

BAE Systems received four LRUs from the Elmendorf crash. These units are Flight Control Computers (FCCs) serial numbers 00H0434 and 96H0209, Spoiler Control Electronic Flap Computer (SCEFC) serial number 00J0259, and Core Integrated Processor (CIP) serial number 06DQ533.

FCC 434, SCEFC 259 and CIP 0533 came in with their factory seal intact, and the SRUs in the LRUs matched the shipped configuration.

FCC 209 was returned in 2000 for an upgrade from a G14 to a G201 configuration. Since that time, the factory seal was broken on FCC 209, and the PS2 module was replaced in the field since the shipment in 2000. The unit originally shipped with SN 96G1203 PS2. It was received with SN 94B1101 in the PS2 slot. At some point I-Level repair of the unit was performed which BAE Systems does not receive records for.

Each of these unit's external chassis was damaged so no attempt to test the units at the LRU level was made. The units were opened and inspected. The inspection of the SRUs found all SRUs to be in a condition consistent with other field return units.

The IOP CPUs from the FCCs and SCEFC were removed and placed in a slave FCC and SCEFC so that the NVM data could be retrieved and decoded. There were no issues retrieving the NVM data.

The NVM data was consistent with other working unit's NVM data on other LRUs returned from the field.

The CIP IOP, CPM, IOM and AIM were removed and placed in a slave CIP allowing the NVM data to be retrieved and decoded. The fault history was also retrieved from the IOP. There were no issues retrieving the NVM or fault history data. The NVM data was consistent with other working unit's NVM data on other LRUs returned from the field.

Please contact me if additional information is required.

Best Regards,

Deputy Director, Boeing Fixed Wing Programs  
BAE Systems Electronics, Intelligence, & Support

Phone  
Cell  
Fax |  
e-mail

**CC7. FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT**



18-AUG-2010 09:45:37

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ELMENDORF AFB

Automated Civil Engineer System

**FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT**

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Incident Reported: INFLIGHT

Situation Reported: CRASH, ON BASE

Veh/Ac/Eq/Fac: C17

Aircraft

Vehicle

Equipment

Tail # 173

Tag # -

Decal # -

Facility:

Notification Method: PRIMARY CRASH PHONE

Notified By: CRASH

Notifier Org: CRASH

Phone: CRASH

Dispatcher Name:

ACFT Type C17

Call Sign SITKA43

People on Board 4

Tail # 173

ETA

Fuel: 60K LBS.

Wind Dir

Forward: 149

Aft: 45

Barrier

Remarks:

DISPATCHED A FULL BOX 120 FOR A C-17 CRASH. CREWS INVESTIGATED, EXTINGUISHED FIRES, PERFORMED RECOVERY AND CLEAN-UP OPERATIONS. SCENE TURNED OVER TO CRASH RECOVERY. FD PORTION TERMINATED.

**Event Log**

Date	Time	Event
28-JUL-2010	1823	INCIDENT STARTED
28-JUL-2010	1823	DISPATCHED A FULL BOX 120 FOR A IN-FLIGHT ON A C-17 THAT CRASHED
28-JUL-2010	1823	RESPONDING
28-JUL-2010	1824	RESPONDING
28-JUL-2010	1825	BLANKET CLEARANCE FOR THE FLIGHT LINE
28-JUL-2010	1826	HEAVY SMOKE ON DAVIS HIGHWAY
28-JUL-2010	1827	REQUEST STATION 5 TO RESPOND
28-JUL-2010	1828	RESTRICT AIR MOVEMENT TO AT LEAST 500FT ALTITUDE
28-JUL-2010	1829	AIR SPACE HAS BEEN CLEARED
28-JUL-2010	1830	REQUESTING AFD TO BACKFILL STATIONS 2,3
28-JUL-2010	1831	ON SCENE, HEAVY SMOKE AND FIRE IN THE TREES, MULTIPLE PIECES OF WRECKAGE



18-AUG-2010 09:45:37  
 ELMENDORF AFB  
 FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT  
 Automated Civil Engineer System

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Event Log

Event Number	Response Location	Event Log	Fire District	Shift
28-JUL-2010		BAT1 REQUESTING RAILROAD BE SHUT DOWN		
28-JUL-2010		BAT2 LIVE AMMO FIRING OFF IN THE TREES AND WRECKAGE		
28-JUL-2010		R-8 ON SCENE		
28-JUL-2010		E-3 ON SCENE		
28-JUL-2010		CH-2 CONTACT BASE OPS AND GET A MANIFEST FOR THE A/C		
28-JUL-2010		1834 C-14 ON SCENE		
28-JUL-2010		1836 BAT2 E-3 PUT THE FIRE OUT		
28-JUL-2010		1837 CH-2 REQUESTING COMMAND AREA BE LOCATED AT THE FD TRAINING AREA		
28-JUL-2010		1838 E-3 DEPLOYING DECK GUN		
28-JUL-2010		1838 BAT2 ACCOUNTABILITY AND SAFETY OFFICER		
28-JUL-2010		1840 ALASKA RAILROAD NOTIFIED TO SHUT DOWN TRACKS		
28-JUL-2010		1841 MED6 STAGING SOUTH OF THE RAILROAD TRACKS		
28-JUL-2010		1844 CH-2 FIRE ON WEST SIDE OF TRACKS UNDER CONTROL, EAST SIDE BEING ATTACKED		
28-JUL-2010		1845 MED4 ESTABLISHING MEDICAL TRIAGE		
28-JUL-2010		1845 CH-2 SAFETY ACCOUNTABILITY HAS BEEN HANDED OFF TO SSGT SCHNOES		
28-JUL-2010		1845 CH-2 WEST SIDE GOING TO BE SECTOR 1, EAST SIDE OF TRACK SECTOR 2		
28-JUL-2010		1845 CH-2 BAT1 EAST SECTOR; BAT2 WEST SECTOR		
28-JUL-2010		1845 CH-2 SECTOR 1 FIRE UNDER CONTROL, WORKING ON SECTOR 2 SPOT FIRES		
28-JUL-2010		1846 BAT2 STAGING AREA AT THE ROCK QUARRY		
28-JUL-2010		1846 CH-1 COMMAND POST AREA IS GOING TO BE AT THE FD TRAINING AREA		
28-JUL-2010		1847 CH-1 NEED ANOTHER APPARATUS, FIRE IS SPREADING DOWN THE TRACKS		
28-JUL-2010		1848 BAT2 CRASH AND RESCUE HELICOPTER EN ROUTE		
28-JUL-2010		1850 CH-1 CRASH RECOVERY CONFIRMED 4 PERSONNEL ON BOARD, 60K LBS. FUEL, AND FLARES ON BOARD		
28-JUL-2010		1852 CH-1 TAC1 WILL BE COMMAND CHANNEL		
28-JUL-2010		1852 CH-1 COMMAND TRAILER NEEDED AT THE TRAINING GROUND		
28-JUL-2010		1854 BAT2 FIRE ON THE TRACKS		
28-JUL-2010		1857 SEARCH AND RESCUE HELICOPTER IS IN THE AREA AND CHECKING THE EXTENSION OF THE CRASH. HE ALSO HAS RESCUE CAPABILITIES		
28-JUL-2010		1858 MED2 RESCUE HELICOPTER STATED THE CRASH AREA EXTENDS 150M EAST OF THE TRACKS ON SCENE		



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ELMENDORF AFB

Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Event Log

Event Number	Response Location	Event Log	Fire District	Shift
28-JUL-2010		IN STAGING: 2 CRASH, 1 BRUSH, 2 AMBULANCES, 1 ENG., CRASH RECOVERY		
28-JUL-2010		STILL FIGHTING FIRE ON THE MAIN LANDING GEAR		
28-JUL-2010		BAT2 ON SCENE		
28-JUL-2010		T-41 ON SCENE		
28-JUL-2010		FIRE ON THE LANDING GEAR UNDER CONTROL		
28-JUL-2010		BAT2 CH-1 HAS ASSUMED COMMAND OF THE INCIDENT		
28-JUL-2010		CH-2 CONTACT TOWER TO PULL THE HELICOPTER BACK TO AT LEAST 500FT ELEVATION		
28-JUL-2010		CH-1 STAGING RELOCATING TO THE FD TRAINING AREA		
28-JUL-2010		CH-2 ON SCENE		
28-JUL-2010		R-15 ON SCENE		
28-JUL-2010		RAILROAD TRACK AT THE NORTH END COMPLETELY UPROOTED		
28-JUL-2010		CH-2 WESTSIDE OF RAILROAD IS COMPLETELY UPROOTED ; EAST SIDE COVERED IN DEBRIS		
28-JUL-2010		CH-2 CAPTAINS CHAIR FOUND		
28-JUL-2010		R-7 NEGATIVE FIRE SPREAD TO THE NORTH		
28-JUL-2010		CH-2 NEGATIVE FIRE SPREAD TO THE NORTH		
28-JUL-2010		1947 REQUESTING HELICOPTER SUPPORT ON MISSION		
28-JUL-2010		1956 HELICOPTER SUPPORT CONFIRMED FROM TOWER		
28-JUL-2010		1959 NO ADDITIONAL HOT SPOTS SEEN BY HELICOPTER PILOT		
28-JUL-2010		2008 LIGHT ALL LIGHTS EN ROUTE		
28-JUL-2010		2018 COLLECTION POINT HAS BEEN SET UP IN FRONT OF THE STAGING AREA		
28-JUL-2010		2029 CH-2 IN SERVICE STAGING		
28-JUL-2010		2032 T-42 IN STAGING REHAB		
28-JUL-2010		2038 R-8 ALL PERSONNEL REPORT TO TRAIN TRACKS FOR BRIEFING		
28-JUL-2010		2044 CH-2 TOWER HAS BEEN PROTECTING AIRSPACE TO 15000 FT		
28-JUL-2010		2050 2050 BRING PROTECTED AIR SPACE DOWN TO 500 FT		
28-JUL-2010		2050 CH-2 DECON AREA ESTABLISHED OUTSIDE STAGING AREA		
28-JUL-2010		2053 CH-2 ALASKA RAILROAD WANTS TO SEND PERSONNEL DOWN		
28-JUL-2010		2111 CH-2 BLANKET CLEARANCE REVOKED BY TOWER		
28-JUL-2010		2117 2117 CLEARED TO RETURN TO QUARTERS		
28-JUL-2010		2138 MED4 EN ROUTE TO ENGINE 3 LOCATION		
28-JUL-2010		2154 T-42 RESCUE HELICOPTER EN ROUTE TO CRASH SITE		
28-JUL-2010		2155 2155 SMALL SPOT FIRE IN MIDDLE OF TREE		
28-JUL-2010		2156 E-3		



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 FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT  
 Automated Civil Engineer System

Event Number: 2010-1075 Response Location: Fire District: 10 Shift: A

Event Log

Event Number	Response Location	Event Log	Fire District	Shift
28-JUL-2010	E-3	HEADING BACK TO DECON		
28-JUL-2010	BAT1	NEEDS 2 PERSONNEL AT IMPACT SITE		
28-JUL-2010		RESCUE HELICOPTER ON LOCATION		
28-JUL-2010	R-7	IN SERVICE LOGISTICS		
28-JUL-2010	CH-1	INTERIM SAFETY PRESIDENT WITNESS 16 ON SCENE		
28-JUL-2010	E-3	SMALL TREE CONTINUOUSLY IGNITING ; WILL BE CUTTING DOWN		
28-JUL-2010	R-7	THERE ARE CHAINS ON SCENE BY THE PORTABLE TANKS		
28-JUL-2010	R-7	ENROUTE STAGING AREA		
29-JUL-2010	CH-2	NO VISIBLE FLAMES ; WILL CONTINUE TO MONITOR ; HEATED AREAS UNDER FUSELAGE CAPABLE OF RE-IGNITION		
29-JUL-2010	CH-2	RECEIVING COMMAND FROM CH-1		
29-JUL-2010	T-41	IN SERVICE STATION 1		
29-JUL-2010	C-12	SMALL FLARE UP CONTAINED IN WHEELS		
29-JUL-2010	BAT2	CLEAR OF STAGING ; RETURNING TO STATION 4		
29-JUL-2010		LANDING GEAR FIRE IS EXPANDING ; ATTACKING FIRE		
29-JUL-2010	T-42	RETURNING TO STATION 5		
29-JUL-2010	CH-2	ALL MONITORING EQUIPMENT SET OUT AT SITE, READINGS CAME BACK NEGATIVE		
29-JUL-2010	C-12	KNOCKED THE LANDING GEAR FIRE DOWN ; DID NOT EXTINGUISH		
29-JUL-2010	CH-2	1 CRASH TRUCK ON SCENE, OPERATIONS WILL RESUME AT 0700		
29-JUL-2010	CH-2	FACE TO FACE COMMAND TURN OVER TO CH-1		
29-JUL-2010	CH-2	ENTERING TO SEE IF I CAN GET SOME TEMPERATURE READINGS		
29-JUL-2010	CH-2	10 TO 12 HOT SPOTS; UNABLE TO GET A TEMPERATURE READING		
29-JUL-2010	CH-2	STILL SMOLDERING; STILL A LOT OF WHITE SMOKE		
29-JUL-2010	C-14	ROUND 4 OR 5 SMOLDERING SPOTS; WILL ATTEMPT TO EXTINGUISH		
29-JUL-2010	C-14	ENTERING WITH 3 AGAIN		
29-JUL-2010	C-14	STILL EXTINGUISHING SPOT SMOLDER		
29-JUL-2010	C-14	WE ARE AT 18 AND 2,000		
29-JUL-2010		TOTAL OF 4 WORKING THE SPOT FIRES PER OPS		
29-JUL-2010		FORMAL DECON ESTABLISHED		
29-JUL-2010	C-12	IN SERVICE STATION 1		



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ELMENDORF AFB

Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Event Log

Event Number	Response Location	Event Log
29-JUL-2010		E-5 IS STILL FIGHTING FIRE
29-JUL-2010	C-14	MAKING ENTRY WITH 7
29-JUL-2010		BRINGING IN A 3 MAN TEAM FOR SOIL SURVEY
29-JUL-2010	C-14	REQUEST 5 PULASKI'S
29-JUL-2010	R-8	IN SERVICE FIRE TRAINING AREA
29-JUL-2010	C-14	HAVE SOME OF THE LARGE HOT SPOTS TAKEN DOWN
29-JUL-2010		PULASKI'S HAVE ARRIVED
29-JUL-2010	C-14	2 LARGE HOT SPOTS AND 1 SMALLER ONE
29-JUL-2010	C-14	SURVEY TEAM IS LEAVING THE AREA AT THIS TIME; NEED GROSS DECON
29-JUL-2010	C-14	1 MORE HOT SPOT
29-JUL-2010	C-14	ALL FIRE OUT ON BRAVO SIDE
29-JUL-2010	CH-2	ONE MORE HOT SPOT THAT FLARED BACK UP
29-JUL-2010	C-14	REQUESTING CHAIN SAW, THERE IS A TREE STUMP BURNING DOWN THE MIDDLE
29-JUL-2010	C-14	ALL PERSONNEL OUT OF THE AREA
29-JUL-2010	CH-2	CHAINSAW EN ROUTE
29-JUL-2010	E-1	EN ROUTE
29-JUL-2010	C-14	ENTERING WITH TWO PERSONNEL
29-JUL-2010	E-1	AT TRAINING AREA
29-JUL-2010	C-14	HOT SPOTS HAVE BEEN KNOCKED DOWN ; CAN POSSIBLY REIGNITE
29-JUL-2010	CH-2	PREPPING ENTRY TEAM
29-JUL-2010	C-14	ALL PERSONNEL ARE OUT OF AREA AND BEEN THROUGH DECON
29-JUL-2010	R-8	EN ROUTE
29-JUL-2010	C-14	SEND TRASH BAGS UP
29-JUL-2010	CH-2	ENTRY TEAM MAKING ENTRY AT THIS TIME
29-JUL-2010	CH-2	LOOKS LIKE A PRESSURE VESSEL ADJACENT THE TRACKS ; EOD AND CRASH RECOVERY
29-JUL-2010	CH-2	INVESTIGATING
29-JUL-2010	CH-2	HALON BOTTLE FOUND; INVESTIGATING TO SEE IF IT NEEDS TO BE DISARMED
29-JUL-2010	CH-2	EOD FOUND AN UNSPECIFIED ITEM THEY WERE LOOKING FOR ; EOD REQUESTING PERMISSION TO
29-JUL-2010	CH-2	PROCEED WITH OPERATION
29-JUL-2010	CH-2	PERMISSION GRANTED



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FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Event Log

29-JUL-2010 1905 EOD IS HAVING PICTURES TAKEN OF THE ITEM FIRST  
 29-JUL-2010 1905 REQUESTING FROM EOD PERCENTAGE COMPLETE OF THE OPERATION AND HOW LONG IT MIGHT TAKE  
 29-JUL-2010 1906 CRASH RECOVERY ESTIMATES COMPLETION IN 20-25 MINUTES  
 29-JUL-2010 1922 TWO SECURITY FORCES PERSONNEL CHECKING THE ACCESS AREA BY THE AMMO AREA TO MAKE SURE  
 NO ONE CAN ACCESS FROM THERE  
 29-JUL-2010 1931 5 PERSONNEL PROCEEDING TO DECON  
 29-JUL-2010 2006 ENTRY TEAM IS OUT OF THE SAFE ZONE, IN THE PROCESS OF GOING THROUGH DECON  
 29-JUL-2010 2018 RELEASED ; TAKING PICKUP TRUCK BACK  
 29-JUL-2010 2026 COL J REQUESTING PERMISSION TO DRIVE TO CHIEF 1 LOCATION  
 29-JUL-2010 2108 CONDUCTED A FACE TO FACE TRANSFER BRIEFING WITH TRAINING 1  
 29-JUL-2010 2110 TRAINING 1 ASSUMING COMMAND  
 29-JUL-2010 2130 FIRE TRUCK MAINTENANCE REQUESTED ; C14 WILL NOT START  
 29-JUL-2010 2133 FIRE TRUCK MAINTENANCE ETA 20 MINUTES  
 29-JUL-2010 2143 FIRE TRUCK MECHANICS HAVE MET UP AT STATION 1 ; EN ROUTE TO C14  
 29-JUL-2010 2201 FIRE TRUCK MAINTENANCE ON SCENE  
 29-JUL-2010 2222 FIRE TRUCK MAINTENANCE DETERMINED C14 BATTERIES ARE DEAD ; DRIVING C14 BACK TO STATION  
 1, WILL WORK ON ISSUE IN THE MORNING  
 EMERGENCY LOCATOR BEACON AN FLIGHT DATA RECORDER ARE AT INCIDENT COMMANDERS LOCATION  
 ITEMS WERE NOT DECONTAMINATED  
 30-JUL-2010 0430 FACE TO FACE TRANSFER AND WILL ASSUME COMMAND  
 CH-2 W/2; C-12 W/3; E-1 W/4; EMERGENCY MANAGEMENT W/3; HAZMAT 31 EN ROUTE  
 CREWS ARE READY TO GO  
 30-JUL-2010 0700 FIRST TEAM JUST CHECKED OUT AND ARE MAKING ENTRY TO SITE  
 CH-1  
 30-JUL-2010 0749 4 OPERATING ON AIR AND COULD USE ADDITIONAL AIR PACS  
 30-JUL-2010 0824 CALL SIGN TO IS ON THE WEST SIDE OF THE CRASH SITE  
 CREWS ARE READY TO GO  
 30-JUL-2010 0901 NEED TO DECON HELMETS  
 30-JUL-2010 0925 PROGRESSED FROM WEST TO THE EAST  
 30-JUL-2010 0944 PERIMETER SWEEP EAST SIDE  
 30-JUL-2010 1047 JUST ABOUT READY FOR DECON  
 30-JUL-2010 1059 JUST ABOUT READY FOR DECON  
 30-JUL-2010 1136 LAST OF THE ENTRY HAS EXITED DECON  
 30-JUL-2010 1217 YOU CAN SHUT DOWN THE PUMP  
 30-JUL-2010 1248  
 30-JUL-2010 1253



ELMENDORF AFB

Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Event Log

30-JUL-2010 2215 SEALANT BEING APPLIED TO SOME OF THE WRECKAGE SIB TOLD CH-1 THAT 1 OF 2 BLACK BOXES HAS BEEN RECOVERED

31-JUL-2010 0330 BAT2 ON SCENE

31-JUL-2010 0707 DEPUTY CHIEF ASSUMING COMMAND FROM FIRE CHIEF

31-JUL-2010 1544 REMAINS FOUND ON SITE

31-JUL-2010 1653 R-8 APPROVED TO BREAK THE AIR BOX TO GET TO THE CRASH SITE BY THE EOC DIRECTOR LT COL J

31-JUL-2010 1948 CHIEF 2 ASSUMING COMMAND FROM DEPUTY CHIEF

31-JUL-2010 2147 VICTIM WAS EXTRICATED

31-JUL-2010 2223 OPERATIONS FINISHED FOR DAY

31-JUL-2010 2257 ALL PERSONNEL CLEAR OF THE SCENE

31-JUL-2010 2309 ALL CREWS RETURNING TO QUARTERS

01-AUG-2010 0639 DEPUTY NOW HAS CONTROL OF THE FIRE SCENE

01-AUG-2010 1037 A TEAM OF 11 MEDICAL EXAMINERS ARE SEARCHING ON THE WESTSIDE AND A TOTAL OF 4 MEDICS ARE SEARCHING ON THE EASTSIDE

01-AUG-2010 1725 REMAINS FOUND, MEDICAL EXAMINERS GOING IN TO LOOK. PLAN TO WAIT UNTIL AFTER FAMILY VISIT TO REMOVE

01-AUG-2010 2022 COMMAND HAS BEEN TRANSFERRED TO CHIEF 2

01-AUG-2010 2230 HUMAN REMAINS LOCATED AND REMOVED FROM DEBRIS

02-AUG-2010 0743 TAKING COMMAND OF THE SCENE

02-AUG-2010 0854 ON SCENE AT THE TRAINING PIT

02-AUG-2010 1004 FACE TO FACE TRANSFER TO RECOVERY OPERATIONS RUN BY CHIEF W

02-AUG-2010 1005 TERMINATE

Agency Called

Name: Person Notified:

Phone Number: Direct

Time Called: 20:34:26



18-AUG-2010 09:45:37

ELMENDORF AFB

Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10 Shift: A

Vehicle Costs

Call Sign: C-14  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 18.46 Equipment Cost \$176.86 Personnel Cost \$118.24  
 Total Cost \$295.10

Call Sign: HM31  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 02-AUG-2010 Release Time 10:05:22  
 Equipment Time 111:41 Man Hours 111.69 Equipment Cost \$2099.77 Personnel Cost \$1430.75  
 Total Cost \$3530.52

Call Sign: E-3  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 36.92 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: T-42  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 9.23 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: R-8  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Equipment Cost \$0.00 Personnel Cost \$0.00  
 Total Cost \$0.00

Call Sign: T-41  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 9.23 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

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Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10 Shift: A

Vehicle Costs

Call Sign: C-12  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 18.46 Equipment Cost \$197.44 Personnel Cost \$118.24  
 Total Cost \$315.68

Call Sign: E-1  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 36.92 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: C-11  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 18.46 Equipment Cost \$197.44 Personnel Cost \$118.24  
 Total Cost \$315.68

Call Sign: R-7  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 27.69 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: E-5  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 36.92 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: MED6  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Equipment Cost \$0.00 Personnel Cost \$0.00  
 Total Cost \$0.00



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ELMENDORF AFB

Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Vehicle Costs

Call Sign: MED2  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Release Date 29-JUL-2010 Release Time 03:37:48  
 Total Cost \$0.00 Equipment Cost \$0.00 Personnel Cost \$0.00

Call Sign: T21  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Release Date 29-JUL-2010 Release Time 03:37:48  
 Total Cost \$0.00 Equipment Cost \$0.00 Personnel Cost \$0.00

Call Sign: C-21  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Release Date 29-JUL-2010 Release Time 03:37:48  
 Total Cost \$291.77 Equipment Cost \$173.53 Personnel Cost \$118.24

Call Sign: BATT2  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Release Date 29-JUL-2010 Release Time 03:37:48  
 Total Cost \$0.00 Equipment Cost \$0.00 Personnel Cost \$0.00

Call Sign: BATT1  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Release Date 29-JUL-2010 Release Time 03:37:48  
 Total Cost \$0.00 Equipment Cost \$0.00 Personnel Cost \$0.00

Call Sign: CH-1  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours Release Date 29-JUL-2010 Release Time 03:37:48  
 Total Cost \$291.77 Equipment Cost \$173.53 Personnel Cost \$118.24



18-AUG-2010 09:45:37

ELMENDORF AFB

Automated Civil Engineer System

FIRE PROTECTION BRANCH COMPREHENSIVE EVENT REPORT

Event Number: 2010-1075

Response Location:

Fire District: 10

Shift: A

Vehicle Costs

Call Sign: CH-2  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 9.23 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: R-15  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 9.23 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Call Sign: MED4  
 Assign Date 28-JUL-2010 Assign Time 18:23:58 Release Date 29-JUL-2010 Release Time 03:37:48  
 Equipment Time 9:13 Man Hours 18.46 Equipment Cost \$173.53 Personnel Cost \$118.24  
 Total Cost \$291.77

Total Equipment Time 296:01 Total Man Hours 379.36 Total Equipment Cost \$4580.34  
 Total Personnel Cost \$3086.11 Total Event Cost \$7666.45

**CC8. CONDENSED SFDR DATA**

GMT	IAS kts	PATT	RATT	AOA	PRF	CPRF	RPP	URUD	LRUD	VV ft/sec	HP1 ft	HR1 ft	Remark
'02:21:35.000		1.0547		0	-4	1.5	-0.25	-28	6.504	10.547			
'02:21:35.062		1.0547		0	-2	1.5	-0.25	-28	6.504	10.547			
'02:21:35.187													-20
'02:21:35.250		1.0547		0	-2	1.5	-0.25	-28	6.504	8.438			
'02:21:35.312													-20
'02:21:35.375											0	80	
'02:21:35.437											0	80	
'02:21:35.500		1.0547		0	-2	1.5	-0.25	-28	11.074	13.008			
'02:21:35.562		0.7031		0	-2	1.5	-0.25	-28	11.074	13.008			
'02:21:35.750		0.7031		0	-2	1.5	-0.25	-28	13.184	16.875			
'02:21:36.000		0.7031		0	-2	1.5	-0.25	-46	16.348	16.875			
'02:21:36.187													-20
'02:21:36.250		0.7031		0	-2	1.5	-0.25	-38	1.582	0.879			
'02:21:36.312													-20
'02:21:36.375		35									0	80	
'02:21:36.437		35									0	80	
'02:21:36.500		0.7031		0	-2	1.5	-0.25	4	-0.703	-1.055			
'02:21:36.750		0.7031		0	-2	1.5	-0.25	10	-2.109	-3.34			
'02:21:37.000		0.7031		0	-2	1.5	-0.25	18	-3.34	-5.098			
'02:21:37.187													-20
'02:21:37.250		0.7031		0	-2	1.5	-0.25	26	-7.559	-8.262			
'02:21:37.312													-20
'02:21:37.375		43									0	80	
'02:21:37.437		43									0	80	
'02:21:37.500		0.7031		0	-2	3	-0.25	26	-7.559	-7.383			
'02:21:37.750		0.7031		0	-2	3	-0.25	26	-9.668	-9.141			
'02:21:37.812		47		0	-2	2.25	-0.25	28	-9.668	-9.141	0	88	-20
'02:21:37.812		47		0	-1	2.25	-0.25	28	-9.668	-9.141	0.25	88	-20
'02:21:37.812		47									0.25	88	-20
'02:21:38.000		0.7031		0	-1	2.25	-0.25	28	-2.285	-0.176			
'02:21:38.187													-20
'02:21:38.250		0.7031		0	-1	2.25	-0.25	14	-2.285	-0.176			
'02:21:38.312													-20
'02:21:38.375		47									0.25	88	
'02:21:38.437		47									0.25	88	
'02:21:38.500		0.7031		0	-1	2.25	-0.25	14	0	2.988			
'02:21:38.750		0.7031		0	-1	2.25	-0.25	-16	1.406	4.219			
'02:21:39.000		0.7031		0	-1	2.25	-0.25	-16	0	2.285			
'02:21:39.062		0.7031		0	0.25	2.25	-0.25	-16	0	2.285			
'02:21:39.187													-20
'02:21:39.250		0.7031		0	0.25	2.25	-0.25	0	0	2.285			
'02:21:39.312													-20
'02:21:39.375		58									0.25	88	
'02:21:39.437		58									0.25	88	
'02:21:39.500		0.7031		0	0.25	2.25	-0.25	-26	6.68	8.262			
'02:21:39.750		0.7031		0	0.25	2.25	-0.25	-26	6.68	5.977			
'02:21:40.000		0.7031		0	0.25	2.25	-0.25	-26	2.109	2.813			
'02:21:40.187													-20
'02:21:40.250		0.7031		0	0.25	2.25	-0.25	-26	2.109	0			
'02:21:40.312													-20
'02:21:40.375		64									0.25	88	
'02:21:40.437		64									0.25	88	
'02:21:40.500		0.7031		0	0.25	2.25	-0.25	10	-0.527	-1.406			
'02:21:40.750		0.7031		0	0.25	2.25	-0.25	-16	2.109	1.582			
'02:21:41.000		0.7031		0	0.25	2.25	-0.25	-26	4.219	2.988			
'02:21:41.187													-20
'02:21:41.250		0.7031		0	0.25	2.25	-0.25	-10	-0.352	-1.582			
'02:21:41.312													-20
'02:21:41.375		73									0.25	88	
'02:21:41.437		73									0.25	88	
'02:21:41.500		0.7031		0	0.25	2.25	-0.25	-4	-0.352	-1.582			
'02:21:41.750		0.7031		0	0.25	2.25	-0.25	-4	-0.352	-0.527			
'02:21:42.000		0.7031		0	0.25	2.25	-0.25	-14	-0.352	-0.527			
'02:21:42.187													-20
'02:21:42.250		0.7031		0	0.25	2.25	-0.25	-6	-0.352	-0.527			
'02:21:42.312													-20
'02:21:42.375		78									0.25	88	
'02:21:42.437		78									0.25	88	
'02:21:42.500		0.7031		0	0.25	2.25	-0.25	4	3.164	4.746			
'02:21:42.562		0.3516		0	0.25	2.25	-0.25	4	3.164	4.746			
'02:21:42.625		78									0.25	88	
'02:21:42.750		0.3516		0	0.25	2.25	-0.25	-32	7.207	7.734			
'02:21:43.000		0.3516		0	0.25	2.25	-0.25	-32	4.043	2.637			
'02:21:43.187													-20
'02:21:43.250		0.3516		0	0.25	2.25	-0.25	-10	0.176	-1.406			
'02:21:43.312													-20
'02:21:43.375		85									0.25	88	
'02:21:43.437		85									0.25	88	
'02:21:43.500		0.3516		0	0.25	2.25	-0.25	4	0.176	-1.406			
'02:21:43.750		0.3516		0	0.25	2.25	-0.25	-12	0.176	0.176			
'02:21:44.000		0.3516		0	0.25	2.25	-0.25	-24	4.922	4.922			



'02:21.53.062		25.6641	1.7578	20.75	-6.5	0	-26	4.57	2.813		
'02:21.53.125											20
'02:21.53.250		25.6641	1.7578	20.75	-6.5	0	-26	4.57	4.219		
'02:21.53.312											40
'02:21.53.375	128									36.5	144
'02:21.53.437	128									54.5	144
'02:21.53.500		25.6641	1.7578	20.75	-6.5	0	-26	4.57	5.625		
'02:21.53.562		29.1797	0	23	-6.5	0	-26	4.57	5.625		
'02:21.53.625	128									54.5	144
'02:21.53.750		29.1797	0	23	-2.25	0	-26	4.57	4.746		
'02:21.54.000		29.1797	0	23	1.25	0	-20	4.57	4.746		
'02:21.54.062		32.5195	0	24.5	1.25	0	-20	4.57	4.746		
'02:21.54.125											40
'02:21.54.187											40
'02:21.54.250		32.5195	0	24.5	1.25	0	-20	3.164	3.516		
'02:21.54.312											100
'02:21.54.375	128									54.5	216
'02:21.54.437	128									73	216
'02:21.54.500		32.5195	0	24.5	-1.25	0	-20	3.164	3.516		
'02:21.54.562		35.332	0	25.75	-1.25	0	-20	3.164	3.516		
'02:21.54.750		35.332	0	25.75	-3.5	0	-20	3.164	3.516		
'02:21.55.000		35.332	0	25.75	-1.75	0	-20	3.164	3.516		
'02:21.55.062		38.6719	-1.4063	25.75	-1.75	0	-20	3.164	3.516		
'02:21.55.125											100
'02:21.55.187											100
'02:21.55.250		38.6719	-1.4063	25.75	2	0	-20	3.164	3.516		
'02:21.55.312											180
'02:21.55.375	120									73	272
'02:21.55.437	120									87.75	272
'02:21.55.500		38.6719	-1.4063	25.75	4.25	0	-12	0.527	0.352		
'02:21.55.562		40.0781	-1.4063	25.75	4.25	0	-12	0.527	0.352		
'02:21.55.625	120									87.75	272
'02:21.55.750		40.0781	-1.4063	25.75	4.25	0	-12	0.527	0.352		
'02:21.56.000		40.0781	-1.4063	25.75	4.25	0	-12	0.527	0.352		
'02:21.56.062		39.5508	-1.4063	24	4.25	0	-12	0.527	0.352		
'02:21.57.000		39.5508	-1.4063	24	4	0	-8	0.352	1.582		
'02:21.57.000		39.5508	-0.7031	24	4	0	-8	0.352	1.582		
'02:21.57.000	102									87.75	336
'02:21.57.000	102									91.5	336
'02:21.57.000	102									91.5	336
'02:21.57.000											180
'02:21.57.000											180
'02:21.57.000											260
'02:21.57.125		39.5508	-0.7031	24	3	0	-8	0.352	1.582		
'02:21.57.250	89									91.5	336
'02:21.57.312	89									91.5	336
'02:21.57.375		39.5508	-0.7031	24	3	0	-8	0.352	2.813		
'02:21.57.437		37.793	-0.7031	22.75	3	0	-8	0.352	2.813		
'02:21.57.625		37.793	-0.7031	22.75	3	0	-8	0.352	2.813		
'02:21.57.875		37.793	-0.7031	22.75	3	0	-8	0.352	2.813		
'02:21.57.937		35.8594	-0.7031	16.75	3	0	-8	0.352	2.813		
'02:21.58.062											260
'02:21.58.125		35.8594	-0.7031	16.75	3	0	-8	0.352	1.934		
'02:21.58.187											340
'02:21.58.250	115									91.5	464
'02:21.58.312	115									91.5	464
'02:21.58.375		35.8594	-0.7031	16.75	3	0	-8	0.352	1.934		
'02:21.58.437		34.1016	1.0547	12.75	3	0	-8	0.352	1.934		
'02:21.58.500	115									91.5	464
'02:21.58.625		34.1016	1.0547	12.75	1	0	-8	0.352	1.934		
'02:21.58.875		34.1016	1.0547	12.75	1	0	-8	0.352	1.934		
'02:21.58.937		32.6953	1.0547	10.25	1	0	-8	0.352	1.934		
'02:21.59.062											340
'02:21.59.125		32.6953	1.0547	10.25	-1.25	0	-8	0.352	1.934		
'02:21.59.187											440
'02:21.59.250	111									91.5	568
'02:21.59.312	111									84.5	568
'02:21.59.375		32.6953	1.0547	10.25	-2.5	0	-8	0.352	1.934		
'02:21.59.437		31.6406	1.0547	8.5	-2.5	0	-8	0.352	1.934		
'02:21.59.500	111									84.5	568
'02:21.59.625		31.6406	1.0547	8.5	-2.5	0	-8	0.352	1.055		
'02:21.59.875		31.6406	1.0547	8.5	-2.5	0	-8	0.352	1.055		
'02:21.59.937		30.4102	2.8125	8.5	-2.5	0	-8	0.352	1.055		
'02:22.00.000											440
'02:22.00.062											440
'02:22.00.125		30.4102	2.8125	8.5	-3.75	0	-8	0.352	1.055		
'02:22.00.187											520
'02:22.00.250	111									84.5	656
'02:22.00.312	111									75.5	656
'02:22.00.375		30.4102	2.8125	8.5	-3.75	0	-8	0.352	1.055		
'02:22.00.437		28.4766	2.8125	7.25	-3.75	0	-8	0.352	1.055		
'02:22.00.500	111									75.5	656

'02:22:00.625		28.4766	2.8125	7.25	-3.75	0	-8	0.352	0		
'02:22:00.875		28.4766	2.8125	7.25	-3.75	0	-8	0.352	0		
'02:22:00.937		27.2461	2.8125	7.25	-3.75	0	-8	0.352	0		
'02:22:01.000											520
'02:22:01.062											520
'02:22:01.125		27.2461	2.8125	7.25	-4.75	0	-8	0.352	0		
'02:22:01.187											600
'02:22:01.250	111								75.5	728	
'02:22:01.312	111								64.75	728	
'02:22:01.437		26.0156	2.8125	7.25	-4.75	0	-8	0.352	0		
'02:22:01.500	111								64.75	728	
'02:22:01.625		26.0156	2.8125	7.25	-4.75	0	-8	-0.703	0		
'02:22:01.875		26.0156	2.8125	7.25	-4.75	0	-8	-0.703	0		
'02:22:01.937		25.1367	2.8125	7.25	-4.75	0	-8	-0.703	0		
'02:22:02.000											600
'02:22:02.062											600
'02:22:02.125		25.1367	2.8125	7.25	-4.75	0	-8	-0.703	0		
'02:22:02.187											660
'02:22:02.250	111								64.75	792	
'02:22:02.312	111								56.25	792	
'02:22:02.375		25.1367	2.8125	7.25	-3	0	-8	-0.703	2.988		
'02:22:02.437		24.4336	2.8125	7.25	-3	0	-8	-0.703	2.988		
'02:22:02.625		24.4336	2.8125	7.25	-1.25	0	-8	0.352	4.746		
'02:22:02.875		24.4336	2.8125	7.25	-1.25	0	-8	0.352	3.691		
'02:22:02.937		24.082	2.8125	9.5	-1.25	0	-8	0.352	3.691		
'02:22:03.000											660
'02:22:03.062											660
'02:22:03.125		24.082	2.8125	9.5	-8.5	0	-8	0.352	2.461		
'02:22:03.187											720
'02:22:03.250	111								56.25	856	
'02:22:03.312	111								50	856	
'02:22:03.375		24.082	2.8125	9.5	-15.25	0	-2	-2.109	-4.219		
'02:22:03.437		24.082	1.4063	11	-15.25	0	-2	-2.109	-4.219		
'02:22:03.500	111								50	856	
'02:22:03.625		24.082	1.4063	11	-19	0	-2	-2.109	-4.219		
'02:22:03.875		24.082	1.4063	11	-20.25	0	-2	-2.109	-1.23		
'02:22:03.937		24.082	-0.7031	13	-20.25	0	-2	-2.109	-1.23		
'02:22:04.000											720
'02:22:04.062											720
'02:22:04.125		24.082	-0.7031	13	-20.25	0	-2	-1.055	2.988		
'02:22:04.187											760
'02:22:04.250	111								50	904	
'02:22:04.312	111								41.5	904	
'02:22:04.375		24.082	-0.7031	13	-17.5	0	-2	-1.055	8.789		
'02:22:04.437		23.3789	-7.0313	15	-17.5	0	-2	-1.055	8.789		
'02:22:04.500	111								41.5	904	
'02:22:04.625		23.3789	-7.0313	15	-15.75	0	-2	-1.055	12.129		
'02:22:04.875		23.3789	-7.0313	15	-14	0	-2	-1.055	16.523		
'02:22:04.937		22.5	-13.7109	17.25	-14	0	-2	-1.055	16.523		
'02:22:05.062											760
'02:22:05.125		22.5	-13.7109	17.25	-14	0	-2	-1.055	20.566		
'02:22:05.187											800
'02:22:05.250	111								41.5	936	
'02:22:05.312	111								33.75	936	
'02:22:05.375		22.5	-13.7109	17.25	-14	0	-2	-1.055	21.621		
'02:22:05.437		21.2695	-21.7969	17.25	-14	0	-2	-1.055	21.621		
'02:22:05.625		21.2695	-21.7969	17.25	-12.5	0	-2	-1.055	23.73		
'02:22:05.875		21.2695	-21.7969	17.25	-10.75	0	-2	-1.055	23.73		
'02:22:05.937		20.2148	-29.8828	17.25	-10.75	0	-2	-1.055	23.73		
'02:22:06.000											800
'02:22:06.062											800
'02:22:06.125		20.2148	-29.8828	17.25	-8.5	0	-2	0.176	26.367		
'02:22:06.187											840
'02:22:06.250	111								33.75	976	
'02:22:06.312	111								27.25	976	
'02:22:06.375		20.2148	-29.8828	17.25	-7.25	0	-2	0.176	26.367		
'02:22:06.437		19.1602	-39.375	16	-7.25	0	-2	0.176	26.367		
'02:22:06.625		19.1602	-39.375	16	-7.25	0	-2	1.406	27.949		
'02:22:06.875		19.1602	-39.375	16	-0.75	0	-8	2.285	27.949		
'02:22:06.937		17.9297	-48.1641	16	-0.75	0	-8	2.285	27.949		
'02:22:07.000											840
'02:22:07.062											840
'02:22:07.125		17.9297	-48.1641	16	3.75	0	-8	4.043	27.949		
'02:22:07.187											860
'02:22:07.250	111								27.25	976	
'02:22:07.312	111								17.75	976	
'02:22:07.375		17.9297	-48.1641	16	5.75	0	-2	1.758	27.949		
'02:22:07.437		16.6992	-54.4922	16	5.75	0	-2	1.758	27.949		
'02:22:07.625		16.6992	-54.4922	16	8.5	0	-2	1.758	26.543		
'02:22:07.875		16.6992	-54.4922	16	11.5	0	10	1.758	18.984		
'02:22:07.937		15.4688	-57.6563	16	11.5	0	10	1.758	18.984		
'02:22:08.000											860



10:22:15.625	5.5039	-48.1641	17	19.75	-0.25	0	0.527	-15.645		
10:22:15.875	5.5039	-48.1641	17	20	-0.25	0	0.527	-21.973		
10:22:15.937	5.5039	-38.5625	17	20	-0.25	0	0.527	-21.973		
10:22:16.000										820
10:22:16.062										820
10:22:16.125	5.5039	-38.5625	17	15.25	-0.25	0	0.527	-24.032		
10:22:16.187										820
10:22:16.250	142							-22	936	
10:22:16.312	142							22	936	
10:22:16.375	5.5039	36.5625	17	13.25	0.25	0	-0.176	-25.664		
10:22:16.437	5.5039	-26.3125	17	13.25	-0.25	0	-0.176	-25.664		
10:22:16.625	5.5039	26.3125	17	9.75	-0.25	0	-1.23	-26.543		
10:22:16.875	5.5039	-26.3125	17	7.25	-0.25	0	-1.23	-26.543		
10:22:16.937	7.207	-13.3594	17	7.25	-0.25	0	-1.23	-26.543		
10:22:17.000										820
10:22:17.062										820
10:22:17.125	7.207	-13.3594	17	3.5	-0.25	0	-1.23	-26.543		
10:22:17.187										760
10:22:17.250	150							-22	936	
10:22:17.312	150							-13.5	936	
10:22:17.375	7.207	-13.3594	17	-8	-0.25	-4	-1.758	-25.488		
10:22:17.437	7.207	-3.8672	16.75	-8	-0.25	-4	-1.758	-25.488		
10:22:17.500	150							-13.5	936	
10:22:17.625	7.207	-3.8672	15.75	-9.25	-0.25	-4	-1.758	-23.027		
10:22:17.875	7.207	-3.8672	15.75	-9.25	-0.25	-14	-1.758	-19.336		
10:22:17.937	7.207	1.0547	14.25	-9.25	-0.25	-14	-1.758	-19.336		
10:22:18.000										760
10:22:18.062										760
10:22:18.125	7.207	1.0547	14.25	-6.75	-0.25	-14	-0.176	-10.723		
10:22:18.187										760
10:22:18.250	155							-13.5	936	
10:22:18.312	155							-6	936	
10:22:18.375	7.207	1.0547	14.25	-5	-0.25	-14	1.758	-4.219		
10:22:18.437	7.207	1.0547	12.5	-5	-0.25	-14	1.758	-4.219		
10:22:18.500	155							-6	936	
10:22:18.625	7.207	1.0547	12.5	-1.25	-0.25	-14	2.637	1.058		
10:22:18.875	7.207	1.0547	12.5	-4.75	-0.25	-14	1.994	-0.527		
10:22:19.437	7.207	-1.4063	15	-4.75	-0.25	-14	1.934	-0.527		
10:22:19.500										760 (Flag/Stat Handle in 0/Exit Position)
10:22:19.562										760
10:22:19.625	7.207	-1.4063	11	6.25	0.25	-14	1.055	-2.285		
10:22:19.687										740
10:22:19.750	155							-6	936	
10:22:19.812	155							2.75	936	
10:22:19.875	7.207	-1.4063	15	6.25	-0.25	-14	1.055	-5.449		
10:22:19.937	5.3555	-1.4063	8.5	6.25	-0.25	-14	1.055	-5.449		
10:22:20.000	6.9555	-1.4063	8.5	2.5	-0.25	-14	1.055	-7.031		
10:22:20.062	6.9555	-1.4063	9.5	1.25	-0.25	-4	0	-7.031		
10:22:20.125	5.5039	-1.4063	6.75	1.25	-0.25	-4	0	-7.031		740
10:22:20.187										740
10:22:20.250	164							2.75	936	
10:22:20.312	164							6.75	936	
10:22:20.375	5.5039	-1.4063	6.75	0	-0.25	-4	0	-4.57		
10:22:20.437	5.4492	-1.4063	5.25	0	-0.25	-4	0	-4.57		
10:22:20.625	5.4492	-1.4063	5.25	0	-0.25	-4	0	-4.57		
10:22:20.875	5.4492	-1.4063	5.25	0	-0.25	-4	0	-3.34		
10:22:20.937	4.3945	0	3	0	-0.25	-4	0	-3.34		
10:22:21.000										740
10:22:21.062										740
10:22:21.125	4.3945	0	3	-1.5	-0.25	-4	0	-3.34		
10:22:21.187										740
10:22:21.250	168							6.75	936	
10:22:21.312	168							3	936	
10:22:21.375	4.3945	0	3	-1.5	-0.25	-4	0	-3.34		
10:22:21.437	3.5156	0	3	-1.5	-0.25	-4	0	-3.34		
10:22:21.625	3.5156	0	3	-1.5	-0.25	-4	0	-2.285		
10:22:21.875	3.5156	0	3	-2.5	-0.25	0	0	-2.285		
10:22:21.937	3.5156	0	2	-2.5	-0.25	0	0	-2.285		
10:22:22.000										740
10:22:22.062										740
10:22:22.125	3.5156	0	2	-2.5	-0.25	0	0	-2.285		
10:22:22.187										740
10:22:22.250	172							3	936	
10:22:22.312	172							-2.5	936	
10:22:22.375	3.5156	0	2	-2.5	-0.25	0	0	-2.285		
10:22:22.437	3.5156	1.4063	2	-2.5	-0.25	0	0	-2.285		
10:22:22.500	172							-2.5	936	
10:22:22.625	3.5156	1.4063	2	-2.5	-0.25	0	0	-2.285		
10:22:22.875	3.5156	1.4063	2	-5.75	-0.25	0	0	-2.285		

'02:22:23.937		3.5156	1.4063	3.25	-5.75	-0.25	0	0	-2.285		
'02:22:23.000											740
'02:22:23.125		3.5156	1.4063	3.25	-5.75	-0.25	-12	0	-1.23		
'02:22:23.187											740
'02:22:23.250	178								-2.5	936	
'02:22:23.312	178								-6.25	936	
'02:22:23.375		3.5156	1.4063	3.25	-3	-0.25	-33	1.055	0.352		
'02:22:23.437		4.043	1.4063	4.5	-3	-0.25	-58	1.055	0.352		
'02:22:23.500		4.043	1.4063	4.5	-3	-0.25	-58	1.055	0.352		
'02:22:23.562		4.043	1.4063	4.5	-3	-0.25	-58	1.055	0.352		
'02:22:23.625		4.5703	1.4063	6	-3	-0.25	-58	1.085	0.352		
'02:22:24.000											740: flap Retraction Complete
'02:22:24.125		4.5703	1.4063	6	-4.5	-0.25	-34	2.285	1.23		
'02:22:24.187											740
'02:22:24.250	183								-6.25	936	
'02:22:24.312	183								-6.25	936	
'02:22:24.375		4.5703	1.4063	6	4.5	0.25	-24	2.285	1.23		
'02:22:24.437		5.2734	1.4063	7	4.5	0.25	-24	2.285	1.23		
'02:22:24.500	183								-6.25	936	
'02:22:24.562		5.2734	1.4063	7	10.75	-0.25	-24	2.285	0		
'02:22:24.625		5.2734	1.4063	7	20.75	8.75	20	-1.934	-1.532		
'02:22:24.687		5.2734	1.4063	3.25	20.75	3.75	20	-1.934	-1.532		
'02:22:25.000											740
'02:22:25.062											740
'02:22:25.125		5.2734	1.4063	8.25	20.75	-0.75	20	-1.934	-1.532		
'02:22:25.187											740
'02:22:25.250	188								-6.25	936	
'02:22:25.312	188								-6.25	936	
'02:22:25.375		5.2734	1.4063	3.25	20.75	-0.75	20	-1.934	-1.532		
'02:22:25.437		5.9766	7.3828	3.25	20.75	-0.75	20	-1.934	-1.532		
'02:22:25.500		5.9766	7.3828	3.25	17.5	-0.75	20	-1.934	-4.043		
'02:22:25.562		5.9766	7.3828	3.25	14.75	-0.75	20	-1.934	-5.273		
'02:22:25.625		5.9766	7.3828	3.25	14.75	-0.75	20	-1.934	-5.273		
'02:22:25.687		5.9797	16.5234	3.25	14.75	-0.75	20	-1.934	-5.273		
'02:22:26.000											740: flap Handle to Up/Ret Position
'02:22:26.062											740
'02:22:26.125		5.9797	16.5234	3.25	12.75	-0.75	20	-1.934	-9.668		
'02:22:26.187											740
'02:22:26.250	188								-6.25	936	
'02:22:26.312	188								-3.5	888	
'02:22:26.375		5.9797	16.5234	8.25	12.75	-0.75	20	-1.934	-11.25		
'02:22:26.437		7.207	28.4766	10.75	12.75	-0.75	20	-1.934	-11.25		
'02:22:26.500		7.207	28.4766	10.75	7.25	-0.75	20	-1.934	-14.766		
'02:22:26.562		7.207	28.4766	10.75	-0.75	-0.75	20	-8.613	-17.227		
'02:22:26.625		7.207	42.1875	12.5	-0.75	-0.75	20	-8.613	-17.227		
'02:22:27.000											740
'02:22:27.062											740
'02:22:27.125		7.207	42.1875	12.5	-10	-0.5	60	-13.859	-17.227		
'02:22:27.187											840
'02:22:27.250	194								-3.5	888	
'02:22:27.312	194								-1	888	
'02:22:27.375		7.207	42.1875	12.5	-10	-0.5	60	-15.117	-16.523		
'02:22:27.437		7.207	53.4375	14	-10	-0.5	60	-15.117	-16.523		
'02:22:27.500		7.207	53.4375	14	-10	-0.5	60	-15.117	-16.523		
'02:22:27.562		7.207	53.4375	14	-7.25	-0.5	60	-14.063	-14.766		
'02:22:27.625		5.5039	58.0078	13.5	-7.25	-0.5	60	-14.063	-14.766		
'02:22:28.000											840
'02:22:28.062											840
'02:22:28.125		5.5039	58.0078	13.5	-3.25	-0.5	68	-14.063	-8.036		
'02:22:28.187											840
'02:22:28.250	194								-1	888	
'02:22:28.312	194								-4	888	
'02:22:28.375		5.5039	58.0078	13.5	-0.25	-0.5	72	-12.48	4.746		
'02:22:28.437		5.4452	55.5469	20.5	-0.25	-0.5	72	-12.48	4.746		
'02:22:28.500	194								-4	888	
'02:22:28.562		5.4452	55.5469	20.5	1.5	-0.5	72	-12.48	3.965		
'02:22:28.625		5.4452	55.5469	20.5	2.75	-0.5	72	-12.48	6.328		
'02:22:28.687		4.9219	67.3828	20.5	2.75	-0.5	72	-12.48	6.328		
'02:22:29.000											840
'02:22:29.062											840
'02:22:29.125		4.9219	52.3828	20.5	2.75	-0.5	72	-12.48	-2.109		
'02:22:29.187											840
'02:22:29.250	194								-4	888	
'02:22:29.312	194								5.25	888	Stall Warning
'02:22:29.375		4.9219	52.3828	20.5	1.5	-0.5	72	-12.48	-5.977		
'02:22:29.437		4.2188	52.3828	13.75	1.5	-0.5	72	-12.48	-5.977		
'02:22:29.500		4.2188	52.3828	13.75	-1.5	-0.5	76	-12.48	-10.195		
'02:22:29.562		4.2188	52.3828	13.75	-1.5	-0.5	76	-12.48	-11.478		
'02:22:29.625		3.1641	55.5469	17	-1.5	-0.5	76	-12.48	-11.426		
'02:22:30.000											840
'02:22:30.062											840
'02:22:30.125		3.1641	55.5469	17	2	0.5	76	-11.802	-12.48		
'02:22:30.187											840

10:22:30.250	198									5.25	888	
10:22:30.312	198									5.25	888	
10:22:30.375		3.1841	58.5489	17	-7.5	-1	78	-11.602	-12.48			
10:22:30.437		1.7578	58.3594	15.25	-7.5	-1	76	-11.602	-12.48			
10:22:30.500	198									5.25	888	
10:22:30.625		1.7578	58.3594	15.25	-8.75	-1	72	-11.602	-12.48			
10:22:30.875		1.7578	58.3594	15.25	-6.5	-1	78	-11.602	-12.48			
10:22:30.937		0.8789	60.4688	15.25	-6.5	-1	78	-11.602	-12.48			
10:22:31.000												640
10:22:31.062												640
10:22:31.125		0.8789	60.4688	15.25	-7.5	-1	72	-11.602	-10.898			640
10:22:31.187												
10:22:31.250	198									5.25	888	
10:22:31.312	198									5.25	888	
10:22:31.375		0.8789	60.4688	15.25	-8.75	0.25	64	-10.547	-8.789			
10:22:31.437		0.1516	60.4688	17	-8.75	0.25	64	-10.547	-8.789			
10:22:31.500	198									5.25	888	
10:22:31.625		0.3516	60.4688	17	-6.25	0.25	58	-9.316	-8.789			
10:22:31.875		0.3516	60.4688	17	-6.25	0.25	58	-10.195	-10.02			
10:22:31.937		0	60.4688	18.5	-6.25	0.25	58	-10.195	-10.02			
10:22:32.000												840
10:22:32.062		0	60.4688	18.5	-6.25	-0.75	64	-10.195	-11.426			840
10:22:32.125												
10:22:32.187												640
10:22:32.250	198									5.25	888	
10:22:32.312	198									0.25	888	
10:22:32.375		0	60.4688	18.5	-6.25	-0.75	64	-10.195	-12.305			
10:22:32.437		0	61.875	18.5	-6.25	-0.75	64	-10.195	-12.305			
10:22:32.500		0	61.875	18.5	-9	-0.75	64	-9.316	-11.074			
10:22:32.875		0	61.875	18.5	-7.5	-0.75	60	-8.438	-9.141			
10:22:33.000												640
10:22:33.062												640
10:22:33.125		0	61.875	18.5	-5.5	0	52	-10.723	-10.898			640
10:22:33.187												
10:22:33.250	198									0.25	888	
10:22:33.312	198									-2.5	888	
10:22:33.375		0	61.875	18.5	-4.25	0	72	-10.723	-10.898			
10:22:33.437		0	61.875	20.75	-4.25	0	72	-10.723	-10.898			
10:22:33.500	198									-2.5	888	ALS Active
10:22:33.625		0	61.875	20.75	-4.25	0	72	-10.723	-11.777			
10:22:33.875		0	61.875	20.75	-7.75	-0.25	62	-8.789	-9.492			
10:22:33.937		-1.0547	63.6328	20.75	-7.75	-0.25	62	-8.789	-9.492			
10:22:34.000												640
10:22:34.062												640
10:22:34.125		-1.0547	63.6328	20.75	-7.75	-0.25	47	-6.152	-6.438			820
10:22:34.187												
10:22:34.250	198									-2.5	888	
10:22:34.312	198									-8.5	888	
10:22:34.375		-1.0547	63.6328	20.75	-11.75	-0.25	32	-4.219	-5.273			
10:22:34.437		-2.1094	67.1484	22.75	-11.75	-0.25	32	-4.219	-5.273			
10:22:34.500	198									-8.5	888	
10:22:34.625		-2.1094	67.1484	22.75	-17.5	-0.25	-10	-4.219	-4.043			
10:22:34.875		-2.1094	67.1484	22.75	-17.5	-0.25	-24	-8.352	0.175			
10:22:34.937		-3.3389	70.6641	25.75	-17.5	-0.25	-34	-8.352	0.176			
10:22:35.000												620
10:22:35.062												620
10:22:35.125		-3.3389	70.6641	25.75	-21	-1.25	-48	-6.703	-0.703			660
10:22:35.187												
10:22:35.250	191									-8.5	840	
10:22:35.312	191									-22.5	840	
10:22:35.375		-3.3389	70.6641	25.75	-21	-1.25	-48	-1.758	-2.109			
10:22:35.437		-4.5701	74.5313	28.5	-21	-1.25	-48	-1.758	-2.109			
10:22:35.500	191									-22.5	840	
10:22:35.625		-4.5703	74.5313	28.5	-21	0.25	-56	-4.395	-5.449			
10:22:35.875		-4.5703	74.5313	28.5	-21	0.25	-56	-9.316	-10.02			
10:22:35.937		-7.207	78.75	30	-21	0.25	-56	-9.316	-10.02			
10:22:36.000												660
10:22:36.062												660
10:22:36.125		-7.207	78.75	30	-21	0.25	-26	-8.085	-8.086			620
10:22:36.187												
10:22:36.250	182									-22.5	800	
10:22:36.312	182									-46.5	800	
10:22:36.375		-7.207	78.75	30	-21	0.25	-32	-2.988	-2.988			
10:22:36.437		-9.8438	80.5078	30	-21	0.25	-32	-2.988	-2.988			
10:22:36.500	182									-46.5	800	
10:22:36.625		-9.8438	80.5078	30	-21	0.25	-26	1.034	2.813			
10:22:36.875		-9.8438	80.5078	30	-21	0.25	-52	3.24	4.219			
10:22:36.937		-12.1289	80.5078	31	-21	0.25	-52	3.24	4.219			
10:22:37.000												620
10:22:37.062												620
10:22:37.125		-12.1289	80.5078	31	-21	0.25	-52	3.24	3.164			580
10:22:37.187												
10:22:37.250	175									-46.5	736	



## CC9. SFDR DATA REVIEW BY 418 FLTS/DOO



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 412<sup>TH</sup> TEST WING (AFMC)  
EDWARDS AFB CALIFORNIA

21 Sep 2010

MEMORANDUM FOR PRESIDENT, ACCIDENT INVESTIGATION BOARD  
(ATTN BRIG GEN EVERHART)

FROM: 418 FLTS/DOO

SUBJECT: C-17A, T/N 00-0173, 28 July 2010 / Review of Mishap C-17 Flight Data

1. **Contributory Findings:** The data indicate that the aircraft was in a stalled condition upon impact. The data clearly indicate that once the aircraft was established at 2G, there was never a significant effort to reduce or eliminate the added load factor by releasing back stick pressure (or adding forward stick pressure). This accelerated the onset of the stall, increased the rate of deceleration of the aircraft, and decreased the effectiveness of the primary roll controls (ailerons and spoilers) and corrective roll inputs.
2. **Ancillary Findings:** the following paragraphs contain factors that may have contributed to the development of the stall and contributed to failure to detect or correct the onset of the stall, a description of C-17 stall characteristics, and discussion regarding the execution of the flight demo profile.
  - a. **Factors that may have contributed to the development of the stall or that may have contributed to failure to detect or correct the onset of the stall:**

(1) The data clearly indicates that once the aircraft was established at 2G, there was never a significant effort to reduce or eliminate the added load factor by releasing back stick pressure (or adding forward stick pressure). This accelerated the onset of the stall, and this increased the rate of deceleration of the aircraft. Ultimately, this prevented the aircrew from recovering from the stall. If the load factor had been reduced to 1G or lower, the aircraft would have responded to the corrective inputs much more quickly, and the stall condition could have been corrected.

(2) Slat retraction is insidiously slow. During high-workload situations (like a descending 2G, 60 deg bank turn), the pilot may not be aware of the slow rate of slat retraction. The tendency is to believe that the slats are retracted immediately upon retraction of the slat handle. Thus the pilot believes he is flying a clean wing aircraft, when he is not, and aircraft performance gradually decreases with slat retraction. Immediately following slat retraction at  $V_{msr}$ , a significantly smaller portion of load factor is available than with slats extended. An aircraft with slats extended at max power can accelerate through a 2G, 60 deg bank turn; conversely, application of 2G at  $V_{msr}$  with the slats retracted will result, almost immediately, in a stall warning (stick shaker).

(3) At high AOA, the flight path vector disappears at the bottom of the HUD. (The angle of attack is approximately equal to the angle between the aircraft water line, i.e., aircraft symbol on HUD/PFD, and the FPV.) This results in reduced pilot awareness of the AOA and reduces his ability to monitor the development of a high AOA condition.

(4) During operations on the back side of the power curve, any decrease in airspeed (however small) results in a significant increase in drag (e.g., 5 knot decrease in speed results in approximately 25 unit increase in drag). In this condition, even an aircraft at max power does not have enough thrust to recover without acceleration of the aircraft.

(5) Normal operation of the C-17 does not include aggressive rudder pedal inputs. At nominal AOA, the use of rudder with back stick pressure (2g, for example) accelerates the roll rate of the aircraft. Any delay in removing this rudder input would aggravate any attempts to roll out of the bank. The effectiveness of the rudder

significantly outweighs the roll input in accelerated (high G) flight. Additionally, normal pilot proficiency is not comfortably familiar with the increased effectiveness of this flight control surface.

**b. Description of C-17 Stall Characteristics:**

(1) Stick shaker is a function of the aircraft APDMC (from many inputs including configuration, G, etc.), and it usually occurs at 1.05 to 1.15 times the stall speed.

(2) Swept wing aircraft tend to stall at the wingtip first, and the stall progresses forward to the wing root. This results in a pitch up as the center of lift (and aerodynamic center) moves forward, a characteristic that tends to increase angle of attack and aggravate the stalled condition. It also results in the loss of aileron effectiveness.

(3) Roll inputs during stall recovery have an aggravating effect on the angle of attack and stall condition, because deployment of the spoilers (during roll input) results in a nose up pitching moment, tending to increase angle of attack. It is known that this pitch moment could cause the aircraft to significantly exceed the ALS hard limit (tending to result in deep stall, a condition that cannot be recovered with normal pilot technique).

(4) Wing anhedral (wings slope down when viewed from nose) is destabilizing during banking maneuvers. The upper wing actually has a higher angle of attack than the lower wing. As the aircraft AOA increases, the upper wing will stall first, further decreasing effectiveness of corrective roll inputs.

(5) The leading edge of the wing has four slat panels on each wing. These panels retract at slightly different rates; this could result in some portions of the wing stalling before other portions, stalling asymmetrically. Asymmetric stalling of the wing could create roll moments that aggravate the overbank or prevent recovery.

(6) The aircraft will stall at much higher speeds at 2G than in level flight.

(7) Normal stall recovery technique is immediate releases in back stick pressure, followed by leveling of the wings.

(8) A corrective action for deep stall is to extend the slats (but not flaps). Deep stall may require pitch rocking to break the stalled condition.

(9) Rudder is very effective when the wing is loaded (high G). During steady heading side-slips (cross control straight/level flight), aft stick input will result in significant roll towards the rudder input.

**c. Discussion of Flight Demo Profile:**

The flight demo profile is not inherently unsafe, as long as the pilot understands the aircraft response, specifically the loaded rudder rolls. Additionally, I would recommend that the majority of the turn be flown with the slats extended, and that they be retracted as the aircraft is leveled near the last quarter of the turn. A turn performed at 45 degrees angle of bank would provide more protection from stall than 60 degrees angle of bank, especially if the aircraft is in its clean configuration, but in either case, with slats extended the difference is unnoticeable.

3. If you have any questions, please contact me at (official cell) or by email at

//signed//

Maj, USAF  
C-17 Command (AFMC) Chief Pilot  
418th Flight Test Squadron

**TAB DD**

**MISCELLANEOUS DOCUMENTS**

**DD1. MP OFFICER PERFORMANCE REPORT, 2009.....3**  
**DD2. DEMONSTRATION CERTIFICATION.....5**  
**DD3. JBER FIRE EMERGENCY SERVICES POST INCIDENT ANALYSIS.....8**  
**DD4. ELECTRONIC ADDENDUM CD (ATTACHED).....21**

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## DD1. MP OFFICER PERFORMANCE REPORT, 2009

OFFICER PERFORMANCE REPORT (Lt thru Col)											
<b>I. RATEE IDENTIFICATION DATA</b> (Read AFI 36-2406 carefully before filling in any item)											
1. NAME (Last, First, Middle Initial) MP	2. SSN	3. GRADE	4. DAFSC	5. REASON FOR REPORT Annual	6. PAS CODE						
7. ORGANIZATION, COMMAND, LOCATION, AND COMPONENT Det 1, 176th Operations Group (PACAF) Elmendorf AFB, Alaska (Non-EAD)			8. PERIOD OF REPORT 11 May 2008 THRU 10 May 2009		9. NO. DAYS SUPV. 365						
II. JOB DESCRIPTION (Limit text to 4 lines) DUTY TITLE C-17 STANDARDIZATION/ EVALUATION & FLIGHT EXAMINER PILOT					10. SRID 02176						
<ul style="list-style-type: none"> <li>- Oversees/directs sq's C-17 Stan/Eval prgms; ensures regulatory compliance/stds; leads/manages sq's Stan/Eval staff</li> <li>- Surveils sq flt activities for trends; validates trng prgms; conducts aircrew cert boards; maintains FCIF/pubs library</li> <li>- Administers periodic pilot sim &amp; flt evaluations; ensures pilot standardization/safety of flt/proficiency in unit's msn</li> <li>- Commands/pilots advanced \$203M C-17 airlifter; plans/executes airlift msn ISO national security/DoD objectives</li> </ul>											
<b>III. PERFORMANCE FACTORS</b>											
Job Knowledge, Leadership Skills, Professional Qualities, Organizational Skills, Judgment and Decisions, Communication Skills, and Physical Fitness (see reverse if marked Does Not Meet Standards)			DOES NOT MEET STANDARDS <input type="checkbox"/>	MEETS STANDARDS <input checked="" type="checkbox"/>	FITNESS EXEMPTION <input type="checkbox"/>						
IV. RATER OVERALL ASSESSMENT (Limit text to 6 lines)											
<ul style="list-style-type: none"> <li>- #1 in every category...my absolute best flyer/ofcr/ldr; masterminded major process improvements in Stan/Eval shop</li> <li>- A+ problem solver; est'd combined AD/ANG C-17 FCIF prgm; coor'd 127 FCIFs btwn WGs; standardization max'd</li> <li>- Prolific: trn'd 3 new EPs; created Go/No-Go process/checklists; qual'd as "Top 3"; developed sq's Form 847 prgm</li> <li>- Co-authored AFI 11-2C-17V3 sup; monumental research effort/well-written doc; critical sq flt ops guidance/policy</li> <li>- Unit's top pilot; ID'd for PACAF C-17 demo team; precision showcase of acft capes fr 100,000+ airshow spectators</li> <li>- Brightest star rdy for much more now! Exceedingly talented ldr who leads team to superior results; Ops O+ material</li> </ul>											
Last performance feedback was accomplished on: 14 Dec 2008 (IAW AFI 36-2406) (If not accomplished, state the reason)											
NAME, GRADE, BR OF SVC, ORGN, COMMAND & LOCATION Lt Col, AKANG Det 1, 176th Operations Group (PACAF) Elmendorf AFB, Alaska			DUTY TITLE Chief Pilot		DATE 6 May 2010						
			SSN 4467	SIGNATURE							
V. ADDITIONAL RATER OVERALL ASSESSMENT (Limit text to 4 lines) <input checked="" type="checkbox"/> CONCUR <input type="checkbox"/> NON-CONCUR											
<ul style="list-style-type: none"> <li>- This O-4 sizzles! #2/34 ofers; phenomenal in/out of cockpit; influential ldr laying solid foundation fr maturing sqdrn</li> <li>- Pivotal TFI role; co-architect of logical/integrated AD/ANG C-17 ops &amp; Stan/Eval functions; seamless interfly now</li> <li>- Sq's "Mr C-17"--our foremost expert in msn/acft; source of "beyond-the-book" trng; extraordinary pilot force mentor</li> <li>- Top 3% of Maj's I've seen in my 20+ yr career! Innate leader w/amazing technical prowess; on glideslope for cmd!</li> </ul>											
NAME, GRADE, BR OF SVC, ORGN, COMMAND & LOCATION WITNESS 22 AKANG Det 1, 176th Operations Group (PACAF) Elmendorf AFB, Alaska			DUTY TITLE Operations Officer		DATE 11 May 2010						
			SSN 9762	SIGNATURE WITNESS 22							
VI. REVIEWER (If required, limit text to 4 lines) <input checked="" type="checkbox"/> CONCUR <input type="checkbox"/> NON-CONCUR											
<table border="1" style="width: 100%; height: 50px;"> <tr> <td>NAME, GRADE, BR OF SVC, ORGN, COMMAND &amp; LOCATION WITNESS 30, AKANG 176th Operations Group (PACAF) Kulis ANG Base, Alaska</td> <td>DUTY TITLE Commander</td> <td>DATE 16 May 2010</td> </tr> <tr> <td></td> <td>SSN 7293</td> <td>SIGNATURE WITNESS 30</td> </tr> </table>						NAME, GRADE, BR OF SVC, ORGN, COMMAND & LOCATION WITNESS 30, AKANG 176th Operations Group (PACAF) Kulis ANG Base, Alaska	DUTY TITLE Commander	DATE 16 May 2010		SSN 7293	SIGNATURE WITNESS 30
NAME, GRADE, BR OF SVC, ORGN, COMMAND & LOCATION WITNESS 30, AKANG 176th Operations Group (PACAF) Kulis ANG Base, Alaska	DUTY TITLE Commander	DATE 16 May 2010									
	SSN 7293	SIGNATURE WITNESS 30									
VII. FUNCTIONAL EXAMINER/AIR FORCE ADVISOR (Indicate applicable review by marking the appropriate box)											
			<input type="checkbox"/> FUNCTIONAL EXAMINER <input type="checkbox"/> AIR FORCE ADVISOR								
NAME, GRADE, BR OF SVC, ORGN, COMMAND & LOCATION			DUTY TITLE		DATE						
			SSN	SIGNATURE							
VIII. RATEE'S ACKNOWLEDGMENT											
I understand my signature does not constitute agreement or disagreement. I acknowledge all required feedback was accomplished during the reporting period and upon receipt of this report.			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	SIGNATURE MP							
				DATE 26 May 2010							

AF FORM 707, 20080618

PREVIOUS EDITIONS ARE OBSOLETE (707A and 707B)

RATEE NAME: <b>MP</b>		
<b>IX. PERFORMANCE FACTORS</b> (If Section III is marked Does Not Meet Standards, fill in applicable block[s])		
<b>DOES NOT MEET STANDARDS</b>		
1. <b>Job Knowledge.</b> Has knowledge required to perform duties effectively. Strives to improve knowledge. Applies knowledge to handle non-routine situations.	<input type="checkbox"/>	
2. <b>Leadership Skills.</b> Sets and enforces standards. Works well with others. Fosters teamwork. Displays initiative. Self-confident. Motivates subordinates. Has respect and confidence of subordinates. Fair and consistent in evaluation of subordinates.	<input type="checkbox"/>	
3. <b>Professional Qualities.</b> Exhibits loyalty, discipline, dedication, integrity, honesty, and officership. Adheres to Air Force standards. Accepts personal responsibility. Is fair and objective.	<input type="checkbox"/>	
4. <b>Organizational Skills.</b> Plans, coordinates, schedules and uses resources effectively. Meets suspenses. Schedules work for self and others equitably and effectively. Anticipates and solves problems.	<input type="checkbox"/>	
5. <b>Judgment and Decisions.</b> Makes timely and accurate decisions. Emphasizes logic in decision making. Retains composure in stressful situations. Recognizes opportunities. Adheres to safety and occupational health requirements. Acts to take advantage of opportunities.	<input type="checkbox"/>	
6. <b>Communication Skills.</b> Listens, speaks, and writes effectively.	<input type="checkbox"/>	
7. <b>Physical Fitness.</b> Maintains Air Force physical fitness standards.	<input type="checkbox"/>	
<b>X. REMARKS</b> (use this section to spell out acronyms from the front)		
FCIF - Flight Crew Information File; ISO - In-Support-Of; DoD - Department of Defense; AD - Active Duty; ANG - Air National Guard; WG - Wing; EP - Evaluator Pilot; ID - Identified; PACAF - Pacific Air Forces; Ops O - Operations Officer; TFI - Total Force Initiative		
<b>XI. REFERRAL REPORT</b> (Complete only if report contains referral comments or the overall standards block is marked as does not meet standards)		
I am referring this OPR to you according to AFI 36-2406, para 3.9. It contains comment(s)/rating(s) that make(s) the report a referral as defined in AFI 36-2406, para. 3.9. Specifically,		
Acknowledge receipt by signing and dating below. Your signature merely acknowledges that a referral report has been rendered; it does not imply acceptance of or agreement with the ratings or comments on the report. Once signed, you are entitled to a copy of this memo. You may submit rebuttal comments. Send your written comments to:		
not later than 10 calendar days (30 for non-EAD members) from your date below. If you need additional time, you may request an extension from the individual named above. You may submit attachments (limit to 10 pages), but they must directly relate to the reason this report was referred. Pertinent attachments not maintained elsewhere will remain attached to the report for file in your personnel record. Copies of previous reports, etc. submitted as attachments will be removed from your rebuttal package prior to filing since these documents are already filed in your records. Your rebuttal comments/attachments may not contain any reflection on the character, conduct, integrity, or motives of the evaluator unless you can fully substantiate and document them. Contact the MPF career enhancement section, or the AF Contact Center if you require any assistance in preparing your reply to the referral report. It is important for you to be aware that receiving a referral report may affect your eligibility for other personnel related actions (e.g. assignments, promotions, etc.). You may consult your commander and/or MPF or Air Force Contact Center if you desire more information on this subject. If you believe this report is inaccurate, unjust, or unfairly prejudicial to your career, you may apply for a review of the report under AFI 36-2401, Correction of Officer and Enlisted Evaluation Reports, once the report becomes a matter of record as defined in AFI 36-2406, Attachment 1.		
NAME, GRADE, BR OF SVC OF REFERRING EVALUATOR	DUTY TITLE	DATE
SIGNATURE		
SIGNATURE OF RATEE		DATE
<b>INSTRUCTIONS</b>		
<b>ALL:</b> Recommendations must be based on performance and the potential based on that performance. Promotion recommendations are prohibited. Do not comment on completion of or enrollment in Developmental Education, advanced education, previous or anticipated promotion recommendations on AF Form 709, OPR endorsement levels, family activities, marital status, race, sex, ethnic origin, age, or religion. Evaluators enter only the last four numbers of SSN.		
<b>RATER:</b> Focus your evaluation in Section IV on what the officer did, how well he or she did it, and how the officer contributed to mission accomplishment. Write in concise "bullet" format. Your comments in Section IV may include recommendations for assignment. Provide a copy of the report to the ratee prior to the report becoming a matter of record and provide follow-up feedback to let the ratee know how their performance resulted in this final product.		
<b>ADDITIONAL RATER:</b> Carefully review the rater's evaluation to ensure it is accurate, unbiased and uninflated. If you disagree, you may ask the rater to review his or her evaluation. You may not direct a change in the evaluation. If you still disagree with the rater, mark "NON-CONCUR" and explain. You may include recommendations for assignment.		
<b>REVIEWER:</b> Carefully review the rater's and additional rater's ratings and comments. If their evaluations are accurate, unbiased and uninflated, mark "CONCUR" and sign the form. If you disagree with previous evaluators, you may ask them to review their evaluations. You may not direct them to change their appraisals. If you still disagree with the additional rater, mark "NON-CONCUR" and explain in Section VI. Do not use "NON-CONCUR" simply to provide comments on the report.		
<b>RATEE:</b> Your signature is merely an acknowledgement of receipt of this report. It does not constitute concurrence. If you disagree with the content, you may file an evaluation appeal through the Evaluation Reports Appeals Board IAW AFI 36-2401 (Correcting Officer and Enlisted Evaluation Reports), or through the Air Force Board for Correction of Military Records IAW AFI 36-2603 (Air Force Board for Correction of Military Records) and AFPAM 36-2607 (Applicants' Guide to the Air Force Board for Correction of Military Records (AFBCMR)).		

**DD2. DEMONSTRATION CERTIFICATION**

STAFF SUMMARY SHEET							
	TO	ACTION	SIGNATURE (Surname), GRADE AND DATE		TO	ACTION	SIGNATURE (Surname), GRADE AND DATE
1	11AF/CC	Approve		6	517 AS/CC	Coord	//Signed- // WIT 27, 22 Jul 10
2	11 AF/CCE	Coord		7			
3	3 WG/CC	Coord		8			
4	3 WG/CCE	Coord		9			
5	3 OG/CC	Coord	//signed- // WITNESS 16 23 Jul 10	10			
SURNAME OF ACTION OFFICER AND GRADE		SYMBOL		PHONE		TYPYST'S INITIALS	SUSPENSE DATE
MP		249AS/CCV				MP	20100728
SUBJECT							DATE
Addition to C-17 Aerial Demonstration Team							20100722
SUMMARY							
<p>1. PURPOSE: To obtain 3WG/CC and 11AF/CC endorsement for additions to the C-17 aerial demonstration team.</p> <p>2. BACKGROUND: The C-17 aerial demonstration team now includes additional Air National Guard (ANG) associate team members and new additions from the 517AS. The team was expanded in anticipation of upcoming PCS moves as well as to provide the flexibility to fill demo requests while the unit's global mission continues. All crew members have accomplished the training requirements IAW 3rd Wing C-17 Aerial Demonstration Program (15 April 2008) and their training has been documented in the Training Management System (TMS).</p> <p>3. Upgraded crewmembers are annotated in the attached memorandum.</p> <p>4. RECOMMENDATION: 3WG/CC and 11AF/CC sign attached Demo Certification Letter.</p> <p>///Signed///</p> <p>MP C-17 Aerial Demonstration Team Lead</p> <p>DSN: Com: Cell:</p> <p style="text-align: right;">3 Tabs 1. Demo Certification Letter 2. 3 WG Aerial Demo Program 3. PACAF C-17/C-130/KC-135/UH-1 Demo Crew Conops</p>							

AF IMT 1768, 19840901, V5

PREVIOUS EDITION WILL BE USED.



DEPARTMENT OF THE AIR FORCE  
ELMENDORF AFB, AK

MEMORANDUM FOR 11 AF/CC

FROM: 3 WG/CC

SUBJECT: C-17 Aerial Demo Team Review/Certification

1. The following crewmembers are listed as the Elmendorf C-17 demonstration team. Asterisked crewmembers have recently completed all requirements for upgrade to the indicated crew position. All other crewmembers have previously accomplished their training requirements. Each candidate has been interviewed and is worthy to represent the 3 WG, 11 AF, and PACAF during future C-17 aerial demonstrations.

<u>RANK</u>	<u>NAME</u>	<u>ACTION</u>
	MP	C-17 Demo Pilot/ANG Team Lead/176OGV
	WITNESS 26	C-17 Demo CoPilot/Active Duty Team Lead
	WITNESS 10	C-17 Demo Pilot/3OGV
	WITNESS 3	C-17 Demo Pilot
	WITNESS 25	C-17 Demo Pilot
	WITNESS 15	C-17 Demo Pilot
	WITNESS 18	C-17 Demo Pilot
	MSPO	C-17 Demo Pilot
	WITNESS 17	C-17 Demo Copilot
	MCP	C-17 Demo Copilot
	WITNESS 8	C-17 Demo Copilot
		C-17 Demo Copilot
		C-17 Demo Loadmaster
	WITNESS 5	C-17 Demo Loadmaster
	MLM	C-17 Demo Loadmaster
	WITNESS 14	C-17 Demo Loadmaster
		C-17 Demo Loadmaster

2. RECOMMENDATIONS: I recommend these individuals for upgrade to the appropriate aerial demonstration crew position.

Commander, Colonel, USAF

2

1st Ind, 3 WG/CC, 2 Jul 10, C-17 Aerial Demo Team Review/Certification

11 AF/CC

MEMORANDUM FOR 3 WG/CC

All crew members listed above are certified to fly in the stated crew position.

ATKINS.DANA.

T.

DANA T. ATKINS  
Lieutenant General, USAF  
Commander

**DD3. JBER FIRE EMERGENCY SERVICES POST INCIDENT ANALYSIS**

	<b>JBER FIRE EMERGENCY SERVICES POST INCIDENT ANALYSIS REPORT</b>			
	NUMBER: 10-001	DATE: 28 Jul 2010	EVENT #: 1075	
	PREPARED BY:			
	REVIEWED/APPROVED BY: Chief			
INCIDENT: C-17 Crash				

The purpose of this Post Incident Analysis is to review the entire operation of a C-17 crash response (run #1075) from initial dispatch until termination. In addition, we will discuss the operations' strengths as well as areas for improvement and compare actions taken on scene against current policies.

**Weather**

Drizzle, Temp - Mid 50s, Winds - calm

**Mission Summary**

On 28 July 2010 (1822 hrs), a C-17 aircraft (TN #173, Call sign: Sitka 43) with four personnel took off from Runway 06 on an air show demonstration training sortie. Approximately 60 seconds after take-off the C-17 crashed killing all four aircrew members. The crash site was located 1.25 miles from the end of the runway and .5 mile north of the fire department training area.

**Incident**

**1. Initial Response:**

At 1822 hrs on 28 July 2010, JBER Fire Dispatch Center received notification of a C-17 crash. Fire Department crews were immediately dispatched to a full box 120 to the crash site. **Initial Response Crews:** Chief-1, Chief-2, Battalion 1, Battalion 2, Crash 11 (P-23), Crash 12 (P-23), Crash 14 (T-3000), Engine 3, Engine 4, Engine 5, Medic 4, Rescue 7 and Rescue 8. **Secondary Response:** Engine 1, Hazmat 31 & Trailer, Ramp 15, Tender 41 and Tender 42.

**NOTE:** Crash 11, Crash 12, Crash 14, Engine 3, Medic 4, Command vehicles were used initially to contain fire. Additionally, a P-19 from Kulis ANG Fire Department was en-route to the drop zone at Malanute and assisted with fire suppression. Tenders began water shuttle operations after crews were in position. Remaining assets were staged.

Dispatch Time: 0:00:01

Turnout Time: 0:00:00

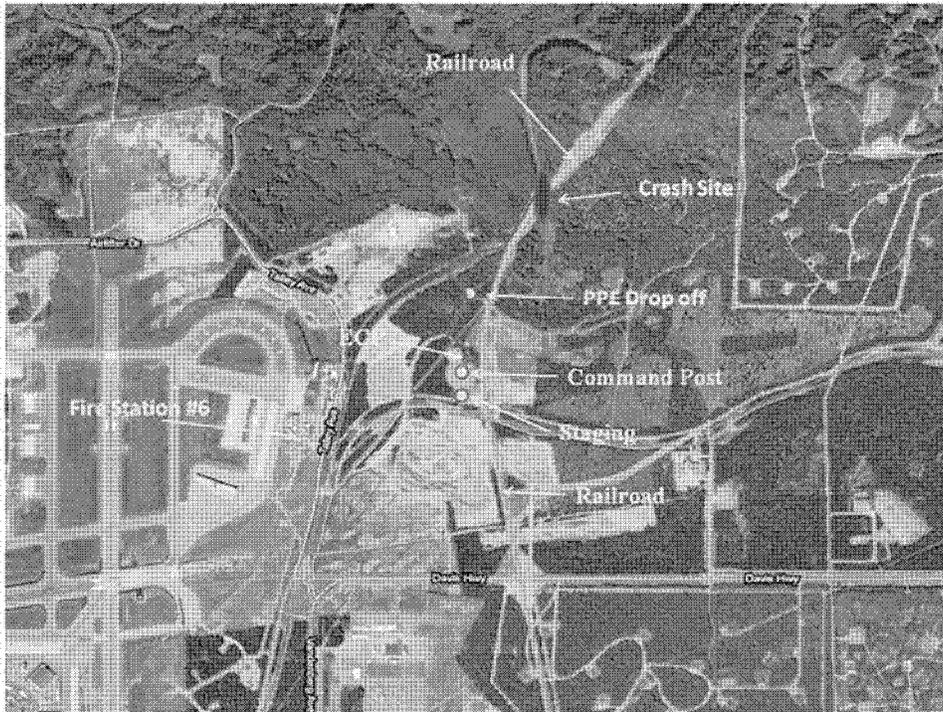
Travel Time: 0:07:23

Total Time: 111:41:24

**NOTE:** Turnout time was 0:00 based on crews' immediate reaction to crash phone activation and/or actually witnessing the crash occur. It was readily apparent to most crews upon crash phone activation that the C-17 had crashed.

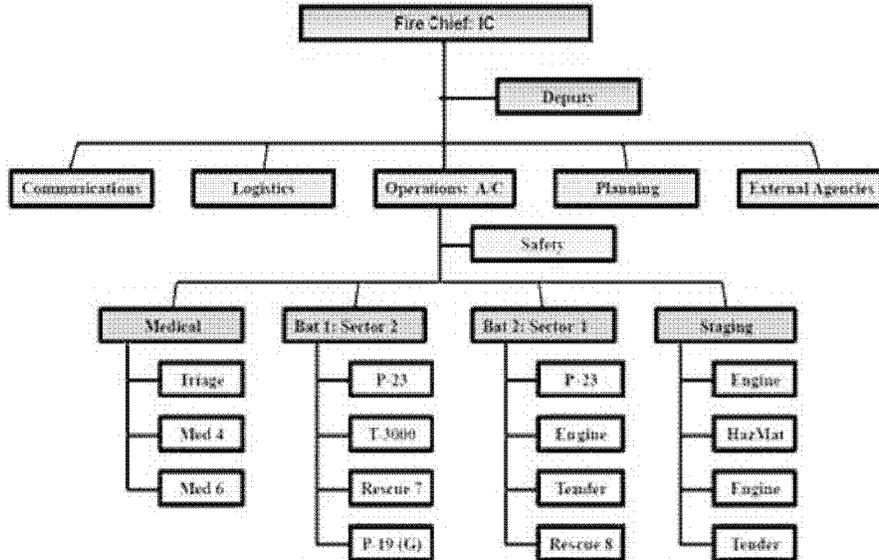
**2. On-Scene & Initial Size-up:**

Battalion 2 and Engine 3 were the first units on scene and reported the aircraft crashed just north of the fire department training ground into a wooded area. Access to the site was extremely limited with debris and fire scattered over a large area. Battalion 2 took initial command and directed other arriving vehicles into the crash site. Chief-2 arrived on scene at 1836 hrs and assumed Command.



The incident was broken down into two sectors since the aircraft impact area was divided on both sides of the Alaskan Railroad. Battalion 1 was assigned to Sector 2 which covered all areas east of the train track. Battalion 2 was assigned to Sector 1 which covered all areas west of the train track. The chart below indicates what resources were assigned to each section.

**NOTE:** External agencies included the Alaskan Railroad, AKNG UH-60 support, Military Police, Security Forces, Kulis ANG FES and Pararescue personnel.



**Initial Position Assignments:**

**Incident Commander:** Mr. [redacted] until Chief [redacted] assumed (A/C then assumed Ops)

**Operations Chief:** MSgt [redacted] (Sector 1) & MSgt [redacted] (Sector 2)

**Safety/Accountability:** TSgt [redacted]

**Liaison Officer:** SMSgt [redacted]

**Information Officer:** Mr. [redacted]

**Planning Officer:** Mr. [redacted]

**Staging Officer:** Mr. [redacted]

**Crash 11:** SrA [redacted], SrA [redacted], SrA [redacted]

**Crash 12:** TSgt [redacted], SrA [redacted], SrA [redacted]

**Crash 14:** SSgt [redacted], SrA [redacted], SrA [redacted]

**Engine 2:** SSgt [redacted], Mr. [redacted], A1C [redacted], A1C [redacted]

**Engine 3:** Mr. , Mr. ; Mr. ; SrA

**Engine 4:** SSgt , Mr. , Mr. , AIC

**Engine 5:** Mr. ; Mr. , SSgt , AIC

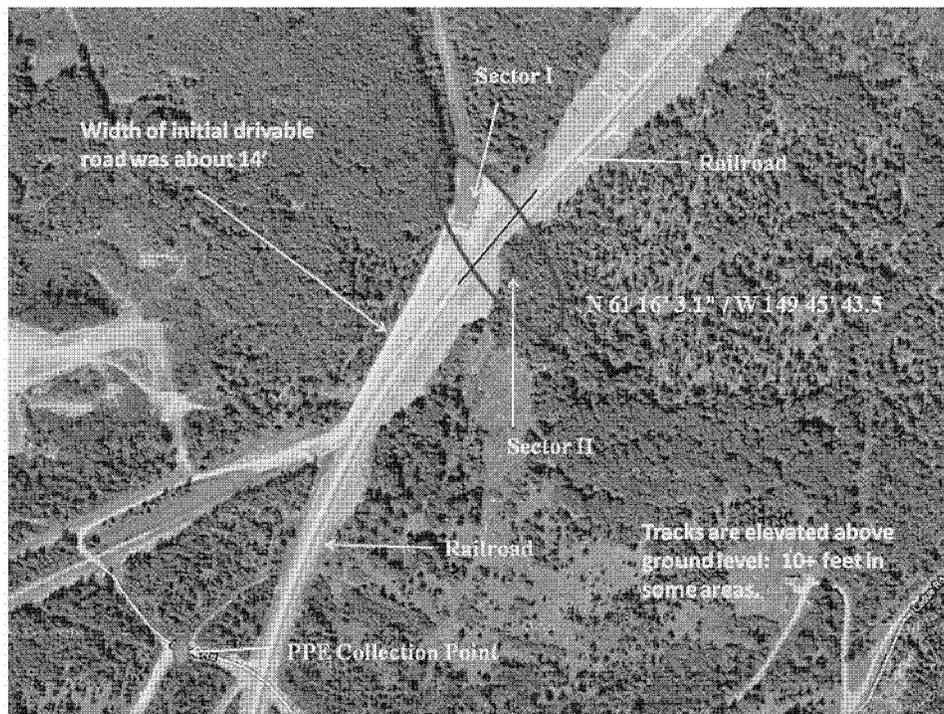
**Rescue 7:** SSgt , Mr. , AIC

**Rescue 8:** SSgt , SSgt

**Medical:** Mr. & Mr.

**Dispatch:** SrA

**Additional Personnel on-scene:** Recalled personnel



### 3. Developing Action Plan:

Once a formal command structure was established, Chief-2 & Battalions 1/2 conducted a face-to-face. A plan was formalized based on the following priorities:

- A. Saving lives (continue to search perimeter of crash site for possible survivors)

- B. Fire Extinguishment (fire was extending into heavily wooded area)
- C. Hazmat: Possible hazardous exposure to emergency responders.
  - a. Composite Fibers
  - b. Fuel (JP-8)
  - c. Combustion byproducts
  - d. Compressed gases (Halon bottle, nitrogen & oxygen)

**Saving Lives:**

The immediate operational plan was to search and protect potential survivors. Both rescue crews (Rescue 7/8) were tasked to complete a perimeter sweep of the incident site to check for possible survivors and determine fire extension. Command utilized a UH-60 crew hovering over the site to provide a general overview of the extent of the crash site and for fires outside the immediate crash site. Upon return, both crews reported minimal fire extension and did not locate any survivors; however, one body was located.

**Fire Extinguishment:**

The fire attack operations had to address aircraft and wildland fires. The bulk of the aircraft fire was extinguished within the first minutes of the operation. Roof turrets were used to knock down a major portion of the blaze. Vehicles were tightly packed into a small area but were able to complete their assignments with no injuries or mishaps. Total estimated agent used: 30,350 gals water; 220 gals AFFF. The following is a list of tactics used during incident.

1. Aircraft – ARFF drivers used turrets spraying water and foam to knock down the majority of the fire.
2. Handlines – Due to wooded terrain and land topography, turrets were not able to reach all fire areas. Handlines were vital in controlling and extinguishing remaining fires.
3. Wildland fires – Crews used Indian packs around perimeter of site where handlines could not reach. A light rain developed in the middle of fire attack operations and helped with mitigation.
4. Spot fires – There were several stubborn spot fires that continued to burn for hours (ex. brakes). Some hot spots were located under heavy wreckage and crews were unable to get safe access for handline operations.
5. Resupply – Two tenders completed a continuous water relay operation to a set-up dump tank at the crash site. The dump tank supported all handline operations. On the initial turret attack, two crash truck operations were stopped because of low water. The reserve water they had (500 gallons) was used for handline ops and protection of firefighters. The remaining P-23 was able to protect crews at all times. The two tenders provided 20K gallons of water to the scene.

Sector 1 assets consisted of Battalion 2, P-23 (C-10), Engine 3, Rescue 8 and tender relay. The fire in this section was the first to be brought under control. One of the wheel brakes in this sector continued to flare up for several hours.

Sector 2 assets consisted of Battalion 1, (2) P-23s (C-11, C-14) and Rescue 7. Sector 2 contained most of the aircraft debris and took a lot longer get the fire under control. This sector also contained the majority of the wildland fire.

After the fires were extinguished, the real work began...decontamination/standby/reconstitution.

**Hazmat Containment:**

Once the fire was extinguished, Command treated the incident as a hazmat operation. All crews operating in the hot zone were considered potentially contaminated by chemical exposures. All personnel went through a gross decon line and contaminated PPE was dropped off at an established collection point (See map for location).

Command coordinated with Bioenvironmental Engineering (BEE) and Emergency Management (EM) personnel to determine the proper procedure for decontaminating personnel and equipment. The following was determined:

1. **Equipment:** All equipment could be decontaminated using soap/water. All equipment items were able to be decontaminated/reconstituted back onto vehicles with the exception of a few items left on scene to support on-going decon operations.
2. **PPE:** Crash gear shells were cleaned with soap/water. Liners (structural/crash) were turned into the Quartermaster. Structural gear was cleaned at Station 5 using the extractor washer.
3. **Mask:** Masks were cleaned at Station 1 using the respiratory PPE washer.

**4. Resupply and Rehabilitation:**

Resupply was a major issue during the first few minutes of the operations. The major contributor to the success of the operation was the tender relays. Two tenders (P-26s) were used nonstop until the fire was extinguished. Communication was essential between relays to ensure that the flow of crucial water was not hindered by road blockages. Only one tender could enter or leave at the same time due to the small access to the site.

As the operations continued, eventually crews started being rotated to rehab which was located at the fire department structural training tower. Fresh fruit and water was provided by the FES Logistics Officer to facilitate recovery of personnel.

**5. Scene Transition from Emergency Operations to Recovery:**

The hours following initial extinguishment were spent developing a plan to safe the area so recovery operations could commence. An initial meeting was held with key players and it was decided that the first team to enter the area would consist of EOD, BEE, alert photographer and Crash Recovery personnel. Subsequent entry teams would include AF Medical Examiners, Interim Safety Investigation Board, Search/Recovery, Emergency Management, Engineering Assistants (marking), AK Department of Environmental Conservation and AK Railroad representatives.

Due to continual flare ups/smoke generation entry of the first team was delayed until 29 Jul at 1944 hrs (approx 25.5 hours after crash).

As the recovery operation progressed, two distinct levels of PPE were worn in the exclusion zone; personnel handling debris and disturbing soil wore level C (Tyvek and air purifying respirator (APR)), personnel that did not handle debris and remained in areas where sealant had been applied wore Tyvek with an N95 dust mask. Fit testing operations commenced for both masks by BEE. During most entry operations, Crash Recovery personnel accompanied the various organizations to apply sealant to allow for a lower level of protection so that time in the exclusion zone could be maximized.

The IC began to communicate with the EOC regarding transition to recovery ops IAW AFI 10-2501 and AFMAN 10-2504. At the time, there were no identified/qualified Recovery Operations Chiefs. This issue would continue to be addressed for several days.

Also, high on the priority list was establishing a sustainable area for recovery operations to be based from. Within 24 hours of the incident, the fire department training area was equipped with four Alaskan Small Shelters and two Temper tents with power and heat. Additionally a feeding area, drinking water supply, portable latrines, telephone service, computer service and dumpsters were available. Fortunately, the area had good cell phone reception and which were used extensively throughout the operation to reduce the volume of radio transmissions.

During this period, a plan was initiated to develop a road parallel to the east side of the rail bed to improve Crash Recovery's ability to remove wreckage. The road was completed within days (as outlined below in the Decon section) and resulted in the decon area being relocated to the west side of the tracks. The existing gravel road on the west side of the accident site was also expanded to allow for better access and to provide a more suitable area for decon area.

On 29 Jul, leadership made the decision to continue with the Arctic Thunder Air Show on 31 Jul and 1 Aug while maintaining an aggressive recovery operations schedule. This required an IC to be maintained at the incident site as well as a heavy command presence on the main base. This caused scheduling difficulties and at one point the IC performed a 36-hour shift.

On 30 Jul, 0705 hrs, the Interim Safety Board (ISB) suited up to enter the area and begin their investigation. Aside from evidence collection and human remains recovery, one of their initial priorities was to re-establish railway operations. Rail traffic had totally been cut off between the Port of Anchorage and the rest of the state causing significant concern for Anchorage and communities that depend on the rail for fuel (1.5M gal of aviation fuel daily), equipment and personnel movements.

On 30 Jul, site control started to become more difficult. External agencies such as the ISB, railway crews, AF Medical Examiners, senior leaders, etc. regularly visited the area and tried to directly access the area without IC approval. Most of these personnel were not familiar with the ICS and did not realize that scene control still rested with the IC. To reduce traffic on the road between the ICP and the crash site, the IC obtained two vans/drivers and a shuttle service was established so that only priority vehicles/equipment could enter the site.

On 30 Jul at 1210 hrs, Security Forces began a mobile patrol to maintain predator control in the area. Of note, during this incident there were two occasions that wolves were in the vicinity and one occasion where a bear was spotted. The patrols were successful at keeping the predators from the wreckage area where human remains were located.

On 31 Jul, firefighters were tasked with removal of remains that were pinned in-between two pieces of large metal. This operation was difficult, lasted several hours and required the rotation of crews. This effort required a total of six firefighters and multiple SCBA bottle changes.

On 31 July at 0415 hours, flight data recorder and emergency locator beacon were located and delivered to the ICP. They were maintained there until handed over to ISB.

On 31 July, the railway was opened at 1452 hrs and train operations commenced within 1 hour of opening. Re-opening of the rail presented a unique challenge to ensure all personnel in the area were safe. The IC requested that a rail worker be present with Operations or the IC at all times to provide a 10-minute warning for oncoming trains. Additionally, the train would be limited to 10 mph for safety and to prevent disturbing composites that were in the crash area. This concept worked perfectly and each train movement was preceded with at least a 10-minute warning.

On 31 Jul, Wing leadership decided to allow the family members access to the area as part of the grieving process. The visiting was scheduled for 1 Aug at 1630 hrs and location was several hundred yards south of the crash site but provided a view of the crash site. Civil engineers were tasked to construct stairs leading to the top of the railway bed. They completed the assignment by the evening of 31 Jul.

On 1 August, 1745 hrs, the fourth and final set of remains was located. Due to the families' visit the site was shut down at 1800 hrs with the plan to remove the remains immediately following their departure. At 2006 hrs, family members entered the site and departed at 2119 hrs. At 2219 hrs, the fourth set of remains was removed from area. Operations were ceased for the evening and the following morning was scheduled for the official transfer of authority from the Incident Commander to the Recovery Operations Chief [redacted] from 3WG Maintenance).

#### **6. Decontamination:**

On Day 2, a formal decontamination line was established in the southern portion of Sector 2. The decon line was staffed by six personnel (three Fire/three EM). Initially, Fire personnel wore level B splash suit and SCBA and EM personnel wore level B splash suit and full-face APR. Once fit testing was complete all personnel working on the decon line wore APRs. All personnel and equipment entering the accident site exited through the formal decontamination line, with the exception of the containers used to transport the remains and oversized equipment such as railroad repair equipment. These items received a gross decontamination provided by the Rapid Intervention Team (RIT).

To accommodate the two types of PPE and varying levels of exposure the decontamination plan expanded to include a "self help" decon station located in Sector 1. This station consisted of shuffle boxes and a PPE removal area and was designated for personnel wearing Tyvek/N95 masks.

On Day 5, a plan was developed to relocate the formal decon line from Sector 1 to the West access road to allow construction of the new East access road. The decon line was temporarily located in a vehicle turnaround area until debris on the west road was cleared. Once established on the West side, functional operation was transferred to EM entirely.

#### **7. Communication:**

Communication methods were effective during this incident. Two channels were used: Crash for fire crews and TAC 1 for Commands. Non-Fire Department personnel who needed a radio were issued one at the ICP. Also, cell phone coverage was available in the area. Phone lines and computer connections were provided as needed.

Communication procedures between the EOC and the ISB President were challenging. Several times during the incident the EOC was unaware of the ISB status or way ahead. When this occurred the IC contacted both directly and passed on information to ensure everybody was aware of the current status.

#### **8. Air Monitoring:**

Air monitoring was conducted by BEE throughout the incident and regular reports were provided as seen below. All air monitoring and samples taken from entry personnel showed extremely low levels of contamination; well within acceptable standards.

#### **Air Sample Example:**

Subject: C-17 Sampling Update

Sir -

All area air samples continue to show levels less than 1% of any applicable standard. Samples are being collected for carbon fibers, total particulates, respirable particulates, and metals. We also received our first sample results for personnel entering the site. So far, all we have is total particulate and respirable particulate results, but I'm happy to report they are less than 10% of any applicable standard. Although this is higher than the area results, it is expected due to the proximity to the site and the activities taking place while the sample was being collected. Additionally, there was only one sample that approached this level - eight other samples were all less than 5% of any standard. We are still waiting for fiber results and metals results from personnel monitoring. Yesterday, we started monitoring Hangar 5 in anticipation of its use for parts storage. This will give us at least 36 hours of sampling as a baseline value prior to any parts entering the facility.

Lt Col

Lt Col

Bioenvironmental Engineering Flight Commander  
673d MDG JBER Coordinator  
673d AMDS/SGPB

Elmendorf AFB, AK 99506

We received several composite fiber sample results today -- these samples were collected on personnel that entered the site between July 28-July 31st. The highest result was about 3% of the appropriate standard. This is certainly good news and continues to show that all of the controls we are utilizing are working to keep exposures low. Also, the Brooks AFB laboratory team has moved up their time table for coming out here -- we now expect them this evening or early tomorrow morning. We are working to meet all requirements so they will have access to the site to conduct their surveys.

Lt Col

Lt Col  
Bioenvironmental Engineering Flight Commander  
673d MDG JBER Coordinator  
673d AMDS/SGPB

Elmendorf AFB, AK 99506  
DSN:  
Comm:  
Fax:

## 9. Termination

Senior Fire Officers maintained on-scene incident command until 2 Aug 2010 at 1005 hrs when it was transferred to a Recovery Operations Chief from 3MXG. A full briefing was conducted for the on-coming Recovery Operations Chief and the off-going IC maintained a presence at the Recovery Operations Center for the remaining operational period.

## 10. Exposure Reporting

All personnel that worked at the incident site were required to complete an exposure report. These reports will be managed by the Flight's Safety Officer IAW FMI 32-205.

## 11. Lessons Learned

### Positives:

- Hustle – Crews busted their butts. Not one person complained about any assignment given to them throughout the entire operation!
- Sectoring – Dividing the incident into two separate areas made it a lot easier to manage and control personnel
- Communication – Communication went fairly well considering the amount of traffic that went over the radio.

- Command Post location – This was established at the fire department training ground. This worked well in several ways. First, it limited the amount of personnel wanting to see the impact site. It also was a good open area where CE expediently set-up a mini tent city for supporting agencies to work out of.
- Fire control – Fire crews were able to bring the majority of fire under control very rapidly. Command was very concerned about fire extension into woods but crews aggressive fire attack kept the fire in check.
- Injuries – None throughout entire incident!! Crews were exposed to severe jagged metal debris and rough terrain while fighting fire.
- No free lancing – Crews performed the tasks assigned to them
- Working area – The small amount of area that Command had to get three crash trucks, engine and a tender in was mind boggling. It was an operation you would never practice but it worked. Note: Not one vehicle received any damage.
- PPE consolidation – Command established a tent for storage of all PPE. As agencies provided their PPE and inventory was conducted. This enhanced the ability to determine usage rates and re-supply of needed items.
- Fit testing – BEE maintained the capability to conduct face fit testing at the staging area. This streamlined actions required for entry team preparation.
- Incident Command team understanding needs and establishing base camp to meet requirements of prolonged response. Site development prevented tent/equipment movements as staging area matured.
- Operational shift briefings ensured competing priorities were addressed and accomplished in order of safety vs. needs/wants.

**Areas of Improvement:**

- During the first two days of the operation, on-scene personnel were supplied with hot meals/drinks provided by the Army Garrison and served by AF personnel. Once it was determined the response had transitioned from emergency ops to recovery ops this support was stopped and responsibility turned over to AF. At this point the EOC informed the IC box lunches would be provided at a cost (\$4.25) and must be pre-ordered by 1900 hrs the evening prior. This is not workable for an incident with rotating crews at a crash site.
- Bioenvironmental Engineering guidance on required respiratory protection for working around potential composite fiber contamination changed between the June 10 Air Show EME and the 28 July 10 C-17 crash.

- Fire maintained Incident Command of the C-17 crash response/recovery operations for over 4.5 days due to the 3 WG/673 ABW not having any identified/qualified Recovery Operations Chiefs as permitted in AF Guidance Memorandum to AFI 10-2501 and AFMAN 10-2504.
- PPE collection point: It would have been beneficial if all PPE would have been separated when dropped off. It would have worked better if we had three separate containers: masks, boots and clothing.
- UHF radio: IC was unable to communicate directly to UH-60 flying over site. This tied up valuable time over the crash net communicating with the tower in a relay operation. Capability is now available.
- Scene control: It didn't take long for bystanders to show up through the woods trying to get pictures. Additionally, as the incident matured, many of the external agencies were not aware that they needed to clear access into the area through the IC.
- Med 4 requested assistance from AFD and one ambulance via the Dispatch channel. This is not standard operating procedure and has already been corrected.
- The initial box alarm was not followed by personnel. Station 4 personnel saw the crash and thought it was in their district so they responded.
- Decontamination: As the operational periods continued, personnel became less concerned about potential exposure. They started breaking some basic rules for proper wear of PPE in a decon line. Personnel required constant reminders at briefings.
- Rehabilitation: We were a little slow on setting up a formal rehab. Crews were resting on site. Most personnel didn't want to go back to the Rehabilitation Area but wanted to keep working. This continued operation could have led to potential accidents.
- EOC was trying to establish the on-scene objectives, however, ICs were able to prevent.
- Certain organizations were slow on showing up for established timelines for working cycles. EM personnel reported late for decon operations and ISB reported 3 hours after the time they had provided to the IC the evening before.
- Recall was fast but all personnel were reporting to Station 1. Most of the people that reported to Station 1 had their gear at another station.
- It was hard to control other agencies from entering the site without proper authorization from the IC.
- Driver/Operators stated it would have helped if they had headsets for the pump panel.
- The amount of waste water and soiled PPE generated on the formal decon line quickly depleted the installation's supply of recovery drums. In hindsight, we could have identified a waste pit

location, pumped the water into the pit, and had the site mitigated as part of the crash cleanup process.

- Several organizations who dressed their own personnel for entry into the hot zone went overboard with applying duct tape on wrists and cuffs. This caused backups during decon when processing larger entry teams and required several team members to be cut out of their PPE.

- From a decontamination perspective, the full-face APR was preferred to the hooded PAPR. The APR was easier to decon and streamlined suit removal while minimizing the risk of cross contamination.

- Breathing valves were mistakenly cleaned in the respiratory washer. They should have been hand washed.

- Crew work/rest cycles did not occur initially. Several crews were on site working for 12-15 hours the first night.

- Crew integrity vs. immediate needs. Reported fire in BX Food Court required an engine crew to be piece-mealed together at the Staging Area vs. an engine company being assigned/dispatched.

- Power requirements need to be identified/validated by other response agencies. Ex. Crash Recovery's Hepa-Vac required generator support. BEE's PAPR batteries had developed a memory and only lasted approximately 30 minutes vs normal 4 hours.

**DD4. ELECTRONIC ADDENDUM CD (ATTACHED)**

Due to the size and orientation of some documentation, the board decided to attach those documents in an electronic addendum contained on a CD. The files on the CD are listed as follows:

Tab D – A0173 History Jan 10.xls

Tab L – SFDR data.xlsx

Tab O – FDR data from Previous Practice.xlsx

Tab O – FDR data from Previous Practice pt 2.xls

Public Affairs Video of the Mishap

Mishap Animation

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**TAB EE**

**AIB MEMBER MEMORANDUMS**

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**EE1. AIB MAINTENANCE ENLISTED ADVISOR MEMORANDUM**



**DEPARTMENT OF THE AIR FORCE**  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

26 September 2010

MEMORANDUM FOR RECORD

FROM: USAF  
Accident Investigation Board Maintenance Member

SUBJECT: C-17A Accident Investigation Board / Review of Mishap Aircraft (MA) Maintenance Records; Maintenance Personnel Training Records; and Special Certification Roster (SCR) in Accordance with Air Force Instruction (AFI) 51-503.

1. The purpose of this memorandum is to provide a general statement documenting the maintenance personnel qualifications, a review of aircraft training records, maintenance training records, and the SCR for personnel maintaining and servicing the MA, as a basis for systems appraisals, for the Accident Investigation Board (AIB) process.
2. For the past two and a half years, I served as a Field Training Detachment and Mission Qualification Training Program instructor, for the Air Force and Mississippi Air National Guard, at Thompson Field Air National Guard Base, Jackson, Mississippi. For the past 6 years I have served as a C-17 Flying Crew Chief (FCC) and maintenance technician. In these positions, I perform all aspects of aircraft maintenance, as well as instruct and test maintenance professionals on various C-17 systems, to include: flight controls, hydraulics, engines, environmental, landing gear, structures, communications and fuels. I have over 17 years of total military service, including 13 years in the aircraft maintenance career field. I have also acquired two Associate Degrees from the Community College of the Air Force, Aviation Maintenance Technology and Instructional Technology, and a Bachelor of Arts Degree in Business Administration from Belhaven University.
3. The MA's Air Force Technical Order (AFTO) 781 series forms and the Core Automated Maintenance System for Mobility database (GO81) were reviewed thoroughly to ensure proper maintenance and documentation practices were followed IAW AFTO 00-20-1. All maintenance actions were performed properly and documented. There were minor documentation errors, which had been annotated and addressed by the maintenance supervision, indicating sound oversight of maintenance operations by supervision. Historical records show all Time Change Technical Orders (TCTO) were current. There is no evidence that compliance with maintenance actions, TCTO's or forms documentation were a factor in this mishap.
4. I also reviewed all maintenance training records utilizing Training Business Area (TBA) and GO81, containing the Special Certification Roster. All personnel performing maintenance on the MA were fully qualified to perform these tasks IAW AFTO 00-20-1 and AFI 21-101.

  
USAF  
AIB Maintenance Member

## EE2. AIB MAINTENANCE OFFICER ADVISOR MEMORANDUM



**DEPARTMENT OF THE AIR FORCE**  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

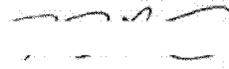
26 September 2010

MEMORANDUM FOR RECORD

FROM: [Redacted] USAF  
Accident Investigation Board Maintenance Advisor

SUBJECT: C-17A Accident Investigation Board / Review of Mishap Aircraft (MA) Maintenance Records; Maintenance Personnel Training Records; and Special Certification Roster (SCR) in Accordance with Air Force Instruction (AFI) 51-503.

1. The purpose of this memorandum is to provide a general statement documenting the maintenance personnel qualifications, a review of aircraft training records, maintenance training records, and the SCR for personnel maintaining and servicing the MA, as a basis for systems appraisals, for the Accident Investigation Board (AIB) process.
2. I am a maintenance officer with 12 years of Air Force service in the aircraft maintenance career field. I am currently the commander, 354th Maintenance Squadron, Eielson AFB, Alaska. I lead 300 maintenance personnel, responsible for production, training, certification, and overall squadron readiness. I have experience with seven types of aircraft: C-17, C-12, B-1, F-16, A-10, E-3, and F-15. I have supervised crew chiefs, fabrication, fuels, egress, schedulers/analysts, and munitions personnel. I have reviewed, approved, and signed special certification rosters and training records in GO81 and IMDS tracking databases for both officer and enlisted personnel.
3. Air Force Technical Order (AFTO) 781 series forms and the Core Automated Maintenance System for Mobility database (GO81) were reviewed thoroughly to ensure proper maintenance and documentation practices were followed IAW AFTO 00-20-1. All maintenance actions were performed properly and documented. There were minor documentation errors, which had been annotated and addressed by the maintenance supervision, indicating sound oversight of maintenance operations by supervision. Historical records show all Time Change Technical Orders (TCTO) were current. There is no evidence that compliance with maintenance actions, TCTO's or forms documentation were a factor in this mishap.
4. I reviewed all maintenance training records utilizing Training Business Area and GO81, containing the Special Certification Roster. All personnel performing maintenance on the MA were fully qualified to perform these tasks IAW AFTO 00-20-1 and AFI 21-101.

  
[Redacted] USAF  
AIB Maintenance Officer Advisor

### EE3. AIB PILOT ADVISOR MEMORANDUM (SIMULATOR TEST)



**DEPARTMENT OF THE AIR FORCE**  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

26 September 2010

MEMORANDUM FOR RECORD

FROM :

Pilot Member, Accident Investigation Board

SUBJECT: Simulator Test--Re-creation of Mishap Sequence of Events, 2 and 9 Sep 2010

1. The purpose of this memorandum is to document the results of the simulator recreations I performed as part of the Accident Investigation Board (AIB) convened to investigate the 28 Jul 10 crash involving C-17A, T/N 00-0173 at Joint Base Elmendorf-Richardson (JBER), AK. I am a current and qualified C-17A instructor pilot at Joint Base Pearl Harbor-Hickam. I have over 2,700 flight hours with approximately 1,300 hours in the C-17. I was appointed Pilot Adviser to the AIB.

2. On 2 and 9 Sep 10, I conducted a total of 22 C-17 simulator tests at JBER's C-17 simulator training center to investigate the 28 Jul 10 mishap sequence of events. The C-17 simulator is an artificial re-creation of aircraft flight and various aspects of the flight environment. It incorporates a highly detailed flight deck replica with all controls and aircraft systems, and includes full motion capability with a panoramic visual display system. The simulator provides aviators with the ability to train for real-world-flying situations in a practice setting. Although the simulator is not capable of replicating the exact conditions experienced during the 28 Jul 10 mishap, I was able to duplicate the basic aircraft configuration and outside environmental conditions that the mishap crew encountered.

3. On 2 Sep 10, the board president, medical advisor, and I attempted to recreate the mishap flight profile and determine simulator replication capability. We conducted a total of 11 simulated flights. I found the simulator did not accurately replicate aircraft handling characteristics during aggressive flight maneuvering (high bank-angles, rudder inputs, heavy G-load). Although the stall warning system and Angle of Attack Limiter System (ALS) activated in an accurate and reliable manner, the simulator handling characteristics and simulated aircraft responses were minimally affected by the extreme maneuvers. Consequently, the C-17 simulator was ruled out as a valid method for replicating the mishap sortie.

4. On 9 Sep 10, the board president, flight surgeon and I conducted a second set of 11 simulator flights. We replicated the standard C-17 aerial demonstration Profile 3 as described in AFI 11-246, Vol. 6, Chp. 3. We duplicated the mishap aircraft's weight and the environmental conditions at the time of the mishap sortie. I determined that when flown IAW AFI 11-246 (i.e.,

45-degree bank-angle turns, on speed Vmco climb to 1,500 feet AGL and rudder use as needed), Profile 3 should not result in stall warning or ALS activation.

5. From these simulator profiles I concluded:

a. Due to unrealistic handling characteristics and simulated aircraft responses during high bank-angles, rudder inputs and G-forces, the C-17 simulator was not a valid method for replicating the stalled condition of the mishap sortie.

b. The simulator's stall warning and ALS systems activated in an accurate and reliable manner during aggressive maneuvering (i.e., high bank angles, full rudder inputs and control stick movements).

c. When flown IAW AFI 11-246, Vol. 6, Chp 3, Profile 3 should not result in stall warning or ALS activation.

  
USAF  
Pilot Member, Accident Investigation Board

## EE4. AIB PILOT ADVISOR MEMORANDUM (AERIAL DEMO CHECKLIST)



**DEPARTMENT OF THE AIR FORCE**  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

26 September 2010

MEMORANDUM FOR RECORD

FROM :

Pilot Member, Accident Investigation Board

SUBJECT: Aerial Demonstration Checklist

1. The purpose of this memorandum is to examine unapproved checklist use by the mishap crew. The mishap crew used an unauthorized checklist documented on the Cockpit Voice Recorder (CVR) transcript as the "Following Before Takeoff Aerial Demonstration Checklist". Additionally, during the course of the investigation, the board determined that there was substantial confusion among many current JBER C-17 demonstration crewmembers regarding appropriate checklist use.

2. The board was provided with a demonstration checklist that the mishap pilot emailed to nearly all 3rd Wing demonstration crewmembers on 29 June, 2010. The mishap pilot's email contained an attached document, titled "3WG Aerial Demonstration Checklist". This "demonstration checklist" closely resembled the approved standard C-17A Technical Order (T.O.) checklist. It is likely that this was the checklist captured on the CVR.

3. Despite the resemblance to the approved T.O. checklist, the demonstration checklist includes substantial differences. Major alterations include:

- a. *Technique incorporation.* Aircrew checklists steps are procedural and therefore mandatory. In contrast, techniques are the pilot's own method of accomplishing tasks and should never be confused with procedures. Confusing techniques and procedures can lead to unsafe flight operations. The demonstration checklist combines technique with procedure as evidenced by this opening note: *Aerial Demonstration profiles are inherently technique-oriented. This checklist is an aid to the profile and may be modified to suit the situation and the desires of the aircraft commander. It is intended to minimize CAWS alerts and extraneous switchology while airborne.*
- b. *Checklist item de-emphasis.* Approved T.O checklists use a standard text font size for aircrew readability and emphasis. In the interests of safety, checklist font sizes should not be adjusted by aircrew without proper authorization and approval. Unauthorized altering of checklist font size can lead to missed checklist steps and unsafe flight operations. The demonstration checklist contains 20 very small font "de-emphasized" items.

- c. *Reassigned challenge-response items.* Challenge-response means that a checklist step (or action) must be requested by one aircrew member (challenge) and acknowledged by another aircrew member (response). This is designed to promote essential communication between crewmembers during critical phases of flight. The demonstration checklist reassigned multiple challenge-response checklist items, (such as landing gear and flap configurations) which shifted vital communication away from pilot-to-copilot and instead to copilot-to-safety observer. Although it did not directly contribute to this mishap, removing the pilot from challenge-response checklist items could have led to unsafe flight operations.
  - d. *Added sub-checklists.* Added sub-checklists included: "Following Before Takeoff", "Following Before Landing", "After Touchdown", and "Following Demonstration" checklists. Adding sub-checklists confuses technique with procedure and can be contrary to good flight discipline. Pilot techniques should be separate and apart from T.O. checklists. Adding techniques to a T.O. checklist, despite good intent, can lead to unsafe flight operations.
4. The aerial demonstration checklist was in widespread circulation among 3rd Wing C-17 demonstration crewmembers. Overall, the proliferation of an unapproved Aerial Demonstration checklist reflects poorly on flight discipline. It was used by the mishap crew and therefore relevant, but not causal, to the mishap. The referenced copy of the "3rd Wing Aerial Demonstration Checklist" is attached to this report.

//signed//

, ; USAF  
Pilot Member, Accident Investigation Board

**EE5. AIB LEGAL ADVISOR MEMORANDUM (BANGKOK VIDEO)**



**DEPARTMENT OF THE AIR FORCE  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA**

21 September 2010

MEMORANDUM FOR RECORD

FROM:

Legal Advisor, Accident Investigation Board

SUBJECT: C-17A Accident Investigation Board / Bangkok 2009 Airshow Video

1. The purpose of this memorandum is to provide a written description of the video footage obtained from **WITNESS 3**, 517 Airlift Squadron (517 AS), Joint Base Elmendorf-Richardson (JBER), Alaska.

2. **BACKGROUND:** **WITNESS 3** is a certified C-17 aerial demonstration pilot with the 517 AS. **MP** was his demonstration upgrade instructor pilot. He flew aerial demonstrations with **MP** and **MSO** as a hard crew, along with **WITNESS 8** (as an aerial demonstration safety observer) and SSgt, a demonstration-certified loadmaster.

a. The Accident Investigation Board (AIB) learned that **WITNESS 3** accompanied **MP**, **MSO** and **WITNESS 8** to Thailand and Korea to perform a C-17 aerial demonstration, during which **MP** performed Profile 3 (also known as the "12-minute" program). (See Air Force Instruction 11-246, Volume 6, Chapter 3 – C-17 Aerial Demonstration Profiles.) During their aerial demonstration performance in Thailand, **WITNESS 3** used a personal digital camera to record the flight from inside the cockpit of their aircraft.

b. The AIB Board President (BP), Brig Gen Carlton D. Everhart II, interviewed **WITNESS 3** under oath on 15 September 2010. During the interview, the BP specifically requested that **WITNESS 3** provide a copy of the video for the board to review. On 17 September 2010, **WITNESS 3** produced a DVD-ROM with two digital video recordings: one video entitled "Bangkok 2009" and one video entitled "Osan 2009".

c. **WITNESS 3** digitally recorded these two videos and placed into a DVD movie format using an Apple computer. **RECORDER** converted the format of both videos to MP3 version for inclusion with this report. The Bangkok 2009 video is 11 minutes and 59 seconds in length. It appears that **WITNESS 3** operated the camera to record the video, which also includes sound).

d. Both **MP** and **MSO** were killed in the C-17A fatal mishap that occurred on 28 July 2010 at JBER. The mishap is the subject of the present AIB. The AIB determined

that **MP** was the mishap pilot (MP) and **MSO** was the mishap safety observer (MSO).

3. BANGKOK 2009 VIDEO DESCRIPTION<sup>1</sup>. Supplemented by <sup>WITNESS 3's</sup> testimony, the video shows the following:

a. The video begins with a ground crewmember marshaling **MP**, who was sitting in the left seat (also known as the pilot position) to the appropriate runway. **MSO** was in the right seat (also known as the co-pilot position); <sup>WITNESS 8</sup> was the safety observer in the right additional crewmember (RACM) seat. <sup>WITNESS 3</sup> is not in the camera's view. He also cut the video to show <sup>WITNESS 8</sup> in the cargo compartment, strapped in the loadmaster seat.

b. At 1:22: **MP** performs a maximum power takeoff/climb out.

c. At 2:04: **MP** executes a left turn (presumably 80 degrees of heading change) at an unknown bank angle. He completes the maneuver at 2:10.

d. At 2:18: **MP** executes a right turn (presumably 260 degrees of heading change) at an unknown bank angle.

e. From 2:22 through 2:41: The aural stall warning enunciates continuously throughout the turn. During this period, **MSO** says "keep your turn tight" and "watch your altitude." <sup>WITNESS 8</sup> is looking around outside the cockpit windows. At the conclusion of this period, **MSO** says "Good line up."

f. At 2:41: **MP** completes the right turn maneuver.

g. At 2:50: **MSO** says "300 knots" and <sup>WITNESS 8</sup> says "and show center". The runway can be seen ahead of the aircraft, out of the front cockpit window.

h. At 2:56: **MP** executes a right turn (presumably 50 degrees of heading change) at an unknown bank angle. He completes the maneuver at 3:06.

i. At 3:06: **MP** rolls the aircraft level.

j. At 3:12: **MP** turns the aircraft towards the left (presumably 310 degrees of heading change) at an unknown bank angle.

k. At 3:39: While the aircraft is still in a left turn, <sup>WITNESS 8</sup> says "200 high".

l. At 3:42: **MP** completes the left turn maneuver.

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<sup>1</sup> All times approximated; all descriptions are based on Profile 3, as described in AFI 11-246, Vol 6, Chp. 3.

- m. At 3:52: **MP** turns the aircraft towards the left at an unknown bank angle. He completes the maneuver at 3:57. The runway can be seen ahead of the aircraft, out of the front cockpit window.
- n. At 4:08: **MSO** says “your about 100 high.”
- o. At 4:28: **WITNESS 3** zooms the camera lens to record the airshow attendees watching the show on the ground.
- p. At 4:54: **MP** turns the aircraft left at an unknown bank angle.
- q. At 5:02: **MSO** says “coming up on about 160 knots.”
- r. At 5:03: **MP** completes the left turn maneuver.
- s. At 5:05: **MP** turns the aircraft to the right at an unknown bank angle.
- t. At 5:09: The auto-throttle and stall warnings enunciate. **MSO** says “add more power . . . 150 knots.”
- u. At 5:20: The stall warning enunciates.
- v. At 5:24: **MSO** says “160,” then “power’s good,” then “100 low.”
- w. At 5:39: **WITNESS 3** zooms the camera lens to record the airshow attendees watching the show on the ground.
- x. At 5:44: **MP** begins a 360-degree turn to the right at an unknown bank angle.
- y. At 5:47: the “auto throttle” warning enunciates.
- z. At 6:17: **MP** completes the 360-degree turn.
- aa. At 6:23: **MP** begins a right turn at an unknown bank angle.
- bb. At 6:25: the “auto throttle” warning enunciates.
- cc. At 6:46: **MP** begins a left turn at an unknown bank angle. He completes the turn at 7:20.
- dd. From 7:20 to 7:36: **MSO** says “coming up on 300 feet. Looks safe. [inaudible].” The recording cuts from the cockpit to the cargo compartment. The starboard side

door is open. The Loadmaster appears to be mostly outside the door. The camera view turns forward towards the cockpit.

- ee. At 7:36: the aircraft is backing up on the runway.
  - ff. At 7:55: the “flaps” alert enunciates.
  - gg. At 8:20: The aircraft begins moving forward.
  - hh. At 8:32: The aircraft taxis to the right, towards its parking spot.
  - ii. At 9:00: the “spoiler not armed” alert enunciates.
  - jj. At 9:08: the camera view swings towards the rear of the aircraft. The Loadmaster can be seen sitting on the cargo ramp.
  - kk. At 10:15: The “stabilizer motion” alert enunciates. The aircraft continues to taxi towards a parking position.
  - ll. At 11:09: the camera records the spectators as the aircraft taxis towards the ground crew member.
  - mm. At 11:39: The camera view swings towards the rear of the aircraft. The Loadmaster can be seen sitting on the cargo ramp waving to the spectators in the distance.
  - nn. At 11:58: Video footage ends.
4. The AIB reviewed the “Osan 2009” video. One of the aircrew attached the camera on top of the dashboard, in front of the cockpit’s left seat (pilot flying seat). The camera showed the forward-view perspective. It is worth noting that the stall warning enunciated at 00:50, 1:07, and 1:13, during the 260-degree turn.

USAF  
Legal Advisor, Accident Investigation Board

**EE6. AIB LEGAL ADVISOR MEMORANDUM (JBER FIRE SERVICES RELEASE)**



**DEPARTMENT OF THE AIR FORCE**  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

26 September 2010

MEMORANDUM FOR RECORD

FROM:

Legal Advisor, Accident Investigation Board

SUBJECT: C-17A Accident Investigation Board / JBER Fire Emergency Services  
Post Incident Analysis Report

1. We received and reviewed the JBER Fire Emergency Services Post Incident Analysis Report. It contained 13 pages. The AIB report referenced search and rescue efforts in the Sequence of Events section. The referenced information is contained on page 1 of the report. Therefore, we included only page 1 in Tab CC. The complete report is included with the evidence collected and provided to PACAF.
2. Also, the report is marked "FOUO – Not for public release". However, I spoke to Chief [redacted], Fire & Emergency Services, who provided the report to the AIB. He authorized its release of the report. He also told me the reason for the marking was to prevent unauthorized release of information during the SIB or AIB investigations. (Attachment.)

USAF  
Legal Advisor, Accident Investigation Board

## EE7. AIB MEDICAL ADVISOR MEMORANDUM (REVIEW OF MEDICAL RECORDS)



### DEPARTMENT OF THE AIR FORCE ACCIDENT INVESTIGATION BOARD JOINT BASE ELMENDORF-RICHARDSON, ALASKA

27 September 2010

#### MEMORANDUM FOR RECORD

FROM: Accident Investigation Board  
Elmendorf Air Force Base, Alaska

SUBJECT: Review of Medical Records.

1. The purpose of this memorandum is to provide a general statement documenting the review of medical records for flight crew and ground support personnel maintaining and servicing the mishap aircraft (MA), C-17A, 00-173, that crashed on 28 July 2010. The medical records of the MC are not included in the Accident Investigation Board (AIB) report in accordance with Air Force Instruction 51-503, paragraph 5.8.6.

2. I reviewed all relevant medical records for each crewmember involved in the mishap sortie. All four crewmembers had valid AF 1042, Medical Recommendation for Flying or Special Operational Duty physicals. The only discrepancy noted was a missing "hard copy" AF 1042 (RTFS) for MCP. However, his electronic medical record noted that he had been "Returned to Flying Status" on 7 July 2010.

3. Mishap sortie crewmember dental records were not available for review. Per evidence record transfer documents provided by the Safety Investigation Board, these records were sent by FedEx to Dover, MD, and were not available for review.

4. I reviewed the autopsy report for each crewmember involved in the mishap sortie. The autopsies were performed at the 673<sup>rd</sup> MDG, Joint Base Elmendorf-Richardson, AK. The cause of death for all crewmembers was listed as "Multiple Injuries" and "Accidental". Incidental findings of coronary artery disease was discovered on two mishap crewmembers but was not a factor in the mishap. No other incidental findings or discrepancies were discovered reviewing these reports.

5. 72-hour and 14-day histories were obtained for the MP, MCP, and MSO from surviving family and friends. No evidence was discovered to indicate unusual habits or behavior contributed to this mishap.

6. I contacted MLM's wife to obtain the MLM's 72-hour and 14-day histories. She declined to be interviewed, but verified that she provided the information to the Safety Investigation Board shortly after the mishap. The SIB considered her interview privileged. Nothing in the MLM's medical records I reviewed indicates any habits or behavior contributed to this mishap.

7. I reviewed all toxicology reports for the four mishap sortie crewmembers and 18 ground support personnel tested. All results were negative except for one ground support individual. This individual tested positive for one substance but held a valid prescription and carried an appropriate diagnosis. This individual had no direct contact with the mishap aircraft and was no factor in the mishap.

8. Cockpit Voice Recorder Transcripts prior to takeoff noted a discussion between the mishap pilot and the mishap crew discussing an injury to the mishap pilot's right thumb. No medical records were identified indicating that the mishap pilot sought medical evaluation and treatment for this injury. Due to the extensive amount of blunt force trauma sustained in the mishap, no possibility existed to accurately evaluate this injury post-mortem. Its role in this mishap, if any, is indeterminate.

MC, FS, OHANG

Medical Advisor, Accident Investigation Board

**EE8. AIB PILOT ADVISOR MEMORANDUM (C-17 STALL RECOVERY PROCEDURES AND WEATHER DEFINITIONS)**



**DEPARTMENT OF THE AIR FORCE**  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA

27 September 2010

MEMORANDUM FOR RECORD

FROM :

Pilot Member, Accident Investigation Board

SUBJECT: C-17 Stall Recovery Procedures and Weather Definitions

1. The purpose of this memorandum is to clarify verbiage for stall recovery procedures for the C-17A, to establish a working definition of the weather terms "broken" and "overcast", and to establish airspeed usage throughout the AIB report.
2. For purposes of the AIB report, stall recovery steps for the C-17A is defined as: positive forward stick (to include: release stick pressure, neutral control stick pressure, release backstick pressure, release pitch), thrust increase to max (to include: MAX, maximum thrust, MAX power), and roll input to wings level (to include: roll out, left roll, left aileron, left roll). Large rudder inputs should be avoided during stall recovery.
3. The weather term "broken" describes cloud cover more than 62% to 87% of the sky. The term "overcast" describes cloud cover which totally covers the sky. These definitions were derived from the AFH 11-203V1 and have been condensed for public understanding.
4. Throughout the AIB report, all airspeeds referenced are calibrated airspeeds, or KCAS. These speeds are abbreviated "kts" to save space in the report. Calibrated airspeeds are the speeds presented on primary aircraft displays, and are the speeds the pilots would have viewed and referenced during the mishap sortie. This differs slightly from the airspeed presented in the animation. Despite the label "Cal. Airspeed", the airspeed displayed in the animation is Indicated Airspeed. This discrepancy exists because the C-17 flight data recorder captures Indicated Airspeed, but the software limitations only allow the display field "Cal. Airspeed". Overall, there is negligible difference between these two speeds for the mishap flight conditions.

USAF

Pilot Member, Accident Investigation Board

**EE9. AIB LEGAL ADVISOR MEMORANDUM (TAB V – COCKPIT VOICE RECORDER)**



**DEPARTMENT OF THE AIR FORCE  
ACCIDENT INVESTIGATION BOARD  
JOINT BASE ELMENDORF-RICHARDSON, ALASKA**

28 September 2010

MEMORANDUM FOR RECORD

FROM:

Legal Advisor, Accident Investigation Board

SUBJECT: C-17A Accident Investigation Board / Tab V - Cockpit Voice Recorder

1. The purpose of this memorandum is to provide a written explanation of Cockpit Voice Recorder (CVR) Transcription (Tab V-401 through V-429).
2. Although one of the Safety Investigation Board (SIB) members transcribed the CVR (Tab N-2 through N-18), the member was not a certified court reporter. When [redacted] was detailed to assist the Accident Investigation Board (AIB) as the court reporter, he transcribed a longer portion of the CVR, which included the mishap sortie. The transcript is included in the AIB report in Tab V Tab V-401 through V-429.
3. [redacted] is fully qualified and certified to perform transcription services.
  - a. [redacted] entered the Air Force in July 1998 and cross-trained into the legal career field in January 2003 as a paralegal. In 2007, [redacted] received a Bachelor of Science (summa cum laude) in Criminal Justice Administration from Park University. Additionally, in 2010, he received a Master of Science (summa cum laude) in Criminal Justice from Troy University.
  - b. In 2008, [redacted] trained to become an Enlisted Court Reporter (ECR). He graduated second in his class at the Army Judge Advocate General's Court Reporter Course, and was sworn in as a court reporter by the Chief Judge of the United States Army. In 2009, he completed the Army Senior Court Reporter Course, and instructed at an Air Force Court Reporter Refresher Course at Nellis Air Force Base, Nevada. In 2010, [redacted] completed the Army Court Reporter Redictation Enhancement Course.
  - c. [redacted] has served as an Enlisted Court Reporter for almost three years. During this time, he has traveled worldwide for various judicial and investigative proceedings, to include 10 Aircraft Accident Investigation Boards. He and has an estimated 700 hours recording experience, and produced approximately 14,000 pages of transcription.
4. Based on [redacted] extensive experience, the board resolved any differences between the two CVR transcripts using [redacted] transcription.

USAF  
Accident Investigation Board Legal Advisor

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**TAB FF**

**FACT SHEETS**

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**FF2. AIR NATIONAL GUARD FACT SHEET.....6**  
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## FF1. PACIFIC AIR FORCES FACT SHEET

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# FACT SHEET

## U.S. Air Force Fact Sheet PACIFIC AIR FORCES

Pacific Air Forces, with headquarters at Hickam Air Force Base, Hawaii, is a major command of the U.S. Air Force and is the air component of the U.S. Pacific Command.

### Mission

PACAF's primary mission is to provide U.S. Pacific Command integrated expeditionary Air Force capabilities to defend the homeland, promote stability, dissuade/deter aggression, and swiftly defeat enemies.

The command's vision is to bring the full power of America's Air Force and the skill of its Airmen to promote peace and stability in the Asia-Pacific region.



PACAF's area of responsibility extends from the west coast of the United States to the east coast of Africa and from the Arctic to the Antarctic, covering more than 100 million square miles. The area is home to 50 percent of the world's population in 36 nations and over one-third of the global economic output. The unique location of the Strategic Triangle (Hawaii-Guam-Alaska) gives our nation persistent presence and options to project U.S. airpower from sovereign territory.

### Personnel and Resources

The command has approximately 43,000 military and civilian personnel serving in nine strategic locations and numerous smaller facilities, primarily in Hawaii, Alaska, Japan, Guam and South Korea. Approximately 340 fighter and attack aircraft are assigned to the command with about 100 deployed aircraft rotating on Guam. PACAF will be home to three of the seven F-22 Raptor fighter squadrons, and is already home to the only two C-17 Globemaster III units based outside the continental United States.

### Organization

PACAF's major units are 5th Air Force, Yokota Air Base, Japan; 7th Air Force, Osan AB, South Korea; 11th Air Force, Elmendorf Air Force Base, Alaska; and 13th Air Force, Hickam AFB, Hawaii.

Major units also include 3rd Wing, Elmendorf AFB; 8th Fighter Wing, Kunsan AB, South Korea; 15th Airlift Wing, Hickam AFB; 18th Wing, Kadena AB, Japan (Okinawa); 35th Fighter Wing, Misawa AB, Japan; 36th Wing, Andersen AFB, Guam; 51st Fighter Wing, Osan AB; 354th Fighter Wing, Eielson AFB, Alaska; and 374th Airlift Wing, Yokota AB, Japan.

### History

PACAF traces its roots to the activation of Far East Air Forces, Aug. 3, 1944, at Brisbane, Queensland, Australia. FEAF was subordinate to the U.S. Army Forces Far East and served as the headquarters of Allied Air Forces Southwest Pacific Area. By 1945, three numbered air forces — 5th, 7th and 13th — were supporting operations in the Pacific. At that time, the Army Air Forces in the Pacific became part of the largest and most powerful military organization ever

fielded by any country in the world.

After World II, FEAF and 5th Air Force remained in Japan, while 7th Air Force operated from Hawaii, and 13th Air Force from the Philippines. In the post-war years, FEAF was designated the theater air force for the Far East Command. All air forces in the Far East and Southwest Pacific were placed under one Air Force commander for the first time.

When the North Koreans crossed the 38th parallel June 25, 1950, FEAF consisted of 5th Air Force, 13th Air Force, 20th Air Force and the Far East Materiel Command. Four years after the Korean War armistice, FEAF was redesignated Pacific Air Forces and transferred its headquarters to Hickam.

By 1960, PACAF maintained a combat-ready deterrent force of some 35 squadrons, operating from 10 major bases in a half-dozen countries. In the early 1960s communist military strength and firepower in Vietnam increased. As a result, PACAF began a buildup in the area with the addition of troops and better arms and equipment.

Combat aircraft of PACAF flew their last strikes in Cambodia Aug. 15, 1973, writing the final chapter to the long and costly history of active American participation in the Indochina War. The post-Vietnam era found the command focusing on improving its readiness.

PACAF's organizational structure saw a marked period of rapid and extensive changes. Andersen was reassigned from Strategic Air Command in 1989, and 11th Air Force became a part of the command in late 1990. Following the volcanic eruption of Mount Pinatubo, Clark AB, the Philippines, was closed and 13th Air Force relocated to Andersen in 1991.

In 1992, changes took place in force structure within PACAF as the command assumed control of theater-based tactical airlift wings, theater C-130 aircraft and crews, and associated theater C-130 support. PACAF also gained control of all operational support aircraft and all aeromedical airlift assets in the Pacific.

Throughout its history PACAF has played a vital role in world events. In addition to its key combat role in World War II, Korea and Vietnam, PACAF units fought in Desert Storm in 1991, and they continue to deploy to Saudi Arabia, Turkey and Italy for peacekeeping operations. PACAF provided its expertise, aircraft, personnel and equipment to facilitate the new Expeditionary Air Force, especially as it applied to successful airbridge operations spanning the vast Pacific Ocean. Following the Sept. 11, 2001, terrorist attacks on the United States, PACAF again demonstrated its intrepid spirit through its units deployed in support of operations Noble Eagle and Enduring Freedom.

Since 1944, the command has participated in more than 140 humanitarian operations within its area of responsibility and beyond. In these operations PACAF people quickly and efficiently airlifted food, medicine and other supplies to areas devastated by storms, floods, earthquakes, volcanoes and other natural disasters.

Additionally, the command supported three of the largest evacuations ever undertaken by the Air Force: the Newlife evacuation of Vietnamese in 1975, the Fiery Vigil evacuation of Clark Air Base, Philippines, after the 1991 volcanic eruption of Mount Pinatubo, and the Pacific Haven operation to support and resettle Kurdish evacuees in 1997.

Recent efforts include support of tsunami relief efforts during Operation Unified Assistance in 2006. PACAF stood up a 24/7 air operations center to organize rescue and relief flight efforts by the Air Force as well as Navy, Marine, Coast Guard and other nations. In 2008, PACAF delivered winter supplies and food to China to help victims of China's worst winter storms in more than 50 years. PACAF also delivered 2,000,000 pounds of relief supplies after China was hit by a devastating earthquake and assisted with Burma cyclone relief by preparing C-17s to transport personnel and supplies.

For more than five decades PACAF has served in defense of the nation. The command continually prepares to bring air power quickly and decisively to the far reaches of the Pacific.

**Point of Contact**

Pacific Air Forces, Public Affairs Office: 25 E Street, Suite G-108; Hickam AFB, Hawaii 96853-5496; DSN 449-3218 or 808-449-3218.

## FF2. AIR NATIONAL GUARD FACT SHEET

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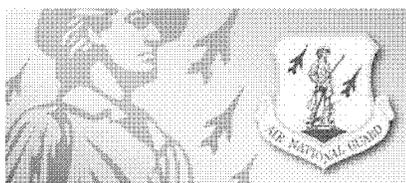


# FACT SHEET

## U.S. Air Force Fact Sheet

### AIR NATIONAL GUARD

The Air National Guard is administered by the National Guard Bureau, a joint bureau of the departments of the Army and Air Force, located in the Pentagon, Washington, D.C. It is one of the seven Reserve components of the United States armed forces that augments the active components in the performance of their missions.



#### Mission

The Air National Guard has both a federal and state mission. The dual mission, a provision of the U. S. Constitution, results in each guardsman holding membership in the National Guard of his or her state and in the National Guard of the United States.

#### Federal Mission

The Air National Guard's federal mission is to maintain well-trained, well-equipped units available for prompt mobilization during war and provide assistance during national emergencies (such as natural disasters or civil disturbances). During peacetime, the combat-ready units and support units are assigned to most Air Force major commands to carry out missions compatible with training, mobilization readiness, humanitarian and contingency operations such as Operation Enduring Freedom in Afghanistan. Air National Guard units may be activated in a number of ways as prescribed by public law. Most of the laws may be found in Title 10 of the U.S. Code.

The Air National Guard provides almost half of the Air Force's tactical airlift support, combat communications functions, aeromedical evacuations and aerial refueling. In addition, the Air National Guard has total responsibility for air defense of the entire United States.

#### State Mission

When Air National Guard units are not mobilized or under federal control, they report to the governor of their respective state, territory (Puerto Rico, Guam, Virgin Islands) or the commanding general of the District of Columbia National Guard. Each of the 54 National Guard organizations is supervised by the adjutant general of the state or territory. Under state law, the Air National Guard provides protection of life, property and preserves peace, order and public safety. These missions are accomplished through emergency relief support during natural disasters such as floods, earthquakes and forest fires; search and rescue operations; support to civil defense authorities; maintenance of vital public services and counterdrug operations.

#### Force Structure

The primary sources of full-time support for Air National Guard units are the dual-status military technician and guardsmen on active duty. These people perform day-to-day management, administration and maintenance. By law, dual-status military technicians are civil service

employees of the federal government who must be military members of the unit that employs them. Technicians train with the unit and are mobilized with it when it's activated. Active-duty members serve under the command authority of their respective state or territorial governors until mobilized for federal duty. The Air National Guard has more than 106,000 officers and enlisted people who serve in 88 flying units and 579 mission support units.

The National Guard Bureau, both a staff and operating agency, administers the federal functions of the Army and the Air National Guard. As a staff agency, the National Guard Bureau participates with the Army and Air staffs in developing and coordinating programs that directly affect the National Guard. As an operating agency, the National Guard Bureau formulates and administers the programs for training, development and maintenance of the Army National Guard and Air National Guard and acts as the channel of communication between the Army, Air Force and the 54 states and territories where National Guard units are located.

#### **Personnel and Resources**

The authorized strength for the Air National Guard for the current fiscal year is 106,678 compared to active force strength of 359,300. The operating budget for this fiscal year is \$2,724.5 million for personnel, \$4, 724.1 million for operation and maintenance and \$165.3 million for military construction for a total of \$7, 613.9 million.

#### **Flying Units/Functions and Capabilities**

Besides maintaining 94 percent of the U.S. alert sites for air defense, the Air National Guard provided 60 percent of intercept sorties flown in fiscal 2005 to protect U.S. air sovereignty while still performing many other Air Force-related roles and missions.

The Air National Guard provides tactical airlift, air refueling tankers, general purpose fighters, rescue and recovery capabilities, tactical air support, weather flights, strategic airlift, special operations capabilities and aeromedical evacuation units

Airlift squadrons fly C-130 Hercules, C-5 Galaxy, and C-17 Globemaster aircraft that transport people, equipment and supplies. Air refueling units, flying KC-135 Stratotankers, provide air-to-air refueling for strategic and tactical aircraft.

The Air National Guard has three rescue and recovery squadrons that fly HH-60 helicopters and HC-130 aircraft. These units provide important lifesaving capabilities and services to civilian and military agencies. Air support units that fly OA-10 Thunderbolt IIs provide forward air control support of close-air support missions. The general-purpose fighter force is equipped with F-15 Eagle, F-16 Fighting Falcon, A-10 and OA-10 aircraft.

#### **Support Unit Functions and Capabilities**

Support units are essential to the Air Force mission. In the Air National Guard they include air traffic control units, combat communications squadrons, civil engineering and communication flights and squadrons. Support units also include weather flights, aircraft control and warning squadrons, a range control squadron and an electronic security unit.

Air National Guard weather flights provide weather support to Air Force and Army National Guard and Army Reserve divisions and brigades. During mobilization or federal call up, weather flight units are under the Air Combat Command, except for one, which falls under the Pacific Air Forces.

Civil engineering squadrons provide engineer and firefighter forces trained and equipped to deploy on short notice. Other civil engineering squadrons provide self-sufficient, deployable civil engineering teams to perform heavy repair and maintenance on air bases and remote sites.

Aerial port units provide trained people to support Air Mobility Command's two major theater

war commitments. They deploy to 20 active-duty aerial port locations worldwide for annual tour training.

Medical units located with parent flying organizations provide day-to-day health care for flying and non-flying people during their two-week annual training period or during monthly two-day unit training assemblies.

**Point of Contact**

National Guard Bureau, Public Affairs, 1411 Jefferson Davis Highway, Ste 11200, Arlington, VA 22202-3231, DSN 327-2668 or (703) 607-2668.

## FF3. ALASKA AIR NATIONAL GUARD FACT SHEET

Alaska Air National Guard

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### Alaska Air National Guard

The Alaska Air National Guard was organized in September 1952, and designated as the 8144th Air Base Squadron. On 15 September 1952 at the First Unit Training Assembly 5 Officers, and 11 Enlisted men answered the roll call. To these men much of the work of organization and the future of the Air Guard in Alaska rested.

The guiding force behind the Organization was Colonel Lars Johnson, the Territorial Adjutant General, later the State Director of Aviation. All his spare time was spent in recruiting personnel, locating equipment and quarters for the squadron.

The unit was housed at Elmendorf AFB near Anchorage and the job of recruiting technicians, specialists and flying personnel began.

By February 1953 the Unit's first Aircraft arrived, a T-6G Trainer, and unit training began in earnest.

On 1 July 1953 Federal recognition was granted and the Squadron was re-designated the 144th Fighter Bomber Squadron with the promise of F-76 Jets. By this time few more T-6 Trainers were on the ramp and the flying schedules were increased to get everyone current for transitional training into jet aircraft. In November 1953 a T-33A arrived followed by F80C Jet Fighters

Field Training was scheduled for November 1953 with 15 Officers and 49 Enlisted men, and transition training began in earnest to qualify all pilots as jet qualified. By November 1954, assigned aircraft numbered 14 F-80C, 2 T-33A, 3 T-6G, 2 T-6D and 1 C-47.

The unit was not expected to expand rapidly, as the 144th Squadron was the first squadron to be federally recognized without a population area of at least a 100,000. But Alaska being a country where everybody flies, rose to the challenge and by 1954 had grown to 23 Officers and 126 Airmen.

With the unit's growth, the facilities assigned the Squadron at Elmendorf became much too small and the search for larger quarters ended when the National Guard Bureau authorized construction of new quarters at International Airport.

With the completion of facilities at International Airport in February 1955, and the announcement of conversion to F86 Fighters, the Squadron moved to its new quarters with much esprit de corps and anticipation.

On 1 July 1955, the 144th Fighter Bomber Squadron was redesignated the 144th Fighter Interceptor Squadron and had received nine of its now F86 Jets, and had transferred eight of its F-80C's to the Wyoming ANG. Fifteen F-86's was the final compliment of the Squadron and interceptor training and joint exercises with the Alaskan Air Command were begun and completed in record time.

The mission was day intercept, and training intensified with many intercepts of SAC Aircraft. Training was continued until the Spring of 1957, when the Squadron was notified that it would become an Air Transport Unit. Many long faces were noticed during this period of time, however, with the struggle to get organization, training, and all the things that go with

such units, the Squadron had learned some valuable lessons and was determined to make the best of what was thought of as a bad thing.

On July 1, 1957 the Squadron was redesignated as the 144th Air Transport Squadron Light and assigned six C-47's as Transport Aircraft. The old Gooney Bird was a familiar sight around Alaska, and the Squadron realizing that they would have to prove capable of the assignment, hastened to assist the ACC, Army and other agencies with the problems of resupplying outposts of defense.

Training was the mission; and the mission was to transport supplies, man and equipment. This was accomplished and awe and it was soon apparent that this was the mission for the Alaska Air National Guard. Any mission was acceptable to the 144th, and so they were flying moose calves for the Federal Wildlife People to restock barren areas, hauling men and equipment for the BLK to fight fires. Parachutes were made to firefighters, resupplying remote early warning sights for the AAC, and the Army called on us to support combat patrols and paratroop drops.

By the spring of 1960s, the Air Guard was chafing at the bit for larger aircraft, and in May 1960 the National Guard Bureau announced that we had been assigned ten C-123J Cargo Aircraft.

On 1 July 1960 the Squadron was redesignated the 144th Air Transport Squadron Medium, and transitional training began. By the end of the summer transition had been completed and an expanded mission developed with the Alaskan Air Command.

From 1 July 1960 to the present some of the world's most interesting flying assignments have been given to the 144th Air Transport Squadron, and also some of the most difficult.

The phrase you hear in Alaska "You are not a pilot until you have flown in Alaska" is a truism that must be analyzed by the individual concerned, but consider these missions accomplished by the Air Guard in Alaska:

**Support of Fleethers "Ice Island" T-3 some 400 miles out in the Arctic ocean**

**Support of geological research of Taku Glacier**

**Landings and takeoff from the Glacier with supplies and personnel from the Arctic Research Lab and University of Michigan**

**Rescue of 15 downed scientists from the Arctic Ocean, whose aircraft was downed and time was of the essence. Countless trips to remote sites all over Alaska from Point Barrow to Barter Island, Fort Yukon to Whitehorse, Yukon Territory; Sitka, Ketchikan, Juneau to Cordova, Anchorage to Kodiak, Points on the Aleutian Chain to Cape Newham, Nunivak Island to St. Lawrence Island, Wales to Point Hope, Cape Lisburne to Wainwrights, Kozubue to Nome, Bethel to Fairbanks, Points all along the Yukon River and to countless other places**

**Transportation of Buffalo, Raindeer, Moose and Caribou from one area heavily stocked to other areas barren for the Wildlife People is no longer an oddity**

**Landings and takeoffs from remote unnamed lakes in support of Army maneuvers, parachute on resupply missions to isolated communities is now commonplace with the**

<http://www.ngaf.org/tier.asp?bid=71&RootPageID=8&AllowChildPageList=False&Conte...> 9/22/2010

**Alaska Air Guard.**

The Corps of Engineers required our help in whiling core drilling mehines into the Rampart Dam area on the Yukon River.

We have performed search and resew missions all over the interior and coastal areas in search of dowwd fliers.

Military manuvvers such as Dimond Lil, Great Bear, Timber Line, Polar Seige, Polar Strike, require day and night paradrop missions. Cargo and troop airlifts, landings on remote and mountainous terrain in some of the world's roughest weather, extreme zero temperatures, ice fog, and snow covered lakes and rivers are just a few of the difficulties we face. We also perform resupply missions to both the friendly and enemy forces. As an example of this type of flying, during "Operation Polar Seigs," the following items are worth mentioning: 382 sorties scheduled, 650 hours flown, 2,9375 Passengers airliftdd, 417.3 cargo tons airlifted, incommission rate - .83%, which consisted of 6 aborts, 3 weather and 3 maintenance.

Each year during natural disaster such as floods and fires, the Air Guard participates to the extent required. Flying In demolition teams to bust open ice jams, flying In equipment and personnel to forest fires are some of the jobs we do.

The "Big Shake" of 1964 exemplifies the spirit of the Alaska ANG. Thirty minutes after the quake 2 aircraft were ready with crews. Within two hours four aircraft with crews were standing by and crews were available for six aircraft fair hours after the quake. Air Guardsmen came without call, knowing they would be needed. They took care of emergency Base requirements, readied emergency shelter for 100 people, volunteered aid to civil defense and disaster office, and were the first aircraft into Seward, Valdez, Kodiak and Cordova with emergency supplies, personnel, and news of other areas. For 60 days after the quake, air guard crews flew constantly, resupplying other commnities hard hit by the quake. Countless volunteer hours were spent by the Air Guard in assistance to the commnities needing aid. In all this confusion Easter Sunday stands out as does the Unit, the Alaska Air Guard. With some 40 kids staying in the Air Guard emerganey shelter, it, looked pretty bleak for the Easter Bunny to visit the kids. Undaunted, the Air Guardsmen rushed to the community department stores telling of the plights, and were loaded down with goodies for the kids. Staying up most of the evening, they boiled and colored eggs and hid the goodies, with names yet, for the kids peacefully sleeping in the warehouse. The shouts of joy almost set off another earthquake as the kids found out that the Easter Bunny could find them wherever they were.

The Alaska Air National Guard stands ready to accomplish any assignment anywhere, anytime.

## FF4. 11TH AIR FORCE FACT SHEET

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# FACT SHEET

## U.S. Air Force Fact Sheet

### 11TH AIR FORCE

The Eleventh Air Force plans, conducts, controls and coordinates air operations in accordance with the tasks assigned by the commander, Pacific Air Forces, and is the force provider for Alaskan Command, the Alaskan North American Aerospace Defense Command Region (ANR) and other unified commanders. This mission is accomplished largely through the 611th Air Operations Group and 611th Air Support Group. Together, they provide a network of critical air surveillance and command, control and communications functions necessary to perform tactical warning and attack assessment in defense of Alaska.

**The 611th Air Operations Group** consists of five squadrons and two numbered flights that develop plans, procedures and directives for the employment of Alaskan combat and support forces assigned to Eleventh Air Force, PACAF, and NORAD. They maintain air sovereignty and conduct air defense operations for the Alaskan NORAD Region (ANR). Additionally, they direct rescue operations and provide tactical support for air and land forces.

**The 11th Operational Weather Squadron** provides mission tailored, operational, and tactical level meteorological, geological, oceanographic, and space environment products and services for DoD air and land operations in the Alaskan region. They provide headquarters staff support to the Alaskan Command, 11 AF, PACAF, and US Army Alaska, and contingency support to the Alaskan NORAD Region. They make initial skills course graduates into competent forecasters.

**The 611th Air Control Squadron** has overall responsibility for the Alaskan Air Defense Sector (AADS). The AADS acts as the nerve center and central data collection point for a network of Air Force and Federal Aviation Administration radar sites covering over 1.3 million square miles of airspace throughout Alaska. Additionally, the AADS receives and processes missile attack warning cueing. Its primary mission is to support ANR with around-the-clock surveillance and intercept data for alert and air defense missions.

**The 611th Air Operations Squadron** provides the core staff of the 11 AF Air Operations Center supporting NORAD and PACAF. They provide sole regional expertise for the command and control system that supports air sovereignty and air defense missions. The squadron develops supporting deliberate plans and is responsible for maintaining operational expertise in space and specific aircraft operations and provides requirements planning for Alaskan air-to-ground weapons ranges and military training airspace. The unit provides liaison with the FAA, validates Operational Support Airlift and manages 23 remote-Alaska airfields.

**The 611th Air Intelligence Squadron** provides all source intelligence to support Eleventh Air Force combat forces and joint and combined air campaign planning and execution. The squadron produces timely and operationally tailored all-source global threat warning, target development, and combat assessment supporting PACAF and NORAD theater plans and force employment.

**The 3rd Air Support Operations Squadron**, located at Fort Wainwright, provides close air support and combat weather support for the 172d Infantry Brigade (Separate), the Army's largest light infantry brigade. Arctic tough, Tactical Air Control Parties (TACPs) and Combat Weather Teams (CWTs), along with their associated tactical vehicles and communications equipment, maintain worldwide mission readiness to support Army and JCS contingency operations. Together, they integrate airpower, critical to the success of the land battle.

**The 611th Air Communications Flight** provides technical integration of new equipment in the Alaskan Air Defense Sector, integration of Theater Battle Management systems that support Eleventh Air Force and the wings, local area network support for the staff, and system administration of the Atmospheric Early Warning and Theater Battle Management systems in support of the ANR Air Operations Center.

**The 611th Alaskan NORAD Flight** serves as the focal point for all matters related to the operation, planning, and execution of the Alaskan NORAD Region mission. They are responsible for the development of deliberate plans for employment of 11 AF and augmenting units in support of CINCNORAD. As the lead trainer for ANR, they conduct multi-command exercises for ANR's peacetime and wartime missions and train ANR battle staff in the execution of NORAD combat operations. The 611 ANF oversees and manages the interoperability and upgrade of command and control and surveillance systems and leads ANR Force Protection.

**The 611th Air Support Group** consists of two squadrons and two flights and provides surveillance radars, arctic infrastructure including airfields, communications, and worldwide ready EAF warriors for homeland defense, decisive force projection, and aerospace command and control in Alaska.

**The 611th Air Support Squadron** manages three operations and maintenance (O&M) contracts, valued at \$64M annually, at 1 air station, 2 forward operating bases, and 18 remote radar sites. Provides/directs quality assurance for logistics, force protections, services, communications, and facility engineering efforts at 21 remote locations. Supports 11 AF logistics planning and contingency operations. Manages \$8M of leased communications systems.

**The 611th Civil Engineer Squadron** provides civil engineer functions at Eareckson AS, forward operating bases at Galena and King Salmon Airports, 18 operational radar and 21 inactive sites throughout remote Alaska. The squadron assures environmental compliance within 59,000 square miles of military operations air space and provides, as a command resource, specialized capability in aircraft hangar door maintenance and repair; asbestos and lead abatement; depot overhaul and certification of emergency power engine-generator sets and aircraft arresting systems; construction of Super K-Span facilities; and crane and hoists repair and certification.

**The Missile Defense Flight or Command Representative for Missile Defense** serves as the focal point for all issues related to Ground-based Midcourse Defense in Alaska, in support of Alaska Command, Alaska NORAD Region, and 11 AF.

**The 11 AF/Alaska NORAD Region (ANR) Logistics Flight** provides a core group of logisticians to support Air Force and NORAD air operations throughout the theater, including manning the ANR Battlestaff and establishing logistics readiness centers when necessary.

**Point of Contact**

11th Air Force, Office of Public Affairs, 5800 G St., Elmendorf AFB, AK 99506-2150  
Tel: (907) 552-2341; Fax: (907) 552-5411

**FF5. 3D WING FACT SHEET**

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**FACT SHEET****U.S. Air Force Fact Sheet****3 WING (PACAF)**

**Lineage.** Established as 3 Bombardment Wing, Light on 10 Aug 1948. Activated on 18 Aug 1948. Redesignated: 3 Bombardment Wing, Tactical on 1 Oct 1955; 3 Tactical Fighter Wing on 8 Jan 1964; 3 Wing on 19 Dec 1991.

**Assignments.** 314 Air Division, 18 Aug 1948; Fifth Air Force, 1 Mar 1950; 41 Air Division, 1 Mar 1955; Fifth Air Force, 1 Feb 1957; 41 Air Division, 10 Nov 1958; Twelfth Air Force, 8 Jan 1964 (attached to 4481 Air Division, Provisional, 8 Jan-30 Jun 1964); 834 Air Division, 1 Jul 1964; 2 Air Division, 8 Nov 1965; Seventh Air Force, 1 Apr 1966; Fifth Air Force, 15 Mar 1971; 314 Air Division, 15 Mar 1971; Thirteenth Air Force, 16 Sep 1974; Eleventh Air Force, 19 Dec 1991-.

**Components.** *Groups.* 3 Bombardment (later, 3 Operations); 18 Aug 1948-25 Oct 1957 (detached 20 Jul-30 Nov 1950); 19 Dec 1991-

*Squadrons.* 1 Air Commando (later, 1 Special Operations); attached 21 Nov 1965-8 Mar 1966; assigned 15 Jan 1981-1 Mar 1983. 1 Test; 16 Sep 1974-1 Jan 1980 (detached 15 Mar 1979-1 Jan 1980). 3 Tactical Electronic Warfare Training; 15 May 1976-1 Jan 1980. 3 Tactical Fighter; 15 Dec 1975-19 Dec 1991 (detached 15-16 Dec 1975). 7 Airborne Command and Control; 31 Mar-14 Aug 1975 (detached). 8 Bombardment (later, 8 Attack); attached 13 Aug 1956-24 Oct 1957, assigned 25 Oct 1957-8 Jan 1964 (detached 1 Sep 1963-8 Jan 1964); assigned 15 Nov 1969-30 Sep 1970. 8 Tactical Reconnaissance; attached 18 Apr 1949-1 Apr 1950. 10 Fighter; 8 Apr 1966-17 Apr 1967. 13 Bombardment; attached 13 Aug 1956-24 Oct 1957, assigned 25 Oct 1957-8 Jan 1964 (detached 1 Sep 1963-8 Jan 1964). 20 Operations; 16 Sep 1974-31 Mar 1975. 25 Tactical Fighter; 18-19 Dec 1975. 26 Tactical Fighter (later, 26 Tactical Fighter Training; 26 Tactical Fighter Training Aggressor; 26 Aggressor); 16 Sep 1974-1 Oct 1988. 35 Tactical Fighter; 15 Mar 1971-16 Sep 1974 (detached 1 Apr-12 Oct 1972). 36 Tactical Fighter; 15 May 1971-16 Sep 1974. 40 Fighter-Interceptor; attached 1 Dec 1961-31 May 1962. 44 Tactical Fighter; attached 3 Apr-2 Jun 1972 and 28 Jul-8 Sep 1972. 67 Tactical Fighter; attached 2 Jun-28 Jul 1972 and 8 Sep-16 Oct 1972. 68 Tactical Fighter; 16 Sep 1974-30 Sep 1975. 80 Tactical Fighter; 15 Mar 1971-16 Sep 1974. 90 Bombardment (later, 90 Tactical Fighter; 90 Attack; 90 Tactical Fighter); attached 13 Aug 1956-24 Oct 1957, assigned 25 Oct 1957-8 Jan 1964 (detached 1 Sep 1963-8 Jan 1964); assigned 9 Jun 1964-19 Nov 1965 (detached 3 Feb-10 May 1965 and 3 Aug-19 Nov 1965); assigned 3 Feb 1966-31 Oct 1970; assigned 16 Sep 1974-29 May 1991. 307 Tactical Fighter; attached 21 Nov-6 Dec 1965. 308 Tactical Fighter; 2 Dec 1965-25 Dec 1966 (detached 15 Nov-25 Dec 1966). 310 Attack; 15-30 Nov 1969. 311 Attack; 15 Nov-15 Dec 1969. 416 Tactical Fighter; 16 Jun 1964-8 Nov 1965 (detached 14 Mar-21 Jul 1965); 16 Nov 1965-15 Apr 1967 (detached 16 Nov 1965-15 Jun 1966). 421 Air Refueling; attached 21 Nov 1960-1 Jun 1962. 429 Tactical Fighter; attached c. 21 Nov-14 Dec 1965. 510 Tactical Fighter; 16 Mar 1964-15 Nov 1969 (detached 5 May-c. 20



Aug 1965). **531** Tactical Fighter: 16 Jun 1964-19 Nov 1965 (detached 2 Nov 1964-18 Mar 1965); 7 Dec 1965-31 Jul 1970. **602** Fighter: attached 21 Nov 1965-8 Mar 1966. **604** Air Commando (later, 604 Special Operations): attached 15 Nov 1967-1 Mar 1970, assigned 1 Mar-30 Sep 1970. **731** Bombardment: attached 1 Dec 1950-25 Jun 1951. **6091** Reconnaissance: attached 21 Nov 1960-c. 5 Jun 1962.

**Stations.** Yokota AB, Japan, 18 Aug 1948; Johnson AB, Japan, 1 Apr 1950; Yokota AB, Japan, 14 Aug 1950; Iwakuni AB, Japan, 1 Dec 1950; Kunsan AB, South Korea, 22 Aug 1951; Johnson AB, Japan, 1 Oct 1954; Yokota AB, Japan, 18 Nov 1960-8 Jan 1964; England AFB, LA, 8 Jan 1964-Nov 1965; Bien Hoa AB, South Vietnam, 8 Nov 1965; Kunsan AB, South Korea, 15 Mar 1971; Clark AB, Philippines, 16 Sep 1974-19 Dec 1991; Elmendorf AFB, AK, 19 Dec 1991-.

**Commanders.** Col James R. Gunn Jr., 18 Aug 1948; Col Gerry L. Mason, 16 Jun 1949; Lt Col Wilmer A. Hardesty, 17 Jun 1949; Col Robert W. Witty, 24 Jun 1949; Col Lawrence C. Coddington, 1 Apr 1950; Col Thomas B. Hall, c. Jun 1950; Col Strother B. Hardwick Jr., c. Jul 1950; Col Virgil L. Zoller, 14 Aug 1950; Col Donald L. Clark, 23 Aug 1950; Col Virgil L. Zoller, 1 Dec 1950; Col Nils O. Ohman, 24 Jul 1951; Col Marshall R. Gray, 4 Mar 1952; Col Eugene B. LeBailly, 14 Aug 1952; Col Roger E. Phelan, 12 Aug 1953; Col William H. Matthews, 2 Feb 1954; Col Edwin A. Doss, 22 Feb 1954; Col William B. Reed, 2 Apr 1954; Col Homer C. Munsan, 1 Aug 1954; Col Howard F. Bronson Jr., 6 Aug 1954; Col Cecil P. Lessig, 10 Sep 1954; Col Anthony V. Grossetta, 1 Mar 1955; Col Edward R. Casey, 3 May 1955; Col Rufus H. Holloway, 9 Jun 1955; Col George Y. Jumper, 16 Aug 1955; Col Clarence L. Elder, 10 Jun 1958; Col James B. Tipton, 10 Jul 1958; Col Robert J. Ahern, 22 Jun 1959; Col Leo Hawel Jr., 22 Jun 1961; Col Carl R. Norton, 28 Jun 1962; Col Francis E. Timlin, 1 Aug 1962; Col Charles S. Overstreet Jr., 3 Sep 1963-8 Jan 1964 (additional duty); unkn, 9 Jan-18 Feb 1964; Col Philip Brooks, 19 Feb 1964; Col Waring W. Wilson, 28 May 1965; Col Robert A. Ackerly, 19 Jul 1965; Col Richard C. Catledge, 1 Nov 1966; Col George W. McLaughlin, 30 Sep 1967; Col Homer K. Hansen, 5 May 1968; Col Howard M. Lane, 1 Apr 1969; Col William E. Charlson, 11 Apr-31 Oct 1970; none (not manned), 1 Nov 1970-14 Mar 1971; Col Abner M. Aust Jr., 15 Mar 1971; Col Charles A. Watry, 17 Nov 1971; Col Paul A. Kauttu, 5 Oct 1972; Col Harry W. Schurr, 19 Nov 1973; Col George L. Schulstad, 16 Sep 1974; Col Lacy W. Breckenridge, 14 Mar 1975; Col Alfred M. Miller Jr., 25 Mar 1975; Col James R. Brown, 13 Oct 1976; Col Thomas S. Swalm, 1 Aug 1978; Col Martin H. Mahrt, 20 Feb 1979; Col Thomas G. McInerney, 31 Mar 1979; Brig Gen John A. Corder, 6 Feb 1981; Col Willard R. MacFarlane, 5 Aug 1983; Col Charles F. Luigs, 25 May 1985; Col Ronald W. Iverson, 27 Mar 1986; Col Frank D. Garza, 25 Feb 1988; Col Jeffrey R. Grime, 26 Jan 1990; Col Bruce M. Freeman, 7 Aug 1991; Col Rodney P. Kelly, 19 Dec 1991; Brig Gen Thomas R. Case, 23 Jul 1993; Brig Gen Hugh C. Cameron, 27 Mar 1995; Brig Gen William J. Lake, 4 Nov 1996; Brig Gen Jonathon S. Gratton, 8 Jun 1998; Col Douglas M. Fraser, 20 Jan 2000; Brig Gen Robertus Remkes, 5 Apr 2002; Brig Gen Michael A. Snodgrass, 26 Jan 2004; Brig Gen Herbert H. Carlisle, 20 May 2005-.

**Aircraft.** B-26, 1948-1950, 1950-1956; F-15 (modified P-61), 1949; RF-80, 1949-1950; C-47, 1951; B-57, 1956-1963; RB-50, 1960-1961; KB-50, 1960-1962; C-130, 1961-1962; F-102, 1961-1962; F-100, 1964-1970; F-5, 1965-1967; A-1, 1965-1966; U-10, 1965-1966; C/AC/HC-47, 1965-1966; A-37, 1967-1970; F-4, 1971-1974, 1974-1991; T-33, 1974-1987; C-9, 1974-1975; CH-3, 1974-1975; T-38, 1976-1980; F-5, 1977-1988; MC-130, 1980-1983; UH-1, 1991; F-15, 1991-; C-12, 1992-; C-130, 1992-; E-3, 1993-.

**Operations.** Trained as a bombardment and reconnaissance wing prior to Korean War. Performed reconnaissance and interdiction combat missions from Iwakuni AB, Japan, at the beginning of the Korean War, 1-19 Jul 1950. From 20 Jul to 1 Dec 1950 the tactical group and its squadrons served under operational control of another organization. The wing assumed a supporting role, initially from Johnson AB, Japan, but later from Yokota AB, Japan. The Wing returned to Iwakuni AB on 1 Dec 1950, regained control of its combat units and performed night intruder combat missions. Moved to South Korea in Aug 1951 and interdicted main supply routes in western North Korea for the remainder of the war. After the Korean War, the wing participated successively in bombardment, air defense, reconnaissance, and air refueling training. Its headquarters was non-operational 1 Sep 1963 to 8 Jan 1964. Moved to the United States without personnel or equipment in Jan 1964, then trained and rotated its squadrons in

detached status to Southeast Asia for combat duty. Moved in Nov 1965 to Bien Hoa AB, South Vietnam, a forward operating base, which frequently came under enemy mortar and rocket fire. Missions included close air support, counterinsurgency, forward air control, interdiction, and radar-controlled bombing. Supported numerous ground operations with strike missions against enemy fortifications, supply areas, lines of communication and personnel, in addition to suppressing fire in landing areas. During this time, wing also participated in combat evaluation of F-5 and A-37 aircraft. Unmanned and unequipped on 31 Oct 1970, the wing remained active in a "paper" status until it moved to South Korea on 15 Mar 1971, to be manned and equipped with F-4 aircraft. In Sep 1974, moved without personnel or equipment to Clark AB, Philippines, replacing the 405 Fighter Wing. Participated in frequent operational exercises and evaluations. Between 5 Apr and 31 May 1975, wing used its facilities as a staging area for Operations Baby Lift (evacuation of Vietnamese orphans from South Vietnam to the United States) and New Life (evacuation of Vietnamese adults to the United States for resettlement). Performed fighter aggressor training operations using T-38 and later F-5E aircraft from 1976 to 1988; deployed throughout Pacific Air Forces to provide dissimilar aircraft combat training to US and allied fighter units. Deployed aircraft from the Philippines to Korea annually to participate in multinational joint-service combined forces exercises, 1978-1991. With addition of the F-4G "Wild Weasel" aircraft in 1979, the wing acquired dual role capabilities of air-to-air/air-to-ground and defense suppression/electronic countermeasures. Assignment of the 1 Special Operations Squadron, equipped with MC-130 aircraft, provided the wing with an unconventional warfare capability, Jan 1981-Mar 1983. Operated UH-1N helicopters, 1988-1991, for drone recovery, VIP airlift, range support, Philippine air defense site support, and medical evacuation. At the end of May 1991, the last F-4 aircraft departed the wing, shortly before the eruption of Mount Pinatubo in Jun 1991. Wing was not operational from Jun 1991 until it moved on paper to Elmendorf AFB on 19 Dec 1991, replacing the 21 Tactical Fighter Wing. Expanded the air defense mission of Alaska with the F-15E aircraft to include deep interdiction and air-to-air capabilities. Added an airlift mission in Apr 1992, and a long-range airborne surveillance, detection, identification, and command and control mission in 1993. Since 1993, deployed and employed assigned aircraft worldwide to accomplish air superiority, air interdiction, tactical airlift, airborne air surveillance, theater resupply, passenger service and served as host unit for all Elmendorf AFB organizations. During 2004, fulfilled Air Expeditionary Force (AEF) taskings in support of Operations Enduring Freedom and Iraqi Freedom.

**Service Streamers.** None.

**Campaign Streamers.** *Korea:* UN Defensive; CCF Intervention; First UN Counteroffensive; CCF Spring Offensive; UN Summer-Fall Offensive; Second Korean Winter; Korea Summer-Fall, 1952; Third Korean Winter; Korea Summer, 1953. *Vietnam:* Vietnam Defensive; Vietnam Air; Vietnam Air Offensive; Vietnam Air Offensive, Phase II; Vietnam Air Offensive, Phase III; Vietnam Air/Ground; Vietnam Air Offensive, Phase IV; TET 69/Counteroffensive; Vietnam Summer-Fall, 1969; Vietnam Winter-Spring, 1970; Sanctuary Counteroffensive; Southwest Monsoon. *Southwest Asia:* Defense of Saudi Arabia; Liberation and Defense of Kuwait.

**Armed Forces Expeditionary Streamers.** None.

**Decorations.** Presidential Unit Citations (Vietnam): 8 Jun 1966-16 Apr 1967; 6 Mar 1968-31 Jul 1969. Air Force Outstanding Unit Awards with Combat "V" Device: 31 Jan-5 Mar 1968; 1 Aug 1969-20 Jan 1970; 21 Jan-31 Oct 1970. Air Force Outstanding Unit Awards: 1 Jun 1958-30 Jun 1960; 1 Jul 1960-31 Mar 1962; 1 May 1964-16 Jul 1965; 1 Jul 1972-31 Dec 1973; 1 May 1980-30 Apr 1982; 22 Mar-1 Apr 1986; 1 Jan 1989-1 Jun 1990; 1 Jan 1994-31 Dec 1995; 1 Jan 1996-30 Sep 1998; 1 Jan 2000-31 Dec 2001; 1 Jan 2002-30 Sep 2003; 1 Oct 2003-30 Sep 2005. Republic of Korea Presidential Unit Citation: 27 Jun-31 Jul 1950. Republic of Vietnam Gallantry Crosses with Palm: 25 Nov 1965-19 May 1969; 1 Apr 1966-31 Oct 1970; 1 May-30 Sep 1970.

**Bestowed Honors.** Authorized to display honors earned by the 3 Operations Group prior to 18 Aug 1948. **Service Streamers.** None. **Campaign Streamers.** World War II: Antisubmarine, American Theater; East Indies; Air Offensive, Japan; Papua; New Guinea; Bismarck Archipelago; Western Pacific; Leyte; Luzon; Southern Philippines. **Decorations.** Distinguished

Unit Citations: Papua, 23 Jul 1942-23 Jan 1943; New Guinea, 17 Aug 1943. Philippine Presidential Unit Citation.

**Lineage, Assignments, Components, Stations, and Honors through** 15 Sep 2006.

**Commanders, Aircraft, and Operations through** 15 Sep 2006.

**Supersedes** statement prepared on 17 Oct 2003.

**Emblem.** Approved on 22 Dec 1952.

**Prepared by** Patsy Robertson.

**Reviewed by** Daniel Haulman.

## FF6. 176TH WING FACT SHEET

176th Wing, Alaska Air National Guard - Fact Sheet (Printable) : 176TH WING

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# FACT SHEET

## U.S. Air Force Fact Sheet 176TH WING

The Alaska Air National Guard got its start on Sept. 15, 1952, when the federal government authorized and recognized the 8144th Air Base Squadron. At its creation, the 8144th included 11 enlisted men, five officers and no planes. Its headquarters were located in a small office above what was then the bus depot on Fourth Avenue in downtown Anchorage. Because the office was so small, the men convened for their first UTA in a nearby Quonset hut.

Their first aircraft, a T-6G "Texan" trainer, arrived in February 1953. Soon, five more trainers arrived, operating out of Elmendorf. In keeping with the Air Guard's mission to provide national air defense, the pilots began training in earnest for their planned transition to jet fighters. As that training progressed, the unit was re-designated the 144th Fighter-Bomber Squadron in July 1953.

The first jet, a T-33A trainer, arrived in October, shortly followed by F-80C "Shooting Star" jet fighters. By late Fall of 1954, the growing unit was fully equipped with 14 F-80s, two T-33s, three T-6G trainers, two T-6 observation planes and a C-47A "Gooney Bird" transport.

In spring of 1955, the Alaska Air National Guard moved out of Elmendorf and onto its new base near Anchorage International Airport. After an informal vote, the base was dedicated in honor of 1st Lt. Albert Kulis, a pilot who was killed in his F-80 in November of 1954.

While other Air Guard units around the country were receiving surplus aircraft, the 144th's F-80s were exchanged for new, top-of-the-line F-86 "Sabre" fighter jets in 1955. Along with new aircraft came the unit's third designation in as many years, this time the 144th Fighter Interceptor Squadron.

That designation also proved short-lived. A decision was made at the national level to shift the Air Guard's emphasis from air combat to airlift, and the newly rechristened 144th Transportation Squadron (Light) turned in its Sabres for C-47 "Gooney Birds" in 1957.

Just a few years later, the new decade brought with it a new set of wings. The Alaska Air National Guard's tough but aging C-47s were replaced by larger C-123J "Provider" tactical airlift transports. With the new aircraft, the 144th Air Transportation Squadron's "light" designation was upgraded to "medium."

It started to become obvious that the Alaska Air National Guard was outgrowing its single-squadron status. Laying the groundwork for future expansion, the organization was officially designated the 176th Tactical Airlift Group in 1969. The Group retained the 144th Tactical Airlift Squadron as its flying unit. By the end of 1970, four squadrons had been organized to perform the flight operations, maintenance, supply and support functions. Along with the tactical dispensary, a communications flight and a civil engineering unit were added to give the Group the "total react capability" enjoyed by Guard units in the other 49 states. The 176th's focus on tactical airlift missions would not change, however. In fact, it was to be expanded, and the Group was authorized another 475 positions on top of its 275 existing slots.

Another obvious sign of progress was the increasing extent to which the Alaska Air National Guard was integrating its operations with the U.S. Air Force and other Air National Guard units. In the Fall of 1971, Kulis hosted three "Prime BEEF" (Base Emergency Engineering Force) Air Guard teams from Colorado, Iowa and Nevada.

[http://www.176wg.ang.af.mil/resources/factsheets/factsheet\\_print.asp?fsID=11895&page=1](http://www.176wg.ang.af.mil/resources/factsheets/factsheet_print.asp?fsID=11895&page=1) 9/22/2010

Over the next two years, the 176th Civil Engineer Flight sent its own Prime BEEF team to Arizona, Nevada and Korea.

Even as America began to suffer through the post-Vietnam era, the Alaska Air National Guard continued to enjoy political and public support. In 1974 Kulis added a new Operations Center and a multipurpose building, and recruiting levels began to increase steadily.

The 144th Tactical Airlift Squadron's mission was changed to worldwide airlift in 1976, and it was assigned to the Military Airlift Command as the "gaining" command in the event it was federalized for active duty. A mechanical upgrade was in order, and after 16 years of service the unit's C-123s were replaced with C-130E "Hercules" transports, boasting increased speed, range and carrying capacity.

By this time, the increasing integration between active duty and reserve-component military forces had progressed the point where the concept had a name of its own: the Total Force.

In short, Total Force stressed a "shared responsibility" among all service components. With its new C-130s, the 176th Group began participating in the Total Force almost immediately, flying to Panama, Germany, Korea and elsewhere to support U.S. military and humanitarian missions.

By the 1980s, it was easy to see that the Alaska Air National Guard had changed immensely from the early days of the 8144th Air Base Squadron. It had not only grown larger but had evolved; gaining experience and taking on more responsibility as it matured. That being the case, it was perhaps no surprise when, at age 34, the organization spun off a new unit of its own.

The 168th Air Refueling Squadron started life in 1986 as the 176th Tactical Airlift Group's Eielson-based Detachment 1. Its mission was to build a tanker unit from the ground up. In the Spring of 1986, members of the unit -- what few there were -- began a 17-day tour of other Air National Guard tanker units. This trip had a dual purpose, one of its participants would recount later: "One, conduct interviews and make selection for the jobs ... and two, steal people." Evidently they were very persuasive, because the new unit was staffed by 16 officers and 65 enlisted personnel by September, when its first planes, four renovated KC-135 aerial tankers arrived.

Obtained from the Arkansas Air National Guard over vociferous objections from local politicians, the KC-135s were hand-me-downs, and the 168th's other facilities were antiquated. Despite this, the unit still managed to supply 70 percent of the theater's air refueling training needs in its first six months of operation. Only two years after being activated, its first Unit Effectiveness Inspection resulted in a rare "excellent" rating.

For its first four years of existence, the 168th was assigned to the 176th, which was redesignated the 176th Composite Group in recognition of its newly diversified components. By the end of the decade, the 168th had already reached operational maturity. It was redesignated the 168th Air Refueling Group and began operating independently of the 176th.

The 1990s kicked off with a bang, but the groundwork had been laid three years before. In 1987, the Air Force announced that Elmendorf's famed 71st Aerospace Rescue and Recovery Squadron was being deactivated. Sen. Ted Stevens, the senior member of Alaska's congressional delegation, asked Alaska Air National Guard leaders if they were interested in taking over the mission. Interest was high, and the answer to Stevens' query was a resounding "yes."

In early 1989 the new unit began hiring its first full-time personnel. From April through June of that year, the maintenance and operations personnel trained on a UH-60A Black Hawk on loan from the National Guard Bureau. On April 4, 1990, the federal government officially recognized the 210th Air Rescue Squadron.

The military mission of the 210th was Combat Search and Rescue -- picking up downed aircrew members during wartime. Beyond that, the 210th had an important peacetime mission: to stand on constant 24-hour alert, ready to rescue military personnel and civilians stranded in Alaska's unpredictable wilderness. The 210th became the first U.S.-based rescue unit to receive the new MH-60G Pave Hawk helicopter when its first one arrived in June 1990. (They would be redesignated HH-60Gs in 1992.) Three others arrived by August.

Organizational work continued, and in November and December the first of the 210th's new HC-130Ns arrived. These airborne tankers were equipped to supply the Pave Hawks with aerial refueling. They were also able to serve as airborne search vehicles and as platforms for pararescue and equipment airdrops. After its first year of operation, the 210th Rescue Squadron was given credit for saving 72 lives and assisting in the rescue of 20 more.

Rescuing Alaskans in need may have been the most visible Alaska Air National Guard activity in the 1990s, but outside the glare of the spotlight the organization was as busy as ever.

In 1994, for example, the last contingent of Alaska Air National Guard members returned home from their second overseas rotation to Kuwait. Two aircraft and aircrews from the 144th also flew numerous sorties in support of Operation Desert Shield/Desert Storm, airlifting cargo and personnel being staged for deployment in the Gulf.

On October 1, 1995, the Alaska Air National Guard's 176th Composite Group became the 176th Wing. The next month, the organization hit the 120,000 accident-free flying hour mark.

Search and rescue missions included everything from nation-building operations assisting injured Afghan nationals after skirmishes between local militias, and picking up Coalition forces wounded during conflicts with the Taliban, to humanitarian undertakings like picking up young children who had stepped on land mines.

In August 2003, more than 150 personnel from the wing deployed to Ramstein Air Base, Germany in support of the 144th Airlift Squadron's contributions to Operation Joint Forge, where they provided airlift and logistical support involving military personnel and cargo in the European Theater. The Operation Joint Forge mission continues to help provide a NATO Stabilization Force in the Bosnia area.

While it was not a normally scheduled rotation, the 144th volunteered to help fill the airlift shortfall created by other worldwide events. This was the first time in the composite wing's history that members served in two major operations in separate areas of the world.

From its humble origins a half-century ago, the 176th Wing has grown into a professional force of more than 1,200 full- and part-time members.

Among the most active Guard organizations in the country, at any given moment its members are at work in the sky and on the ground, protecting American citizens and national interests at home and abroad.

## FF7. 517 AIRLIFT SQUADRON FACT SHEET

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# FACT SHEET

### U.S. Air Force Fact Sheet

#### 517 AIRLIFT SQUADRON (PACAF)

**Lineage.** Constituted 17 Transport Squadron on 20 Nov 1940. Activated on 11 Dec 1940. Redesignated 17 Troop Carrier Squadron on 4 Jul 1942. Inactivated on 31 Jul 1945. Activated on 19 May 1947. Inactivated on 10 Sep 1948. Redesignated 17 Troop Carrier Squadron, Medium, on 3 Jul 1952. Activated on 14 Jul 1952. Inactivated on 21 Jul 1954. Activated on 24 Oct 1960. Organized on 8 Feb 1961. Redesignated: 17 Troop Carrier Squadron on 8 Dec 1965; 17 Tactical Airlift Squadron on 1 Sep 1967; 517 Airlift Squadron on 1 Apr 1992.

**Assignments.** 64 Transport (later, 64 Troop Carrier) Group, 11 Dec 1940-31 Jul 1945. 64 Troop Carrier Group, 19 May 1947-10 Sep 1948. 64 Troop Carrier Group, 14 Jul 1952-21 Jul 1954. Tactical Air Command, 24 Oct 1960; 64 Troop Carrier Wing, 8 Feb 1961; 516 Troop Carrier Wing, 1 Jan 1963; 5040 Air Base Wing, 15 Jun 1964; 21 Composite Wing, 8 Jul 1966; Twenty-Second Air Force, 31 Mar 1975; 616 Military Airlift Group, 1 Nov 1975; 3 Operations Group, 1 Apr 1992-.

**Stations.** McClellan Field, CA, 11 Jul 1940; Hamilton Field, CA, 11 Jul 1941; Westover Field, MA, 13 Jun-31 Jul 1942; Ramsbury, England, 18 Aug 1942; Greenham Common Airdrome, England, 26 Sep 1942; Blida, Algeria, 27 Nov 1942 (air echelon operated from Nouvion, Algeria, 6-27 Jun 1943 and Kairouan, Tunisia, 27 Jun-26 Jul 1943); Kairouan, Tunisia, 29 Jun 1943; El Djem, Tunisia, 26 Jul 1943; Milo/Trapani Airdrome, Sicily, 1 Sep 1943; Comiso, Sicily, 4 Sep 1943 (air echelon operated from Lalmia, India, 7 Apr-9 Jun 1944); Ciampino, Italy, 8 Jul 1944 (operated from Istres, France, 8 Sep-11 Nov 1944); Rosignano Airfield, Italy, 10 Jan-23 May 1945; Waller Field, Trinidad, 4 Jun-31 Jul 1945. Langley Field, VA, 19 May 1947-10 Sep 1948. Donaldson AFB, SC, 14 Jul 1952-21 Jul 1954. Dyess AFB, TX, 8 Feb 1961; Elmendorf AFB, AK, 15 Jun 1964-.

**Commanders.** Capt Aaron H. Hoffeditz, 11 Dec 1940; Capt Albert B. Willett, 10 May 1941; Maj William S. Pocock, 15 Dec 1941; Maj Earl B. Cook, 16 Mar 1942; Maj John T. Thompson, 13 Oct 1942; Maj LaVerne L. Cheney, 17 May 1943; Maj Leo J. Hagerty, 7 Nov 1944-unkn; Capt William B. Parker, unkn-4 Mar 1945; Maj Leo J. Hagerty, 4 Mar 1945; Capt William B. Parker, 21 Mar 1945-unkn. None (not manned), 19 Sep 1947-10 Sep 1948. Maj Wesley C. Brashear, by Sep 1952; Capt Robert E. Lee, by Oct 1952; Lt Col G. B. Gray, by Dec 1952-unkn. Capt Charles D. Adams, 8 Feb 1961; Maj Guy E. Ridgeway Jr., 1 Apr 1961; Lt Col Joseph J. Kesler, Oct 1961; Lt Col Guy E. Ridgeway Jr., 25 Apr 1962; Col John H. Statts, 12 Mar 1963; Lt Col Kenneth E. Bethe, 1 Jul 1966-unkn; Lt Col R. T. Tinney, by 1 Sep 1969; Lt Col John C. Parker, 22 Sep 1969; Lt Col Ora J. Baird Jr., by Mar 1971; Lt Col Charles F. Renner, by May 1971; Lt Col Ora J. Baird Jr., by Jun 1971; Lt Col Charles F. Renner, 4 Jun 1971; Lt Col Ora J. Baird Jr., 3 Sep 1971; Lt Col John D. Hedges, 26 Jun 1972; Lt Col Donald R. Gould, 11 Dec 1972; Lt Col



John D. Hedges, by Apr 1973; Lt Col Donald R. Gould, 10 Apr 1973; Lt Col James H. Waldman, 1 Apr 1974; Lt Col William J. Gibbons, 22 Jun 1976; Lt Col Robert T. Shellenberger Jr., 22 Jul 1976; Lt Col David M. Calder, 26 Aug 1978; Lt Col William P. Martin Jr., by 30 Sep 1978; Lt Col Donald L. Smith, 1 Jul 1979; Lt Col Ronald B. Dorcy, 2 Jun 1981; Lt Col James W. Prouty, 4 Jan 1984; Lt Col George N. Williams, 14 Nov 1985; Lt Col Ralph G. Bent II, by Jan 1988; Lt Col Andrew M. Gessner, 6 Jul 1989; Lt Col Richard J. Casey, 29 Jun 1991; Lt Col Douglas L. Miller, 28 Jun 1993; Lt Col William M. Hudson, 20 Jun 1994; Lt Col Walter J. Tomczak, 12 Jul 1996; Lt Col Paul A. Curlett, 2 Jul 1998; Lt Col Neil B. Friedli, 17 Mar 2000; Lt Col Paul Stephenson, 23 Mar 2001; Lt Col Patrick Hollrah, 13 Mar 2003; Lt Col Paul E. Feather, 24 Aug 2004; Lt Col Gary J. Gottschall, 27 Jan 2006-.

**Aircraft.** C-47, 1941-1945. None, 1947-1948. C-82, 1952-1953; C-119, 1953-1954. C-130, 1961-; C-124, 1970-1971; C-12, 1992-.

**Operations.** World War II: Included airborne assaults on Sicily and Southern France; support for partisans in Northern Italy, Jan-May 1945; aerial transportation in MTO, and briefly in CBI. Unmanned, 1947-1948. Resupplied Distant Early Warning (DEW) line sites in Northern Canada and radar sites in Greenland, 1964-1975. Parts of the squadron deployed to South Vietnam, 1967-1968 to provide tactical airlift. Provided intratheater airlift within Alaska including support to forward operating bases; airland/airdrop of troops, equipment and supplies; search and rescue as required. Provided C-130 aircraft and crews for Pacific airlift to Southwest Asia, Aug-Nov 1990. Since 1992, provided worldwide combat airdrop, tactical air/land, operational support airlift, airlift for theater deployed forces and resupply of remote Alaskan long-range radar sites in support of PACAF. Provided continuous rotational airlift and airdrop support for Operations Enduring Freedom and Iraqi Freedom, 2004-. Among first responders to Asian tsunami that occurred on 26 Dec 2004.

**Service Streamers.** World War II American Theater.

**Campaign Streamers.** *World War II:* Algeria-French Morocco; Tunisia; Sicily; Naples-Foggia; Rome-Arno; Southern France; North Apennines; Po Valley, India-Burma. *Vietnam:* Vietnam Air Offensive; Vietnam Air Offensive, Phase II.

**Armed Forces Expeditionary Streamers.** None.

**Decorations.** Distinguished Unit Citation: CBI Theater, 7 Apr-15 Jun 1944. Air Force Outstanding Unit Award with Combat "V" Device: 2 May 1967-1 Jan 1968. Air Force Outstanding Unit Awards: 1 Jul 1962-15 Jun 1964; 16 Jun 1964-31 May 1966; 8 Jul 1966-1 May 1967; 2 Jan-31 Dec 1968; 1 Jan-31 Dec 1969; 1 Jan-31 Dec 1970; 1 Jan-31 Dec 1971; 1 Jan-31 Dec 1972; 1 Jan-31 Dec 1974; 1 Jan-30 Mar 1975; 1 Jan-31 Dec 1979; 1 Jun 1986-31 May 1987; 1 Jun 1987-31 May 1989; 1 Jan 1994-31 Dec 1995; 1 Jan 1996-30 Sep 1998; 1 Jan 2000-31 Dec 2001; 1 Jan 2002-30 Sep 2003; 1 Oct 2003-30 Sep 2005. Republic of Vietnam Gallantry Cross with Palm: 1 Sep 1966-1 Jan 1968.

**Lineage, Assignments, Stations, and Honors through 29 Sep 2006.**

**Commanders, Aircraft, and Operations through 29 Sep 2006.**

**Supersedes** published information contained in: Judy G. Endicott (ed.), *Active Air Force Wings as of 1 October 1995* (Washington:USPGO, 1999).

**Emblem.** Approved on 29 Mar 1962; modified on 16 Feb 1999.

**Prepared by** Patsy Robertson.

**Reviewed by** Daniel Haulman.

# FF8. 249TH AIRLIFT SQUADRON FACT SHEET

176th Wing, Alaska Air National Guard - 249AS



Units > 176OG > 249AS

## 249th Airlift Squadron (249 AS)

Based at Elmendorf Air Force Base, the 249th Airlift Squadron works hand-in-hand with the U.S. Air Force's 517th Airlift Squadron to operate eight C-17A "Globemaster III" strategic airlift aircraft. Specifically, the 249th's mission is to recruit, train and provide combat-ready C-17 aircrews for global mobility missions that supply and sustain America's armed forces.

### HISTORY

The 249th is one of the first Air National Guard units in the nation to be organized under what is called an "associate" organizational construct. Under this model, two or more components of the Air Force (that is, the active-duty Air Force, the Air National Guard, and/or the Air Force Reserve) integrate their operations to carry out a common mission. Each unit, however, retains its own separate chain of command. This innovative concept was designed to capitalize on the inherent strengths of the different components, enhance combat capability and achieve operational efficiencies.

In association with the 517th, the 249th began flying a variety of airlift missions -- including combat missions in support of operations Iraqi Freedom and Enduring Freedom -- in mid-summer of 2007. From that time up through September 2008, while members referred to it as the 249th, the unit was officially a detachment of the 176th Operations Group. It received official Department of Defense recognition and activation as the 249th Airlift Squadron in September 2008.

### COMPOSITION OF UNIT

#### Current Operations Flight

The mission of the 249th Current Operations Flight is to provide mission-ready aircrew, by functioning as the focal point for all mission and crew management. Flight members work hand-in-hand with squadron and senior leadership to schedule, plan and execute the squadron's local flight training and operational missions. The flight is further divided into two elements: the *Mission Planning Cell*, and *Aircrew Scheduling*.

\* *Mission Planning Cell* builds the flying schedule and coordinates with on and off base agencies for mission support, providing in-depth analyses of mission requirements for 249th Aircrew.

\* *Aircrew Scheduling* is tasked with executing the flying schedule by interfacing with training, tactics, and scheduling Aircrews to maximize training effectiveness and mission accomplishment.

#### Loadmasters

Aircraft loadmasters are vital to successful execution of the 249th C-17 mission. The US Air Force C-17 cargo jet is capable of extreme payload capacity and global reach, in any weather condition. Because of the immense array of military cargo and passenger requirements, a loadmaster must attend highly specialized schools. Loadmasters are highly trained experts in C-17 weight and balance, system operations, computer skills and aircrew policy. They complete checklist procedures and in-flight analysis for the pilot's use, often while traveling around the world. Adventure is also an exciting part of the profession.

Loadmasters are essential members of the flight team. They fly complex and diverse missions by airdropping paratroopers or providing food and water to tsunami victims. They are also responsible for the load order of material on the aircraft, so vital items like ammunition are delivered faster than less-important support items. Often, the most effective way to resupply ground troops is by aerial delivery. Numerous victories have been dependent in large part to precise aerial delivery and the heroic actions of the loadmasters.

#### Pilots

The \$203-million C-17 is used for strategic airlift of troops and cargo to main or forward-operating bases throughout the world. It has the ability to rapidly deploy combat units to potential battle areas. The C-17 is also capable of performing tactical airlift, medical evacuation and airdrop missions to resupply forces in the field.

C-17 pilots executing these airlift missions in support of national security objectives and to sustain the nation's armed forces. They are required to maintain a high state of combat mission readiness in skills such as air-to-air refueling, low-level flight and navigation, use of night-vision goggles and short/haustere landing zone operations.

### PARENT UNIT

The 249 AS is organized under the 176th Operations Group. The Operations Group, in turn, is one of four groups (the others being the 176th Maintenance Group, the 176th Medical Group, and the 176th Mission Support Group) that together make up the 176th Wing.

### CONTACT

Commercial: (907) 561-6217  
 DSN: 317-561-6217



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**FF9. C-17A GLOBEMASTER III FACT SHEET**  
AF.mil - Fact Sheet (Printable) : C-17 GLOBEMASTER III



# FACT SHEET

## U.S. Air Force Fact Sheet C-17 GLOBEMASTER III

### Mission

The C-17 Globemaster III is the newest, most flexible cargo aircraft to enter the airlift force. The C-17 is capable of rapid strategic delivery of troops and all types of cargo to main operating bases or directly to forward bases in the deployment area. The aircraft can perform tactical airlift and airdrop missions and can also transport litters and ambulatory patients during aeromedical evacuations when required. The inherent flexibility and performance of the C-17 force improve the ability of the total airlift system to fulfill the worldwide air mobility requirements of the United States.



The ultimate measure of airlift effectiveness is the ability to rapidly project and sustain an effective combat force close to a potential battle area. Threats to U.S. interests have changed in recent years, and the size and weight of U.S.-mechanized firepower and equipment have grown in response to improved capabilities of potential adversaries. This trend has significantly increased air mobility requirements, particularly in the area of large or heavy outsize cargo. As a result, newer and more flexible airlift aircraft are needed to meet potential armed contingencies, peacekeeping or humanitarian missions worldwide. The C-17 is capable of meeting today's demanding airlift missions.

### Features

Reliability and maintainability are two outstanding benefits of the C-17 system. Current operational requirements impose demanding reliability and maintainability. These requirements include an aircraft mission completion success probability rate of 92 percent, only 20 aircraft maintenance man-hours per flying hour, and full and partial mission availability rates of 74.7 and 82.5 percent, respectively. The Boeing warranty assures these figures will be met.

The C-17 measures 174 feet long (53 meters) with a wingspan of 169 feet, 10 inches (51.75 meters). The aircraft is powered by four, fully reversible, Federal Aviation Administration-certified F117-PW-100 engines (the military designation for the commercial Pratt & Whitney PW2040), currently used on the Boeing 757. Each engine is rated at 40,440 pounds of thrust. The thrust reversers direct the flow of air upward and forward to avoid ingestion of dust and debris. Maximum use has been made of off-the-shelf and commercial equipment, including Air Force-standardized avionics.

The aircraft is operated by a crew of three (pilot, copilot and loadmaster), reducing manpower requirements, risk exposure and long-term operating costs. Cargo is loaded onto the C-17 through a large aft door that accommodates military vehicles and palletized cargo. The C-17 can carry virtually all of the Army's air-transportable equipment.

Maximum payload capacity of the C-17 is 170,900 pounds (77,519 kilograms), and its maximum gross takeoff weight is 585,000 pounds (265,352 kilograms). With a payload of 169,000 pounds

(76,657 kilograms) and an initial cruise altitude of 28,000 feet (8,534 meters). The C-17 has an unrefueled range of approximately 2,400 nautical miles. Its cruise speed is approximately 450 knots (.76 Mach). The C-17 is designed to airdrop 102 paratroopers and equipment.

The design of the aircraft allows it to operate through small, austere airfields. The C-17 can take off and land on runways as short as 3,500 feet (1,064 meters) and only 90 feet wide (27.4 meters). Even on such narrow runways, the C-17 can turn around using a three-point star turn and its backing capability.

#### **Background**

The C-17 made its maiden flight on Sept. 15, 1991, and the first production model was delivered to Charleston Air Force Base, S.C., June 14, 1993. The first squadron of C-17s, the 17th Airlift Squadron, was declared operationally ready Jan. 17, 1995. The Air Force originally programmed to buy a total of 120 C-17s, with the last one being delivered in November 2004. Current budget plans involve purchasing 205 aircraft.

The original 120 C-17s were based at Charleston AFB; McChord AFB, Wash., (first aircraft arrived in July 1999); Altus AFB, Okla.; and at an Air National Guard unit in Jackson, Miss. In August 2005, March Air Reserve Base, Calif., began basing the first of eight aircraft. In February 2006, Hickam AFB, Hawaii, received its first C-17.

The C-17 is operated by the Air Mobility Command at the 60th Airlift Wing and the 349th Air Mobility Wing (Associate Reserve) at Travis AFB, Calif.; 436th AW and 512th AW (Associate Reserve) at Dover AFB, Del.; 62nd AW and 446th AW (Associate Reserve) at McChord AFB, Wash.; 437th Airlift Wing and 315th AW (Associate Reserve) at Charleston AFB, S.C.; the 305th AMW, McGuire AFB, N.J.; and the 172nd AW, Mississippi ANG. Additionally, Air Force Materiel Command operates two C-17s at Edwards AFB, Calif., and Pacific Air Forces operates eight aircraft each at Elmendorf AFB, Alaska and Hickam AFB, Hawaii (Associate Guard). The Air Force Reserve Command operates eight aircraft at March Air Reserve Base, Calif., and Air Education and Training Command has 12 aircraft at Altus AFB, Okla.

#### **General Characteristics**

**Primary Function:** Cargo and troop transport

**Prime Contractor:** Boeing Company

**Power Plant:** Four Pratt & Whitney F117-PW-100 turbofan engines

**Thrust:** 40,440 pounds, each engine

**Wingspan:** 169 feet 10 inches (to winglet tips) (51.75 meters)

**Length:** 174 feet (53 meters)

**Height:** 55 feet 1 inch (16.79 meters)

**Cargo Compartment:** length, 88 feet (26.82 meters); width, 18 feet (5.48 meters); height, 12 feet 4 inches (3.76 meters)

**Speed:** 450 knots at 28,000 feet (8,534 meters) (Mach .76)

**Service Ceiling:** 45,000 feet at cruising speed (13,716 meters)

**Range:** Global with in-flight refueling

**Crew:** Three (two pilots and one loadmaster)

**Aeromedical Evacuation Crew:** A basic crew of five (two flight nurses and three medical technicians) is added for aeromedical evacuation missions. Medical crew may be altered as required by the needs of patients

**Maximum Peacetime Takeoff Weight:** 585,000 pounds (265,352 kilograms)

**Load:** 102 troops/paratroops; 36 litter and 54 ambulatory patients and attendants; 170,900 pounds (77,519 kilograms) of cargo (18 pallet positions)

**Unit Cost:** \$202.3 million (fiscal 1998 constant dollars)

**Date Deployed:** June 1993

**Inventory:** Active duty, 158; Air National Guard, 8; Air Force Reserve, 8

#### **Point of Contact**

[Air Mobility Command](#), Public Affairs Office; 503 Ward Drive Ste 214, Scott AFB, IL 62225-5335, DSN 779-7843 or 618-229-7843.

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