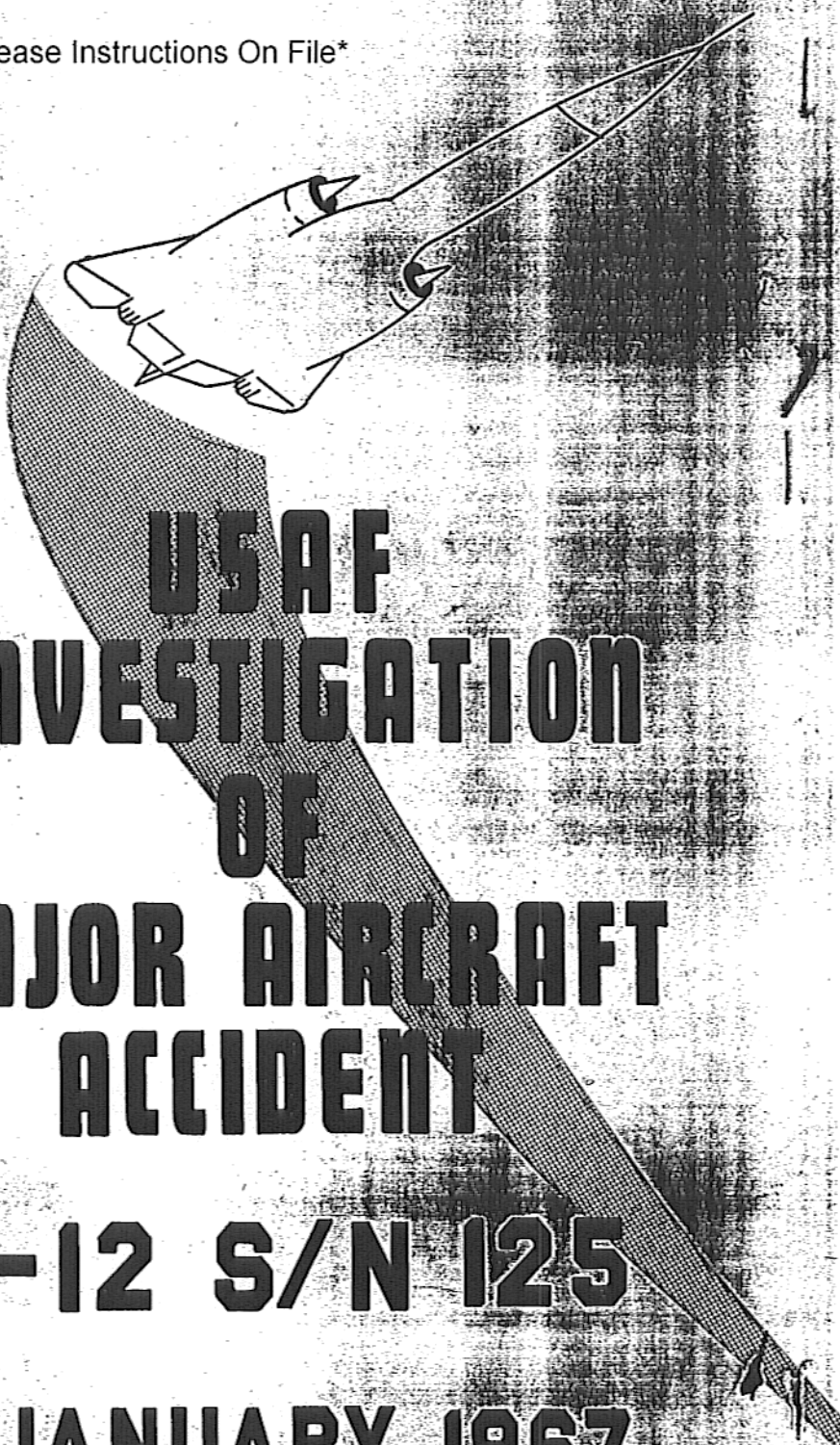


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\*USAF Declass/Release Instructions On File\*



**USAF  
INVESTIGATION  
OF  
MAJOR AIRCRAFT  
ACCIDENT**

**A-12 S/N 125**

**5 JANUARY 1967**

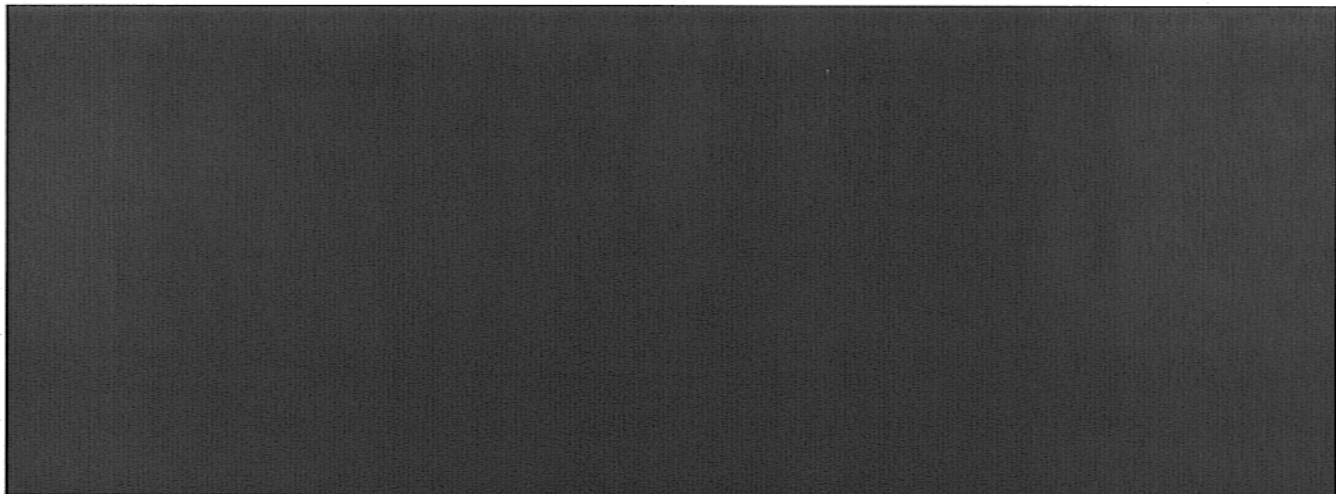
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SI: 2001

Feb 67

SUBJECT: Aircraft Accident Investigation Board Recommendation

ILLEGIB



2. Chase aircraft requiring refueling will only be scheduled in one of two ways depending on the route flown by the primary aircraft.

25X1A

a. Refueling after [redacted] - chase pilot will observe [redacted] departure from tanker aircraft, then join tanker and take a full load of fuel. Chase pilot will then continue practice contacts ending with a top off refueling approximately 15 minutes after the completion of [redacted] refueling. (This procedure will permit the chase aircraft to have the maximum amount of fuel available for the longest practicable time.)

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b. Refueling before [redacted] - chase aircraft will rendezvous with tanker 45 minutes prior to [redacted] ARCP, refuel as in the above procedure and complete refueling (with a full fuel load) not later than 30 minutes prior to [redacted] ARCP. This will permit tanker aircraft to reposition for [redacted] rendezvous and chase aircraft to have sufficient fuel to observe refueling.

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k. Head rest spacers have been removed from all aircraft.

l. Underside surface of head rest ramp and top surface of the drogue parachute pack are being redesigned by LAC so as to provide a smooth interface.

m. (1) LAC is to provide a fix (and testing) of the rotary actuator straps. Modification is expected to begin the week of 20 Feb 67.

(2) [redacted]

n. The automatic lap belt release mechanism and a manual release lever are being studied by LAC. Both items are to be discussed during the forthcoming meeting of Life Support personnel. It is possible that a prototype may be available at this meeting.

ILLEGIB

o. The shoulder harness loops have been sewn (inspected and corrected) to meet the specifications of T.O. 13A-1-1.

p. The prototype emergency face plate heater and prototype cover for oxygen controller assembly are to be presented and discussed at [redacted] special equipment meeting/evaluation. These items are to be tested and if acceptable put into use as soon as possible.

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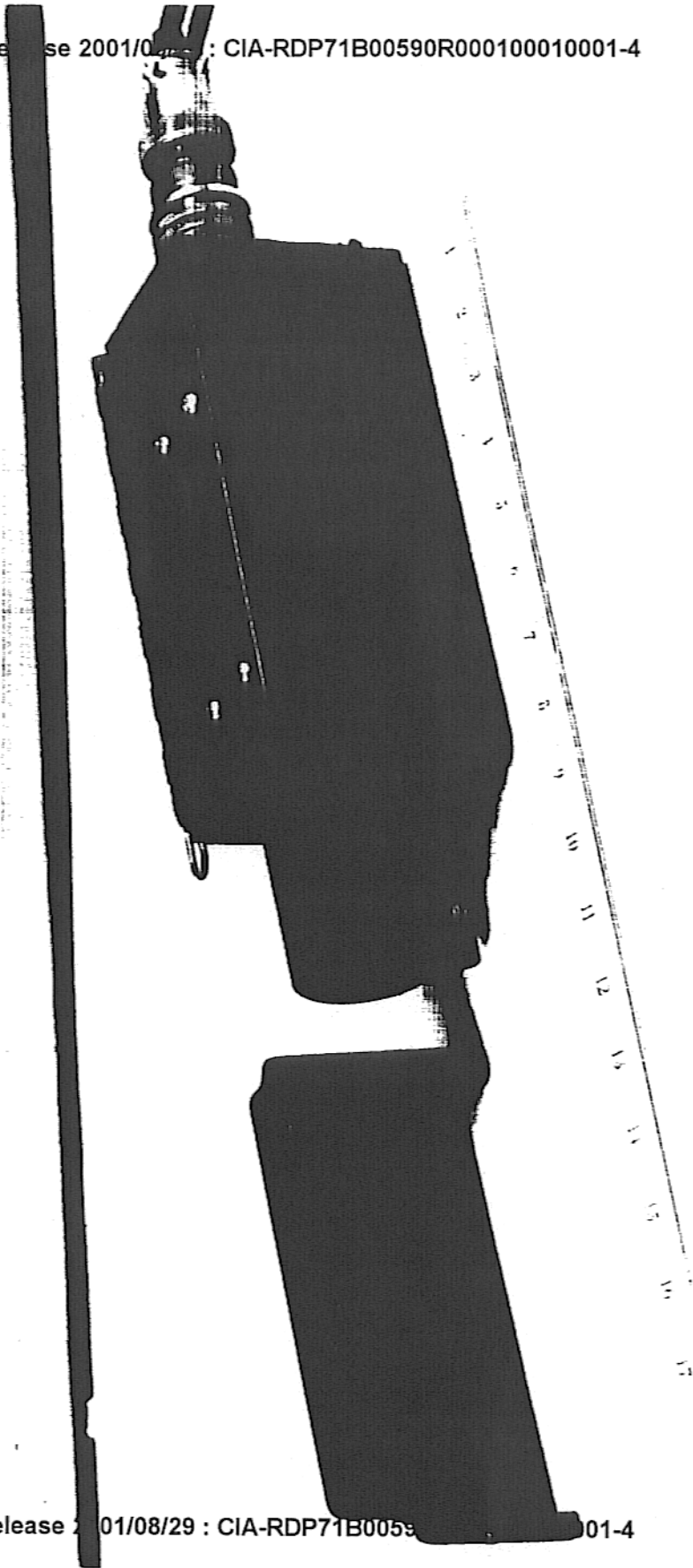
q. A D-ring cable cutter is being designed by LAC. No prototype production date available at this time.

r. All future modifications to the ejection system will be received only through testing and qualification prior to issuance of TCTO kits or service bulletins. Additionally a test program will be set up to test all new equipment with our present equipment.

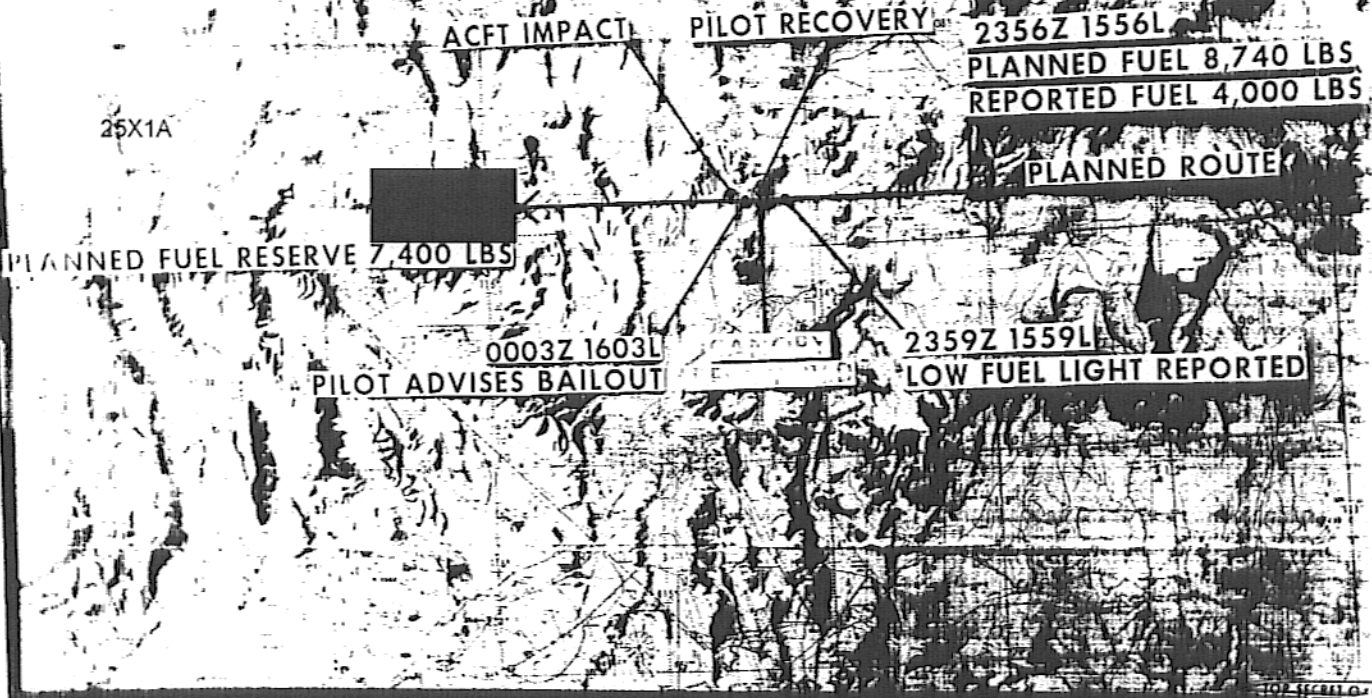


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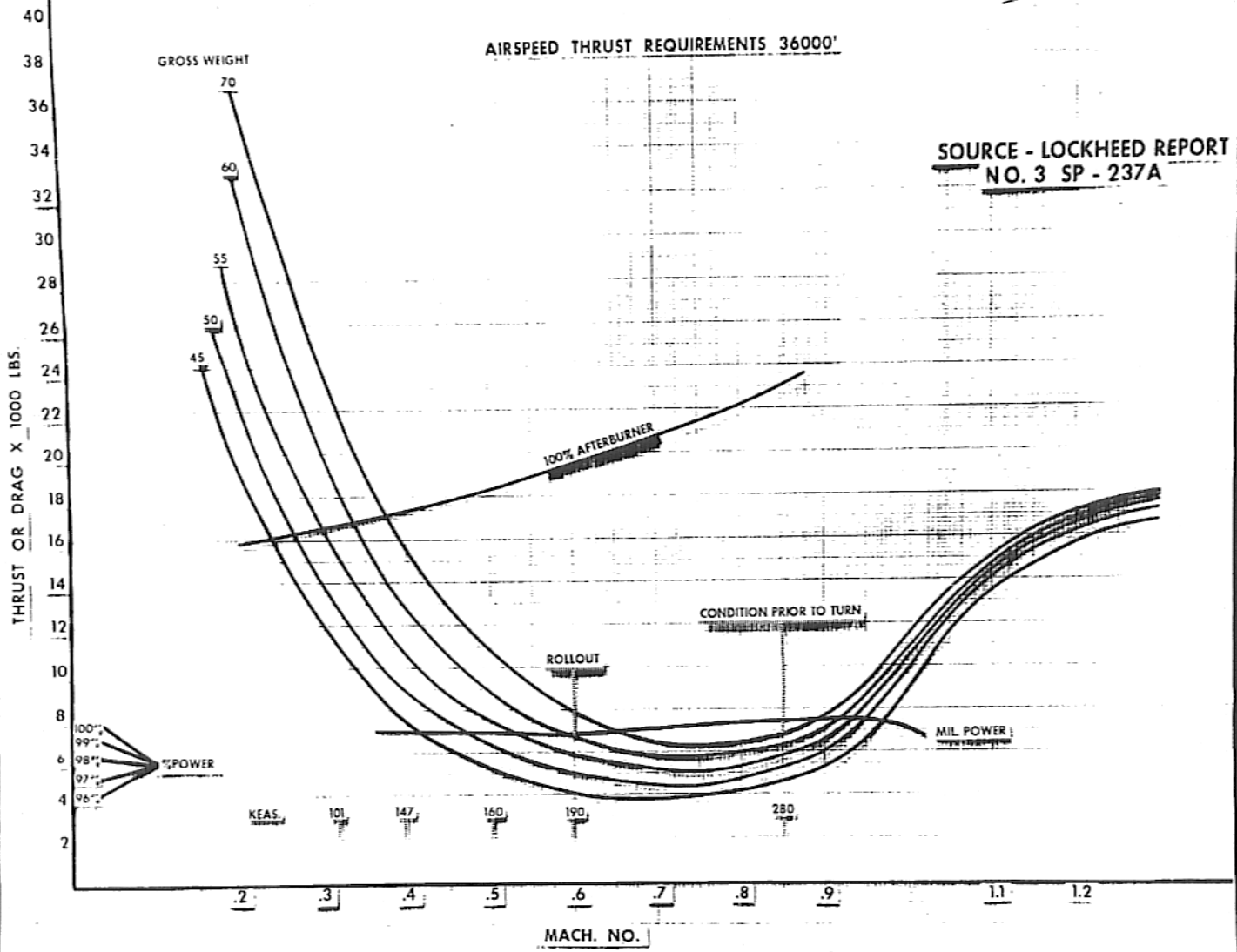
Deputy Commander for Operations



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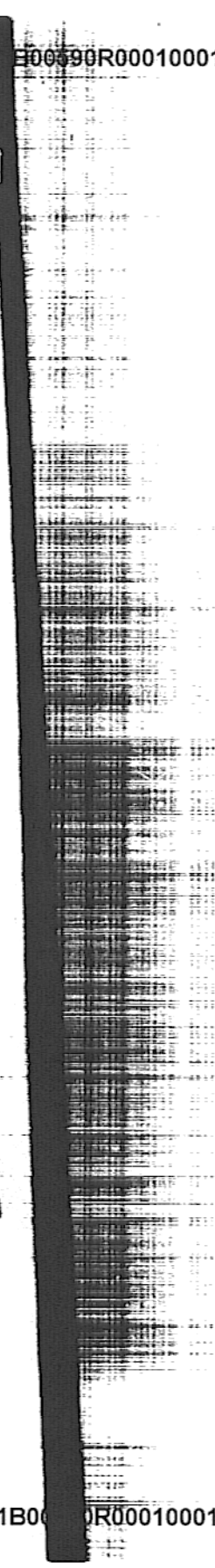
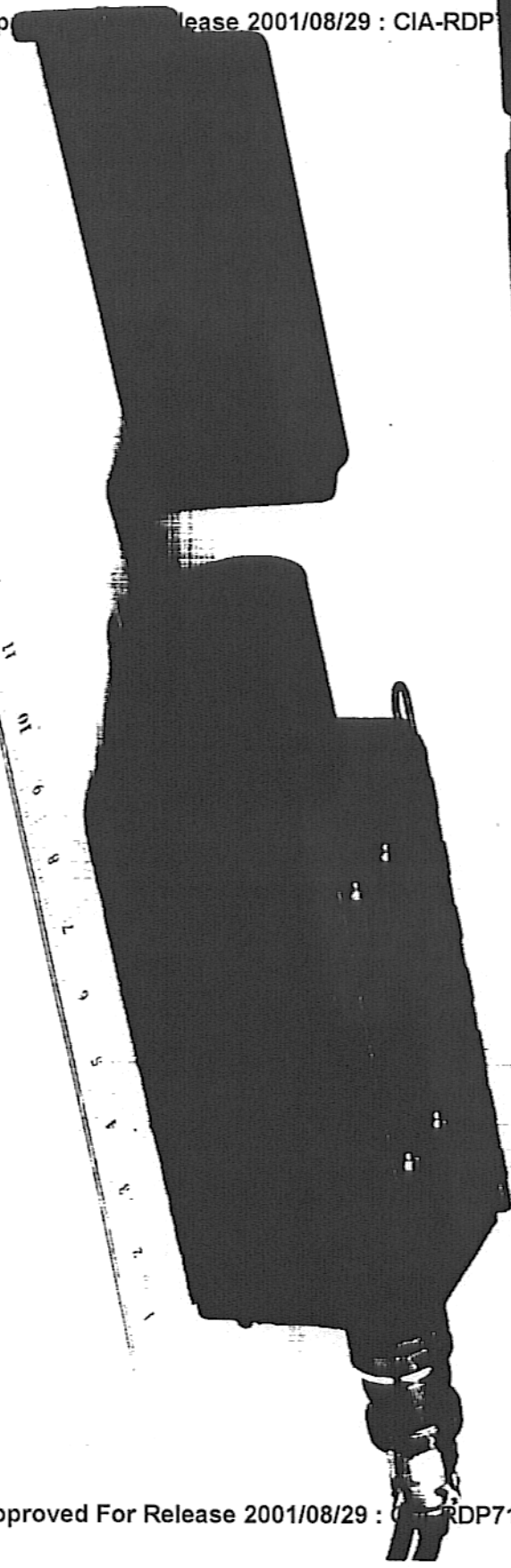


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THIS IS A PROJECT OXCART DOCUMENT  
SPECIAL HANDLING REQUIRED

TAB LETTER	USAF ACCIDENT/INCIDENT REPORT CHECKLIST AND INDEX	NOT APPLICABLE	APPLICABLE NOT ATTACHED	ATTACHED	NO. FORMS ATTACHED
A	AF FORM 711			X	
B	AF FORM 711a	X			
C	AF FORM 711b			X	
D	AF FORM 711c			X	
E	AF FORM 711d	X			
F	AF FORM 711e	X			
G	AF FORM 711f	X			
H	AF FORM 711g			X	
I	UNSATISFACTORY REPORT	X			
J	TEARDOWN DEFICIENCY REPORT	X			
K	LIST OF TECHNICAL ORDERS NOT COMPLIED WITH			X	
L	AFTO FORMS 781 SERIES				
M	AF FORM 5			X	
N	STATEMENTS			X	
O	REBUTTALS	X			
P	ORDERS APPOINTING INVESTIGATING BOARD			X	
Q	BOARD PROCEEDINGS			X	
R	DD FORM 175 OR DD FORM 1080			X	
S	DD FORM 365 (Weight and Balance Clearance Form F)			X	
T	STATEMENT OF DAMAGE TO PRIVATE PROPERTY	X			
U	CERTIFICATE OF DAMAGE (List of Parts Damaged), MANHOURS REQUIRED TO REPAIR, AND COST			X	
V	TRANSCRIPTS OF RECORDED COMMUNICATIONS			X	
W	ANY ADDITIONAL SUBSTANTIATING DATA REPORTS			X	
X	OTHER AF FORMS (Failure and Consumption Reports, Etc.)			X	
Y	DIAGRAMS (Fall Out—Impact Area, Etc.)			X	
Z	PHOTOGRAPHS			X	

Whenever "Applicable but not attached" column is marked for any of the above items, information must be entered under remarks to indicate what action has been taken or will be taken to obtain the required attachment. Lettered tabs shown above will be inserted for corresponding attached items, i.e., Tab N will always be used for Statements, Tab P for Orders Appointing Investigating Board, etc. Tabs will be omitted on those items not applicable.

REMARKS:

**SECRET**

FOR OFFICIAL USE ONLY  
(Special Handling Required, See AFR 127-4)

# USAF ACCIDENT INCIDENT INDEX

## TAB

- A - AF FORM 711 - USAF Accident/Incident Report
- B - AF FORM 711a - Ground Accident Report (Not applicable for Acft Accidents)
- C - AF FORM 711b - Aircraft Accident/Incident Report
- D - AF FORM 711c - Aircraft Maintenance Materiel Report
- E - AF FORM 711d - Missile Accident/Incident Report
- F - AF FORM 711e - Explosives Accident/Incident Report
- G - AF FORM 711f - Nuclear Accident/Incident Report
- H - AF FORM 711g - Life Sciences Report of an Individual
- I - Unsatisfactory Report
- J - Teardown Deficiency Report
- K - List of Technical Orders Not Complied With
- L - AFTO Forms 781 Series
- M - AF FORM 5
- N - Statements
- O - Rebuttals
- P - Orders Appointing Inves Board
- Q - Board Proceedings
- R - DD FORM 175 or DD FORM 1080
- S - DD FORM 365 (Wgt-Balance)
- T - Private Property Damage
- U - Damage to Aircraft
- V - Communication - Transcripts
- W - Additional Data
- X - Other Forms
- Y - Diagram
- Z - Photos



Item 11, AF Form 711, "Narrative Description of Accident"

25X1A

## A. HISTORY OF FLIGHT:

On 5 January 1967, [REDACTED] was scheduled to fly Article Number 130 on a routine training flight with a 1000 local takeoff. (reference Tab W, Flying Schedule)

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At the 0730 operations briefing Article 130 was cancelled for maintenance. [REDACTED] DCOT, substituted [REDACTED] for [REDACTED] sortie scheduled for a 1200 takeoff in Article 125. The mission included two air refuelings and two cruise performance legs. Mission planning was accomplished by the mission planning staff. Two F-101 aircraft were scheduled as chase aircraft for applicable portions of the mission.

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The formal briefing for the pilot and chase pilot was conducted at 1030 by the operations staff. (reference Tab V, Transcript of Pre-mission Briefing). Prior to 1030, [REDACTED] had conducted informal briefings with [REDACTED] on mission requirements. [REDACTED] suited on schedule after which he was driven to the aircraft.

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The aircraft had been pre-flighted by the maintenance ground crew in accordance with existing procedures. The Interior Pre-Flight, Starting Engines and Before Taxiing checks were accomplished without discrepancy.

The aircraft was taxied to the runway and cleared for takeoff. Takeoff was 1159 local (1959Z). The first refueling was scheduled in Yuletide Special Operating Area with a 2015Z ARCT and a 31,000 pound on load. Initial contact was established at 2018Z and air refueling completed at 2035Z (:36 flight time) 10NM beyond end refueling point with an actual transfer of 36,000 pounds. (reference Tab N, Statement by [REDACTED])

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[REDACTED] in Dutch 45 stated that was all the fuel he could take. During the climb, [REDACTED] reported turbulence from 48,000 to 52,000 feet and the Auto Pilot disengaged and a circuit breaker popped which would not reset (reference Tab V, Transcript of Dictect Tape). [REDACTED] reported that due to turbulence he was changing his climb schedule.

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[REDACTED] made a report 657NM DTG to position six. This is ten miles past his planned level off point at which he should have been at [REDACTED] feet with 42,000 pounds fuel. He reported at 66,000 feet with 45,000 pounds fuel. (reference Tab V, Dictect Tape).

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At first cruise "how goes it" check point, (1:06 flight time) [REDACTED] reported 36,700 pounds, actual fuel against 36,100 pounds programmed. The entire leg was above fuel program running from 500 pounds at first check point to 1100 pounds at position eight. (reference Tab V, Dictect Tape). There were no deviations plotted from the planned track.

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At the start descent point of 260NM DTG (distance to go) from the second ARCP in the Yuletide Area, [REDACTED] was 1100 pounds above the planned fuel and four minutes late, (1:47 flight time) at level off altitude of 29,000 feet, 52NM DTG, fuel remaining was 14,000 pounds. Twenty-two miles later, [REDACTED] reported he was below Bingo fuel. (reference Tab V, Dictect Tape). This meant fuel remaining is below 11,500 pounds. He lost an additional two minutes due to the 52 mile level off instead of the scheduled 20 mile Bottom Out Point. After UHF contact with his tanker, Cute [REDACTED] stated he wanted fuel right now. Refueling was completed with four disconnects and a climbing flight path from 30 to 33 thousand feet for the last six minutes of refueling. Tanker stated refueling was average or better. At end of refueling, Dutch 45 was advised his position was over

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Current VOR (2:35 flight time) and on load was 61,000 pounds, 1000 pounds over briefed. [redacted] stated he needed another 4 to 5 thousand pounds. He was advised the tanker was dry as they had refueled the chase plane with 4,000 pounds prior to [redacted] refueling (reference tab N, Statement by [redacted] (that was a non-scheduled refueling).

25X1A

[redacted] contacted Bungalow and advised he was around 4000 pounds short and would have to cut short his turning point on the second cruise control leg. He requested this information be passed to all agencies. He also stated he was happy to cut it short as he was hand flying the entire mission with an inoperative auto pilot. (reference Tab N, Statement from "Bungalow" and [redacted] statement)

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[redacted] gave a report at planned level off where he should have been at [redacted] feet with 42,400 pounds of fuel. He gave his altitude as [redacted] feet with 40,300 pounds of fuel. This is 2100 pounds below the fuel curve. Twenty-seven miles later he reported his level off altitude as [redacted] feet with 39,800 pounds of fuel remaining. Because he was still climbing, this would put him approximately 2300 pounds below the curve.

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After this point there are two more entries on [redacted] Dictect that mention fuel, however, they do not include a location or DTG from a fix. The tape had been severely damaged in the wreckage and only small pieces of the last portion have been recovered. There is sufficient information to plot actual fuel consumption for the second cruise control leg.

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The FAA Center reported flight path and the Signal Conditioner and Data Monitor (SC&DM) printout, both plot out very well together; however the SCDM plots the route flown 53 miles greater than planned and show the route flown very close to "as briefed" with the pilot electing to fly the complete, rather than the alternate or shorter mission. Verification of the times show the actual flight continued to run four to six minutes late during the entire second cruise leg.

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At 2320Z (3:21 flight time) the HF Single Side Band [redacted] Tape in the Command Post recorded A-OK chirps. Two minutes later [redacted] on his first HF voice transmission reported he was just rolling out of the far east turn and running 800 to 1000 pounds short on fuel which was due partially to the 53 additional miles flown; however he expected to make up the deficiency (reference Tab V, Transcript of HF/UHF Transmissions) His planned fuel at this point was 23,300 pounds. This would give him an actual fuel reading of 22,300 pounds.

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[redacted] last fuel check point is Position 16, Cimarron, N.M., 13,800 pounds of fuel is required if he is to continue to home plate. If he has less than 13,800 he was briefed to land at Albuquerque. The flight plan time to this point is 3:36. [redacted] passed Position 16 at 3:42 flight time proceeding towards home plate. At 23:45Z, 3:46 flight time, [redacted] reports he is abeam Farmington with 7500 pounds of fuel. This position plots 15 miles east of abeam Farmington from the SCDM. He cannot explain the excessive loss of fuel but he thinks he can make home plate okay. 7500 pounds is the planned reserve he should have on arrival over home plate (reference tab V, HF Tape). Normal fuel consumption would have put him abeam Farmington with 11,800 pounds of fuel.

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At approximately 305NM from the Base, 3:49 flight time, the SC&DM shows a reduction of speed started. At 260NM, 3:51 flight time, the SC&DM shows him leaving altitude [redacted] feet with a continuous descent. At 23:56.49Z he reports 120NM with 3900 pounds and he should be able to make it to home plate. At 0000:26Z he reported 85NM and 2700 pounds. At 0001:56Z

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he reported, "I'm going to have to jump out of this thing at 22 (two chirps interrupt transmission) - flaming out." showing low fuel started at that time and continued till 2402:24Z at which time total power was lost or aircraft impacted with the ground. Total flight time was estimated at 4 hours 3 minutes. At time of impact the aircraft was estimated to be in a 69 degree dive angle, wings near level. The scatter pattern of wreckage was on an average heading of 240 degrees (reference Tab Y, Wreckage Diagram). Captain Sharp witnessed the crash while flying in an F-105 at approximately eight thousand feet at an estimated five miles Northeast of the impact point. Due to twilight in addition to a frontal passage the wreckage was not located till 2306Z on the 6th of January.

Examination of the wreckage revealed complete disintegration upon impact. All identifiable components were examined. Analysis and witness statement reveal the aircraft was intact immediately prior to impact with the exception of a lower wing fillet and the canopy and seat. There was no indication of in-flight fire or explosion and all burining was indicative of post impact fire.

When the pilot initiated the ejection sequence, the canopy separated and both over-the-shoulder cameras tore loose from the canopy and were never recovered. All recording tapes aboard the aircraft were partially destroyed; however, many items of significant data were recovered from the tapes as shown in Tab "V".

Careful examination of the existing wreckage did indicate that the aircraft did not have an engine, hydraulic, oil, flight control, electric, electronics or structural failure prior to impact. Examination of the instrumentation data did indicate the possibility of an erroneous fuel indication, fuel leak, or fuel exhaustion may have existed.

The pilot ejected but was fatally injured when he failed to separate from the seat before impact. During descent, the pilot relayed in a calm, rational voice to both ground and airborne agencies, an intent to eject upon flameout of the engines. The full knowledge of an impending requirement for ejection provided ample time for pre-ejection preparation. As best can be determined, ejection was accomplished somewhere between the altitudes of 20M and 35M and above 295 KIAS. Speed was established by the fact that the speed sensor permitted actuation of the four second delay mode only in the ejection system.

The pilot utilized the primary ejection system (D-Ring) and there was no indication of any canopy removal difficulties. All seat initiators fired normally including the lap belt initiator and the rotary actuator (man/seat separator) fired and reeled in 13 inches of tape. The pilot apparently never left the seat for some undetermined reason. He was fatally injured upon impact with the ground approximately eight miles east of the aircraft impact area.

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B. INVESTIGATION AND ANALYSIS:

1. Witness statements, cockpit tape recorder data (Dictect), recorded HF radio transmissions, and SC&DM flight data monitor, were used to reconstruct the flight performance around both navigation legs. Initial review indicated that three possibilities existed which would have resulted in fuel depletion near the point of flame out.

A full fuel offload was not obtained during the air refueling preceeding the last navigation leg. Had the pilot disregarded all briefed fuel minimums and extended the flight profile beyond the point of safe return, fuel quantities remaining during the descent to land would have approximated those reported by HF radio prior to flame out. However, the cockpit tape recorder and HF radio transmissions show that indicated fuel remaining over check points was essentially as programmed at the planned turning point. The pilot was using a reduced power climb and cruise procedure which during previous tests has reduced fuel consumption by the approximate amount short after refueling. Therefore it is entirely possible that indicated fuel reserves were at specified minimums by the time he reached the turn and the possibility that he knowingly disregarded briefed minimums was not substantiated by data recorded.

A rapid fuel leak which occurred after the last planned check point for diversion to a suitable alternate could have resulted in siphoning all the remaining fuel from one of the tanks. This would account for the near normal fuel consumption during descent after the defective tank contents had emptied but would not have explained similar sudden loss of fuel during approach to the tanker for refueling after the previous cruise profile. A fuel leak of such proportions would have been readily apparent to the tanker crew and chase pilot during refueling. The two sudden drops in fuel quantity apparently occurred with approximately the same amount indicated on the gauge and were too similar to be ignored. All possibilities of increasing fuel consumption during approach to the tanker such as the use of afterburner were considered, but the high rate of indicated fuel depletion could not be explained without a malfunction of some type.

The possibility of a gross fuel quantity gauge error which disappears when the tank, containing a faulty fuel probe empties, was thoroughly investigated. Tanks three and five empty at about the fuel quantity where the sudden decrease occurred. Tests were conducted which indicate that this possibility does exist. Both flight profiles were reconstructed with the assumption that the actual fuel quantity on board the aircraft was between three and four thousand pounds less than indicated after both refuelings. Applying this assumption, the amount of fuel offloaded and the reported quantities remaining at various points along the route assume a logical sequence. The board reached the conclusion that the most probable cause of fuel depletion resulted from a faulty quantity indicating system and that the error rapidly decreases subsequent to an indicated fuel remaining of 14,000 pounds.

2. Examination of the wreckage revealed complete disintegration upon impact. The aircraft was intact immediately prior to impact with the exception of a lower wing fillet and the canopy and seat. There was no inflight fire or explosion. All burning was indicative of post impact fire. During ejection sequence the canopy separated from the aircraft in a normal manner and impacted approximately nine miles east of the wreckage. Analysis of the Dictect, SC&DM, and Flight Recorder tapes was difficult because of damage sustained at impact. The over shoulder cameras were missing from the canopy. Maintenance forms and records were reviewed and no discrepancies were noted. Due to disintegration of the aircraft and components, integrity of systems could not be specifically determined; however, investigation revealed no structural, engine or flight control failure prior to flame out and/or ground impact.

3. Detailed examination at the site of the pilot/seat impact area established that the pilot had not separated completely from the seat and was fatally injured at time of impact. Subsequent investigation of the recovered ejection system components revealed that all systems functioned normally to the point of man/seat separation. Analysis of the components



of the lap belt release mechanism and tests conducted to simulate separation conditions, could not absolutely establish a single primary cause for the failure of man/seat separation; however, it was determined that a number of possible causes for the failure of the man to separate from the seat could be deduced. First, the lap belt release mechanism could have been bound by excessive tension or side-loading on the lap belt at the time of automatic lap belt firing. Second, the intrusion of a foreign object into the lap belt release housing could have prevented the release function. Third, the drogue parachute pack could have been jammed into the headrest spacer extension restricting parachute travel from under the headrest. Finally, any combination of two or more conditions that would provide tension to the lap belt or shoulder harness disengagement from the lap belt could have caused failure of the pilot to separate from the seat. The pilot could have failed to manually release the lap belt due to excessive seat gyration, visual restrictions and/or obstructions in the vicinity of the lap belt manual release lever within the brief time span available before impact with the ground.

FINDINGS:

1. Primary Cause: The primary cause of this accident was fuel depletion from an undetermined cause. The most probable cause was a fuel gauging error resulting in a higher than actual indicated fuel quantity reading.
2. Contributing Causes: Pilot factor in that at the time he reported 7500 pounds fuel remaining, he could have diverted to Albuquerque.
3. Additional Findings:
  - a. The location of the Dictet recorder and the construction of the SC&DM tape cassette does not afford adequate protection.
  - b. The pilot was qualified and properly briefed to conduct the mission.
  - c. Control tower and the SC&DM tape did not have an accurate time hack with WWV.
  - d. During the second refueling the chase aircraft refueled first and took 4000 pounds of fuel which if available to the primary aircraft would probably have enabled the aircraft to return to home base.
  - e. A precise method of determining fuel quantity in the tanks during ground fueling does not exist.
  - f. Fuel quantity calibration procedures are not optimized in that the calibration is not made in the sequence the fuel is used.
  - g. Changing of a fuel probe could change system calibration significantly.
  - h. That the primary cause for the failure of the pilot to manually separate from the seat could not be determined.
  - i. The most probable causes for the pilot failing to separate from the seat were:
    1. Failure of the lap belt to release due to binding or a foreign object intrusion into the release mechanism housing.
    2. Man-seat separator actuated pushing the man and chute pack upward and the seat kit forward. The chute pack jammed against the headrest spacer extension and with constant pressure by the separator belts, the pilot could not separate from the seat.

RECOMMENDATIONS:

- a. Consider the relocation of the Dictet recorder in the canopy.
- b. Explore the possibilities of making the SC&DM tape cassette crash proof.
- c. Establish a requirement to defuel aircraft after each flight comparing the fuel indicator quantity to actual off loaded fuel quantity. An allowable difference limit should be established.
- d. On all ground fuelings the aircraft should be filled from a zero-fuel condition and then off loaded to desired fuel quantity. Tolerances must be established for difference in indicator and tanker readings, both at the full and off load points.
- e. Fuel tank dip stick capability should be provided.
- f. A requirement for fuel system calibration should be established when any major component, such as a probe, is changed.
- g. Fuel system quantity calibration procedures should be amended to conduct the calibration in the sequence the fuel is used from the tanks.
- h. The Dictet be redesigned to allow a break between each conversation.
- i. The last point at which the pilot has the capability to divert to a suitable alternate should be identified on route maps.
- j. Local procedures be published for training refueling missions that:
  1. The tanker will have required and scheduled fuel aboard plus 10,000 pounds, conditions permitting.
  2. Chase missions are scheduled so that no possibility of interference with refueling of the primary receiver occurs.
- k. That the headrest spacer be immediately removed from all aircraft.
  1. That the underside surface of the headrest ramp and the top surface of the drogue parachute pack be provided a smooth interface.
- m. That the rotary actuator (man/seat separator) straps be repositioned to provide maximum forward thrust to the man/parachute mass and the eight nuts and bolts on the front of the seat securing the rotary actuator straps be reversed.
- n. That the lap belt automatic release mechanism be reworked to prevent tension or side load binding of the pawl latch lever and a readily accessible manual lap belt release lever be developed.
- o. That the shoulder harness loops be sewn to prevent slipping over the automatic lap belt latch lever housing.
- p. That the development of emergency face plate heater and the protective cover for the oxygen controller assembly be expedited.
- q. That a D-ring cable cutter be installed.
- r. That all future modifications to the ejection system receive thorough testing and qualification prior to issuance of TCTO kits or service bulletins.

# USAF ACCIDENT INCIDENT INDEX

## TAB

- A - AF FORM 711 - USAF Accident/Incident Report
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- U - Damage to Aircraft
- V - Communication - Transcripts
- W - Additional Data
- X - Other Forms
- Y - Diagram
- Z - Photos

AIRCRAFT ACCIDENT/INCIDENT REPORT						
To be filled out for principal aircraft involved. (Appropriate blocks only should be filled out on secondary aircraft.)						
1. ACCIDENT/INCIDENT CLASSIFICATION (Check one)						
Flight Accident Resulting In Aircraft Damage		Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>		Accident Not Resulting In Aircraft Damage <input type="checkbox"/>		
Aircraft Non-flight Accident <input type="checkbox"/>		Air Force Aircraft Incident <input type="checkbox"/>				
2. Aircraft/Serial Number #125		3. Type, Model, Series, Block No. A-12		4. Assignment/Status Code (AFM 65-110) N/A.		
5. If aircraft was being ferried or delivered indicate gaining and losing organizations, date of transfer, ultimate destination. N/A						
6. CLEARANCE: From Edwards AFB To Edwards AFB To						
7. Filed: VFR <input type="checkbox"/> VFR-ON TOP <input type="checkbox"/> IFR <input checked="" type="checkbox"/> Local <input type="checkbox"/> Other <input checked="" type="checkbox"/> Direct <input type="checkbox"/> Airways <input type="checkbox"/> (Controlled)						
8. Flight reference at time of accident Contact <input checked="" type="checkbox"/> Instrument <input type="checkbox"/> Actual <input type="checkbox"/> Sim. <input type="checkbox"/> Other <input type="checkbox"/> Unk. <input type="checkbox"/>				9. Duration of Flight Hrs. 4 Mins. 3		10. Mission of flight X-1 Training
11. ALTITUDE DATA Cleared Alt. MSL Above FL6000 ft.	Altitude above terrain at sequence began 53,000 Ft.	Altitude MSL impact point 3600 Ft.	Highest altitude MSL flown	Time flown highest alt. Hrs. 1 Min. 53		25X1A
12. Fire and explosion data a. Fires: None <input checked="" type="checkbox"/> Inflight <input type="checkbox"/> Ground <input type="checkbox"/> Result of grd. impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> b. Explosions: None <input checked="" type="checkbox"/> Inflight <input type="checkbox"/> Ground <input type="checkbox"/> Result of grd. impact? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		13. Airfield data: Applicable to takeoff and landing accidents occurring within 2 miles of airfield N/A Field elevation in use _____ Ft. Composition of runway Asphalt _____ Concrete _____ Length of runway in use _____ Ft. Other (Specify) _____ Length of overrun _____ Ft. Composition of overrun (Specify) _____ Distance of touchdown from runway _____ Ft. Surface condition Dry _____ Wet _____ Icy _____ Heading of runway _____ ° Other (Specify) _____ Conditions affecting occurrence; e.g., type of instrument or lighting approach aid used, obstructions, barrier, airspeed, gross weight, forced landing				
14. (If answer is "Yes," to either question, discuss under item 11, AF Form 711) Violations <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Breaches of air discipline <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
15. PHASE OF OPERATIONS: e.g. take off roll, initial climb, normal flight, aerobatics, landing approach, flareout Enroute Descent			16. TYPE OF ACCIDENT: e.g. gear-up landing, mid-air collision, abandoned aircraft, fire or explosion in flight, undershoot, overshoot Abandoned Aircraft			
17. WEATHER AT TIME AND PLACE OF ACCIDENT: (If a factor in the accident, attach statement of weather officer)						
Sky conditions 6000' overcast	Visibility 15+	Wind direction and velocity 010° 30-40 KTS	Temperature 42°	Dew point 18°	Alt. setting 29.64	Other weather conditions N/A
PILOT(S) INVOLVED (FLIGHT CREW)						
18. OPERATOR (Person at controls at time of accident)						
a. LAST NAME (Jr., II, etc.) FIRST NAME MIDDLE NAME [REDACTED]			GRADE CIV	COMPONENT	SERVICE NUMBER N/A	NATIONALITY USA
b. POSITION IN AIRCRAFT AT TIME OF ACCIDENT Front or Left Seat <input checked="" type="checkbox"/> Rear or Right Seat <input type="checkbox"/>			c. ASSIGNED DUTY ON FLIGHT ORDER AC <input type="checkbox"/> IP <input type="checkbox"/> P <input checked="" type="checkbox"/> CP <input type="checkbox"/> Other (Specify)			
d. ASSIGNED ORGANIZATION Major Command Subcommand or AF Air Division Wing Group Squadron or Unit Base N/A						
e. ATTACHED ORGANIZATION FOR FLYING Major Command Subcommand or AF Air Division Wing Group Squadron or Unit Base N/A						
f. ORIGINAL AERONAUTICAL RATING AND DATE RECEIVED Pilot 30 March 55		g. PRESENT AERONAUTICAL RATING AND DATE RECEIVED		h. INSTRUMENT CARD Type _____ Date of expiration 29 Dec 67		i. AFSC Primary _____ Duty _____
19. OTHER PILOT						
a. LAST NAME (Jr., II, etc.) FIRST NAME MIDDLE NAME			GRADE	COMPONENT	SERVICE NUMBER	NATIONALITY
b. POSITION IN AIRCRAFT AT TIME OF ACCIDENT Front or Left Seat _____ Rear or Right Seat _____ Other _____			c. ASSIGNED DUTY ON FLIGHT ORDER AC _____ IP _____ P _____ CP _____ Other (Specify)			
d. ASSIGNED ORGANIZATION Major Command Subcommand or AF Air Division Wing Group Squadron or Unit Base						
e. ATTACHED ORGANIZATION FOR FLYING Major Command Subcommand or AF Air Division Wing Group Squadron or Unit Base						
f. ORIGINAL AERONAUTICAL RATING		g. PRESENT AERONAUTICAL RATING		h. INSTRUMENT CARD Type _____ Date of expiration _____		i. AFSC Primary _____ Duty _____

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Authority AWD 023070  
By JKS NARA Date 10-26  
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20. **FLYING EXPERIENCE** (Attach copy of AF Form 5 for Pilot(s) involved as outlined in AFR 127-4.)

ASSIGNED DUTY ON FLIGHT ORDERS: (Give last names only. List all flight times to nearest hour.)	Pilot	Co-Pilot	Inst. Pilot	Actg. Cmdr.	Student Pilot
a. Total flying hours (Including AF time, student and other accredited time):	3356				
b. Total Jet Time:	3067				
c. Total 1st Pilot/IP hours, all Aircraft:	3044				
d. Total Weather Instrument Hours:	176				
e. Total 1st Pilot/IP hours this Model:	375				
f. Total 1st Pilot/IP hours last 90 Days:	41				
g. Total 1st Pilot/IP hours last 90 Days this Model:	23				
h. Total 1st Pilot/IP hours weather and hood last 90 Days:	8				
i. Total Pilot hours night last 90 Days:	3				
j. Total Pilot hours last 30 Days:	14				
k. Total 1st Pilot/IP hours last 30 Days:	14				
l. Total 1st Pilot/IP hours last 30 Days this Model:	8				
m. Date and Duration last previous flight this Model:	30 Dec 1+20				
n. Date of last proficiency flight check:	8 June 66				

21. **CAUSATIVE AGENCY**

Cause Factors (Check one primary and all applicable contributing and probable factors.)

	Primary	Contributing	Probable	Other Personnel (Specify) _____	Primary	Contributing	Probable
Operators							
Pilot		X					
Co-Pilot							
Controller (Drones)							
Crewmembers (Other than Operator) (Specify) _____							
Supervisory Personnel (Specify) _____							
Maintenance Personnel Type of pers. and orgn. level _____							
				Material Failure or Malfunction			
				Engines			
				Airframe			
				Landing Gear			
				Other (Specify) <u>Fuel System</u>	X		
				Airbase or Airways			
				Weather			
				Misc. Unsafe Conditions (Specify) _____			
				Undetermined <input type="checkbox"/>			

22. **DAMAGE**

Damage to Aircraft <input checked="" type="checkbox"/> Destroyed <input type="checkbox"/> Substantial	<input type="checkbox"/> Minor <input type="checkbox"/> None	Damage Beyond Economical Repair <input type="checkbox"/> Yes <input type="checkbox"/> No	Manhours to Repair	Cost (Est.) \$
---	---	---	--------------------	-------------------

Description of Damage (Describe briefly extent of damage to aircraft and any property damage incurred)

Aircraft was totally destroyed

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23. **AUTHENTICATION**

President James G. Fussell, Col USAF

Main Member [Redacted]

Member [Redacted]

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**AIRCRAFT MAINTENANCE/MATERIEL REPORT**

Use this form when AF aircraft accident/incident involves inadequacy, malfunction or failure of AF materiel.

1. AIRCRAFT TM & SERIAL NUMBER  A-12  S/N 06928 (125)	2. SPECIAL REPORTS DATA	
	a. Were Previous UR's Submitted on Factor(s) Involved? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	b. No. and Date of UR's Submitted as Result of This Accident (Attach copy)  Not Applicable
	c. Is TDR Requested? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	d. No. of T.O.'s Not Complied With at Time of Accident (List T.O. Nos. and files on separate sheet(s)—Tab K)  27 Service Bulletins were not complied with

3. AIRCRAFT HISTORICAL DATA		
Item	Aircraft	Part, Component or Accessory
Identification of Aircraft/Part, etc.	A-12	
Air Force Acceptance Date	25 Feb 1963	
Total Flight Hours	338:57	
Last Overhaul Date	None	
Overhauling Activity (Name and location)	N/A	
Hours Since Overhaul	N/A	
Hours Since Last Periodic Inspection	25:37	
Date of Last Periodic Inspection	Oct 29 1966	
Type of Last Periodic Inspection	Phase I	

4. ENGINE HISTORICAL DATA			
(Complete a separate column for each engine involved. Also, complete a separate column for each power plant component involved.)			
Installed Position	1	2	
Engine Model and Series	YJT11D - 20A	YJT11D - 20A	
Engine Serial Number	P648209	P648213	
Total Engine Hours	285:18	230:24	
Number of Major Overhauls	2	2	
Hours Since Last Major Overhaul	99:02	35:10	
Date of Last Overhaul	27 Dec 1965	12 July 1966	
Overhaul Activity	Pratt & Whitney	Pratt & Whitney	
Date Last Installed	29 Oct 1966	28 Oct 1966	
Hours Since Last Installed	33:12	31:25	
Date of Last Periodic Inspection	26 July 1966	None since Overhaul	
Type of Last Periodic Inspection	75 Hr P E	-	
Fuel (Type and octane rating)	PWA 523C	PWA 523C	

5. FIRE DATA NO INFLIGHT FIRE OR EXPLOSION					
(To be completed when fire or chemical explosion occurs, not resulting from ground impact. Indicate: P—Probable or K—Known, in squares below.)					
a. MATERIEL FAILURE CAUSING THE FIRE		b. IGNITION SOURCE		c. COMBUSTIBLE MATERIAL	
Electrical System	Propulsion System	Electrical System	Static Electricity/Lightning	Cargo	Hydraulic Fluid
Fuel System	Other (Specify)	Pneumatic System	Other (Specify)	Electrical Insulation	Lubricating Oil
Hydraulic System		Propulsion System		Explosives	Other (Specify)
Pneumatic System	Unknown		Unknown	Fuel	Unknown
d. AIRCRAFT FIRE EXTINGUISHING SYSTEM			e. FIRE/OVERHEAT WARNING		
	Fixed	Portable	Fixed	Portable	Fire Detector
Extinguished Fire			Not Activated and Not Near Fire		Operated Properly
Reduced Fire			If Discharged, Chemical Used		Not Operated, but Near Fire
No Effect When Discharged			If Discharged, Amount of Chemical Used		Not Operated and Not Near Fire
Activated but Did Not Discharge			Other Pertinent Info.		Not Installed
Not Activated but Near Fire					Other (Specify)
f. SHUT OFF PROCEDURES		RESULTS OF ALLOWING FIRE TO BURN OUT		g. EFFECT OF FIRE	
Extinguished Fire				Catastrophic	
Reduced Fire				Increased Severity of Mishap	
No Effect				No Change in Severity of Mishap	
Not Accomplished				Unknown	
Unknown					

**6. LOCATION OF INITIAL FIRE**

	Known	Probable		Known	Probable		Known	Probable
Baggage Compartment			Aft of Firewall			Wheel Well		
Bomb Bay			Forward of Firewall			Cargo-Passenger Compartment		
Cockpit/Crew Quarters			Rocket Pod			Other (Specify)		
Engine Section			Tire/Wheel/Brake			Unknown		<input type="checkbox"/>

**7. MISCELLANEOUS CHEMICAL EXPLOSION DATA**

	Known	Probable		Known	Probable
Initial Ignition Occurred in an Explosive Manner Prior to Ground Impact.			Intensity of Explosion Was Sufficient To Cause or Appreciably Contribute to In-Flight Airframe Break-Up.		
Explosion Occurred After Fire and Before Ground Impact.			Other Significant Data (Specify)		
Explosion Occurred Subsequent to Ground Impact.			Unknown or Not Available.		

**8. AIRCRAFT MAINTENANCE OFFICER'S ANALYSIS AND SPECIFIC ACTION TAKEN**

Describe difficulties involved and relationship of the various components to the accident. Describe specific action taken. For Fire Data describe the fire and/or chemical explosion. Cover in detail any noted deficiencies, malfunctions of fire detecting and extinguishing equipment, or questionable procedures. When discussing specific equipment, give the name of manufacturer, part numbers, etc., and state whether or not a UR has been submitted. Include any additional information or opinion of possible value to future technical analysis of this report.

SEE INDIVIDUAL GROUP REPORTS IN TAB "W" OF THIS REPORT.

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LIFE SCIENCES REPORT OF AN INDIVIDUAL INVOLVED IN AN AF ACCIDENT/INCIDENT									
SECTION A. AIRCRAFT ACCIDENT/INCIDENT									
1 GENERAL									
a. Name, Grade, Social No. ██████████			b. Assigned Base and Command ██████████			c. Aircraft Type, Model, Series (as applicable) A-12 (#125)			
d. Primary AFSC --	e. Duty Assignment Test Pilot	f. Current Rating Comm. Pilot	g. Age 33	h. Height 67	i. Weight 161	j. Years of Educ. 14 years	k. Activity at time of Accident/Incident PILOT		
2 MEDICAL DATA									
a. Degree of Injury: None <input type="checkbox"/> Minor <input type="checkbox"/> Major <input type="checkbox"/> Fatal <input checked="" type="checkbox"/> Missing <input type="checkbox"/>			b. Days Hospitalized 0		c. Days in Quarters 0		d. Total Days to be Lost N/A		
e. Waiver Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Specify _____			f. If Fatal, Was Autopsy Form Submitted to AFIP? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> See Autopsy Report Was Specimen Submitted to AFIP? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Frozen <input checked="" type="checkbox"/> Fixed <input type="checkbox"/> Nr. A6725-6 12 Jan 1967						
g. Diagnosis: Describe Fatalities, Injuries and Causes (Use Basic Diagnostic Nomenclature, AFR 160-13). Specify Primary Injury in non-fatal or primary cause of death in fatal. Multiple fractures, contusions and lacerations sustained in free fall from high altitude without benefit of deployed parachute.									
3 PHYSIOLOGICAL INCIDENT (Complete Items 1, 2, 3, 4, 5, 6, 7, and 10 as applicable)									
a. Type Mission Training		b. Duration of Flight 4:03		c. Single Ship <input checked="" type="checkbox"/> Formation <input type="checkbox"/>		d. Ind. Alt at time of inc. approx 73,000MSL			
e. Cabin Alt at time of inc. 26M		f. Time of Alt. 4:03 hrs. Aircraft Pressurization ground checked on 5 Jan 67. Refer to Pilot's Suit &							
g. Did you use O <sub>2</sub> Pre-flight? Check: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		h. Regulator Setting Type Regulator Used N/A Full Pressure Suit		i. Last Check on 5 Jan 67		j. Oxygen System Pressure at takeoff/Normal Normal Check Sheet Records			
k. First Check of O <sub>2</sub> System on 5 Jan 67		l. Type of Mask N/A		m. Adequate Fit: Yes <input type="checkbox"/> No <input type="checkbox"/>		n. Time Lapse between incident and examination approx 72 hrs elapsed time between accident and autopsy Ambient temp slightly below freezing			
m. Specify Tests (Specify Type and Results) CO Blood Sugar High									
n. Attach a diagram of the flight profile involved, use additional sheets (SEE FLIGHT ROUTE AND PROFILE IN ACCIDENT REPORT (TAB Y))									
4 PSYCHOPHYSIOLOGICAL FACTORS									
Check only factors present. Explain the basis for your determination in Item 10. Cite all clinical and lab evidence									
FACTOR	Not Sig	CONTRIBUTED TO ACCIDENT			FACTOR	Not Sig	CONTRIBUTED TO ACCIDENT		
		Definite	Probable	Possible			Definite	Probable	Possible
Aging	X				Preoccupation/Channelized Attention	X			
Alcohol	X				Other	X			
Air Sickness	X				Fatigue (Auto-Pilot Inop)				X
Auditory Interference	X				G-Forces	X			
Body Build	X				Hyperventilation	X			
Boredom	X				Hypoxia	X			
Cardiovascular	X				Illness	X			
Discipline	X				Language Barrier	X			
Distraction	X				Missed Meals	X			
Drugs and/or Self-Medication	X				Motivation/Morale	X			
Dysbarism (Specify)	X				Spatial Disorientation	X			
Emotional Disturbances	X				Task Over-saturation	X			
Anxiety	X				Unconsciousness	X			
Fear	X				Vertigo	X			
Get-Home-itis	X				Visual Restriction	X			
Irrational Behavior	X				Other Related Factors (Explain)	X			
Over Confidence	X				No Factors Present				
Panic	X								
5 ENVIRONMENTAL FACTORS									
(Check only factors present. Explain the basis for your determination in Item 10. Cite all clinical and lab evidence)									
FACTOR	Not Sig	CONTRIBUTED TO ACCIDENT			FACTOR	Not Sig	CONTRIBUTED TO ACCIDENT		
		Definite	Probable	Possible			Definite	Probable	Possible
Air Pressure, i.e. Rapid Decompression, Pressure Loss, Etc., Specify	X				Smoke, fumes	X			
Cold	X				Vibration	X			
Deceleration Forces	X				Weather	X			
Heat	X				Windblast	X			
Light Intensity	X				Other Related Factors, Specify	X			
Noise	X				No Factors Present	X			
6 TRAINING RELATED TO THIS ACCIDENT/INCIDENT (Give Dates Accomplished)									
a. Ejection Seat Training: Seat Simulator 1953 Ejection Seat Tower 1953 Previous Ejection Dec 1958 - F-101						HOURS Total Flying Time 3256:00 This model 375:00			
b. Survival Training: USAF School: Ground <input checked="" type="checkbox"/> Water <input checked="" type="checkbox"/> Arctic <input checked="" type="checkbox"/> Jungle <input checked="" type="checkbox"/> Lectures/Demonstrations 1066						Yearly Review with Field Trips			
c. Parachute Training: Jump School: No Nr. Previous Jumps 0 Lectures/Demonstrations Para-Seil Over Water, PLF Training									
d. Physiological Training Date: 1 Mar 64 Place: Area 51			e. Last Chamber Flight Date: 17 Nov 66 Place: Area 51			f. Type Flight Full Press Suit			
g. AFSC or Other Training USAF Pilot Trng		h. Name of Course or OJT Basic Pilot Trng		i. Dates Attended 1953		j. Aptitude Scores Applicable Unknown			

7 PERSONAL, PROTECTIVE AND SURVIVAL EQUIPMENT						
Specify all applicable items of equipment on appropriate line and specifically indicate all types of clothing worn and any other equipment that influenced operation.				NOT AVAILABLE	AVAILABLE	
ITEM	EXAMPLE	TYPE	Not Used		Used Functioned	Failed
Head Protection	P-4B, HGU-2/P, HGU-6/P				X	
Eye Protection	Visor, Glasses				X	
Ear Protection	Ear Plugs, Muff				X	
Oxygen Mask	MBU-S/P MBU-3/P	Full Pressure Suit			X	
Clothing Worn	K-2B, A/P-225-2	Ser.Nr. GN-S970-1045-3			X	
Clothing, Survival	Sleeping Bag, Down-Filled Suit				X	
Gloves	B-3A, MG-1				X	
Footgear	Alert Boots, Combat Boots				X	
Body Restraints	Seat Belt, Shoulder Harness	Seat Belt Fired but Failed to Open				X
Life Vest	LFU-2/P	Incorporated into Suit		X		
Life Raft	PK-2, E-2B	Incorporated into Seat Kit		X		
Survival Kit, Container	Global, MD-1	Special Type		X		
Communications	URC-DISARAH, Automatic	Packed in Parachute		X		
Other Signaling Devices	Flares, Mirrors, Whistle			X		
Rations	Food/Water, Provided/Foraged			X		
Survival Equipment	Rifle, Fishing Gear			X		
Seat	Fwd/Exp. Facing, <del>30-40</del>	Parachute Jammed Under Seat Headrest			X	X
Other Equipment	Flashlight, etc. (Specify)	Aux. Sur. Kit Stored in Right Leg Pocket		X		

**8 ESCAPE**

a. General: (Check or fill in as appropriate)  
 Ejection  Landing Surface: Ground  Flat \_\_\_\_\_ Mtns  Ice/Snow  Hilly  Desert  Wooded \_\_\_\_\_ Swamp \_\_\_\_\_ Other (Exp) \_\_\_\_\_  
 Bailout  Water \_\_\_\_\_ Calm, Shallow \_\_\_\_\_ Deep \_\_\_\_\_ Rough, Shallow \_\_\_\_\_ Deep \_\_\_\_\_ Unknown

b. Surface Winds, Knots 30-40 (estimate if unk) Draggd: Yes  No  Difficulty releasing Chute Canopy: Yes  No  N/A

c. Reason for Jump (if more than one indicate):  
 Fuel Exhaustion  Fire \_\_\_\_\_ Engine Failure \_\_\_\_\_ Mid-Air Collision \_\_\_\_\_ Loss of Control \_\_\_\_\_ Other (Exp) \_\_\_\_\_

d. Altitude of Aircraft: Slight  
 Level \_\_\_\_\_ Inverted \_\_\_\_\_ Dive  Bank \_\_\_\_\_ Spin \_\_\_\_\_ Spiral \_\_\_\_\_ Climb \_\_\_\_\_ Other (Exp) \_\_\_\_\_  
 Seat Separator functioned and the Automatic Lap Belt Fired but Failed to Release

e. Altitude above Surface 221-321 MSL approx 350 (if not known, approx.) Seat Canopy: Ballistic \_\_\_\_\_ Rocket

f. Difficulties Initiating Escape: None - Canopy and Seat Eject Normal. Automatic Lap Belt fired but Failed to Release.  
 Centrifugal Force \_\_\_\_\_ Canopy/Hatch Failure \_\_\_\_\_ Injury \_\_\_\_\_ Actuating Controls (Specify) \_\_\_\_\_ Other (Exp) \_\_\_\_\_

g. Difficulties During and After Escape: Pilot Unable to Manually Open Lap Belt  
 Clothing/Equipment Interference  Seat entangled in Shroud Lines \_\_\_\_\_ Legs/Arms entangled in Shroud Lines \_\_\_\_\_ Automatic Lap Belt Malfunction   
 Held onto Seat Actuating Controls \_\_\_\_\_ Did not Separate  No Diff \_\_\_\_\_ Other (Exp) Parachute Jammed Under Headrest

h. Seat Separation Device Installed: Yes  No \_\_\_\_\_ Functioned Properly: Yes  No \_\_\_\_\_  
 Failed: Webbing \_\_\_\_\_ Initiator \_\_\_\_\_ Other (Exp) Jammed Parachute Under Seat Headrest

i. Type Parachute: Seat \_\_\_\_\_ Back  Parachute equipped with Zero Delay Lanyard: \_\_\_\_\_ Connected to D-rings: \_\_\_\_\_ Automatic Lanyard Connected: And Pulled when Pilot Separated from Ground.  
 Canopy release: Single  Double  Lanyard: \_\_\_\_\_ Yes \_\_\_\_\_ No  Yes N/A No \_\_\_\_\_ Yes  No Seat on Contact with Ground.

NOTE: A narrative statement will be prepared by each ejectee and/or survivor to include all information pertinent to escape and survival. The statement will be attached to this form. In the event of a fatality, the statement will be prepared by the Flight Surgeon. See "ASSUMED SEQUENCE OF EVENTS" (attached)

**9 RESCUE AND/OR SURVIVAL**

a. Survival involved (Survival implies any water landing and anytime over 1 hour before rescue on land) Yes \_\_\_\_\_ No

b. Distance nearest Rescue (military base) 67 NM Body Found 48 Hrs. Transmitted distress signal: Yes  No  Transmitted position fix: Yes  No  Chase  Pilot

c. Effects of Exposure: Frostbite \_\_\_\_\_ Immersion \_\_\_\_\_ Sea Sickness \_\_\_\_\_ Insect Bites \_\_\_\_\_ Sunburn \_\_\_\_\_ Dehydration \_\_\_\_\_ Other (Explain) Fatal Injuries

d. Primary Factor in Recovery: Radio/Beacon (Specify) \_\_\_\_\_ Flares \_\_\_\_\_ Mirror \_\_\_\_\_ Flashlight \_\_\_\_\_  
 Sea Marker Dye \_\_\_\_\_ Position Fix  Chaff \_\_\_\_\_ Local Population \_\_\_\_\_ Other (Specify) Visual Sighting of Wreckage Fire

e. Type of Recovery: None Required \_\_\_\_\_ Ground Party, Military \_\_\_\_\_ Local Population \_\_\_\_\_ Helicopter/other Aircraft (Specify) \_\_\_\_\_  
Recovery by Self Rescue (Walked Out) \_\_\_\_\_ Other (Specify) Body Spotted by C-47 Aircraft Observer.

**10 MEDICAL OFFICER'S RATIONALE, COMMENTS**

This section is to include comment on medical, personal, social, family, industrial hygiene and allied factors in incident causation, and a description and analysis of the factors in injury causation. Injuries should be correlated with the operations of personal equipment, malfunctions and failures of structures, systems, etc. Pertinent contributing factors in items 3 through 9 should be commented upon. Include X-ray and laboratory findings. Pertinent recommendations are encouraged.

See attached Flight Surgeon's Comments.

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Date: 7 Jan 67

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A-12 SERVICE BULLETIN/S.A.M. STATUS

<u>Bulletin Number</u>	<u>Title</u>	<u>Date</u>
285	OUTBD ELEVON DOWN SPRING	30 Mar 66
890	LOWER FILLETS	7 Mar 66
974	REDUCED TVL PITCH TRIM ACT	18 Jan 66
976	AFT BYPASS DOOR WIRESHIELD	16 Aug 65
987A	SPIKE ACTUATOR SWITCH	31 May 66
987D	FLEX LINES	31 May 66
987F	TERMINAL STRIPS	31 May 66
1006	IFR INTERPHONE	24 Jun 66
1025	NOSE TRANSPONDER INSTALL	24 Mar 66
1035	ALTITUDE RECORDING MOD	19 Apr 66
1041-4	SAS HARNESS REPL	24 May 66
1052	HYD SWIVEL PLUMBING	19 Aug 66
1061	RELOCATE FUEL SHUT-OFF VALVES	13 Sep 66
SAM 115	COMP INLET PRESS IND WIRE	8 Mar 66
SAM 150	DIODE SUPPORT COVER	16 Aug 66
SAM 153	ALTERNATOR CHANGE	21 Sep 66
SAM 162	SEALING Q-BAY HELIUM LEAKS	2 Nov 66
SAM 165	SLIP INDICATOR	8 Nov 66
SAM 167	ACCESS HOLE - STUB FIN	15 Nov 66
SAM 171	ATTACHMENTS GEAR BOX ACCESS DOOR	14 Dec 66

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- T - Private Property Damage
- U - Damage to Aircraft
- V - Communication - Transcripts
- W - Additional Data
- X - Other Forms
- Y - Diagram
- Z - Photos

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10. ORIGINAL DATING AND DATE 11. PRESENT RATING AND DATE Approved For Release 2001/08/29 : CIA-RDP71B00590R000100010001-4

SECTION 1

Table with columns: DATE, TYPE, MISSION, LANDINGS, INSTRUCTOR PILOT TIME, FIRST PILOT TIME, CLASSIFICATION OF INSTRUCTOR AND FIRST PILOT (DAY, NIGHT, VFR, WEATHER, HOOD), COMMAND PILOT TIME, CO-PILOT TIME, CLASSIFICATION OF COMMAND AND/OR CO-PILOT (DAY, NIGHT, VFR, WEATHER). Includes summary rows 16, 17, and 18.

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AF Form 100-5- PART I 4 Jan 67 F101B X-2 1

Approved For Release 2001/08/29 : CIA-RDP71B00590R000100010001-4



PILOT INDIVIDUAL FLIGHT RECORD

SHEET NUMBER

70

NAME (Last - first - middle)

25X1A

SERVICE NUMBER

Approved For Release 2011/08/29 : CIA-RDP71B00590R000100010001-4

SECTION II - MISCELLANEOUS ENTRIES

DATE	TYPE MODEL SERIES	AUTH. MISSION SYMBOL	RADIO CONTROL PILOT TIME	AIRCRAFT COMMANDER TIME	CLASSIFICATION OF AIRCRAFT COMMANDER TIME				APPROACHES				INSTRUMENT TRAINERS	FLIGHT SIMULATOR	PENALTIES		AAR	
					DAY VFR	DAY WEATHER	NIGHT VFR	NIGHT WEATHER	DATE	TYPE	RADAR	NON-RADAR			W	H	HGT	DRY
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
									Jul 1	H		1				1		1 Jul
									6	H	1	2			1			5 Jul
									19	H	1	1				1	20	6 Jul
									22	H	1	1				1	10	22 Jul
									26	H	1	1				1	10	27 Jul
									Aug 11	H	1	1				1	10	29 Jul
									16	W	1	1			1		10	5 Aug
									30	H	1	1			1		10	17 Aug
									Sep 1	H		1				1	10	18 Aug
									7	H	1	1					10	24 Aug
									12	H	1	1				1	10	31 Aug
									14	H	1	1				1	10	20 Sep
									21	H		1				1	10	1 Sep
									26	H	3	1			1		10	6 Sep
									28	H	1	1				1	10	8 Sep
									29	H	1	1				1	10	9 Sep
20. TOTALS THIS SHEET									Nov 1	H	1						10	12 Sep
21. TOTALS BROUGHT FORWARD FROM SHEET NO. 63-69									3	W	1	1			1		10	14 Sep
22. TOTALS TO DATE									7	H	4	2			2		10	21 Sep

SECTION III - SUMMARY OF PILOT EXPERIENCE

DUTY	SINGLE ENGINE	TWO ENGINES	MORE THAN TWO ENGINES	SINGLE JET PROPULSION	MULTI-JET PROPULSION	JET ROCKET	ROCKET	ROTARY WING TYPE	GLIDER	TURBO-PROP		TOTAL
										TWO ENGINES	MORE THAN TWO ENGINES	
A	B	C	D	E	F	G	H	I	J	K	L	N
23. INSTRUCTOR PILOT												
24. FIRST PILOT												
25. COMMAND PILOT												
26. CO-PILOT												
27. AIRCRAFT COMMANDER												
28. RADIO CONTROL PILOT												
29. TOTAL USAF RATED TIME												
PILOT COMBAT TIME	31. INSTRUCTOR	36. FIRST	37. COMMAND	38. CO-PILOT	39. RADIO CONTROL	40. A/C COMDR	41. TOTAL COMBAT TIME					

REMARKS (Use reverse if more space needed)

SECRET

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30. AF STUDENT PILOT TIME

31. CIVILIAN - OVER 450 HP.

32. FOREIGN MILITARY

33. OTHER U. S. MILITARY

PILOT INDIVIDUAL FLIGHT RECORD

25X1A

SERVICE NUMBER

Approved For Release 2001/08/29 : CIA-RDP71B00590R000100010001-4

DATE	TYPE MODEL SERIES	AUTH. MISSION SYMBOL	RADIO CONTROL PILOT TIME	AIRCRAFT COMMANDER TIME	CLASSIFICATION OF AIRCRAFT COMMANDER TIME				APPROACHES				INSTRUMENT TRAINERS	FLIGHT SIMULATOR	PENETRATIONS		AAR	
					DAY VFR	DAY WEATHER	NIGHT VFR	NIGHT WEATHER	DATE	TYPE	RADAR	NON-RADAR			WK	H	WET	DRY
					F	G	H	I	J	K	L	M			N	O	P	Q
										Nov 10	H	1	1				1D	
										29	H	1	1				2D	
										Dec 1	W	1	1				1D	1D 17
										8	H	1	1				1D	3D 3
										9	H	1	1				1D	5D 7
										7	C-11C		2	1:00			1D	29
										13	W	1	1				1D	30
										15	H	1	1				1D	1
										1	H	3					1D	
										29	H	1	1				1D	8
										30	H	1	1				1D	13

20. TOTALS THIS SHEET																		
TOTALS BROUGHT FORWARD FROM SHEET # 82-69											23	31	1:00		10	17	34	30
22. TOTALS TO DATE											622	376	45:15	56:00	65	107	73	95
											655	407	46:15	56:00	75	124	107	125

SECTION III - SUMMARY OF PILOT EXPERIENCE

DUTY	SINGLE ENGINE	TWO ENGINES	MORE THAN TWO ENGINES	SINGLE JET PROPULSION	MULTI-JET PROPULSION	JET ROCKET	ROCKET	ROTARY WING TYPE	GLIDER	TURBO-PROP		ROTARY WING TOTAL	TOTAL
										TWO ENGINES	MORE THAN TWO ENGINES		
A	B	C	D	E	F	G	H	I	J	K	L	M	N
23. INSTRUCTOR PILOT				38:15	150:00								188:15
24. FIRST PILOT		18:45		1041:15	1792:20							2:15	2854:35
25. CO-PILOT		10:25		9:00	34:30			1:00					54:55
26. AIRCRAFT COMMANDER													
27. RADIO CONTROL PILOT													
28. TOTAL USAF RATED TIME		29:10		1088:30	1976:50			1:00				2:15	3097:45
PILOT COMBAT TIME	23. INSTRUCTOR	24. FIRST	25. COMMAND	26. CO-PILOT	27. RADIO CONTROL	28. A/C COMMANDER	29. TOTAL COMBAT TIME						

REMARKS (Use reverse if more space needed)

AFM 60-1 Complied 1ST Half Fy 67. PSC 1A 1 Jan 61  
 14 Dec 66 Completed Inst Evaluation Flt Check in F101 Acft, for AF Inst Rating No-1.

Approved For Release 2001/08/29 : CIA-RDP71B00590R000100010001-4  
 FRANCIS J. MURRAY, FLT EXAM

30. AF STUDENT PILOT TIME 257:10

31. CIVILIAN - OVER 450 HP.

32. FOREIGN MILITARY

33. OTHER U. S. MILITARY

34. TOTAL FLYING TIME

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# USAF ACCIDENT INCIDENT INDEX

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**TAB**

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- B - AF FORM 711a - Ground Accident Report (Not applicable for Acft Accidents)
- C - AF FORM 711b - Aircraft Accident/Incident Report
- D - AF FORM 711c - Aircraft Maintenance Materiel Report
- E - AF FORM 711d - Missile Accident/Incident Report
- F - AF FORM 711e - Explosives Accident/Incident Report
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- S - DD FORM 365 (Wgt-Balance)
- T - Private Property Damage
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- Z - Photos

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S T A T E M E N T

25X1A

Date: 9 January 1967Name: [REDACTED]Duty Phone: 3331AFSC or Job Title: Flt Test EngineerGrade: CivilianAccident - Model A-12, #125, 5 Jan 67  
Accident/IncidentOrganization or  
Address: [REDACTED]

25X1A

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 40Assigned Duty: Aircraft Engineer

During the morning prior to Flight 204, aircraft operations consisted of routine cockpit setup, nav system alignment, and final pre-flight checklist verifications. I made weight and balance calculations, and reviewed the Aircraft 781, work order book, and Engineering Items documentation for uncompleted work. Shortly before 1030 I arrived at the briefing room. I was somewhat surprised to see that [REDACTED] was to be the pilot. I had been informed on the previous day that [REDACTED] was scheduled for Flight 204. I had discussed with him a procedure to obtain additional in-flight information concerning our problem with popping the left hand aft bypass door circuit breaker. However, I related the instructions to [REDACTED]. He repeated them back to me and apparently understood what information was desired. Prior to the start of the formal briefing, we also discussed an oxygen system leak which had been entered as an open 781 item. I told him that the leak was 80 PSI in 8 minutes somewhere between the control panel and suit disconnects and that this should not affect the normal breathing pressure regulation nor system usage. He agreed and shortly thereafter the recorded briefing was started. I noticed no unusual circumstances throughout the briefing.

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I returned to Hangar 10 at 1110. The pilot transportation arrived at approximately 1120. Personal equipment hookup was apparently routine. [REDACTED] coverage of the aircraft checklist was per standard procedures and no discrepancies were reported. Engine starts and pre-taxi operations were normal. I disconnected from the intercom when the airplane was ready for taxi. The crew chief then directed a special procedure of towing the airplane backward out of the hangar to a point where taxi was to be initiated. This operation was a one-time feasibility demonstration. Towing equipment was disconnected. [REDACTED] started the taxi with a 180° turn to the north and then proceeded to runway 32. Engine trim checks were 816° left and 814° right with 815° as target. Takeoff was on schedule with both afterburners normal.

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Following takeoff I had no further knowledge of the flight until 1555. Anticipating the return of the aircraft, I turned on the radio of our mobile vehicle and the first communication I heard was Boxer 17 reporting that he had Dutch 45 at 90 miles out. Someone in the mobile mentioned a prior report of 45 returning low on fuel. I then heard [REDACTED] report that the engines were getting erratic and that he would stay with it till they quit. The last transmission I heard was "The engines have flamed out. I'll be leaving the airplane here". I then returned to my office to await further developments.

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25X1A

S T A T E M E N T

Date 10 Jan 67

Home or

Duty Phone 3346

Name [REDACTED]  
First Middle Init Last

Grade Civilian

AFSC or Job Title Crew Chief

Organization  
or Address N/A

Accident - A-12, #125, 5 Jan 67  
Accident/Incident

Place and Date

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident/incident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age 56

Assigned Duty Crew Chief, Art. 125

State exact location at time of observing accident/incident, direction of observation, whether standing or sitting, etc.:

Article 125 had just come out of Phase I inspection, at which time we made a normal inspection of the aircraft per Code 20. This inspection included check-out of various systems and replacement of 781 due date items, change of hydro filters, lubrication, SAS 21 day control check and change of Seat initiators. The latter was accomplished by [REDACTED] a qualified and authorized seat specialist. All work was accomplished by the Code 32 sheet, and electrical check-out made by [REDACTED] ship electrician, working to Code 23. At this time we worked S/B 1033, Physical Science Connectors (Electrical); S/B 1061, Change Position of Refuel Pilot Valves (Structure, Plumbing and Electrical); S/B 1006, Consolidated Interphone Installation (Electrical).

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Inspection found several cracks in L/H Nacelle which were repaired per SCAP 59. The L/H Forward Bypass Actuator was replaced at this time. All work was completed satisfactorily with strict adherence to all inspection codes, and procedures. Functional Test Flight was made on Dec. 30, and was successful. Ship came back with a chattering brake and two (2) radio squawks. At the end of this flight it was noticed that C/B was popped on L/H bypass door. Corrective action was taken on this and the position switch was replaced. The two (2) wires to indicator lights were disconnected to determine if the trouble could have been in this area.

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Postflight activities continued normally during this time. We started the Preflight Wednesday morning, 4 Jan 1967, and checked all systems per Code 2.

25X1A We pulled out of the hangar at 1400 and moved to the Peek Bldg. [REDACTED]  
 25X1A [REDACTED] installed the 337 Bulkhead door, [REDACTED] and  
 25X1A [REDACTED] removed the "Q" Bay ballast. The package people installed Type  
 25X1A I package and "Q" Bay was closed. We moved in front of Hangar 10, facing South.

25X1A At this time we performed T.E.B operations on both engines. This was  
 25X1A accomplished by Ground Handling personnel with a Fire Dept. crew standing-by. L.O.X. was filled to ship's Oxygen system by [REDACTED]. [REDACTED] then filled the chine evaporator tanks with Methonal. The Day Shift was over at 1730 and Swing Shift fueled the ship and added LN2.

We, the Day Shift, came to work at 0630 and we finished the preflight on the morning of the flight of 5 Jan 1967.

25X1A This ship was ready for flight 1030 and Electrical check-out of cockpit was made per Code 23 by [REDACTED] ship electrician, and [REDACTED]  
 25X1A [REDACTED] The ship was ready for flight with three (3) open squawks in the  
 25X1A 781; the main fuel filters were due for change, after tanks being open, console panel light and flood light were inoperative. Engineering determined these lights were only used for night flight and these open items were not detrimental to flight and the pilot was briefed on these open items. The ship was parked in Hangar 10, facing South. We were to simulate an aft tow out of the hangar after engine start. A tow bar was hooked to the L/H main landing gear. The personnel equipment people came and installed the seat pack. [REDACTED] polished the canopy and windshield glass. The projector people came and installed the projector ([REDACTED])  
 25X1A [REDACTED]. The nose was inspected by [REDACTED] and the nose cover was installed.

25X1A The pilot arrived and was installed by the P.E. people. [REDACTED]  
 25X1A [REDACTED] was on the L/H stand giving instructions to the pilot. [REDACTED]  
 25X1A [REDACTED] was on the headphones for engine starts. [REDACTED] was located in the Tow Vehicle which was attached by a tow bar to the aft of the aircraft, prior to pull out. [REDACTED] was working the forward end of ship closing INS peep-hole and AC Bay covers - after engine starts. [REDACTED] was attending the L/H engine assisting with the removal of the starter and closure of the starter access door. [REDACTED] was assisting the removal of the starter and starter door closure after R/H engine start.

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25X1A [REDACTED] was in attendance to keep interphone system hooked-up  
 25X1A and remove the outside power prior to aft tow. [REDACTED] (Electrician  
 on Article 124) assisted with interphone cord to the aft tow vehicle.  
 Engines were started.

25X1A Check out of steering, flight controls, and engineering instructions  
 were completed. Engineer then removed the canopy safety pin, "D" Ring  
 pin and turned on dictet recorder. Engineer stowed these pins on the  
 stand and the canopy was then closed. [REDACTED] removed the stand and the  
 pilot was instructed to disengage the nose steering. INS people removed  
 their equipment and package people removed covers from the lower hatch.

25X1A [REDACTED] pilot and myself were on the intercom  
 25X1A system. [REDACTED] was given the signal to start aft tow and [REDACTED] was  
 25X1A steering the nose wheel with a steering bar. [REDACTED] was walking chock  
 25X1A on L/H side and [REDACTED] was walking chock on the R/H side. We moved  
 25X1A the ship backwards approximately 100 yards. [REDACTED] walked under  
 25X1A the aft center section and when the aft tow was completed they assisted in  
 25X1A removal of the tow bar. [REDACTED] installed wheel chocks and [REDACTED]  
 25X1A and I removed the steering bar. Pilot was instructed to engage nose steer-  
 25X1A ing and apply brakes. After this was completed [REDACTED] removed and stowed  
 25X1A all interphone cords. Crew moved to left of ship to the Mobile Unit driven  
 25X1A by [REDACTED] gave pilot the "remove chocks" signal and  
 25X1A [REDACTED] and myself followed the taxi  
 25X1A to the trim run area where [REDACTED] installed the chocks. Pilot  
 25X1A made his trim runs and called for removal of chocks.

25X1A Ship started to roll and afterburner came on and ship was normal in  
 all respects before and after take-off.

25X1A [REDACTED]

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S T A T E M E N T

Name: [REDACTED] 25X1A Date: 9 Jan 67

Job Title: F105 Pilot Grade: [REDACTED] 25X1A

Accident- A-12, #125, 5 Jan 67 Organization or 25X1A  
 Accident/Incident Address: [REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Assigned Duty; Training Mission from Nellis AFB

During a normal training flight, in F105 aircraft, from Nellis AFB, Nevada, on 5 January 1967, I was called by the Nellis Command Post and instructed to fly into the vicinity of Caliente to aid a ground party 25X1A searching for the site of an F-4C crash. [REDACTED] was the pilot in the rear cockpit of my aircraft. We encountered frontal type weather in the crash area and were unable to locate the F-4C. The bases of the clouds were 9 to 10,000 ft MSL. The tops of the clouds about half hour prior to this time was about 16,000 ft. While in the Caliente area trying to find the crash site we were in a right turn at approximately 8,000 to 9,000 feet passing through a southeasterly heading when I saw a long slender object, trailing what appeared to be white vapor, come diving out of the overcast and crash. The time of the crash was around 1600 local. The object was heading northwest and diving at an angle close to 60 degrees. At impact a large ball of gray smoke began to rise but was quickly blown to the south and dissipated. The impact area was describeable only by the five or six bright fires that were widely scattered. Slightly south of the area we climbed for altitude and got a TACAN fix off of Las Vegas (LAS) channel 116. TACAN bearing was 010 degrees for seventy six nautical miles. I contacted Las Vegas Approach and reported the sighting as possibly being an F-105 or a rocket.

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S T A T E M E N T

The following is a statement of circumstances pertaining to the air refueling of DUTCH 45 and BOXER 17 on 5 January 1967 in the Yuletide Special Operating Area (SOA). The 903rd Air Refueling Squadron tanker conducting the refueling was CUTE 57, Tail Number 58-0103. The aircrew was S-129: AC - Thomas, Clarence W., Lt Col; CP - Curd, James L., 1st Lt; Nav - Davis, Melvin R., Maj; and BO - McCabe, George M., SSgt.

CUTE 57 was scheduled for a point parallel, Comm #3 rendezvous on Hawk Bravo Track with a scheduled control of 05/2200Z, with a scheduled offload of 60M for DUTCH 45. No offload was scheduled for BOXER 17. Refueling altitude was FL 300 with a climbing A/R to FL 330. Primary A/R frequency was Channel 17; secondary A/R frequency was Channel 7 (Bungalow Control).

CUTE 57 entered the Yuletide SOA at 05/2124Z. An unsuccessful attempt was made to contact Bungalow on Channel 7. However, contact was established on Channel 8. Rabold was contacted on HF primary frequency and given an ETA to on station. We arrived at the ARCP at 05/2134Z and established a normal orbit at FL 310. Rabold was again contacted and provided with a normal on-station report. During the orbit, Rabold called and asked how much special fuel we had on board. Rabold was advised that we had 65,000 pounds of special; 60,000 for DUTCH 45 as briefed and 5,000 extra. Rabold acknowledged and stated that the secondary was BOXER 17 and that they did not know if he would require any fuel.

25X1A

DUTCH 45 DME readouts were first observed at 169 NM, and he called us 150 NM out on Comm #3 (Channel 17) for a radio check. The rendezvous was continued, and during the final turn from point Alpha to the ARCP, BOXER 17 called on Channel 8 and stated that he had to have some fuel right away or he would be forced to leave the Area. My co-pilot advised him that we had about 4M pounds extra and he stated that that would be sufficient. At approximately half way through this final turn, BOXER 17 made contact at orbit speed and fuel transfer was initiated. He continued taking fuel until we rolled out over the ARCP at 05/2206Z. At that time, DUTCH 45 was at our 6 o'clock position at 4 NM. We advised BOXER 17 to get off of the boom so that we could descend and accelerate for DUTCH 45. BOXER 17 asked how much fuel he had taken and my co-pilot advised him that it was 3800 pounds. He stated that this was sufficient and cleared the boom. A descent and acceleration to FL 300 and 320 KIAS was accomplished. Bungalow then called us on Channel 8 and said that DUTCH 45 was calling us on Channel 7. We contacted DUTCH 45 on Channel 7 and he stated that he wanted his fuel right now. The boom operator

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cleared him in and normal fuel transfer was initiated at 05/2209Z. We asked DUTCH 45 how the rendezvous looked and he said that it looked real good. He further stated that he had used a new type of descent and had used more fuel than planned. DUTCH 45 then requested that we use the boom interphone which we remained in until the end of refueling. The refueling continued normally and at approximately half way through, DUTCH 45 asked how much fuel he had taken and he was advised that it was 38000 pounds. He stated that he showed 43000 pounds. We do not know whether this 43000 pounds was what he showed as transferred or whether it was the total fuel he had on board his aircraft. Fuel transfer was continued and at 6 minutes prior to end A/R, I advised DUTCH 45 that I was initiating a climbing flight path to arrive at the end A/R point at FL 330. DUTCH 45 asked if this was a new procedure. I stated that it was a scheduled climbing A/R and asked if he wanted me to climb or stay at FL 300. He said to go ahead and climb and that he would "give it a try." A climbing flight was then initiated and we immediately encountered light turbulence. DUTCH 45 stated that he could not take much of this and dropped off of the boom. Contact was re-established at approximately FL 310 after the turbulence had diminished. Fuel transfer was continued and at approximately one minute prior to end A/R DUTCH 45 asked how much fuel he had received. We advised him that we had given him 61,000 pounds. He said that he was about 4000 pounds short and we told him that our tanks were dry and we had transferred all of our fuel. He then asked how long to end A/R and we advised him that we had just passed over the end A/R point (Currant VOR) at FL 330. End A/R was at 05/2228Z.

DUTCH 45 cleared off of the boom and contacted Bungalow and informed them that he was about 4000 pounds short of fuel and that he would have to cut his turning point short. Bungalow acknowledged and asked if he wanted this information relayed to the appropriate agencies to which he replied in the affirmative. He then jokingly commented that he was kind of happy that he had to cut it short because the autopilot was inoperative and he had been hand flying it all day and was tired. We completed the normal offload report and heard BOXER 17 tell DUTCH 45 that he looked normal. This was the last we heard from either receiver. We then proceeded to the exit point at FL 330 and exited the Yuletide SOA at 05/2248Z. The remainder of the mission was flown as briefed.

During fuel transfer, there was no fuel siphoning or spillage observed. The following are fuel tank and offload totalizer readings for the refueling.

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	<u>Tank Guage Readings</u>	<u>Offload Totalizer Readings</u>
<u>BOXER 17</u>		
Before A/R	64.3 M	
End A/R	<u>60.0 M</u>	
Offload	4.3 M	3,800 lbs.
<u>DUTCH 45</u>		
Before A/R	60.0 M	
End A/R	<u>00.0 M</u>	
Offload	60.0 M	61,180 lbs.

*Clarence W. Thomas*  
CLARENCE W. THOMAS, Lt Col, USAF  
903rd Air Refueling Squadron  
Beale Air Force Base, California

6 January 1967

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25X1A

S T A T E M E N T

Date: 9 January 1967

Name: [REDACTED]

Duty Phone: 3373

AFSC or Job Title: Pilot

Grade: Civilian

25X1A

Accident- Model A-12, #125, 5 Jan 67  
Accident/Incident

Organization or  
Address: [REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 37

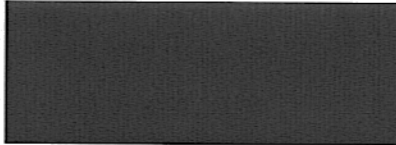
Assigned Duty: Initial Chase Pilot for 125

Total Flight Time: 1334:55

Total Aircraft Time: 4117:20

I was initial chase pilot (BOXER 17) for Dutch 45. Everything was normal from take-off to air refueling contact with GUTE 57. Prior to contact with Dutch 45, I off-loaded 4000 lbs from GUTE 57 because I was 500 lbs above Bingo. Dutch 45 refueled off-loading briefed plus 1000 lbs, but stated that he was still 5000 lbs short of being full of fuel that he would proceed expecting to turn short of planned route. Dutch 45 then proceeded on course, everything appearing normal.

I returned to the field and landed at 1450.



25X1A

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S T A T E M E N TDate: 9 January 196725X1A  
25X1A  
25X1AName: [REDACTED]Duty Phone: 3387AFSC or Job Title: Chief, Ops & Tng DivGrade: [REDACTED]Accident- Model A-12, #125, 5 Jan 67  
Accident/Incident

Organization or

Address: [REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 40Assigned Duty: Recovery Chase PilotFlying Experience: Total F-101 Time: 916:45 Total Flying Time: 4578:25

25X1A

I, [REDACTED] do hereby make the following statement concerning the accident which occurred on 5 January 1967, involving Dutch 45.

I was assigned to fly an F101B (call sign Boxer 17) type aircraft as recovery chase for Dutch 45. My responsibility was to intercept him prior to his landing, make a visual check of his aircraft, advise him of any discrepancies noted, and assist him as necessary. My take-off was on schedule at 1530 hours and I was at Flight Level 210 orbiting the station standing by for word on his position. I had received his estimated time of arrival as 1605 from the Command Post while taxiing out for take-off. I had requested the tower to advise GGA that I was on Channel 2 and to notify me when they had Dutch 45 inbound.

The first word that I received was that Dutch 45 was inbound, low on fuel, and on a southwest radial and DME off the Bryce Canyon VORTAC. I don't remember these figures specifically, however, I do remember plotting the approximate position on my map and computing the radial as 075 degrees from the Jenks TACAN. I was heading west at the time and immediately turned eastward, made my computations, set 075 degrees in my ID 249 indicator, and requested the tower to find out if he was still high and fast. I also asked the tower to see if the ranges were clear. During the turn eastward I noticed a westbound contrail that looked like that of a [REDACTED] aircraft descending. As I rolled out 075 degrees this contrail was directly in front of me and I was sure that it was that of Dutch 45. I advised the tower that I had him in sight, and proceeded East. We were closing head on as he was directly out my windshield. His contrail was very clear and obviously in a descending flight path that appeared to be normal. I still had not heard from the tower about his speed, but, from his appearance drew the conclusion that it was a normal descent. As I reached the point where I believed that I should begin a turn to make my intercept I noticed that I was then approximately fifty miles East on the 075 radial. I made a tight turn of approximately 225 degrees to the left.

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As is quite common, I had fully expected to lose his contrail during my turn while he continued his descent, however, I rolled out of my turn shortly after I spotted him over my left shoulder still conning. I still could not see the aircraft and it appeared as though he was slower than normal or I had misjudged my first turn, so I turned back left into him again. About this time Dutch 45 came up on Channel 2 and called the tower saying that he was on the 080 radial at 100 miles (or 100 radial 80 miles I don't recall) and the engines were surging but he would stay with it till they quit. By this time I had again rolled out with him dead ahead in my windshield. This was the first indication I had concerning how serious his problem was. I advised him I had him in sight and his heading looked good. Shortly thereafter he responded that they both quit and he was leaving the airplane. The airplane was just a black speck at this time at what I would estimate to be 10 to 15 miles ahead. I couldn't see a sign of an ejection. I did notice that the contrail had stopped completely, and I estimated his altitude to be between 30 and 35 thousand, closer to 30. I was still at FL210. I tried to call him in an attempt to request him to stay until I got closer but received no answer. I continued East vainly looking for signs of the ejection and at the same time watching the aircraft as it approached me still dead ahead, absolutely wings level and nosing over very slowly into an ever increasing nose down altitude. When the aircraft disappeared into the top of the clouds it was absolutely intact, not trailing any smoke or fuel that I saw, still wings level and in what I would estimate to be a 60 degree dive. It was just in front of me at what I estimated to be two miles and I centered my CDI and read the 075 or 076 radial and 60 DME. I added the two miles and I believe I called this position to the tower. In any case I was still most interested in the pilot and continued east to a point under the end of the Contrail where I let down to below the clouds and I looked for signs of the pilot. I'm not sure whether or not I gave this position to the tower, but, I remember drawing a circle on my map true north of Morman Mesa about thirty miles. I thought my descent would have been fast enough for me to still pick him up floating down in his parachute and I was looking for this listening for his beacon. I remember rechecking my ARC 34 on both and even going to Guard manually once to listen for a beacon signal. I looked around for him until the thought struck me about reporting back to the tower that I hadn't located him and was sure he was down. I was at too low an altitude to raise the tower and the weather had deteriorated to the point where I was having difficulty maintaining VFR. I climbed back out and reported to the tower that I saw no signs of the pilot and was proceeding to the point where I reported the aircraft dove into the clouds. I noticed the cloud tops to be at 18,000 as I climbed back out. I made a descending spiral at the Tacan fix that I reported previously, however, leveled out at 10,000 feet indicated as I was still on solid instruments. I climbed back out to the west as I thought I would get better weather quicker that direction. I finally found a place where I could let down and proceeded to the area of my roughly plotted 076/62 Tacan fix. I was in the vicinity of Delamar Lake and the weather wasn't too bad in the valleys, however, it was impossible to go over the ridges VFR. I continued searching and soon heard other Boxer aircraft talking to each other about where the aircraft had gone in. Their seemed to be lots of confusion about positions and I tried to advise them of what I observed. The weather was moving east rapidly and I stayed in the area as long as I could then returned home.

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**SECRET**S T A T E M E N T

The following is a statement of circumstances pertaining to the air refueling of DUTCH 45 and BOXER 17 on 5 January 1967 in the Yuletide Special Operating Area (SOA). The 903rd Air Refueling Squadron tanker conducting the refueling was CUTE 62, Tail Number 58-112. The aircrew was R-128: AC - Bristow, Billy E., Major; CP - Gemlich, Stephen L., 1st Lt; Nav - Mackin, Paul C., Capt; and BO - Choze, George (NMI), TSgt.

CUTE 62 was scheduled for a point parallel, Comm #3 rendezvous on Falcon 350 with a scheduled control time of 05/2015Z, with a scheduled offload of 31M for DUTCH 45 and 7M for BOXER 17. Refueling altitude was FL 300. Primary A/R frequency was Channel 17; secondary A/R frequency was Channel 7 (Bungalow Control).

CUTE 62 entered the Yuletide SOA at 05/1936Z, FL 290. Rabold was notified as required although HF transmissions were difficult. An attempt was made to contact Bungalow on Channel 7, however, there was negative contact so an attempt was made on Channel 8 and contact was established as required.

CUTE 62 had a malfunctioning APN-59 and could not pick up receiver's beacon. Air-to-air TACAN was not locking onto receiver's equipment and Comm 3 equipment was not locking on properly. Therefore, an ARA-25 rendezvous was the only alternative left. CUTE 62 crossed the ARCP at 05/2004Z as scheduled. A momentary Comm 3 lock on indicated the receiver was at 69 NM. However, an ARA-25 rendezvous was accomplished with DUTCH 45 due to the normal rendezvous equipment malfunctions as stated previously. DUTCH 45 was in pre-contact position at 05/2017Z and initial contact was established at 05/2018Z. At approximately 05/2027Z DUTCH 45 requested that fuel transfer be stopped. Approximately 28,000 lbs. of fuel was offloaded at this time. Fuel transfer was resumed at approximately 05/2031Z. End air refueling point was at 05/2034Z. DUTCH 45 was advised that he had his briefed offload, DUTCH 45 advised CUTE 62 to keep pumping because he could take 3,000 or 4,000 lbs. more fuel. Refueling was continued until 05/2035Z (10 NM beyond scheduled end air refueling point). DUTCH 45 was advised that he had onloaded 36,000 lbs. of fuel according to the offload totalizer of CUTE 62. According to the individual fuel tank gauge readings only 35,000 lbs. of fuel was offloaded. Just prior to final disconnect with DUTCH 45, he advised CUTE 62 it looked like he had onloaded about all he could take. The offload fuel flow rate of CUTE 62 at this time was between 1,000 and 2,000 lbs. per minute. DUTCH 45 disconnected and departed on course with no indication of any problem.

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Secondary receiver (B-17) made contact at 05/2036Z and unloaded 7,180 lbs. of fuel according to the offload totalizer of CUTE 62. Individual fuel tank gauges indicated 7,100 lbs. were offloaded, B-17 disconnected and departed at 05/2039Z to continue his mission.

CUTE 62 continued on his mission departing the Yuletide SOA at 05/2101Z.

During fuel transfer, there was no fuel siphoning or spillage observed. The following are fuel tank and totalizer readings for the refueling:

	<u>Tank Guage Readings</u>	<u>Offload Totalizer Readings</u>
<u>DUTCH 45</u>		
Before A/R	49.5 M	
End A/R	<u>14.5 M</u>	
Offload	<u>35.0 M</u>	36,000 lbs.
<u>BOXER 17</u>		
Before A/R	14.5 M	
End A/R	<u>7.4 M</u>	
Offload	<u>7.1 M</u>	7,180 lbs.

*Billy E. Bristow*  
 BILLY E. BRISTOW, Major, USAF  
 903rd Air Refueling Squadron  
 Beale Air Force Base, California

8 January 1967

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DECLASSIFIED

Authority NND 023070

By JCS NARA Date 10-26

**SECRET**

SUBJECT: Statement concerning Dutch-45 and Bungalow.

At approximately 2006Z, 5 Jan 67 I identified D-45 northbound through the tunnel. Normal procedures were followed concerning advisories to Salt Lake Center while D-45 was joining his tanker. At approx. 2021Z his clearance was received from Salt Lake and I relayed it to D-45. At approx 2140 I observed D-45 westbound in the Denver area. He entered the Yuletide North 1 and tracked towards his tanker. When he was in close proximity to his tanker I heard him calling the tanker on Channel 7. His tanker at this time was on Channel 8 so I transmitted to D-45 that his tanker was on 8 and that I would advise the tanker to go to Channel 7. His tanker then came up on Channel 7 and established communications with D-45. In the process of joining up with his tanker I heard D-45 make a transmission to the effect, "I tried a new descent and it ran me short of gas". At approximately 2221Z I received clearance from Salt Lake for D-45 second leg of flight. I relayed this to D-45. While D-45 was refueling for his second leg of flight I received a request from Yuletide to get his connect, disconnect and off-load report. I received this from the Tanker and relayed it to Yuletide. This information was connect-2209, disconnect 2228, off-load briefed plus 1. After D-45 disconnected from the tanker and started eastbound I handed him off to Salt Lake at approx 2232. As I was about to hand him off he advised me that he would probably have to cut this route short but he didn't know how much at the present time. I asked him if he wanted this information relayed along with his connect and disconnect time and he replied affirmative. At approx 2240z Salt Lake advised me that D-45 had reported moderate turbulence climbing eastbound in Yuletide East between FL 470 and 540. This information was passed to Yuletide. At approx 2340Z I observed a 4400 Squawk 200 miles east of Cedar City which appeared to be D-45. I followed this aircraft on radar and its track appeared to be direct towards Yuletide. At approx 2348 Yuletide advised me that D-45 might be having some difficulty and asked me to check with Salt Lake, which I did immediately. Salt Lake advised that they were not working him and they would check and call back. At approx 2351 Salt Lake called me and advised that D-45 reported very low on fuel and didn't know if he would make it or not, also that he was working ~~zix~~ ZLA Center. At this time I began marking D-45's track on the radar indicator overlay, this track as marked begins at Cedar City VORTAC 117/46. His track continued to be direct for Yuletide and consistent ~~xxxxxxx~~ SIP returns were painted until he reached the Cedar City VORTAC 231/77. At this time (approx 0005Z, 6 Jan) D-45's Squawk disappeared. I immediately notified Yuletide and initiated a call to Salt Lake to see if they were still painting him, Salt Lake advised that his Squawk had merged with another one and they had lost him. I also attempted to give Yuletide Radar a point-out on D-45 beginning at a point south of Cedar City and continuing until the Squawk disappeared but Yuletide was unable to paint him.

*Ray M. Short*  
RAY M. SHORT, MSgt, USAF

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25X1A S T A T E M E N T

Name: [REDACTED]

Date: 12 January 1967

25X1A AFSC/Job Title: [REDACTED]

Duty Phone: 3238

Accident - A-12, #125, 5 Jan 67  
Accident/Incident

Grade: Captain

Organization or Address: [REDACTED] 25X1A

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 28 Assigned Duty: Medical Officer, Aerospace Medicine 25X1A

On the evening of 4 January 1967, I was in the company of [REDACTED] from approximately 2030 hours until we both retired at 2300 hours. During this time we were watching television and talking. He did not appear intoxicated at this time and had no alcoholic intake during this period. He indicated that he had eaten his usual evening meal and he retired at approximately 2300 hours.

On the morning of 5 January 1967 he had already left the house when I awakened at 0730. I did not see him on the day of 5 Jan 67 prior to his flight.

[REDACTED] 25X1A  
Captain, USAF (MC) FMO

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S T A T E M E N TDate: 11 January 196725X1A  
Name: [REDACTED]Duty Phone: 3238AFSC and Job Title: 9356 - Medical OfficerGrade: Captain 25X1AAccident - A-12, #125, 5 Jan 67  
Accident/IncidentOrganization or  
Address: [REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 29 Assigned Duty: Chief, Public Health & Occupational Medicine

Shortly after the body was found I arrived on the scene via helicopter. I observed the following: There were no visual signs of life. The body was wrapped in the partially deployed chute. The drogue chute was completely deployed. Approximately one square yard of orange chute was immediately visible, as was approximately one square yard of white. The damaged seat survival kit was still attached to the parachute harness. The fractured helmet was approximately two yards to the left of the body. Proceeding up the hill, I observed small pieces of skull bone, evidences of blood and brain tissue in numerous places, several round white teflon washers, and a large bent circular brass plate. The seat itself was about 25 yards up the hill from the body, and appeared to have the most damage on the left side. The seat belt had been fired. Approximately 5 to 7 yards further up, from the site of the seat, was the apparent impact point of the seat. At the impact point of the seat there was more brain tissue. The photographer then appeared on the scene and began his work. When the pictures of the body had been completed, I began removing the chute harness and seat survival kit. The chute was first unwrapped from the body. The survival kit was then removed by unclipping it from the parachute harness. The parachute harness was removed by unhooking the two leg straps and the chest strap, disconnecting the suit vent hose and disconnecting one emergency oxygen hose lead. The body remained in the pressure suit and was transported directly to Nellis AFB via helicopter where it was turned over to [REDACTED]

25X1A

25X1A

[REDACTED]  
Captain, USAF~~SECRET~~FOR OFFICIAL USE ONLY  
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ADDITIONAL STATEMENT

13 January 1967

Removing Parachute Harness: Both leg straps were definitely intact. The left strap was riding high and directly beneath it was a pressure suit tear and obvious abdominal wound. It was a definite impression, when I removed the leg strap, that the leg strap was the cause of the wound.

25X1A



Captain, USAF

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S T A T E M E N T

25X1A

Date: 9 January 1967

Name: [REDACTED]

Home or  
Duty Phone: D/3368

AFSC or Job Title: 91170

Grade: T/Sgt

Accident - Model A-12, #125, 5 Jan 67  
Accident/Incident

25X1A

Organization or  
Address: [REDACTED]

25X1A

[REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident/incident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 28

Assigned Duty: Life Support Technician

25X1A  
25X1A

At 1100 hours, 5 January 1967, I as Life Support Technician, was assigned to assist in the following areas of pilot preparation prior to Flight #204 - Pilot: [REDACTED]

1. Dress Pilot.
2. Functional test, suit and related equipment.
3. Transport pilot to aircraft.
4. Hook up pilot in cockpit.
5. Recheck hook-up procedure - using check list from pilot's left side.
6. Standby aircraft until take-off.

\*\* This particular dressing and hook-up procedure was routine and normal.

[REDACTED]

25X1A

\*\* See Attachment (PRESSURE SUIT HOOK-UP AND CHECKLIST)

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PRESSURE SUIT KICK-UP AND CHECKLIST

1. Pocket in pocket.
2. - Skinnups secured.
3. - Communication secured and functioning.
4. - Face heat on (medium) *(-10)*
5. - Oxygen hoses secured in QD.
6. - Three harness snaps secured - harness adjusted and surplus stowed.
7. - HAT adjusted and surplus stowed.
8. - Two (2) bailout hoses secured.
9. - Map belt, shoulder harness, key secured and adjusted.
10. - Oxygen hoses under right leg strap, chest strap under helmet-hold-down.
11. - Emergency oxygen lanyard secured and pin removed.
12. - Green apple secured.
13. - Red knob secured.
14. - Manual over ride handle secured.
15. - Two (2) rocket jet releases secured.
16. - Check face heat.
17. - Press-to-test both oxygen systems.

18. LOW oxygen pressure - #1 system 90/95 #2 system 95/100  
19. HIGH oxygen pressure departing #1 system 9.5 #2 system 9.5  
20. Foot rest guards over seat foot rests. 1130  
21. *Heat Probe*

SUBJECT 45 AIRCRAFT NUMBER 25  
TECHNICIAN [REDACTED] DATE OF FLIGHT 5 Jan 67  
HIGH oxygen pressure returning #1 system [REDACTED] #2 system [REDACTED]

25X1A *August Mic* [REDACTED] 25X1A  
*w/1*

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S T A T E M E N TDATE: 9 January 1967

25X1A

NAME: [REDACTED]

Duty Phone: 3280AFSC or Job Title: A92170 - Rescue & Survival TechnicianGRADE: TSgt

25X1A

Accident - A-12, #125, 5 Jan 67  
Accident/IncidentOrganization  
or Address: [REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age 36Assigned Duty: Rescue and Survival Technician

Flying Experience:

25X1A

My name is [REDACTED] Pararescue Section. I arrived in the impact area aboard the H-43 Helicopter. It was set down on the ground and I had to proceed about a half mile on foot to the site. Approaching the area, I first came upon the body of the pilot who was wrapped in about ten feet of the top portion of his parachute. Proceeding on up from the body, I next came upon the ejection seat at approximately 50 feet above him and then about 15 feet above that a body impact point and 25 feet above it, the initial impact point, of seat and body. This all was on a 45 degree slope. In tracing the series of events from the beginning at the first impact point which was approximately 10 feet in length which appeared to be where the seat first hit and there was no evidence of any metal or portions of the aircraft or parachute located here. There were some pieces of the helmet visor and blood in area of initial contact. Fifteen feet further down the hill from there, the smaller impact point; there was more blood, imprint of suit material and the pilot-chute kicker plate. Upon examining the seat closely, I observed the following points: The seat was laying on the right hand side with the base of the seat pointing down hill. The seat appeared to have received the main impact, on the left side as this was severely accordion-folded, but not damaged a great extent as far as tearing or parts missing. I observed that the "D" ring had been pulled, the ejection "D" ring. One cable was cut, one cable was intact on the ejection ring. The next thing that I observed was that the lap belt apparently had fired because there were powder burns on this, apparently the squib did fire. Also I noticed that the arming knob had been pulled and this was laying over the bottom portion of the seat pointing down hill. The butt-kicker webbing was also fully extended indicating that it had operated. In looking right near the seat approximately 6 or 7 inches from the base of the seat I noticed a small portion, about 6 inches long and 2 inches in width, of material that the survival kit lids are made of. Looking up the hill to the right of the seat there was one of the teflon or polyethylene grommets that fit over the cone of the locking portion of the parachute where the ripcord goes through. Almost on the same elevation of the hill but perhaps 10 feet further to the right looking up the hill was the kicker plate from the pilot chute and another one of these polyethylene or teflon grommets. Proceeding 15 feet down hill from the point of rest of the seat there was found the right suit leg pocket that contained the new ASK (auxiliary survival kit) which was inside and intact. Portions of the body were scattered all along the approximately 90 foot tract from point of initial impact to point of rest of the body. Mainly it appeared to me to be portions of his head. Apparently the rest of his body was fairly well intact. Down at the body was his helmet laying just

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one or two feet to the left side of him. The helmet was cracked and severely damaged, almost gutted inside. The visor was gone and the neck ring, I believe, was gone. As I mentioned earlier, the top portion of his torso was wrapped in the parachute as if he were thrown from the seat and rolled up in the chute as he traveled down the hill. Only about 10 feet of the chute had come out. The very uppermost portion of the parachute that was above his body was the pilot chute itself. The seat survival kit was fully intact and connected to parachute harness. It was just cracked open approximately one or two inches. Apparently forced out from under him was the seat cushion itself which contained the walk-around sleeping bag. It was torn open with just a little corner sticking out. I do recall that up by the pilot chute also was the little parka made out of nylon material, the light brown material. Also on going back up to the seat, I did notice the manual ring for the spur cable cutters was extended approximately, to the best of recollection, 6 inches. It appeared to me, from previous experience on aircraft accidents, that the body, in the manner it was broken, impacted probably only at terminal velocity, maybe 100 mph or 120 mph, but it didn't appear to me to be the body of people that had struck the ground at 400 or 500 mph. The only conclusion that I can draw from this, is that he had ejected and slowed down and was still in the seat when he hit. The only action we took at the scene was to notify the cover aircraft that the pilot was dead. A flight surgeon was brought in and also a photographer was brought in. There was only about one hour of daylight remaining. The photographer took one shot from the body up to where the seat was located and took several shots of the body from various angles, proceeded up the hill, and took a photograph of the kicker plate from the pilot chute towards the seat to indicate how close it was to the seat. Then went up above to the very first impact point, the largest impact point, and took a photograph also trying to include the area where the pilot's body was. He then came down and took several photographs of the ejection seat itself. I then proceeded down the hill to help evacuate the body.

This statement is true to the best of my knowledge. It was made as a casual observer at the scene and not as any statement with authority as to what the cause was for the body being found so close to the seat. My sole function was to render aid and assistance to the survivor if he were alive, and to help and evacuate him if he were dead.

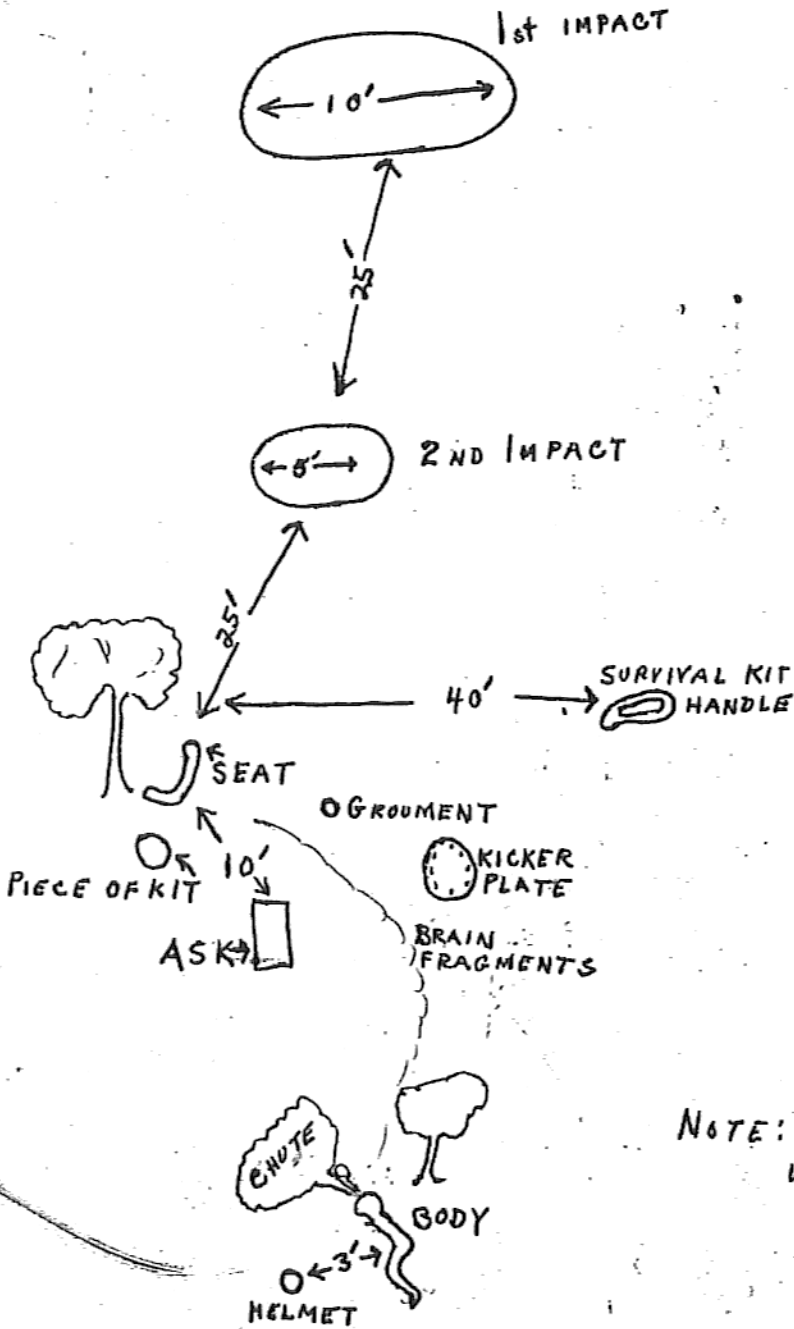
25X1A

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NOTE: FROM SEAT TO BODY WAS APPROX 50'

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25X1A

S T A T E M E N TName: [REDACTED]Date: 9 January 1967AFSC and Job Title: A92170 - Rescue & Survival TechnicianDuty Phone: 3280

25X1A

Accident - A-12, #125, 5 Jan 67  
Accident/IncidentGrade: Tech SergeantOrganization  
or Address: [REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age 32 Assigned Duty: Rescue and Survival Technician

25X1A

I arrived on the second helicopter and proceeded up hill to the body; at no time did I proceed any farther up hill than the body of the pilot itself. The Flight Surgeon [REDACTED] and I were detailed to disconnect the pilot from some of his personal equipment to facilitate putting him into the remains bag for transport back to Nellis AFB. The pilot was laying with his head in an approximate up hill position. A portion of the parachute was spiralled around his body; however, the parachute was not fully deployed. The suspension lines were still in the flutes. His seat survival kit was firmly attached to the parachute harness. To remove him or get the body into the bag it was necessary to disconnect both sides of the survival kit. Both leg straps of the parachute were fastened and these were also disconnected. Likewise, the chest strap had to be disconnected. His legs were badly broken, his spurs were still on his shoes. There was nothing in the spurs themselves; the sockets were empty. His helmet was laying to the left side of the body. It had been gutted. We had to remove or unwind him from the parachute harness. The body was fairly intact although the suit was cut and abraded in general areas and it had been penetrated at the left lower abdomen. The Flight Surgeon and I put the pilot into the remains bag, trying not to disturb the survival kit which was fairly well intact and leaving most of the equipment just as we found it on the site for further investigation. Also, in disconnecting his personal equipment, it was necessary to disconnect his vent hose which was still intact. As we rolled the pilot's body over, it was necessary to disconnect one emergency O<sub>2</sub> lead. The other one appeared to have been already disconnected, probably through impact. The parachute T-handle was still intact; it was just deployed three or four inches out of its storage socket which is not unusual for a parachute. It did not appear to have been pulled - probably impact jarred it into this position. During the removal of the parachute from the body, prior to storage in the remains bag, I cannot remember whether the drogue chute was still attached to the parachute harness, but the parachute harness is still in the area and this can be determined at later investigation.

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25X1A

S T A T E M E N T

Date: 9 January 1967

Name: [REDACTED]

Home or  
Duty Phone: D/3368

AFSC or Job Title: 99190 Physiological Training Supvr

Grade: M/SGT

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Organization or  
Address: [REDACTED]

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Accident- Model A-12, #125, 5 Jan 1967  
Accident/Incident

[REDACTED]

I have been advised in accordance with the provisions of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident/incident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 43

Assigned Duty: Life Support Supervisor

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"My duties on this incident consisted of the following. Wednesday, 4 January 1967, I preflighted [REDACTED] parachute and survival kit in accordance with standard pre-flight sheet (Time 1700 hours approximately), secured same in proper bins. Thursday, 5 January 1967, [REDACTED] flight was changed from Aircraft #130 to Aircraft #125, at this time I changed vent hose to his new aircraft number (each aircraft has its own vent hose). I then rechecked the two (2) rocket jet releases on the chute, lubricated bailout hose connectors and rechecked emergency oxygen pressure to assure minimum of 1800 PSI. Equipment was then loaded into truck for delivery to aircraft.

I then asked for someone else to install the equipment in the aircraft, [REDACTED] because I was going TDY and needed to bring [REDACTED] up to date on all equipment that would be needed in flyaway bins in case of a deployment.

[REDACTED]

See Attachment: (EQUIPMENT PREFLIGHT FOR HIGH FLIGHT)

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EQUIPMENT PREFLIGHT FOR HIGH FLIGHT

PARACHUTE

1. Ripcord pins seated (main and first stage).
2. Pack opening elastics secured.
3. First stage jettison mated and pins secured.
4. Two (2) rocket jet units secured.
5. Manual over ride handle secured.
6. Green apple secured.
7. Red knob secured.
8. Bailout hoses adjusted for pressure suit.
9. Bailout hose connectors operating.
10. Harness adjusted for HIGH flight.
11. Automatic openers - triggered and reset.
12. Aneroids 1400' to 7500'.
13. Bailout cylinder pins secured.
14. Bailout cylinder pressure #1 1800 #2 1800
15. Communication cord secured to chute.
16. Visual inspection completed.

SURVIVAL KIT

1. Low handle secured.
2. Trigger clearance.
3. Kit disconnects secured.
4. Lid secured.
5. Visual condition.

INSTALLATION

1. Work secured at disconnect.
2. Lid secured to chute - loose.
3. Emergency oxygen lanyard secured to chute and pin installed.
4. Communication cord secured at disconnect.
5. Vent hose secured to chute.
6. Pin secured in QD and safetied. 100/90
7. Oxygen system low pressure #1 100/90 #2 95/85
8. Pin in "D" ring.
9. Stirrup cables extended and operating freely.
10. Foot rest guards over seat foot rest.

SUBJECT 42 AIRCRAFT NUMBER 2825  
TECHNICIAN [REDACTED] DATE OF FLIGHT 5/25/69  
SEAT KIT NUMBER 115 PARACHUTE NUMBER 117  
TYPE CUSHION 50 VENT HOSE NUMBER 2845

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## EJECTION ANALYSIS

### I. Initiators:

a. D Ring Initiators: Both lanyard fired units appear completely normal - both units have fired - primer indent is normal - propellant deposits are normal.

b. 4.0 sec Lanyard Initiator: This unit is the power source for the inboard (anvil) side of cable cutters. The unit appears to have fired normal. There has been a medium, to severe gas blow-by around the cap O-ring seal. Burning appears to have begun normal and possibly reached peak pressure as evidenced by the light gray deposits. O-ring failure then occurred allowing gas blow back from the line and out the cap; leaving black sooty grains inside the initiator on top of the completely burned gray powder deposits. This initiator would normally fire 0.5 sec prior to the 4.0 sec gas fired initiator supplying power to the blade side of the cutters. The gas blow-by from O-ring failure vented the pressure from the anvil side of the cutters. The anvils are in the original position with the blades fully stroked.

c. 4.0 sec Gas Fired Initiator:

The unit has fired,

The firing pin chamber appears normal.

The primer indent is normal.

The propellant products of combustion are completely normal, light grey appearance.

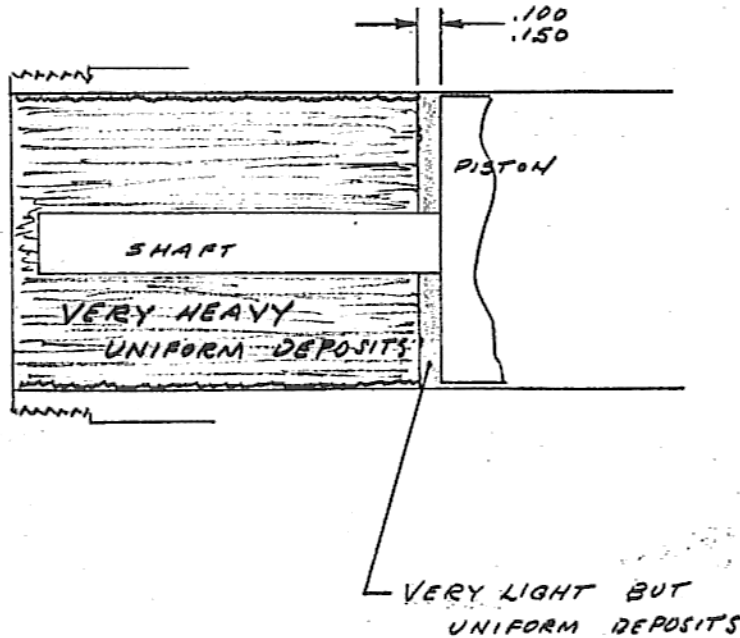
d. Instantaneous Gas Fired Initiator: This unit appears completely normal. Primer indent is normal; quite deep as compared to lanyard fired units. Deposits in the firing pin chamber are uniform to the "fired" location of the top of the pin, indicating firing pin moved due to gas pressure, not due to "g" acceleration at impact.

e. 1.0 sec Gas Fired Initiator: This unit did not receive pressure and did not fire. Powder deposits on the external surfaces are due to the catapult disconnect blowing gases from both primary and secondary (D ring and T handle) initiators following catapult initial stroke.

II. Man Seat Separator (Rotary) Actuator: The unit appears to have fired normal. Gas deposits from combustion in the pressure chamber appear completely normal. The actuator has stroked normal (13" strap take up). The products of combustion in the chamber indicate the unit stroked to within .100 to .150 of the current (investigation) position immediately upon firing; then a very short time later (prior to cooling of the gases but after deposit of most combustion gases) the unit stroked the remaining .100 to .150. This is equal to approximately 3/4 inch of strap take up.

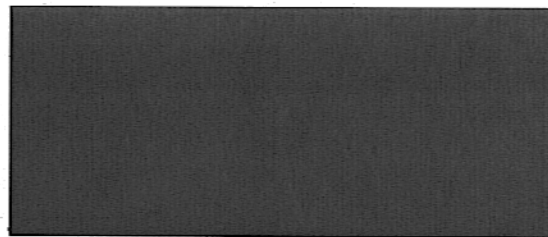
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This final light deposit may have been caused at impact when the strap was allowed to take up another 3/4 inch due to seat distortion; or may have been the result of the piston being moved to the left due to accelerations on impact and then repositioning to the right. All indications are the unit performed normal and definitely stroked all the way upon actuation. The deposits could not be as they are if the unit stroked only partially during cartridge burning and then stroked the remaining distance later.

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REPORT OF FINDINGS SUBJECT 1045 PILOTS PROTECTIVE ASSY

1. Helmet found near subject.
2. Left hand bearing with portion of sunshade and clear visor races intact.
3. Right hand bearing and mounting plate was torn from helmet.
4. Right hand latching knob and attaching parts were torn off right hand bearing.
5. Right hand bearing and portion of clear visor still held on by TRU-ARC ring found near helmet.
6. Helmet neck bearing which is resined to helmet was torn from helmet shell.
7. Greatest amount of damage was to left rear of helmet shell.
8. Helmet regulator was torn from mounting plate of helmet plumbing.
9. Suit neck bearing which mates to helmet bearing was broken in five different places.
10. The suit neck bearing was still in the locked position when found.
11. Left glove disconnect restraint was torn loose from head tape 7/8 distance around disconnect. Gas container in this area was still intact.
12. Six inch tear in outer cover right front lower scye area. Restraint and gas container still intact.
13. Suit altimeter read 37,000 feet apparently from impact.
14. Red plastic floatation garmet actuating knob broken and showed signs of light gray paint.
15. As kit was torn from right lower leg pocket and found near subject.
16. Left side of left leg was torn open through gas container, restraint and outer cover.
17. Large tear through gas container, restraint garment and outer cover from mid stomach to left side of suit just above left leg.
18. Left glove thumb to palm seam parted.
19. Right glove index to middle finger crotch seam parted approximately 1 inch.
20. Left boot heel and sole partially ripped off.
21. Cut left side mid foot of subject thru fabric boot, gas container and leather boot which seemed to be from metal spur.
22. All visual indications of parts on hand seem to show that helmet visor was in the closed position at impact.

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SO XB-25X1A Dec 66, last in series for CY 66



SPECIAL ORDER  
XB-1

6 January 1967

The following named officers and civilians, organizations indicated, are appointed members of an Aircraft Accident Investigation Board, under the provisions of AFR 217-4. Note: (\*) indicates orders published with the approval of Dep/TIG, Hq USAF, Norton AFB, Calif.

<u>GRADE</u>	<u>NAME, AFSN</u>	<u>DUTY</u>	<u>ORGANIZATION</u>
<u>VOTING MEMBERS</u>			
COL	*JAMES G. FUSSELL, FR6705	President	1002 IG Gp, Norton AFB, Calif
COL	*HENRY W. RITTER, FR13847	Operations	1002 IG Gp, Norton AFB, Calif
LTCOL	*THOMAS B. REED, FR43187	Operations	1002 IG Gp, Norton AFB, Calif



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NON-VOTING MEMBERS

COL	ALFRED K. PATTERSON, FR14311	Advisor	1007 AISG
CIV	*ARTHUR G. SMITH	Engines	1002 IG Gp, Norton AFB, Calif
CIV	*ROBERT D. NAGLE	Electrical/ Electronics	1002 IG Gp, Norton AFB, Calif



FOR THE COMMANDER



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SPECIAL ORDER  
A-4

11 January 1967

COL HENRY W. RISTER, FR13847, 1002 IG Sq, Norton AFB, Calif, is withdrawn from the Aircraft Accident Investigation Board at the request of Dep/TEG, Sq USAF, Norton AFB, Calif effective this date. Board appointed per SC AB-1, this organization, 6 Jan 67.

FOR THE COMMANDER



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BOARD PROCEEDINGS

The Accident Investigation Board arrived on station on 5 January 1967 at approximately 2130 hours PST. Shortly thereafter members of the board met with the Commander in the Unit Command Post, for a general briefing of the sequence of events and actions taken prior to the board's arrival. The chase pilot, [REDACTED] gave the board his version of the last five minutes of Dutch 45 flight, his observation of Article 125 final descent from altitude in the overcast and subsequent efforts to get under the overcast to locate the wreckage and the pilot.

The wreckage was located approximately 1600L, 6 January 1967, however due to the distance from base and lack of remaining daylight, the board delayed proceeding to the site until early 7 January 1967. Upon arrival at the crash site, it was obvious the wreckage was so catastrophic that little could be determined of the cause of the accident from the remaining debris.

The board assisted the search team throughout the remainder of the day in attempting to locate the pilot and the canopy. The pilot was located approximately 1600 hours, 7 January 1967, approximately eight miles East of the wreckage and was pronounced dead by the doctor accompanying the rescue team. The next two days, 8 - 9 January 1967, were spent examining the wreckage, records and searching for the canopy and cameras.

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The first formal session of the Accident Investigation Board was convened at 0700 hours, 10 January 1967, to interview the pilot of the KC-135. In addition to the board members present, [REDACTED] LAC, was requested to attend and was present.

The board reconvened 11 January 1967, at 0900 hours, to interview Captain Sharp, F-105 Pilot from Nellis AFB, who observed the impact of Dutch 45. In addition, [REDACTED] the Chase Pilot for the final portion of the mission was interviewed. The board was recessed and scheduled to reconvene at 0800 hours, 12 January 1967. 25X1A

There were no witnesses available for interview 12 January 1967. The board discussed evidence already collected and conducted exhaustive research of all feasible causes of the accident. In addition the board observed test conducted by LAC specialists as to reason for the pilot's failure to separate from the seat and the sequence of events that resulted in his death. 25X1A

The final witness, [REDACTED] Chase Pilot for the refueling portion of the mission, was interviewed at 1030 hours, 13 January 1967. At the completion of the interview, the board recessed for the weekend since no additional evidence was available. The "over-the-shoulder" cameras were still missing and were still vital to the board for final determination of the primary cause of the accident. 25X1A

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Deliberation continued throughout the day of 16 January 1967. At 1800 hours, [REDACTED] of LAC, assisted by [REDACTED] and [REDACTED] presented a briefing covering the fuel quantity system of Article 125 and results of analysis of previous flights as well as the chart and graphs of the final flight of the Article. The briefing confirmed preliminary findings of the board, but no new evidence was presented. The board recessed at approximately 2200 hours. 25X1A

Final deliberations were conducted 17 January and the board unanimously agreed and voted as to the cause of the accident.

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FORMAL BOARD PROCEEDINGS

Col Fussell: Recorder, will you convene the Board please?

[REDACTED] "In accordance with paragraph 15, AFR 127-4, the aircraft accident Investigation Board has been appointed by [REDACTED] Special Order Number XB-1, dated 6 January 1967, to investigate and report the major aircraft accident involving A-12 aircraft, Serial Number 125, which occurred in Lincoln County, Nevada on 5 January 1967, to determine the cause factors for the sole purpose of accident prevention. This meeting is convened at 0700 hours PST on 10 January 1967 at [REDACTED] All Board members are present. "

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Fussell: The first witness will be Lt Colonel Thomas.

Fussell: (To Lt Col Thomas). The sole purpose of the investigation is to determine all factors relating to the accident in the interest of accident prevention and preclude recurrence. The investigation will not be used as evidence nor to obtain evidence for use in disciplinary action to determine pecuniary liability or line-of-duty status, to revoke a commission or support a demotion, to remove from active list under AFR 36-2 or ANGR 36-014 as applicable or for use before a Flying Evaluation Board.

Fussell: Would you state your name, rank, serial number and organization?

Col Thomas: Clarence W. Thomas, Lt Col, FR42372, 903rd Air Refueling Sq, Beale AFB, California.

Fussell: Col Thomas, what were your duties at the time of this incident?

Thomas: I was the aircraft commander on the tanker that refueled Dutch 45.

Col Ritter: Col Thomas, was the ARCP made on time by your self and the receiver.

Thomas: Sir, we rolled out over the ARCP approximately six minutes late, in position with the tanker for refueling, we base our timing on his position so if he is late we plan to be late, so we are in a contact position at the ARCP (Air Refueling Contact Point).

Ritter: Was the receiver approximately six minutes late?

Thomas: Yes Sir.

Ritter: In your statement you mentioned that at one time during the refueling that Dutch 45 said that he had showed 43,000 pounds and you advised that you had transferred 38,000, can you clarify this difference?

Thomas: No sir, what had happened he had a disconnect and he called and said how much fuel do I have? I said we had transferred 38,000 and he stated words to the effect I show 43,000. Now when he stated I show 43, we don't know whether he meant fuel transferred to him by his indication on the fuel he had on board the aircraft

disconnect. I heard the Boom Operator give him a voice command to move forward, and then I saw a disconnect light and he stated that he was slow and bringing the throttle in and he came back up again and made a contact, which would be three, then as he made the final turn on the last leg of the Air Refueling we hit some turbulence and he dropped off the boom for turbulence, and then he got back on again in about 30 seconds. So that's four total contacts.

Ritter: In your statement also, you mentioned that six minutes prior to the end of A/R you were going to initiate a climbing flight path. At that time Dutch 45 asked, if this was a new procedure and ultimately said he'd give it a try. Was this mission planned for a climbing refueling?

Thomas: Yes Sir, it was planned for a climbing refueling. Our procedure is at approximately 6 minutes prior to end of A/R we are indicating 320 knots, level flight. We initiate a 500 foot a minute rate of climb to end up over the ARCP at flight level 330. Six minutes, 500 feet a minute. It was briefed as such, it was flight planned as such. His statement, "a new procedure", or words to that effect may have meant is this a change in the schedule type thing rather than a new procedure, because he was familiar with the procedure I am sure having done it before.

Ritter: But he did sound a little surprised?

Thomas: Yes sir, surprised. He sounded surprised that it was scheduled as a climbing A/R.

Ritter: Do you recall any other conversation that you may not have included specifically in your statement?

Thomas: No sir, only other comment was that one other statement I made earlier about he was slow on bringing the throttle in, after one disconnect, that is not in the statement.

Ritter: You mentioned that you had transferred 61,000 lbs. Was this reading from the totalizer or the tank readings on your airplane?

Thomas: The 61,000 lbs was from the totalizer reading. The way we work this as the fuel is being transferred the gauges sometimes are not too accurate during the transfer period. We always use a totalizer to give you his off load and this is really cross checked and until the transfer is completed with the gauges, to insure that he has got the amount of fuel that he is suppose to have, we take a reading before we start the refueling and if it's going to be a refueling where he's taking a partial load we'll know how low to bring the tanks down to. To give him the correct amount of fuel, then we cross check with the totalizer, in this case we knew we had 60,000 by the tanks and when the tanks were dry of course we assumed he transferred all 60,000 and of course we rechecked the totalizer, at the time it was 61,000 so it could be 1,000 lbs difference in the two readings.

Ritter: Do you use the totalizer?

Thomas: Yes sir.

Ritter: For your off load report?

Thomas: That is correct sir.

Witness: Thomas

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Ritter: Were you scheduled for another refueling on this particular sortie?

Thomas: No sir, that is the only refueling we were scheduled for.

Ritter: Did you, in fact refuel one other aircraft?

Thomas: Yes sir, we refueled the secondary who was not scheduled, he contacted us in the last turn into the ARCP during our rendezvous and stated he had to have some fuel or leave the area, and we advised him that we had 65,000 lbs 60 for the primary and we had none scheduled for him, and he again stated I have to have fuel or leave the area. So I said I can give you 4,000 lbs.

Fussell: Would you state for the records that the secondary was Boxer 17, is that correct?

Thomas: That is correct sir, Boxer 17.

Fussell: Do you have a procedure within your unit wherein you carry 10,000 lbs additional fuel on a refueling mission or is this not a standard procedure?

Thomas: For this type of operation our scheduling people normally schedule aircrafts with additional fuel on board. In the attempt to have additional fuel on board in case additional is required. In this case where we were scheduled for only a 60,000 lbs off load we did have 65,000 lbs on board. There is no procedure that I know of in the Squadron that sets a definite amount that you will have on board over and above the scheduled off load, for a training mission.

Fussell: Would you state in general terms that this refueling was normal?

Thomas: Yes sir, it was a normal air refueling and from all indications a good rendezvous, the receiver flew an excellent air refueling, the Boom Operator said he was in there, did a real good job, there were no problems during the refueling what so ever except for a little turbulence we had.

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[REDACTED]

Col Thomas would you state for the records whether or not Dutch 45 appeared to be under excessive fatigue or strain during this refueling.

Thomas: As far as I could determine from his conversations and the way he handled the aircraft and conducted the rendezvous that he was not under fatigue. He appeared to be alert, very confident during the whole operation, very relaxed, very normal.

[REDACTED]

Thank you.

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Witness: Thomas

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Fussell: (To Capt Sharp). The sole purpose of the investigation is to determine all factors relating to the accident in the interest of accident prevention and preclude recurrence. The investigation will not be used as evidence nor to obtain evidence for use in disciplinary action to determine pecuniary liability or line-of-duty status, to revoke a commission or support a demotion, to remove from active list under AFR 36-2 or ANGR 36-014, as applicable or for use before a Flying Evaluation Board.

Fussell: Would you tell the board your name, rank, serial number, your duty station?

Capt Sharp: James C. Sharp, Captain, FR58690, I am stationed at 4526 Combat Crew Training Sq, Nellis AFB.

Fussell: What was your mission at the time of the mishap?

Sharp: It was a dollar ride. Refers to new transition students in the back seat, showing him the local area. To get him acquainted with the local area before he makes his first front seat ride.

Fussell: I believe you stated in your written statement that you were also on a search mission for the F4C that had gone down earlier in the day?

Sharp: We had made one trip around the area up north and back around to the Spring Mountain area. While we were coming back towards the south I got a call from one of the other members of the Sq., saying he was over in the Caliente area and was searching and was over the F4C crash and that the C.P. wanted someone else to come over and take his place because he was getting low on fuel to help guide the ground party into the crash site. So I guess I was one of the last ones airborne. I started that way and he left before I got there and I was trying to find the site but weather was getting progressively worse. This weather seemed to be moving south and when he left, he said the clouds weren't over the crash site, but when I got there I couldn't get in, everytime I approached it, what I thought was the crash site, I went IFR.

Fussell: You are referring now to the F4C?

Sharp: Yes sir. So I never did find it. That's the reason I was over the Caliente area. I was directed over there by the C.P. at Nellis.

Fussell: What was your position in relation to Dutch 45 at the time of the crash?

Sharp: Who is Dutch 45?

Witness: Sharp

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Fussell: Dutch 45 is the aircraft involved in this accident.

Sharp: When I saw him, I saw him for a brief, split second, I was in a right hand turn. I just came out of the clouds and I was right at the base of the overcast.

Fussell: At what altitude were you at that time?

Sharp: Approximately 8 or 9,000 feet.

Fussell: Right at the base of the overcast?

Sharp: Yes sir and I saw him to my southwest, I was in a right hand turn passing through southeast. I was looking out of the top of my canopy and all of a sudden this object came out of the clouds and almost a vertical dive, not quite. It looked like a real good steep dive bomb bank, about 60 degrees.

Fussell: What navigational instrument did you use to fix your position at that time, or was it a visual fix?

Sharp: At that time it was strictly visual. I made two passes over the site and I realized that I was going to have a hard time to pinpoint it because of the clouds so I moved off to the south and started climbing for altitude so I could try to pinpoint it with TACAN. My TACAN happened to be on 116 and I got a lockon. So I pinpointed the position approximately by the TACAN from Las Vegas VORTAC.

Fussell: And would you give us a reading on your DME?

Sharp: 010 Radial, 76 miles.

Fussell: Would you tell the board the approximate angle that you observed the aircraft to crash?

Sharp: Yes Sir. It was approximately 60 degrees. I thought maybe it could have been a rocket, I saw no indication of pull out, trying to pull out, it seemed to go right straight into the ground, at about 60 degrees angle.

Fussell: The board realizes that, you had very little time to look at it, but did the object appear to be intact?

Sharp: Yes sir, as far as I can tell, there wasn't anything trailing it other than this white vapor, I don't know whether that was the vapor from just emerging from the clouds or whether it was fuel or what, but it had a long trail of white vapor behind it.

Fussell: Could you give us a feel whether or not the wings were relatively level, inverted or what position it was in?

Sharp: I really didn't see any wings on it. I couldn't tell, so I just assumed that the angle I was looking at it from was a side view and that his right wing was facing me.

Fussell: Briefly here, you were to the north, headed -

Sharp: Southeast.

Witness: Sharp

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Fussell: Generally southeast?

Sharp: Yes sir.

Fussell: And you saw what you thought was the right wing going in at 60 degrees angle?

Sharp: No sir, No sir, I am sorry, what I saw was it looked to me like the aircraft was heading approximately north westerly direction, between north and west, and that the dive angle was approximately 60 degrees and I must have been looking, at an exact side view of the aircraft, because I didn't see a wing surface.

Lt Col Reed: Capt Sharp, the split second that you saw the object, would you be able to give us any relationship to speed, do you think it was supersonic, subsonic, or what?

Sharp: No sir, I, just a guess, like I said, I thought possibly it could have been an F-105 and so I immediately thought of it crashing somewhere in the neighborhood of 400 plus, 4 or 500, but that's just a wild guess.

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[REDACTED]: It didn't appear to be rolling to you?

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Sharp: It seemed to just go straight in.

[REDACTED]: What altitude would you say it was when you first saw it?

Sharp: About at 9 or 10,000, just as it came out of the clouds.

Mr Nagle: At approximately what distance was the object from you when you sighted it?

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Sharp: Not more than 5 miles.

[REDACTED]: Capt Sharp, did you notice any other object coming out of the clouds, such as a man and a parachute, drag chute, or -

Sharp: No, I didn't see anything else, just this one object.

Nagle: On what you believe to be a contrail, could you tell from what part of the airplane it was emanating? Was it the extreme aft end or some spot forward?

Sharp: Well, once again, I don't know whether you are familiar with the plume that the 105 makes at alt when afterburners are engaged, but it pours fuel out the tail pipe that makes a very pretty white, thick plume and this is the impression I got when I saw this stuff come out of the clouds, was that it was a 105 streaming fuel from the tail section. Whether it was or not a stream of fuel coming from the tail section I couldn't be sure, but this was the impression I got, that it was all coming from the aft or back portion of the airplane or object.

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[REDACTED]: Would you describe what you saw immediately subsequent to impact?

Sharp: A great billow of grey smoke and scattered fires, and they were very bright fires.

Witness: Sharp

~~SECRET~~

Gordon: How many fires did you observe?  
Sharp: It seemed like it was about 4 or 5.  
Gordon: Were any brighter than the others, or all the same intensity?  
Sharp: No, they all seemed about the same intensity.

Witness: Sharp

~~SECRET~~

25X1A

Fussell: [REDACTED] The sole purpose of the investigation is to determine all factors relating to the accident in the interest of accident prevention and preclude recurrence. The investigation will not be used as evidence nor to obtain evidence for use in disciplinary action to determine pecuniary liability or line-of-duty status, to revoke a commission or support a demotion, to remove from active list under AFR 36-2 or ANGR 36-014 as applicable or for use before a Flying Evaluation Board.

25X1A Fussell: Would you tell the board your name, rank, serial number and your present duty.

[REDACTED]: [REDACTED]

25X1A Fussell: Would you tell the board your mission at the time of this mishap?

25X1A [REDACTED]: Yes sir, I was assigned to duty as a recovery chase, in F-101, for Dutch 45.

25X1A Fussell: What was your position, your DME, you stated in your written statement that you were on 075 radial, what was your DME on this radial when you first sighted Dutch 45?

[REDACTED]: I wasn't on the radial sir, I was rolling out, to head Eastbound, when I first spotted him, out to the east, I wasn't certain then that it was Dutch 45, but it looked like a Cygnus contrail inbound.

Fussell: Would you estimate his distance at first sight?

25X1A [REDACTED]: I haven't figured it out, but it was the time it took me to make a 180 degree turn, from where they gave me his position Southwest of the Bryce Canyon, so that's 150 miles.

25X1A Fussell: Could you tell the board the situation as far as contrails are concerned?

[REDACTED]: Yes sir, when I first saw him, he was conning. The con looked like an absolutely normal con for Cygnus aircraft that I've seen many times. It was very persistent, it appeared to be on a descending track inbound the whole time. As a matter of fact, it was so persistent that you could see upper air currents causing it to wave and after the con stopped, I proceeded to a point under where it stopped to try to locate the pilot, because that's where he said he was leaving.

25X1A

Witness: [REDACTED]

~~SECRET~~

Fussell: According to your previous statements, you stated you had several communication transmissions, with the pilot. Did you notice any apprehension in his transmissions, anything that would indicate a lack of oxygen or any physical delima at all?

25X1A

[REDACTED] No sir. He seemed absolutely calm.

Fussell: Would you give the board your best estimate of the point he bailed out in relation to when the aircraft nosed over.

25X1A

[REDACTED] Well sir, I would guess, when he bailed out he was between 30 and 35,000 feet and about 15 miles dead ahead of me at the time. I don't recall exactly but I would say I was 55 miles or so on our TACAN, so that would put him roughly 70 miles DME off of our TACAN. Now, this is a guess because it's pretty hard to say, the airplane was very small, but I could see the airplane.

Fussell: OK, this is not particularly related to the accident, but in your duty as training officer, a statement was made earlier by [REDACTED] at the time of refueling when told by the aircraft commander of the tanker that he would climb to 33,000, [REDACTED] stated "is this a new procedure?". Can you tell the board whether or not [REDACTED] had ever performed this procedure before, or your interpretation of why he asked the tanker commander this particular question?

25X1A

25X1A

25X1A

[REDACTED] Well, to answer the first part of the question, I don't know right now without looking at records, whether he has ever made a climbing AR before, it is not a new procedure and I am certain he has been briefed on it and [REDACTED] who was supposed to fly this flight before it was changed, was in on arranging both AR's were two climbing AR's and he knew they were and he briefed [REDACTED] so I am sure [REDACTED] was briefed on climbing AR, I don't know why he made the statement.

25X1A

25X1A

25X1A

25X1A

Reed: Would you tell the board when [REDACTED] was actually notified that he was going to substitute, that his airplane had been cancelled and that he would have a different sortie?

25X1A

25X1A

[REDACTED] He was scheduled to fly aircraft 130 with an 0830 briefing that morning. The airplane crumped and we substituted, or swapped then, [REDACTED] on the schedule because [REDACTED] we felt needed the sortie more than [REDACTED] and I don't know exactly what time of day, but I would say it was right around between 0800 and 0830. It was before 130's briefing as scheduled and then it was cancelled.

25X1A

25X1A

25X1A

Col Patterson: When you switched airplanes 130 and 125, and [REDACTED] took 125, he also took [REDACTED] mission as well as his airplane, did he not?

25X1A

25X1A

25X1A

Witness: [REDACTED]

~~SECRET~~

25X1A

[REDACTED] Yes sir.

Patterson: It was an airplane switch and a mission switch?

[REDACTED] Yes sir.

25X1A

25X1A

Patterson: And when was [REDACTED] briefed on this mission, on the mission he actually flew, he was already briefed on the other mission for 130, was he not?

25X1A

25X1A

[REDACTED] No sir, we have a final briefing an hour and 30 minutes prior to launch. 130 was supposed to go at 1000 hours he was to be briefed at 0830. 125, I think it was 1030 briefing for a 12 o'clock launch, and it was between that time 8 o'clock and 1030 that [REDACTED] talked to him and he also went back into flight planning and looked over this new sortie and then was finally briefed on final briefing at 1030.

Patterson: He had a regular formal briefing for this sortie at 1030?

[REDACTED] Yes sir.

Earlier you stated that he ejected between 30 and 35,000 feet, would you explain that.

Yes sir. It was just an estimate on my part based on the size of the airplane and the way the contrail looked to me, as I was at 21,000 feet cruising toward him.

Would you tell us the top of the overcast at this time?

25X1A

Well, the tops right at the time the airplane went in the tops of the clouds, I didn't know what they were, but after I descended to look for [REDACTED] and climbed back out, I noticed they were 18,000 feet.

25X1A

From the time that you first sighted him until he disappeared in the clouds was the con, or whatever it was, persistent the entire time?

From the time I first sighted him where I first heard about him Southwest of Bryce Canyon, until he said engines have both quit, I'm leaving, or something to that effect, the con was very persistent, the whole way. At that time though, it quit.

25X1A

Witness: [REDACTED]

~~SECRET~~

25X1A

[REDACTED]

At the time he said?

The engines have quit, I'm leaving, the con stopped.

Fussell:

In the tanker pilots testimony, he stated that there was no requirement on this mission for fuel for the chase acft prior to the second refueling of Dutch #45, in other word, when the chase aircraft asked for fuel, you not aware that he would need fuel, can you explain this discrepancy. Was the tanker unit notified, the chase would require fuel or not.

25X1A

[REDACTED]

Well sir, the first refueling the tanker unit coordinated to have off-load to the chase, that was the top-off briefed for the chase pilot and the tanker crew, or the tanker organization was they would not have a briefed off-load to the chase aircraft on the second refueling. Specifically why [REDACTED] required fuel, at the second refueling, I don't know. I don't know what his power settings were or anything in the approx hour and a half that [REDACTED] was going around the course.

25X1A

25X1A

25X1A

Fussell:

25X1A 25X1A

[REDACTED] has made the statement he would have to have fuel or return to the base, and as the result, received 3800 lbs of fuel from the tanker, approx 4000 lbs, this was not a scheduled refueling?

[REDACTED]

That's correct.

[REDACTED] could you establish the con level at the time of what you think the ejection was?

No sir, I didn't go up to see if I coned or not, all I know is he was conning.

One other question, regards, did you see the pilot eject or a drogue chute with the pilot coming down attached to it at anytime?

No sir, no signs of pilot ejection at all. But, back to the other question now, I don't recall for what it's worth, I didn't see any other cons in the area at all.

One other question then. Did you observe [REDACTED] at anytime the night before the mission?

I don't remember seeing him, Ted.

25X1A

25X1A

Witness: [REDACTED]

~~SECRET~~

25X1A

Fussell: [redacted] The sole purpose of the investigation is to determine all factors relating to the accident in the interest of accident prevention and preclude recurrence. The investigation will not be used as evidence nor to obtain evidence for use in disciplinary action to determine pecuniary liability or line-of-duty status, to revoke a commission or support a demotion, to remove from active list under AFR 36-2 or ANGR 36-014 as applicable or for use before a Flying Evaluation Board.

Fussell: 25X1A Would you tell the board your name, organization and duty? 25X1A [redacted], and the organization, [redacted] duty is pilot.

Fussell: 25X1A [redacted] could you tell the board, did you see any contrails during or after the second refueling? 25X1A

[redacted] No, I did not.

Fussell: 25X1A Did you check Dutch 45 after his refueling to assure that there was no fuel leaks or that the airplane was clean? Did you check him top and bottom?

[redacted] Yes.

Fussell: 25X1A Were you aware that Dutch 45 was approaching the tanker late and below "Bingo" fuel?

[redacted] Not that I can recall. The time may have been some five minutes late but, I didn't notice him getting up to the tanker early or late so I really didn't check it.

Fussell: 25X1A One final question. Tanker A/C indicated in his testimony that his schedule did not call for an off-load to you as the chase aircraft. However, there are indications you took 3800 lbs of fuel. Could you explain the conditions surrounding why you had to take on fuel at this time?

[redacted] Well, in the briefing that I got they said that I was not scheduled to take any fuel but, they should have fuel in case I needed it. I was just orbiting at minimum power settings for the 101, waiting for him to get back. The time, I think, was too long.

Reed: 25X1A If he'd been early . . . . you say he was a little late.

[redacted] Maybe if he had been on time I may have had enough that I could have gone back home at the 4000 pound bingo fuel level. However, if he had refueled and taken the normal amount of time in refueling, I had 4500 pounds at that time, I would have been at bingo or below and I would have had to return without being able to check him over at all. I told them I needed some fuel and I asked them if they would give me some and they said they couldn't give me over 4000 lbs. I said fine so I took it and I checked on my tanks seeing that I got that much and said, "you can stop here", and they said Roger, and they cut it off with 3800 pounds, so it was just a little short of the 4000 pounds they said they could give me anyway.

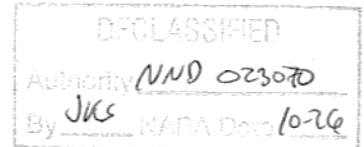
Fussell: Have you on previous chase flights, taken on fuel when you weren't scheduled such as you did in this case?

Witness: [redacted]

25X1A

~~SECRET~~





25X1A

25X1A

Yes, its happened. Its very seldom. I can't recall any particular time that it has happened.

██████████ would you describe, if you can, when Dutch 45 lit his AB/s during his refueling. For instance did he approach the tanker on burner or did you see the customary puff of smoke when he stopped burner and when did he light the one burner he was using to refuel?

I don't know if he had it lit as he was approaching because I was with the tanker and off to the side waiting for him to join up, because I had just finished refueling. But, at one time I did see the puff of smoke that is indicative of lighting the afterburner and that was the left afterburner that had been lit and at that time he did drop off.....he was plugged in, or no, he was just in the approach. He dropped back, then went back in. He was fairly low on fuel and he had refueled some and then he had gone back on with the afterburner.

He disconnected after he got some gas, lit one afterburner, then moved back in. Is that what you said?

I believe this is so. This is a little bit vague because of the time here now, but I think this is what occurred. He went on with his fuel, he asked how far he had to go, and some of the conversation was a little bit difficult to understand.

I have one other question. Did you observe any leaks, particularly under the bottom of the aircraft. Were you in a position to observe whether the bottom of the aircraft was wet?

I went under it a couple of times, back and forth, checking the afterburners, the afterburner section, up above between the tails. Of course this was after he stabilized and while he was refueling. The only thing that I saw as far as a leak, which is not a leak, was under the little drain from the refueling receptacle which is the normal drain for the receptacle and there was a little spurt out of there occasionally.

Did it wet the bottom of the aircraft?

Not that I could tell.

25X1A

I have no further questions.

Col Reed:

██████████ would it be possible under this mission with double refueling, could you check him on his first refueling, come home and land, and then take off, say 30 minutes or even 20 minutes later and go back for chase on the second?

25X1A

This is possible. Very seldom is it necessary. When this is considered necessary, it's done. If we do not have enough of 101 aircraft available, enough chase pilots available, however, usually they'll have enough fuel for both receivers, the big one and the 101, to get a little bit, and the Cygnus to get all the fuel he wants.

Reed:

Say the first tanker had enough for the receiver but not for you. You could have actually have come home. Would you have had time to turn your aircraft around, refuel it, and then go back for him on the second one?

Witness: ██████████

25X1A

~~SECRET~~

25X1A

I'm sure this could have been done. We have a certain amount of turn around time for the aircraft too required by the manual. I don't know how many aircraft we had available at that time. Didn't pose any particular problem at that time.

25X1A

Col Patterson:

Were you in a position to observe [redacted] during the last portion of his forming with his tanker. Say the last 5 or 10 miles of his coming up on the boom?

25X1A

I was flying to his right in an observation position of him and the tanker all the time except when I went underneath and to the left side to check him over.

Patterson:

Did you notice anything unusual in the last portion of his forming procedure? Any apparant leaks or anything like this?

25X1A

No, I didn't. I said the only leak I ever saw was coming out of the little drain. That of course comes right out of the refueling receptacle. After he moved off, when they decided he had to go now, apparantly they had no more fuel, he moved off and I checked his right afterburner light. Everything was normal then and I still couldn't see anything. After he came down high and fast, this is usually the time when you go in to check them over to see that nothing bent, missing, panels, and anything that you might see because this is usually where the stress and strain is caused. I observed nothing that leaked out of the ordinary.

25X1A

Fussell:

One other question. Did you at anytime, hear [redacted] indicate on UHF that he was below "Bingo" fuel and had to have his fuel now?

25X1A

25X1A

No.

Did you hear [redacted] express surprise at this climbout refueling?

I don't think I understand just exactly what you mean. Type of refueling?

Climbing from AR.

No. The only surprise that I, if you can call it this, concerned, that he expressed, was a matter of as I put on my statement, still roughly 5000 pounds short of being, of indicating being, full. Now, I don't know, I'm assuming he meant, being full, indicating on the gauge and not necessarily just being full up to the point of required amount of fuel he had to continue which I think was about sixty-six three to continue the flight. I think he would have given the reading - this is just my opinion. I think he would give the reading off the gauge. This is just my opinion.

25X1A

Regards your observance of [redacted] flying technique in the refueling procedures, could you state whether you thought there was evidence of excessive fatigue or poor judgement or flying ability in this refueling procedure?

Not being in the cockpit with him, its rather difficult to say. From his voice and observing his flying, his refueling tactics, etc, I didn't observe anything of this nature. Everything appeared to be normal. His voice, the tone of his voice, his reactions, what he would have done from the refueling when he found out "by gosh" this is all I'm getting, I'm going to go now, no need to sit here. He was short of the end AR, he was short of the refueling or of the refueling quantity he wanted.

25X1A

Witness: [redacted]

~~SECRET~~

25X1A

Reed: He said he was short of the end AR point?

They had not reached the end AR point and of course he was not full which we all try to get to.

██████████ would you please describe the rendezvous; that is, was it a good rendezvous and was there any excessive tail chase?

No, I didn't consider it an excessive tail chase, compared to the ones I've made and all the others I've seen as a chase pilot and I would consider it a normal rendezvous.

25X1A

25X1A

Witness: ██████████

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2077

<b>MILITARY FLIGHT PLAN</b>		AIRCRAFT UNIT OF ASSIGNMENT/HOME STATION <i>7L</i>		AIRCRAFT SERIAL NO. <i>125</i>	
TYPE OF FLIGHT PLAN <input checked="" type="checkbox"/> IFR <input type="checkbox"/> DVFR <input type="checkbox"/> VFR <input type="checkbox"/> FVFR		RADIO CALL <i>DUTCH 45</i>		AIRCRAFT DESIGNATION/ TO CODE <i>SR-71/B</i>	
INITIAL CRUISING ALTITUDE <i>ABOVE FL 600</i>		POINT OF DEPARTURE <i>25X1A</i>		ESTIMATED TRUE AIRSPEED <i>TAS-SC</i>	
		STANDARD INSTRUMENT DEPARTURE <i>MM</i>		DEPARTURE TIME (Z) PROPOSED <i>1940</i> ACTUAL <i>1959</i>	
IFR <input checked="" type="checkbox"/> VFR <input type="checkbox"/>		ROUTE OF FLIGHT <i>[REDACTED]</i>		NAME AND NUMBER <i>GF</i> TO <i>25X1A</i>	
		<i>25X1A</i>		<i>[REDACTED]</i>	
REMARKS <i>ERR PLU TO Plus 1:08</i> <i>MLF 047/98</i> <i>CODE 44 only</i> <i>FL 600</i> <i>Tunnel FL 290 TO +15</i>					
RANK/HONOR CODE		PSGR/CARGO CODE		<i>LA(BH)</i>	
HOURS FUEL ON BOARD		DIST TO DESTN		ALTERNATE AIR FIELD	
				ETE TO ALTN	
				NOTAMS	
				DD FORM 365F (Wt. and Bal.)	
				WEATHER	
				REQUEST CLEARANCE AFTER	
INST RATING		SIGNATURE OF PILOT IN COMMAND <i>[REDACTED]</i>		AUTHORITY <i>25X1A</i>	
				DATE <i>5 JAN 67</i>	
CREW/PASSENGER LIST - <input type="checkbox"/> Attached <input type="checkbox"/> See Passenger Manifest					
DUTY		NAME AND INITIALS		GRADE	
PILOT IN COMMAND		<i>[REDACTED]</i>		<i>CIV</i>	
		<i>25X1A</i>			
				<i>25X1A</i>	
<i>5 JAN 1940Z</i>		<i>D45</i>		<i>[REDACTED]</i>	

DD FORM 1 JUL 65 175

PREVIOUS EDITION OF THIS FORM WILL BE USED UNTIL STOCK IS EXHAUSTED.  
U.S. GOVERNMENT PRINTING OFFICE: 1966 O-221-378

D-38305

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FLIGHT WEATHER BRIEFING				AIRCRAFT NO. <i>Dutch 45</i>	REFUELING NO.	DATE <i>5 Jun 67</i>
<b>I. TAKEOFF DATA</b>						
RUNWAY TEMP.	PRESSURE ALT.	TEMP. DEVIATION	VAPOR PRESSURE	SPECIFIC HUMIDITY	DENSITY ALTITUDE	
CLIMB WINDS						
REMARKS						
<b>II. ENROUTE DATA</b>						
FLIGHT LEVEL	TEMPERATURE	WINDS				
CLOUDS AT FLIGHT LEVEL <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> IN AND OUT			VISIBILITY AT FLIGHT LEVEL <input type="checkbox"/> HAZE <input type="checkbox"/> DUST <input type="checkbox"/> SMOKE <input type="checkbox"/> PRECIPITATION			
MINIMUM CEILING ENROUTE		MAXIMUM CLOUD TOPS		MINIMUM FREEZING LEVEL		
THUNDERSTORMS		TURBULENCE		PRECIPITATION		ICING
NONE	NONE	NONE	NONE	NONE	NONE	
FEW	CAT	LGT	RAIN	DRZL	CLEAR	LGT
SCATTERED	TSTM	MOD	SHOWERS	SNOW	RIME	MOD
NUMEROUS		SVR	FREEZING		MIXED	SVR
HAIL					IN CLOUDS	
<b>III. TERMINAL DATA</b>						
DESTINATION (Existing)						
FORECAST ( Z TO Z )						
ALTERNATE (Existing)						
FORECAST ( Z TO Z )						
<b>IV. COMMENTS/REMARKS</b>						
<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); font-size: 2em; font-weight: bold;">                     as filed                 </div>						
VOID TIME						
EXTENDED TO <span style="float: right;">25X1A</span>						
<b>V. TELEVISION/TELEPHONE BRIEFING RECORD</b>						
WEATHER FACILITY						
TAPE NO. <i>05/1830z</i>	START	STOP	PHONE CHARGE			

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47300  
5550  
3250

125 4 JAN 67 1550 I  
204 5 JAN 67 - RP

15.00	1500	5300	5300	5100	(-) 1100	4000
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600	520	7900	7700	8050		8050
2700	2030	FULL	13850	13950		13950
0	-	8000	8000	8400		8400
0	-	17500	11500	11300	- 17	9600
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F	✓
N	✓
N	✓
F	✓

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108450  
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F	✓
✓	✓
BLI	✓
	✓

25X1A

3.0 [redacted] 3.50

25X1A [redacted]

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CERTIFICATE OF DAMAGE

11 January 1967

The aircraft (A-12, Nr. 125) was totally destroyed upon impact.

25X1A



Recorder, Accident  
Investigation Board

~~SECRET~~

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PRE-MISSION BRIEFING

25X1A

[REDACTED]

Gentleman, this is [REDACTED] briefing on 5 January 1967, at 1030 hours, for the scheduled flight of 125, flown by [REDACTED]. Take-off time is scheduled for 1200 hours. Call sign is Dutch 45. Chase aircraft on the mission, first chase will be [REDACTED] in 266, Boxer 11 and your recovery chase will be [REDACTED] we don't have a call sign for it yet, but the tower will advise you what it is when you come back in. The purpose of the mission is training, gathering some performance data. The flight will be flown on a [REDACTED] route. This runs like two "Great Wastes" and should bring you back home high, after about four hours enroute. On the mission you will have air refueling, ARC-50, INS, SC&DM, Package Type I, HF, [REDACTED] Tanker Beacon, a boom interphone and a light fuel load at take-off. [REDACTED] will give you a rundown on the aircraft status.

25X1A

25X1A 25X1A

25X1A

25X1A 25X1A

25X1A

25X1A

25X1A

[REDACTED]

The aircraft is at hangar 10 and the total indicated fuel load is 53,000 lbs. Gross weight at brake release will be 105,000 lbs. C.G. at take-off will be 21.2%. Standard heavy brakes, YJ engines, HS-2 fuel controls, no known engines peculiarities. The airplane is ready. The left and right console lights are out and also the right hand spot light is out. The left hand spot light works. The left hand aft bypass door light has been disabled. Concerning squawk 6781, and we'd like the procedure if the aft bypass breaker pops to investigate what happens at the other selector switch positions. You will be started and towed backward from your normal starting position and would like the oscillograph on at 1.3 and off at cruise or descent, thats all.

25X1A

25X1A

[REDACTED]

[REDACTED] will cover the route of flight for us.

[REDACTED] this is the [REDACTED] and I have two refuelings. One in the Falcon area 15 minutes after take-off, and the Hawk Bravo area which will be your second refueling after your first leg out to the east. For your INS position 00 at Home Plate, one (01) will be your ARCP for Falcon above Carrant. Two (02) about forty miles north of Carrant. Three (03) you will make a left turn and come back out to a point 50 miles west of Carrant, and four (04) will be your end A/R point back at Carrant.

25X1A

25X1A

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Position zero five is a point exiting the SOA position, zero six will be your first turn point which is approximately 30 miles southwest of Kansas City. Seven will be the APEX of the turn the second point in your turn. Eight will be the position prior to start descent coming back in the Hawk Bravo refueling area. Position zero 9 will be your ARCP for your second refueling. Ten will be the northwest portion from your second refueling track. Eleven will be the point again approximately 60 miles west of Currant, and twelve will be your end A/R point again back at Currant. Thirteen again will be this point for SOA exit which will be 39-00N 112-00W and 14 this time will be the point approximately 90 miles southwest of St. Louis. Fifteen, the double point in your turn. Sixteen is the intermediate point halfway down your track coming back into home plate, and seventeen you will be at home. You will have an enroute descent to home plate and you have been briefed on your performance status, type climb, descent and so forth. For your fuel at end A/R your first refueling your fuel to continue is 66,200 lbs. You will going out at this point southwest of Kansas City. Your fuel minimums at that point 30,800. If you should hit 30,800 prior to hitting the turn point, you can turn. Coming back in your second refueling your minimum when you come into the ARCP position 09 is 11,500 lbs and that is your abort fuel. In this case, if you are below 11,500 lbs right after you get with the tanker and not taking fuel, come home.

25X1A

Yeah, that should get me over home with 7,500 lbs?

Yes, 7,500 over home. At the end of your second A/R your minimum to continue is 66,300 lbs and your programmed and minimum fuel are the same for the entire cruise. Out at your far eastern turn point at position 14, your minimum is 28,300 lbs and if you should hit 28,300 prior to hitting your turn point, you can turn short. At position 16 which is the intermediate point coming back on your final leg, inbound home plate your minimum is 13,800 lbs and at home due to your enroute descent your minimum fuel is 7,500 lbs. For single engine on both cruises, outbound to the east, Denver is your maximum. I'll caution you not to pass a usable alternate if you lose an engine. For your Q-Bay operation, the only difference on your film strip will be the fact you do not have EWS which appears on your strip and also for Package 1 due to the time of day you'll go to Q-2 prior to take-off at which time also your A/R beacon will be on. You go to 3 at your start

2

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cruise on the first leg, go back to 2 at start descent on the first leg, and remain on 2 for the remainder of your flight until after landing where you will go to 0. In other words the only time you'll operate is on the first leg. If you have more than 3/10 cloud cover, you can use your own judgement, if you can, go to the C position. Also I'll rebrief you on the ARC-50. When ever you operate the ARC-50, they would like to have a notation on your tape, if you would. For fixing .....

You know that is sort of ridiculous, you operate the damn thing everytime somebody talks to you. Why not hook the oscillograph up to it if they want it.

Yes, they asked me that the other day, they wanted me to remember when I operated it.

It's pretty hard and I doubt if you would ever get them all. Just like you say, you are operating it continuously. If you get a few of them, it helps, see part of our problems is interference.

How about on external too?

That is affirm, yeah.

Well you wouldn't be running the package on external.

All they want is the package off right?

Yeah, it will be on the first leg, yeah.

Ok.

When you can. OK for fixing the first time around- you pass over Schilling- both times and they would like to have a data fix the first time around, and on the second leg they would like to have an up date, and that should be about two hours fifty eight minutes I believe after take-off for the up date.

OK. On this first one, that must have been added on.

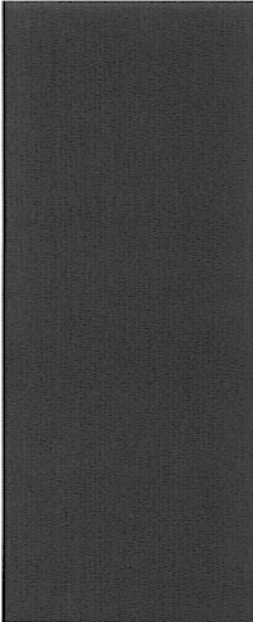
Yes, just a data is all they want, if you remember. The one we are primarily interested in is the up date. For your SIP, and this is also recorded on your card, we would like to have it on a start cruise on the first leg and off at the ARCP for the Hawk refueling area. Back on when you start cruise on the second leg and turn it off over home when you come in on the final right?

3

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25X1A




OK.

Again, we would like to have an "A" code after take-off and each time that you're in the APEX of these turns out in the far eastern portion which will be position 7 and 15. OK, your emergency bases we have Fallon in 27, Hill position 28, Buckley 29, MCCConnell 30, Forbes 31, Blythville 32, Little Rock 33, Barksdale 34, Clinton Sherman 35, Amarillo 36, Kirtland 37, and back at Edwards for 38. Again I'll remind you on the film strip it does not have EWS on it. But, the package, the only time I want you to operate it is when I specified, which is correct on your cards. From start cruise the first time to start descent the first leg, then just leave it in 2 until after you land. Do you have any questions?

No.

Weather Briefing, 

 gentlemen, I ask your indulgence for the lack of weather on this side but as far as your route is concerned the reason I didn't make any extended effort to give you the rest of it, is that it is clear, clear, clear or high scattered over here at this jet and down here at the forward side so that you have a strong northwest clear area where everything is cleaned out. There's the remnants of an old arctic front lying through here that's washed out. Actually the southern portion of the route contains no problems. Our weather problems are contained over here in this part where I do have them --- so, will finish up saying all this area, Little Rock Clear, Blythville clear, Barksdale high scattered, here scattered. Now as this ridge line progresses over, maybe by the time you make your second go around you might be picking up some thin broken cirrus but I still think it is the type that will be almost transparent that you will see through. I think it will be getting a little heavier for you on the cirrus but is strictly high cirrus and absolutely no problem involved on that. That's just only over in this portion and as you stay down south it will still be clear to scattered along that portion of your route. The only thing of significance is that your single engine winds on this last path as you get on over here are going to be running at 300 at 100 knots at 30,000 ft. They are really whomping along there good. And then as you get along toward us they will be leveling off at 260 for

25X1A

25X1A

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the first third at about 100 so you are going to be clipping a pretty good, a stiff wind coming back on at 30,000 ft on 260. Actually at 35,000 feet along this jet core some where along here, we lost it between reporting stations, but its clicking along about 140 knots at 35,000. We haven't had any reports yet from anybody via the tanker on low level turbulence but we are still expecting on climb out, due to the vicinity of this, its fairly uniform on all sides so this negates the shear except up north where it drops off unexpectedly and it gives real turbulence. You might get some occasional isolated severe but we are still looking for light or even occasional moderate on you and that will just depend on where this jet max is. You may be lucky and get absolutely none out of it yet you might be expecting some on climb out on that. Your runway temperature is, will be about 50 degrees. It's leveled off pretty much now that we've leveled off on the pressure altitude is still 4550 and I have already pointed out your single engine winds. Now your temp deviation. We are running about a plus three in here and we will go all the way over until you will probably hit a minus one, on this end and about a plus one ----- this so you will average about zero. On your temp deviation you will be operating at altitude much colder over on your far eastern portion than you will over us. We are warm, running actually about a plus five over the station on your temperature deviation ah, the rest of your alternates that you will be considering, and these are looking down. Now Fallon is running 10,000 sacttered and 15 and we get a special that they are down to 500 feet obscured and 3/8 in a snow flurrie and ten minutes later they are back up to 9,000 broken and 10 and Hill who has been running predominately most of the day about 5,000 broken and 10,000. Hill went on down in a special to something like 1,000 broken or more than that, they were really down about 500 and 2 in a snow flurry, so there are instability snow showers coming along the line and they are popping in and out. So both of these are OK but they are shakey. You must expect that they would just frequently pop down in a shower but, its going to be nothing of any duration that would hold them down, its just going to be a brief shower but could be at the wrong time so those are not really any number one type but Buckley is right on the fringe but it'll be just running some mild scattered variable broken. Its also excellent and although Edwards has some middle clouds, everything

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to the south is -----. These are the only two that you will have to think about and we will keep you informed on those, so I expect them to come down, they'll just pop down and right back up and with time they should even improve ----- no sweat. We ourselves now are in this nice big wide hole but Fallon went from scattered to broken there and there are these little lines, as I say associated in here and they may swing down thru us and we could get some more middle cover in here and go broken again for a brief period this afternoon. The thing is that our gusty surface winds shouldn't affect you too much but there is a good cross wind component should be up to isolated at times up to 25 knots. Right now we are still running about 20 to 25 out of 200 degrees. Ten mainly but with our gusts to 22 and isolated up to 28 knots. Your temp profile is in the green and you notice that up to 30,000 on up to 70,000 we will average about a minus five cold and then when you get up to altitude we are back again to the plus 4 or 5 over our local station. Do you have any additional questions or comments?

Nope

Thank you.

Tunnel request is going to be for 29,000 sir, the IFR pick up will be in the SOA and of course the start descent route is on your chart there and is straight and back into home. I'll give you your refueling information. There will be two refuelings, your first tanker call sign is Cute 62.

Cute?

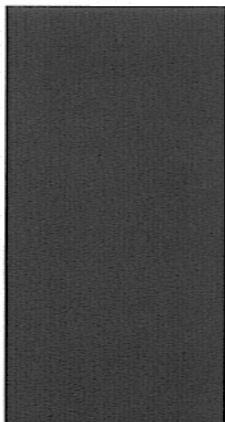
Cute, C-U-T-E. Falcon 350, time will be 1215 Flight Level 300 and that will be a level refueling. Standard airspeed of 315. ARG-50 external primary 17. Secondary 7. They should top you off at 31,000 have 7,000 for the Chase, air to air TACAN channel 96. Now both of these tankers, if you don't get a good pick up on 96, check with them. There are two tankers cancellations and some substitutions this morning, and they may inadvertently have it on 95. Some have 95 and some have 96 and they may not have gotten the word and of course they have tanker beacons. Your second refueling is with Cute 51, that is at the Hawk Bravo 272, your time will be 1400. And that will start at 30,000 and you will have a climbing A/R to 33,000 feet.

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25X1A



500 feet per minute your last 6 minutes, same air speed same Comm. They should have about 60,000 off load for you there, and they are also supposed to be on TACAN 96. Chase will be with you until after you finish your first refueling then chase will rendezvous with the second tanker and be there to observe the second refueling, then chase will come home. If the timing is right the chase won't need any fuel from the second tanker. But they should have a few thousand pounds left if there is any delay.

25X1A

There is supposed to be two tankers you say on the first one?

No, there is only one.

Oh, second tanker?

Yes, second tanker. For HF primary you will have 6712 this will be for the entire flight. Secondary is 13217. Your code words are on your card. It's on your first one there. And your altitude designators are different now you know?

Yeah.

There are no pertinent NOTAMS for any of your alternates they are all in good shape. Local Nav Aids are in. Airdrome is OK. Ice still on west side of over run and the lake bed has runway 9 and 27 open. Gunnery ranges are hot, but there are no foreign students. Green River will be cold for your flight. You should have no SCA traffic, no ash cans to worry about. You can check your Air to Air TACAN of course on the ground if you have any trouble refueling why check it coming back in, and the latest PIF is still number 0. Oh, one reminder also on the second refueling, 150 miles out from the ARCP you should give the tanker a call. Suit time is 1055 which right about now, and start engine time 1140. Anybody have anything extra to add? Do you have any questions?

25X1A

Nope.

That concludes the briefing have a good flight.

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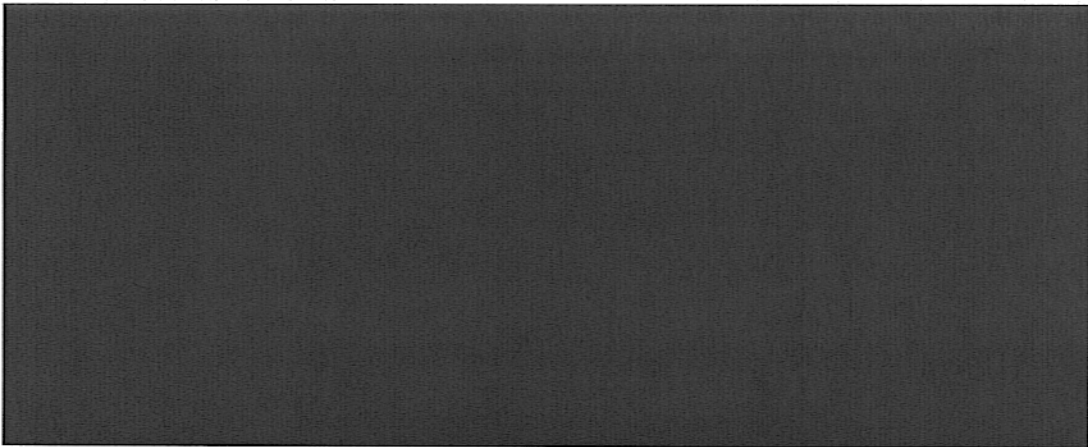
25X1A

TRANSCRIPTION FROM HF TAPES ( [REDACTED] AND HANGER AREA RECORDER) AND TOWER TAPE

CALL SIGNS:

RAYBOLD CONTROL	-	COMMAND POST
RAYBOLD 45	-	ARTICLE 125 TRANSMITTING ON HF
BOXER 17	-	CHASE AIRCRAFT
DUTCH 45	-	ARTICLE 125 TRANSMITTING ON UHF
APEX	-	TOWER
SAUCY	-	GCA

25X1A



NOTE: HF TIMES ARE LOCAL (PST)

25X1A	<u>TIME</u>	<u>FROM RAYBOLD CONTROL</u>	<u>FROM DUTCH 45</u>
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1519:38 [REDACTED] Raybold 45, Raybold 45,  
Raybold, request your progress

(Slightly grabled transmission)

Hello - Raybold 45 - do you  
read?

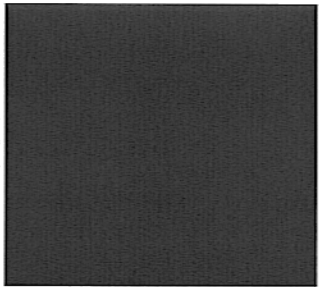
1519:56

1520:06 [REDACTED] Raybold 45 - you're  
breaking up badly. If everything is  
"Jo To", give a series of Rogers

25X1A

1520:16

1520:40 [REDACTED] ah, Roger, Roger 45,  
I have received some "alpha" and  
understand everything is ok



25X1A

1520:50

**SECRET**

25X1A

TIME

FROM RAYBOLD CONTROL

FROM DUTCH 45

1520:55

1521:00

1521:40

25X1A

1521:50

[REDACTED] Roger 45, I read  
you about 3 by - go ahead.

1521:52

[REDACTED]

Raybold control, Raybold 45,  
how do you read me now?

Rog, ah, I am rolling out of  
the far east turn, everything  
is going ok. I lost some  
little fuel in the far east  
turn. I'm running 800 to  
1000 pounds short, however, I  
don't think it's any problem  
at all - I can make it up

25X1A

1522:08

[REDACTED] ah, Roger, Roger 45  
we are reading your alphas, thank you  
very much - Raybold out

1522:16

Roger, Roger

1545:23

ah, Raybold control, Raybold  
45

1545:30

[REDACTED] Raybold 45,  
this Raybold go -

25X1A

1545:32

ah Roger ah, I've got a little  
bit of a problem here, I'm  
abeam Farmington - I have  
7500 lbs and I don't know  
where its gone - Remember I  
told you I lost about a thou-  
sand? Well I've lost about  
another thousand, ah I think  
I can make it but ah (garbled)

**SECRET**

<u>TIME</u>	<u>FROM RAYBOLD CONTROL</u>	<u>FROM DUTCH 45</u>
25X1A 1546:04	[REDACTED] 45 this is control - say again transmission	
1546:07		ah Roger ah - (garbled) 6000 pounds (garbled)
25X1A 1546:36	[REDACTED] 45 this is control again, unable to read, unable to read - can you say again last trans- mission slower please	
1546:43		Roger (garbled)
25X1A 1547:48	[REDACTED] Raybold 45, Raybold 45, this Raybold control if you're able to make it back to home plate give us the A/OK button.	
25X1A		No transmission
1548:26	[REDACTED] Raybold 45, if you can make home plate, if you can make home plate OK with no problems give me an alpha, give me an alpha	
25X1A 1548:38		[REDACTED]
25X1A 1549:21	[REDACTED] Raybold 45, Raybold 45, Raybold request another series of alphas if you can make home plate, over	
1549:30		Raybold (garbled)
25X1A 1549:37	[REDACTED] ah, Raybold 45 you're breaking up badly, I'm reading you about 2 by, say again	
1550:19	[REDACTED] Raybold 45, Raybold request you go ah Echo, primary, back to primary, if no answer return this frequency	(no answer)

<u>TIME</u>	<u>FROM RAYBOLD CONTROL</u>	<u>FROM DUTCH 45</u>
- 25X1A	[REDACTED] Raybold 45, Raybold 45 Raybold	
- 25X1A	[REDACTED] Ah Roger Raybold 45, Raybold - What are your intentions and are you having any difficulty - over	Ah, Roger Raybold (garbled)
- 25X1A		Roger, I've been trying to tell you all along I don't know where my fuel's going to, ah (next part of transmission overlaid by local UHF transmission)
- 25X1A	[REDACTED] ah Roger, Roger, under- stand ah that you are 4,600 pounds present time and about 200 out, is that affirmative	
- 25X1A	[REDACTED] understand that you are 4,600 pounds present time and about 200 out, is that affirmative	Ah, you were cut out by UHF, say again
- 25X1A	[REDACTED] you're going to have to make your own decision whether to go to Albuquerque or press on whatever you think's the best	That's affirmative, that's affirmative
- 25X1A	[REDACTED] Ah, Roger, are you uncertain as to whether you can make home plate, is that affirmative?	Say again - I can't read you, ah say again - this is Raybold 45

~~SECRET~~

<u>TIME</u>	<u>FROM CONTROL</u>	<u>FROM DUTCH 45</u>
-		Well I'm going to try, I don't
25X1A		know, I'm closer there than I am
-		any other place
25X1A	██████████ OK	████████████████████
1555:44	Raybold 45, Raybold 45, Raybold Hello Raybold 45, Raybold control how do you read?	
1556:10		Ah Raybold control - Raybold 45 go ahead Well I'm trying to stretch it as far as I can. I'm making a 300 descent, I'm 130 miles out and and I have 4000 pounds - I don't know where it's going though
1556:27		Ah roger - it looks like - unless I'm losing it some place I should be able to make it - I'm 120 miles out with 3900.
1556:49		Roger - I better go back to Los Angeles right now
1556:54		Roger I'm passing through 530
1557:01		Ah maybe I should slow up to about
1557:26		ah, 250 then.
25X1A	██████████ Well, do the best you can - keep coming and we'll have Saucy give you a vector	
1557:36		Roger
1559:26-31	(Probably went to Los Angeles Center here)	
1600:04		Ah Raybold control, Raybold 45

<u>TIME</u>	<u>FROM CONTROL</u>	<u>FROM DUTCH 45</u>
25X1A	[REDACTED] Ah Raybold 45, Raybold control, go ahead	
1600:26		Roger, I just can't maintain that altitude - it's just sucking up too much fuel. I'm 85 out now and I have 2700 - I'm passing through 430 flight altitude
25X1A	[REDACTED] it's your decision	
1600:56		Well I don't have much of a decision to make there isn't any other place to go.
25X1A	[REDACTED] OK - are you headed directly for home plate?	
1601:05		Roger, right straight home on a heading of 250
25X1A	[REDACTED] OK - if you see that "thunderbird" lake as you pass over it you've got that one alternate decision - that's only about 60 miles east of here	
1601:34	OK - get on the UHF with your chase - we should be able to pick up on UHF ah Saucy channel, they'll be standing by for you	Roger - the VIS - ah - OK I just got a fuel low pressure light on everything

6

~~SECRET~~



25X1A

25X1A

TIME

FROM CONTROL

FROM DUTCH 45

Roger I'm going to have to jump  
out of this thing at 22 [REDACTED]

[REDACTED] flaming out

1601:56

25X1A

[REDACTED] OK

1601:58

1602:03

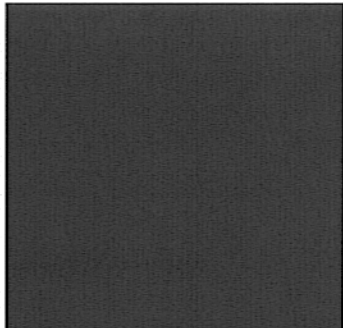
1602:09

1602:13

1602:19

1602:24

- Last Transmission -



25X1A

Note: Times are recorded on tape by tower and are not synchronized with times on HF tape. Tower times are Greenwich Mean Times (Local + 8 hours).

0004:55

Hello Apex this is Dutch 45

(Apex) Dutch 45 Apex

Roger, Dutch 45 here, Both of the  
engines are quitting - I'm 70 miles  
out, on a heading of one zero  
zero. I'm going to stay with  
it as long as I can make the  
engines run.

(Apex) Dutch 45, Roger,  
standby this frequency for Saucy.

Rog

(Saucy) Dutch 45, Saucy

I'm going to get Ray - they both  
flamed out, I'm going to have to  
get out now.

(Boxer 17) Understand you're  
getting out now - what's your  
DME

TIME

FROM CONTROL

FROM DUTCH 45

Roger, I'm 67

(Boxer 17) On the one zero

zero radial

0005:36

Roger

8

~~SECRET~~

TRANSCRIPT OF PILOT'S DICTECT TAPE RECOVERED FROM WRECKAGE

(The following was transcribed from one unbroken piece of dictect tape)

CUT THE LEFT.

I'M READY TO START THE OTHER.

CUT THE RIGHT.

CLEAR TO RESET GENERATORS.

DISTANCE TO GO AND GROUND SPEED ZERO.

GENERATORS ARE ON.

OK, PRESENT POSITION 37:14 - 115:49.

DESTINATION IS, AH SIPS ON, DESTINATION 35:14 - 115:23.

DISTANCE TO GO 122, GROUND SPEED ZERO AND AH, THINK THE CARD IS SWINGING AROUND TO THE SOUTH HERE, JUST STANDBY ONE, OK, HEADING IS 180, STEERING IS 170.

THAT'S AFFIRM.

VARIABLE FIX, STORE, REJECT LITE, LITE WENT OUT.

25:14 - 115:23.

SIP IS OFF.

EXTERNAL POWER DISCONNECT.

TRIM CHECK SCHEDULE.

ROLL.

READY FOR CANOPY.

SEALS ON.

ROG, AS FAR AS I CAN TELL, ROGER, I'M HOLDING THE BRAKES, BRAKES ARE OFF, BRAKES ARE ON.

SITTING HERE TAXILING, DUCT 28, WAIT A MINUTE, DUCT MUST BE 10 AND DOWN IS 28.

STORED 40, GROUND SPEED ONE, NO REJECT LIGHT.

RIGHT AFTER TAKEOFF, WE GOT SUIT 28, DUCT 10.

OFF TANKER WITH 67.

LET'S SEE, I DROPPED OFF, AH, THE TANKER ABOUT FIVE MILES PAST THE ARCP.

OK, I'M CLIMBING OUT NOW, I GOT AH, DUCT TEMPERATURE OF AH, SUIT TEMPERATURE 28,

DUCT 12 - THAT'S AFTER REFUELING AND CLIMBING OUT.

1.3, ON COMES OSCILLOGRAPH.

OK, I'M GOING TO REDUCE THE POWER AT 1.45, THAT WAS A DISTANCE TO GO OF 65, FUEL WAS

57,000 POUNDS, ALTITUDE WAS ABOUT 38,000.

1.7, GOING TO B.

OK, I WOULD CALL THIS MODERATE TURBULENCE, STARTED AT 48, STILL HAVE IT HERE AT 52, GOING TO HAVE TO SLOW UP A LITTLE, IT'S KNOCKING THE AUTO PILOT OFF.

AUTO PILOT WON'T STAY ENGAGED.

ALL SAS IS ON AND FRS IN.

I FOUND A CIRCUIT BREAKER IN THE BACK POPPED OFF.

I'M GOING TO TRY IT AGAIN, OOPS, WENT OFF AGAIN.

AND THERES A CIRCUIT BREAKER BACK THERE, AH, AUTO PILOT, YEP THE AUTO PILOT JUST WON'T STAY ON, DON'T KNOW WHAT CIRCUIT BREAKER IT IS, BUT KEEPS POPPING OUT.

2.5, MY DISTANCE TO GO IS 657, LN2 - RIGHT AT THIS SPEED, AH, ITS FLYING KINDA SCREWBALL.

I'M RIGHT AROUND 45,000 POUNDS AND 400, 66,000.

TRYING TO PICK UP A LITTLE MORE SPEED NOW, SINCE ITS SMOOTHING OUT A LITTLE.

AND NOW I'M AT CRUISE AN HOUR AFTER TAKEOFF, SUIT 28, DUCT IS 3.

2.7.

I THINK THAT THE WEATHERS GOING TO BE NOTHING, SO I'M GOING TO HAVE TO PUT IT ON THE CLOUDS.

OK, HERE AT CRUISE, THE RIGHT CIT READS 30 DEGREES LOWER THAN THE LEFT.

YEAH, I BELIEVE ITS THE RIGHT, BECAUSE WERE DOING 3.08 AND THE LEFT ONE IS SHOWING 390 AND THE RIGHT ONE IS SHOWING 365, THAT'S MORE LIKE IT.

AT 367, AND 36.6, 500 POUNDS OVER PROGRAMMED.

I DON'T KNOW WHAT HAPPENED, BUT IT IS.

OK, I'M NOT GOING TO BE ABLE TO GET A FIX AT SCHILLING, IT IS COMPLETELY UNDERCAST.

SETTING HERE AT CRUISE, ALSO, 370, 76,000 FEET, 3.09 TO 3.1, CIPS AROUND 15, AND THE BARBER POLE IS ABOUT 15½.

OK, AT THE TURN, 31.5, STILL RUNNING AROUND 600 POUNDS OVER.

OK, AT TAKEOFF ONE PLUS 33, I'VE GOT A SUIT TEMPERATURE OF 28, DUCT IS ZERO.

AND I'VE USED THE RADIO ABOUT 3 TRANSMISSIONS, 4 TRANSMISSIONS, FROM TIME I PUT THE PACKAGE ON AND THAT WAS - CAN'T GIVE THE EXACT TIME.

I'M SORRY, I FORGOT, OK ABOUT ONE HOUR AND FIVE AFTER TAKEOFF.

**SECRET**

PRESENT TIME, ABOUT TEN MINUTE INTERVALS, IT IS NOW 1:35 AFTER TAKEOFF, 1:35, OK  
HERE'S THE READING 1:35 AFTER TAKEOFF, GONNA USE IT AGAIN, ANOTHER TRANSMISSION, OK  
THERE WAS ANOTHER TRANSMISSION, 1:36 AFTER TAKEOFF, AND THERE WAS ANOTHER TRANSMISSION,  
ONE PLUS 38 AND ANOTHER TRANSMISSION.

I THINK THE RIGHT CIT IS THE PROPER ONE, FOR THE GROUND SPEED WERE MAKING AND THIS MACH  
NUMBER, ABOUT 20 DEGREES, THE LEFT IS 20 DEGREES HIGH.

OK, AT POSITION 09, 16.6 AND PROGRAMMED 15.4, EXCUSE ME, THAT WAS POSITION 08, I'M  
SORRY.

OK, I'M READY TO START DESCENT AT 260, HAVE 15.8.

OK, I MADE IT TO POSITION 08 HERE WITHOUT POPPING.

OK, GOING TO B, I HOPE THEY STAY TOGETHER.

DISTANCE TO GO 192, FLIGHT LEVEL [REDACTED] AND I ONLY GOT 15.6 FUEL, 330, OR THREE, OR  
WELL I HAVE ABOUT 310 RIGHT NOW KEAS.

2.5, GOING BACK TO 6800.

GOING THROUGH FLIGHT LEVEL 600 AND AH, 298 KEAS AND 1.74MN AND AH LET'SEE, PULLING  
6800 RPM.

15.3 FUEL, AND I'M 117 MILES OUT FROM ARCP.

1.6, GOTTA COME BACK TO ABOUT 6000.

SO FAR THE CIRCUIT BREAKER HASN'T POPPED.

MACH ONE, 15,000 POUNDS OF FUEL, 39,000 FEET, 295 KEAS, AND DISTANCE TO GO IS 70 MILES.

AND IN THE DESCENT, I HAVE A SUIT 28, DUCT READING ZERO, COCKPIT 65.

OK, AT FLIGHT LEVEL 290, FLIGHT LEVEL 290, AND I'VE GOT 14,000 POUNDS AND 52 MILES  
DISTANCE TO GO AND I WAS AT 300.

THE TIME IS 2 HOURS NOW, 2 HOURS AND ONE MINUTE TO BE EXACT.

LET DOWN TIME, BY THE WAY, WAS 1 PLUS 50, AH 49 AT LETDOWN.

COMING BACK AND I'M WAY TOO SHORT AND I'M BELOW BINGO FUEL RIGHT NOW AND I'M STILL  
300 MILES OUT.

(COMMUNICATION WITH TANKER)

HOW DO YOU READ MY?

LOUD AND CLEAR, LOUD AND CLEAR.

ROG, I NEED ANOTHER CLEARANCE.

~~SECRET~~

YOU KNOW WE'VE BEEN DOING PRETTY GOOD LATELY.  
THIS IS ABOUT THE SECOND OR THIRD ONE I'VE HAD.  
AND WHEN THEY ARE WORKING THEY WORK REAL GOOD.  
NO KIDDING.

AH, STAND BY A SECOND.

AH, I'M SHOWING 43, KEEP IT COMING, I'LL TELL YOU WHEN TO CUT HER OFF.  
ITS KIND OF HARD TO SEE THE LIGHTS, SO IF I START GETTING REAL BAD LET ME KNOW.  
OK, WHAT'S ALL THIS STUFF ON GUARD?

YOU HEARING THAT?

YEAH, BOXER, THAT'S OUR HOPPY CHOPTER, YEAH, THAT'S OURS, BOXER 44 IS OUR BOY.  
ROGER.

DISCONNECT TRANSMISSION UNREADABLE.

DUCT 10.

OK, 1.4, OSCILLOGRAPH ON.

LETS SEE, I DROPPED RIGHT OVER THE ARCP AND STARTED THE CLIMBOUT AT 2 PLUS 30.  
I'M HITTING THAT TURBULENCE AGAIN, SO I DON'T KNOW IF I'M GONNA GET TO MAKE A DECENT  
CLIMB OR NOT.

OK, GOING ON THE CLIMBOUT HERE.

TAKEOFF 2 PLUS 43, SUIT IS 24, DUCT IS ZERO.

BY THE WAY, THIS IS REDUCED POWER CLIMB ALL THE WAY OUT TO SPEED.

25X1A AT 837, WE HAVE NORMAL CRUISE CLIMB, WE GOT 3.03, 40,300 POUNDS, [REDACTED] AND WE GOT  
400 KEAS.

25X1A OK, WE GOT AT 810, 3.13, 399, [REDACTED] FEET AND 39,800.

CRUISING HERE PRESENTLY AT 385 KEAS, 74.4, 3.1 AND THE SPIKES ARE 24, AND THE DOORS  
ARE ABOUT 95 PERCENT, 37,500 POUNDS OF FUEL AND THE FUEL FLOWS ARE RUNNING AT 16.2  
EACH.

784 AND 744, I'LL PUNCH THAT ONE UP A LITTLE.

OK, RIGHT NOW, I'M RUNNING ABOUT A HUNDERED MILES SHORT, AND AT THIS LOWER CRUISE AT  
390, 33,600.

~~SECRET~~

END OF TAPE.

(The following additional comments were recorded from eighteen bits of dictect tape and are not necessarily in sequence)

\_\_\_\_\_ LEFT 17 AND THE BARBER POLE IS 15 $\frac{1}{2}$ , RIGHT 17 WHICH IS A HAIR BEHIND \_\_\_\_\_ AND  
THE RIGHT DOOR IS A HAIR OPEN.  
MIN BURNER SPECIAL 400 SCHEDULE.  
AND I'M 297 OUT.  
18,000 POUNDS OF FUEL.  
388 KEAS AND ABOUT THIRTY-.  
I REMEMBER I GOT OFF TANKER WITH SIX--.  
DURING THAT TURN.  
FUEL, AH, THIRTY ONE.  
\_\_\_\_\_ TO GO, [REDACTED] FEET. 25X1A  
I GOT 18 ON THE LEFT ENGINE.  
I DON'T KNOW WHAT'S WRONG HERE.  
DISTANCE TO GO.  
THOU.  
3.1.  
SOMEPLACE.  
I CAN'T FIGURE IT OUT.  
LESS, I'M GOING IN.  
SEVENTEEN THREE.

~~SECRET~~

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DECLASSIFIED  
Authority NND 023670  
By JKS Date 10-26

REPORT FROM FAA FLIGHT CENTERS ON DUTCH 45 FOLLOWING SECOND REFUELING. (ALL TIMES ARE ZULU - LOCAL + 8 HOURS).

2233 Reported climbing through FL 400 to SLC.

2233:12 Ask Salt Lake: How does my track look for on course?

SLC: It appears you are from the last run you made, pointing a little bit north of course.

2233:40 Pilot replied: Yea, thats what I thought to. How much north would you say I am?

SLC: Right now, you are tracking 040.

Pilot says: And did bam pass on to you that I'm going to have to probably turn a little short on this particular leg of the flight.

SLC: Advised him to advise the center concerned, and would be no problem.

2235:05 SLC: Briefly lost radar contact, and told him when radar came back they would give him a position on his track.

Pilot replied: It's starting to shape up a little bit now.

2236:25 SLC: Your track looks real good toward MLF/047/98.

Pilot: Roger thank you.

2237:10 Pilot: Picked up moderate turbulence starting at FL 470 and said "Quote (I'm still in it, I'm at 540)".

2239:45 SLC: States aircraft was cruising J-84, 10 west of SL/Denver Boundary

2240:20 Pilot reported level above FL 600.

2244:55 Denver Center placed 45 over Grand Junction and was 6 minutes later than est. Re-estimated over Alamosa, Colorado, 2326Z, above 60.

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2308:50 25 miles south of Whiteman AFB

2313 Dutch 45 handed off from Kansas City Center to Memphis Center and advised Dutch 45 was 15 minutes late. Memphis said there was nothing unusual and Dutch 45 flew route as planned.

2328:15 Ft Worth handed off to Kansas City 40 miles south of Ponca City.

2334:15 45 mi of Gage Okla, Pilot reported above FL 600.

2339:25 AEG handed off to Denver Center position given 30 miles south of Tobe, Colorado.

2348:15 Position 10 miles north of Int of J-128 and J-58 above 600.

2349:30 Conversation between Denver and Pilot. Bam request if you are having difficulty.

Pilot: Quote " Roger I'm running very low on fuel and starting my descent at this time. I do not know if I can make it or not".

2350 20 miles east of LA/Den Boundry 5 miles N of J-58.

2351 Denver advised L/A. Acft reported he is very short on fuel, he is leaving altitude above FL 600. Now he reported leaving his altitude, what ever that was.

2351:50 Denver Center initiated 2 calls to Dutch 45 and had no response from pilot.

2352 4 miles west of LA/Den Boundry approx 8 miles south of J-58.

2353 Pilot declared an emergency and stated only low on fuel.

2354 Pilot squawked emergency and turned it off again, still reporting above F/L 600.

~~SECRET~~

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2355

Crossing V-257, 28 miles south of BLC.

2355:45

Pilot reporting leaving F/L 600 and descending.

2358:50

11 miles east of Hurricane Aprt, pilot reported leaving F/L 510. Reported descending.

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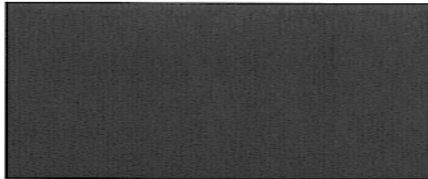
(Special Handling Required, See AFR 127-4)

**SECRET**

SUBJECT: Guide for using tape transcribed from Salt Lake Center master tape. Salt Lake advises that master tape will be held for 60 days and can be obtained by Yuletide Operations through appropriate channels. All times ZULU.

2021:25 Bungalow requesting clearance from Salt Lake for D-45 first leg of flight.  
 2035:25 Bungalow effecting hand/off to Salt Lake 1st leg of flight.  
 2037:15 D-45 reporting out of FL 290.  
 2043:00 D-45 reporting out of FL 410.  
 2048:00 Salt Lake effecting hand/off to Denver.  
 2149:40 Denver advising Salt Lake that D-45 was requesting descent to refueling altitude returning from 1st leg of flight.  
 2151:20 LAX advising SLC of D-45 refueling intentions.  
 2152:00 LAX advising SLC of D-45 position.  
 2221:55 Bungalow requesting clearance from SLC, D-45 2nd leg.  
 2232:05 Hand/off from Bungalow to SLC, 2nd leg.  
 2233:00 D-45 reporting above FL400 to SLC.  
 2233:20 D-45 asking SLC about his track. Also advising SLC of his intentions to cut route short (this portion becomes garbled.)  
 2235:10 SLC advises D-45 that they have lost Center's radar and 45 replies "IT'S" beginning to shape up now.  
 2236:50 SLC advising 45 about his track.  
 2237:10 D-45 reporting turbulence to SLC. short.  
 2237:50 SLC advising Denver of 45 estimate and intentions to turn/~~short~~  
 2239:45 SLC hand/off to Denver.  
 2240:20 D-45 reporting out of 600.  
 2348:45 Bungalow requesting SLC to check on D-45 problems.  
 2351:20 Denver reporting D-45 problems to SLC.  
 2352:15 D-45 position verified with SLC & LAX.  
 0002:35 Bungalow asking SLC if LAX was still working 45.  
 0005:30 Bungalow asking SLC if he was still painting 45.  
 0005:55 SLC requesting status of 45 from LAX.

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# USAF ACCIDENT INCIDENT INDEX

**TAB**

- A - AF FORM 711 - USAF Accident/Incident Report
- B - AF FORM 711a - Ground Accident Report (Not applicable for Acft Accidents)
- C - AF FORM 711b - Aircraft Accident/Incident Report
- D - AF FORM 711c - Aircraft Maintenance Materiel Report
- E - AF FORM 711d - Missile Accident/Incident Report
- F - AF FORM 711e - Explosives Accident/Incident Report
- G - AF FORM 711f - Nuclear Accident/Incident Report
- H - AF FORM 711g - Life Sciences Report of an Individual
- I - Unsatisfactory Report
- J - Teardown Deficiency Report
- K - List of Technical Orders Not Complied With
- L - AFTO Forms 781 Series
- M - AF FORM 5
- N - Statements
- O - Rebuttals
- P - Orders Appointing Inves Board
- Q - Board Proceedings
- R - DD FORM 175 or DD FORM 1080
- S - DD FORM 365 (Wgt-Balance)
- T - Private Property Damage
- U - Damage to Aircraft
- V - Communication - Transcripts
- W - Additional Data
- X - Other Forms
- Y - Diagram
- Z - Photos

A  
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tape was not recovered. Approximately one inch of tape was missing from each layer of tape on the reel for this flight and additional previous flights. The damage was confined to impact only, there was no fire damage. Only portions of the outer metal cover of the assembly were recovered in addition to the tape cassette which crushed inward around the take up reel. A 2½ inch piece of unrecorded tape was captured in the cassette, indicating that the supply reel had not run out of tape. The supply reel and its remaining contents were not recovered. Further effort to obtain useful data from the recorded portions of tape was abandoned since later and more useful information was obtained from the Dictet tape, the SCDM tape and recordings of air-ground communications.

d. All tapes and portions thereof from the Dictet and SCDM systems were recovered as single items and detached from the equipment in which they were contained. The crash recorder tape was found captured in the cassette which was detached from the main assembly and with the top cover missing.

e. The two cameras that were installed in the canopy were not recovered up to the time this report was written. It is believed that acceleration forces caused them to become detached from their mounts at or soon after the canopy was jettisoned. It is noted that in every other case wherein canopies were recovered from these aircraft, the standby compass remained attached to the canopy and in a reparable state. Improved camera -to-canopy attachment can be attained.

#### C. INSTRUMENTS:

##### 1. System Description.

a. Most instruments installed were conventional types, particularly those associated with navigation systems other than the INS and ARC-50 UHF. Engine speed is displayed in rpm instead of percentage rpm.

##### 2. Investigation and Analysis.

a. The following instruments were recovered; information derived therefrom is included if attainable:

(1) INS DISTANCE TO GO - GROUND SPEED INDICATOR. The drums were captured at "0067" nautical miles to go and "0383" knots, ground speed (see Tab Z). These values are considered valid and froze there at the time the generators went off the line. The "miles to go" value coincides with the pilot's last report at about the time of flameout and very shortly before ejection. The ground speed value indicates that the airspeed could have been considerably greater but not nearly the speed attained in the steep dive that ensued.

(2) ALTIMETER (pressure type, dial only).

(3) FUEL QUANTITY INDICATOR (dial only).

(4) EGT INDICATORS (2 each).

(5) ENP INDICATOR (dial only).

(6) HYDRAULIC PRESSURE INDICATOR.

(7) CLOCK (dial, minute and hour pointers). UV light inspection showed  
4:05 PST.

(8) Unidentified dial of an instrument with a 0 - 60 scale, dial is white and figures are black.

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D. FINDINGS:

1. Variable frequency AC power was available up to the time of engine flameout.
2. After engine flameout, the batteries provided DC power up to the time the last transmission was made on UHF. DC power was most probably available until the airplane was committed to crash.
3. There was no evidence to indicate a failure of the regulated AC power system (inverters).
4. Engine flameout occurred at a point 67 nautical miles from the home base at a ground speed of 383 knots.
5. The location of the Dictet recorder was conducive to major damage of the tape.
6. The crash recorder has no success history in crashes involving these aircraft in which it was installed.
7. The Signal Conditioner and Data Monitoring system could replace the crash recorder if the tape cassette could be made crash and fire resistant to a reasonable degree at the sacrifice of vertical acceleration information now recorded by the crash recorder.
8. The systems discussed in this report operated as designed with the exception of the crash recorder, in that the tape cassette and tape therein is highly susceptible to crash damage.

E. RECOMMENDATIONS:

1. Consider the relocation of the Dictet recorder to the canopy.
2. Consider the replacement of Dictet recorders with a better designed device which has standard tape speeds, and better fidelity.
3. Explore the possibilities of modularizing the tape cassette portion of the Signal Conditioner and Data Monitoring equipment with the objective of making it crash and fire proof to further insure recovery of undamaged tape.



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LIFE SUPPORT INVESTIGATION AND ANALYSIS

The pilot and seat were found separated by a distance of 65 feet on a 45 degree slope 8 miles from aircraft impact. It was apparent that the pilot was in the seat at the time of initial impact 25 feet above the final resting point of the seat that had bounced and slid down the slope, arresting in a small tree. Close examination of the initial impact area revealed a large depression caused by the left rear portion of the seat. Buried under soil surface was a number of sheared rivets identified by size, type and paint color as seat rivets. In addition, numerous pieces of paint flakes were found under the soil surface in the impact area. At an appropriate distance for a man remaining with the seat, fragments of both visors were dispersed on the ground. In addition, paint chips from the helmet, mixed with brain tissue were located on the surface as well as the sub-surface. The pilot's watch was picked up in working order 8 feet from the impact area.

A second impact point was noted 15 feet down slope. Mixed in this area of loose shale, soft dirt and rocks of varying size were parts of the neck ring, seat kit and seat as well as brain tissue and fragments of skull bone. To the left of the path of the body created by sliding down the slope, the pilot chute kicker plate (See Photo #8) and teflon washers were located. The ball joint for the leg retractors was picked up slightly above the aforementioned area. In the second impact area, an imprint of suit material was noted by the investigators. The bush, located slightly to the left of the path of the body, had broken limbs indicating some object had crashed through and many pieces of tissue were suspended in the limbs of the bush.

The seat was located 10 feet below the second point of impact and to the right of the body track. It was found on its right side with the bottom of the seat wedged into the lower branches of a scrub tree (See Photo #9). The lap belt was found opened, with both halves draped over their respective sides of the seat (See Photo #10). Powder marks were observed on the leather protective pad, swivel link, latch housing and locking pawl. The arming lanyard gold ring was found locked into the left half of the lap belt with the manual release lever in the closed and locked position. The swivel link was found latched to the manual release lever indicative of automatic lap belt function. The swivel link locking pawl moved freely in the housing and was totally covered with black residue. The arming knob and arming cable were attached to the gold key and free of the parachute cable housing (See Photo #10)

Twenty-five feet below the second impact point and in line with the path of the body travel, the ASK survival kit was located still in the ripped out right suit leg pocket. Slightly below the kit, the second ball joint for the leg retractor was pin pointed.

The pilot continued down the slope for an additional 50 feet that could be traced by neck ring fragments, brain tissue, and scrapings and pieces of the survival kit. The pilot came to rest with the survival kit still attached and rolled up in parachute material that had spewed from the parachute pack (See Photo #7). The drogue chute was not deployed from its pack and had 1 pin bent 30 degrees while still in the locking cone. The back pack containing the emergency oxygen components and parachute arming mechanism was partially crushed but in relatively good condition. The oxygen supply was depleted. The pilot's helmet was found about 3 feet from the body and was severely damaged (See Photo #12).

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The suit had relatively minor damage considering the rocky terrain that pilot bounced and rolled over.

The neck ring was fractured in numerous locations. The recently designed left emergency oxygen lead connector was missing. The controller outer surface had residual powder, (See Photo #14).

There was a severe linear laceration or rip through the suit and into the body along a line running from the left pelvic area and extending across the lower abdomen to the navel area, (See Photo #13). The right pocket was ripped out with the ASK kit. The left foot was badly scraped and the heel was partially ripped free. A cut through the leather with blood was evident.

25X1A

Due to the lateness of the day and impending darkness, the body was removed from the chute and flown to Nellis Air Force Base after examination by [REDACTED] Flight Surgeon, and two members of the Accident Investigation Board.

The investigating team arrived at the seat site the next morning. Investigation was partially hampered by previous traffic in the area and by the terrain with this severe slope. Removal of the seat and other equipment was accomplished that afternoon. All equipment was returned to homeplate for complete tear down and analysis.

A team of 5 personnel returned to the seat site 3 days later for a minute search for the missing emergency oxygen lead connector and locking clip. A detailed search of the area including sub-surface investigation at the impact areas revealed only small pieces of materials previously overlooked. The connector was not found.

#### EQUIPMENT TEAR DOWN

##### 1. Ejection Seat System

###### A. Ejection Actuation

It was determined that ejection was accomplished by use of the primary (D-Ring) as indicated by the displacement of the D-Ring and the fact the T-Handle of the secondary system was not completely pulled to full travel. The T-Handle initiator was fired, however, this was determined to have occurred after impact. This was established by excessive burnt powder deposits dispersed on the seat back rest from the disconnected catapult plumbing. In addition, a leak in a plumbing line deposited burnt powder on some sheared off rivets after the seat impacted. The leak in the plumbing line appears to have resulted from a fracture on impact.

###### B. Leg Thrusters

The leg thrusters erected immediately after D-Ring pull and cables to spurs retracted. Leg thrusters were found in erected position and foot cables reeled in. Cable cutting was at the proper length, (Photo #9).

###### C. Canopy Removal System

There was no evidence of any malfunction of this system.

###### D. Speed Sensor

The speed sensor locked out the 1 second delay mode indicating that ejection occurred above 295 KIAS. The 1 second delay initiator did not fire after impact.

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E. Cable Cutters

The cable cutters functioned by both the primary and secondary means. Gas passage was evident through both valves of cutters. Line was broken after impact.

F. 4.0 Second Delay Initiator

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Fired normal - See statement - [REDACTED]

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25X1A

G. Initiator for Lap Belt Opening - Rotary Actuator

This final initiator fired normally providing gases for lap belt opening and actuation of the Rotary Actuator (man/seat separator). Reference [REDACTED] statement "Instantaneous Gas-Fired Initiator".

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H. Rotary Actuator (man/seat separator)

25X1A

This unit fired normally taking up 13 inches of tape. There was a indication of heavy load on torque shaft edges. See [REDACTED] statement, (Photo #9).

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All initiators fired normally and as designed. Supported by [REDACTED] statement.

2. Lap Belt

Residual powder pattern on lap belt hardware, suit, controller and gloves all are indicative of firing in the air with air flow normally encountered during ejection, (Photos #13, 14, 15). The latching pawl was free in travel at the time of tear down. Tear down revealed that the release piston had traveled completely up against the face of the access plug and had the shear screw implanted on the piston face, (Photo #16). The inside face of the access plug also had a imprint of the shear pin, the metal indicating heavy pressure force, (Photo #17). One "O" ring was missing from the piston shaft. Disintegration of this "O" ring is reported as common in belt firing, (Photo #15). The piston shaft shows marks of having opened under high lap belt tension. The carbon deposit on the piston was gouged clean with carbon imbedded in the metal at the pressure points between the lap belt latch pawl and the releasing piston shaft, (Photo #15). Brinell marks on the inside of the pawl latch housing and on the pawl indicated a possible jamming of the pawl thereby blocking release of the lap belt after beld had fired. These marks appeared to match the emergency oxygen safety clip. This clip was missing with the emergency oxygen lead connector. The lap belt webbing had holes gouged through the material that could be matched to sharp edges on the sides of the seat and appeared to have been caused during the progress of the seat down the hill (See Shear Pin test report).

3. Survival Kit

The survival kit was in relatively excellent condition considering the impact under taken. The yellow handle was broken off. Attaching hardware held the kit to the chute throughout. Seat cushion was partially ripped off and found at the site of the body. Lid was attached although jammed at all latching points. Many scratches and gouges were noted, caused by rocks and brush along the path of travel. The survival kit shows markings which can be related to the seat with the survival kit in a position extracted from the seat pan at the aft end and still engaged with the seat at the forward end in this position. The markings on the kit on the left side match two screw heads on the leg thrusters and fiber glass particles from the survival kit are impacted into the screw head slots. Also, with the kit in this position, the

the secondary T-Handle can be matched with markings on the forward right hand leg support on the kit. This force ripped the wood spacer in the forward support and broke off a piece that can show the impact point. With the kit suspended on a taut seat separator strap, and with the kit extracted in the rear and not in the front, a prominent depression in the seat back rest edge can be matched with a seat kit impact point indicating the seat kit relationship on impact. There is a severe gouge on the left side of the kit at the point of taper or narrowing of the kit that lines up with a screw on the shoulder harness locking lever. Since the seat is severely crushed to approximately half its original width, and none of this damage can be related to the seat kit, it appears that the seat kit was not in the seat pan at time of impact and was riding on the man/seat separator strap, (Photo #11). See Survival Equipment Functional Check.

#### 4. Helmet and Suit

Inspection of the helmet revealed severe impact damage to the left rear side with the helmet regulator ripped free. All indications are that the helmet visor was in the closed position on impact

Primary suit damage is at the left lower abdominal area. The exact cause of this damage could not be satisfactorily determined. See statement of [REDACTED] (Photos #12, 13).

25X1A

*[Handwritten signature]*

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(See AFR 127-4)

INVESTIGATION OF MAN-SEAT SEPARATION FAILURE

1. Numerous tests and investigations were conducted on the seat system and components to determine possible causes of malfunctions. These included:

- a. Lap Belt - Automatic Release Function.
- b. Rotary Actuator.
- c. Shoulder Harness.
- d. Survival Kit and Cushions.
- e. Seat - Lap Belt Release and Rotary Actuator.
- f. Initiators and Cartridge Devices.
- g. Personal Lead/Seat Entanglements.

2. Results:

A. Lap Belt - Automatic Release Function:

a. It was established that if tension were placed on the lap belt by over tightening the shoulder harness or from some other means that caused the lap belt to buckle or wedge, lap belt opening could be prevented until the applied force was momentarily released. This was further corroborated by test data and experience of [REDACTED] of [REDACTED] and files on hand at Norton AFB, AFIDI-M2. Canadian testing of F-104 seat produced similar hang-ups and was eliminated by a modification in the lap belt release mechanism. The markings on the release piston shaft and latch pawl indicated extreme tension at this point. These marks were not present on 4 simulated static test firings and could not be duplicated. Photo #18.

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b. Any object wedged into the latch pawl housing would cause lap belt release failure in that it would prevent the latch pawl release of the swivel link. The marks on the top of the pawl shoulder and the inside of pawl housing closely matched up to the emergency oxygen lead safety clip ends. This clip should not be released by the pilot in flight however. Questioning of Life Support technicians and aircrews revealed that they did not release these clips until after landing or in the chocks. An attempt was made to jam the lap belt by placing a clip into the housing. It was blown free by the flow of gas pressure at lap belt firing and failed to jam the release mechanism. The clip worn by the pilot could not be found at the impact site but this was expected in that it is attached to the emergency oxygen lead connector that has been broken off in the last 4 out of 5 bailouts.

B. Rotary Actuator:

a. High speed films of four firings of the lap belt and rotary actuator through the Instantaneous Gas Initiator confirmed that the lap belt fired first and was followed by the rotary actuator as designed.

b. Manipulation of the rotary actuator straps with a live subject seated with full equipment revealed that initial motion imparted to the man and chute was straight up into the headrest sloped ramp and then forward. This was later observed in the static firings and accompanying high speed films. This upward motion would jam the drogue chute container into the shoulder harness hardware and then up into the wooden head rest extension. The severity of jamming would be dependant upon two factors. The first being the amount of travel of the chute. It appeared that the longer the distance, the more the rotary actuator

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would force up the chute by winding up more strap. Secondly, the most severe jam of the chute came when the rotary actuator completed it's stroke. If the rotary actuator stalled out or torqued off the shaft, then the chute would fall free with little effort. Inasmuch as this test cannot simulate a zero "G" condition and the drag deceleration of the seat and man, these tests were not conclusive; but the hang-ups were accomplished.

C. Shoulder Harness:

a. The shoulder harness featured in all parachute hang-ups induced during the static test firings. The shoulder harness adjusting buckles would wedge into the headrest extension block. In addition, the knot created at the shoulder harness insert point into the headrest area would catch on the drogue chute cover, over the butterfly spring. Photo #19.

b. Shoulder harness loops were noted to be distorted in a shape similar to the pawl housing. Little effort was required on three in-service harnesses to move the loops over the housing. On lap belt separation, the loops could hang-up one half of the lap belt and require considerable effort to break the bond. A review of T.O. 13A1-1-1 and 13A1-1-517 indicates a measurement of the harness loop is required periodically. The loops should not fit over the pawl housing. During static tests, 20 lbs drag on the shoulder harness would be sufficient to assure jamming of the chute into the headrest. 20 lbs of bind to remove loop from housing was easily achieved.

D. Survival Kit and Cushions:

a. During static tests varying results in chute jamming was achieved when changing cushions from the sleeping bag configuration to the A.D.P. cushion. The sleeping bag configuration would allow, through the use of the kit chute rest, the chute to slide over the kit and form a wedge angle as the back of the kit was raised to full lift. The A.D.P. cushion provided the most serious jam in that it permitted the rotary actuator to stroke fully, firmly binding chute into headrest. Photo #20.

b. The front of the survival kit jammed into the 8 bolts/nuts attaching the forward point of the rotary actuator straps. Reversal of these bolts and nuts permitted easier egress of the front portion of the kit over the lip of the seat pan.

E. Seat - Lap Belt Release and Rotary Actuator:

a. Historical review of previous ejections revealed that the only conditions not previously exercised were a planned ejection, with the man in a full upright ejection position with no abnormal forces, and the installation of the headrest extension which was not subjected to full testing prior to installation. The last of four static firings was configured without the extended headrest and proper ejection position to determine if the parachute could jam. Static firing produced a clean separation with the shoulder harness hardware thrown clear of the front of the headrest. The headrest ramp, even though struck by the drogue chute container, provided an unrestricted sliding surface.

b. A test subject with a complete suit was directed to open the lap belt manual release lever. He was not a crewmember. He had some difficulty in reaching the lever for a number of reasons. With the shoulder harness locked, he could not lean to see over the neck ring in order to see the latch. The folds of his suit partially covered the lap belt lever. The spring covering the arming lanyard lay adjacent to the lever and deflected his fingers which were encumbered by the pressure suit gloves.

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F. Initiators and Cartridge Devices:

a. All devices were removed and opened for examination. All lines were air flow tested with no indication of obstructions. All devices were certified as having functioned and with no apparent loss of power output.

G. Personal Leads/Seat Entanglement:

a. The vent hose was thoroughly checked for possible hang-up points and in particular with the leg thruster. Ample clearance was provided and no apparent means of hang-up could be seen. There was no wind blast to determine the dynamic characteristics of the hose on ejection.

b. Oxygen leads, and communication leads were also evaluated in the same manner as above with the same results.

FINDINGS:

1. That all components of the ejection system functioned properly up to the point of man/seat separation and that the man was in the seat and separated at impact.
2. That the primary cause for the failure of the man to cleanly separate from the seat could not be absolutely determined.
3. That the most probable causes for the man not to separate from the seat were:

A. Failure of the lap belt to release due to binding from excessive tension or side loads.

B. Failure of the lap belt to release due to a foreign object obstruction in the pawl latch housing.

C. Headrest extension may have obstructed parachute travel during the separation phase.

D. A combination of events involving two or more of the above.

E. The pilot may have attempted to manually release lap belt and could not locate release lever as a result of the following possibilities:

a. Could not locate release lever due to obstruction by clothing (outer suit).

b. Could not see through fogged or iced up visor.

c. Had interference from parachute arming lanyard spring in vicinity of lap belt lever.

d. Could not reach lever due to spinning of the seat (after 4 second delay) causing arms to flail outboard.

e. Rotary actuator forced body in jack knife position over lap belt when lap belt failed to release.

RECOMMENDATIONS:

1. That the headrest spacer be immediately removed from all aircraft.
2. That the shoulder harness attachment point be flattened out by reworking shoulder harness and attachment material.

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3. That the lap belt automatic release mechanism be reworked to prevent tension or side load binding of the pawl latch lever.
4. That the shoulder harness loops be sewn to prevent slipping over the pawl latch lever housing.
5. That the underside surface of the headrest ramp and the top surface of the drogue parachute pack be provided a smooth interface.
6. That the eight nuts and bolts on the front of the seat securing the rotary actuator straps be reversed.
7. That the rotary actuator (man/seat separator) straps be repositioned to provide maximum forward thrust to the man/parachute mass.
8. That face plate emergency heater development be expedited to prevent visor fog or frost up on ejection.
9. That a readily accessible manual lap belt release lever be developed.
10. That a D-ring cable cutter be installed.
11. That the development of the protective cover for the oxygen controller assembly be expedited.
12. That a test be conducted to determine the effect of the 2 cushions now available on man/seat separation.
13. That all crew members and Life Support personnel be advised of the possibility of emergency oxygen lead safety clip interference with lap belt release mechanism.
14. That all future modifications to the ejection system receive thorough testing and qualification prior to issuance of TOTO kits or service bulletins.



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SHEAR PIN TEST

EXTRACTED FROM LOCKHEED INVESTIGATION REPORT, 16 JANUARY 1967

The AQ-292 lap belt shear screw was examined and tested for proper material and functioning. The test results and material qualifications are as follows:

A. Screw failed at 171 pounds in double shear. Friction between plates is estimated at 5 to 10 pounds.

B. Prior to manufacture of screws the bar stock was identified and tested. Tensile specimens were obtained from each end of bar with the following results.

100 parts from Bar AOL 2  $F_{tu}$  64.6 KSI to 64.1 KSI

220 parts from Bar AOL 2  $F_{tu}$  64.6 KSI to 64.1 KSI

280 parts from Bar AOL 21  $F_{tu}$  65.9 KSI to 65.8 KSI

C. In addition, ten screws from each lot were tested in double shear with the following results.

100 parts made from AOL 2 and received 19 August 1963 reference P.O. 36349 Invoice No. 71669. The range in double shear is 142.0 to 162.4 pounds.

200 parts made from AOL 2 and received 14 February 1964 reference P.O. 43674 Invoice No. 79195. The range in double shear is 151.8 to 166.0 pounds.

280 parts made from AOL 21 and received 18 February 1965 reference P.O. 43624 Invoice No. 93354. The range in double shear is 155 to 173 pounds.

D. Conclusion -

The above test on the single AQ-292 shear screw is within acceptable tolerances.

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TO: Investigation Board 13 January 1967

FROM: [REDACTED] (Approved Seat Mech.)

SUBJECT: LAP BELT RELEASE MECH. & ROTARY ACTUATOR (BUIT SWAPPER).

ROTARY ACTUATOR 1925 - 555

	<u>DRIVE SHAFT</u>	<u>TAKE-UP ON HARNESS</u>	<u>PISTON TRAVEL</u>
Test # 1	Sheared	Approx 9"	Approx 2.2 inch.
Test # 2	Did Not Shear	Approx 14"	Approx 2.3 inch.
Test # 3	Sheared	Approx 9"	Approx 2.2 inch.
Test #4	Did Not Shear	Approx 14"	Approx 2.3 inch.

NOTE: A. Vertical lines of deposits inside of actuator indicated no added travel after burn out on all (4) tests. Article 125 actuator had approximately  $\frac{1}{4}$ " clean area at end of stroke past deposit build-up area.

NOTE: B. All units including Article 125 unit had unit internal gas pressure at time of opening of unit.

LAP BELT TESTS

- A. All belts fired and released.
- B. "O" Ring seal in all (4) test units blew out over one half of "O" Ring in line with gas entry into unit.
- C. Plungers on all units had slight to moderate release marks.
- D. Small light marks were made at time plunger was pushed out of case with small screw driver.
- E. Shear Pins -- sheared in all units and were crushed against cap.
- F. Belt release hooks showed light to moderate release marks.
- G. Heavy sootting and overshadow on hooks could have been caused by continued flow of gas from ruptured "O" Ring.
- H. Article 125 Lap Belt Release -- Belt fired and shear pin was found against cap. Heavy release marks were found on hook assembly.
- I. Test by hand of Lap Belt Release showed that only slight pressure was required to release hook on test unit. Hooks on all units were free to flop open or closed. Only when acute angle with heavy pressure did the lap-belt fail to open.

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SURVIVAL EQUIPMENT FUNCTIONAL CHECK

1. URT-21 Locator Beacon
  - A. Transmits on telescopic antenna
  - B. No transmission on flexible antenna
2. Life Raft
  - A. CO2 actuator functioned
  - B. Several holes in raft.
3. Ruck Sack
  - A. CO2 inflator broken
  - B. Numerous holes in rubber bag
4. Paddles
  - A. Edges broken
5. Signal Mirror
  - A. Smashed in sock acting as outer protection
6. Compass
  - A. Lens cracked
  - B. Body warped
7. Extra Battery - URC-4
  - A. Badly broken
8. Life Raft Patch
  - A. Broken wing nut
9. Morphine Syrette
  - A. Broken - contents empty
10. Penlight
  - A. Unuseable - crushed

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11. Weapon

- A. Scope bent and displaced
- B. Shoulder stock bent
- C. Barrel plug with dirt

12. Ammunition

- A. Box crushed
- B. Numerous rounds unserviceable

13. Insect Repellant

- A. Plastic bottle squeezed, contents emptied

14. URC-4 Radio

- A. Totally unserviceable - smashed

15. Candles

- A. Crushed

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S T A T E M E N T

Date: 9 January 1967

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Duty Phone: 3212 25X1A

Name: [REDACTED]

Grade: [REDACTED] 25X1A

AFSC or Job Title: Staff Weather Officer

Organization or Address: [REDACTED]

Accident - A-12, #125, 5 Jan 67  
Accident/Incident

I have been advised in accordance with the provision of AFR 127-4 that the purpose of this investigation is to determine all facts relating to the above accident, and in the interest of accident prevention to preclude recurrence. I understand that it is not to obtain evidence for use in disciplinary action, or for determining pecuniary liability or line-of-duty status, or to revoke commission or remove from the active list under the provisions of AFR 36-2 or for use before a flying evaluation board.

Age: 42 Assigned Duty: Staff Weather Officer

Flying Experience: 6413:35 25X1A

The weather briefing was given by [REDACTED] and is included in the official tape transcript.

Previous refueling and weather scout reports indicated the AAR was clear. This was discussed with [REDACTED] prior to the formal briefing. 25X1A

[REDACTED] was contacted by [REDACTED] while being suited and was given the latest runway condition at Hill, AFB (IRO6) and Fallon NAS (LSR BRAG). 25X1A 25X1A

At approximately 1245 PST the command post was notified of our amended wind warning for surface gusts to 45 knots from 300 degrees. (See attachment 1)

A NE-SW oriented cold front was moving SE through the accident site at an average speed of 21 knots at the time of the accident. Hourly positions of this front are indicated in attachments 2 thru 7. Surface winds in advance of the front were averaging SW at 25 knots. Surface winds behind the front averaged NW at 30 knots with gusts to 45 knots.

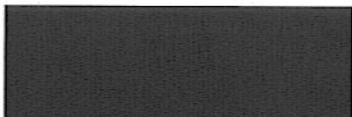
The weather conditions at the time of the accident are indicated in attachment 10.

Temperatures and winds for the cruise portion of the flight profile are shown in attachment 8.

The winds which have been analyzed to affect the flight profile of the aircraft from 80,000 feet to impact are listed in attachment 9.

Locally available upper air sounding (RAOB) data from [REDACTED] indicates that contrail formation was probable from 32,500 feet to 41,000 feet in the vicinity of the crash. Contrarily, data from [REDACTED] indicated that contrails should be nil at all altitudes. All available data has been forwarded through Air Weather Service channels for detailed evaluation by the best experts available. A tentative suspense of 12 Jan 67 has been provided for a reply. Additionally; the recovery chase pilot for Dutch 23, which landed at 2203Z from the North, indicated no contrails were observed; and the chase pilot for Dutch 45's 2nd AR reported no contrails on descent to the tanker. This flight profile was 100 nautical miles north of the crash site and occurred two hours before the time of the accident. 25X1A 25X1A

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ADDITION TO ORIGINAL WEATHER STATEMENT DATED 9 JAN 67 TO ACCIDENT BOARD

17 Jan 1967

A subjective and computer analyses performed at Global Weather Central, Offutt AFB, Nebraska, indicated the probability of contrail formation from 34,000 feet to 54,700 feet in the area of the accident.



Staff Weather Officer

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SEVERE WEATHER WARNING LOG ISSUED BY DETACHMENT 1, 3D WEATHER WING O/L 3	DATE: 5 JAN 67
AREA EFFECTED: [REDACTED] 25X1A	VALID/TIME: 5/ 1330 TO 2400P
1. SURFACE WINDS SOUTHWESTRLY (240°) AT 15 KTS, GUSTING TO 25, OCNL GUSTS TO 35 KTS UNTIL 1500L. WINDS SHIFTING TO NORTHWESTERLY AT THAT TIME AT TWENTY KTS, GUSTING TO 35KTS, OCNL GUSTS TO 45 KTS. 2. CROSSWINDZ COMPONENT 30 KTS UNTIL 1500L.	
AREA EFFECTED:	VALID/TIME:
AREA EFFECTED:	VALID/TIME:
AREA EFFECTED:	VALID/TIME:
ATTACH NO <u>1</u>	
FORECASTER [REDACTED]	TIME CALLED/DELIVERED TO CP <u>1330</u> RECEIVED BY (CP) _____

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OPERATIONS AND WITNESS GROUP

Investigation of major accident involving A-12 Aircraft S/N 125 which occurred at [REDACTED] on 5 January 1967

## A. HISTORY OF FLIGHT:

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On 5 January 1967, [REDACTED] was scheduled to fly Article Number 130 on a routine training flight with a 1000 local takeoff. At the 0730 operations briefing Article 130 was cancelled for maintenance. [REDACTED] DCOT, substituted [REDACTED] for [REDACTED] sortie scheduled for a 1200 takeoff in Article 125. The mission included two air refuelings and two cruise performance legs. Mission planning was accomplished by the mission planning staff. Two F-101 aircraft were scheduled as chase aircraft for applicable portions of the mission.

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The formal briefing for the pilot and chase pilot was conducted at 1030 by the operations staff. Prior to 1030, [REDACTED] had conducted informal briefings with [REDACTED] on mission requirements. [REDACTED] suited on schedule after which he was driven to the aircraft.

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The aircraft had been pre-flighted by the maintenance ground crew in accordance with existing procedures. The Interior Pre-Flight, Starting Engines and Before Taxiing checks were accomplished without discrepancy.

The aircraft was taxied to the runway and cleared for takeoff. Takeoff was 1159 local. The first refueling was scheduled in Yuletide Special Operating Area with a 2015Z ARCT and a 31,000 pound on load. Initial contact was established at 2018Z and air refueling completed at 2035Z 10NM beyond end refueling point with an actual transfer of 36,000 pounds. [REDACTED] in Dutch 45 stated that was all the fuel he could take. During the climb, [REDACTED] reported moderate turbulence from 48,000 to 52,000 feet and that a circuit breaker popped which would not reset, disengaging the auto pilot. [REDACTED] reported that due to the turbulence he was changing his climb schedule.

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Dutch 45 made a report 657NM DTG to position six. This is ten miles past his planned level off point at which he should have been at 75,800 feet with 42,000 pounds fuel. He reported at 66,000 feet with 45,000 pounds fuel.

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At first cruise "how goes it" check point, (1:06 flight time) [REDACTED] reported 36,700 pounds, actual fuel against 36,100 pounds programmed. The entire leg was above fuel program running from 500 pounds at first check point to 1100 pounds at position eight. There was no deviations plotted from the planned track.

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At the start descent point of 260NM DTG (distance to go) from the second ARCP in the Yuletide Area, [REDACTED] was 1100 pounds above the planned fuel and four minutes late, (1:47 flight time) at level off altitude of 29,000 feet, 52NM DTG, fuel remaining was 14,000 pounds. Twenty-two miles later, [REDACTED] reported he was below Bingo fuel. This meant fuel remaining is below 11,500 pounds. He lost an additional two minutes due to the 52 mile level off instead of the scheduled 20 mile bottom out point. After UHF contact with his tanker, Cute 57, [REDACTED] stated "I want my fuel right now." Refueling was completed with four disconnects and a climbing flight path from 30 to 33 thousand feet for the last six minutes of refueling. The tanker pilot stated the refueling was average or better. At end of refueling, Dutch 45 was advised his position was over Current VOR (2:35 flight time) and on load was 61,000 pounds, 1000 pounds over briefed. [REDACTED] stated he needed another 4 to 5 thousand pounds. He was advised by the the tanker pilot they had refueled the chase plane with 4,000 pounds prior to [REDACTED] refueling and there was no more fuel available.

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██████████ contacted Bungalow and advised he was around 4000 pounds short and would have to cut short his turning point on the second cruise control leg. He requested this information be passed to all agencies.

Dutch 45 gave a report at planned level off where he should have been at an altitude 75,800 feet with 42,400 pounds of fuel. He gave his altitude as 71,800 feet with 40,300 pounds of fuel. This is 2100 pounds below the fuel curve. Twenty seven miles later he reported his level off altitude as 74,000 feet with 39,800 pounds of fuel remaining. Since he was still climbing, he would be approximately 2300 pounds below the curve.

After this point there are two more entries on ██████████ Dictect that mention fuel, however, they do not include a location or DTG from a fix. The tape had been severely damaged in the wreckage and only small pieces of the last portion have been recovered. There is insufficient information to plot actual fuel consumption for the second cruise control leg.

The FAA Center and the Signal Conditioner and Data Monitor (SC&DM) printout, both plot out very well together and show the route flown very close to "as briefed" with the pilot electing to fly the complete mission. Verification of the times show the actual flight continued to run four to six minutes late during the entire second cruise leg.

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25X1A 25X1A at 2320Z (3:21 flight time) the ██████████ Two minutes later ██████████ on his first HF voice transmission reported he was just rolling out of the far east turn and running 800 to 1000 pounds short on fuel which he expected to make up. His planned fuel at this point was 23,300 pounds. This would give him an actual of 22,300 pounds.

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25X1A ██████████ last fuel check point is Position 16, Cimarron, N.M., 13,800 pounds of fuel is required if he is to continue to home plate. If he has less than 13,800 pounds he was briefed to land at Albuquerque. The flight plan time to this point is 3:36. ██████████ passed Position 16 at 3:42 flight time proceeding towards home plate. At 23:45Z, 3:46 flight time, ██████████ reports he is abeam Farmington with 7500 pounds of fuel and he cannot explain the excessive loss of fuel but thinks he can make home plate okay. Normal fuel consumption would have put him abeam Farmington with 11,800 pounds of fuel.

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At approximately 305NM from the Base, 3:49 flight time, the SC&DM shows a reduction of speed. At 260NM, 3:51 flight time, the SC&DM indicates leaving altitude 74,100 feet with a continuous descent. At 23:52Z ██████████ reports on HF that he is 200NM out with 4600 pounds of fuel remaining. At 23:56Z he reports 130NM out with 4000 pounds. At 23:56.49Z he reports 120NM with 3900 pounds and he should be able to make to home plate. At 0000:26Z he reported 85NM and 2700 pounds. At 0001:56Z he reported, "I'm going to have to jump out of this thing at 22 (two ██████████ interrupt transmission) - flaming out." The ██████████ showing low fuel started at that time and continued till 0002:24Z at which time total power was lost or aircraft impacted with the ground. Total flight time was estimated at 4 hours 3 minutes. ██████████ flying recovery chase, observed the aircraft nose over, enter a steep dive and disappear into the undercast. He was an estimated two miles distance from ██████████ and did not observe the ejection. At time of impact the aircraft was estimated to be in a 69 degree dive angle, wings near level. The scatter pattern of wreckage was on an average heading of 240 degrees magnetic. Captain Sharp witnessed the crash while flying in an F-105 at approximately eight thousand feet at an estimated five miles Northeast of the impact point. Due to twilight in addition to a frontal passage the wreckage was not located till 2306Z on the 6th of January at 37 degrees 15' N and 114 degrees 30' W.

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Dictect tape.

These studies confirmed the finding of the investigation team and the units mission planning team that there was no abnormal fuel usage except for the two times in flight when the fuel total reaches 14,000 pounds then decreases rapidly to around 11,000 pounds. On [REDACTED] last two HF voice contacts he reports at 1601:34, "Roger, the vis - ah -OK, 25X1A I just got a fuel low pressure light on everything". Twenty-two seconds later he reports, "Roger, I'm going to have to jump out of this thing at 22 - flaming out". His voice was interrupted by [REDACTED]. Since the altitude does not appear relevant to this comment, the Accident Board is of the opinion [REDACTED] was transmitting the totalizer fuel gage reading of 2200 pounds just prior to flame out. This 2200 pounds indicates that the engines flamed out before the quantity gage reached zero. A previous fuel gage calibration indicated a 650 pound error on the high side with this quantity remaining.

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#### C. ANALYSIS OF WITNESS STATEMENTS:

a. There were two witnesses who observed the final stage after flame out of Article 125. Both witnesses were commissioned pilots in the U.S. Air Force. However, their reports contained no significant information relative to the cause of fuel starvation which caused the accident. These two statements are included under Tab N.

#### D. FINDINGS:

1. The pilot was on an authorized flight and adequately briefed.
2. The pilot was a qualified instructor pilot, current and proficient in the aircraft.
3. Even though the descent from altitude was through a band of strong headwinds, weather is not considered to be a factor in the accident.
4. The Dictect tape has no provisions for separating remarks that might have been made minutes apart.
5. The Control tower time hack was found to be three minutes in error.
6. The time recorded on the SC&DM print out was found to be in error five minutes.
7. The pilot reported 7500 pounds of fuel remaining 388 NM from the base when 7500 is the fuel reserved required over the base. At this point a landing could have been made at Albuquerque.
8. The pilot initiated descent under known low fuel conditions into a strong head wind earlier than planned.
9. Refueling procedures should be revised. During the second refueling the chase airplane refueled ahead of [REDACTED] and took 4000 pounds of fuel which if available for [REDACTED] would have probably enabled the Article to return to home base.

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E. RECOMMENDATIONS:

1. The Dictet be redesigned to allow a break between each conversation

2. The WWV time hack be transmitted simultaneously to all using agencies.

3. Fuel reserve points should be positively identified as a "Go no Go" point in order to arrive over the alternate with the briefed fuel reserve.

4. Local procedures be published for training refueling missions that:

a. The tanker will have required and scheduled fuel aboard plus 10,000 pounds, conditions permitting.

b. Chase missions are scheduled so that no possibility of interference with refueling of the primary receiver occurs.

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MATERIAL FACTORS GROUP REPORT

INVESTIGATION AND ANALYSIS

Investigation of major accident involving Article #125, 5 January 1967 indicated the aircraft impacted on the down slope of a 45 degree hill in a near wings level, upright position in a 69 degree nose down attitude. The wreckage was strewn over an area approximately two miles long on a magnetic heading of approximately 240 degrees near Leith, Nevada. The aircraft was intact and structurally airworthy prior to impact.

Examination and analysis of the aircraft and components revealed the following pertinent items:

1. The canopy had been ejected.
2. The seat had been ejected.
3. The engines flamed out simultaneously.
4. The aircraft completely disintegrated on ground impact. The Dicted tape was partially destroyed on impact with the ground.
5. The Signal Conditioner and Data Monitor (SCDM) tape was partially destroyed on impact with the ground.
6. The over the shoulder cameras were missing from the canopy.
7. A lower wing fillet came off prior to ground impact.
8. There was no inflight fire or explosion.
9. There were six small local area fires subsequent to ground impact.
10. Due to complete desintegration of the aircraft and components on impact, engine, hydraulic oil, fuel, flight control, electric, electronics, and structural integrity could not be specifically determined.
11. Examination of the wreckage and instrumentation data did indicate that:
  - a. The aircraft did not have a structural, engine, flight control or electric/electronic failure prior to flameout and/or impact.
  - b. The engines did flame out and AC power was lost at 0067 nautical miles from destination.
  - c. The over shoulder camera did separate from the canopy on canopy release.

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d. Readability of the SCDM, Dictet, and Flight Recorder tapes was difficult because of partial disintegration. (See Tab V).

- e. The possibility of an erroneous fuel indication have existed.
- f. The possibility of a fuel leak have existed.
- g. The possibility of actual fuel exhaustion existed.

The Dictet, SCDM and Flight Recorder tapes verified many of the above items. Fuel leak tests were conducted and indicated that under certain conditions the possibility existed whereby fuel could have been lost causing fuel exhaustion. Fuel reading tests were conducted and indicated that under certain conditions the possibility existed whereby fuel reading could read higher than the actual on board quantity. These tests were conducted by ADP personnel in conjunction with the accident board and specific results are contained in the Fuel Section of this report.

C. Findings:

1. The aircraft was structurally airworthy prior to impact.
2. There was no fire or explosion in flight.
3. Excessive time and effort was expended in locating the canopy.
4. Both over-shoulder cameras separated from the canopy when the canopy was jettisoned.
5. A large part of the recovered "Dictet" tape was unusable.
6. Variable frequency AC power was available up to the time of engine flameout.
7. After engine flameout, the batteries provided DC power up to the time the last transmission was made on UHF. DC power was most probably available until the airplane impacted.
8. There was no evidence to indicate a failure of the regulated AC power system (inverters).
9. Engine flameout occurred at a point 67 nautical miles from the home base at a ground speed of 383 knots.
10. The location of the Dictet recorder was conducive to major damage of the tape.

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11. The existence of a gauging error causing the quantity indicator to read high until approximately 14,000 pounds of fuel remaining is considered possible.

12. A requirement exists for a more positive method of determining fuel quantity aboard the aircraft during ground fueling of the aircraft.

13. Fuel quantity calibration procedures are not ideal in that the calibration is not made in the sequence the fuel is used.

14. Changing of a fuel probe could change system calibration significantly.

15. The probability of a fuel leak causing a loss of fuel is considered remote.

D. Recommendations:

1. That action be initiated to establish a method of identifying and locating the canopy after inflight ejection.

2. That action be initiated to modify the attachments for the over-shoulder cameras to prevent them from separating from the canopy at the time of ejection and/or ground impact.

3. That action be initiated to install the "Dictet" on the canopy in such a manner as to withstand canopy jettison forces and/or ground impact.

4. Consider the replacement of Dictet recorders with a better designed device which has standard tape speeds and better fidelity.

5. Explore the possibilities of modularizing the tape cassette portion of the Signal Conditioner and Data Monitoring equipment with the objective of making it crash and fire proof to further insure recovery of undamaged tape.

6. Establish a requirement to defuel aircraft after flight, comparing the fuel indicator quantity and off loaded quantity. A differential limit should be established.

7. On all ground fuelings the aircraft should be filled from a zero-fuel condition and then fuel off loaded to desired fuel quantity. Tolerances must be established for difference in indicator and tanker readings, both at the full and off load points.

8. Fuel tank dip stick capability should be provided.

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9. A requirement for fuel system calibration should be established when any major component in the fuel system, such as a probe, is changed.

10. Fuel system quantity calibration procedures should be changed to conduct the calibration in the sequence the fuel is used from the tanks.



RAY C. GORDON JR., Lt Col, USAF  
Directorate of Aerospace Safety

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### MAINTENANCE GROUP REPORT

1. Maintenance forms and records for Article 125 were reviewed to determine if any outstanding discrepancies existed which could have contributed to the accident and to determine if any reoccurring discrepancies relating to aircraft performance, aircraft fuel system, and engine performance existed.

A list of discrepancies for flight 193, 19 Oct 66, thru flight 203, 30 Dec 66, relative to aircraft performance, aircraft fuel system and engines is included as an attachment to this report. Also a summary of maintenance and modification activity starting with the week ending 27 Oct 66 and ending 5 Jan 67 is attached.

One recurring discrepancy involved the right inlet aft bypass door circuit breaker. This discrepancy existed through flight 202 but was not reported on flight 203 and was not mentioned by the pilot on the accident flight as a problem.

A second recurring discrepancy was a right wing heavy condition reported on flight 200. This condition required a 1 1/2 degree left roll trim. Corrective action was a check of rigging with contour boards. Rigging was satisfactory. The condition existed again on flight 201.


A discrepancy which could be related to a loss of fuel was written upon 9 Dec 66 following flight 201. The right fuel flow was approximately 5-7000 pounds higher than the left on subsonic descent and also on landing. Corrective action consisted of a ground check on the trim pad which was satisfactory. A note was made in the flight test engineers log requesting a flight check. Two flights were made subsequent to 201 and prior to the accident flight without any similar writeup.

A discrepancy which could have related to a subsequent gauging error was noted during the week ending 17 Nov 66. This discrepancy involved a 6000 pound difference between indicated totalizer and indicated sum of the individual tanks. After trouble-shooting, the indication system control unit was judged to be unstable and it was replaced. A subsequent fueling check was satisfactory. During the next fueling, the same discrepancy was again observed. This time the problem was traced to a bad probe in tank #3.

All outstanding Service Bulletins and Shop Authorized Modifications were reviewed to determine if their compliance had any bearing on the accident. Five outstanding service bulletins involved the fuel system. There was no evidence to indicate that non compliance with these bulletins had any bearing on the accident.

2. All maintenance records and forms were properly maintained and no discrepancies were noted.

FINDINGS: There was no evidence that maintenance practices were a cause factor in this accident.

  
ARTHUR G. SMITH  
Propulsion Engineer  
DIG/IS

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FLIGHT SQUAWKS AND CORRECTIVE ACTION FROM FLIGHT 193, 19 OCT 66 THRU 203,  
30 DEC 66, RELATIVE TO FUEL SYSTEM, LIFE SUPPORT SYSTEMS, AND AIRPLANE  
PERFORMANCE

25X1A

Flight 193 - [REDACTED] - 19 Oct 66

1. Right aft bypass circuit breaker popped in flight: Ground checked system OK.
2. Engine failure and precautionary landing at Kirtland: Malfunctioning Tt<sup>2</sup> sensor; replaced engine.

25X1A

Flight 194 - [REDACTED] - 22 Oct 66

1. Normal and emergency fuel dump inoperative: Found and replaced broken wire.
2. Right fuel low pressure light in pattern with tanks 4 and 5 feeding: Ground checked system OK.

25X1A

Flight 195 - [REDACTED] - 1 Nov 66

1. A/B's cannot be retarded to min A/B stop without going out: Rerigged throttle linkage.

25X1A

Flight 196 - [REDACTED] - 3 Nov 66

None pertinent

25X1A

Flight 197 - [REDACTED] - 18 Nov 66

1. Unable to transfer forward to tank #1: Replaced forward transfer selector switch.
2. Fuel dump came on and off occasionally when fuel dump was attempted in normal position: No corrective action since it was assumed fuel level in #4 tank was at 4000 lb level.

25X1A

Flight 198 - [REDACTED] - 22 Nov 66

1. R/H engine runs out of uptrim below 350 KEAS at 3.12 MN. EGT at this point is 790°: Within limits; no action.
2. Aft bypass door circuit breaker pops during descent. Won't reset during descent. OK when subsonic and during climb: Changed wiring for L/H door control. Installed test circuit breaker to isolate L/H system from R/H.

25X1A

Flight 199 - [REDACTED] - 1 Dec 66

1. Left throttle beomes very stiff once aircraft is accelerated to cruise: Lubed L/H throttle linkage and engine pulleys which were found to be dry.

2. Tank #1 made 500 lbs on both descents: Replaced jet pump in fuel tank #2.

25X1A

Flight 200 - [REDACTED] - 7 Dec 66

1. Right wing heavy during cruise. Requires 1 1/2° left roll trim: Checked rig with contour boards OK.

25X1A

Flight 201 - [REDACTED] - 9 Dec 66

1. Had to use EBL (emergency boom latch) on both tankers: Readjusted contact mode switch.

2. Ran out of trim on R/H engine at cruise: Raised EGT trimmer stop 38°C.

3. Still have right wing heavy condition.

4. R/H fuel flow approximately 5-7000 lbs higher than left on sub-sonic descent same on landing: Ground check was OK.

25X1A

Flight 202 - [REDACTED] - 14 Dec 66

1. Aft bypass circuit breaker pops during deceleration: Replaced selector switch and door override relay.

Flight 203 - [REDACTED] - 30 Dec 66

25X1A

None pertinent

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MAINTENANCE AND MODIFICATION ACTIVITY RELATIVE TO FUEL SYSTEM  
AND AIRPLANE PERFORMANCE FROM AFTER FLIGHT 193 THROUGH 5 JAN 67.

Week Ending 27 Oct 66

1. Both engines replaced for Tt<sup>2</sup> sensor change.
2. Completed Shop Action Memo No. 159, Fire Can Abrasion, Fuel

Scavenge Line.

Week Ending 3 Nov 66

None Pertinent

25X1A

Week Ending 10 Nov 66

1. [REDACTED] checked all wiring in aft bypass system. Replaced left and right switch boxes and actuators.
2. Opened fuel tanks for inspection for brown gummy deposit.
3. Washed brown deposit from all fueling pilot valves and 1/4" sense lines. Also checked operation of all float switches.

Week Ending 17 Nov 66

1. During fueling, a 6000 lb discrepancy between indicated totalizer and indicated sum (of individual tanks) was noted. After troubleshooting, the indication system control unit was judged to be unstable and it was replaced. A subsequent fueling check was satisfactory. During the next fueling, the same discrepancy was again observed shortly after the fueling operation was initiated. This time the problem was traced to a bad probe in tank #3. The probe was replaced and subsequent operation was satisfactory.

18 Nov through 1 Dec 66

Reset zeroes on fuel quantity system.

Week Ending 8 Dec 66

None Pertinent

Week Ending 15 Dec 66

None Pertinent

Week Ending 15 Dec 66

1. Replaced L/H forward bypass actuator
2. Replaced R/H AIC hot box.
3. Repaired tank sealant in tanks 3 and 4.
4. Completed Service Bulletins:
  - 1006 - IFR Interphone
  - 1061 - Relocate Fuel Shutoff Valves

22 Dec 66 through 5 Jan 67

1. Made check on full fuel calibration.
2. Completed Phase I Inspection.
3. Completed time compliance replacement of following ejection system ordnance: [1] 1075-5, [1] 1977-12, [3] 1981-11, [1] 1985-11, [1] 1982-11, and [1] 2149-11. Note: "[ ]" indicates total number of individual parts.

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STRUCTURAL, FIRE AND EXPLOSION GROUP

Investigation of major accident involving A-12, Article #125, 5  
January 1967.

A. Aircraft Impact: Examination of the impact marks on the ground and the wreckage indicated the aircraft impacted on the down slope side of a 45 degree hill in a near wings level, upright position in a 69 degrees nose down attitude. The scatter pattern of wreckage was on an average heading of 240 degrees magnetic. Upon impact, the aircraft disintegrated with almost complete absence of fire. Five or six small fires resulted from TEB and hot metal particles. The scatter pattern along the flight path from the point of impact is shown in Wreckage Diagram (Tab Y). The wreckage was removed to home base and placed on a plan form diagram (Photo Nr. 5 ).

B. Investigation and Analysis:

1. Examination of the wreckage revealed complete disintegration upon impact. The largest piece was a portion of the vertical stabilizer, approximately 4'x5'. All identifiable components were examined. Examination revealed the aircraft was intact immediately prior to impact with the exception of a lower wing fillet and the canopy and seat. Witness to the accident did see what appeared to be contrails; however, no inflight fire was observed by the witnesses. There were six small local area fires subsequent to impact resulting from the TEB and hot metal fragments impinging upon dried brush. Other burned structural parts found in the impact area were examined to determine whether or not the burning took place prior to impact. All burning was indicative of post impact fire.

2. One of the lower wing fillets was found approximately four miles back along the flight from the point of impact indicating the aircraft speed was in excess of 450 KIAS. The modification of this part is specified in Service Bulletin #890 (Lower Fillets). This S.B. had not been completed prior to the accident flight, but is not considered applicable to this accident. Particular emphasis was placed on assembly of all recovered fuel system components, cockpit components and other suspect areas; however, examination revealed no malfunctions within any of these systems.

3. All three landing gear parts, engine parts and other heavy components were downstream from the impact point. This indicates the aircraft, although contacting the ground in an upright position, then disintegrating, did so in a skipping motion causing the majority of the pieces to continue along the flight path for a considerable distance.

4. When the pilot initiated the ejection sequence, the canopy separated from the aircraft in a normal manner and impacted in an inverted position at approximately 45 degrees. The canopy was not located until the fifth day after the accident. It became necessary to use ground search parties on foot to find the canopy because it could not be sighted from helicopters. Both over-the-shoulder cameras were missing from the canopy. Investigation indicated that the left camera and attachment bracket came off in a downward and slightly rearward direction. The right camera, camera bracket and a 23 1/4 inch by 6 inch piece of fiberglass canopy sill came off in a downward and rearward direction. Both cameras came off when the canopy was ejected.

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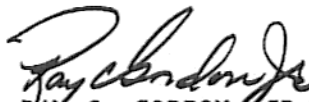
5. The "Dictet" tape although recovered in the main wreckage area was badly damaged and torn during impact. Intensive search recovered many small pieces of the tape. These pieces were matched together and some data was derived; however, many of the important items of information were lost due to the poor condition of the tape.

C. Findings:

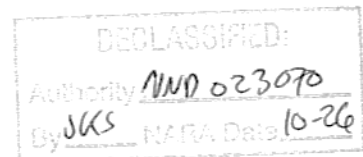
1. The aircraft was structurally airworthy prior to impact.
2. There was no fire or explosion in flight.
3. Excessive time and effort was expended in locating the canopy.
4. Both over-shoulder cameras separated from the canopy when the canopy was ejected.
5. A majority of the recovered "Dictet" tape was unusable due to its poor condition.

D. Recommendation:

1. That action be initiated to establish a method of identifying and locating the canopy after inflight ejection.
2. That action be initiated to modify the attachments for the over-shoulder cameras to prevent them from separating from the canopy at the time of ejection and/or ground impact.
3. That action be initiated to install the "Dictet" on the canopy in such a manner as to withstand canopy ejection forces and/or ground impact.

  
MAX C. GORDON, JR, Lt Col, USAF  
Directorate of Aerospace Safety

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PROPULSION FUEL AND OIL SYSTEM GROUP REPORT

I. Engines:

a. YJTL1D Engines SN's P648209 and P648243 were installed in the left and right nacelles respectively at the time of the accident. The engines were installed on the 28th and 29th of October 1966, prior to flight 195. The only significant engine write up from flight 195 until the accident flight was a write up for high fuel flow on the right engine during subsonic descent. This discrepancy occurred during the flight 201 on 9 Dec 66. No corrective action was taken since a ground check was satisfactory; however, a check on the next flight was requested. No further write ups on this discrepancy occurred after flight 202 on 14 Dec 66 and flight 203 on 30 Dec 66. However, no positive statement was made subsequent to either flight that fuel flows were satisfactory during subsonic descent. No mention of unequal fuel flows was made by the pilot of the accident flight on either the communications tapes or the recovered portions of the "Dictet" tape.

b. Examination of the wreckage at the crash site revealed that both engines impacted with the aircraft. Due to the extreme disintegration of both engines it was impossible to determine the condition of either engine prior to the impact. The pilot's statement on the communication tapes indicate that both engines flamed out at the same time as a result of low fuel pressure.

c. Past engine problems involving loss of fuel due to engine fuel system plumbing failure were considered. The only significant finding was an occurrence during flight 81 of Article SN 129 on 31 Dec 1964. Review of pertinent data from this flight showed an instantaneous increase in fuel flow of 18,000 pounds per hour, a drop in exhaust gas temp of 150°C and an increase in engine speed of 350 RPM. With these indications of malfunction available to the pilot it is believed that had it occurred on the accident flight he would have recognized the offending engine and taken appropriate corrective action.

II. Fuel System:

a. The aircraft and engine fuel systems were totally destroyed by impact. The only recognizable components recovered were pieces of fuel boost pumps and some severely mutilated fuel lines with flange fittings.

Due to the total destruction it was not possible to determine the integrity of the fuel system prior to aircraft impact. Therefore the investigation was concentrated on malfunction analysis of the fuel system to determine possible sources of fuel leakage and gauging errors which could explain both apparent losses of fuel; (1) on descent to the second aerial refueling, and (2) after passing position 16.

It was noted that both fuel losses occurred after the total fuel indicated quantity was at approximately 14,000 pounds of fuel remaining. There were no other similarities. For example, the first loss occurred on descent near 29,000 feet altitude with engines at 6800 RPM, whereas the second loss occurred during cruise at [redacted] and approximately 74,000 feet altitude. Therefore, the malfunction seems to be related to the quantity of fuel remaining rather than any other parameter.

b. In considering fuel leakage as a possible cause of fuel loss, the total fuel system was reviewed and potential leaks were divided into two categories; (1) those leaks which would show up on the fuel flow indicators, and (2) those that would not. The rationale here is that the pilot would have observed an unequal fuel flow indication; therefore, those potential leaks which fell in category (1) are considered least likely.

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It is possible to match leakage rates with the fuel reported lost by the pilot. For example, during that portion of the flight from position 16 to the reported 7500 pounds of fuel remaining, 4000 pounds of fuel is apparently lost in 4 minutes for a rate of 1000 pounds per minute (60,000 pounds per hour). This could be caused by several leaks which show at least this rate of leakage. However, it is noted that the rate of fuel loss is significantly less after this initial loss which means that the characteristic of the leak must change to match the lesser rate. This is highly unlikely. In addition the leak would have to occur each time the fuel quantity reaches 14,000 pounds and stop at any higher quantity which again is highly unlikely.

At approximately 1400 pounds remaining the number 3 tank would be nearing empty and the number 4 tank boost pump would be starting which suggests that pumping of the fuel overboard when the number 4 tank boost pumps start is a possible cause factor. A test was run with the boost pump outlet connection loose and only 1 gallon per minute could be pumped overboard. Since this rate was much too low to account for the quantities lost this possibility was discarded.

c. The fuel quantity gauging and indicating system were reviewed for possible malfunction. It was noted that during the week ending November 17, a fuel gauging malfunction occurred. This malfunction resulted in the total fuel quantity gauge reading 6000 pounds higher than the sum of the individual tanks. The malfunction resulted from grounding of the shield on the rear probe of number 3 tank. A test was conducted on Article 131 with a fuel load approximating the load on the accident aircraft. The objective of the test was to determine the effect of a fuel quantity probe lifted ground on the total quantity gauge with a wet and dry probe at 6 degrees and 0 degrees fuselage reference angle. The thought was that with a 6000 pound plus error existing in tank 3 or 5 due to a lifted ground or a false ground that the error would disappear when the tank was empty thus approximating the condition reported by the pilot. The test proved that the error existed whether the probe was wet or dry. The only possibility of this type of error being a factor would be if the ground lifted (open circuit) while fuel was in the tank and closed when the tank was empty. This is a possibility particularly since current flows in the system are low and a light contact is sufficient to make a good connection. Also the connection is at the bottom of tank where the buoyancy effect of the fuel would be lost when the tank went empty.

Additional tests were conducted adding resistance to the probe ground circuit and any quantity error up to the maximum for a given probe could be obtained.

The fuel loading sheet filled out for the accident flight was reviewed. The total indicator showed 5950 pounds of fuel prior to fueling. According to the system calibration which was performed on 21 Sep 1966, the corrected reading was 5150. Two refueling trucks loaded a total of 47,300 pounds of fuel giving a total of 52,450 pounds of fuel aboard the aircraft prior to engine start. The total indicator then showed 53,000 pounds corrected to 52,600 pounds which compares favorably. However it is not known how accurate the totalizer system was since no method exists for measuring the liquid level in the tanks. Any error present in the system prior to refueling would also show up after fueling and since totalizer readings are used in both calculations the errors would balance out. The only positive method of checking the totalizer at each fueling is by dipping the tanks or starting from a known empty condition. Another possible method is to completely fill the tanks and then off load a measured quantity to the desired load. None of these methods were used.

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It was also noted that during a quantity check of the number 4 tank after complying with Service Bulletin 1061, the system calibration had apparently changed. This may have been due to the replacement of the left probe in number 3 tank during the week ending November 17 which was discussed above. A complete system calibration was not made following this replacement.

A review of the fuel system calibration procedures was made. Two procedures; one dated 15 April 1966 and one dated 31 August 1966, were in effect. The earlier procedure was used to calibrate Article 125. The only difference is that the latter procedure requires weighing the aircraft during refueling which serves as a cross check of both the indicating system and the tanker readings. The calibration is made by filling each tank separately in 1000 pound increments until all tanks are full. The order of filling is tank 4, tank 3, tank 5, tank 2, tank 1 and tank 6. There is a discrepancy in that the totalizer error at a given quantity depends on the distribution of this quantity in the various tanks. Therefore, the most accurate method of calibration is to fill the system and defuel in the sequence the fuel is used in flight.

d. The pilot reported that the fuel tanks were full after the first refueling; however, the tanker aircraft commander stated that the fuel off load flow rate at this time was between 1000 and 2000 pounds per minute. This corresponds to 60,000 to 120,000 pounds per hour which is considerably higher than the combined engine fuel flow rates during refueling. It therefore appears that the aircraft was not full at the time of disconnect even though the quantity indicator was reading full.

Findings:

1. The existence of a gauging error causing the quantity indicator to read high until approximately 14,000 pounds of fuel remained is considered possible.
2. A requirement exists for a more positive method of determining fuel quantity aboard the aircraft during ground fueling of the aircraft.
3. Fuel quantity calibration procedures are not ideal in that the calibration is not made in the sequence the fuel is used.
4. Changing of a fuel probe could change system calibration significantly.
5. The possibility of a fuel leak causing a loss of fuel is considered remote.

Recommendations:

1. Establish a requirement to defuel aircraft after flight comparing the fuel indicator quantity and off loaded quantity. A differential limit should be established.
2. On all ground fuelings the aircraft should be filled from a zero-fuel condition and then fuel off loaded to desired fuel quantity. Tolerances must be established for difference in indicator and tanker readings, both at the full and off load points.

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3. Fuel tank dip stick capability should be provided.
4. A requirement for fuel system calibration should be established when any major component in the fuel system, such as a probe, is changed.
5. Fuel system quantity calibration procedures should be changed to conduct the calibration in the sequence the fuel is used from the tanks.

*Arthur G. Smith*

ARTHUR G. SMITH  
Propulsion Engineer  
DIG/IS

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ELECTRICAL, ELECTRONIC AND INSTRUMENT GROUP

A. ELECTRICAL SYSTEM:

1. System Description.

a. The airplane was equipped with two engine-driven AC generators, having an output of 30 KVA, 3-phase variable frequency current. Each generator furnishes power to the left and right AC busses respectively. An automatic and manual means is provided to open the contactor of a failed generator and close the bus tie contactor so that one generator can energize both busses. One generator can furnish sufficient power to energize both busses indefinitely. The left bus furnishes power to eight fuel booster pumps, left engine fuel shutoff valve, fuel cross feed valve, HF communication, UHF blower, left EGT control power, inertial navigation system (INS), Nr 1 nitrogen heaters, left transformer-rectifier (T-R) unit, and special electronic equipment. The right bus furnishes power to eight fuel booster pumps (total 16), right engine fuel shutoff valve, Q-Bay equipment, Nr 2 nitrogen heaters, right EGT control power, right T-R unit, and the trim actuator transformer. The latter provides 26 volts AC power for the following trim actuators: manual pitch, automatic pitch, yaw and roll.

b. The outputs of the two T-R units are connected in parallel to the DC essential bus and the DC monitored bus. Each T-R is rated at 200 amperes and one of them is capable of providing the entire DC load indefinitely. Emergency DC power is provided by two silver-zinc batteries having a capacity of 25 ampere-hours each. In the event both T-R units fail, the batteries supply power to the DC essential bus only. All DC loads are powered by the essential bus except the Q-Bay and INS equipment which is connected to the monitored bus.

c. The regulated AC power source is provided by three solid state 600 VA inverters. Each inverter furnishes power to individual loads. A fourth identical inverter is used as an emergency source of power. It can be switched to any of the three individual loads by manual means.

2. Investigation and Analysis.

a. The generators were the only recognizable electrical items at the immediate point of impact. The force of the high speed impact reduced all electrical components to a state that precluded comprehensive analysis. A review of transcriptions from HF and UHF air-ground communication showed that there was no difficulty reported in regard to the electrical/electronic system except a circuit breaker which opened at repeated intervals. A later report on the Dictet tape indicated that the same circuit breaker had remained engaged during the leg of the flight being reported at that time. A review of the maintenance history showed that previous difficulty was experienced with a circuit breaker associated with the aft by-pass door system. The actual identity of the circuit breaker opening in this flight was determined, in subsequent testimony, to be an auto pilot circuit breaker.

b. Further review of the air-ground UHF transcription showed that the pilot reported engines flamed out at a distance of 67 nautical miles from home plate on a radial of 100 deg. true. The generator contactors would be expected to open at this time. The loss of both generators would preclude further HF operation including [redacted] signals. At this particular time it is believed that the last communication on UHF was accomplished with that equipment being powered by the batteries.

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c. There were no lamps recovered from any system to enable filament analysis to determine illumination at impact time. This is not unusual when considering the type of impact involved.

B. ELECTRONIC SYSTEM:

1. System Description.

a. The electronic system contained numerous sub-systems, particularly those associated with the flight control system.

b. The communication system included:

(1) AIC-18 interphone system for communication with the ground crew and for voice input to the Dictet recorder.

(2) ARC-50 UHF Communication.

(3) 618T single sideband (SSB) HF communication.

(4) [REDACTED]

25X1A

c. The navigation system included:

(1) ARC-50 UHF communication.

(2) ARA-50 UHF/DF in conjunction with the ARC-50.

(3) DF-203 LF/MF ADF.

(4) ARN-52 TACAN.

(5) 914-X-1 IFF/SIF transponder.

(6) Inertial navigation system (INS).

d. The recording systems included:

(1) Dictaphone recorder, trade name: "Dictet". This device records events and briefed information requirements for the record and de-briefing purposes. The tape transport operates only when the TRANSMIT-INTERPHONE switch on the stick grip is held on the INTERPHONE position. The recording medium is standard one-quarter inch mylar type.

(2) Lockheed flight recorder, Model 109C/M. This is a modified version of the Model 109C which is used by civil air carriers. The modifications were necessary to provide for higher speed and altitude information in consonance with the performance of the A-12 aircraft. It is installed in the RH chine approximately ten feet aft of the cockpit. It records airspeed, altitude, heading and vertical acceleration against a time base which is a function of tape speed and time pips punched on the tape. The recording method is mechanical (four traces inscribed on aluminum alloy or inconel tape by four styli, one for each parameter).

(3) Signal Conditioner and Data Monitor system (SCDM). The recorder utilizes one inch mylar tape and records 10 parameters:

(a) Plot Number (Map position)

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(b) Angular Rate (rate at which payload is positioned with reference to vertical). The constant reading of this value on the transcription of the recovered tape is not pertinent for investigation purposes.

- (c) Roll (in degrees).
- (d) Pitch (in degrees).
- (e) Altitude (in hundreds of feet).
- (f) Heading (in degrees).
- (g) Elapsed Time (in seconds)
- (h) Ground Speed (in knots).
- (i) Longitude (in degrees).
- (j) Latitude (in degrees).

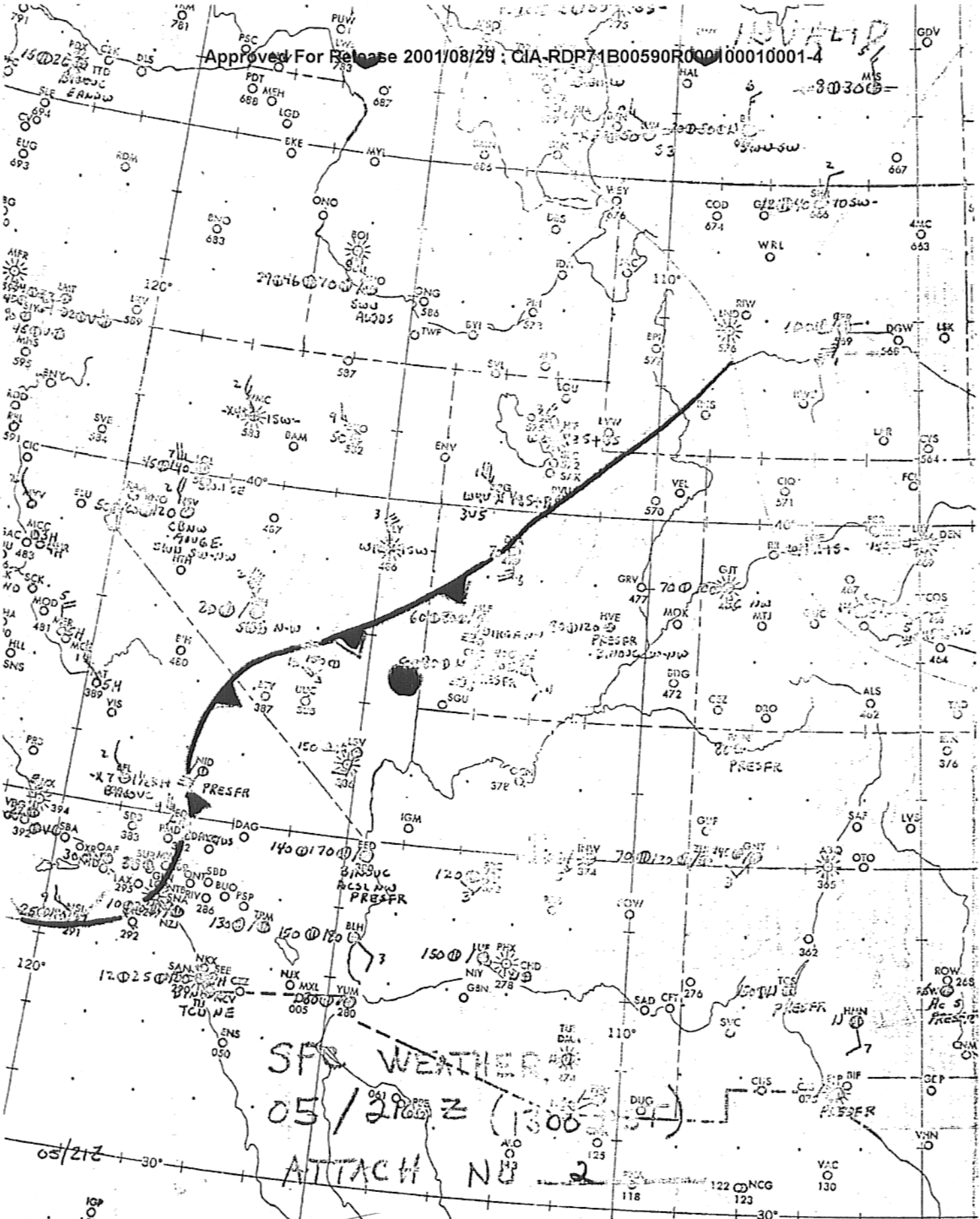
(4) Two cameras, canopy-mounted, recording an over-the-shoulder view of the instrument panel.

## 2. Investigation and Analysis.

a. The major components of the electronic system (black boxes etc.) had no value for investigative purposes since the impact damage was extensive. Useful information was derived from the Dictet tape and the SCDM tape (see Tab V). The continuous length of Dictet tape recovered contained conversation from engine starts up to point along the final westbound leg at or shortly after the final turn. The broken pieces recovered could not be placed in consecutive order since some parts of each layer were missing. In addition, there is no assurance that all of the recorded tape was recovered. A total of eighteen broken pieces were recovered, the longest (27 inches) which most likely would have been recorded earlier than the shorter pieces, varying in length from 2 1/4 inches to 4 3/8 inches. It was estimated that not more than one fourth of the available Dictet tape was used, based upon the amount of tape that was on the supply reel. The Dictet recorder was installed on the structure immediately aft of the left side of the ejection seat. This location is not conducive to crash and fire resistance with the objective to recover undamaged tape. A better location for the recorder in this type of aircraft would be the canopy, since this item always escapes fire damage if the ejection system is used and is usually recovered in its entirety. Ejection over deep water would pose an additional problem.

b. The SCDM recorder is likewise not crash-resistant. However, a considerable amount of useful information was obtained from tape recovered therefrom (see Tab V).

c. The Lockheed flight recorder, Model 109C/M was designed to be crash-resistant. Its crash-resistant properties are greatly reduced by installing it in the chine. Devices of this kind have to be installed as far aft as possible or have ejection capability at the critical time. In this type of aircraft, either method is considered unsound since the entire system is self-contained and defies a means of ejection. Relocation further aft poses a problem not worth solving since it records only four parameters and would require considerable engineering effort. In addition, the method of data recovery is somewhat crude based on state-of-the-art concepts and the data accuracy can only be considered approximate when compared to data from the SCDM system, telemetry systems, or modern flight recorders, the recoverable portion of which concerns only the tape cassette and a means to find it by including a beacon in the recoverable package. The tape recovered from the crash recorder included portions that were not continuous. This flight was recorded up to a point in the final turn corresponding to a heading of approximately 215 degrees magnetic. The remaining portion of recorded

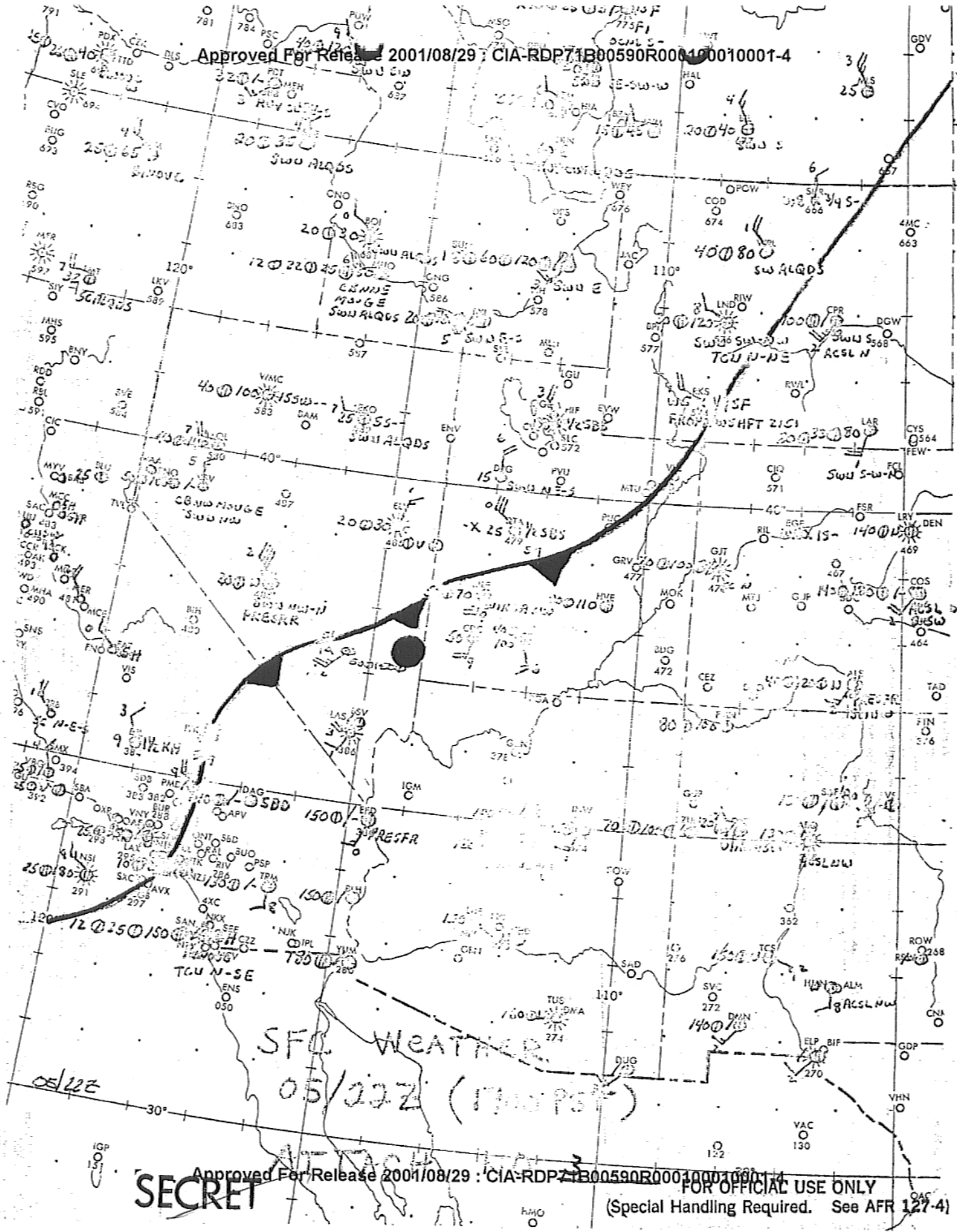


SPR WEATHER

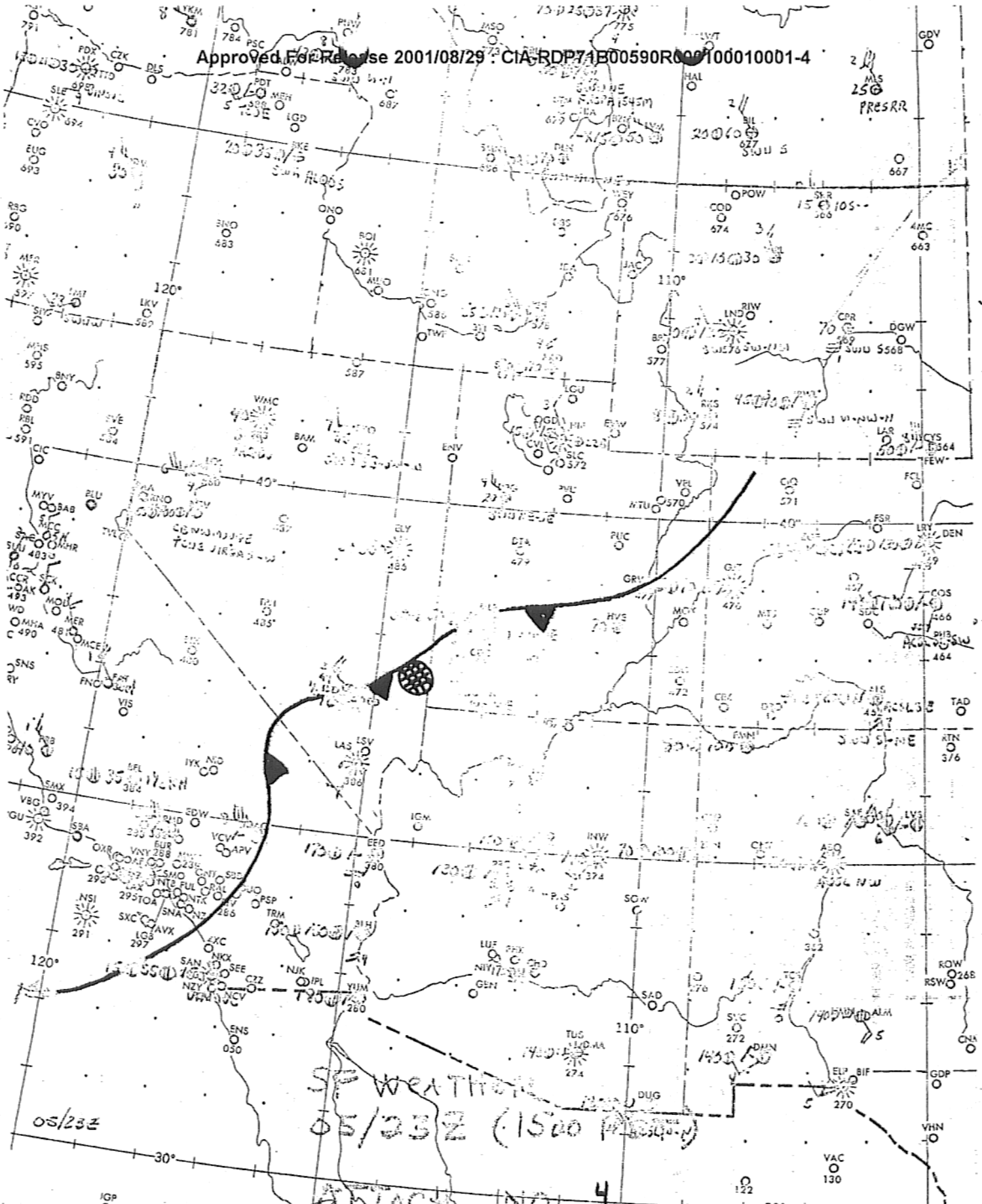
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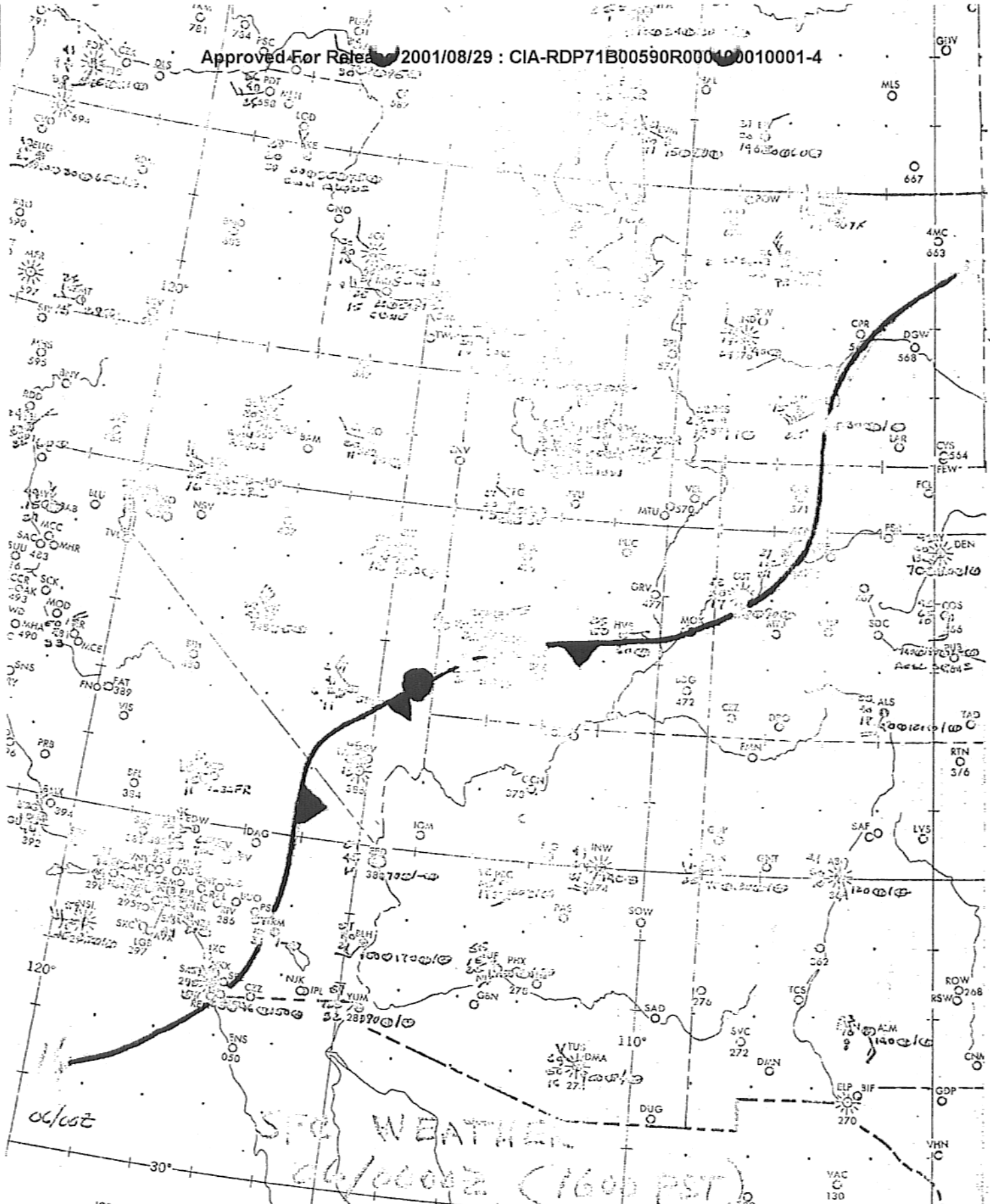
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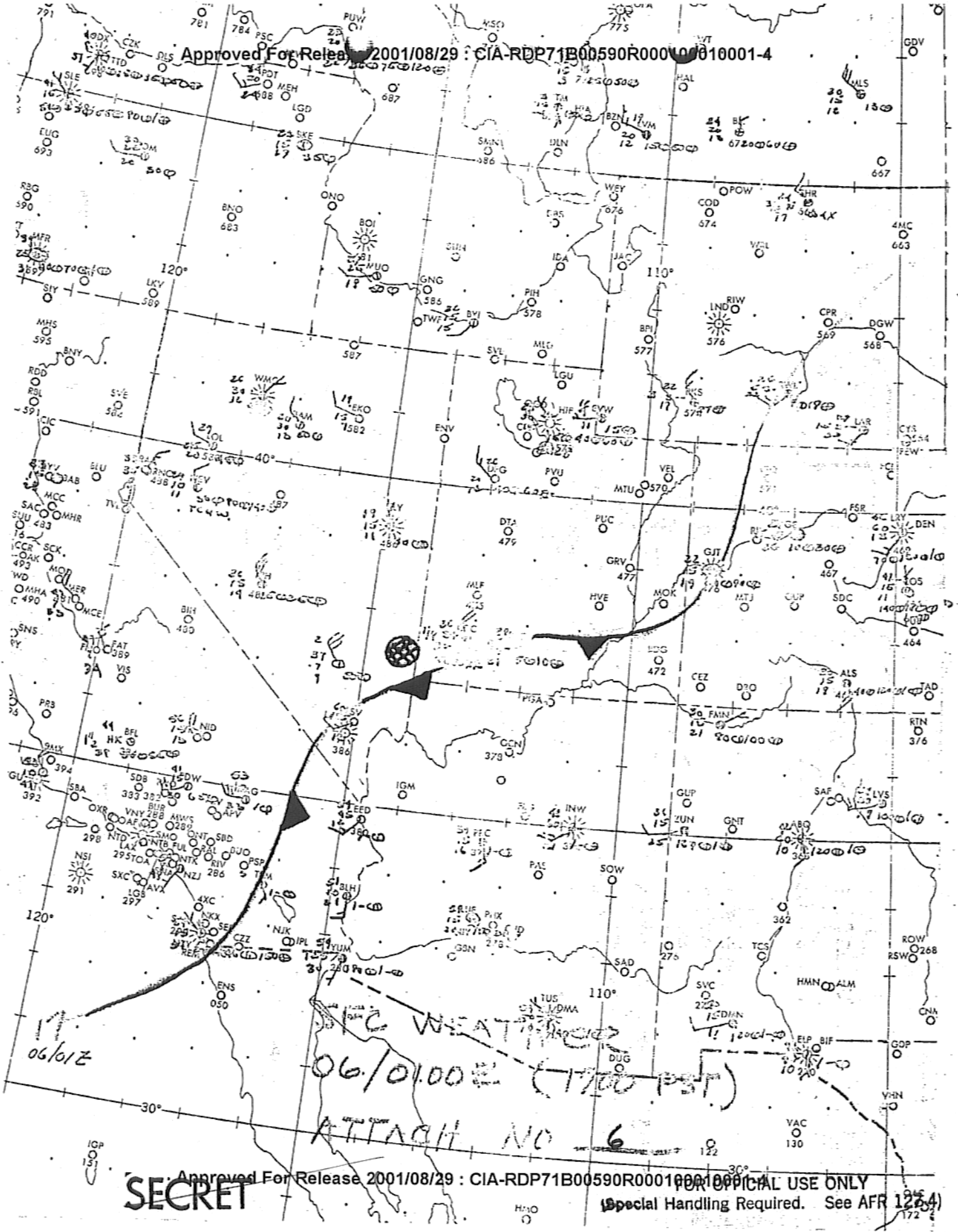
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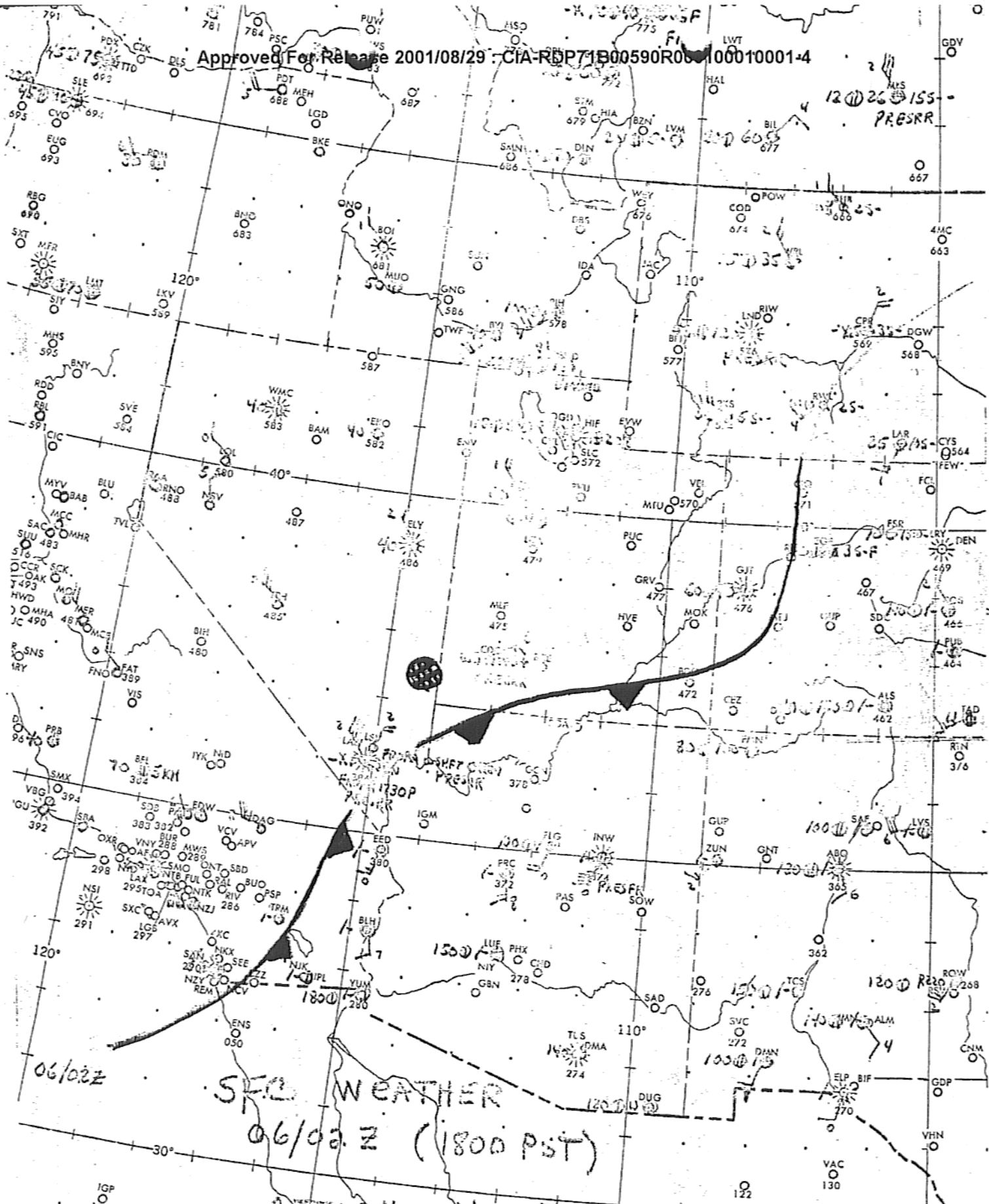


WPC WEATHER  
 06/0100 (1700 EST)

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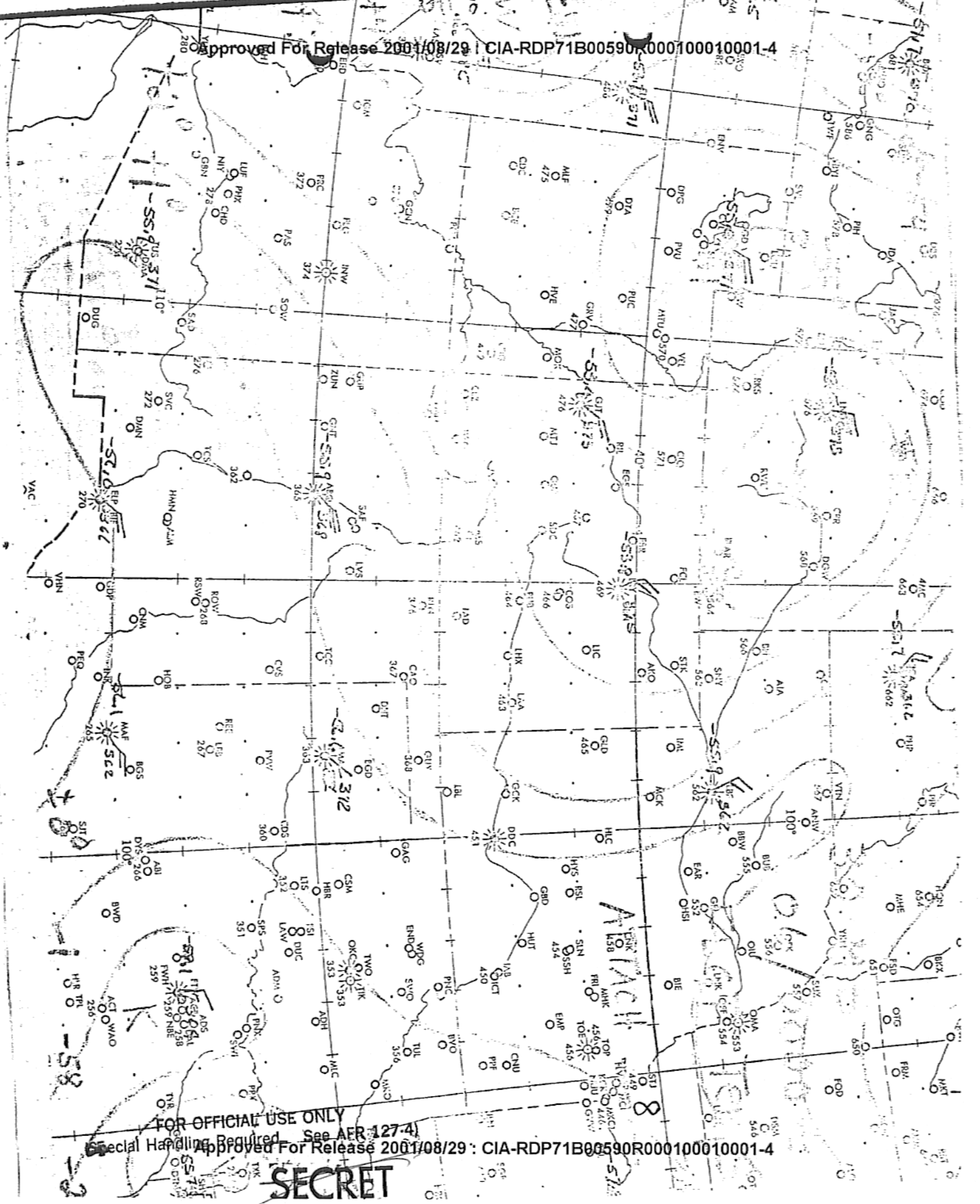
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WIND PROFILE FOR TRAJECTORY OF AIRCRAFT  
FROM 80,000 FEET TO THE SURFACE

<u>ALTITUDE</u>	<u>WIND</u>	
800	030/35	1. True Direction
700	010/21	2. Speed in knots
600	350/17	3. Alt in hundreds of feet
550	280/28	
500	270/40	
450	270/70	
400	270/100	
350	270/105	
300	260/100	
250	270/100	
240	270/105	
230	275/100	
200	280/90	
180	280/90	
160	280/75	
140	280/60	
120	275/50	
100	270/40	
90	260/39	
80	250/39	
70	250/35	
60	240/30	
50	240/25	
SFC	010/35	

Atch 9

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STATEMENT OF WEATHER CONDITIONS AT TIME OF ACCIDENT

The estimate of the weather at the accident site at the time of the crash was:

1. Clouds: 9,000 - 10,000 MSL bases of overcast  
18,000 MSL tops of overcast.  
Clear above and below this layer.
2. Surface winds: 010 degrees at 30 to 40 knots.
3. Precipitation: Snow showers to the north and northwest but not reaching the crash site until 10 minutes after the accident.
4. Estimated surface pressure at 06/0000Z 1000 MB (29.64 Alt. Stg). Estimated 3 hour pressure tendency prior to 00Z-zero. Estimated tendency subsequent to 00Z plus 8 millibars.

Above estimates are based on:

1. Pilot reports:
  - a. [REDACTED] (Cloud tops measured where D-45 was observed to enter clouds in dive).
  - b. Capt Sharp, 4526th CCTS, Nellis AFB, Nevada. (Bases of cloud as D-45 exited from them). (Wind and precip to north while orbiting crash scene).
2. Cold front and associated weather moving through area. See attachments 2 thru 7.

25X1A

NEAREST OFFICIAL WEATHER OBSERVING STATION.

The weather observed at the closest official weather station (Cedar City, Utah) at the time of crash was:

CDC 06/0000Z Estimated 5000 ft broken, visibility 30 miles, surface winds 240 degrees at 15 gusts to 22 knots.

This station is approximately 73 nautical miles ENE of the crash site.

One hour prior (05/2300Z) the weather at Cedar City was: 5000 ft scattered, visibility 30 miles, surface winds 210 degrees 17 gusts to 25 knots. Remarks-- Stratocumulus line west thru northeast horizon.

One hour after: (06/0100Z) Special observation. Indefinite 200 ft, visibility one eighth of a mile with heavy snow, surface winds 350 degrees 18 knots. Remarks----Snow began 30 minutes past the hour, wind shift at 1730 M, pressure rising rapidly.

NOTE: OBSERVED WEATHER CLOUD BASES AT CEDAR CITY ARE HEIGHTS ABOVE GROUND

Atch # 10

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INFORMATION TRANSCRIBED FROM REMAINS OF SC & DM TAPE

1. Mission Number: 67T007
2. Tape Number: INS010
3. Date: 5 January 1967
4. Aircraft Number: 125
5. SIP Pack Number: 000000
6. Camera Number: 101870
7. Ref Start Time (Zulu): 193746
8. Ins Pack Number: H11J11
9. Recorder Number: F02G01
10. Explanation of Columnar Headings:
  - a. Plot Number: Map position
  - b. Roll: In degrees
  - c. Pitch: In degrees
  - d. Altitude: In hundreds of feet
  - e. Heading: In degrees
  - f. Elapsed Time: In seconds (subtract 974 seconds for time after takeoff (Takeoff Time 11:59 PST))
  - g. Ground Speed: In knots
  - h. Longitude: In degrees
  - i. Latitude: In degrees

Note: Takeoff time was 1159 PST. Subtract 1274 from seconds shown in elapsed time column to obtain time after takeoff.

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ANG RATE	ROLL	PITCH	ALT	HEADING	ELAPSED TIME	GROUND SPEED	LONG	LAT
U00291	00003	00050	00749	01007	12699	01789	09337	03812
U00291	00005	00051	00745	01007	12727	01791	09307	03808
U00291	00007	00055	00744	01022	12785	01793	09249	03800
U00291	00287	00051	00754	01107	12841	01783	09189	03792
U00291	00315	00053	00751	01237	12880	01791	09152	03778
U00291	00282	00064	00754	01372	12917	01801	09120	03760
U00291	00251	00058	00773	01523	12965	01791	09089	03730
U00291	00305	00048	00773	01653	13012	01793	09069	03695
U00291	00283	00062	00767	01816	13060	01797	09059	03656
U00291	00295	00057	00772	01878	13079	01792	09059	03640
U00291	00303	00047	00774	02023	13126	01785	09066	03602
U00291	00282	00050	00765	02133	13164	01784	09082	03573
U00291	00299	00054	00759	02277	13202	01789	09103	03546
U00291	00306	00057	00762	02398	13240	01794	09131	03526
U00291	00290	00054	00765	02533	13278	01797	09166	03512
U00291	00292	00057	00769	02653	13316	01798	09203	03503
U00291	00270	00059	00778	02778	13354	01794	09242	03501
U00291	00153	00056	00793	02848	13401	01775	09288	03506
U00291	00125	00045	00780	02888	13439	01773	09325	03513
U00291	00001	00054	00766	02898	13477	01777	09361	03521
U00291	00003	00057	00768	02898	13515	01777	09398	03531
U00291	00045	00055	00773	02908	13553	01769	09435	03539
U00291	00009	00046	00772	02913	13591	01761	09470	03549
U00291	00964	00041	00753	02908	13628	01772	09507	03559
U00291	00989	00052	00740	02873	13666	01781	09543	03569
U00291	00901	00051	00747	02848	13704	01778	09580	03576
U00291	00006	00045	00749	02848	13742	01775	09617	03582
U00291	00968	00044	00739	02838	13780	01785	09655	03589
U00291	00977	00048	00735	02823	13818	01797	09693	03596

ANG RATE	ROLL	PITCH	ALT	HEADING	ELAPSED TIME	GROUND SPEED	LONG	LAT
U00291	00999	00048	00739	02828	13856	01801	09731	03601
U00291	00983	00044	00738	02823	13894	01805	09770	03606
U00291	00004	00053	00741	02813	13931	01811	09808	03611
U00291	00997	00054	00748	02823	13960	01808	09836	03616
U00291	00988	00044	00752	02813	14007	01803	09885	03621
U00291	00002	00045	00745	02813	14045	01810	09925	03626
U00291	00020	00052	00741	02808	14083	01817	09963	03631
U00291	00014	00050	00749	02812	14121	01816	10002	03636
U00291	00981	00052	00754	02803	14159	01811	10042	03641
U00291	00016	00050	00759	02803	14206	01804	10090	03646
U00291	00010	00047	00760	02803	14244	01801	10128	03649
U00291	00011	00052	00759	02793	14282	01801	10168	03654
U00291	00993	00046	00761	02793	14320	01796	10207	03657
U00291	00015	00046	00755	02788	14357	01801	10245	03661
U00291	00013	00046	00752	02793	14396	01807	10285	03664
U00291	00000	00048	00751	02788	14433	01812	10323	03667
U00291	00006	00050	00753	02788	14471	01814	10363	03671
U00291	00982	00045	00759	02783	14518	01809	10412	03676
U00291	00000	00047	00753	02773	14556	01810	10451	03679
U00291	00983	00051	00756	02778	14594	01807	10490	03681
U00291	00929	00047	00762	02788	14632	01795	10530	03684
U00291	00974	00041	00756	02788	14670	01792	10568	03688
U00291	00985	00044	00745	02773	14707	01797	10607	03691
U00291	00918	00043	00743	02788	14745	01796	10646	03694
U00291	00014	00041	00738	02778	14783	01804	10685	03698
U00291	00975	00042	00734	02778	14820	01813	10725	03699
U00291	00017	00048	00737	02768	14877	01821	10783	03704
U00291	00020	00045	00746	02773	14915	01820	10823	03706
U00291	00992	00043	00748	02773	14962	01822	10873	03709
U00291	00000	00044	00748	02768	15009	01831	10923	03711
U00291	00006	00036	00761	02768	15047	01797	10961	03714

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ANG RATE	ROLL	PITCH	ALT	HEADING	ELAPSED TIME	GROUND SPEED	LONG	LAT
0291	0958	042	741	275.8	15141	1552	110.53	37.18
	0983	011	466	272.3	15724	538	113.90	37.24

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# USAF ACCIDENT INCIDENT INDEX

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12 January 1967

FORWARD TRANSFER SEQUENCING TEST - SHIP 132

PROCEDURE:

Defuel the airplane to

- 1            0
- 2            0
- 3            0
- 4            4000/5000
- 5            0
- 6            0

All boost pump breakers set

Start engines

Run at Idle

Engage L & R generators

Start forward transfer (normal)

Pump sequencing:

1. Tank #1 goes off on fwd xfer 

NORM	4 ONLY
✓	✓
2. Tank #1 comes on when Tank 4 is low - Read Tank 4 at this point. 400
3. Switch to 4 only transfer and note that Tank 1 stays on the line. STAYED ON

END TEST

25X1A

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col. Row

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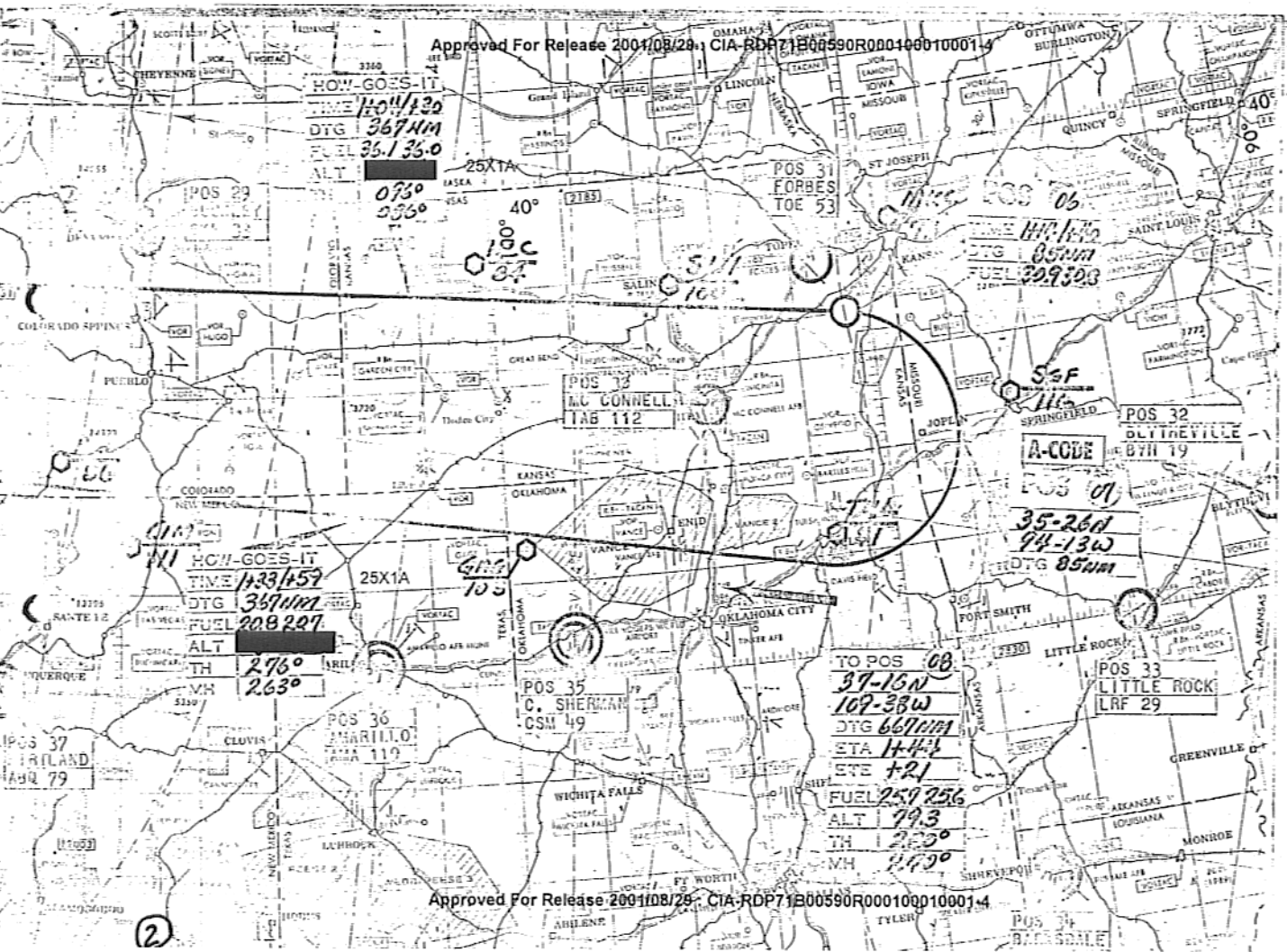
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BASE ALTITUDE DESIGNATORS  
THRU 31 MARCH 67  
FL600 ALFA  
FL700 JULIETT  
FL800 WHISKEY  
FL900 SIERRA

TIME 3102/146  
DTG 2371114  
FUEL 31.0 31.0  
ALT [REDACTED]  
TH 0990  
MH 0920

24 Fix  
38-47N  
97-39W  
2+50/136  
DTG 3501114

POS 14  
TIME 3107/145  
DTG 263283  
FUEL 263283

A-CODE

POS 15  
34-56N  
92-46W  
DTG 04 NM

POS 30  
MC CONNELL  
TAB 112

SGR  
116

RRG  
92

POS 32  
BLYTHEVILLE  
BYH 19

103

HOW-GOES-IT  
TIME 3125/104  
DTG 316 NM  
FUEL 10.5 10.5

POS 35  
C. SHERMAN  
OSM 49

POS 31  
FORT SMITH

LT  
86

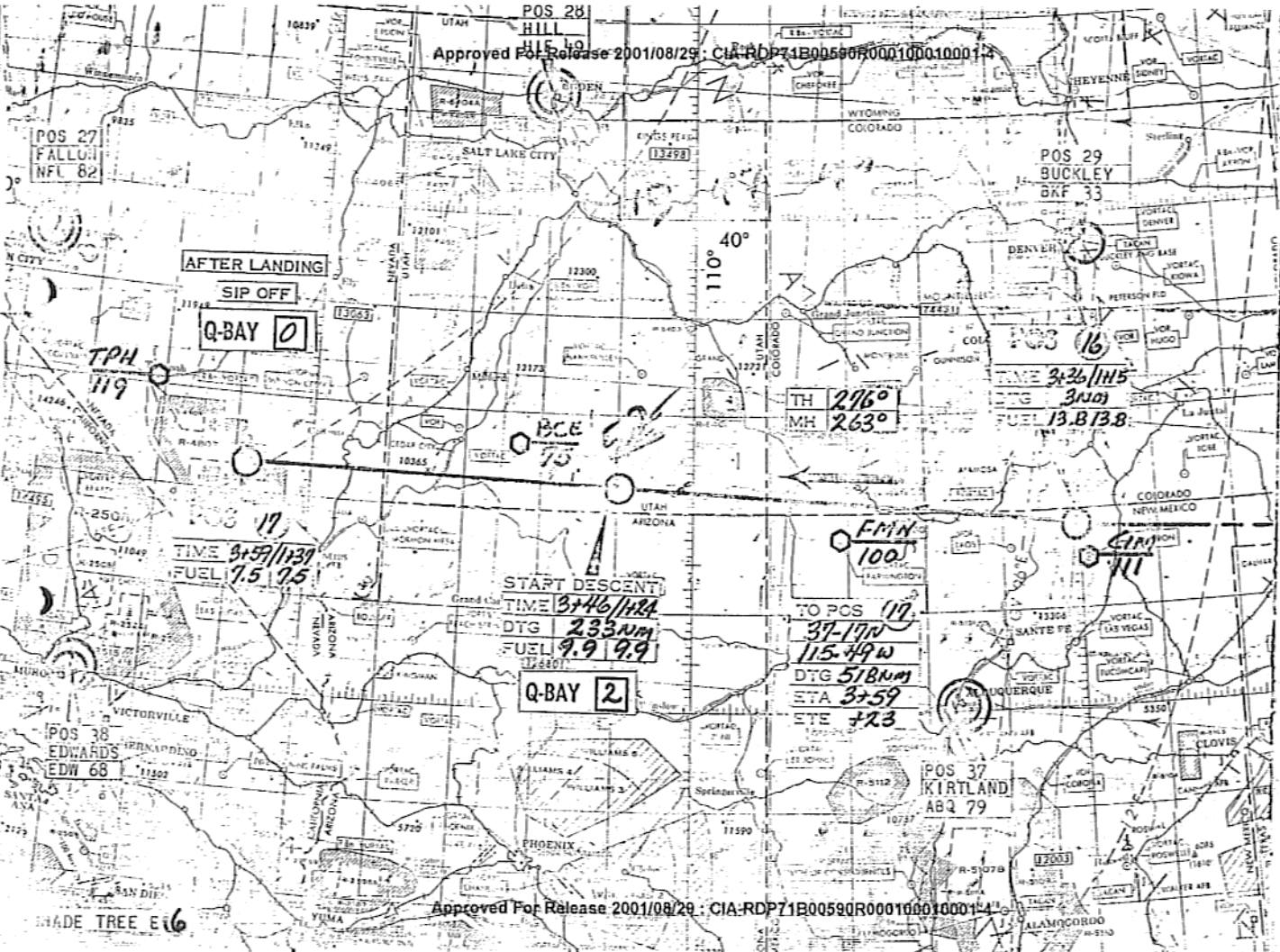
TO POS 16  
35-50N  
105-00W  
DTG 616 NM  
ETA 3736  
ETE 117

POS 33  
LITTLE ROCK  
LRF 29

FUEL 23.3 23.3  
ALT [REDACTED]  
TH 2830  
MH 2770

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PHOTOGRAPHS

Accident Scene and Wreckage

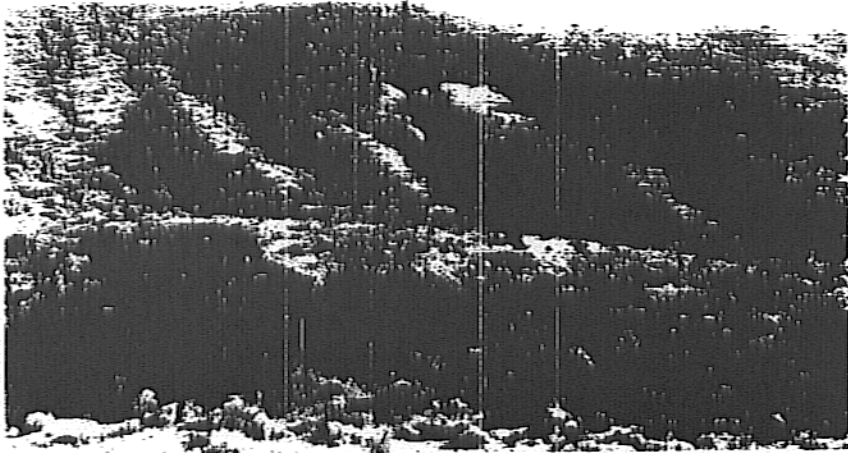
Photo  
Number:

1. Impact point
2. Angle of Impact
3. Largest Piece of Wreckage
4. Major Components Reassembled
5. Total Recovered Wreckage
6. INS - Last Distance to Go and Ground Speed Readings

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NEG. NBR.

22

12 JUN 1957

NEG. NBR.

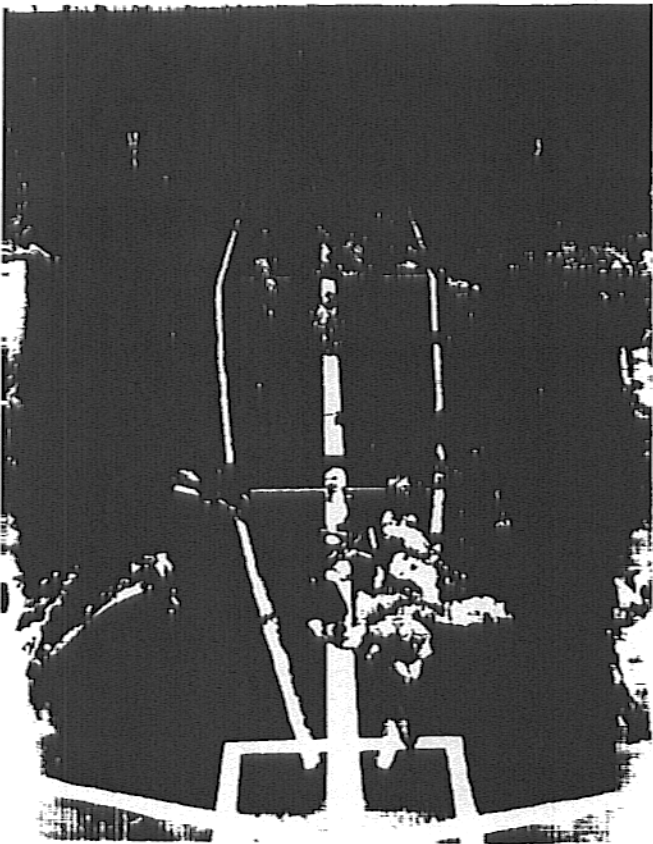
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12 JUN 1957





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NEG. NBR.

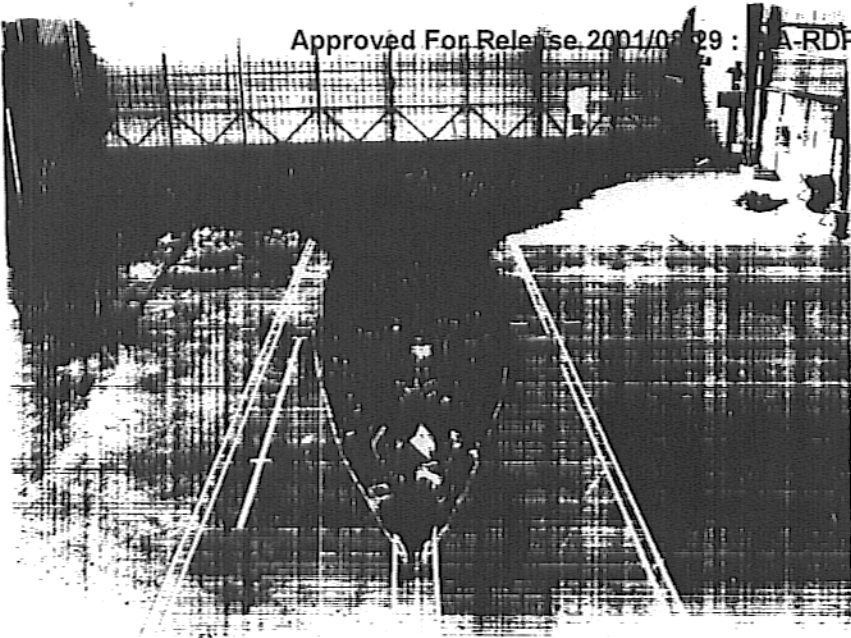
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31 JAN 1957

118

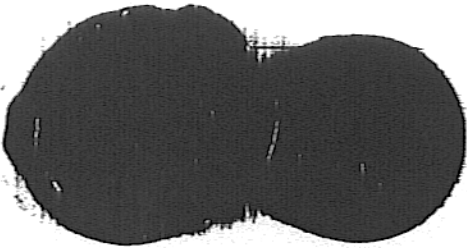
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1057



# 5

0067 miles  
0383 knots



# 6

17 JAN 1967

NEG. NBR.

125

18 JAN 1957  
NEG. NBR.

120



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			DATE	TIME	NAME AND OFFICE SYMBOL	DATE
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	15 Feb	67				

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