

**BY ORDER OF THE COMMANDER  
AIR MOBILITY COMMAND**

**AFI 21-101AMC1 CL-7**

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*Maintenance*

**C-141B DEBRIEFING  
CHECKLIST**



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This checklist complements AFI 21-101AMC1, *Aerospace Equipment Maintenance Management*, is formatted so that it may be trimmed to fit aircrew style binders.

This checklist supersedes AMC Form 518, **C-141B Debriefing Checksheet**.

## C-141B DEBRIEFING CHECKLIST

### *INTRODUCTION*

This debriefing checklist will be used as a guide to assist the maintenance debriefer in ensuring that all pertinent information on a system malfunction is included on the AFTO Form 781A, **Maintenance Discrepancy and Work Document**. This checklist is considered minimal and is not intended to replace systems knowledge or common sense. The debriefer is charged with the responsibility of questioning the aircrew to make sure that all symptoms of a malfunction are known and recorded on the AFTO Form 781A. Remember this is the only information the technician will have to determine the source of the problem.

Recommended changes to this form will be forwarded through channels to HQ AMC/LGMA.

- I. **Instructions:** Prior to debriefing:
  - A. The debriefing team members will review past debriefing forms, logs, or files to acquaint themselves with any previous repeat/recurring discrepancies.
  - B. The appropriate maintenance specialty should be represented at the debriefing to help clarify discrepancies.
  
- II. **Debriefing Procedures.**
  - A. The debriefing team leader will take charge of the debriefing and debrief the aircrew, utilizing this checklist as a guide.
  - B. Review all AFTO Forms 781A for the mission(s). Make special note of repeated or recurring discrepancies.
  - C. Using the questions in this checklist, ensure that all open discrepancies are described as completely as possible.
  - D. Identify and annotate discrepancies, which require follow-on action, (i.e., reportable flight control malfunctions, dropped objects, and in-flight incidents). Request required support from QA, Safety, etc.
  - E. Ensure Fault Reporting Manual (*FRM*) and Fault Isolation Manual (*FIM*) codes are entered in aircraft forms. *FRM and FIM* Manuals are in development for the C-141 systems, when published codes for those systems are required.
  - F. Determine if aircraft was flown low level over salt water and act as necessary to comply with T.O. 1-1-691, *Aircraft Weapon System Cleaning and Corrosion Control*.
  - G. Ensure ALL locations where the aircraft stopped and was chemically disinfected for Foot and Mouth Disease, that an entry is made in the 781A's. Debriefers will document this information in G081

using screen 9050, with work unit code 02400 to create the Foot and Mouth Decontamination discrepancy; G081 will automatically enter this information in the aircraft history. Report this information electronically to [HQ AMC/LGMJS@scott.af.mil](mailto:HQ_AMC/LGMJS@scott.af.mil). Due to the potentially damaging long-term effects of the decontamination on sensitive aircraft parts, accurate tracking is essential.

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**SECTION I**  
**AIRCRAFT GENERAL DEBRIEFING**  
**CHECKLIST**

- 1. Airframe and Doors (System 11)**
  - a. Is the Fault Reporting Manual (*FRM*) fault code entered in the aircraft 781A Forms?**
  - b. Is a brief entry from the *FRM* entered in 781A Forms?**
  - c. Were any other symptoms or conditions a contributing factor other than those listed for a particular fault code? If so, are factors entered in 781A Forms?**
  - d. Was the alphanumeric fault code used? If yes:**
    - (1) What fault symptom(s) did not exactly match any path on the *FRM* diagram?**
  - e. Did flight crew perform supplemental diagnostic procedures, which resulted in a substitute fault code rather than one listed in *FRM*?**
  
- 2. Landing Gear (System 13)**
  - a. Is the *FRM* fault code entered in the aircraft 781A forms?**
  - b. Is a brief entry from the *FRM* entered in 781A forms?**
  - c. Were any other symbols or conditions a contributing factor other than those listed for a particular fault code? If so, are factors entered in 781A forms?**

- d. Was the alphanumeric fault code used? If yes:**
  - (1) What fault symptom(s) did not exactly match any path on the FRM diagram?
- e. Did flight crew perform supplemental diagnostic procedures, which resulted in a substitute fault code than one listed in FRM?**
- f. Was Hydraulic system pressure normal?**
- g. Was extension/retraction slow?**
- h. Any unusual sounds heard?**
- i. Was gear checked visually for retracted/extended?**
  - (1) Was previous extension/retraction normal?
- j. What was airspeed?**

**3. Flight Controls (System 14)**

- a. Is the digit FRM fault code entered in the aircraft 781A forms?**
- b. Is a brief entry from the FRM entered in aircraft 781A forms?**
- c. Were any other symptoms or conditions a contributing factor other than those listed for a particular fault code? If so, are factors entered in AFTO form 781A?**
- d. Was the alphanumeric fault code used? If yes:**
  - (1) What fault symptom (s) did not exactly match any path on the FRM diagram?
- e. Did flight crew perform supplemental diagnostic procedures, which resulted in a substitute fault code rather than on the FRM diagram?**
- f. Did aircraft encounter Uncommanded Movement?**
  - (1) MINOR/MAJOR: If major, notation of REPORTABLE FLIGHT CONTROL MALFUNCTION will be entered

at the end of the fault description.

**g. Did aircraft encounter Degraded or No Flight Control response?**

(1)MINOR/MAJOR: If major, notation of REPORTABLE FLIGHT CONTROL MALFUNCTION will be entered at the end of the fault description.

**h. Was hydraulic system pressure normal?**

**i. Were Preflight control checks normal?**

**j. Was binding felt in control column?**

**k. Did the flight control return to center automatically?**

**l. Any circuit breakers popped? Were they reset?**

**4. Turbofan Power Plant (System 23)**

**a. Throttle out of Alignment**

(1)What were the throttle levers' position by EPR, RPM, EPR and Fuel Flow?

	<b>EPR</b>	<b>N1</b>	<b>N2</b>	<b>FUEL FLOW</b>	<b>EGT</b>
<b>No.1</b>					
<b>No.2</b>					
<b>No.3</b>					
<b>No.4</b>					

(2)Did throttles have to be “Jockeyed” to attain alignment?

(3)Were throttles aligned at cruise power?

(4)Were throttles aligned at TRT position?

(5)Did throttles bind during movement?

(6)Did throttles creep?

- (7) What parameter was throttle alignment based on?
- (8) Did either EPR or Fuel Flow gauge have a plus reading at static at either A/C or engineer's position?
- (9) Were either engine oil or CSD oil temperature higher than normal on any engine?

**b. High EGT on start**

- (1) What was fuel flow during start?
- (2) Did starter accelerate engine normally?
- (3) Does fuel flow and RPM fluctuate at the same time?

**c. Oil system malfunction (general)**

- (1) At what power setting did malfunction, occur?
- (2) Was the oil pressure high, low, or fluctuating?
- (3) What was the oil temperature?
- (4) Was the malfunction constant or intermittent?
- (5) Did the low oil pressure warning light illuminate?
- (6) Does the oil pressure follow the throttle?
- (7) Did all other engine instruments read normal?
- (8) What was the engine oil pressure?
- (9) Was engine operated at speeds above windmilling without positive indication oil pressure? How Long?

**d. Low oil pressure at high altitude**

- (1) At what altitude did oil pressure first start to drop?
- (2) What was oil pressure at idle and military power?

**e. Oil pressure fluctuates**

- (1) What was the range of fluctuation?
- (2) What was indicated engine RPM?

**f. Engine starts but is slow to accelerate**

- (1) What was fuel flow during start?

(2) Was EGT normal?

**g. Engine stalls on acceleration**

(1) At what RPM did stall occur?

(2) Was EGT and fuel flow normal?

**h. Engine slow to accelerate from idle to military power**

(1) How long did it take to reach military power?

**i. Engine surges or fluctuates at fixed power setting?**

(1) What were maximum EGT, RPM, EPR, and Fuel flow?

	<b>EPR</b>	<b>N1</b>	<b>N2</b>	<b>FUEL FLOW</b>	<b>EGT</b>
<b>No.1</b>					
<b>No.2</b>					
<b>No.3</b>					
<b>No.4</b>					

(2) What parameters indicated fluctuation?

(3) What was degree and rate of fluctuation?

(4) What was idle speed?

**j. Target EPR for ambient temperature was not obtained**

(1) Was ambient temperature rechecked and EPR recomputed?

(2) Was engine bleed air system turned off?

**k. T/R failed to operate**

(1) Did T/R not lock light come on?

(2) Was throttle retarded far enough to engage interlock system?

- (3) Did pressure light on engineer's panel come on?
- (4) Were circuit breakers in?
- (5) Was GEN Freq. steady?
- (6) Was CSD oil temperature high?

**l. T/R not-locked light on in flight**

- (1) Was aircraft yaw felt prior to retarding affected engine throttle? If yes, -6 Special Inspection requirement must be accomplished prior to flight.

**m. Flameout**

- (1) Did flameout occur on the ground or in flight?
- (2) What was throttle setting, stabilized or moving?
- (3) What were the Fuel flow, N1 and N2 RPM, EPR and EGT readings at the time of flameout?

	<b>EPR</b>	<b>N1 RPM</b>	<b>N2 RPM</b>	<b>FUEL FLOW</b>	<b>EGT</b>
<b>No.1</b>					
<b>No.2</b>					
<b>No.3</b>					
<b>No.4</b>					

- (4) Any engine instrument fluctuations before the flameout?
- (5) Was continuous ignition on?
- (6) Was engine anti-ice on at time of flameout?
- (7) What was the type of fuel used?
- (8) Was fuel heater used during flight?
- (9) What was fuel quantity in the tank being used to feed the affected engine?

- (10) Which tank was being used to feed the engine?
- (11) Was the fuel heater on at the time of the flameout?
- (12) What was the fuel temperature at cruise and at time of flameout?
- (14) Did the flameout occur during descent, climb out, during a banking maneuver, or level flight?
- (15) What was the altitude at the time of flameout?
- (16) What was the highest altitude flown during the flight?
- (17) What was the aircraft attitude when flameout occurred?
- (18) What was the flaps and spoilers configuration?
- (19) Were the auto throttles engaged?
- (20) What was the airspeed at the time of flameout?
- (21) Did the engine restart with or without fuel enrichment?
- (22) What were the weather conditions?
- (23) What was the first indication noticed before the flameout?

**n. Compressor Stalls**

- (1) What was the throttle setting, stabilized or moving?
- (2) What were the EPR, fuel flow, EGT, N1 and N2 RPM?

	<b>EPR</b>	<b>N1 RPM</b>	<b>N2 RPM</b>	<b>FUEL FLOW</b>	<b>EGT</b>
<b>No.1</b>					
<b>No.2</b>					
<b>No.3</b>					
<b>No.4</b>					

- (3) Was the stall(s) severe or mild and did it (they) subside?

- (4) Was the engine anti-ice on?
- (5) What was the type of fuel used?
- (6) What was the fuel temperature?
- (7) Were the auto throttles engaged?
- (8) What was the altitude when the stall occurred?
- (9) What was the airspeed?
- (10) What was the aircraft attitude?
- (11) What were the flap and spoiler settings?
- (12) Did the stall (s) occur during descent, climb out, or cruise?
- (13) What were the weather conditions at the time of the stall(s)?
- (14) What was the outside air temperature?

**5. APU (System 24)**

**a. APU will not start**

- (1) Was one or both accumulators selected?
- (2) Did the unit motor over?
- (3) Was there any rise in EGT? If so, how much?
- (4) Were any unusual noises noticed?
- (5) Was there a fire warning indicated?

**b. APU shutdown by itself**

- (1) What was the last frequency noted prior to shutdown?
- (2) How long did unit run before shutting down?
- (3) Was a restart attempted? To what avail?

**c. APU EGT high during no-load operation**

- (1) How high was EGT?

(2) Was there a fire warning indication?

**d. APU will not carry a load**

(1) What was the highest indicated EGT prior to frequency drop-off?

**e. APU RPM fluctuates**

(1) Did EGT fluctuate or hunt?

(2) Was unit loaded or unloaded?

**f. APU has excessive drop when loaded**

(1) How far did frequency drop?

(2) Did frequency recover to original setting? If so, how long did it take?

**6. Air Conditioning and Pressurization (System 41)**

**a. Pressurization Problems**

(1) Was the pressurization system completely inoperative?

(2) Is the pressure reading too high?

(3) How did the engineer's differential pressure gauge compare to the copilot's differential pressure gauge?

(4) Is the pressurization system reading low or high in automatic?

(5) Is the pressurization system reading low? Or high in manual?

(6) Was the system pressurizing on the ground?

(7) When did problem occur?

(8) What was aircraft altitude?

(9) What was cabin altitude?

(10) What rate was selected?

(11) What was rate of depressurization?

- (12) What was the highest differential pressure noted?
- (13) Were there any troubles with doors or windows? Which ones?
- (14) Was the pressurization loss partial or complete?
- (15) Were any unusual noises noticed? (Leaking air, whistling)
- (16) What previous pressurization difficulties or maintenance occurred during the mission?

**b. Air Conditioning Problems**

- (1) What was the position of the air conditioning master switch?
- (2) Was the system inoperative in automatic, manual, or both?
- (3) Was the system getting too much heat? Or too much cold air?
- (4) Was there water coming from the gasper outlets?
- (5) Was the temperature control circuit breaker open? If so, was it reset?
- (6) Was the air-conditioning flow control valve circuit breaker open? If so, was the circuit breaker reset?

**c. Primary Heat Exchanger Problems**

- (1) What was the primary heat exchanger temperature?
- (2) Was the primary heat exchanger temperature fluctuating; if so, how many degrees?
- (3) Was the system air pressure regulating and relief valve circuit breaker open?
- (4) Was the system air pressure regulating and relief valve circuit breaker reset?
- (5) Was the system primary heat exchanger control circuit breaker reset?

(6) Was the emergency pressurization switch positioned to Emergency to see if the affected pack would work normally?

**d. Wing Anti-icing Problems**

(1) Did the anti-icing indicator light come on to indicate the system was operating?

(2) Was a visual check made of the wing to see if ice was forming on the wing?

(3) Was the anti-icing indicator light checked to see if it was working properly?

(4) Did the wing anti-icing circuit breaker open?

(5) Was the wing anti-icing switch turned on?

(6) What was the altitude and airspeed?

(7) What was ambient air temperature?

(8) What was weather condition? Clouds? Clear?

(9) Was any ice build-up noted on aircraft?

(10) Was manual used? What effect?

(11) What was airflow? Normal, minimum, maximum, increasing or decreasing?

**e. Overheat Problems**

(1) Did overheat occur with air conditioning pack, on, off, or both?

(2) Did overheat occur at TRT?

(3) Was the wing anti-icing system turned on?

(4) Did overheat indication come on at takeoff, landing, in-flight, turn, or on the ground?

(5) Was pressurization selected from right, left, or both packs?

(6) What position was temperature control switch?

- (7) What was primary heat exchanger temperature?
- (8) What was manifold pressure?
- (9) What bleed valve or valves were open?
- (10) Did any icing condition exist?
- (11) How long did icing condition exist before light came on?

**f. Bleed Air Check Problems**

- (1) What was the position of the air conditioning master switch?
- (2) What were the positions of the bleed air valves?
- (3) What was the position of the system shutoff switches?
- (4) What was the position of the wing anti-icing switches?
- (5) What was the position of the rain removal switch?
- (6) What was the position of the under floor heat switch?
- (7) How fast did the system bleed down, in seconds?

**g. Bleed Air Valves Inoperative**

- (1) Was the bleed air valve circuit breaker open? If so, was it reset?
- (2) Was the engine fire extinguisher “T” handle pushed completely in?
- (3) Was the indicator light on the engineers control panel checked to see if it was operating properly?

**7. Electrical System (System 42)**

- (1) How long after engine start did the malfunction occur?
- (2) Was the voltage high, low, or fluctuating?
- (3) Was the frequency high, low, or fluctuating?
- (4) What was the load? Was it fluctuating?

- (5) Did the condition continue with the generator isolated?
- (6) What was the CSD oil temperature?
- (7) Did the CSD overheat light come on or blink?
- (8) Did the generator out light illuminate? If so, did it stay on when the generator switch was placed to off?
- (9) Did the generator fail light illuminate?
- (10) Was the CSD disconnected?

**8. Hydraulic Power Systems (System 45)**

- (1) Were any leaks observed?
- (2) Was the reservoir re-serviced in-flight?
- (3) Was there crossfeed between No.2 and No.3 systems?
- (4) Was hydraulic pressure fluctuating, low, or high on #1, 2, or 3 systems?
- (5) Was Direct reading gauge different or same as system gauge?

**9. Liquid Oxygen (System 47)**

- (1) Did the system lose too much oxygen?
- (2) What was the elapsed time of liters lost, in hours?
- (3) Were any crew members on oxygen at the time?
- (4) Were any oxygen regulators left in emergency position?
- (5) How many liters were in the system before malfunction occurred?
- (6) Was the liquid oxygen quantity indicator circuit breaker popped? If so, was it reset?
- (7) Was the liquid oxygen quantity indicator checked for proper operation?

## 10. Fuel Systems (System 46)

### a. Identify location and problems such as leaks, inoperative, stuck (open or closed), intermittent, erratic, vibrations, etc., on the following components:

- (1)Pumps
- (2)Tanks
- (3)Valves
- (4)Lines
- (5)SPR Manifold
- (6)Low Lights
- (7)Any circuit breakers popped?

### b. In-flight refueling

- (1)Aircraft will not accept fuel.
  - (a)Were the right and left air refuel ISO valves open and circuit breakers closed?
- (2)No.1, 4 main and aux tanks will not accept fuel.
  - (a)Were the right and left separation valves open?
- (3)No ready light with UARRSI door open.
  - (a)Was the air refueling master switch in the “ON” position?
- (4)Air refuel manifold will not drain.
  - (a)Was the SPR drain pump circuit breaker closed?
- (5)UARRSI ready-disconnect-latched or override light inop.
  - (a)Was the “inop” in one position or all three positions?
- (6)UARRSI will not disconnect using pilots and copilots disconnect switches.
  - (a)Were the auto throttle circuit breakers closed?
- (7)Did aircraft fly A/R mission? If yes:

- (a) Make following entry in AFTO Form 781A; Inspect UARRSI receptacle for damage.
- (b) If brute force experienced during disconnects; annotate 781A for –6 inspection requirement.

### **11. Cargo compartment (Misc)**

#### **a. Spillage From Cargo:**

- (1) What was the type of spill? Quantity?
- (2) Where was the spill?
- (3) Was there any accumulation under the floor?
- (4) Was an entry made in the 781A?

#### **b. -21 Equipment**

- (1) Were configuration changes annotated in the 781A?
- (2) Was missing equipment annotated in the 781A, including the base where the loss was discovered?

### **12. Corrosion Control**

- a. Was aircraft flown over salt water at less than 1,000 feet (except for takeoff and landings)?**
- b. Was any oil analysis samples (OAP) submitted at other stations for engines or auxiliary power units?**

**SECTION II**  
**AVIONICS DEBRIEFING**  
**CHECKLIST**

**1. Turbofan Power Plant**

**a. Vertical Scale Engine Instrument Malfunctions**

- (1) How did the malfunctioning instrument compare with other like indicators?
- (2) At what power settings was the malfunction most evident?
- (3) Were both the pilot's and engineer's indicators malfunctioning?
- (4) Were other engines instruments normal?
- (5) Were the converter fuses checked?
- (6) Were circuit breakers reset?

**b. Engine Vibration Indicator Malfunction**

- (1) When was the malfunction first noted?
- (2) Did the system indicate normal, in test position?
- (3) What was the position of the Hi-Low filter switch?
- (4) Did both the forward and aft systems malfunction?
- (5) At what power setting did the problem exist?

**c. Engine Oil Pressure**

- (1) What was the noted malfunction?
- (2) At what power setting was the malfunction noted?
- (3) Were other engines instruments normal? If not, what were their indications?
- (4) Did the malfunction occur at any specific altitude or

attitude?

**d. Engine Oil Temperature Malfunction**

- (1) How did the malfunction compare with other systems?
- (2) What was the engine power setting at the time of the malfunction?
- (3) Was oil pressure and other engine instruments normal? What was indication?

**e. Engine Pressure Ratio Malfunction**

- (1) Was the noted malfunction on both indicators?
- (2) How did the malfunction compare with other engines?
- (3) What were the fuel flow, EGT and RPM indications? Were they the same as the other engines?
- (4) Was the malfunction at altitude only?

**f. Fuel Pressure System Malfunction**

- (1) Was the indication high, low, or fluctuating?
- (2) Were the boost pumps on or off?
- (3) How did the indicator compare with other positions?

**g. Engine Inlet Fuel Temperature Malfunction**

- (1) Was indication high, low, or fluctuating?
- (2) Which position was malfunctioning, inboard, outboard, or both?

**2. APU (EGT Malfunction) (System 24)**

- (1) Was the indicator reading high, low, or fluctuating when the malfunction occurred?
- (2) Did the APU cut off at a certain temperature?

### **3. Electrical System (System 42)**

#### **a. Generator out light came on**

- (1) What was the loadmeter reading just before generator kicked off?
- (2) What was voltage reading before generator tripped off?
- (3) Was main bus fed by tie bus, when generator kicked off?
- (4) Were all bus power disconnect switches in normal?
- (5) Did generator out light remain on after generator control switch was placed to off?
- (6) Did bus tie open light come on?
- (7) Were any circuit breakers opened intentionally or did any circuit breaker open due to malfunction?
- (8) Was generator control switch placed to test after generator was off line? How long did it take the generator out light to come on? What were the voltage and frequency readings?

#### **b. Generator System Loading Fluctuating**

- (1) Was effected generator isolated?
- (2) Was frequency fluctuating?
- (3) Did overheat light come on? If so, what was temperature of CSD oil?

### **4. Instruments (System 51)**

#### **a. Airspeed Malfunction**

- (1) How did the defective airspeed compare with other airspeeds?
- (2) What should have been the indication on the defective indicator?
- (3) What was the altitude at time of noted malfunction?
- (4) Did the altimeter, vertical velocity, or machmeter show any malfunction? If so, what was the malfunction?
- (5) What was outside weather condition at time of noted discrepancy?
- (6) Was pitot heat operative and used?
- (7) If warning flags were in view, were other indications normal?
- (8) If indications were erroneous, were flags in view?

**b. Altimeter Malfunction**

- (1) How did the defective altimeter compare with other aircraft altimeters, low, or high?
- (2) Was altimeter setting correct?
- (3) Did the vertical velocity, airspeed, or machmeter show any malfunction?
- (4) What was the aircraft altitude at the time of malfunction?
- (5) Describe outside weather conditions at time of noted discrepancy?
- (6) Was pitot heat operative and in use?
- (7) If warning flags were in view, were other indications normal?
- (8) If indications were erroneous, were flags in view?

**c. Vertical Velocity Malfunction**

- (1) How did other vertical velocity indicators compare

with the malfunction indicator?

- (2) Was the malfunction noted in climb, dive or straight and level flight?
- (3) If malfunction was in climb, or dive, did the pointer center properly in straight and level flight?
- (4) Were airspeed, altimeter, and machmeter readings normal?
- (5) With RGA circuit breaker opened, does malfunction change?

**d. Machmeter Malfunction**

- (1) How did the defective machmeter compare with other machmeter?
- (2) What should have the indication been?
- (3) Were the airspeed, altimeter, and vertical velocity readings normal?
- (4) If flags were in view, were other indications normal?
- (5) If indications were erroneous, were flags in view?

**e. CADC Malfunction**

- (1) Did the annunciator panel light come on?
- (2) What was the airspeed, altitude, and vertical velocity at the time of the malfunction?
- (3) Were the airspeed, altitude, and vertical velocity and machmeter readings normal?
- (4) Did the warning flags on the flight instruments come into view?
- (5) Did related true airspeed indication fluctuate?

**f. Ground Proximity Warning System (GPWS)**

- (1) Did the annunciator panel light illuminate?
  - (a) If illuminated-did either the No.1 CADC or radar altimeter also fail?

(b) Did resetting the circuit breaker clear this malfunction?

(2) Was an unexpected warning received?

(a) What did the radar altimeter altitude read?

(b) Were the flaps and/or landing gear in transit?

(c) Was the terrain level, rapidly rising, etc.?

(3) If the inhibit function was employed:

(a) Was system reset attempted?

(b) What mode do you feel may have been penetrated to cause the alarm?

**5. HF/VHF/UHF Communications (Systems 61, 62, 63)**

**a. How long was system on before it malfunctioned?**

**b. Which position malfunctioned?**

**c. Did the system seem to tune up properly?**

**d. Was the malfunction continuous or intermittent?**

**e. Did it occur on all frequencies?**

**f. Did it occur on manual or preset, if applicable?**

**g. If more than one antenna, were both affected?**

**6. Interphone (System 64)**

(1) Was more than one position affected? Which ones?

(2) Was the malfunction continuous or intermittent?

(3) When during flight did it occur?

(4) Which mike button malfunctioned?

**7. IFF System (System 65)**

- (1) Did Mode I, II, III, IV or C operate normally?
- (2) Did IP operate normal on Mode I and II? If not, give details?
- (3) If used, did emergency operate normally?
- (4) Did system operate properly in low position?
- (5) Was system weak or intermittent?
- (6) If system was completely inoperative, were circuit breakers checked?
- (7) Were both antennas affected?

## **8. Radio Navigation (System 71)**

### **a. VHF Navigation System**

- (1) Which system was faulty?
- (2) When selecting VOR or BDHI selector panel, did the COMP flag go completely out of view?
- (3) Did the BDHI and HSI read the same bearing?
- (4) Did the VOR bearing agree with the TACAN bearing?
- (5) Did all indicators read the same?
- (6) What frequency was system tuned to when malfunction occurred?
- (7) How many times did the malfunction occur?
- (8) Was Nav BDHI similarly affected?
- (9) Was TACAN affected in any way?

### **b. Glide Slope and Tone Localizer**

- (1) Which system malfunctioned?
- (2) When turned to proper frequency, did flags appear?
- (3) Were proper indications being displayed on the indicators?

- (4) What frequency was system tuned to at time of malfunction?
- (5) Were proper audio warnings heard?
- (6) If intermittent, did system work properly as aircraft approached the runway?

**c. ADF-73 System**

- (1) Which system malfunctioned?
- (2) Did the Tune Bar work properly?
- (3) Were all indicators reading the same?
- (4) Were all indicators homing to proper bearing?
- (5) Did the receiver tune to the correct frequency?
- (6) Did the receiver tune to the correct band?
- (7) When in “TEST” position, did the indicator read 180 degrees?
- (8) With the function switch in “ANT” position, could the receiver be heard?
- (9) Could the indicator be slewed left and right?
- (10) When the indicators were slewed off from the station, and function switch returned to “ADF” position, would the indicators home to the desired station?
- (11) Was marker beacon working in high or low?
- (12) When varying the volume control, did it change the audio level in the headsets?

**d. 51Z3 Marker Beacon**

- (1) Which light failed to operate?

**e. TACAN**

- (1) Which system malfunctioned?
- (2) Was azimuth inoperative?

- (3) Did azimuth ever lock on?
- (4) Did azimuth break lock on?
- (5) Did azimuth lock on in error?
- (6) Did azimuth agree with VOR?
- (7) Did azimuth agree on all indicators? If no, which one disagreed?
- (8) Was DME inoperative?
- (9) Did DME ever lock on?
- (10) Did DME break lock on?
- (11) Did DME lock on in error?
- (12) Did DME agree on all indicators?
- (13) What channel did the malfunction occur?
- (14) What was the range of the system?
- (15) Did azimuth or DME oscillate?
- (16) Was another channel selected besides the desired channel?
- (17) What was the attitude of the aircraft when malfunction occurred?
- (18) Was audio inoperative?
- (19) Was audio weak?
- (20) Did the TACAN, self-test, work properly?
- (21) Did you use INS and/or AHRS?
- (22) Did TACAN work when you used INS and/or AHRS?
- (23) How many times did the malfunction occur?
- (24) Was VOR working properly?
- (25) Did IFF work properly (receive/transmit)?

## 9. Radar Navigation (System 72)

### a. AN/APS-133 Color Radar System

- (1) How long did it take to time in?
- (2) If TCAS equipped, did system appear to blink in and out during sweep, in TEST mode?
- (3) Was the proper test pattern presentation on scope?
  - (a) Before/after the transmitter timed in?
  - (b) In weather, map 1 or map 2? Before/after transmitter timed in?
- (3) Weak or no targets
  - (a) In weather, map 1 or map 2?
    1. What range were targets when they first appeared on scope?
    2. What tilt settings were used?
    3. What maximum range could you see ground targets?
    4. What altitude were you flying?
  - (b) In beacon
    1. What was the range when target picked up?
    2. Were you the only one with problem picking up the tanker?
    3. What was the tilt setting?
- (4) Stabilization Problems
  - (a) Did stabilization system operate properly? If not, at what altitude did it fail and what period in-flight was failure?
  - (b) Were the targets only on the left/right side?
  - (c) Were targets more prominent on left/right side?
  - (d) Were their targets only down the center of the

scope?

- (e) Was there a difference in targets with stab “OFF” on control box?
- (f) What was the approximate roll error with stab “ON”?
- (g) Was the malfunction in INS/AHRS only?
- (h) Did proper alpha numbers appear on scope?
- (i) Was proper number of range marks present?

**b. Altimeter System**

- (1) Was the altimeter accurate below 1,000 feet?
- (2) Was the altimeter accurate above 1,000 feet?
- (3) Which system was affected?
- (4) Did indicator display FAIL?
- (5) Did R/T light come on?
- (6) Did system test work correctly?
- (7) Was malfunction intermittent?

**10. Bombing Navigation (System 73)**

**a. APN-169B Station Keeping Equipment (SKE)**

- (1) How long was system operating prior to failure?
- (2) Was a BITE check attempted? If so, what were the results?
- (3) Was aircraft operating as master or follower?
- (4) Were there any failures or warning lights illuminated? (AZ-Range Ind, RT, or Coder/Decoded)
- (5) Was Frequency “A” or Frequency “B” in use at time of failure?
- (6) What type of display did the azimuth range indicator

have?

(7) Was the azimuth range indicator usable in radar/warning function?

**b. Inertial Navigation System (INS)**

(1) Did problem exist only on one system?

(a) If yes, go to question (3).

(b) If no, go to question (2).

(2) Did systems malfunction at the same time?

(3) Did you get a WARN light on the CDU?

(a) If yes, go to question (4).

(b) If no, go to question (5).

(4) Did the light go out when TEST was pushed?

(5) Did you get a light on the Master Caution Annunciator Panel? If yes, which of the following came on:

(a) INS No.1 INOP.

(b) INS No.2 INOP.

(c) INS No.1 Air Temp.

(d) INS No.2 Air Temp.

(e) INS Diff 10 DM.

(f) INS ATT No.1.

(g) INS ATT No.2.

(6) Did you get a Malfunction Code? If so, which code?

(7) Did information passed from INS seem to deteriorate?

(a) If yes, go to question (8).

(b) If no, go to question (9).

(8) What information seemed to be unusable?

- (9) Did this appear to be an interface problem:
- (a) SKE interface-Go to question (10).
  - (b) Autopilot Interface-Go to question (12).
  - (c) Flight Director Interface- Go to question (13).
  - (d) TACAN Interface- Go to question (14).
- (10) Did you have a SKE MIX light
- (a) If yes, go to question (11).
  - (b) If no, go to question (16).
- (11) Did the SKE information seem accurate?
- (a) If yes, go to question (16).
  - (b) If no, explain and go to question (16).
- (12) Did Autopilot work well in any other mode?
- (a) If yes, go to question (16).
  - (b) If no, go to question (16).
- (13) Did Flight Director work with any other system?
- (a) If yes, which systems? Go to question (16).
  - (b) If no, go to question (16).
- (14) Did you get a TACAN MIX light?
- (15) Was TACAN locked on and correct?
- (16) Was the problem constant or intermittent?
- (a) If constant, go to question (18).
  - (b) If intermittent, go to question (17).
- (17) Give as much information as possible about the circumstances at the time of the failure.
- (18) Which type of mission were you on? CAMS?  
Trip? Local?
- (19) Any other pertinent details?

(20)What was the error in accuracy of the INS per hour?

(21)Name of the navigator or systems operator?

## **11. Airlift Defensive Systems (System 76)**

### **(ADS-equipped aircraft)**

#### **a. AAR-47 MWS**

(1) System does not operate

(a) Was MWS circuit breaker open?

(2) Failure light on control box.

(a) Which numbers illuminated?

#### **b. ALE-40/47**

(1) Does not operate.

(a) Was EW SYS and NAV PNL circuit breakers open?

(2) Fault/Failure

(a) What was the error displayed on the Control Display Unit?

(3) Did not dispense chaff and/or Flare.

(a) Were safety pins removed from EMI filter or safety switch?

(b) What mode was system in? Auto, Semi, or Manual?

(c) Was auto program select switch in proper position?

(d) In auto mode, was the MWS on? If so, was missile warning detected by the MWS?

(e) In manual mode, what aircraft station was dispense attempted from? Was dispense

- attempted from another aircraft station?
- (f) How many chaff/flare remaining?
- (4) Inadvertent dispense
  - (a) What mode was system in? Auto, Semi, or Manual?
  - (b) How many chaff/flare inadvertently dispensed?
  - (c) Was there a missile threat indication from the MWS?

**c. ALR-69 (if applicable)**

- (1) "F" displayed on scope?
  - (a) When did it occur and for how long?
  - (b) Did you recycle power?
  - (c) Did you run extended bit (using SEARCH button)?
  - (d) If yes, did DF, FSRS, INIT, or MEMORY check bad?
- (2) Audio malfunction
  - (a) Did you check all audio controls on the ALR-69?
  - (b) Did you check all audio controls on interphone control box?
  - (c) Was audio present at other stations?
- (3) Error symbol displayed
  - (a) What was the symbol?
  - (b) How long did it remain on?
  - (c) Was it on while flying in formation with other aircraft?
  - (d) If no, was it on during the entire flight?

(e) If so, was it only on when your radar was operating?

**SECTION III**  
**POSSIBLE OPERATING CONDITIONS**  
**CHECKLIST**

**1. Weather**

**a. Lightning Strike**

- (1) Perform Special Inspection I.A.W. 1C-141B-6.
- (2) Where was approximate location of lightning strike?
- (3) Any noticeable system malfunction after lightning strike? (i.e., circuit breakers opened, radios, etc...)

**2. Flight**

**a. Bird Strike**

- (1) Approximately, where did bird(s) hit?
- (2) Any noticeable engine flux, vibration, system failures, radio failure, radar failure?
- (3) Where did incident occur? Aircraft location? Altitude? Speed?

**3. Foot and Mouth Decontamination**

**a. Did the aircraft land at a base disinfecting for Foot and Mouth Disease (FMD)? (As of May 2002, Spain and Italy require aircraft to be disinfected if they come from England). If so:**

- (1) Was the aircraft disinfected? If so:
- (2) Was an entry made in the 781 using WUC 02400?

- (3) What was the chemical and concentration used?
- (4) What area(s) where sprayed?
- (5) How long did chemical solution remain on aircraft?
- (6) How was chemical cleaned off?
- (7) What are the landing gear serial numbers (if sprayed)?

**b. Make the following entries in the 781A:**

(1) Wash and lube due within 72 hours for the areas chemically decontaminated for Foot and Mouth Disease. (list areas, use WUC 02400).

(2) If landing gear were sprayed/disinfected, make the following entry, “visually identify the landing gear serial numbers and verify this information is accurately reflected in G081.

**c. Report the following information electronically to HQ AMC/LGMJS, [kurt.Westergaard@amc.af.mil](mailto:kurt.Westergaard@amc.af.mil).**

- (1) MDS and complete tail number.
- (2) Information from 3a (1-7).