

## ANALYSIS OF

### MAINTENANCE MANUAL

#### 1. GENERAL

The aircraft auxiliary power unit (APU) is a Solar type T62T-40C3A gas generator.

The APU is installed in the aircraft rear compartment within a stainless steel fireproof container which is located between frames 39 and 41.

The APU forms part of the operational aircraft equipment to be used by the crew as required. It is intended to provide the aircraft with:

- conditioned air when on the ground.
- + 28.5V DC power for the aircraft electrical systems, delivered by a 300A generator when on the ground.

#### A. For the Air-Conditioning

The APU provides a supply of conditioned air through the APU bleed valve, which delivers a hot air flow of 64 lb/min from the compressor.

#### B. For Electrical Power

##### (1) Aircraft on the Ground

The APU supplies the aircraft power system with DC power provided by its 9 KWA starter-generator, which delivers up to 300A at a voltage of 28.5V DC in continuous operation. This installation, in addition, offers the following advantages:

- partial recharging of the batteries
- an additional assistance during the starting sequence of the first engine, which serves to prolong battery life and reduce starting time

##### (2) APU Operation

In order to operate, the APU needs an air supply derived from the aircraft exterior, a pressurized fuel supply and electrical power for starting. The APU lubrication system is independent.

The speed of the APU is regulated by a hydro-mechanical governor to 61,565 rpm and an electronic controller monitoring unit (computer) controls the starting sequences and the safety features.

Starting of the APU may be carried out independently when the aircraft is on the ground. The operation of the APU and the generator that it drives is independent of the aircraft engine or any ground installation.

The APU control panel, located on the RH console of the flight compartment, provides means of starting the APU and monitoring its operation.

## 1. GENERAL (cont.)

### C. Fire Protection

The APU is enclosed in a fireproof, stainless steel container. This container is fitted with fire detection and fire extinguishing systems. The fire extinguishing system is controlled from the flight compartment.

### Fuel Supply

The fuel required for APU operation is tapped from the No. 2 engine LP fuel supply line, downstream of the LP pump and through the fuel shutoff solenoid valve.

## 2. DESCRIPTION

### A. Characteristics of the Solar APU type T62T-40C3A

#### (1) Engine Gas Generator

- single-entry centrifugal compressor
- single-stage radial turbine
- normal speed of 61,565 rpm

#### (2) Power Pickoff

In addition to driving the accessories required for operation of APU, an 8000 rpm drive pad is provided for driving the APU generator (identical to the engine drive pad).

#### (3) APU Accessories and Monitoring Equipment

- APU controller (computer)
- fuel shutoff solenoid valve
- bleed air valve
- surge valve
- constant speed hydro-mechanically governed FCU (fuel control unit)
- ignition system including a high-power ignition unit and an igniter plug
- turbine output EGT temperature thermocouple
- RPM monopole speed sensor
- oil pressure switch
- hourmeter
- completely integral lubrication system
- oil level and filler cap

## ANALYSIS OF

### 2. DESCRIPTION (cont.)

#### A. Characteristics of the Solar APU type T62T-40C3A (cont.)

##### (4) Aircraft Accessories

- APU shutoff solenoid valve
- generator with its control unit
- fire detector
- extinguisher
- control panel carrying generator output current indicators (RPM & EGT) and the oil pressure indicator light
- one grill protecting the APU air intake

#### B. Air Intake

Located on the lower RH side of the fuselage between frames 39 and 41. A door blanks off the intake duct when the APU is not in operation.

#### C. Exhaust Pipe Outlet

Located on the upper RH side of the fuselage. The outlet is exclusively of stainless steel construction.

A short primary exhaust pipe located at the APU outlet operates as a jet pump within the duct and thus ventilates the container.

#### D. Ventilation and Draining

##### (1) Ventilation

The APU container is ventilated by means of an opening located on the LH side of the aircraft and jet pump effect produced by the primary exhaust pipe of the APU. The generator has an independent cooling system.

##### (2) Draining

Draining of the APU container is accomplished by means of a pipe located at the lowest point of the container. The drain lines of the APU (fuel system, combustion chamber, gearbox breather) are independently directed towards the aircraft skin panel through the container draining pipe.

#### E. APU Mountings, Expansion Fittings, Exhaust Pipe Attachments.

The APU is secured within its mounting at three points. The primary exhaust pipe is attached by a clamp.

Connection to the pneumatic system is achieved via a flexible coupling.

The mounting itself is attached to the aircraft by two bolts providing attachment to the floor (at frame 39) and two spigots located in frame 41.

## ANALYSIS OF

### 2. DESCRIPTION (cont.)

#### F. Fireproof Container Area Fire Zone

The fire zone area is bounded by the stainless steel container and the exhaust pipe outlet and shroud.

#### G. Fire Detection and Extinguishing System

Fire detection is performed by a flame detector, within the container. Extinguishing is performed by an extinguisher providing one sole discharge which is controlled from the cockpit. The extinguisher is located outside the container within the rear compartment.

#### H. Access to Aircraft-Mounted APU

Access to the APU, when in its container, is obtained by removing the two main covers.

- one cover over the aft side
- one access cover over the fwd side

Two small access doors in the cover of the fwd and aft section provides access to the level and filler cap of the oil tank and the hourmeter.

#### L. APU Control and Indicating

##### (1) APU Control Panel

The panel, located on the RH console, groups APU controls and instruments.

##### (a) MASTER (ON-OFF) Pushbutton

Illuminated green when set to "ON"

When set to "ON", the switch:

- opens the air intake door
- opens the fuel shutoff solenoid valve
- energizes the APU controller (computer)

When set to "OFF", it shuts down the APU (only to be used when normal shutdown procedure has been ineffective).

##### (b) "STOP" Pushbutton

Is used to shutdown the APU in normal conditions, by simulating an overspeed condition within the controller.

##### (c) "BLEED" (ON-OFF) Pushbutton

Illuminated green when set to "ON".

Controls the bleed valve.

##### (d) "GEN" (ON-OFF) Pushbutton.

Illuminated green when set to "ON" and the generator is operating either as a starter or as a generator.

## ANALYSIS OF

### 2. DESCRIPTION (cont.)

#### L. APU Control and Indicating (cont.)

##### (1) APU Control Panel (cont.)

###### (d) "GEN (ON-OFF) Pushbutton (cont.)

The switch ties the generator to the electrical system. The controller only allows the generator to deliver current when its RPM speed exceeds 95%. The "GEN" pushbutton switch must mandatorily be set to "ON" to allow starting sequence.

###### (e) "START" Pushbutton

Initiates the APU starting sequence.

"OIL" indicator light  
Illuminated amber to indicate loss of oil pressure.

###### (f) GEN Load Meter

Indicates generator current output

- Graduated from 0 to 1.2
- Red line at 1.0

###### (g) RPM Indicator

- Graduated from 1 to 120%
- Red Radial at 90%
- Green Arc 96% to 104%
- Red Radial at 104%
- Red Triangle at 110% (automatic shutdown)

###### EGT Meter

- Graduated from 0 to 1500°F
- Green arc 450°F to 1200°F
- Red Radial at 1200°F
- Red Traingle at 1260°F (automatic shutdown)

##### (2) Master Warning Panel

An "APU BLEED" indicator light is added to the Master warning panel on the instrument panel. It indicates that the APU bleed valve has not closed when the speed of one of the engines has exceeded 54%.

##### (3) Fire Switch Panel

When an aircraft has been fitted with the APU option, the fire panel also carries a "FIRE APU" indicator light and an extinguisher control switch.

## ANALYSIS OF

### 3. OPERATION

#### A. Starting Preparation

Starting the APU requires the following provisions:

- (1) Energizing of the primary "A" and "B" Busses.
- (2) Connection of Main LH and RH DC Busses
- (3) Setting of the "MASTER" lighted pushbutton switch to "ON", which should light up (green). This allows:
  - opening of the fuel shutoff valve and the air intake door.The APU cannot be started unless the door is open.
- (4) Setting of the "GEN" lighted pushbutton switch to "ON"  
This arrangement allows power to be supplied to the "START" pushbutton switch. In these circumstances, APU starting can only be carried out with the excitation circuit of the APU closed. This reduces current during starting.

#### B. Starting the APU

Depress the "START" lighted pushbutton switch. The remainder of the sequence is automatic.

- RPM = 0%

Actuation of the pushbutton supplies the start relay, which in turn supplies the start-assist relay, either from the parallel-connected aircraft if the battery selector switch is set to N or from + 28V GROUND POWER if the switch is set to P.

Starting the APU is impossible if the batteries are connected in series. In this case starting is not possible.

The energized start-assist relay provides:

- application of power from the Start Bus to the Generator, when the latter is set to operate as a starter.
- self-hold of the starting circuit when the pressure on the "START" pushbutton is released.

RPM = 5%

The APU controller allows:

- opening of the fuel shutoff valve
- energization of the ignition unit, thus operation of the igniter plug

## ANALYSIS OF

### 3. OPERATION (cont.)

#### B. Starting the APU (cont.)

RPM = 60%

The APU controller:

- cuts off power supplying generator as a starter, by opening the start relay.

RPM = 95%

The APU controller:

- cuts off the power energizing the ignition unit
  - connects power to the hourmeter
  - enables opening of the bleed valve.
  - enables operation of the generator in the generator function
- The APU speed will stabilize at approximately 100% RPM.

#### C. Safety Features

The following safety features are provided:

- Overspeed 110% RPM or loss of monopole sensor pick-up signal.
  - EGT temperature exceeding 1260°F or open circuit in thermocouple circuit.
  - Oil pressure drop lasting more than 10 seconds when RPM exceeds 95%.
  - Excessive electrical power consumption of one of the APU components.
- Should one of these faults occur, a fault detector device in the controller will trip the four "FAULT" switches, which will immediately shut down the APU by:
- closing the fuel shutoff valve
  - closing the bleed valve and,
- during the starting sequence:
- cutting off the ignition
  - cutting off the power supplied to the start relay.

The "FAULT" switches are latched open. Restarting the APU can only be undertaken following resetting by cutting off power to the controller requiring depressing the "MASTER" pushbutton to "OFF".

#### D. Air Bleed Control

##### (1) Operation

An internal switch in the APU controller allows air to be bled off when RPM exceeds 95%.

When the "BLEED" pushbutton is depressed "ON" (illuminated green), the load control valve is opened by power supplied through a non-energized set of contacts of the relay.

## ANALYSIS OF

### 3. OPERATION (cont.)

#### D. Air Bleed Control (cont.)

##### (1) Operation (cont.)

Simultaneously, 28V DC power is fed to one of the terminals of the coil of relay and to the time-delay relay, which trips.

When the speed of any of the three engines exceeds 54%, one of the throttle microswitches provides ground connection for relay, which has the effect of de-energizing the APU bleed valve.

This arrangement provides a safety feature in the event that the check valve remains open.

##### (2) Indication

When the RPM setting of one of the engine throttles exceeds 54%, the relay trips and cuts off power energizing the time-delay relay, which returns to its previous condition after 4 seconds.

If the bleed valve does not close during this period, the microswitch of the valve provides a ground connection for the "APU BLEED" indicator light on the Master warning panel, which then comes on.

Similarly, when relay is energized, if relay does not trip when one of the engines exceeds 54% RPM, the "APU BLEED" indicator light will also illuminate.

This arrangement detects failures affecting relay.

#### E. Generator Control When in Generator Function Functioning as a Generator.

The Generator Control Unit (G.C.U.) is identical to the engine G.C.U. Operation of the generation system is identical. The APU generator supplies current to the RH Main Bus.

When the "GEN" pushbutton switch is set to "ON", the APU generator field excitation relay is energized. The "GEN" indicator light is thus illuminated green.

When RPM is less than 95%, an internal switch in the APU controller supplies 28V DC power to the G.C.U., which by means of an internal logic system prevents generator field excitation.

When the speed reaches 95% the signal is suppressed. The generator then functions as a generator.

ANALYSIS  
OF

3. OPERATION (cont.)

E. Generator Control When in Generator Function Functioning as a Generator.

The "GEN" indicator light is illuminated from the moment the pushbutton is depressed "ON".

The light goes out under the following circumstances:

- generator field excitation cut off when  $I > 15A$ .
- overvoltage.

F. APU Shutdown

(1) Normal Shutdown Procedure

The APU is shut down by depressing the STOP/LOP pushbutton, during operation.

By means of an internal device in the APU controller, actuation of the switch delivers an overspeed signal to the speed computer.

This signal simulates a signal provided by the tachometer. The APU is thus immediately shut down (closing of fuel solenoid valve).

An additional advantage of this mode of shutdown is that it tests, the overspeed safety feature.

To recommence another starting cycle, it is necessary to depress the "MASTER" pushbutton "OFF".

Shutdown of the APU is monitored on the indicators by the return of the RPM pointer towards 0 and the decrease in EGT temperature towards 350°F.

When the APU is observed to be shut down, depress the "MASTER" pushbutton to "OFF", which, in this position, will close the APU fuel solenoid valve and, after a delay will close the air intake door. In addition, power to the APU controller will be cut off and consequently no further RPM or EGT data will be provided.

The air intake door electrical actuator close line is supplied with power from the Battery Bus.

Ground/Flight Switch

If the APU is not shut down before takeoff, the ground/flight switch will open.

## ANALYSIS OF

### 3. OPERATION (cont.)

#### F. APU Shutdown (cont.)

##### (1) Normal Shutdown Procedure (cont.)

The APU controller is no longer energized, causing the immediate shutdown of the machine (fuel shutoff valve closed). In addition, the time-delay relay (339H) is de-energized together with relay (332H0), thus causing the air intake door to close.

##### (2) Alternative Shutdown Procedure

If normal shutdown procedure ineffective, depress the "MASTER" pushbutton "OFF", which will:

- close the APU fuel solenoid valve
- de-energize relay (339H), causing the same sequence of events as described in the paragraph above: ground/flight switch.

#### G. Emergency Shutdown in the Event of APU Fire

In the event of an outbreak of fire, the fire detection system will energize relay (194H) and thus immediately shut down the APU:

- power to the APU controller is cut off, thus causing the fuel solenoid valve to close
- the APU fuel solenoid electrovalve is closed
- the air intake door is closed.

#### H. Automatic APU Shutdown in case of Aircraft Circuit Supply Fault

By setting the five red squares (three generator, two battery) on the overhead panel to off, APU excitation is cut off through a logic circuit: the APU is shut down. The air intake door closes, being supplied by the Battery Bus.

### 4. LIMITATIONS

- The APU can only be used on the ground
- Nozzle temperature limit: 1260°F
- Maximum setting: 110%
- Maximum generator current: 1.0
- When "APU BLEED" is "ON", do not carry out engine or airfoil anti-icing tests.

Fuel and oil used are in accordance with those of the APU engine mfg.

NOTE: For APU Engine Maintenance and Inspection refer to the Turbomach T-62T-40C3A manual.

## ANALYSIS OF

### 5. APU REMOVAL - INSTALLATION

#### REMOVAL

##### A. Preliminary steps:

- (1) Close No.2 engine shutoff valve.
- (2) Open door to the rear compartment.
- (3) Disconnect the batteries to ensure that the electrical power supply to the APU is cut off.
- (4) Open LH and RH cowls providing access to No. 2 engine.
- (5) Remove the two doors on either side of the generator on the firewall. (engine side).

##### B. Through the RH door of the firewall on the engine side:

- (1) Disconnect the two electrical connectors P5 and P11 on the regulation valve.
- (2) Disconnect the fire detection connector (72W) (can also be disconnected through the rear compartment).
- (3) Disconnect computer connector (P2).
- (4) Remove the electrical harness clamps behind the APU.
- (5) Remove the clamp on the APU bleed air duct.

##### C. Through the rear compartment:

- (1) Disconnect and remove the fire extinguishing hose on the APU container.
- (2) Remove the couplings on the generator and container ventilation ducts.
- (3) Remove the ducts on the container side.
- (4) Disconnect the electrical wiring on the generator terminal board.
- (5) Remove all the drain pipes.
- (6) Disconnect the fuel supply pipe on the APU side.

ANALYSIS  
OF

5. APU REMOVAL - INSTALLATION (cont.)

C. Through the rear compartment: (cont.)

- (7) Remove the clamp between the exhaust shroud and the APU container.
- (8) Remove the clamp on the internal APU exhaust pipe.
- (9) Remove the two bolts securing the APU to the aircraft.
- (10) Tilt the APU slightly on the RH side (APU seen from the nose of the aircraft) and pull it to disengage the rear guides.
- (11) Slide the APU towards the exterior until opposite the rear compartment door.
- (12) Withdraw the APU from the rear compartment.

CAUTION: Weight of the APU: approximately 175 lbs.

Two operators should stand on each side of the door outside the aircraft and a third operator should enter the rear compartment.

- (a) Tilt the APU through the door frame.
  - (b) Withdraw the APU sideways, taking care to avoid impacts when passing through the door frame.
- (13) After removal, blank off all disconnected parts of the aircraft and the APU.

6. PREPARATION BEFORE INSTALLING THE APU IN THE AIRCRAFT

A. Carefully inspect:

- (1) The APU intake duct (condition, cleanliness, condition of internal rivets).
- (2) The APU air intake door control mechanism (hinge, control linkage, control linkage seal through bulkhead seal box, electric motor).
- (3) The fuel shutoff solenoid valve (condition of electrical connector and fuel pipe).
- (4) Condition of the exhaust pipe (security, freedom from cracks in elbow areas of the pipe).

## ANALYSIS OF

### 6. PREPARATION BEFORE INSTALLING THE APU IN THE AIRCRAFT (cont.)

#### A. Carefully inspect: (cont.)

- (5) Condition of the engagement areas of the APU locating spigots.
- (6) Condition of teflon slides under the APU mount.

#### B. Using a vacuum cleaner, clean the APU installation area.

### 7. INSTALLATION

#### A. Remove the blanking components installed when the APU was removed (both on the aircraft and on the APU).

#### B. Ensure that all connecting and joining points are in position and in good condition.

#### C. Install the APU in the rear compartment. Proceed as follows:

- (1) Three or four persons are required to assist
  - one inside the rear compartment.
  - the others outside the aircraft.

- (2) Tilt the APU sideways and locate it within the door frame (aligned as for installation in the aircraft).

- (3) Hold the APU tilted until completely within the rear compartment.

CAUTION : AVOID SUBJECTING THE APU TO IMPACTS WHEN PASSING THROUGH THE DOOR FRAME.

- (4) Slide the APU towards its mounting in the aircraft.

- (5) Guide the fuel pipe and electrical wiring to assist their passage through the rear bulkhead.

- (6) Engage the two rear spigots in their seatings.

- (7) Install the APU mount attachment bolts to secure the APU to the aircraft.

- (8) Tighten the bolts to a torque of 135 in./lb.

## ANALYSIS OF

### 7. INSTALLATION (cont.)

#### D. Through the rear compartment:

- (1) Install the primary exhaust pipe.
- (2) Install the clamp to attach the primary exhaust pipe and torque it in accordance with the indications on the clamp.
- (3) Install the clamp to connect the exhaust pipe shroud and the APU container.
- (4) Connect the fuel supply line.
- (5) Install the drain manifold in its housing and secure it.
- (6) Install the container and generator cooling ducts.
- (7) Install the fire extinguishing line.
- (8) Connect the electrical cables to the generator terminal board.

#### E. Through the LH door of the firewall on the engine side:

- (1) Install the clamp connecting the generator ventilation outlet duct.

#### F. Through the RH door of the firewall on the engine side:

- (1) Install the clamp on the bleed air duct, torque in accordance with the indication on the clamp.
- (2) Install the electrical wiring clamps behind the APU.
- (3) Connect the computer connector (P2).
- (4) Connect the fire detection connector 72W (can also be connected through the rear compartment).
- (5) Connect the two P5 and P11 regulation valve electrical connectors (safety-lock the threaded connector).

#### G. Close up.

- (1) Ensure that all components affected by the removal-installation operation are correctly installed and safety-locked.

## ANALYSIS OF

### 8. APU REPLACEMENT IN MOUNTING

A. Remove the fire detector sensor.

- (1) Open the sensor retaining camloc fasteners.
- (2) Withdraw the fire detector sensor through the connector attachment hole (4 screws + retaining clamp).

NOTE: During the APU replacement, the camloc mountings attached to the APU must be removed and installed on the new APU.

B. Remove all remaining detachable components of the APU container.

- (1) Remove the seal of the bleed air duct.

C. Remove the generator cooling outlet.

D. Install the hoisting equipment.

E. Remove the five bolts and two trunnions.

F. Remove the starter generator.

- (1) Unlock and remove the SEB clamp.
- (2) Remove the two half-shells.

NOTE : The operations a and b are performed while supporting the generator. Do not allow the weight of the starter generator to be supported by its splined shaft.

G. Recover the camloc fasteners of the fire detector sensor.

H. Remove the starter generator mounting.

### 9. INSTALLATION OF THE APU ON ITS MOUNTING FRAME

A. Attach the hoisting equipment to the APU.

B. Hoist the APU and locate it on its mounting support.

C. Locate the three attachment points.

- (1) Aline the holes in the engine and mount.
- (2) Install trunnions, two each, and mount bolt, one each.

## ANALYSIS OF

### 9. INSTALLATION OF THE APU ON ITS MOUNTING FRAME (cont.)

- D. Remove the hoisting equipment.
- E. Install the detachable cowlings of the container.
- F. Install the starter generator mounting.

- (1) Install the gasket.
- (2) Locate the generator mounting on the APU in order to locate the generator so that the terminal board is in a 10 o'clock position.

NOTE : The locating pin between the mounting and the generator serves to locate the terminal board.

- (3) Torque the attaching nut 95 to 100 in./lb.

#### G. Install the fire detector sensor as follows:

- (1) Thread the sensor through the connector attachment hole.
- (2) Follow the routing established by the position of the camloc supports.

NOTE : The routing of the fire detection sensor is established by the location of the camloc supports secured to the APU container.

NOTE : When an APU is replaced, the camloc mounts must be transferred to the replacement APU.

#### H. Install the starter generator while supporting its weight (do not allow its weight to be supported by its splined shaft).

- (1) Lubricate the splined shaft (MIL-G-81322B).
- (2) Install the two half-shells.
- (3) Install the attachment clamp (SEB).
- (4) Torque in accordance with the indication on the clamp and safety-lock.

#### I. Install the generator cooling outlet duct.

**ANALYSIS  
OF**

10. APU OIL CHANGE

A. OIL CHANGE

- (1) Changing oil (same spec., same make).

NOTE : Drain the oil while APU is still warm after operation. If necessary start APU and operate until oil has reached a stable temperature, then stop APU and proceed with oil change while oil is still warm. Only use brands suggested by manufacturer for this APU.

- (a) Open rear compartment door.
- (b) Remove main cowling of accessory zone.
- (c) Unscrew drain plug and let oil flow in reservoir or in drainage collector towards aircraft mast.
- (d) Carefully inspect drained oil, searching for metal particles which would imply a deterioration of the APU. If this is the case, inspect the APU for extent of damage and necessary servicing.
- (e) After complete oil drainage, place drain plug with new o-ring and safety.
- (f) Proceed with oil fill.
- (g) Replace filler plug.
- (h) Reinstall main cowling.

NOTE : Oil level must be checked after first running of APU.

11. APU : INSPECTION/CHECK OF THE APU INSTALLATION : AIRCRAFT EXTERIOR  
CHECK : AIRCRAFT CHECK : INTERIOR CHECK OF APU CONTAINER  
AIRCRAFT EXTERIOR CHECK (APU AREA)

- A. Ensure that there are no signs of abnormal oil or fuel leakage from the aircraft drain mast.
- B. Check security and condition of :
  - (1) The inlet louvers for ventilation of the APU container and generator.

ANALYSIS  
OF

11. APU : INSPECTION/CHECK OF THE APU INSTALLATION : AIRCRAFT EXTERIOR  
CHECK : AIRCRAFT CHECK : INTERIOR CHECK OF APU CONTAINER (cont.)  
AIRCRAFT EXTERIOR CHECK (APU AREA) (cont.)

B. Check security and condition of : (cont.)

- (2) The APU air intake door under the aircraft. Ensure that the air intake is unobstructed, by setting the MASTER lighted pushbutton switch on the APU control panel to "ON", in order to open the door, and to "OFF", in order to close it.
- (3) The exhaust pipe and metal shroud.
- (4) The drain pipes inside the drain manifold (8 o'clock position under the aircraft).

12. AIRCRAFT INTERIOR CHECK (APU AREA)

- A. Open the rear compartment door.
- B. Open the LH and RH cowlings of the No. 2 engine.
- C. Open the LH and RH doors of the firewall (engine side).
- D. Through the rear compartment, check security and condition of :
  - (1) The APU frame-mounting attach fittings on the aircraft.
  - (2) The exhaust pipe and shroud.
  - (3) The plumbing of the fire extinguishing system.
  - (4) The clamps of the cooling plumbing provided for the generator, starter, and APU container.
  - (5) The various container doors.
- E. Through the RH door of the firewall, check security and condition of :
  - (1) The electrical wiring and its routing.
  - (2) The computer (electrical connectors mated).
  - (3) The bleed air valve (coupling clamp).
  - (4) The APU rear container and connection between the exhaust pipe and the container.

**ANALYSIS  
OF**

12. AIRCRAFT INTERIOR CHECK (APU AREA)

- E. Through the RH door of the firewall, check security and condition of:  
(cont.)
  - (5) The electrical actuator controlling the air intake door and its electrical connector.
- F. Through the LH door of the firewall, check security and condition of:
  - (1) Thru-bulkhead connectors, for the passage of fuel lines and electrical wiring.
  - (2) The APU fuel shutoff solenoid valve and its electrical connector.
- G. Ensure that there are no signs of overheating opposite the couplings.

13. INTERIOR CHECK OF APU CONTAINER

- A. Remove the doors/panels providing access to the APU :
- B. Perform a visual inspection of the APU wiring harness : released wires or cables, weakened or worn cables due to chafing or over-tightening. Check the conditions of connections and attaching points ; ensure that they are secure.
- C. Perform a visual inspection of the entire exterior of the engine to ensure that there is no leakage of fuel or oil beneath the various items of equipment.
- D. Check tightening of bolts and screws attaching the various accessories and especially the three-point APU mounting on its frame.
- E. Replace damage safety locking features and worn or damaged lock-washers.
- F. Perform a visual inspection of all wiring; especially check for initial signs of corrosion and for terminals or connectors which may have become loose due to vibration.
- G. Check if any particular section of the wiring has become oil-soaked or fuel-soaked, or damaged by overheating.
- H. Perform a visual inspection of casings, covers and fittings to ensure that they are not cracked, dented, distorted or affected by other damage.

ANALYSIS  
OF

13. INTERIOR CHECK OF APU CONTAINER (cont.)

I. Inspect the attach points of the fire detector sensor.

J. Check security and condition of:

(1) Plumbing and freedom from any leakage at couplings.

(2) Fuel shutdown solenoid valve and its connector.

(3) Fuel-oil drain pipes.

(4) Electrical connectors.

(5) Starter-generator wiring.

14. Following inspection, install all access doors removed during the preceding operations.