CHAPTER

28

FUEL

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CHAPTER 28 - FUEL
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FUEL - DESCRIPTION AND OPERATION

1. General

The description and operation of the fuel system is divided into the following sub-topics:

- storage, including fuel tanks and vents
- distribution, including the refueling and engine fuel supply systems
- control and indication.

2. Storage

A. Description (Ref. Fig. 1)

NOTE: This description is applicable to the LH fuel storage system. The RH system is similar.

The airplane has the following fuel tanks:

- an integral wing tank bounded by the front and rear spars, the wing interface in the fuselage center section, and the rib at WS6503. This tank has a capacity of 122.1 US Gal (462.3 liters).
- an integral fuselage tank bounded by the upper skin of the wing, fuselage bulkhead 6000, and fuselage bulkhead 6710. This tank has a capacity of 61.8 US Gal (234 liters).
- a collector tank located inside the main landing gear bay between fuselage bulkheads 6000 and 6710. This tank has a capacity of 19.55 US Gal (74 liters).
- an auxiliary tank located above the collector tank between fuselage bulkheads 6000 and 6710. This tank has a capacity of 5.6 US Gal (21.2 liters).

The fuel tanks are interconnected and effectively form a single fuel tank. The LH and RH fuel tank systems are interconnected at the top of the integral fuselage tank to allow gravity refueling of the system. The LH and RH collector tanks are interconnected via an electrically operated interconnecting valve to allow single point pressure refueling of the system.

Two valves located at the wing vent pipe end and on the 5896 rib do not allow the fuel to enter the more external fuel compartment during side acceleration.

The air space at the outboard end of the wing tank is vented into the integral fuselage tank through a 0.75 in (19 mm) diameter alloy tube. The integral fuselage tank is vented, through a 1 in (25 mm) diameter alloy tube, to the exterior of the fuselage skin at FS 6710. The vent line contains a flame arrester to protect the fuel system from lightning strike. A flame arrester bypass line with two relief valves is installed to avoid under or over pressurization of the tanks in the event of the flame arrester becoming blocked. The relief valves are set to open at a positive or negative differential pressure between 1.0 and 1.4 psi.

3. Distribution

A. Description - Pressure Refueling System (Ref. Fig. 2)

The pressure refueling system comprises:

- a refueling adapter incorporating a check valve located on the RH fuselage skin above the main landing gear door
- a pressure operated shutoff valve located in the refuel line
- an electrically operated precheck valve which provides a refuel shut-off test facility
- a pilot valve located at the maximum fuel level in the fuselage integral tank
- an electrically operated interconnecting valve located on the RH collector tank
- control switches and indicator lights located on the ground test panel adjacent to the refueling adapter door.

The refueling adapter is protected by a cap and the refueling adapter door can not be closed unless the cap is correctly installed. The adapter contains a check valve which opens when the filler hose is connected. The adapter is connected to the shutoff valve by a 1.25 in (32 mm) diameter tube which contains a flow limiter. The flow limiter restricts the rate of fuel flow to match the capability of the fuel vent system in the event of pilot valve failure. During refueling the pressure of the fuel opens the shut-off valve and fuel flows to the pilot valve and into the tank. The shutoff valve contains a metered orifice which bleeds, through the precheck valve, to the pilot valve. When the float of the pilot valve moves up (tank full) the bleed is stopped and the backpressure causes the shutoff valve to shut and stop the flow of fuel.

The precheck valve provides a refuel shut-off test facility. For the operation of the shut-off test refer to 28-13-00.

During refueling the interconnecting valve is opened to interconnect the collector tanks and allow both the LH and RH tanks to fill. The interconnecting valve is operated by the REFUEL switch at the ground test panel. For the operation of the valve refer to 28-14-00.

B. Description - Fuel Supply System (Ref. Fig. 1)

NOTE: This description is applicable to the LH engine fuel supply system. The RH system is similar except for the crossfeed valve which is installed on the left main-wing front-spar and is described as a part of the LH system.

Two electrically operated fuel booster pumps, one main and one standby, are installed at the bottom of the collector tank. The pumps are identical but have independent electrical supplies. Both pumps are connected to the engine fuel supply line via check valves.

The supply line is a 0.625 in (16 mm) diameter alloy tube which connects the fuel pumps to an electrically operated shutoff valve located on the engine front firewall.

An electrically operated crossfeed valve, mounted on the left wing front spar, interconnects the LH and RH fuel supply lines to give a backup facility in the event of a complete failure of both pumps. Downstream the shutoff valve a fuel filter with impending by-pass switch is installed. A pipe connects the filter bowl bottom to a drain valve (located close to the engine nacelle lower skin) and to the low fuel pressure switch. Both the impending by-pass switch and the low fuel pressure

switch operate a caution light on the annunciator panel (L/R FUEL FILTER and L/R FUEL PRESS respectively).

The filter assembly is connected to the engine fuel system (Refer to 73-00-00) by a hose.

4. Control and Indication (Ref. Fig. 3)

A. Description

The system is controlled at the FUEL control panel on the center pedestal. The control panel has the following switches:

– OFF/CROSSFEED	– controls the position of the crossfeed valve (open or shut) to connect the LH and RH fuel supply system
– L PUMP MAIN/STBY/OFF	– controls the operation of the LH main or standby fuel booster pumps
– R PUMP MAIN/STBY/OFF	– controls the operation of the RH main or standby fuel booster pumps
– L F/W VALVE OPEN/ CLOSED	– controls the position of the LH fuel supply firewall shutoff valve (open or shut)
– R F/W VALVE OPEN/ CLOSED	– controls the position of the RH fuel supply firewall shutoff valve (open or shut).

Fuel system indication comprises the following:

– fuel quantity indication on the MFD Upper Format.
– system fault indication on the annunciator panel.
– refueling indication on the ground test panel.

Fuel quantity indication comprises a capacitance type system connected to the LH and RH system indicators on the FUEL control panel.
The system has twelve fuel quantity probes, located as follows:

– one in each collector tank.
– four in each wing tank.
– one in each fuselage tank.

A FUEL QTY system test facility is provided at the SYS TEST panel (Refer to 28-40-00).

Indicators on the annunciator panel include:

- L FUEL PUMP – comes on when the left main booster pump is not operating (either failed or switched OFF)
- R FUEL PUMP – comes on when the right main booster pump is not operating (either failed or switched OFF)
- L FUEL PRESS – comes on when a pressure switch, located in the fuel supply line near the outlet of the left main booster pump, detects a drop in pressure to between 5,2 and 6,2 psi. At the same time the switch also energizes the left standby booster pump
- R FUEL PRESS – comes on when a pressure switch, located in the fuel supply line near the outlet of the right main booster pump, detects a drop in pressure to between 5,2 and 6,2 psi. At the same time the switch also energizes the right standby booster pump
- L FUEL FILTER – comes on if the pressure differential across the left fuel filter exceeds a preset level to indicate filter blockage
- R FUEL FILTER – comes on if the pressure differential across the right fuel filter exceeds a preset level to indicate filter blockage
- L F/W V INTRAN – comes on when the left fuel supply firewall shutoff valve is moving or if the valve stops in a partially open position
- R F/W V INTRAN – comes on when the right fuel supply firewall shutoff valve is moving of if the valve stops in a partially open position

– L F/W V CLSD	– comes on when the left fuel supply firewall shutoff valve is shut
– R F/W V CLSD	– comes on when the right fuel supply firewall shutoff valve is shut
– FUEL XFEED	– comes on when the crossfeed valve is open
– X FEED INTRAN	– comes on when the crossfeed valve is moving or stops in a partially open position
– L LOW FUEL	– comes on if the fuel quantity in the left collector tank falls to approximately 18 US Gal (68 liters)
– R LOW FUEL	– comes on if the fuel quantity in the right collector tank falls to approximately 18 US Gal (68 liters).

Fuel system indicators on the ground test panel comprise:

– TK INTCON INT	– comes on when the collector tank interconnecting valve is moving or stops in a partially open position
– TANK INTCON	– comes on when the collector tank interconnecting valve is open.

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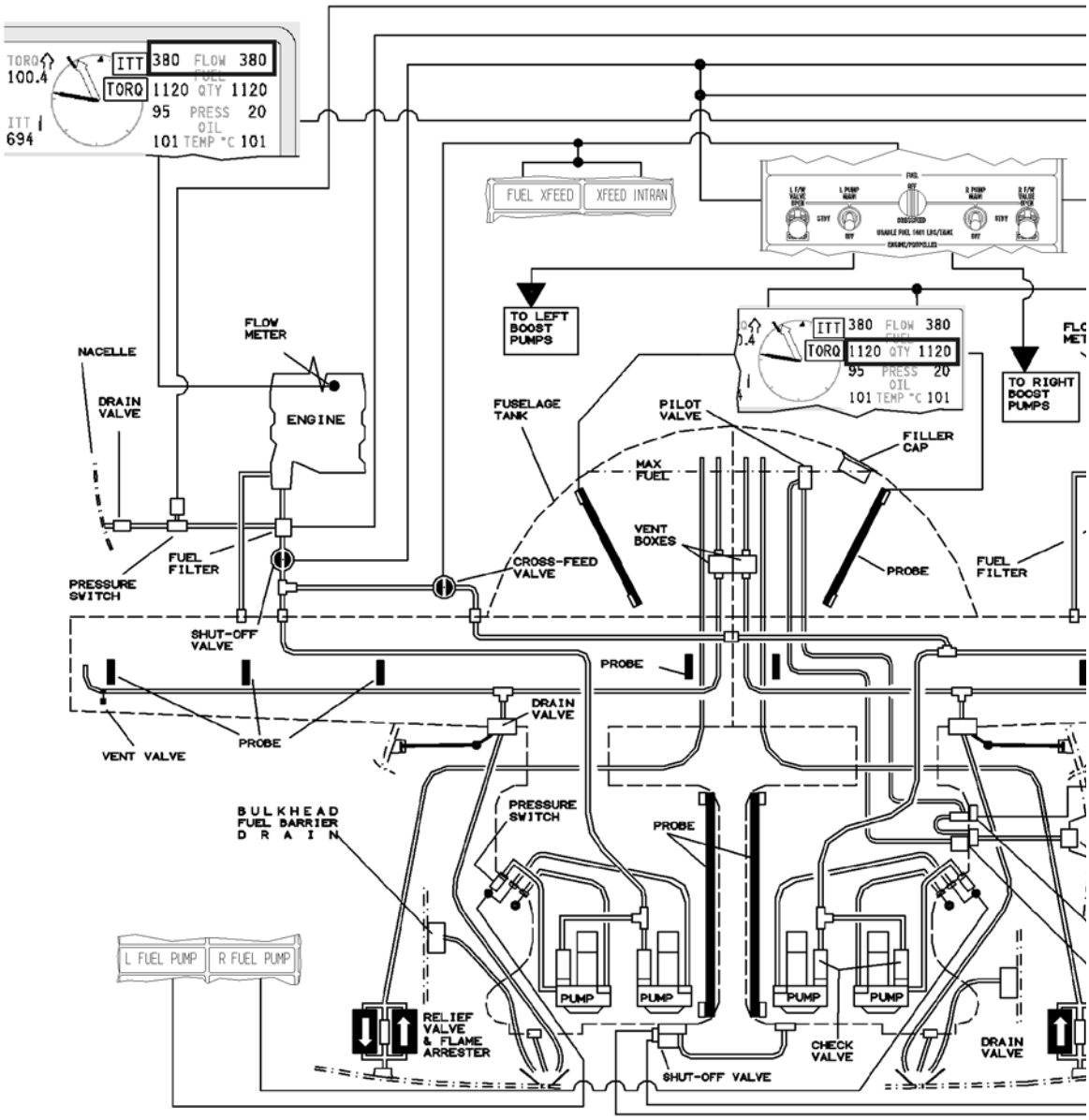

Fig. 1 - Fuel - Schematic

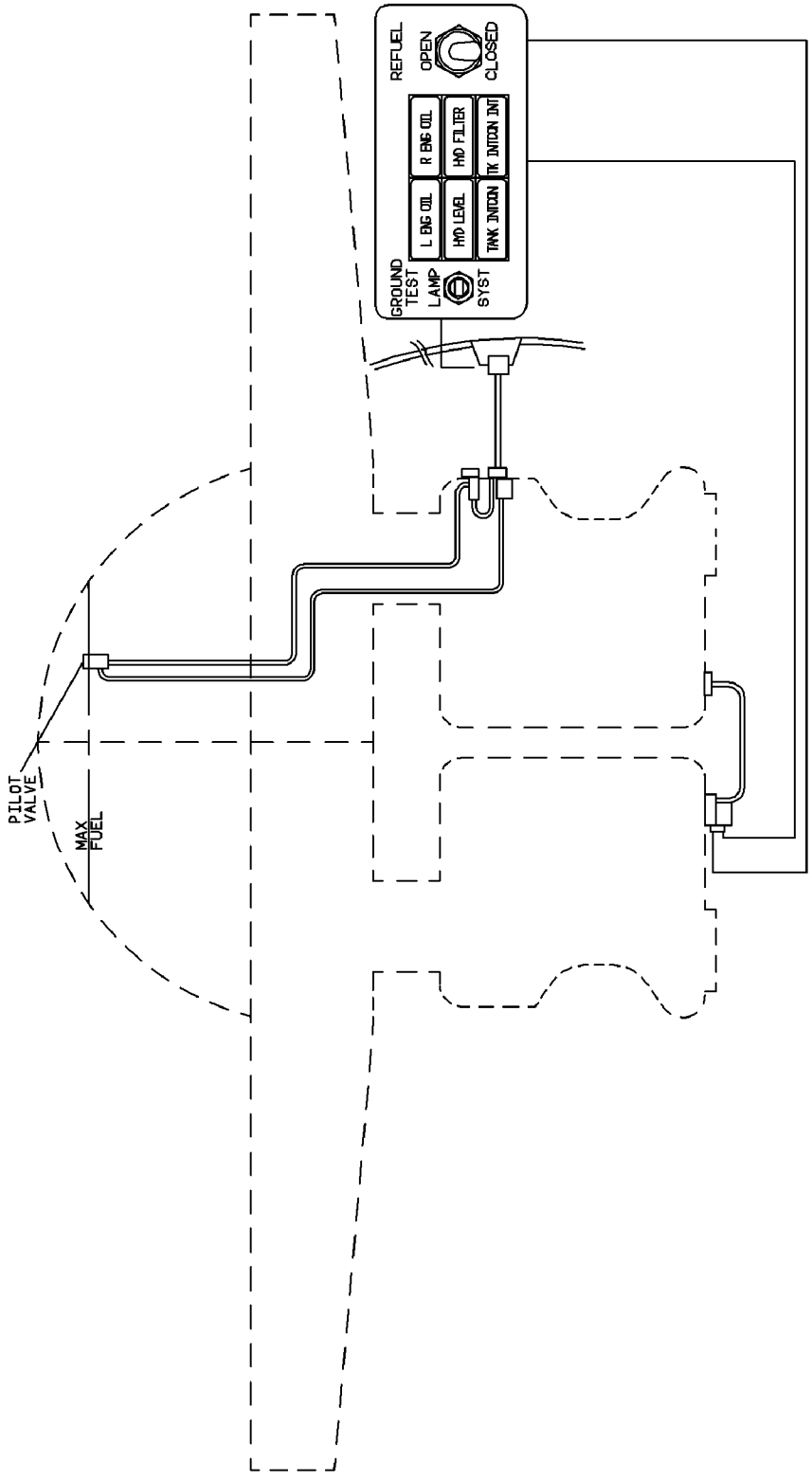

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Fig. 2 - Fuel - Pressure Refueling System

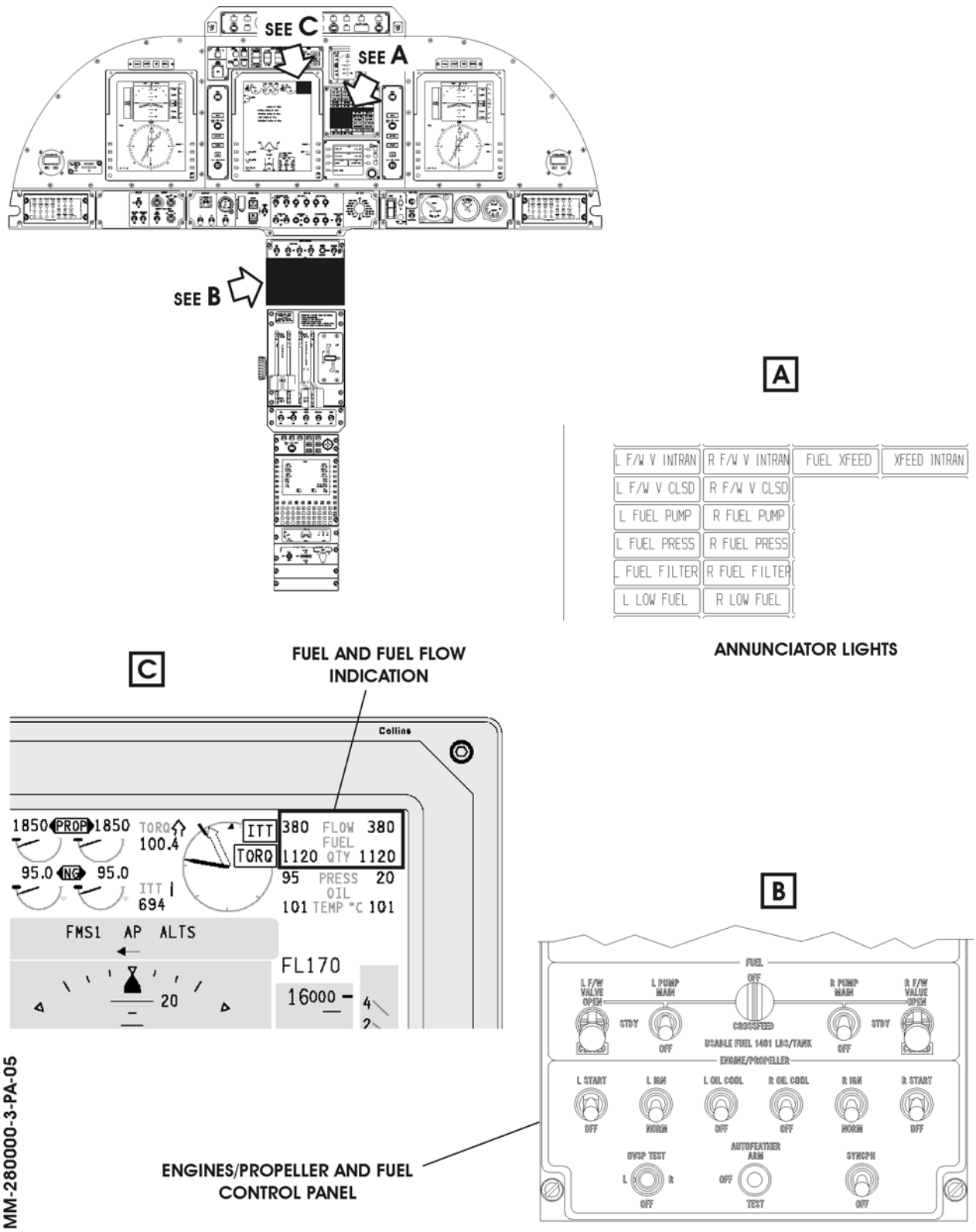


Fig. 3 - Fuel - Control and Indication

FUEL - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN CHAPTER 20-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

WARNING: BE CAREFUL WHEN YOU DO WORK ON THE FUEL SYSTEM AND INSIDE A FUEL TANK:

- MAKE SURE A SECOND PERSON IS AVAILABLE
- MAKE SURE FIRE EXTINGUISHERS ARE AVAILABLE
- DO NOT SUPPLY ELECTRICAL POWER TO THE AIRPLANE
- OBEY THE MANUFACTURERS INSTRUCTIONS FOR THE COMBUSTIBLE GAS INDICATOR WHEN YOU DO A CHECK OF THE ATMOSPHERE IN A FUEL TANK
- THE VAPOR REMOVER MUST OPERATE ALL THE TIME THAT PERSONS DO WORK IN A FUEL TANK
- GROUND THE VAPOR REMOVER TO THE AIRPLANE. THIS PREVENTS THE BUILD-UP OF STATIC ELECTRICITY WHEN THE VAPOR REMOVER IS IN USE
- PUT ON CLOTHING MADE FROM ANTI-STATIC TYPE MATERIAL WHEN YOU DO WORK IN A FUEL TANK
- REMOVE ALL METAL OBJECTS AND EQUIPMENT FROM YOUR PERSON THAT CAN MAKE SPARKS
- USE ONLY EXPLOSION-PROOF LIGHTING EQUIPMENT
- USE ONLY EXPLOSION-PROOF ELECTRICAL EQUIPMENT IN THE FUEL TANK
- USE ONLY EXPLOSION-PROOF ELECTRICAL EQUIPMENT WHEN YOU DO WORK LESS THAN 100 ft (30 m) Away From An Open Fuel Tank
- USE ONLY AIR DRIVEN POWER TOOLS
- DO NOT USE FOOTWEAR WITH METAL STUDS
- DO NOT USE BATTERY-POWERED EQUIPMENT
- USE ONLY NON-METALLIC TRAYS AND CONTAINERS
- MAKE SURE THAT NO RADIO OR RADAR EQUIPMENT OPERATES LESS THAN 200 FT (60M) FROM THE OPEN FUEL SYSTEM

ELECTRICALLY OPERATED EQUIPMENT AND METAL OBJECTS CAN MAKE SPARKS AND CAUSE EXPLOSIONS.

WARNING: BE CAREFUL WHEN YOU USE A WARM AIR BLOWER INSIDE A FUEL TANK:

- DO NOT USE A WARM AIR BLOWER IF THE ATMOSPHERE IN THE TANK IS MORE THAN 25 PERCENT OF THE LOWER EXPLOSION LIMIT
- START THE WARM AIR BLOWER BEFORE THE OUTLET DUCT IS PUT INTO THE TANK
- REMOVE THE OUTLET DUCT FROM THE TANK BEFORE YOU STOP THE WARM AIR BLOWER

JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the Maintenance Practices which follow:

- An inspection of the fuel system for signs of external leaks
- An inspection of the fuel storage area
- An inspection of the nacelle fuel lines and accessories.

2. Fuel System - External Leak Inspection

A. Fixtures, Test and Support Equipment

Warning Notices	Not specified
Flameproof Light Source	Not specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).

(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.

(3) Examine the areas which follow for signs of leaks:

- the bottom of the fuselage between FS6000 and FS6710
- the engine nacelles between NAC S-1412.12 and NAC S-2605.83
- the bottom of the wings and the wing-tank access-panels.

If signs of leaks are found, remove the applicable access panels and examine the fuel system components for defects (Refer to Para. 3 and Para 4).

(4) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(5) Remove the Warning Notice from the flight compartment.

(6) Make sure the electrical power is available (Refer to 24-00-00).

3. Fuel Storage Area - Inspection

A. Fixtures, Test and Support Equipment

Warning Notices	Not specified
Flameproof Light Source	Not specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 06-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Refuel the airplane (Refer to 12-00-00).
(4) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(5) Remove the access panels 251A and 252A (Refer to 06-00-00).
(6) In zones 251 and 252 examine the components which follow for excessive damage, corrosion, signs of leaks and security of attachment:
- the auxiliary fuel tanks
- the fuel collector tanks
- the flame arresters
- the interconnecting valve
- the refueling connector
- the relief valves
- the vent valves
- the flexible connections between the collector tanks and the wing tanks
- the fuel tubes and the clamps
- the defueling connections
- the access panels of the wing tanks, the auxiliary tanks and the fuel collector tanks.

Tighten or replace defective components as necessary.
(7) Examine the fuel drains and the fuel tank vents between FS6235 and FS6710 for blockage and excessive damage.
(8) Install the access panels 251A and 252A (Refer to 06-00-00).
(9) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).
(10) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.
(11) Remove the Warning Notice from the flight compartment.
(12) Make sure the electrical power is available (Refer to 24-00-00).

4. Nacelle Fuel Lines and Accessories - Inspection

A. Fixtures, Test and Support Equipment

Warning Notices	Not specified
Flameproof Light Source	Not specified
Access Platform	3 ft (1 m)

B. Referenced Information

Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-20-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Put the access platform in position, forward of the LH (RH) engine intake.
(4) Remove the access panel 410 AT (420 AT).
(5) In zone 410 (420) examine the components which follow for excessive damage, corrosion, signs of leaks and security of attachment:
- the firewall shutoff valve
- the crossfeed valve (in zone 410 only)
- the fuel filter
- the fuel-filter drain-valve
- the low-fuel-pressure switch
- the flexible hose
- the mounting brackets

Tighten or replace defective components as necessary.
(6) Make a check of the impending by-pass indicator on the fuel filter (Refer to 28-20-00).
(7) Install the access panel 410 AT (420 AT).
(8) Remove the access platform, all tools, materials and equipment from the work area. Make sure that the area is clean.
(9) Remove the Warning Notice from the flight compartment.
(10) Make sure the electrical power is available (Refer to 24-00-00).

5. Flame Arrester - Removal (Refer to Fig. 201)

A. Fixtures, Test and Support Equipment

Warning Notices	Not specified
Flameproof Light Source	Not specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH removals.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Jack the airplane (Refer to 07-10-00)
(4) Remove the Structural Panel 251A/252A (Refer to 53-60-00)
(5) Remove the four clamp (1) that secure the upper and lower rubber sleeve (2, 3) to the flame arrester (4) and to the vent ducts (5, 6).
(6) Free the flame arrester (4) from the upper and lower rubber sleeve (2, 3).
(7) Remove the flame arrester (4).

6. Flame Arrester - Installation(Refer to Fig. 201)

A. Fixtures, Test and Support Equipment

Warning Notices	Not specified
Flameproof Light Source	Not specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Make sure, as necessary that:
- There is not electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available, refer to removal procedure

(2) Place the flame arrester (4) in its own position between the vent ducts (5,6).
(3) Insert the upper and lower rubber sleeve (2, 3) between the flame arrester (4) and the vent ducts (5, 6).
(4) Secure the flame arrester to the vent ducts (5, 6) with clamps (1).
(5) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.
(6) Install the Structural Panel 251A/252A (Refer to 53-60-00)
(7) Remove the airplane from jacks.
(8) Remove the Warning Notice from the flight compartment.
(9) Make sure the electrical power is available (Refer to 24-00-00).

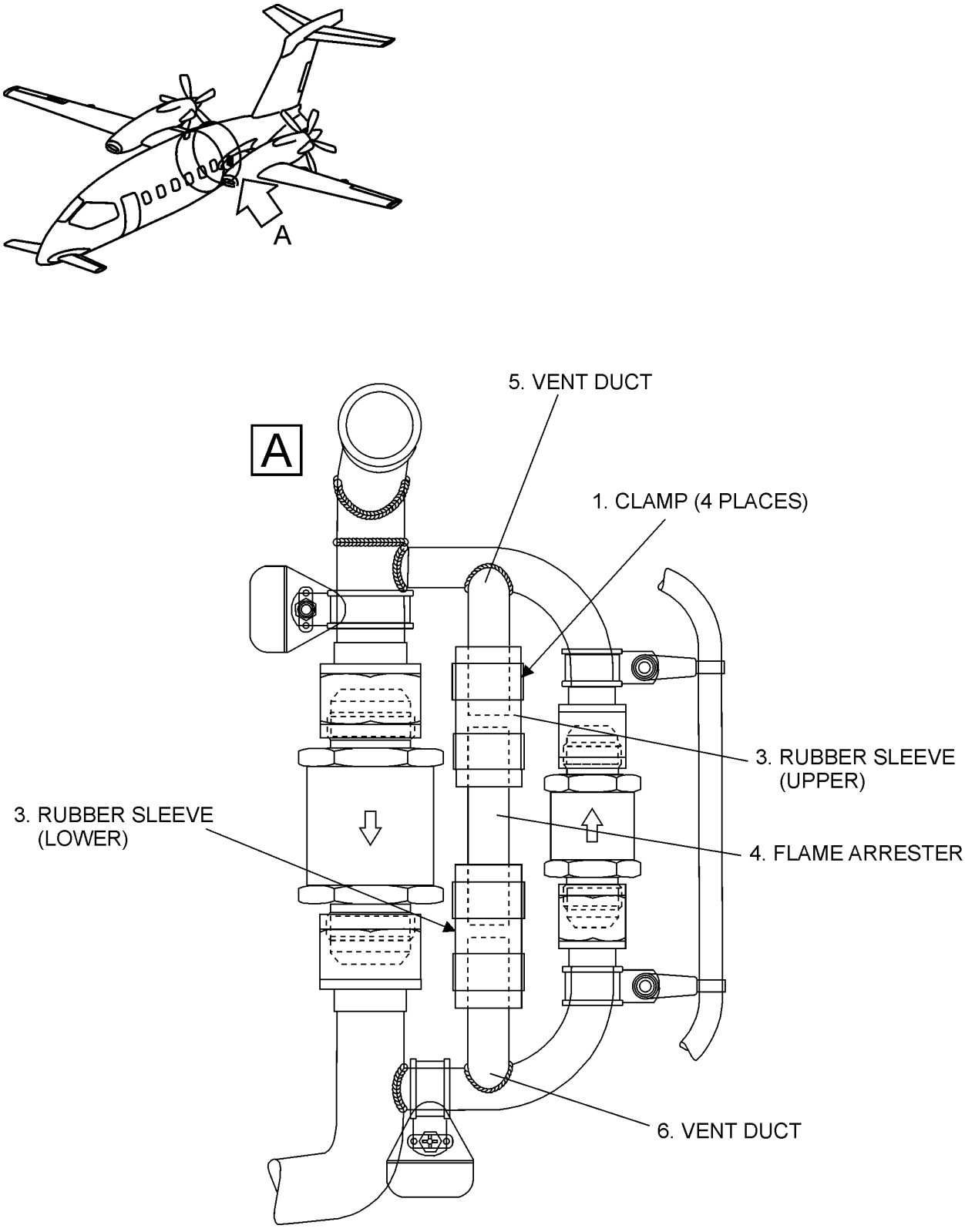


Fig. 201 - Flame arrester - Removal / Installation

7. Insulation Bulkhead - Leakage Check(Refer to Fig. 202)

A. Fixtures, Test and Support Equipment

Warning Notices	Not specified
Flameproof Light Source	Not specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 53-60-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Remove the Interior Toilet Panels to get access to the Insulation Bulkhead (Refer to Chapter 25-40-00).
(3) Remove the LH Auxiliary Tank (Refer to Chapter 28-12-00).
(4) Connect a air low pressure source (max 0,2 PSI) to Drain Pipe Line End (1), located just above the Drain Outlet Collector (2).

CAUTION: INLET PRESSURE EXEEDING 0,3 PSI COULD DAMAGE THE INSULATION BULKHEAD CAUSING PERMANENT DEFORMATION AND LOSS OF SEALING FUNCTION.

(5) Open the LH Fuel/Insulation Bulkhead Gap Smoke/Vent Valve (3) pushing the pin located on the valve itself.
(6) Verify if the air flow freely out toward the cabin.
(7) Repeat the Step 5 and 6 for the RH Fuel/Insulation Bulkhead Gap Smoke/Vent Valve.
(8) If the Fuel/Insulation Bulkheads Gap Drain Pipe Line (4) is clogged, proceed to remove the Insulation Bulkhead (5) (Refer to Chapter 53-60-00) and remove the clogging from the vent line.
(9) Make sure that the Fuel/Insulation Bulkheads Gap Smoke/Vent Valves are closed.
(10) Supply air low pressure source (max 0,2 PSI) to the Fuel/Insulation Bulkheads Gap Drain Pipe Line (4).
(11) Check with water soap if there is any air leakage along the bottom line and side arcs (5) of the Insulation Bulkhead.
(12) If leakage is found, remove the Insulation Bulkhead and reseal the contact areas between the Insulation Bulkhead and Bulkhead 6000 stiffeners.
(13) Install the Interior Toilet Panels.

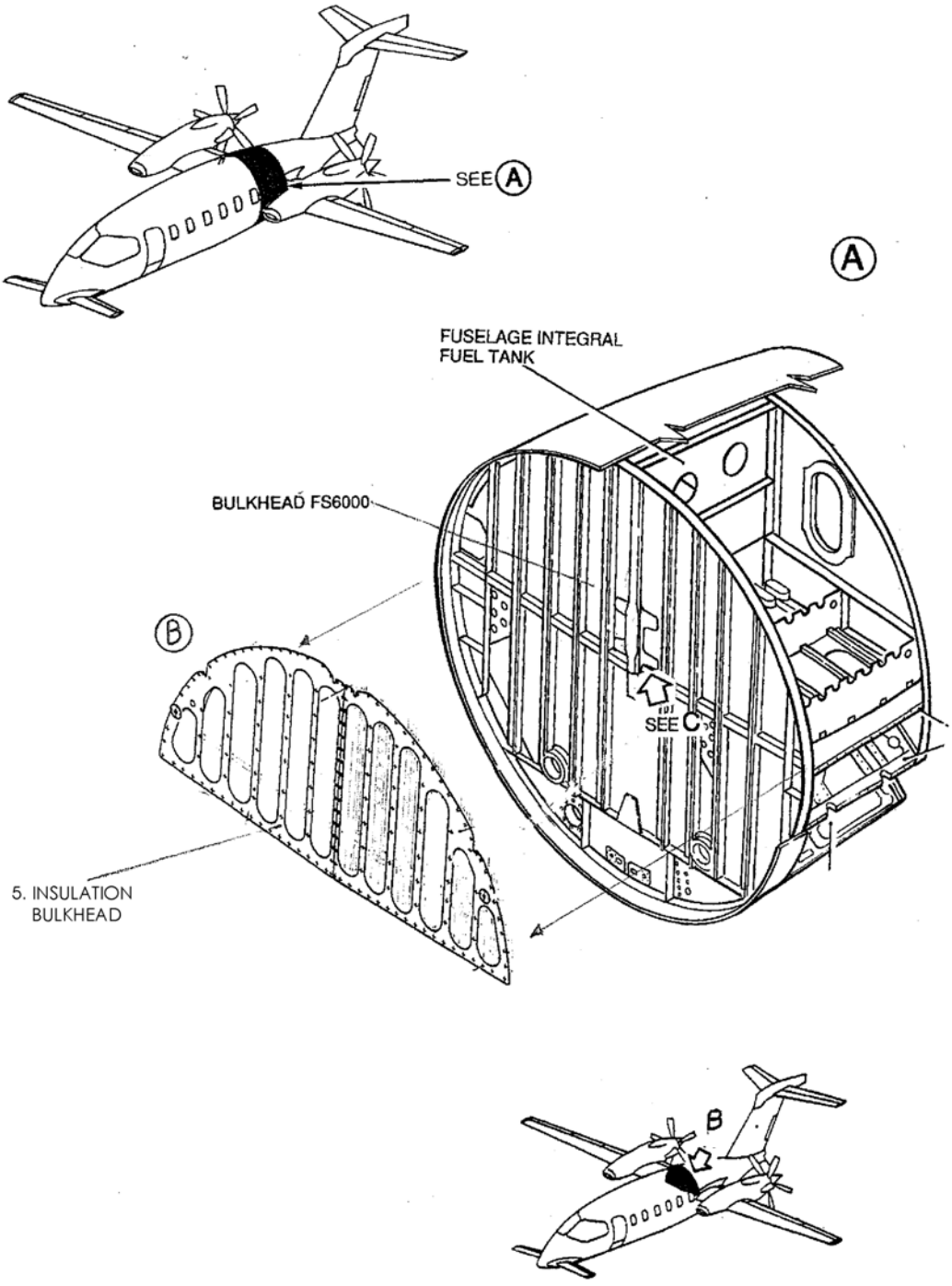


Fig. 202 - Insulation Bulkhead - Leakage Check (Sheet 1 of 3)

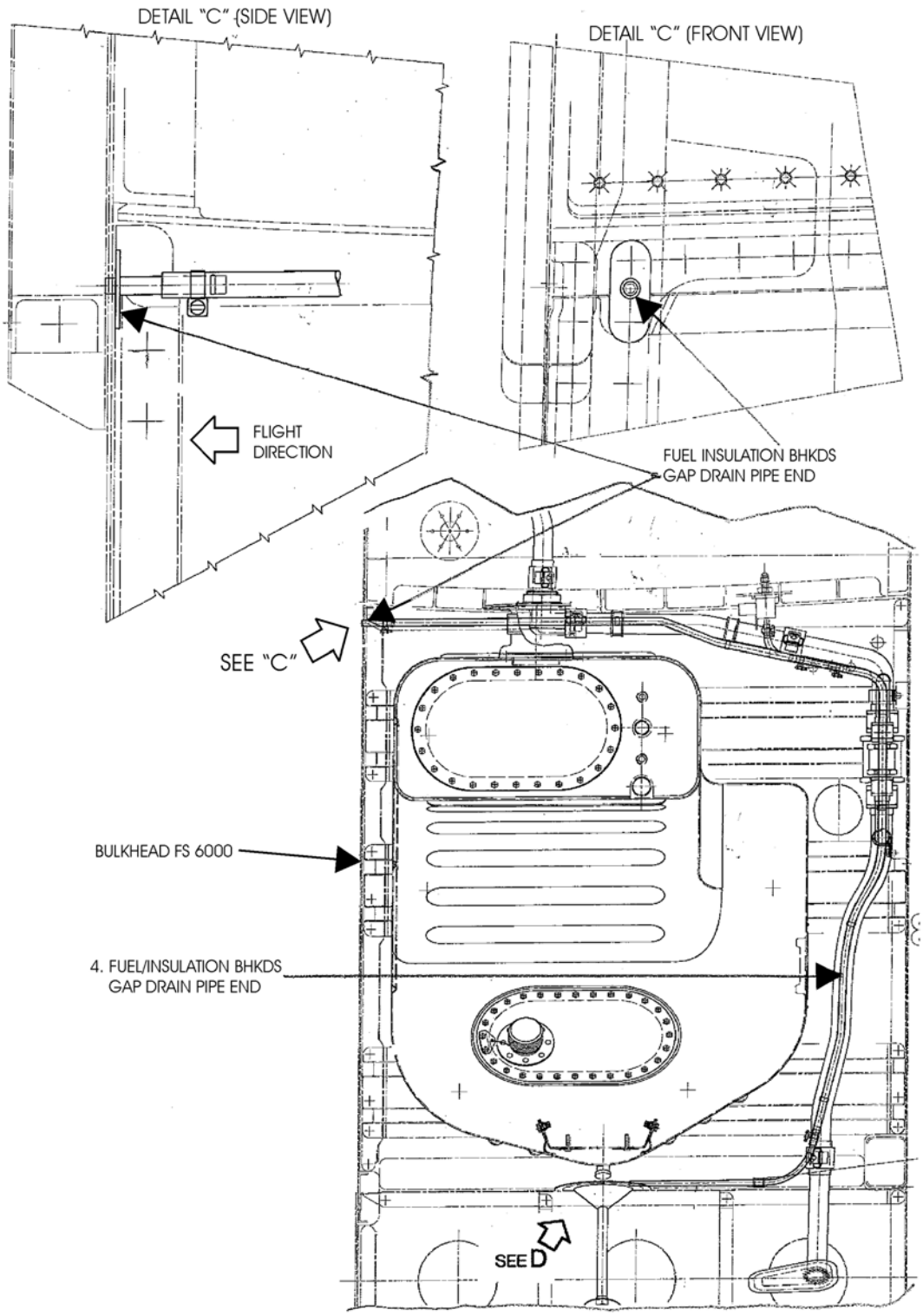


Fig. 202 - Insulation Bulkhead - Leakage Check (Sheet 2 of 3)

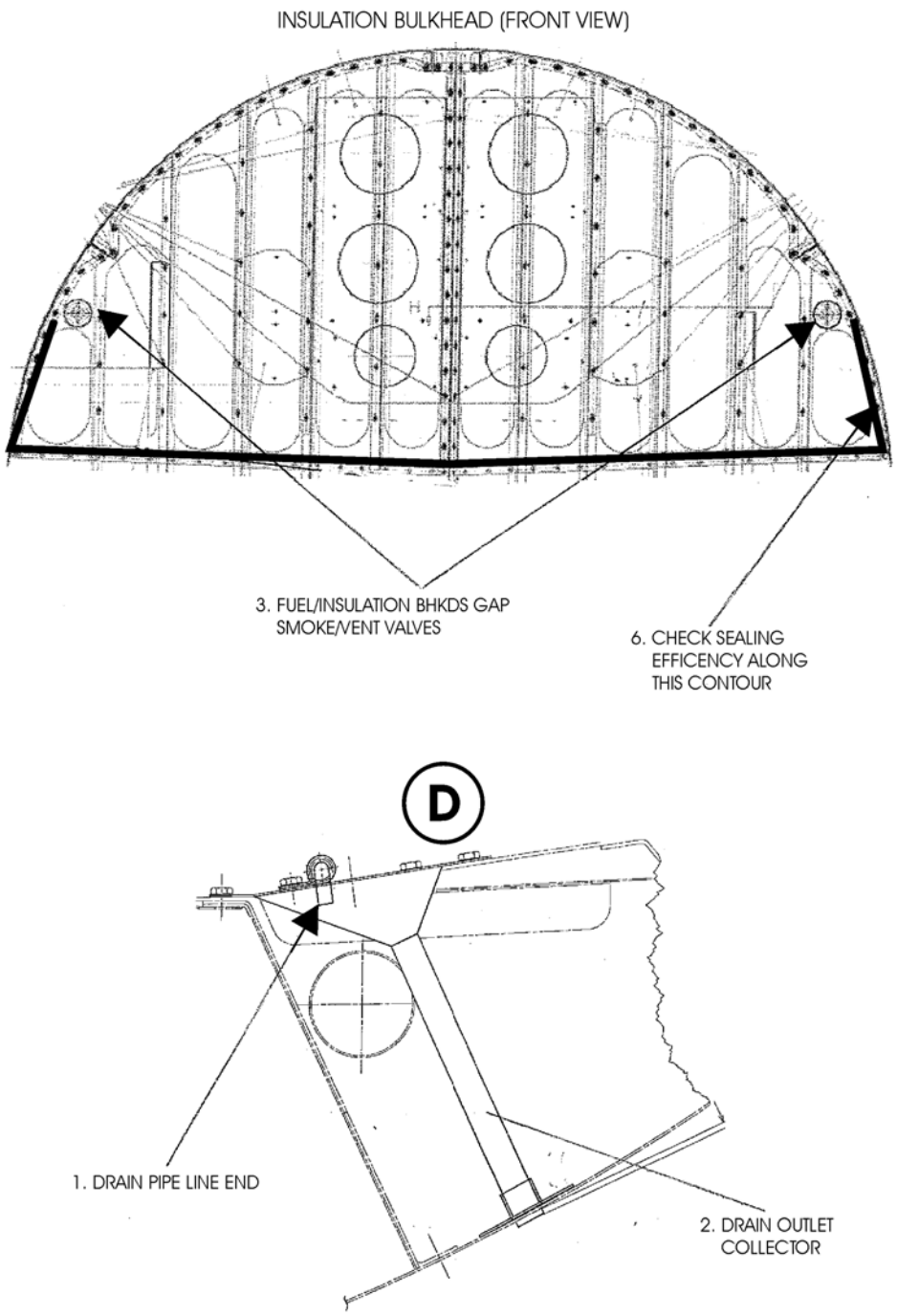


Fig. 202 - Insulation Bulkhead - Leakage Check (Sheet 3 of 3)

8. Fuel Tanks Access Panels and Components - Leakage Check (With air pressure)
(Refer to Fig. 203)

A. Fixtures, Test and Support Equipment

Warning notices	Not specified
Flameproof light source	Not specified
Soap	Not corrosive
Air pressure source	Not specified
Pressure gauge or manometer with liquid column	Not specified
Air Pressure Adapter Panel	80-212400-401/402

B. Referenced Information

Maintenance Manual Chapter 06-00-00
Maintenance Manual Chapter 12-10-07
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 53-60-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: This procedure is applicable to the LH and RH Fuel Tanks. In the following procedures. Only the RH Fuel Tanks side only is shown.

NOTE: Due to the difficulties to gain access of the Fuel Collector Tank Attaching Points and to the Rear Wing Spar Access Panel, the leakage check of the above mentioned locations can be performed only using Helium.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Defuel the airplane (Refer to 12-10-07)
(3) Remove the RH Structural Panel (Refer to 53-60-00).
(4) Cap the Fuel Vent Drain Line End (1).
(5) Remove the Wing Inspection Panel 511CB or 611CB (Refer to 06-00-00) and install the Air Pressure Adapter Panel (2).
(6) Connect the air pressure source to the Adapter Panel Port (3).
(7) Using a dry and filtered air pressure source, slowly inflate the airplane Fuel Tanks until 4,3 PSI.
(8) Allow pressure to stabilize.
(9) Verify using a Water Column or equivalent method/tool that pressure does not decrease for 70 minutes.
(10) If the pressure decrease perform the following steps "11, 12, 13"; if not, go to step 14.
(11) Check with water soap if there is any air leakage along the following Access/ Inspection Panels, Fuel Tanks Connection and Fuel Components:
(a) Fuel Collector Tank

- Fuel Collector Tank Upper Access Panel (4).
- Pressure-Refueling Shut-Off Valve attaching points (5).
- Pre Check Valve Attaching Points (6).
- Fuel Collector Tank Lower Access Panel (7).
- Fuel Collector Tank Defueling Connector (8).
- Interconnecting Valve Attaching Points (9).
- Fuel Wing Tank / FuelCollector Tank Flexible Connection (10).
- Auxiliary Fuel Tank / Fuel Collector Tank Connection (11).
- Pressure Switch Attaching Point (12).
- Main / Stand-by Pumps Cables Grommet (13).
- Fuel Collector Tank Drain Valve (14).

(b) Fuel Auxiliary Tank

- Fuel Auxiliary Tank Access Panel (15).
- Fuel Wing Tank / FuelAuxiliary Tank Connection (16).
- Fuel Collector Tank / Auxiliary Fuel Tank Connection (17).

(c) Fuel Fuselage Tank

- Gravity Filling Cap Flange (18).
- Fuselage Tank Access Panel (19) (Baggage compartment).
- Fuel Tanks Probes Electrical Connectors(20) (Baggage compart.).
- Fuel Vent Drain Valve (21) (Under the wing / fuselage).

(d) Fuel Wing Tank

- All Access / Inspection Panels located under the wing skin outside and inside fuselage (22).
- Wing Front Spar Access Panels (23).

To gain access to the Wing Front Spar Inspection Panels, remove the Main Wing Leading Edge (Refer to 57-40-00).

- Engine Fuel Feeding Ducts Attaching Points (24) (Wing Front Spar).

NOTE: On the LH Wing Front Spar there are three Engine Fuel Feeding Line Attaching Points, while on the RH Front Spar there are two ones only.

(12) When the leakage is detected remove the Access / Inspection Panels, Fuel Tanks Connection or Fuel Components and replace the oring, gasket, grommet or re-seal as applicable.

(13) Perform a Fuel Tanks Access Panels and Components - Leakage Check (steps 6 to 10).

(14) Reinstall the airplane parts previously removed for gaining access.

9. Fuel Tanks Access Panels, Components and Structure - Leakage Check (With Helium) (Refer to Fig. 203)

A. Fixtures, Test and Support Equipment

Warning notices	Not specified
Flameproof light source	Not specified
Gas	Helium
Helium Detector	Not Specified
Helium Adapter Panel	80-212400-401/402

B. Referenced Information

Maintenance Manual Chapter 06-00-00
Maintenance Manual Chapter 12-10-07
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 53-60-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: This procedure is applicable to the LH and RH Fuel Tanks. In the following procedures. Only the RH Fuel Tanks side only is shown.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Defuel the airplane (Refer to 12-10-07)
(3) Remove the RH Structural Panel (Refer to 53-60-00).
(4) Cap the Fuel Vent Drain Line End (1).
(5) Remove the Wing Inspection Panel 511CB or 611CB (Refer to 06-00-00) and install the Air Pressure Adapter Panel (2).
(6) Using a mix of the 50% air and 50% helium, slowly inflate the airplane Fuel Tanks until 4,3 PSI.
(7) Verify using a Water Column that pressure does not decrease for 70 minutes.
(8) If the pressure decrease perform the following steps "9, 10, 11"; if not, go to step 12.
(9) Check with the Helium Detector if there is any air leakage along the following Access/Inspection Panels, Fuel Tanks Connection, Fuel Components and Structures:
    (a) Fuel Collector Tank
        – Fuel Collector Tank Upper Access Panel (4).
        – Pressure-Refueling Shut-Off Valve attaching points (5).
        – Pre Check Valve Attaching Points (6).
        – Fuel Collector Tank Lower Access Panel (7).
        – Fuel Collector Tank Defueling Connector (8).

- Interconnecting Valve Attaching Points (9).
- Fuel Wing Tank / FuelCollector Tank Flexible Connection (10).
- Auxiliary Fuel Tank / Fuel Collector Tank Connection (11).
- Pressure Switch Attaching Point (12).
- Main / Stand-by Pumps Cables Grommet (13).
- Fuel Collector Tank Drain Valve (14).
- Fuel Collector Tank Attaching Points (25).

(b) Fuel Auxiliary Tank

- Fuel Auxiliary Tank Access Panel (15).
- Fuel Wing Tank / FuelAuxiliary Tank Connection (16).
- Fuel Collector Tank / Auxiliary Fuel Tank Connection (17).

(c) Fuel Fuselage Tank

- Gravity Filling Cap Flange (18).
- Fuselage Tank Access Panel (19) (Baggage compartment).
- Fuel Tanks Probes Electrical Connectors (20) (Baggage compart.).
- Fuel Vent Drain Valve (21) (Under the wing / fuselage)

(d) Fuel Wing Tank

- All Access / Inspection Panels located under the wing skin outside and inside fuselage (22).
- Wing Front Spar Inspection Panels (23).

To gain access to the Wing Front Spar Inspection Panels, remove the Main Wing Leading Edge (Refer to 57-40-00).

- Engine Fuel Feeding Line Attaching Points (24) (Wing Front Spar).

NOTE: On the LH Wing Front Spar there are three Engine Fuel Feeding Line Attaching Points, while on the RH Front Spar there are two ones only.

- Wing Rear Spar Access Panel (26)

To gain access to the Wing Rear Spar Access Panel, remove the 622CT, 622 BT, 622 AT Access Panels, located on the wing upper skin between the fuselage and the nacelle (Refer to 06-00-00).

(10) When the leakage is detected remove the Access / Inspection Panels, Fuel Tanks Connection or Fuel Components and replace the oring, gasket, grommet or re-seal as applicable.

(11) Perform a Fuel Tanks Access Panels, Components and Structure - Leakage Check (steps 6 to 8).

(12) Reinstall the airplane parts removed previously for gaining access.

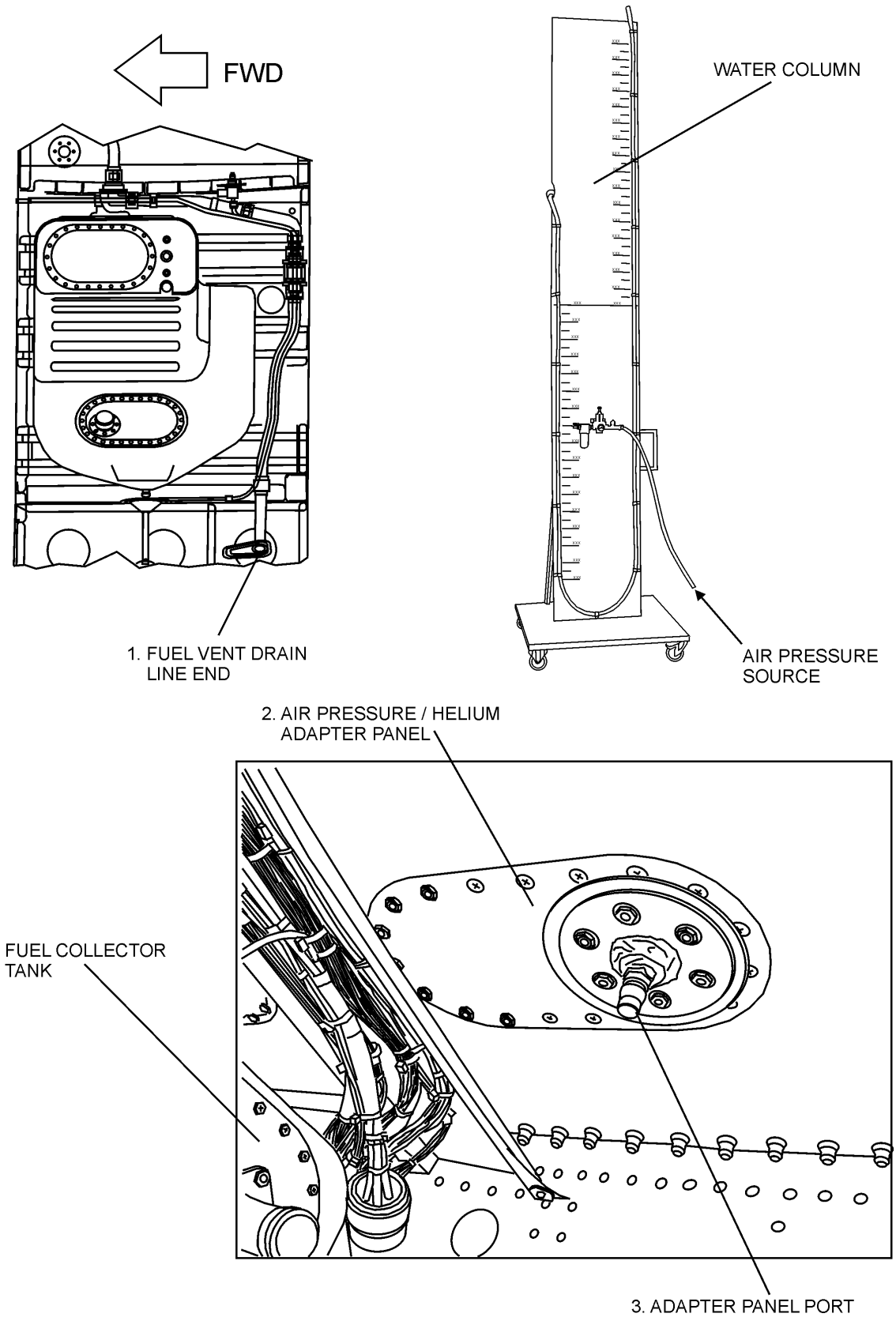


Fig. 203 - Fuel Tanks Access Panels and Components - Leakage Check (Sheet 1 of 6)

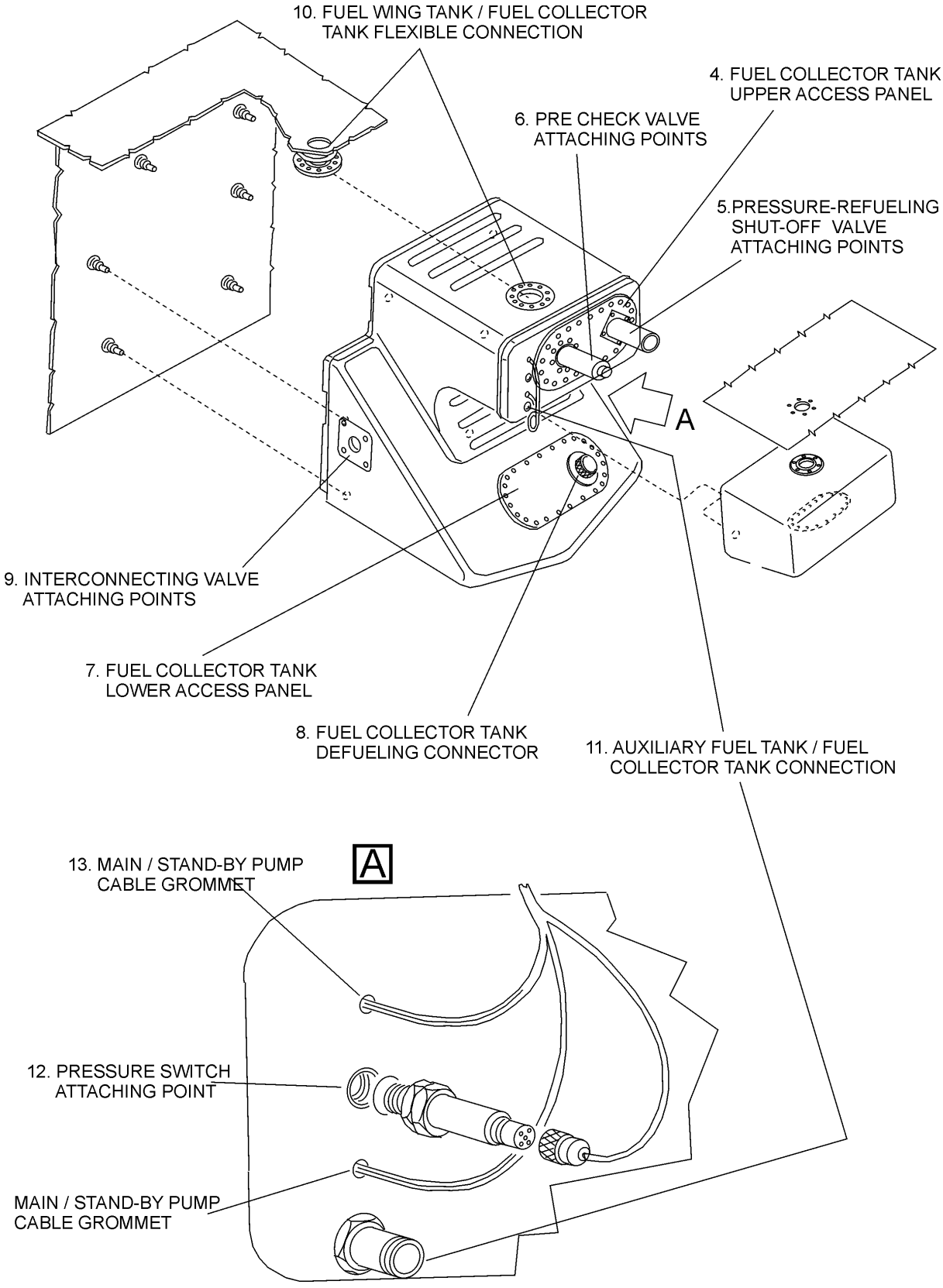


Fig. 203 - Fuel Tanks Access Panels and Components - Leakage Check (Sheet 2 of 6)

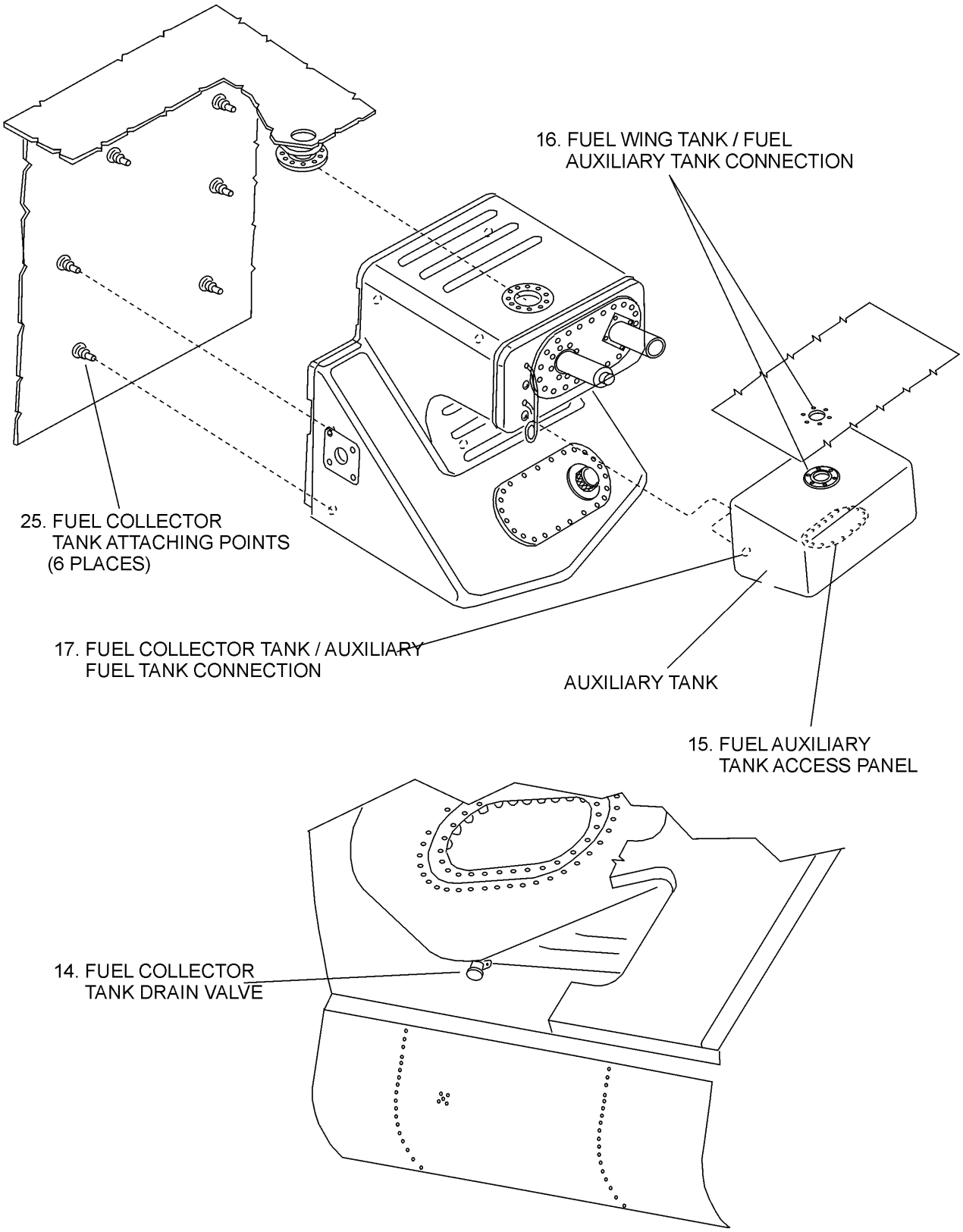


Fig. 203 - Fuel Tanks Access Panels and Components - Leakage Check (Sheet 3 of 6)

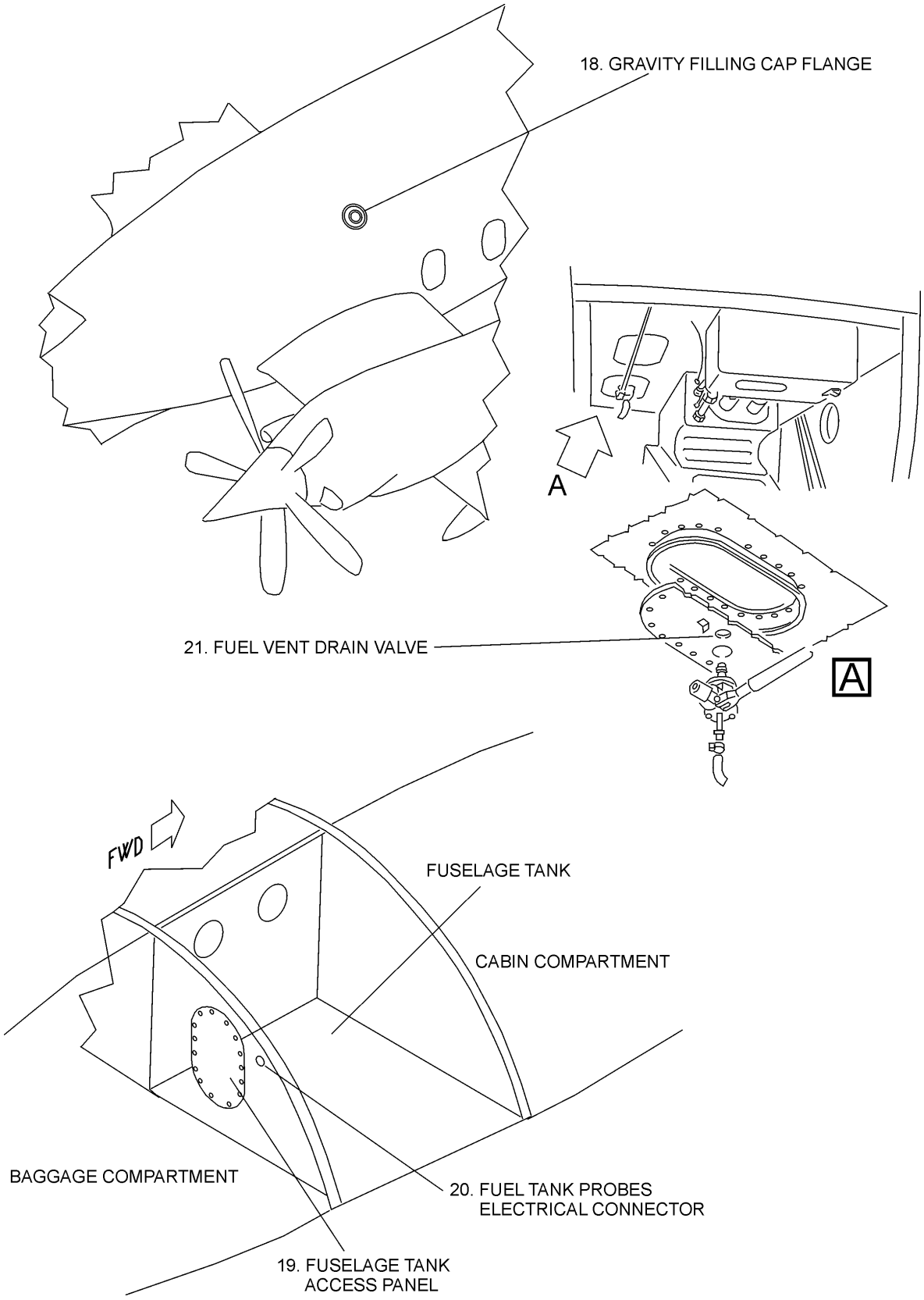


Fig. 203 - Fuel Tanks Access Panels and Components - Leakage Check (Sheet 4 of 6)

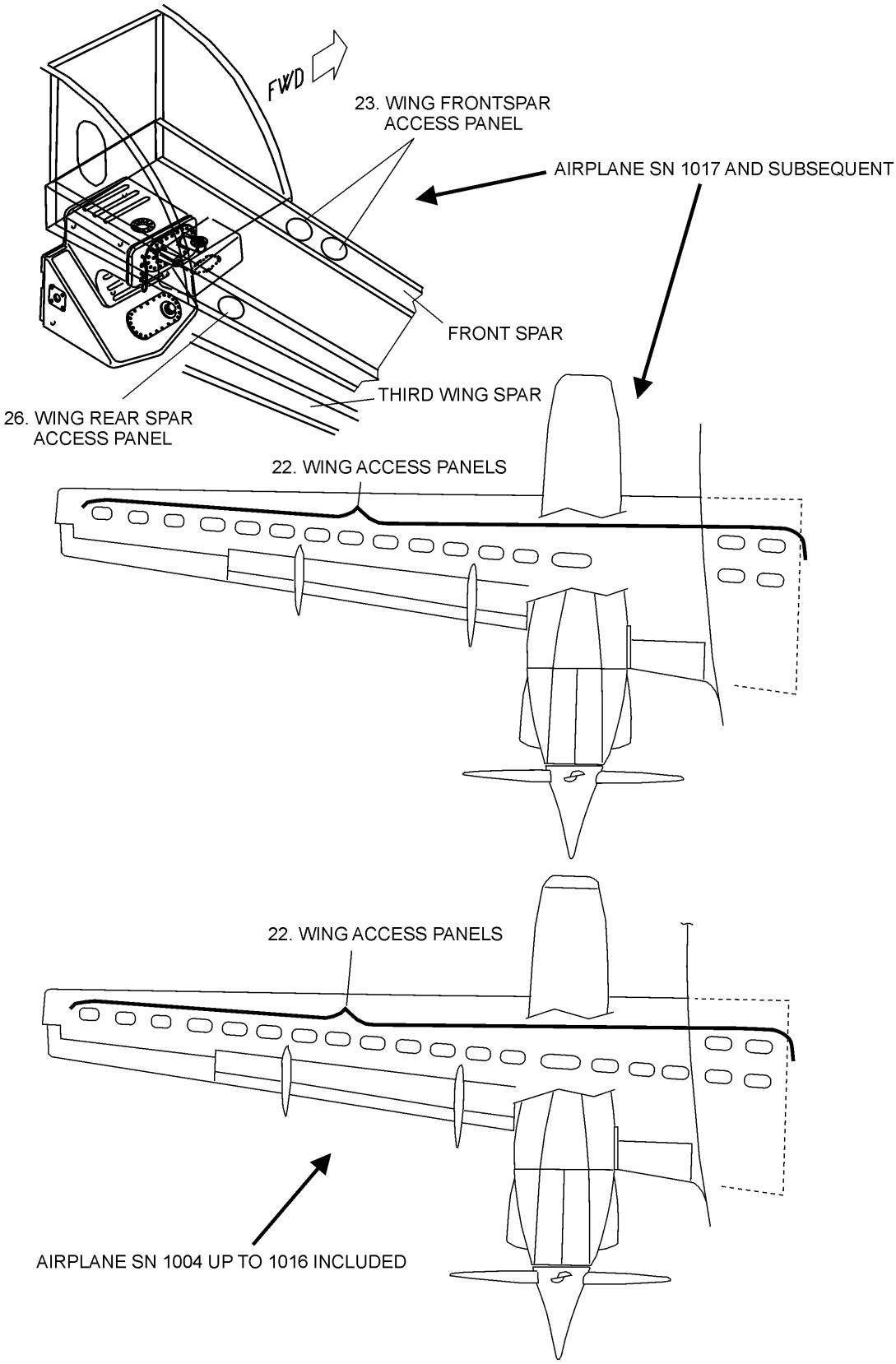


Fig. 203 - Fuel Tanks Access Panels and Components - Leakage Check (Sheet 5 of 6)

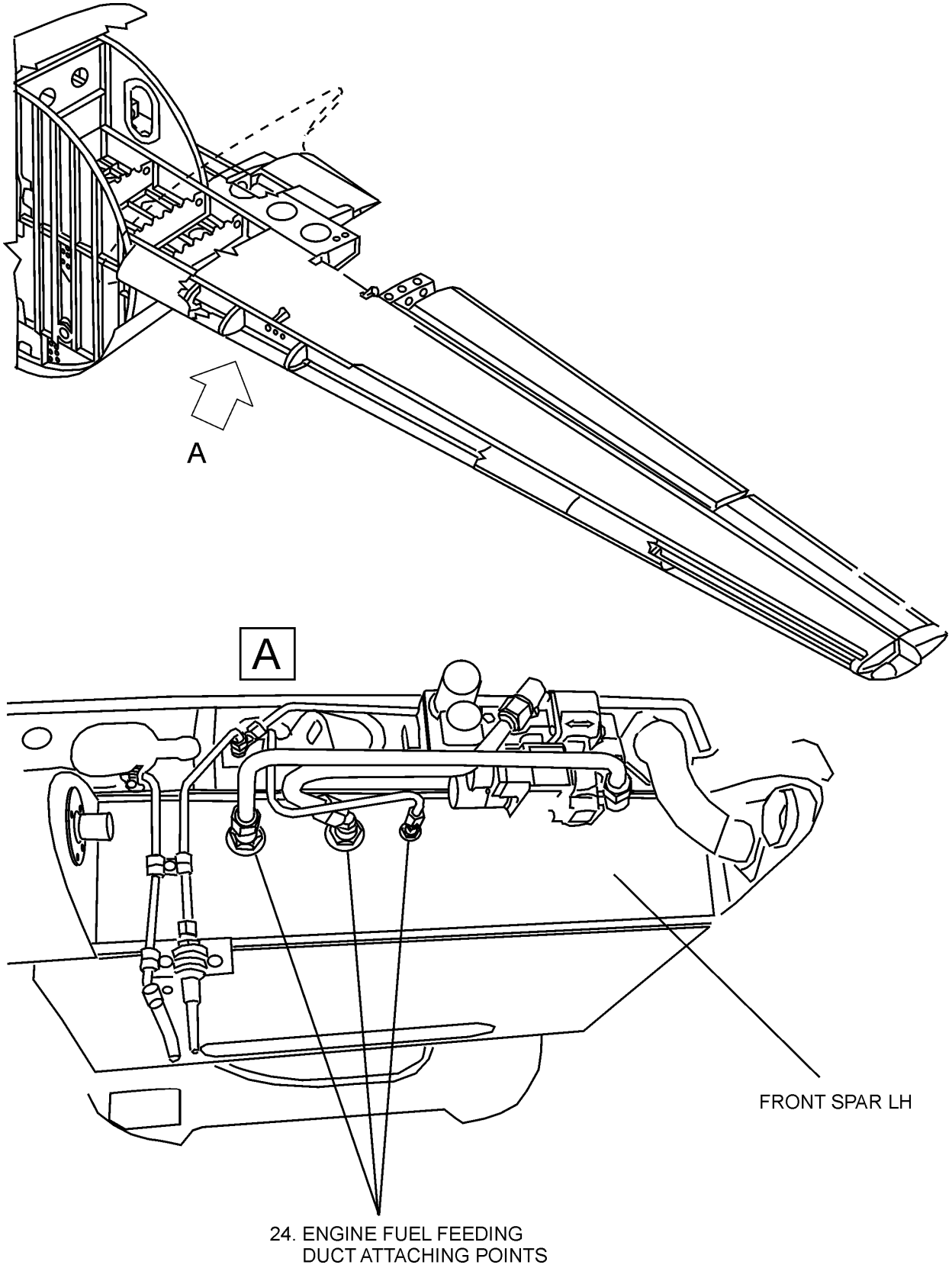


Fig. 203 - Fuel Tanks Access Panels and Components - Leakage Check (Sheet 6 of 6)

10. Fuel Tank Structure - Leakage Check (Refer to Figg. 203, 204)

A. Fixtures, Test and Support Equipment

Warning notices	Not specified
Flameproof light source	Not specified
Soap	Not corrosive
Air pressure source	Not specified
Pressure gauge or manometer with liquid column	Not specified
Air Pressure Adapter Panel	80-212400-401/402

B. Referenced Information

Maintenance Manual Chapter 06-00-00
Maintenance Manual Chapter 12-10-07
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 27-10-00
Maintenance Manual Chapter 27-50-00
Maintenance Manual Chapter 53-60-00
Maintenance Manual Chapter 57-40-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: This procedure is applicable to the LH and RH Wing Fuel Tanks. In the following procedures. Only the RH Fuel Tanks side only is shown.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Defuel the airplane (Refer to 12-10-07)
(3) Remove the RH Structural Panel (Refer to 53-60-00).
(4) Cap the Fuel Vent Drain Line End (203-1).
(5) Remove the Wing Inspection Panel 511CB or 611CB (Refer to 06-00-00) and install the Air Pressure Adapter Panel (203-2).
(6) Connect the air pressure source to the Adapte Panel Port (203-3).
(7) Using a dry and filtered air pressure source, slowly inflate the airplane Fuel Tanks until the 4,3 PSI.
(8) Allow pressure to stabilize
(9) Verify using a Water Column that pressure does not decrease for 70 minutes.
(10) If the pressure decrease perform the following steps "11, 12, 13"; if not, go to step "14".
(11) Check with water soap if there is any air leakage along the following Wing Structure:
– Wing Front Spar / Wing Upper and Lower Skin junction (204-1).
To gain access to the Wing Front Spar, remove the Main Wing Leading Edge (Refer to 57-40-00).

- Wing Rear Spar / Wing Upper and Lower Skin junction (204-2).

  To gain access to the Wing Rear Spar, remove the the Aileron (Refer to 27-10-00), the Inboard and Outboard Flaps (Refer to 27-50-00) and the Main Wing Trailing Edge (Refer to 57-40-00),

- RH / LH Wing Junction lower side (204-3).

  To gain access to the Wing RH / LH Wing Junction lower side remove the Structural Panel (Refer to 53-60-00).

- Wing Tank Rib End (204-4).

  To gain access to the Wing Fuel Tank Rib End remove the wing tip (Refer to 57-30-00).

- Fuselage Fuel Tank Baggage Bulkhead (5).

  To gain access to the Fuel Tank Baggage Bulkhead upper side remove all components located on the Baggage Shelf.

  Access to the Fuel Tank Baggage Bulkhead lower side is possible only trough the Access Holes located on the Main Landing Gear Wheel Bay.

(12) When the leakage is detected re-seal as applicable.

(13) Perform a Fuel Tank Structure - Leakage Check (steps 6 to 10)

(14) Reinstall the airplane parts previously removed for gaining access..

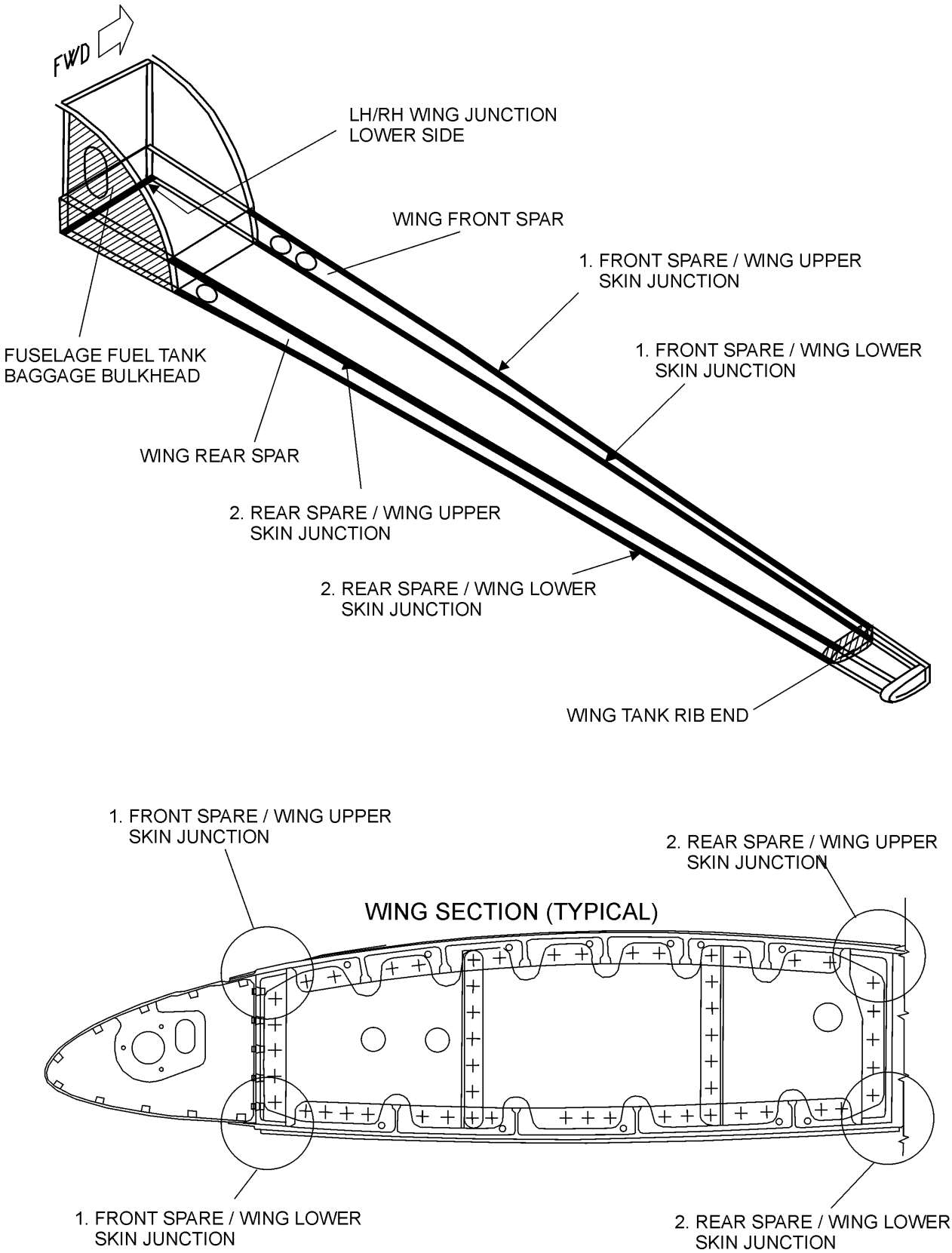
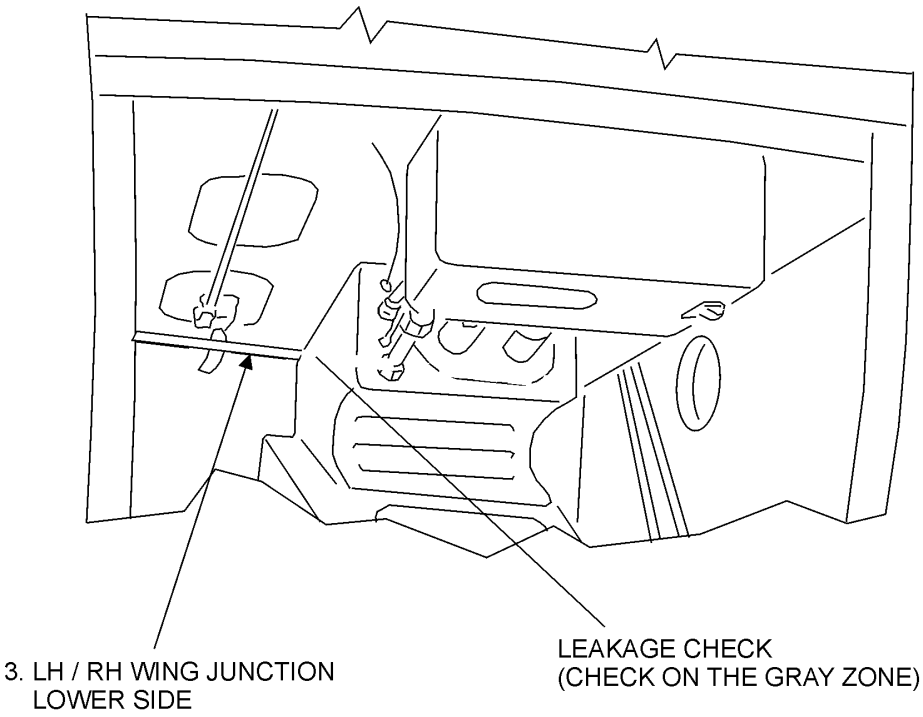


Fig. 204 - Fuel Tanks Acc. Pan, Components and Structure - Leakage Check (Sheet 1 of 3)



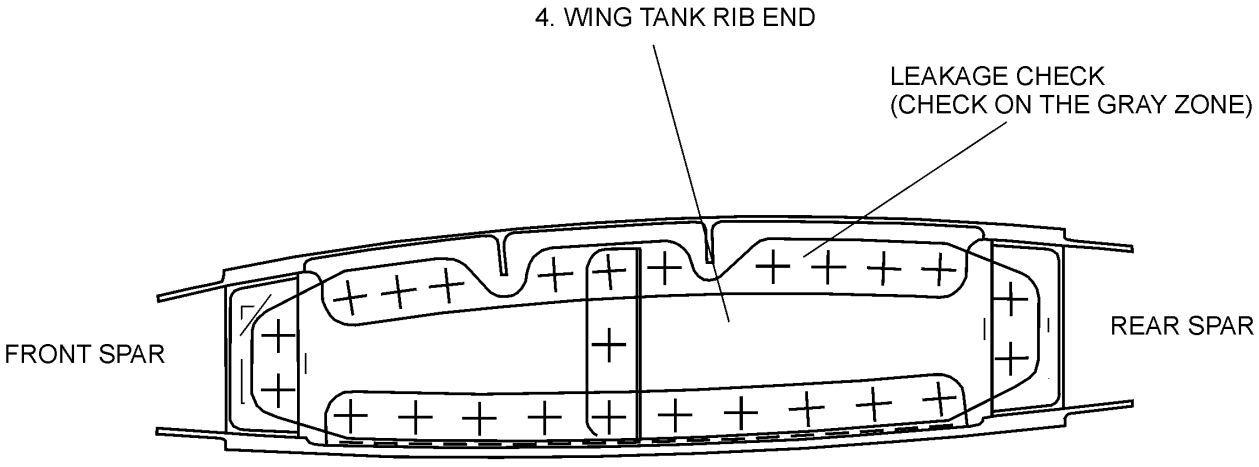
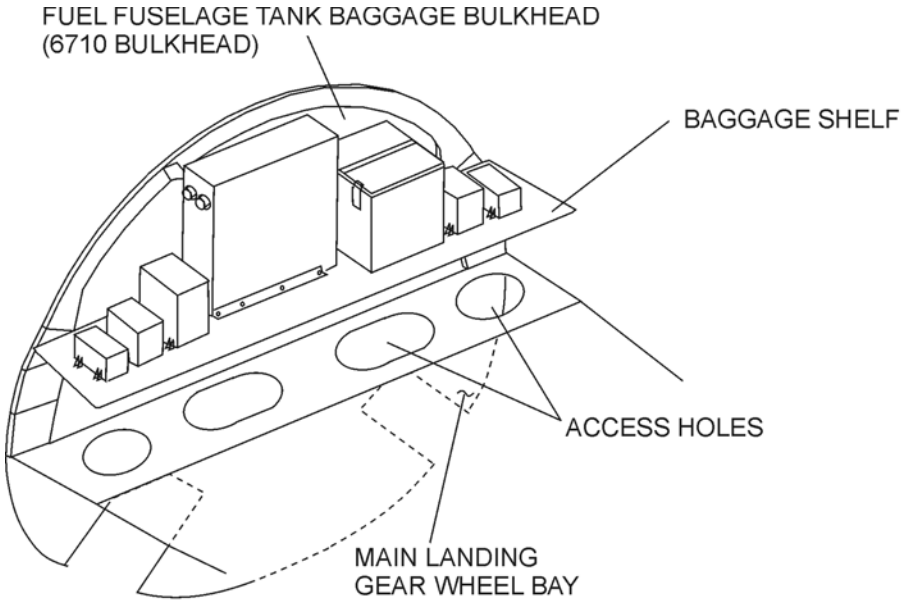


Fig. 204 - Fuel Tanks Acc. Pan, Components and Structure - Leakage Check (Sheet 2 of 3)



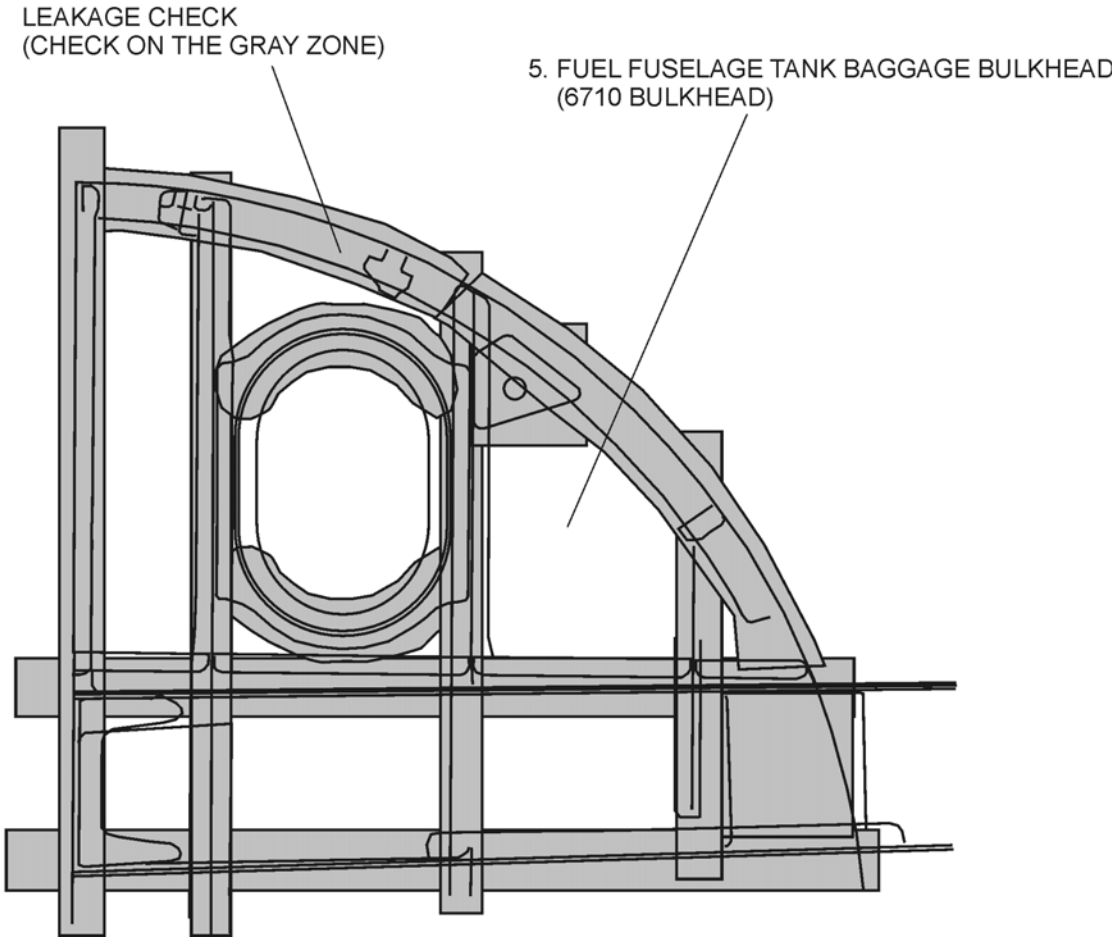


Fig. 204 - Fuel Tanks Acc. Pan, Components and Structure - Leakage Check (Sheet 3 of 3)

11. Fuel Fuselage Tank 6000 Bulkhead - Leakage Check(Refer to Figg. 203, 205)

A. Fixtures, Test and Support Equipment

Warning notices	Not specified
Flameproof light source	Not specified
Gas	Helium
Helium Detector	Not specified
Helium Adapter Panel	80-212400-401/402

B. Referenced Information

Maintenance Manual Chapter 06-00-00
Maintenance Manual Chapter 12-10-07
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 25-20-00
Maintenance Manual Chapter 53-60-00

C. Procedure

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

NOTE: This procedure is applicable to the LH and RH Fuselage Fuel Tanks. In the following procedures. Only the RH Fuel Tanks side only is shown.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Defuel the airplane (Refer to 12-10-07)
(3) Remove the RH Structural Panel (Refer to 53-60-00).
(4) Cap the Fuel Vent Drain Line End (203-1).
(5) Remove the Wing Inspection Panel 511CB or 611CB (Refer to 06-00-00) and install the Air Pressure Adapter Panel (203-2).
(6) Using a mix of the 50% air and 50% helium, slowly inflate the airplane Fuel Tanks until 4,3 PSI.
(7) Verify using a Water Column that pressure does not decrease for 70 minutes.
(8) If the pressure decrease perform the following steps "9, 10, 11, 12, 13"; if not, go to step "14".
(9) Check for leakage with the Helium Detector at the Fuel / Insulation Bulkhead Gap Drain Line End (205-1).
(10) If a leakage is detected, at the Gap Drain Line End, remove the Vanity Closet Interiors to gain access to the Fuel Insulation Bulkhead (Refet to 25-20-00) and perform the next steps "11, 12, 13"; If not, refer to other leak checks procedures described in this section.
(11) Remove the Fuel Insulation Bulkhead (Refer to 53-60-00) and check the 6000 Bulkhead as shown in Figure.
(12) Apply the Sealant to seal the leaking gap/passage (Ref. to 51-00-00).
(13) Perform a Fuel Fuselage Tank 6000 Bulkhead - Leakage Check
(14) Reinstall the airplane parts previously removed for gaining access.

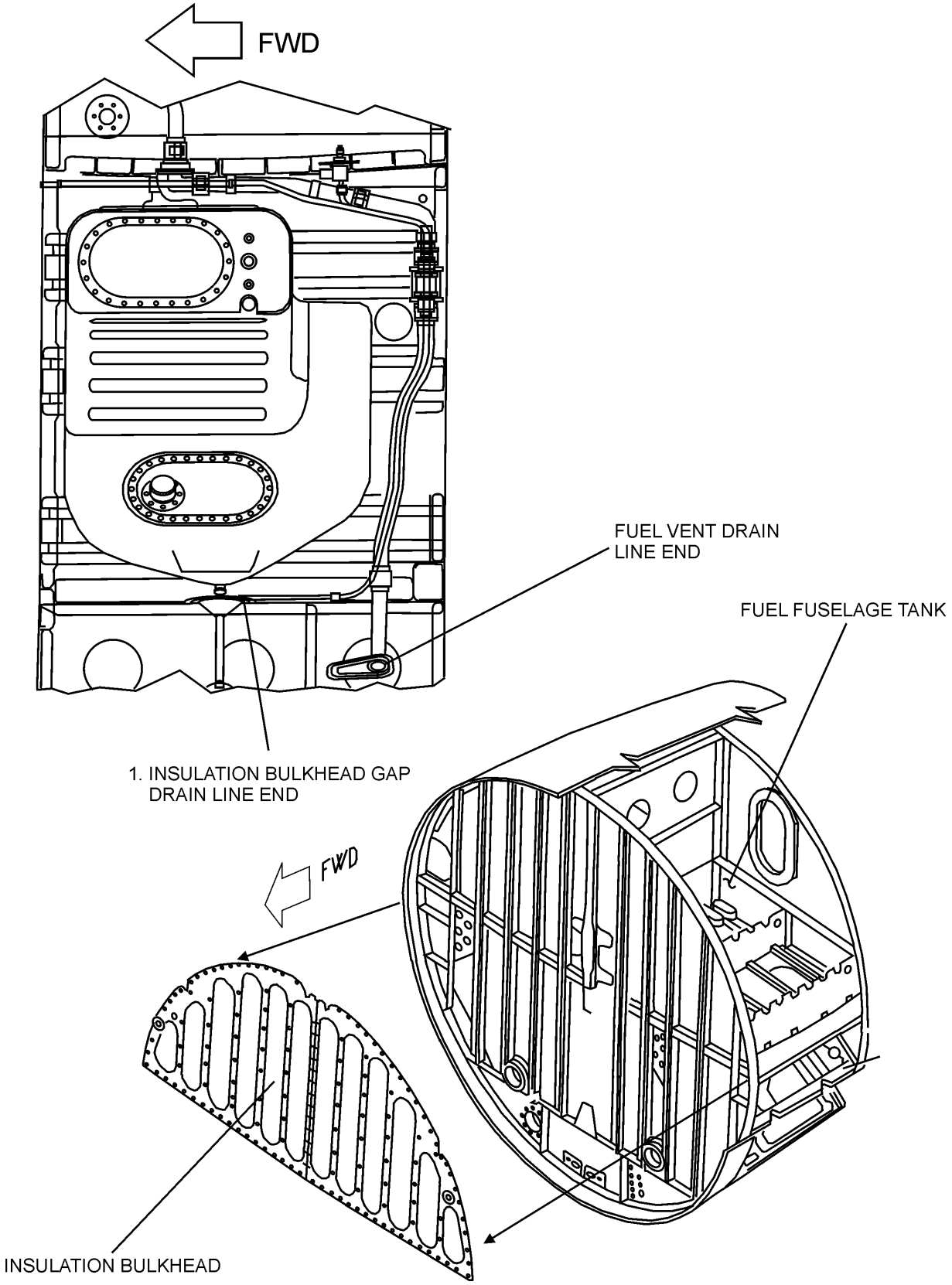


Fig. 205 - Fuel Fuselage Tank 6000 Bulkhead - Leakage Check (Sheet 1 of 2)

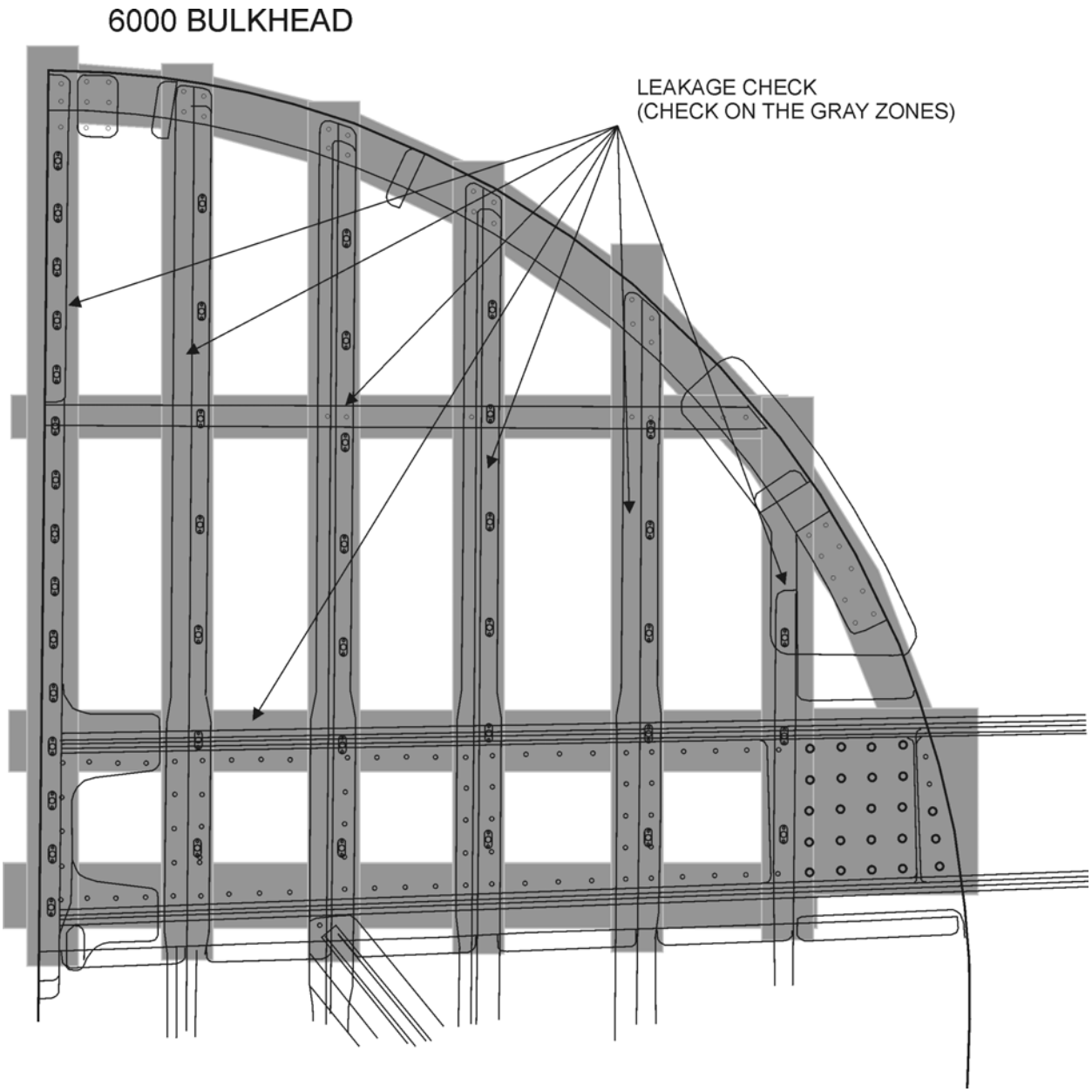


Fig. 205 - Fuel Fuselage Tank 6000 Bulkhead - Leakage Check (Sheet 2 of 2)

FUEL COLLECTOR TANKS - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-20-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the maintenance practices for the fuel collector tanks as follows:

- Fuel Collector Tanks - Draining
- LH Fuel Collector Tank - Removal
- LH Fuel Collector Tank - Installation
- RH Fuel Collector Tank - Removal
- RH Fuel Collector Tank - Installation.

B. The location of the components is as follows:

- the LH fuel collector tank is in zone 251, between FS 6000 and FS 6470
- the RH fuel collector tank is in zone 252, between FS 6000 and FS 6470

2. Fuel Collector Tanks - Draining

(Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified
Container (Minimum Capacity 1.5 gallons (6 liters))	Not Specified
Fuel Drain Tool	TEM-121007-003

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the collector tanks
  (a) Put the container in position below the drain-outlet, between FS 6235 and FS 6470.
  (b) Put the tube of the fuel drain tool (TEM-121007-003.) through the drain outlet and on to the end of the drain valve.

(c) Use the tube to push the drain valve open. Let the fuel drain from the fuel collector tank.

(d) When the flow of fuel stops, release the drain valve and remove the fuel drain tool (TEM-121007-003.) from the drain outlet.

(e) Do again steps (a) thru (d) above for the RH collector tank.

(5) Remove all tools, materials and equipment from the work area. Make sure the area is clean.

(6) Remove the Warning Notice from the flight compartment.

(7) Make sure the electrical power is available (Refer to 24-00-00).

Put a Warning Notice in the flight compartment to tell persons not to operate the fuel booster pumps.

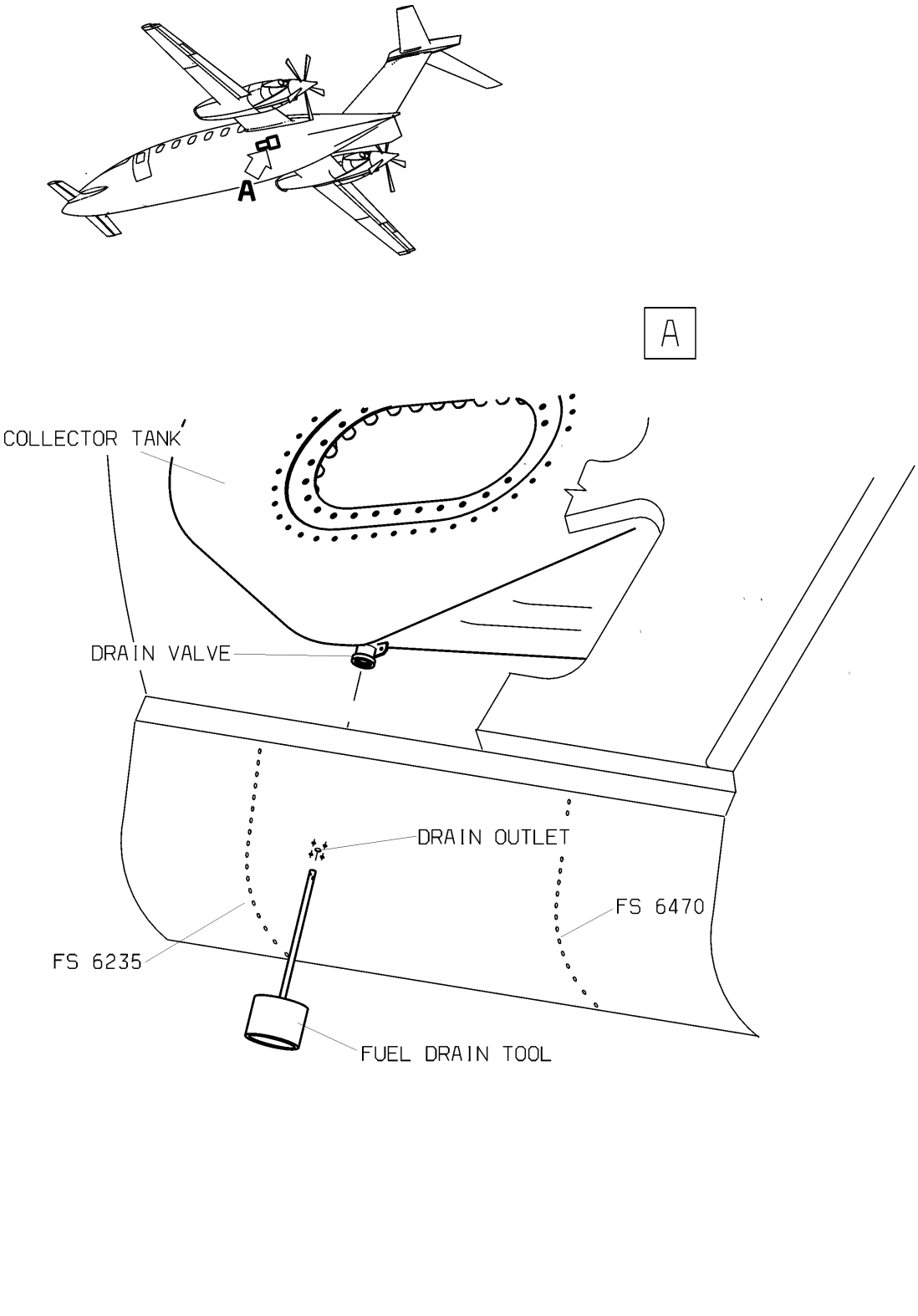


Fig. 201 - Fuel Collector Tanks - Draining

3. LH Fuel Collector Tank - Removal (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 28-20-00
Maintenance Manual Chapter 28-40-00
Maintenance Manual Chapter 29-10-00
Maintenance Manual Chapter 32-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to Para. 2)
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panel 251A (Refer to 53-60-00).
(7) Remove the auxiliary fuel tank (7) and the connecting tube (6) (Refer to 28-12-00).
(8) Remove the LH main landing gear (Refer to 32-00-00).
(9) Remove the two landing gear mounts (Refer to 53-60-00).
(10) Remove the hydraulic power pack (Refer to 29-10-00).
(11) Remove the top access panel (1) from the collector tank (5). Discard the seal (18).
(12) Remove the bolts (9) which attach the flexible connection (10) to the collector tank. Remove and discard the seal (11).
(13) Remove the bolts (20) and disconnect the interconnecting tube (19) from the collector tank. Remove and discard the seal (21).
(14) In the collector tank disconnect the items which follow:
- The clamp (27) on engine fuel-supply tube (29). Discard the seals (26) and (28).
- The terminal ends of the fuel quantity probe (Refer to 20-00-00).

(15) Remove the pressure switch (25).
(a) Disconnect the electrical connector (24) (Refer to 20-00-00).
(b) Remove the pressure switch and the seal (23). Discard the seal (23).
(16) Disconnect the electrical connections of the main and stand-by fuel pumps
(a) Attach temporary tags to the cables to identify their positions in the

terminal block (8).

(b) Remove the cables from the terminal block (8).

(17) Remove the bottom access panel (16) from the collector tank

(a) Cut and remove the lockwire from the defueling connector (15).

(b) Remove the screws (13) and the washers (14) which attach the lockwire tab (12) and the bottom access panel to the collector tank. Remove the lockwire tab (12), the bottom access panel and the seal (17). Discard the seal (17).

(18) Remove the collector tank

(a) Cut and remove the lockwire from the plugs (36).

(b) Remove the plugs (36) complete with the seals (33). Discard the seals (33).

(c) Hold the collector tank. Remove the nuts (35) and the washers (34).

(d) Carefully remove the collector tank. Make sure you do not cause damage to the cables, the tubes or the flexible connection.

(19) Remove the shimwashers (32) from the studs (31). If the same collector tank will be installed, do these steps:

– Keep the shimwashers from each stud together.

– Attach temporary tags to the shimwashers to identify which stud they were removed from.

(20) Remove the fuel quantity probe (22) (Refer to 28-40-00).

(21) Remove the main and stand-by fuel pumps (37) and (38) (Refer to 28-20-00).

(22) Remove the engine fuel-supply tube (29).

(23) Put caps on all openings, line ends and electrical connectors.

4. LH Fuel Collector Tank - Installation (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm.) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
11	Seal	281100 01
17	Seal	281100 01
18	Seal	281100 01
21	Seal	281100 01

ITEM	NOMENCLATURE	IPC CSN
23	Seal	281100 01
26	Seal	281100 01
28	Seal	281100 01
32	Shimwasher	281100 01
33	Seal	281100 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 28-14-00
Maintenance Manual Chapter 28-20-00
Maintenance Manual Chapter 28-40-00
Maintenance Manual Chapter 29-10-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 91-00-00

E. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all openings, line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Install the main and stand-by fuel pumps (37) and (38) (Refer to 28-20-00).

(5) Install the engine fuel-supply tube (29).

(6) Install the fuel quantity probe (22) (Refer to 28-40-00).

(7) Put the shimwashers (32) and the collector tank on to the studs (31)

(a) To install the same collector tank, put the shimwashers on the studs in the positions noted during removal. To install a different collector tank put one shimwasher on each of the studs.

(b) Put the collector tank on to the studs. Make sure the electrical cables and the engine fuel-supply tube go in to the collector tank without damage.

(c) Examine the flexible connection (10) at the top of the collector tank. Make sure that the bolt holes are aligned correctly. If necessary, remove the

collector tank and adjust the shimwashers to get the bolt holes aligned correctly.

(8) Attach the collector tank (5) to the airplane

(a) Put the washers (34) and the nuts (35) on to the studs (31). Tighten the nuts (35).

(b) Put a new seal (33) on each of the plugs (36) (Refer to 20-00-00). Install the plugs (36) in to the collector tank.

(c) Tighten the plugs (36). Safety each of the plugs with lockwire (MS20995C32) (Refer to 20-00-00).

(9) Connect the electrical connections of the main and stand-by fuel pumps to the terminal block (8), in the positions identified during removal (Refer to 20-00-00). Remove the temporary identification tags from the cables.

(10) In the collector tank (5) connect the items which follow:

– Put new seals (26) and (28) on the engine fuel-supply tubes. Install the clamp (27) to the engine fuel-supply tubes.

– The terminal ends of the fuel quantity probe (Refer to 20-00-00).

(11) Put a new seal (21) in the joint of the interconnecting tube (19) and the collector tank (5) (Refer to 20-00-00). Attach the interconnecting tube (19) to the collector tank (5) with the bolts (20). Tighten the bolts (20).

(12) Install the bottom access panel (16) and the lockwire tab (12)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the bottom access panel and the collector tank (5).

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully put the new seal (17) on the bottom access panel.

(c) Attach the bottom access panel, the seal (17) and the lockwire tab to the collector tank (5) with the screws (13) and the washers (14). Tighten the screws (13).

(13) Attach the flexible connection (10) to the collector tank (5)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the interfaces of the flexible connection and the collector tank.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Put a new seal (11) in position between the flexible connection and the collector tank.

(c) Attach the flexible connection to the collector tank with the bolts (9). Tighten the bolts (9).

(14) Install the top access panel (1) and the lockwire tab (4)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the top access panel and the collector tank (5).

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully put the new seal (18) on the top access panel.

(c) Attach the top access panel, the seal (18) and the lockwire tab to the collector tank (5) with the screws (2) and the washers (3). Tighten the screws (2).

(15) Install the pressure switch (25)

(a) Put a new seal (23) on the pressure switch (Refer to 20-00-00).

(b) Install the pressure switch to the collector tank (5). Safety the pressure switch with lockwire (MS20995C32) (Refer to 20-00-00).

(c) Connect the electrical connector (24) (Refer to 20-00-00).

(16) Install the two landing gear mounts (Refer to 53-60-00).

(17) Install the LH main landing gear (Refer to 32-00-00).

(18) Install the hydraulic power pack (Refer to 29-10-00).

(19) Install the auxiliary fuel tank (7) and the connecting tube (6) (Refer to 28-12-00).

(20) Refuel the airplane (Refer to 12-00-00).

(21) Make a check of the LH fuel collector tank for leaks (Refer to 28-00-00). Leaks are not permitted.

(22) Do an Operational Test of the fuel booster pumps (Refer to 28-20-00).

(23) Do an Operational Test of the interconnecting valve (Refer to 28-14-00).

(24) Do a Calibration Check of the fuel-quantity indication-system (Refer to 28-40-00).

(25) Install the access panel 251A (Refer to 53-60-00).

(26) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).

(27) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(28) Remove the Warning Notice from the flight compartment.

(29) Make sure the electrical power is available (Refer to 24-00-00).

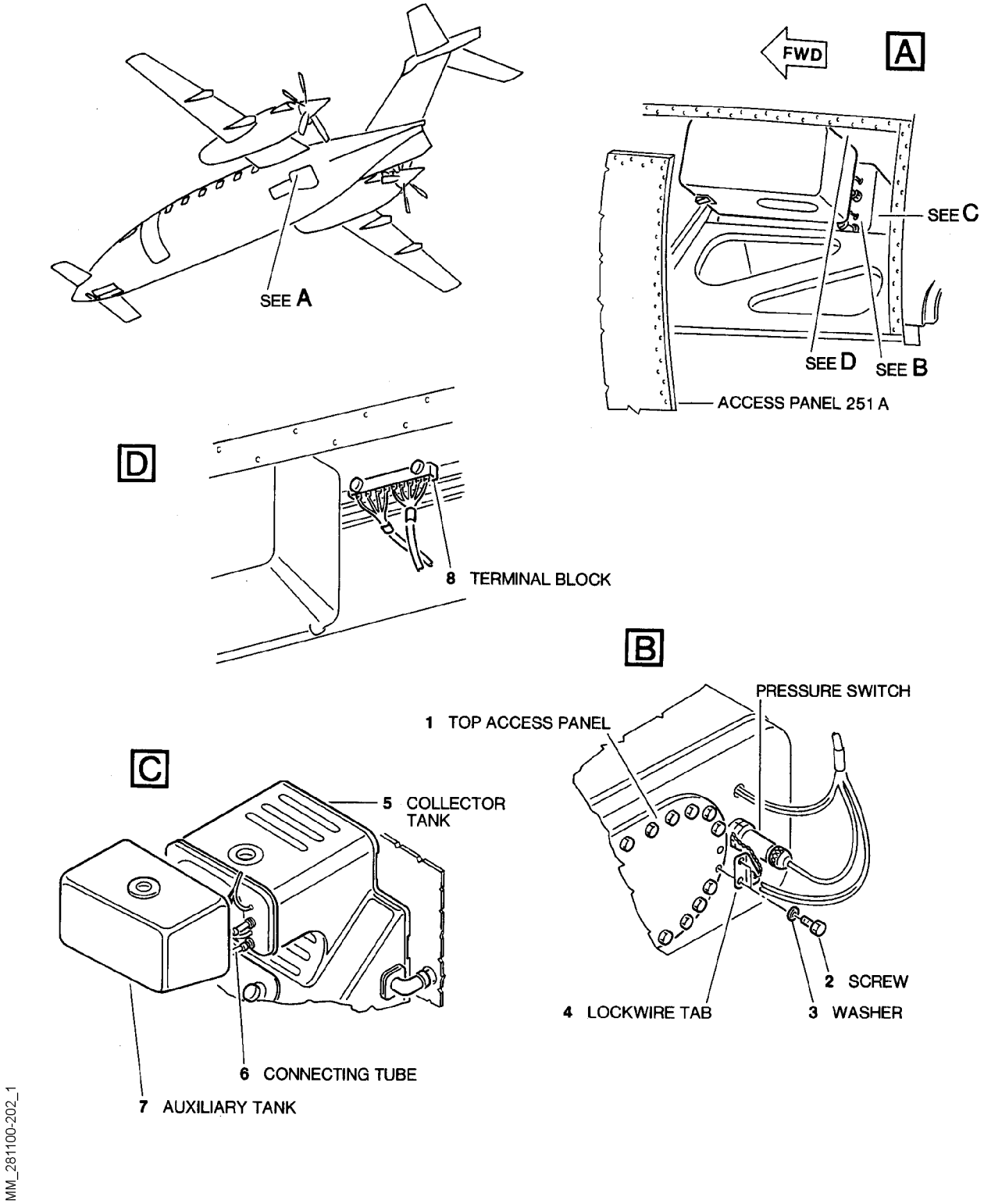


Fig. 202 - (Sheet 1) - LH Fuel Collector Tank - Removal/Installation

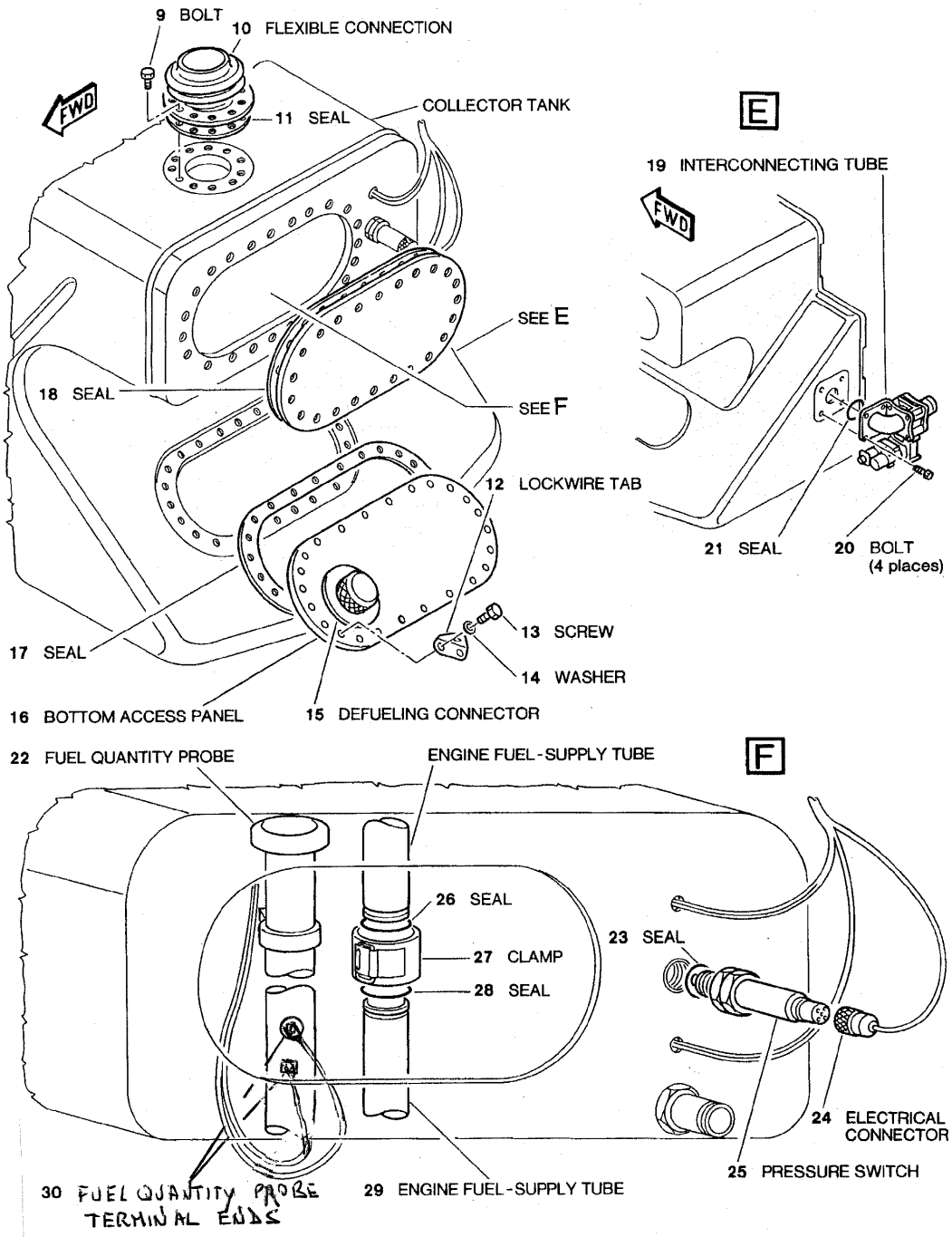


Fig. 202 - (Sheet 2) - LH Fuel Collector Tank - Removal/Installation

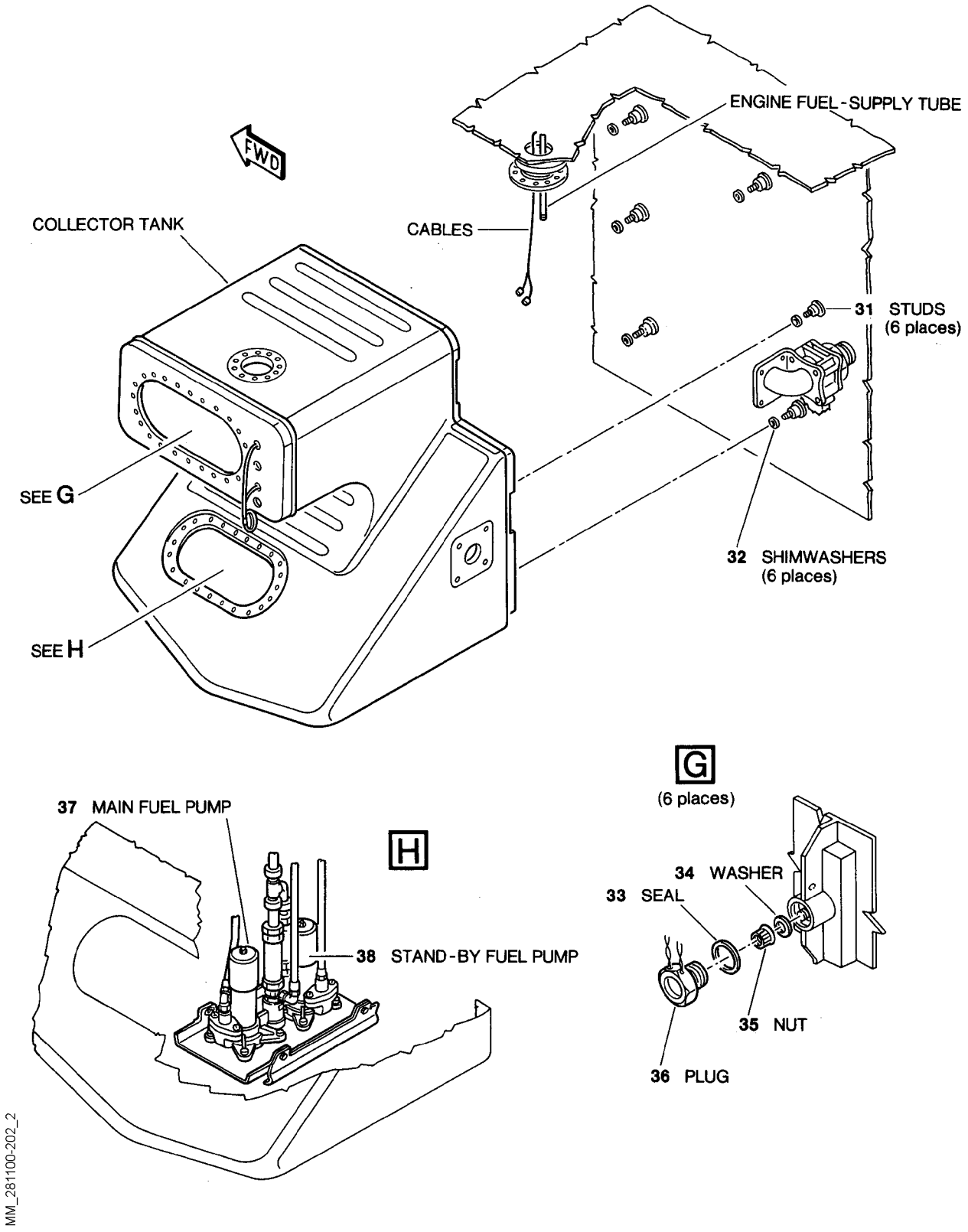


Fig. 202 - (Sheet 3) - LH Fuel Collector Tank - Removal/Installation

5. RH Fuel Collector Tank - Removal (Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 28-20-00
Maintenance Manual Chapter 28-40-00
Maintenance Manual Chapter 32-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to Para. 2).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panel 252A (Refer to 53-28-00).
(7) Remove the refueling adapter (8) and the support bracket (9)
  (a) Disconnect the refueling adapter from the collector tank (3) at the clamp joint (6). Discard the seals (5) and (7).
  (b) Remove the two nuts (11) and bolts (12) which attach the support bracket (10) and the ground connection (9) to the airplane. Remove the refueling adapter and the support bracket from the airplane.
(8) Remove the auxiliary fuel tank (17) and the connecting tube (18) (Refer to 28-12-00).
(9) Remove the RH main landing gear (Refer to 32-00-00).
(10) Remove the two landing gear mounts (Refer to 53-60-00).
(11) Disconnect the electrical connector (1) from the pre-check valve (2) (Refer to 20-00-00).
(12) Remove the top access panel (4) from the collector tank (3)
  (a) Cut and remove the lockwire from the pressure switch (13).
  (b) Remove the screws (16) and the washers (15) which attach the lockwire tab (14) and the top access panel to the collector tank. Remove the lockwire tab (14).
  (c) Pull the access panel (4) away from the collector tank (3).

(d) Disconnect the two flexible hoses (20) and (24) from the pre-check valve (2) and the pressure-refueling shut-off valve (26).

(e) Remove the top access panel (4) complete with the pre-check valve (2), the pressure-refueling shut-off valve (26) and the seal (25). Discard the seal (25).

(13) Remove the bolts (22) which attach the flexible connection (21) to the collector tank (3). Remove and discard the seal (23).

(14) Remove the bolts (34) and disconnect the interconnecting tube (35) from the collector tank. Remove and discard the seal (33).

(15) In the collector tank (3) disconnect the items which follow:

– The clamp (40) of the engine fuel-supply tube (42). Discard the seals (39) and (41).
– The two pilot valves to collector tank tubes (37) and (38).
– The terminal ends of the quantity probe (Refer to 20-00-00).

(16) Remove the pressure switch (45)

(a) Disconnect the electrical connector (46) (Refer to 20-00-00).

(b) Remove the pressure switch (45) and the seal (36). Discard the seal (36).

(17) Disconnect the electrical connections of the main and stand-by fuel pumps

(a) Attach temporary tags to the cables to identify their positions in the terminal block (19).

(b) Remove the cables from the terminal block (19).

(18) Remove the bottom access panel (28) from the collector tank (3)

(a) Cut and remove the lockwire from the defueling connector (29).

(b) Remove the screws (32) and the washers (31) which attach the lockwire tab (30) and the bottom access panel to the collector tank. Remove the lockwire tab (30), the bottom access panel and the seal (27). Discard the seal (27).

(19) Remove the collector tank (3)

(a) Cut and remove the lockwire from the plugs (50).

(b) Remove the plugs (50) complete with the seals (51). Discard the seals (51).

(c) Hold the collector tank. Remove the nuts (49) and the washers (52).

(d) Carefully remove the collector tank. Make sure you do not cause damage to the cables, the tubes or the flexible connection.

(20) Remove the shimwashers (47) from the studs (48). If the same collector tank will be installed, do these steps:

– Keep the shimwashers from each stud together.
– Attach temporary tags to the shimwashers to identify which stud they were removed from.

(21) Remove the fuel quantity probe (43) (Refer to 28-40-00).

(22) Remove the main and stand-by fuel pumps (53) and (54) (Refer to 28-20-00).

(23) Remove the engine fuel-supply tube (42).

(24) Put caps on all openings, line ends and electrical connectors.

6. RH Fuel Collector Tank - Installation (Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm.) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
5	Seal	281100 01
7	Seal	281100 01
23	Seal	281100 01
25	Seal	281100 01
27	Seal	281100 01
33	Seal	281100 01
36	Seal	281100 01
39	Seal	281100 01
41	Seal	281100 01
47	Shimwasher	281100 01
51	Seal	281100 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 28-14-00
Maintenance Manual Chapter 28-20-00
Maintenance Manual Chapter 28-40-00
Maintenance Manual Chapter 32-00-00
Maintenance Manual Chapter 91-00-00

E. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all openings, line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Install the main and stand-by fuel pumps (53) and (54) (Refer to 28-20-00).

(5) Install the engine fuel-supply tube (42).

(6) Install the fuel quantity probe (43) (Refer to 28-40-00).

(7) Put the shimwashers (47) and the collector tank (3) on to the studs (48)
(a) To install the same collector tank, put the shimwashers on the studs in the positions noted during removal. To install a different collector tank put one shimwasher on each of the studs.
(b) Put the collector tank on to the studs. Make sure the electrical connectors, the engine fuel-supply tube and the two pilot valve tubes and go in to the collector tank without damage.
(c) Examine the flexible connection (21) at the top of the collector tank. Make sure that the bolt holes are aligned correctly. If necessary, remove the collector tank and adjust the shimwashers to get the bolt holes aligned correctly.

(8) Attach the collector tank (3) to the airplane
(a) Put the washers (52) and the nuts (49) on to the studs (48). Tighten the nuts (49).
(b) Put a new seal (51) on each of the plugs (50) (Refer to 20-00-00). Install the plugs (50) in to the collector tank.
(c) Tighten the plugs (50). Safety each of the plugs with lockwire (MS20995C32) (Refer to 20-00-00).

(9) Connect the electrical connections of the main and stand-by fuel pumps to the terminal block (19), in the positions identified during removal (Refer to 20-00-00). Remove the temporary identification tags from the cables.

(10) In the collector tank (3) connect the items which follow:
- The terminal ends of the quantity probe (Refer to 20-00-00).
- The two pilot valve to collector tank tubes (37) and (38).
- Put new seals (39) and (41) on the engine fuel-supply tubes. Install the clamp (40) to the engine fuel-supply tubes.

(11) Put a new seal (33) in the joint of the interconnecting tube (35) and the collector tank (3) (Refer to 20-00-00). Attach the interconnecting tube (35) to the collector tank (3) with the bolts (34). Tighten the bolts (34).

(12) Install the bottom access panel (28) and the lockwire tab (30)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the bottom access panel and the collector tank (3).

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully put the new seal (27) on the bottom access panel.

(c) Attach the bottom access panel, the seal (27) and the lockwire tab to the collector tank (3) with the screws (32) and the washers (31). Tighten the screws (32).

(13) Attach the flexible connection (21) to the collector tank (3)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the interfaces of the flexible connection and the collector tank.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Put a new seal (23) in position between the flexible connection and the collector tank.

(c) Attach the flexible connection to the collector tank with the bolts (22). Tighten the bolts (22).

(14) Install the top access panel (4) and the lockwire tab (14)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the top access panel and the collector tank.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully put the new seal (25) on the top access panel.

(c) Connect the two flexible hoses (20) and (24) to the pre-check valve (2) and the pressure-refueling shut-off valve (26).

(d) Attach the top access panel, the seal (25) and the lockwire tab to the collector tank (3) with the screws (16) and the washers (15). Tighten the screws (16).

(15) Install the pressure switch (45)

(a) Put a new seal (36) on the pressure switch (Refer to 20-00-00).

(b) Install the pressure switch to the collector tank (3). Safety the pressure switch with lockwire (MS20995C32) (Refer to 20-00-00).

(c) Connect the electrical connector (46) (Refer to 20-00-00).

(16) Connect the electrical connector (1) to the pre-check valve (2) (Refer to 20-00-00).

(17) Install the two landing gear mounts (Refer to 53-60-00).

(18) Install the RH main landing gear (Refer to 32-00-00).

(19) Install the auxiliary fuel tank (17) and the connecting tube (18) (Refer to 28-12-00).

(20) Install the refueling adapter (8) and the support bracket (10)

(a) Install new seals (5) and (7) at the clamp joint (Refer to 20-00-00). Connect the refueling adapter to the collector tank (3) with the clamp (6).

(b) Install the two bolts (12) and nuts (11) to attach the ground connection (9) and the support bracket (10) to the airplane.

(21) Refuel the airplane (Refer to 12-00-00).

(22) Make a check of the RH fuel collector tank for leaks (Refer to 28-00-00). Leaks are not permitted.

(23) Do an Operational Test of the fuel booster pumps (Refer to 28-00-00).

(24) Do an Operational Test of the interconnecting valve (Refer to 28-14-00).

(25) Do a Calibration Check of the fuel-quantity indication-system (Refer to 28-40-00).

(26) Install the access panel 252A (Refer to 53-60-00).

(27) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).

(28) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(29) Remove the Warning Notice from the flight compartment.

(30) Make sure the electrical power is available (Refer to 24-00-00).

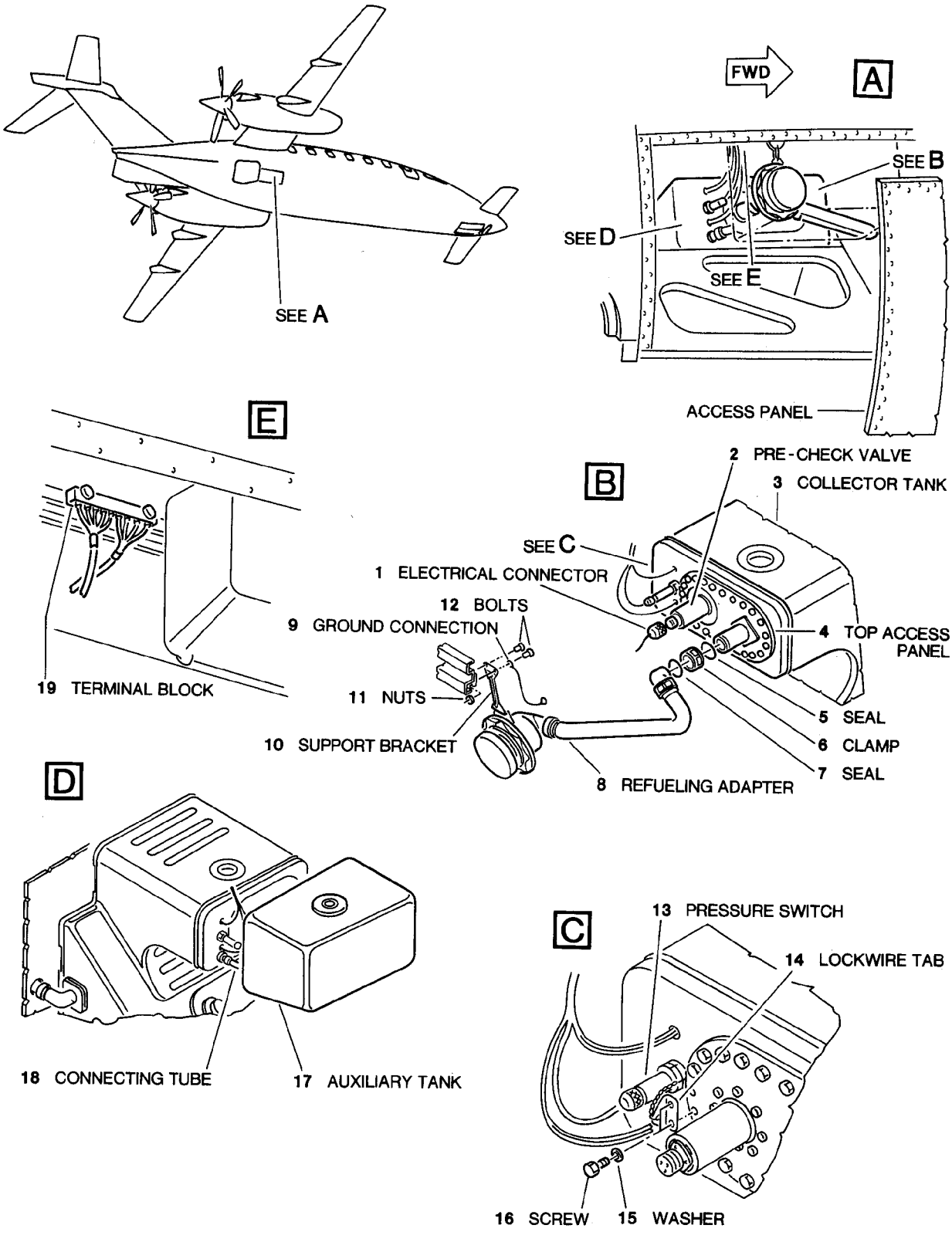


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Fig. 203 - (Sheet 1) RH Fuel Collector Tank - Removal/Installation

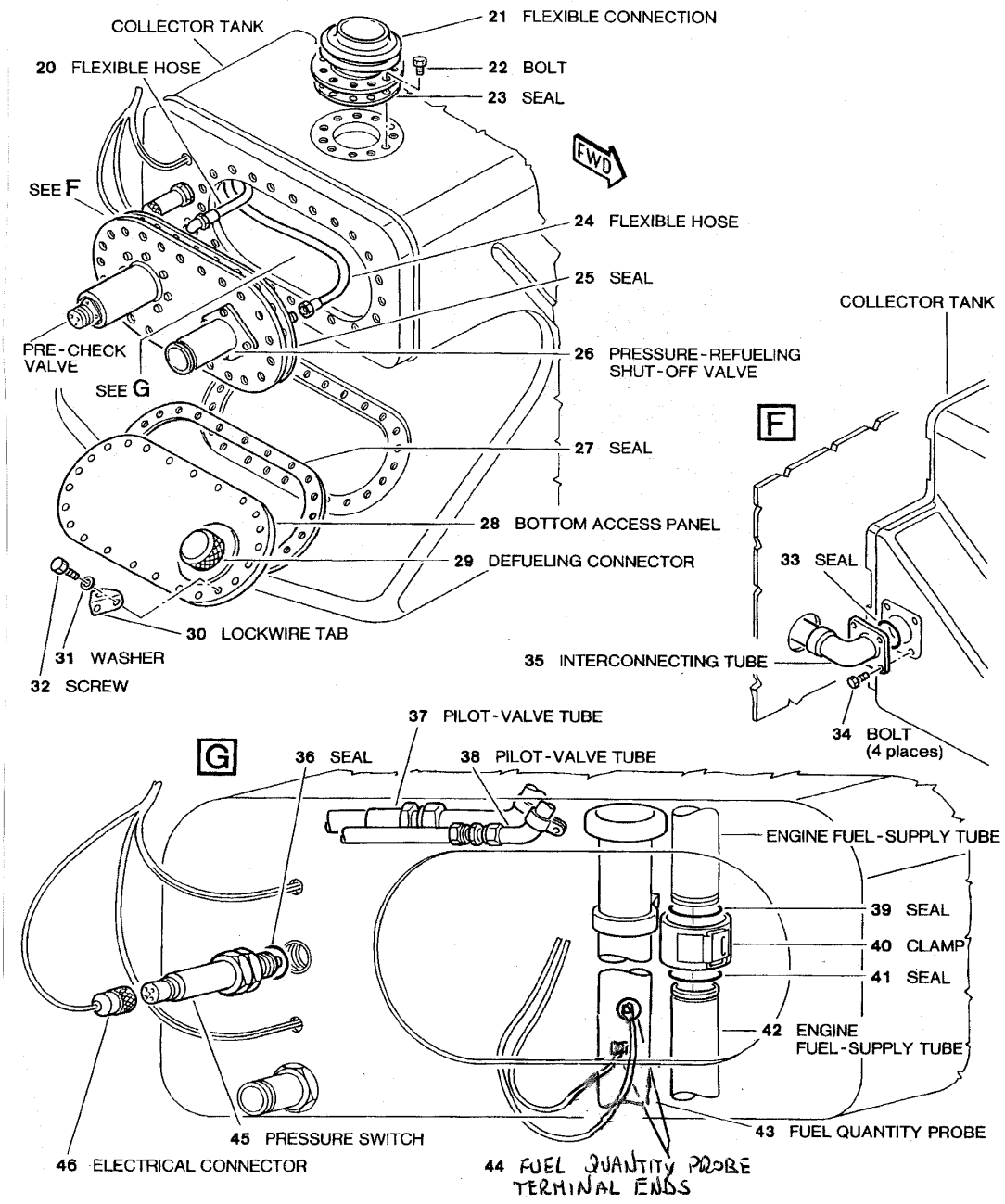


Fig. 203 - (Sheet 2) RH Fuel Collector Tank - Removal/Installation

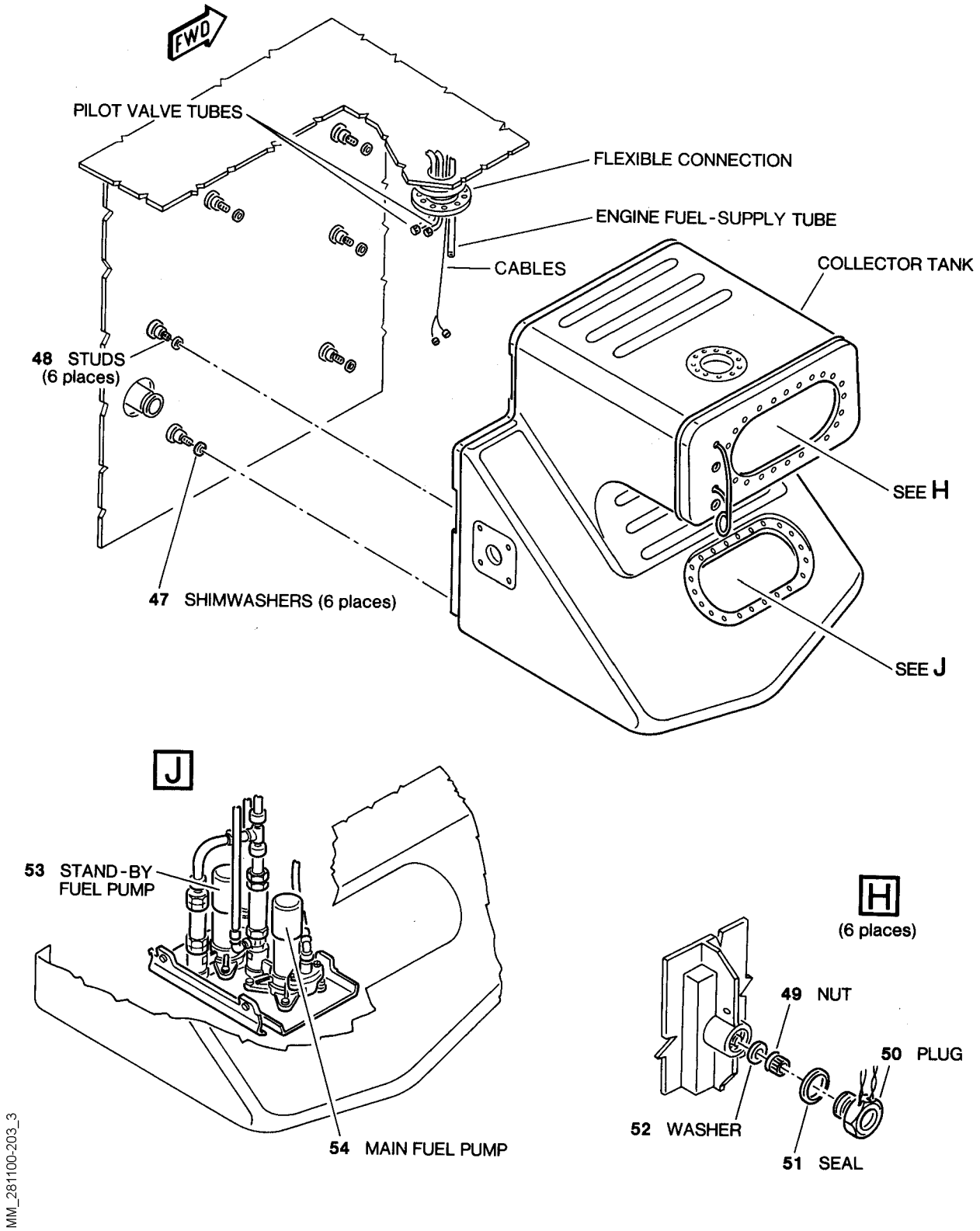


Fig. 203 - (Sheet 3) RH Fuel Collector Tank - Removal/Installatio

7. LH Collector Tank / Wing Flexible Connection - Removal (Ref. Fig. 204)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 06-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 53-60-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the fuel collector tanks (Refer to Para. 2)
(5) Remove the access panel 251A (Refer to 53-60-00).
(6) Remove the auxiliary fuel tank and the connecting tube (Refer to 28-12-00).
(7) Remove the top access panel (10) from the collector tank (14). Discard the seal.
(8) Remove the bolts (3) which attach the flexible connection (2) to the wing. Remove and discard the O-Ring (12).
(9) In the collector tank disconnect the items which follow:
  – The clamp (7) on engine fuel-supply tube (5). Discard the seals (6) and (8).
  – The four terminal ends of the fuel quantity probe (Refer to 20-00-00).
(10) Remove the bolts (4) which attach the flexible connection (2) to the collector tank. Remove and discard the gasket (13).
(11) Remove the Wing Acces Panel 511 DB (Refer to 06-00-00).
(12) Push the engine fuel-supply tube (5) and the fuel probe electrical harnesses (11), (both located in the collector tank) upwards towards the wing fuel tank.
(13) Through the Wing Access Panel 511 DB, pull the engine fuel supply tube (5) and the fuel probe electrical harnesses (11) away from the fuel tank flexible connection (2).
(14) Remove the LH collector tank / wing flexible connection (2) remove and discard the gaskett (13) and the O-Ring (12).
(15) Put caps on all openings, line ends

8. LH Collector Tank / Wing Flexible Connection - Installation (Ref. Fig. 204)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm.) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. MaterialsExpendable Parts

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

ITEM	NOMENCLATURE	IPC CSN
6	O-Ring	
26	O-Ring	
(13)	Gasket	
(12)	O-Ring	

C. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 06-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 53-60-00

D. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all openings, line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Put in position the flexible connection (2).

(5) Insert the engine fuel supply tube (5) and the electrical harnesses through the flexible connection (2).

(6) Install the bolts (3) which attach the flexible connection (2) to the wing. Install the new O-Ring (12).

(7) Install the bolts (4) which attach the flexible connection (2) to the collector tank. Install the new gasket (13).

(8) Put new seals (6) and (8) on the engine fuel-supply tube (5). Install the clamp (7) to the engine fuel-supply tubes.

(9) Connect the terminal ends of the fuel quantity probe (Refer to 20-00-00).

(10) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the upper access panel and the collector tank (10).

(11) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the Wing Access Panel.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(12) Install the top access panel (Ref. to Para 4 of this Section)

(13) nstall the Wing Access Panel 511 DB (Refer to 06-00-00)

(14) Install the auxiliary fuel tank and the connecting tube (Refer to 28-12-00).

(15) Refuel the airplane (Refer to 12-00-00).

(16) Make a check of the LH fuel collector tank for leaks (Refer to 28-00-00). Leaks are not permitted.

(17) Do an Operational Test of the fuel booster pumps (Refer to 28-20-00).

(18) Install the access panel 251A (Refer to 53-60-00).

(19) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(20) Remove the Warning Notice from the flight compartment.

(21) Make sure the electrical power is available (Refer to 24-00-00).

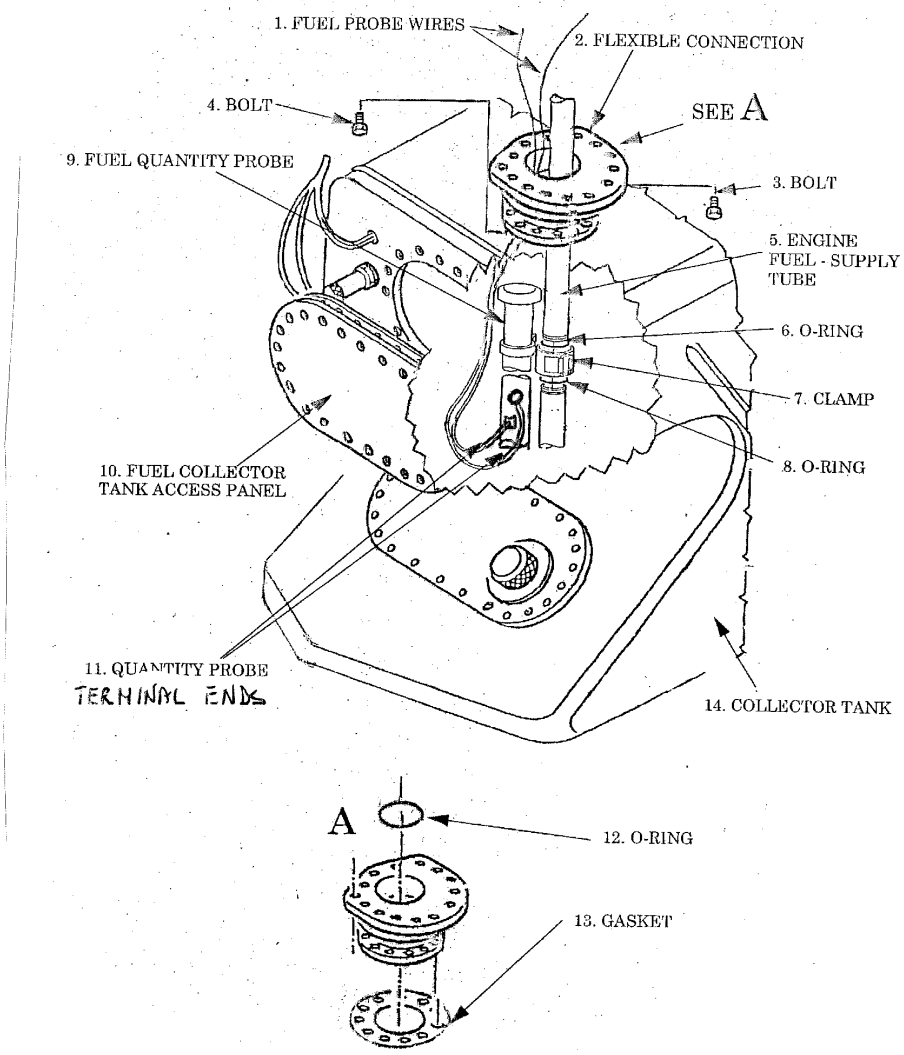


Fig. 204 - LH Collector Tank / Wing Flexible Connection - Removal/Installation

9. RH Collector Tank / Wing Flexible Connection - Removal (Ref. Fig. 205)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-12-00
Maintenance Manual Chapter 53-60-00
Maintenance Manual Chapter 27-50-00
Maintenance Manual Chapter 24-60-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to Para. 2).
(5) Remove the access panel 252A (Refer to 53-60-00).
(6) Remove the following items as described at the Para 5 ("RH Fuel Collector Tank - Removal") of this section:
- Refueling Adapter
- Support Bracket
- Auxiliary Fuel Tank And The Connecting Tube
- Pre-check Valve Electrical Connector
- Fuel Collector Tank Top Access Panel

(7) Remove the bolts (11) which attach the flexible connection (19) to the collector tank (1).
(8) Remove the bolts (10) which attach the flexible connection (19) to the wing panel.
(9) Remove the clamp (14) of the engine fuel-supply tube (20). Discard the seals (12) and (13).
(10) Remove the two pilot valves tubes fittings (6) and (7).
(11) Loosen the three clamps (5) that secure the pilot valve tubes (2) and the engine fuel-supply tube (20) to the fuel collector tank internal side.
(12) Disconnect the terminal ends (8) of the quantity probe (Refer to 20-00-00).
(13) Remove the right wing access door (18) located under the wing in the landing gear vane above the auxiliary tank.
(14) Remove the right wing access door (21) located under the wing in the landing gear vane
(15) In the wing box through the access doors (18, 21) disconnect the pilot tube fittings (3, 4).
(16) Withdraw the two pilot tubes (2) out of the fuel collector tank (1)

(17) Push the engine fuel-supply tube (20) and the fuel probe electrical harnesses (9), (both located in the collector tank) upwards towards the wing fuel tank.

(18) Through the Wing Access Panel 611 DB, pull the engine fuel supply tube (20) and the fuel probe electrical harnesses (9) away from the fuel tank flexible connection (19).

(19) Remove the RH collector tank / wing flexible connection (19), remove and discard the gaskett (16) and the O-Ring (15).

(20) Put caps on all openings, line ends and electrical connectors.

10. RH Collector Tank / Wing Flexible Connection - Installation (Ref. Fig. 205)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm.) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. MaterialsExpendable Parts

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

ITEM	NOMENCLATURE	IPC CSN
12	O-Ring	
13	O-Ring	
16	Gasket	
15	O-Ring	

C. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 24-60-00
Maintenance Manual Chapter 27-50-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 28-20-00
Maintenance Manual Chapter 53-60-00

D. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all openings, line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Put in position the flexible connection (19).

(5) Install the bolts (10) which attach the flexible connection (17) to the wing. Install the new O-Ring (15).

(6) Install the bolts (11) which attach the flexible connection (17) to the collector tank. Install the new gasket (16).(The bolts (11) must be installed toward the internal side of the collector tank (1).

(7) Insert the two Pilot Tubes (2) from the collector tank (1), through the Flexible Connection hole and the wing box, to the fuselage tank.

(8) Connect the Pilot Tubes (2), in the wing box, to its own fittings (3, 4) respectively.

(9) Secure both Pilot Tube with clamps (5), located in the collector tank.

(10) Put new seals (12) and (13) on the engine fuel-supply tubes. Install the clamp (14) to the engine fuel-supply tube (20).

(11) Connect the terminal ends of the fuel quantity probe (Refer to 20-00-00).

(12) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the upper access panel and the collector tank (1).

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(13) Install the right wing access door (18) located under the wing in the landing gear vane above the auxiliary tank.

(14) Install the right wing access door (21) located under the wing in the landing gear vane

(15) Install the following items as described at the Para 5 ("RH Fuel Collector Tank - Installation") of this section:
- Fuel Collector Tank Top Access Panel
- Auxiliary Fuel Tank And The Connecting Tube
- Support Bracket
- Refueling Adapter
- Pre-check Valve Electrical Connector

(16) Refuel the airplane (Refer to 12-00-00).
(17) Make a check of the RH fuel collector tank for leaks (Refer to 28-00-00). Leaks are not permitted.
(18) Do an Operational Test of the fuel booster pumps (Refer to 28-20-00).
(19) Install the access panel 251A (Refer to 53-60-00).
(20) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.
(21) Remove the Warning Notice from the flight compartment.
(22) Make sure the electrical power is available (Refer to 24-00-00).

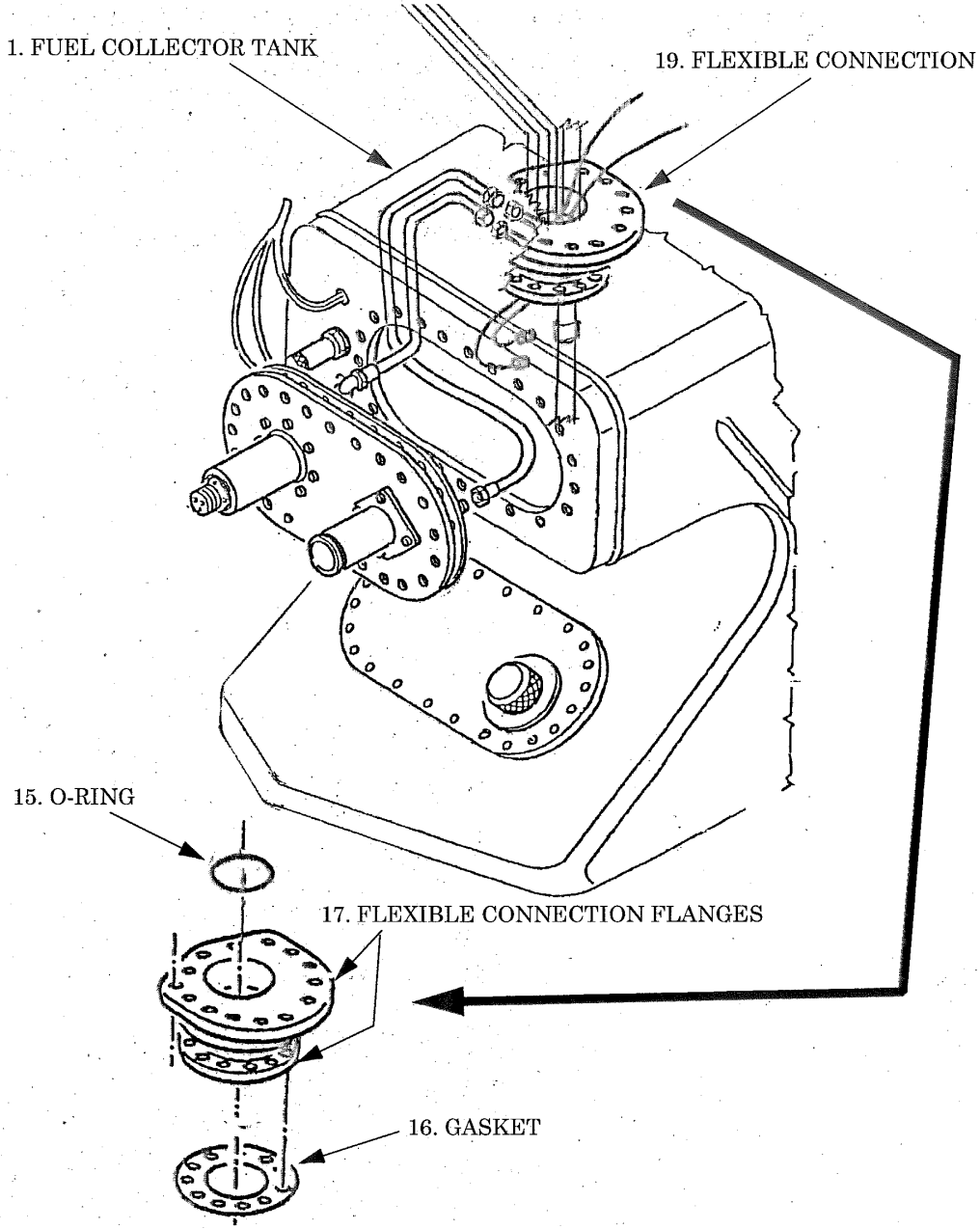


Fig. 205 - RH Collector Tank / Wing Flexible Connect. - Removal/Installat. (Sheet 1 of 3)

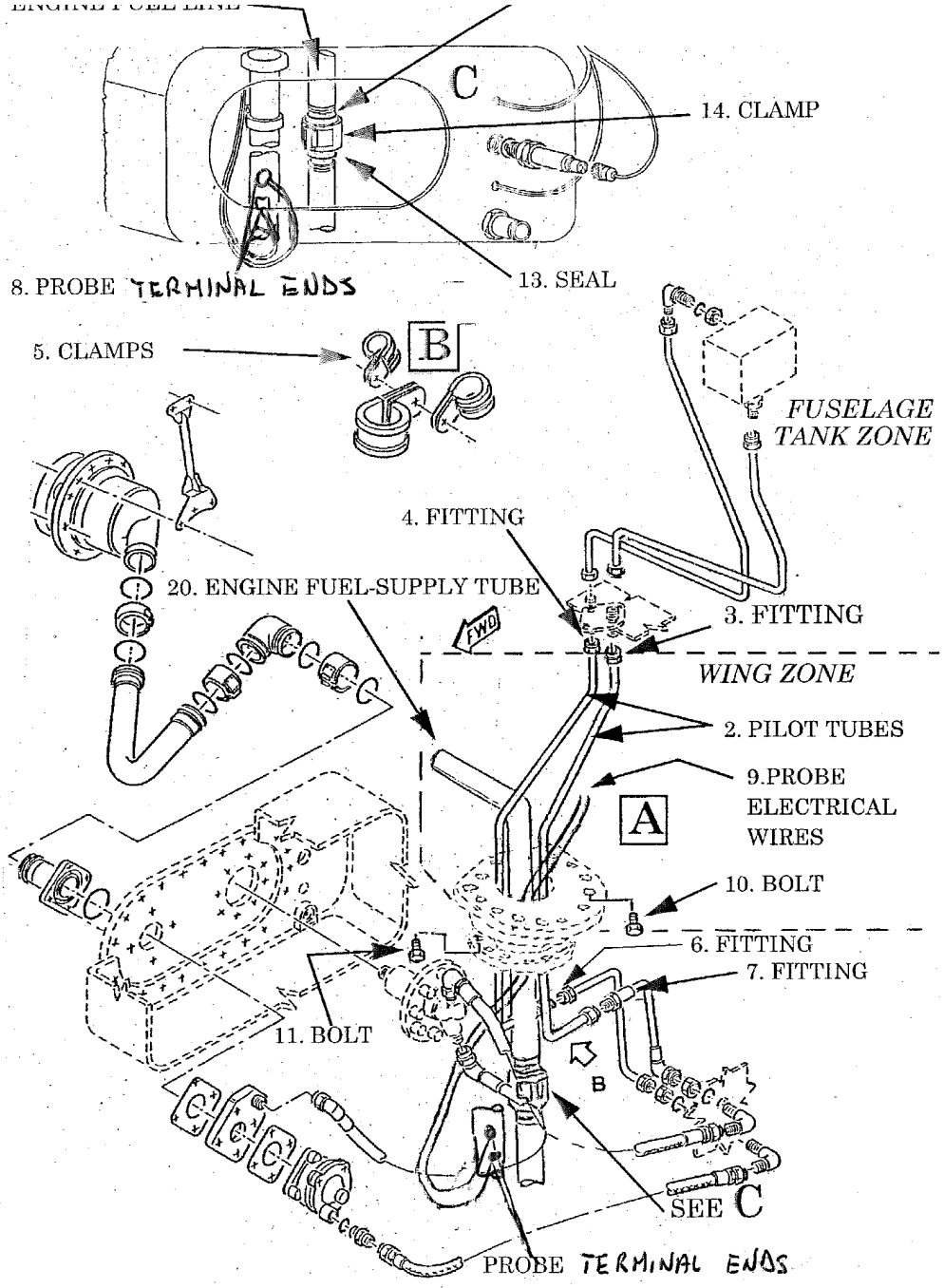
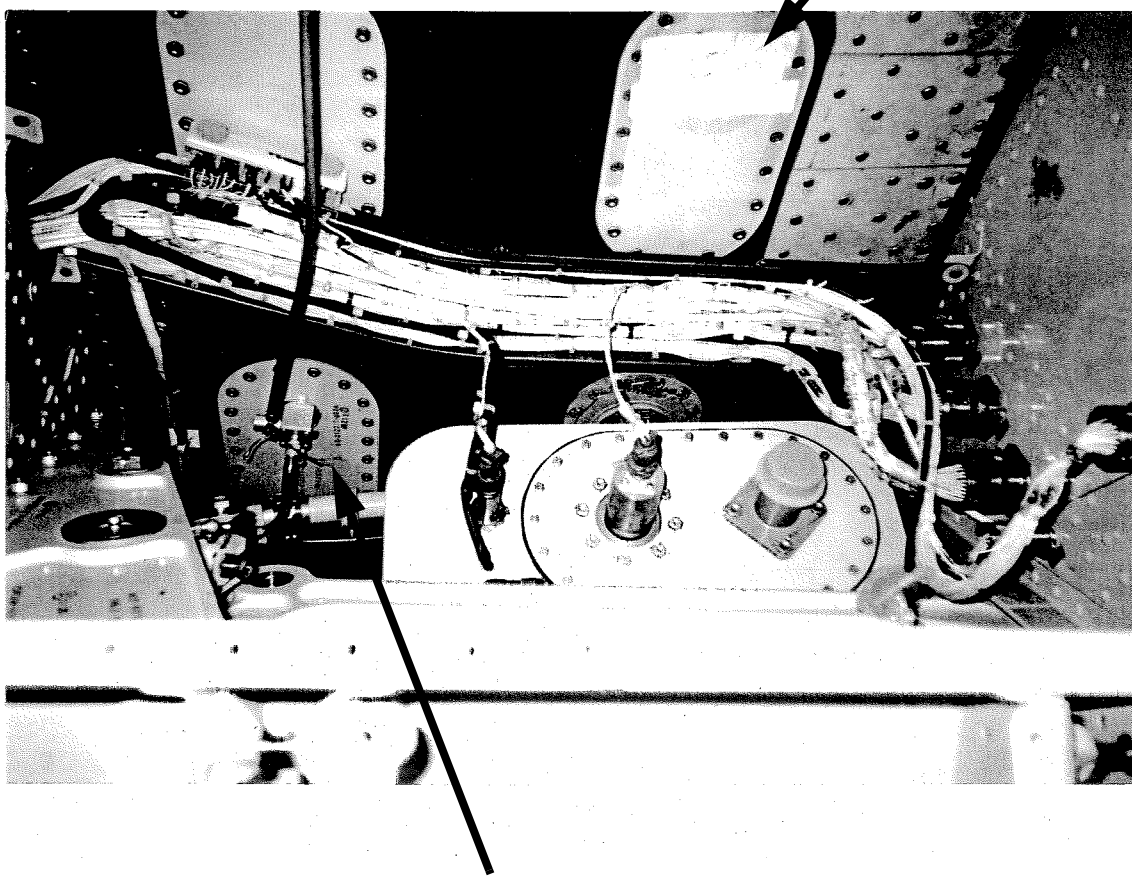


Fig. 205 - RH Collector Tank / Wing Flexible Connect - Removal/Installat. (Sheet 2 of 3)

18 RIGHT WING ACCESS DOOR



21 RIGHT WING ACCESS DOOR

Fig. 205 - RH Collector Tank / Wing Flexible Connect - Removal/Installat. (Sheet 3 of 3)

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AUXILIARY FUEL TANKS - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the maintenance practices for the auxiliary fuel tanks as follows:

- Auxiliary Fuel Tank - Removal
- Auxiliary Fuel Tank - Installation.

B. The location of the components is as follows:

- the LH auxiliary fuel tank is attached to the bottom of the wing tank, in zone 251 between FS 6000 and FS 6470
- the RH auxiliary fuel tank is attached to the bottom of the wing tank, in zone 252 between FS 6000 and FS 6470

2. Auxiliary Fuel Tank - Removal (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-11-00
Maintenance Manual Chapter 53-60-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panel 251A (252A) (Refer to 53-60-00).
(7) Remove the bolts (6) that secure the access panel (7) and the seal (5) to the bottom of the auxiliary fuel tank (9).
(8) Remove the access panel (7) and discard the seal (5).

(9) Disconnect the ground connection (8) from the bottom of the auxiliary fuel tank (9).
(10) Loosen completely the two nuts (12) and remove the tube (11).
(11) Remove the bolts (4) which attach the auxiliary fuel tank (9) to the wing tank (2).
(12) Remove and discard the auxiliary fuel tank flange seal (1) and the seals (3).
(13) Remove the auxiliary fuel tank (9) from the airplane.
(14) Put caps on all openings and line ends.

3. Auxiliary Fuel Tank - Installation (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Sealant	06-005

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
2	Seal	281200 01
3	Seal	281200 01
7	Seal	281200 01
9	Seal	281200 01
15	Seal	281200 01
17	Seal	281200 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 53-60-00

E. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from the openings and the line ends.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Put on the auxiliary fuel tank flange (10) the new auxiliary fuel tank flange seal (1) and the six bolt seals (3).

NOTE: When you place the auxiliary fuel tank in position under the wing, be careful that the seals do not move from their own seats.

(5) Attach the auxiliary fuel tank (9) to the wing tank (2) with the bolts (4). Tighten the bolts (4).

(6) Install the tube (11) that connect the auxiliary fuel tank (9) with the collector tank. Tighten the nut (12).

(7) Install the access panel (7) and the seal (5) to the auxiliary fuel tank bottom (9).

(8) Connect the ground connection (8) to the bottom of the auxiliary fuel tank (9).

(9) Refuel the airplane (Refer to 12-00-00).

(10) Make a check of the LH (RH) auxiliary fuel tank (9) for leaks (Refer to 28-00-00). Leaks are not permitted.

(11) Install the access panel 251A (252A) (Refer to Chapter 53-60-00).

(12) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).

(13) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(14) Remove the Warning Notice from the flight compartment.

(15) Make sure the electrical power is available (Refer to 24-00-00).

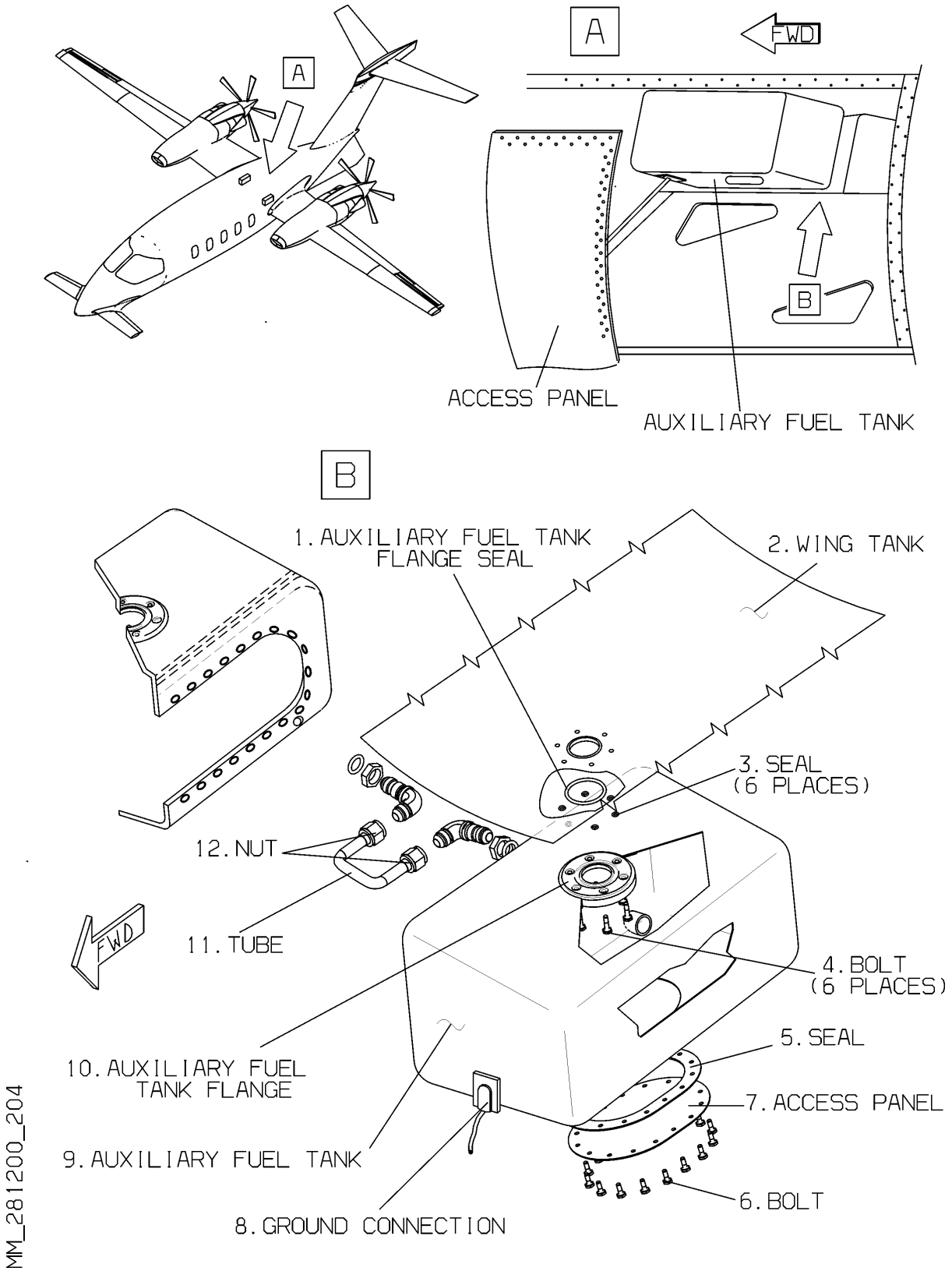


Fig. 201 - Auxiliary Fuel Tank - Removal/Installation

REFUELING - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the Maintenance Practices for the refueling system components as follows:

- Pressure-Refueling Pilot Valve - Removal
- Pressure-Refueling Pilot Valve - Installation
- Pressure-Refueling Pilot Valve - Operational Test
- Pressure-Refueling Pilot Valve - Inspection

B. The pressure-refueling pilot valve is in the integral fuselage tank, forward of access panel 282AZ at FS 6470.

2. Pressure-Refueling Pilot Valve - Removal (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 27-00-00
Maintenance Manual Chapter 28-11-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the fuel collector tanks (Refer to 28-11-00).
(5) Remove the flap system GCU (Refer to 27-00-00) and the main junction box (Refer to 24-00-00).
(6) Remove the access panel 282AZ and the seal (6). Discard the seal (6).
(7) Disconnect the tubes (3) and (4) from the pilot valve (2).
(8) Remove the three bolts (8), with the three washers (7), which attach the pressure-refueling pilot valve (2) to the bracket (1).
(9) Remove the pilot valve (2) from the airplane.
(10) Put caps on all line ends and electrical connectors.

3. Pressure-Refueling Pilot Valve - Installation (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm.) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
6	Seal	531800

D. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 27-00-00

E. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all line ends and electrical connectors.

(3) Attach the pilot valve (2) to the bracket (1) with the bolts (8) and the washers (7). Tighten the bolts (8).

(4) Connect the tubes (3) and (4) to the pilot valve (2). Tighten the tubes (3) and (4).

(5) Install a new seal (6) to the access panel 282AZ

CAUTION: BE CAREFUL WHEN YOU REMOVE THE SEAL. MAKE SURE YOU DO NOT CAUSE DAMAGE TO THE SEAL SEAT OF THE ACCESS PANEL.

(a) Remove the old seal from the access panel.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(b) Use a clean lint-free cloth, made moist with the MEK, to clean the new seal and the interfaces of the access panel and the integral fuselage tank (5). Wipe the components with a clean piece of lint-free cloth before the MEK dries.

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(c) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the access panel.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(d) Carefully push the seal in to the seal seat of the access panel.

(6) Install the access panel 282AZ complete with the new seal (6).

(7) Install the flap system GCU (Refer to 27-00-00) and the main junction box (Refer to 24-00-00).

(8) Remove all tools, materials and equipment from the work area. Make sure the area is clean.

(9) Remove the Warning Notice from the flight compartment.

(10) Make sure the electrical power is available (Refer to 24-00-00).

(11) Do an Operational Test of the pressure-refueling pilot valve (Refer to Para. 4).

(12) Refuel the airplane (Refer to 12-00-00).

(13) Examine the area around the access panel 282AZ for leaks (Refer to 28-00-00). Leaks are not permitted.

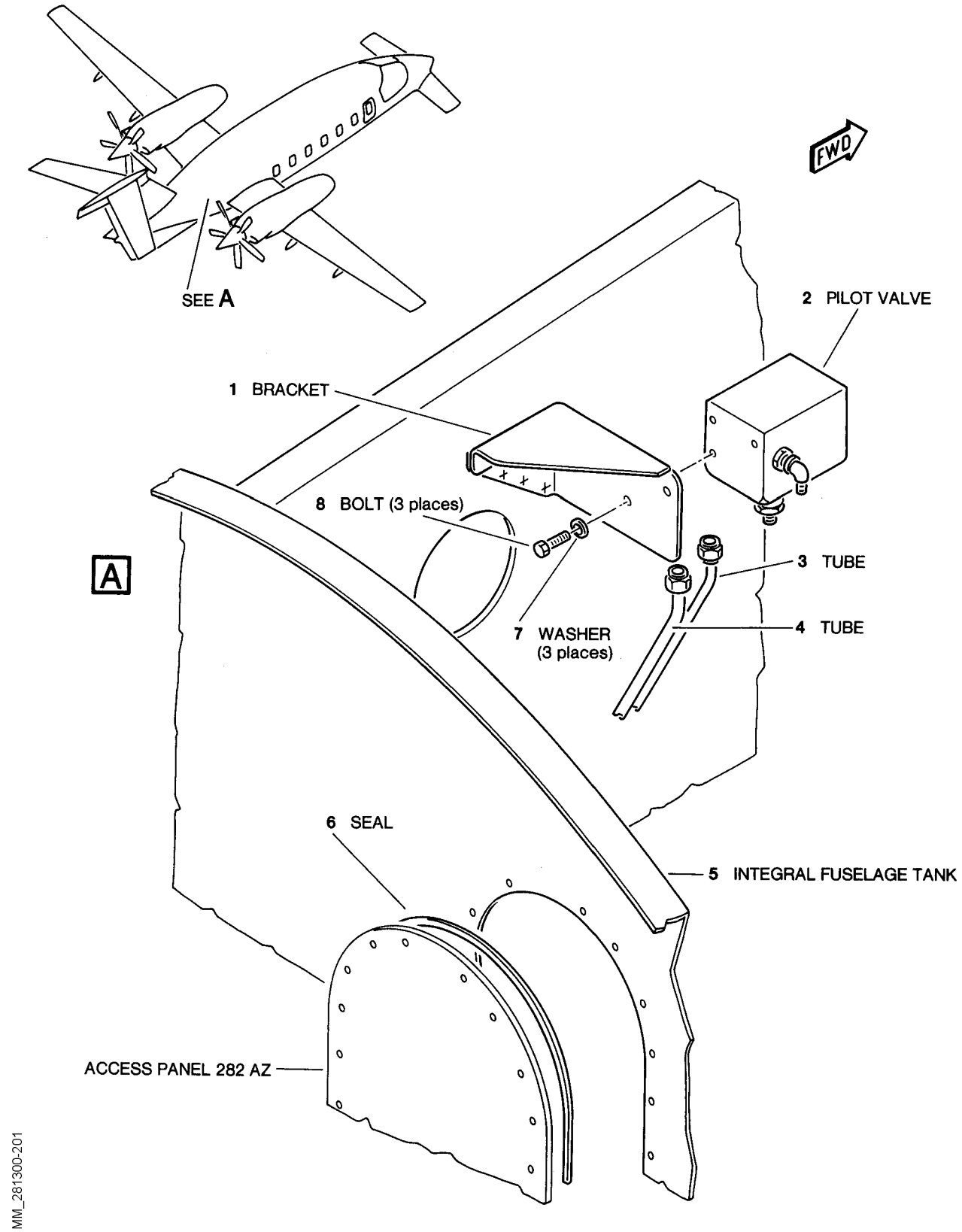


Fig. 201 - Pressure-Refueling Pilot Valve - Removal/Installation

4. Pressure-Refueling Pilot Valve - Operational Test (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified
Pressure Refueler	Not Specified

B. Referenced Information

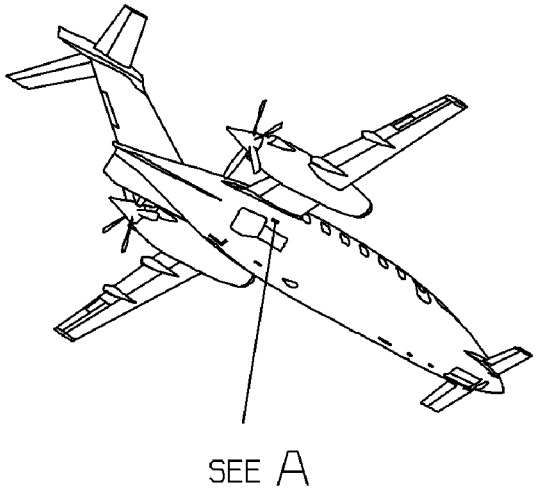
Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Make sure the electrical power is available (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to start the engines.
(3) Open the access door 252B.
(4) Connect the pressure refueler to the refueling adapter.
(5) Open the GROUND TEST PANEL access door 272A.
(6) Do the test of the pressure-refueling pilot valve

	Action	Result
(a)	Start the pressure refueler	Fuel flows in to the airplane fuel system.
(b)	On the GROUND TEST PANEL hold the GROUND TEST switch in the SYST position	After seconds the fuel flow in to the airplane fuel system stops.
(c)	On the GROUND TEST PANEL release the GROUND TEST switch	The GROUND TEST switch goes to the center off position. After seconds fuel flows in to the airplane fuel system.
(d)	Stop the pressure refueler	The fuel flow in to the airplane fuel system stops.

(7) Close the GROUND TEST PANEL access door 272A.
(8) Disconnect the pressure refueler from the refueling adapter.
(9) Close the access door 252B.
(10) Remove the Warning Notice from the flight compartment.
(11) Remove the electrical power (Refer to 24-00-00).



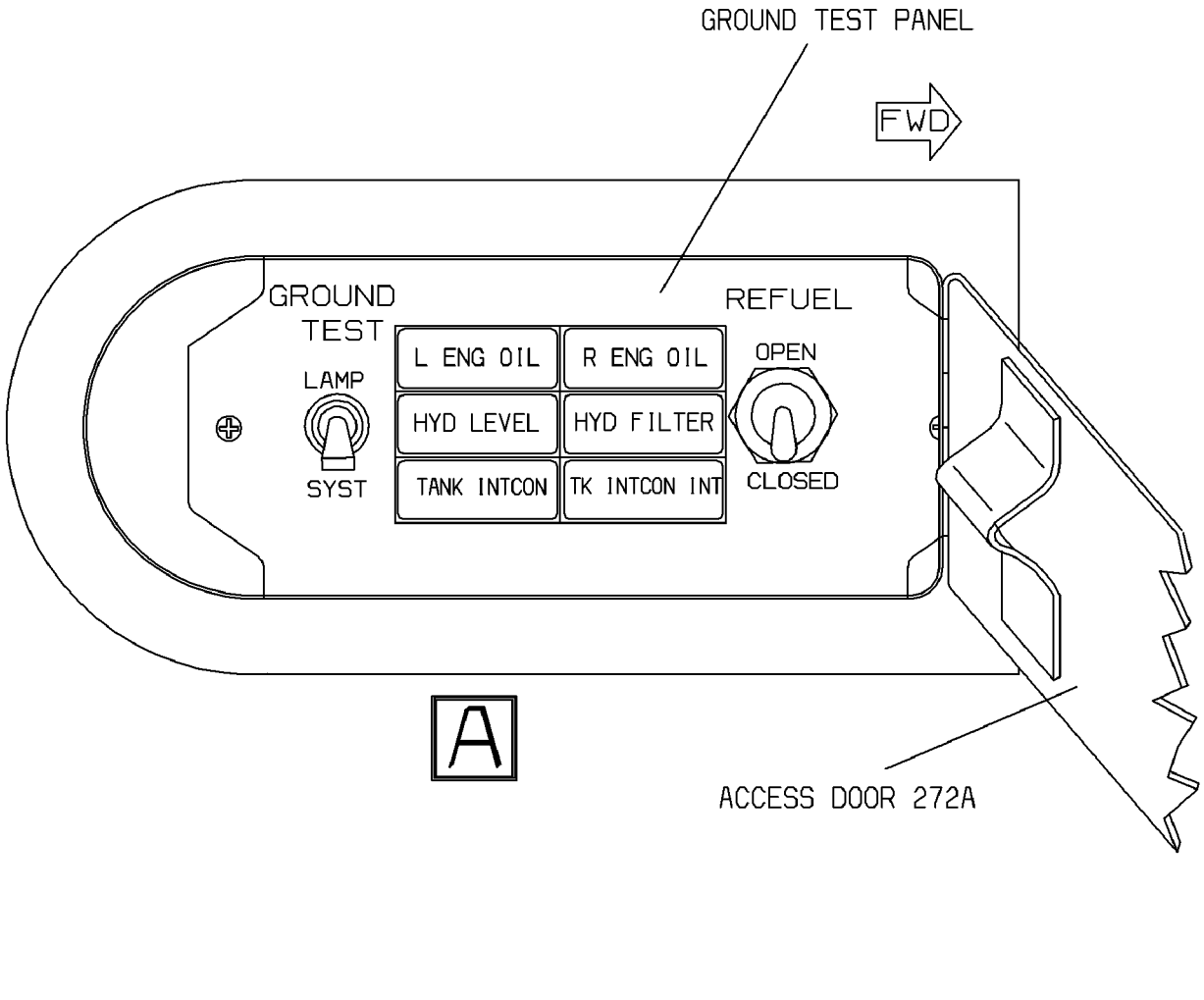


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Fig. 202 - Pressure-Refueling Pilot Valve - Ground Test Panel

5. Pressure-Refueling Pilot Valve - Inspection (Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

Warning Notice	Not Specified
0.5 in. (12,7 mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
5	Seal	531800

D. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 27-00-00
Maintenance Manual Chapter 28-11-00

E. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the fuel collector tanks (Refer to 28-11-00).
(5) Remove the flap system GCU (Refer to 27-00-00) and the main junction box (Refer to 24-00-00).
(6) Remove the access panel 282AZ and the seal (5).
(7) Examine the pressure-refueling pilot valve (2)
  (a) Make sure that the bolts (6) are tight.
  (b) Make sure that the connecting nuts of the two tubes (4) are tight.
  (c) Examine the connections of the two tubes (4) and the two unions (3) for signs of leaks.
  (d) Examine the body of the pressure-refueling pilot valve (2) for signs of leaks or cracks.
  (e) Tighten or replace the defective parts as necessary.

(8) Install a new seal (5) to the access panel 282AZ

CAUTION: BE CAREFUL WHEN YOU REMOVE THE SEAL. MAKE SURE YOU DO NOT CAUSE DAMAGE TO THE SEAL SEAT OF THE ACCESS PANEL.

(a) Remove the old seal from the access panel.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(b) Use a clean lint-free cloth, made moist with the MEK, to clean the new seal and the interfaces of the access panel and the integral fuselage tank (1). Wipe the components with a clean piece of lint-free cloth before the MEK dries.

WARNING: BE CAREFUL WHEN YOU USE THE ADHESIVE. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(c) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the access panel.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE ADHESIVE CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(d) Carefully push the seal in to the seal seat of the access panel.

(9) Install the access panel 282AZ complete with the new seal (5).

(10) Install the flap system GCU (Refer to 27-00-00) and the main junction box (Refer to 24-00-00).

(11) Remove all tools, materials and equipment from the work area. Make sure the area is clean.

(12) Remove the Warning Notice from the flight compartment.

(13) Make sure the electrical power is available (Refer to 24-00-00).

(14) Refuel the airplane (Refer to 12-00-00).

(15) Examine the area around the access panel 282AZ for leaks (Refer to 28-00-00). Leaks are not permitted.

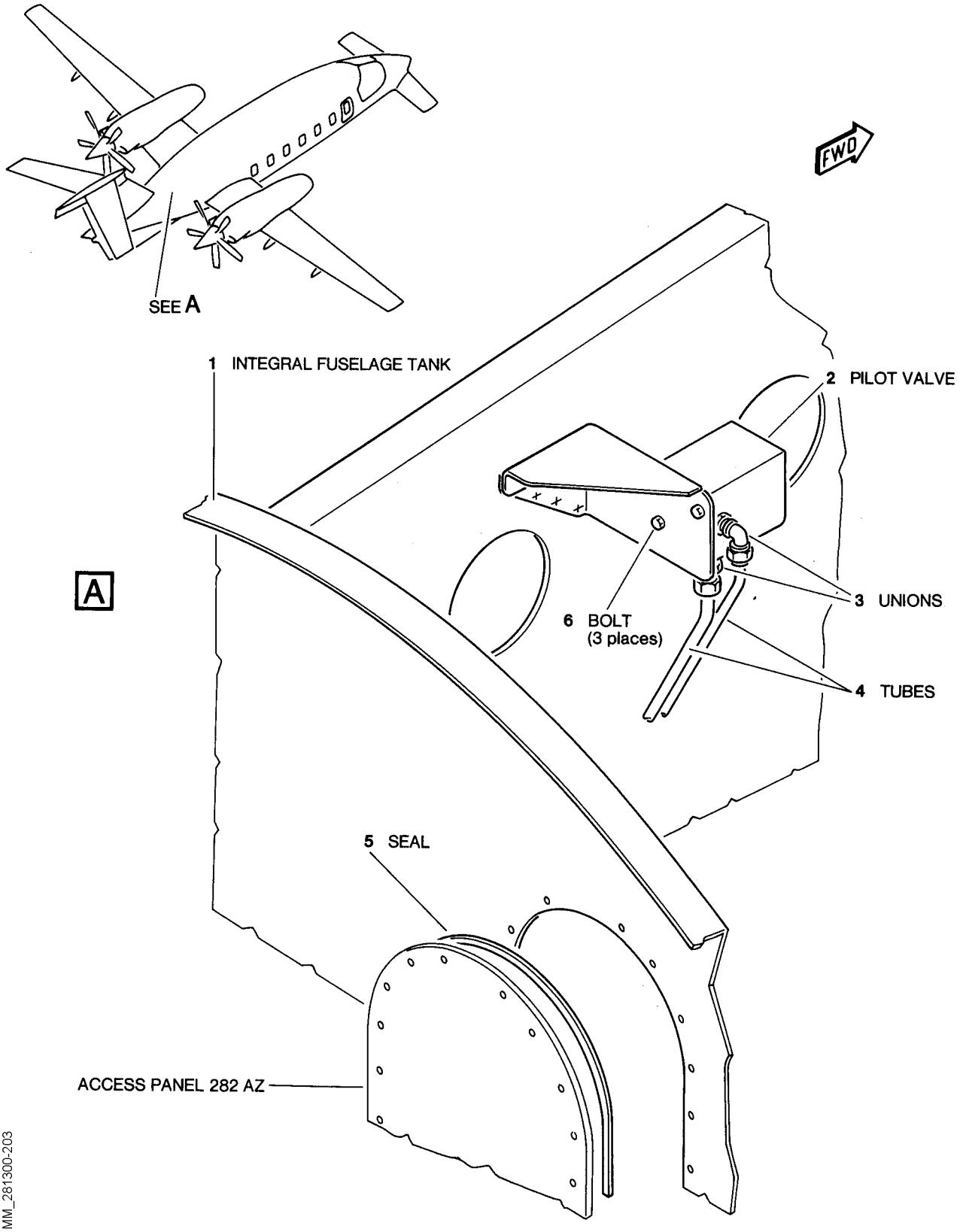

Fig. 203 - Pressure-Refueling Pilot Valve - Inspection

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INTERCONNECTING VALVE - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the Maintenance Practices for the interconnecting valve of the fuel collector tanks as follows:

- Collector-Tank Interconnecting Valve - Removal
- Collector-Tank Interconnecting Valve - Installation
- Collector-Tank Interconnecting Valve - Operational Test

B. The interconnecting valve is in zone 251, adjacent to the fuselage central structure at FS 6710.

2. Collector-Tank Interconnecting Valve - Removal (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-11-00
Maintenance Manual Chapter 53-60-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panels 251A and 252A (Refer to 53-60-00).
(7) Remove the clamp (5) from the interconnecting tube (4) on the RH collector tank (3).
(8) Disconnect the electrical connector (11) from the interconnecting valve (9) (Refer to 20-00-00).
(9) Remove the bolts (10) which attach the interconnecting tube (8) and the valve (9) to the LH collector tank (12). Remove the interconnecting tube (8) and the valve (9).

(10) Remove and discard the seals (2), (6) and (7) from the interconnecting tubes (1), (4) and (8).

(11) Make a note of the position of the interconnecting tubes in relation to the interconnecting valve (Refer to Detail C). Remove the bolts (15) which attach the interconnecting tubes to the interconnecting valve. Discard the seals (13) and (14).

(12) Put caps on all openings, line ends and electrical connectors.

3. Collector-Tank Interconnecting Valve - Installation (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Lint-Free Cloth	Not Specified

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
2	Seal	281400 01
6	Seal	281400 01
7	Seal	281400 01
13	Seal	281400 01
14	Seal	281400 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 53-60-00

E. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all openings, line ends and electrical connectors.

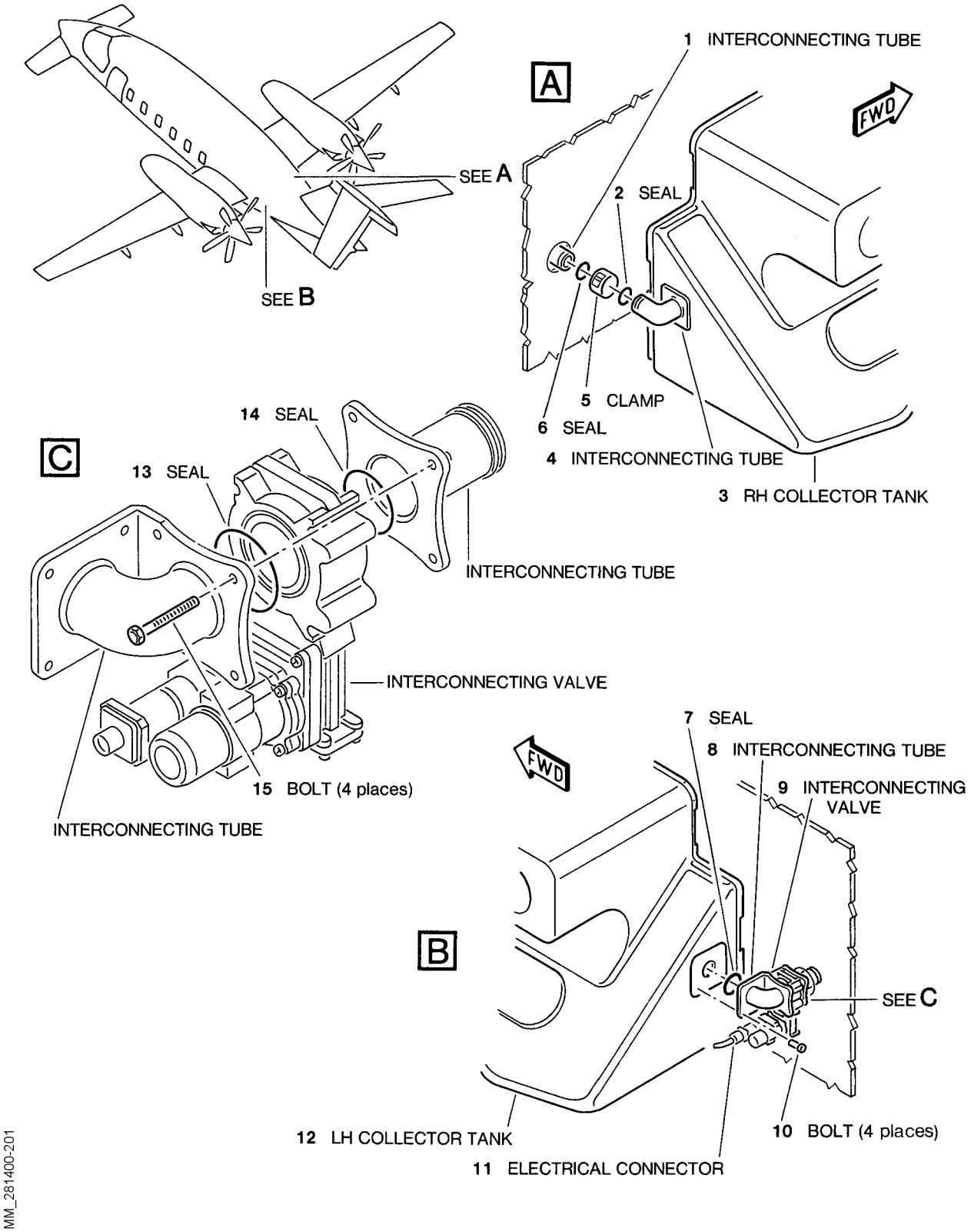


Fig. 201 - Collector-Tank Interconnecting Valve - Removal/Installation

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.
(4) Install new seals (13) and (14) to the interconnecting valve (Refer to 20-00-00).
(5) Attach the interconnecting tubes to the interconnecting valve with the bolts (15), in the positions noted during removal. Tighten the bolts (15).
(6) Install new seals (2), (6) and (7) to the interconnecting tubes (1), (4) and (8) (Refer to 20-00-00).
(7) Attach the interconnecting valve (9) and the tube (8) to the LH collector tank (12) with the bolts (10). Tighten the bolts (10).
(8) Attach the interconnecting tube (1) to the interconnecting tube (4) on the RH collector tank (3) with the clamp (5).
(9) Connect the electrical connector (11) to the interconnecting valve (9) (Refer to 20-00-00).
(10) Do an Operational Test of the interconnecting valve (9) (Refer to Para. 4).
(11) Refuel the airplane (Refer to 12-00-00).
(12) Make a check of the interconnecting valve (9) and the interconnecting tubes (1), (4) and (8) for leaks (Refer to 28-00-00). Leaks are not permitted.
(13) Install the access panels 251A and 252A (Refer to 53-28-00).
(14) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).
(15) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.
(16) Remove the Warning Notice from the flight compartment.
(17) Make sure the electrical power is available (Refer to 24-00-00).

4. Collector-Tank Interconnecting Valve - Operational Test (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00

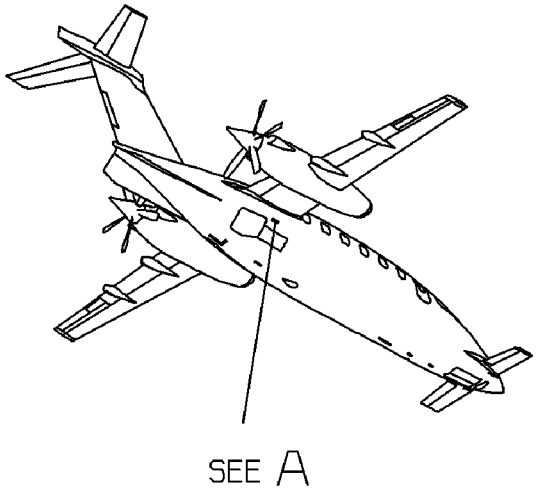
C. Procedure

(1) Make sure the electrical power is available (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to start the engines.
(3) Open the GROUND TEST PANEL access door 272A.

(4) Do a test of the interconnecting valve

Action	Result
(a) Set the REFUEL switch to the OPEN position	The TK INTCON INT light comes on. After approximately 2 seconds the TK INTCON INT light goes off and the TANK INTCON light comes on.
(b) Set the REFUEL switch to the CLOSED position	The TANK INTCON light goes off and the TK INTCON INT light comes on. After approximately 2 seconds the TK INTCON INT light goes off.

(5) Close the GROUND TEST PANEL access door 272A.
(6) Remove the Warning Notice from the flight compartment.
(7) Remove the electrical power (Refer to 24-00-00).



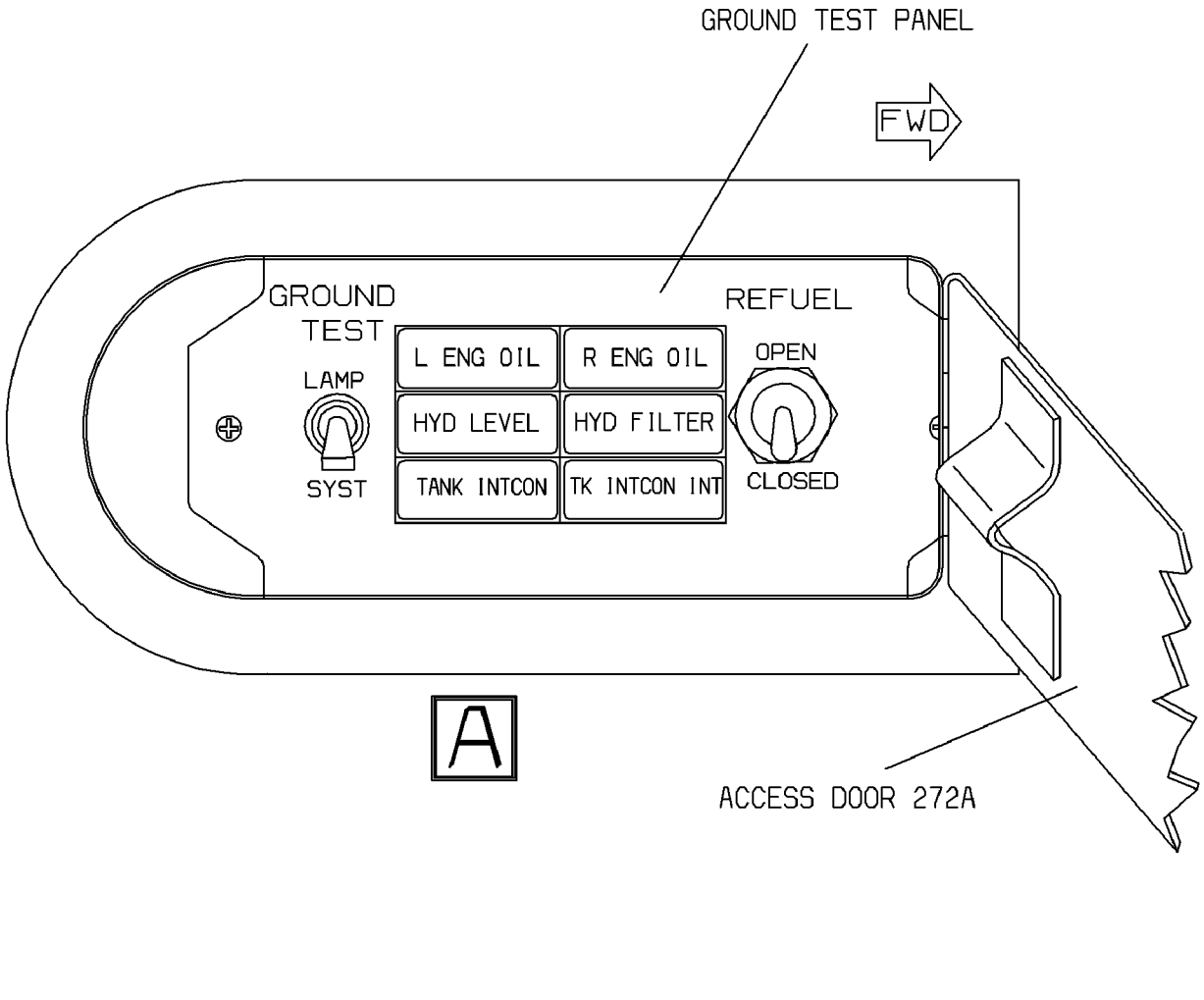


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Fig. 202 - Collector-Tank Interconnecting Valve - Ground Test Panel

FUEL DRAIN SYSTEM - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the Maintenance Practices for the fuel drain system as follows:

- Wing-Tank-Vent Drain-Valve - Removal
- Wing-Tank-Vent Drain-Valve - Installation

B. The location of the components is as follows:

- the LH wing-tank-vent drain-valve is attached to access panel 511BB in zone 251
- the RH wing-tank-vent drain-valve is attached to access panel 611BB in zone 252.

2. Wing-Tank-Vent Drain-Valve - Removal (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-11-00
Maintenance Manual Chapter 53-60-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panel 251A (252A) (Refer to 53-60-00).
(7) Disconnect the control rod (5)
  (a) Remove the cotter pin (15) and the washer (16) from the pin (14).
  (b) Hold the control rod and remove the pin (14).
  (c) Remove the control rod from the airplane.

(8) Remove the clamp (8) and the flexible hose (9) from the drain valve (7).
(9) Use a pencil to make a mark to identify:
- The position of the drain valve (7) in relation to the access panel (12).
- The position of the access panel (12) in relation to the wing tank (13).

(10) Hold the access panel (12). Remove the screws (10) and the washers (11) which attach the access panel (12) to the wing tank (13).
(11) Lower the access panel (12) and disconnect the flexible hose (1) from the drain valve (7).
(12) Remove the access panel (12) from the airplane. Discard the seal (4).
(13) Cut and remove the lockwire from the drain valve (7) and the nut (2).
(14) Remove the nut (2) and the washer (3) from the drain valve (7) and the drain valve (7) from the access panel (12). Discard the seal (6).
(15) Put caps on all openings and line ends.

3. Wing-Tank-Vent Drain-Valve - Installation (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable parts

ITEM	NOMENCLATURE	IPC CSN
4	Seal	281500 01
6	Seal	281500 01
15	Cotter Pin	281500 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 53-60-00

E. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from the openings and the line ends.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Install the drain valve (7) to the access panel (12)
(a) Put a new seal (6) on the drain valve (Refer to 20-00-00).
(b) Attach the drain valve to the access panel with the washer (3) and the nut (2), in the position noted during removal. Tighten the nut (2).
(c) Safety the nut (2) and the drain valve with lockwire (MS20995C32).

(5) Install the access panel (12)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the access panel.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully push the new seal (4) in to the seal seat of the access panel.
(c) Hold the access panel in the position noted during removal. Connect the flexible hose (1) to the drain valve (7). Tighten the flexible hose (1).
(d) Attach the access panel (12) to the wing tank (13) with the screws (10) and the washers (11). Tighten the screws (10).

(6) Attach the flexible hose (9) to the drain valve (7) with the clamp (8).

(7) Connect the control rod (5)
  (a) Put the control rod in position in the airplane.
  (b) Install the pin (14) to the control rod and the drain valve (7).
  (c) Put the washer (16) on to the pin (14). Safety the pin (14) with a new cotter pin (15).
(8) Refuel the airplane (Refer to 12-00-00).
(9) Make a check of the area around the access panel 511AB (611AB) for leaks (Refer to 28-00-00). Leaks are not permitted.
(10) Install the access panel 251A (252A) (Refer to 53-28-00).
(11) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).
(12) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.
(13) Remove the Warning Notice from the flight compartment.
(14) Make sure the electrical power is available (Refer to 24-00-00).

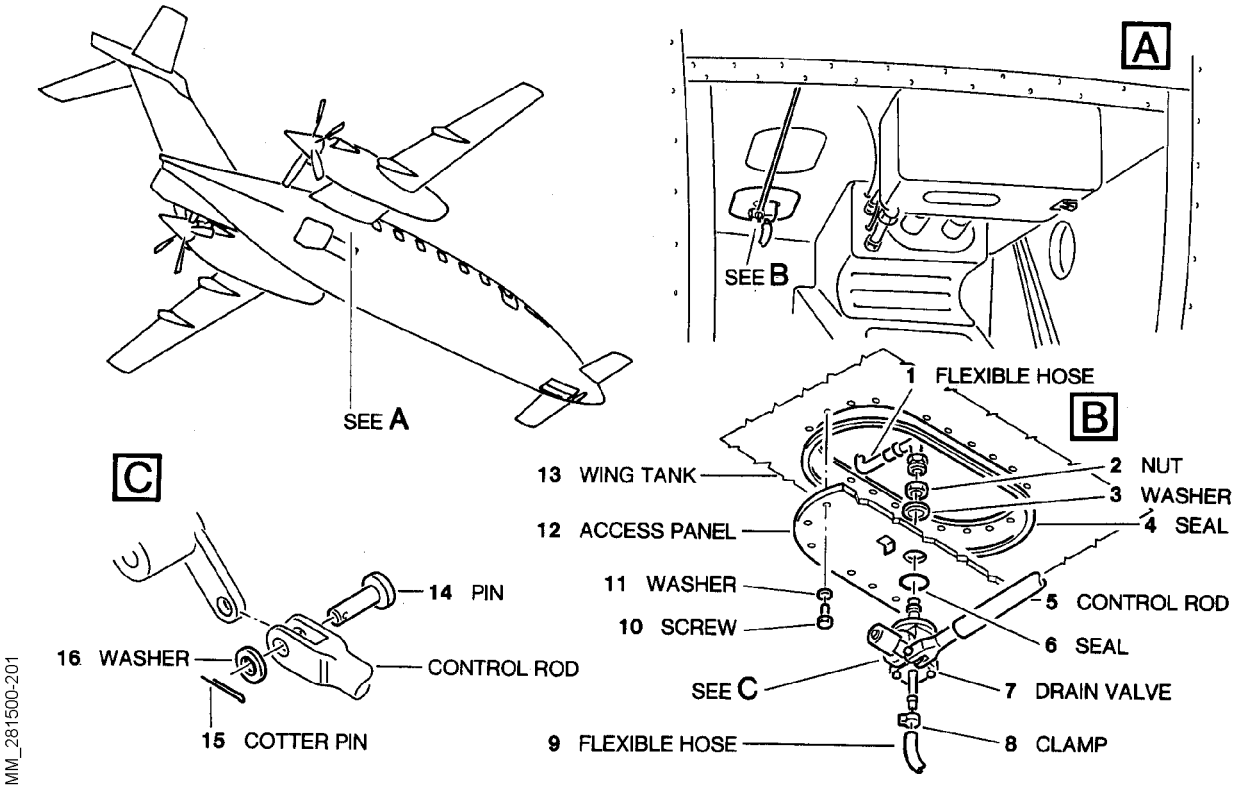


Fig. 201 - Wing-Tank-Vent Drain-Valve - Removal/Installation

4. Fuel Filter Drain Valve - Removal (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 54-10-00
Maintenance Manual Chapter 12-10-07

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Remove the electrical power (Refer to Chapter 24-00-00).
(2) Remove the upper nacelle panels 410AT and 420AT (Refer to Chapter 54-10-00).
(3) Drain the fuel filter line (Refer to Chapter 12-10-07).
(4) Unscrew the nut (3) of the adapter (4) and disconnect the fuel filter drain line (1) from the valve (2).
(5) Remove the clamp (5) that fastens the drain valve (2) to the wing spar.
(6) Remove the fuel filter drain valve (2).

5. Fuel Filter Drain Valve - Installation (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 54-10-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Fasten the drain valve (2) to the wing spar with the clamp (5).
(2) Connect the nut (3) of the adapter (4) to the fuel filter drain line (1).
(3) Install the upper nacelle panels 410AT and 420AT (Refer to Chapter 54-10-00).
(4) Make sure the electrical power is available (Refer to Chapter 24-00-00).

6. Fuel Filter Drain Valve - Check(Ref. to Fig. 203)

A. Procedure

(1) Remove the Fuel Filter Drain Valve as described in this section.
(2) Gently push the plunger to move upwards ther valve mechanism.
(3) Verify that the top washer is flat and no signs of deformation are present.
(4) Install the Fuel Filter Drain Valve as described in this section.

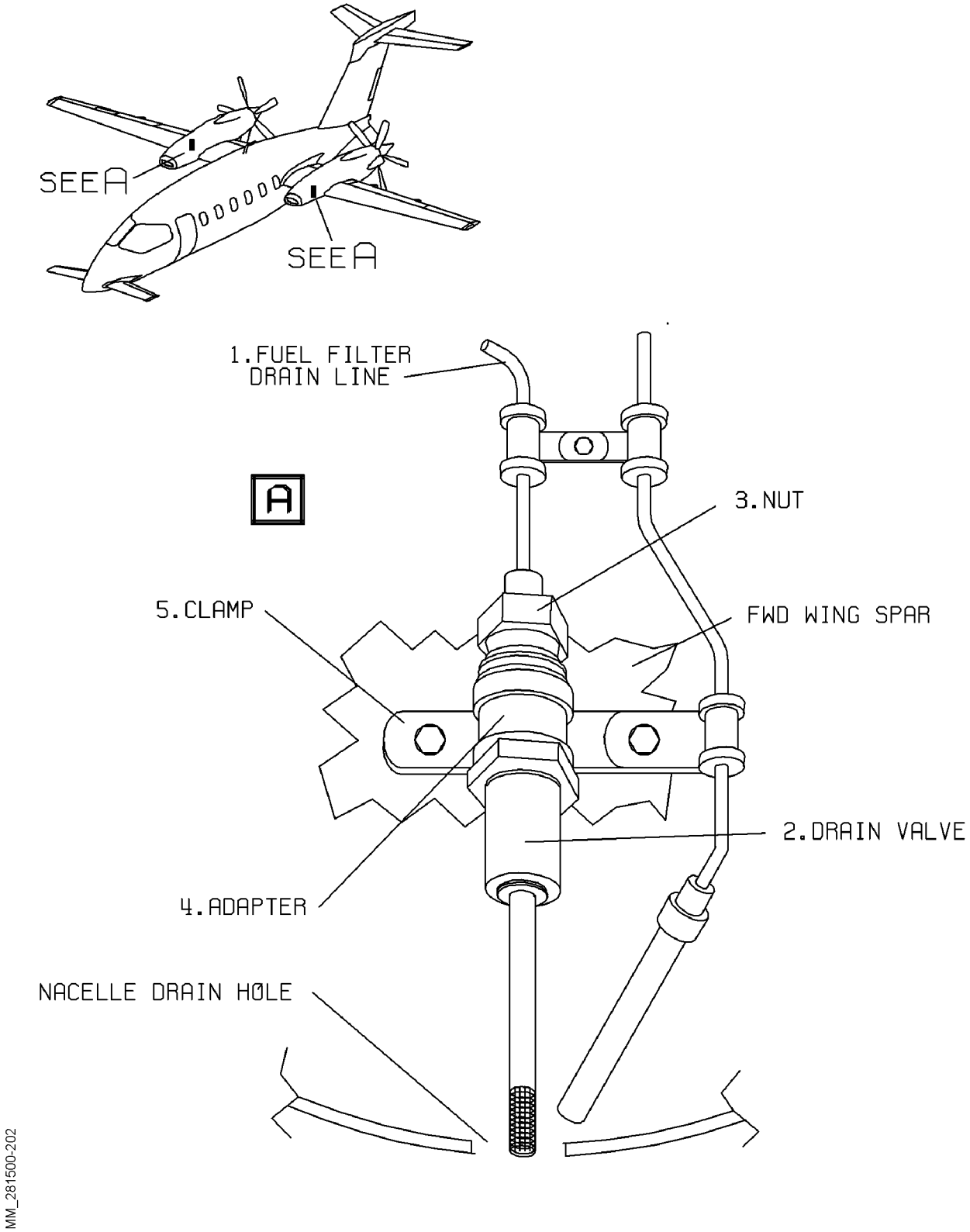


Fig. 202 - Fuel Filter Drain Valve - Removal/Installation

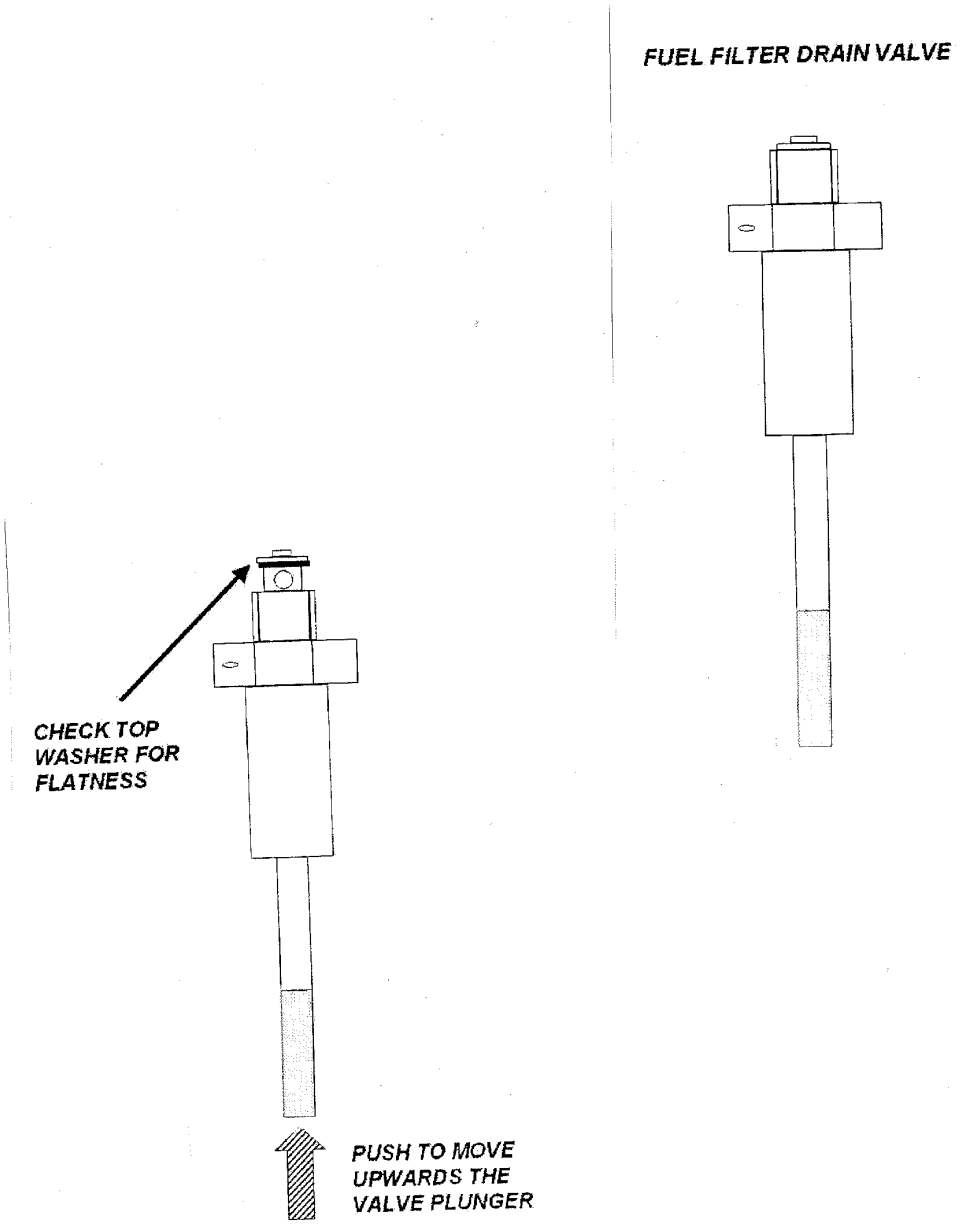


Fig. 203 - Fuel Filter Drain Valve - Check

DISTRIBUTION - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the Maintenance Practices for the fuel distribution system as follows:

- Fuel Booster Pumps - Removal
- Fuel Booster Pumps - Installation
- Crossfeed Valve - Removal
- Crossfeed Valve - Installation
- LH Firewall Shutoff Valve - Removal
- LH Firewall Shutoff Valve - Installation
- RH Firewall Shutoff Valve - Removal
- RH Firewall Shutoff Valve - Installation
- Fuel Filter - Cartridge Replacement
- Fuel Filter - Impending By-Pass Check
- Fuel Distribution System - Operational Test.

B. The location of the components is as follows:

- The fuel booster pumps are in the LH and RH fuel collector tanks, in zone 251 and zone 252 between FS 6000 and FS 6470
- The crossfeed valve is attached to the LH firewall shutoff valve, in zone 410 at NAC S-2377.33
- The LH firewall shutoff valve is attached to the front firewall, in zone 410 at NAC S-2377.33
- The RH firewall shutoff valve is attached to the front firewall, in zone 420 at NAC S-2377.33
- The fuel filters are installed in zone 410 (LH engine) and zone 420 (RH engine), behind the front firewall at NAC S-2377.33.

2. Fuel Booster Pumps - Removal (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified
Mirror	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-11-00

Maintenance Manual Chapter 53-60-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

NOTE: This topic gives the procedure to remove the two fuel booster pumps. It is not necessary to remove both of the fuel booster pumps if only one is defective.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and the RH fuel collector tanks (Refer to 28-11-00).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panel 251A (252A) (Refer to 53-60-00).
(7) Disconnect the electrical connections of the main and stand-by fuel pumps
  (a) Attach temporary tags to the cables to identify their positions in the terminal block (1).
  (b) Remove the cables from the terminal block (1).
(8) Remove the bottom access panel (6) from the collector tank (5)
  (a) Cut and remove the lockwire from the defueling connector (7).
  (b) Remove the screws (8) and the washers (2) which attach the lockwire tab (3) and the bottom access panel to the collector tank. Remove the lockwire tab (3), the bottom access panel and the seal (4). Discard the seal (4).
(9) Remove the main and stand-by fuel pumps (26) and (19)

NOTE: For a better work use a mirror to locate the pump hidden attaching parts.

  (a) Cut the terminal connectors from the end of the electrical cables.
  (b) Attach a lead line to each pair of the electrical cables.
  (c) Disconnect the cable sheaths (16) and (29) from the main and stand-by fuel pumps.
  (d) On the main fuel pump, disconnect the hose (30) to the low-fuel-pressure warning-switch (9).
  (e) Remove the clamps (12) and (32) from the main fuel-supply tube (10). Discard the seals (11), (13), (31) and (33).
  (f) Remove the nut (20) and (25) and the washers (21) and (24) which attach the main and stand-by fuel pumps to the collector tank bracket (27) by means the stud (34).
  (g) Remove the main and stand-by fuel pumps from the collector tank. Remove the lead lines from the electrical cables.

CAUTION: MAKE A NOTE OF THE POSITION OF THE CHECK VALVE AND THE DIRECTION-OF-FLOW ARROWS ON THE CHECK VALVE. IT MUST BE PUT IN THE SAME POSITION ON INSTALLATION.

(10) Remove the check valves (14) and (18)

(a) Remove the check valve complete with the adapter (28) and the union (22) from the main fuel pump (26). Discard the seal (23). Remove the check valve complete with the union (15) from the stand-by fuel pump (19). Discard the seal (17).

(11) Put caps on all openings and line ends.

3. Fuel Booster Pumps - Installation (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

0.5 in. (12,7 mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified
Mirror	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
4 and 11	Seals	282000 01
13	Seal	282000 01
17	Seal	282000 01
23	Seal	282000 01
31	Seal	282000 01
33	Seal	282000 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 91-00-00

E. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

NOTE: This topic gives the procedure to install the two fuel booster pumps. It can be used to install only one of the pumps.

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from the openings and the line ends.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

CAUTION: MAKE SURE THE CHECK VALVES ARE INSTALLED IN THE POSITIONS NOTED DURING REMOVAL. THE DIRECTION-OF-FLOW ARROWS MUST POINT TOWARDS THE MAIN FUEL-SUPPLY TUBE.

(4) Install the check valves (14) and (18)
- (a) Put a new seal (17) on to the union (15) (Refer to 20-00-00). Install the check valve, complete with the union (15) and the seal (17) to the stand-by fuel pump (19). Tighten the check valve (14).
- (b) Put a new seal (23) on to the union (22) (Refer to 20-00-00). Install the check valve, complete with the adapter (28), the union (22) and the seal (23) to the main fuel pump (26). Tighten the check valve (18).

(5) Install the main and stand-by fuel pumps (26) and (19)

NOTE: For a better work use a mirror to locate the pump hidden attaching parts.

- (a) Attach the electrical cables of the main and stand-by fuel pumps to the applicable lead lines.
- (b) Put the main and stand-by fuel pumps in position on the collector tank bracket (27).
- (c) Use the lead lines to pull the electrical cables through the cable sheaths (16) and (29).
- (d) Install the bolts (20) and (25) and the washers (21) and (24) which attach the main and stand-by fuel pumps to the collector tank bracket (27) by means the stud (34).
- (e) Put new seals (11), (13), (31) and (33) on the main fuel-supply tube (10) and the check valves (14) and (18). Attach the main fuel-supply tube (10) to the check valves (14) and (18) with the clamps (12) and (32).
- (f) On the main fuel pump, connect the hose (30) from the low fuel-pressure warning-switch (9) to the adapter (28). Tighten the hose (30).
- (g) Connect the cable sheaths (16) and (29) to the main and stand-by fuel pumps.

(6) Put new terminal connectors on the end of the electrical cables (Refer to 20-00-00).

(7) Connect the electrical connections of the main and stand-by fuel pumps (26) and (19) to the terminal block (1) in the position noted during removal (Refer to 20-00-00). Remove the temporary identification tags from the cables.

CAUTION: MAKE SURE THAT THE WORK AREA INSIDE THE COLLECTOR TANK IS FREE FROM MOISTURE AND WORK DEBRIS.

(8) Install the bottom access panel (6) to the collector tank (5)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the bottom access panel and the collector tank.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully put the new seal (4) on the bottom access panel.

(c) Attach the bottom access panel, the seal (4) and the lockwire tab (3) to the collector tank (5) with the screws (8) and the washers (2). Tighten the screws (8).

(9) Safety the defueling connector (7) with lockwire (MS20995C32) (Refer to 20-00-00).

(10) Refuel the airplane (Refer to 12-00-00).

(11) Make a check of the LH (RH) fuel collector tank for leaks (Refer to 28-00-00). Leaks are not permitted.

(12) Do the fuel pump operational test.

(13) Do an Electrical Cable Hose Terminal Fuel Leakage Check (As described in this section).

(14) Install the access panel 251A (252A) (Refer to 53-28-00).

(15) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).

(16) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(17) Remove the Warning Notice from the flight compartment.

(18) Make sure the electrical power is available (Refer to 24-00-00).

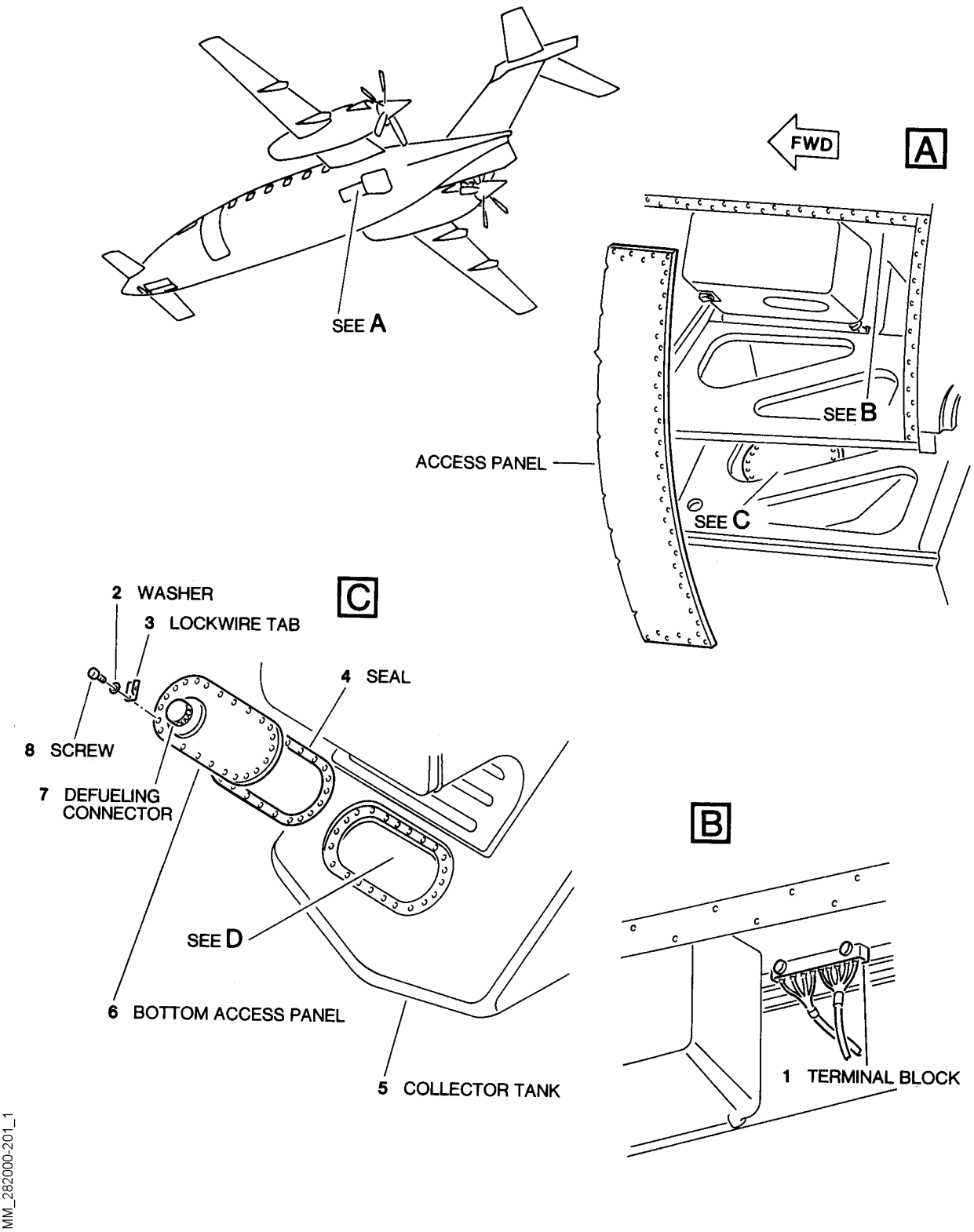


Fig. 201 - Fuel Booster Pumps - Removal/Installation (Sheet 1 of 2)

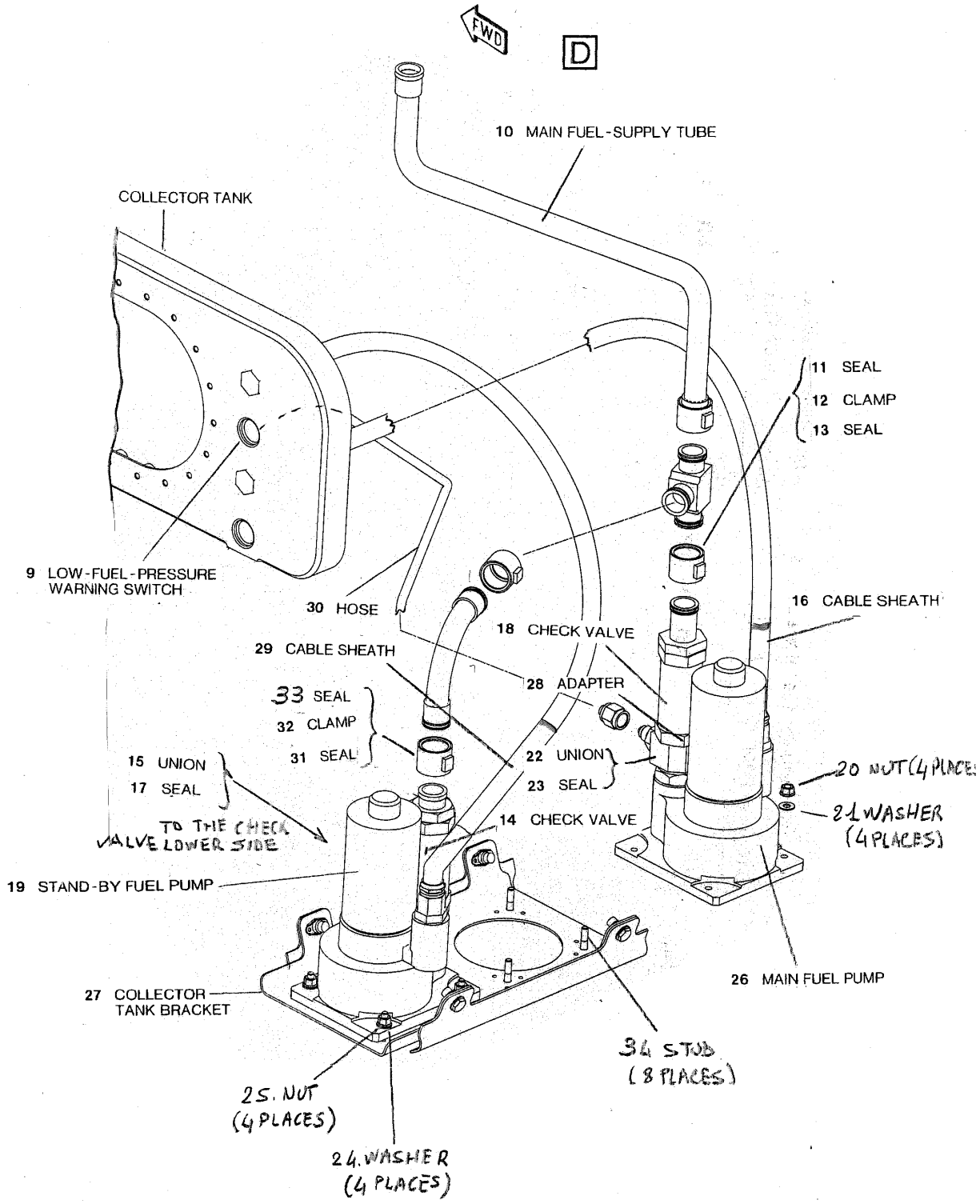


Fig. 201 - Fuel Booster Pumps - Removal/Installation (Sheet 2 of 2)

4. Crossfeed Valve - Removal (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified
Access Platform	3 ft (1 m)
Container (Minimum Capacity 1 Gallon (4 Liters))	Not Specified

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Put the access platform in position, forward of the LH engine intake.
(5) Remove the access panel 410AT.
(6) Drain the fuel filter.
(7) Remove the crossfeed valve (3)
  (a) Disconnect the electrical connector (6) (Refer to 20-00-00).
  (b) Cut and remove the lockwire from the connectors of the tubes (4) and (5) and the bolts (7).
  (c) Put the container in position below the crossfeed valve.
  (d) Disconnect the tubes (4) and (5) from the crossfeed valve. Let the fuel drain into the container.
  (e) Hold the crossfeed valve. Remove the bolts (7) which attach the crossfeed valve to the firewall shutoff valve (1).
  (f) Remove the crossfeed valve from the firewall shutoff valve (1). Discard the seal (2).
(8) Put caps on all line ends and electrical connectors.

5. Crossfeed Valve - Installation (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Lint-Free Cloth	Not Specified
Access Platform	3 ft (1 m)

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
2	Seal	282000 03

D. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00

E. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261) to clean the replacement parts and their interfaces. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(4) Install the crossfeed valve (3)
- (a) Put a new seal (2) and the crossfeed valve in position on the firewall shutoff valve (1).
- (b) Install the bolts (7) to attach the crossfeed valve to the firewall shutoff valve (1). Tighten the bolts (7).
- (c) Connect the tubes (4) and (5) to the crossfeed valve. Tighten the tubes (4) and (5).
- (d) Safety the bolts (7) and the tubes (4) and (5) with lockwire (MS20995C32).
- (e) Connect the electrical connector (6) (Refer to 20-00-00).

(5) Refuel the airplane (Refer to 12-00-00).

(6) Do an Operational Test of the crossfeed valve (3) (Refer to Para. 12).

(7) Make a check of the crossfeed valve (3) for leaks (Refer to 28-00-00). Leaks are not permitted.

(8) Install the access panel 410AT.

(9) Remove the access platform, all tools, materials and equipment from the work area. Make sure the area is clean.

(10) Remove the Warning Notice from the flight compartment.

(11) Make sure the electrical power is available (Refer to 24-00-00).

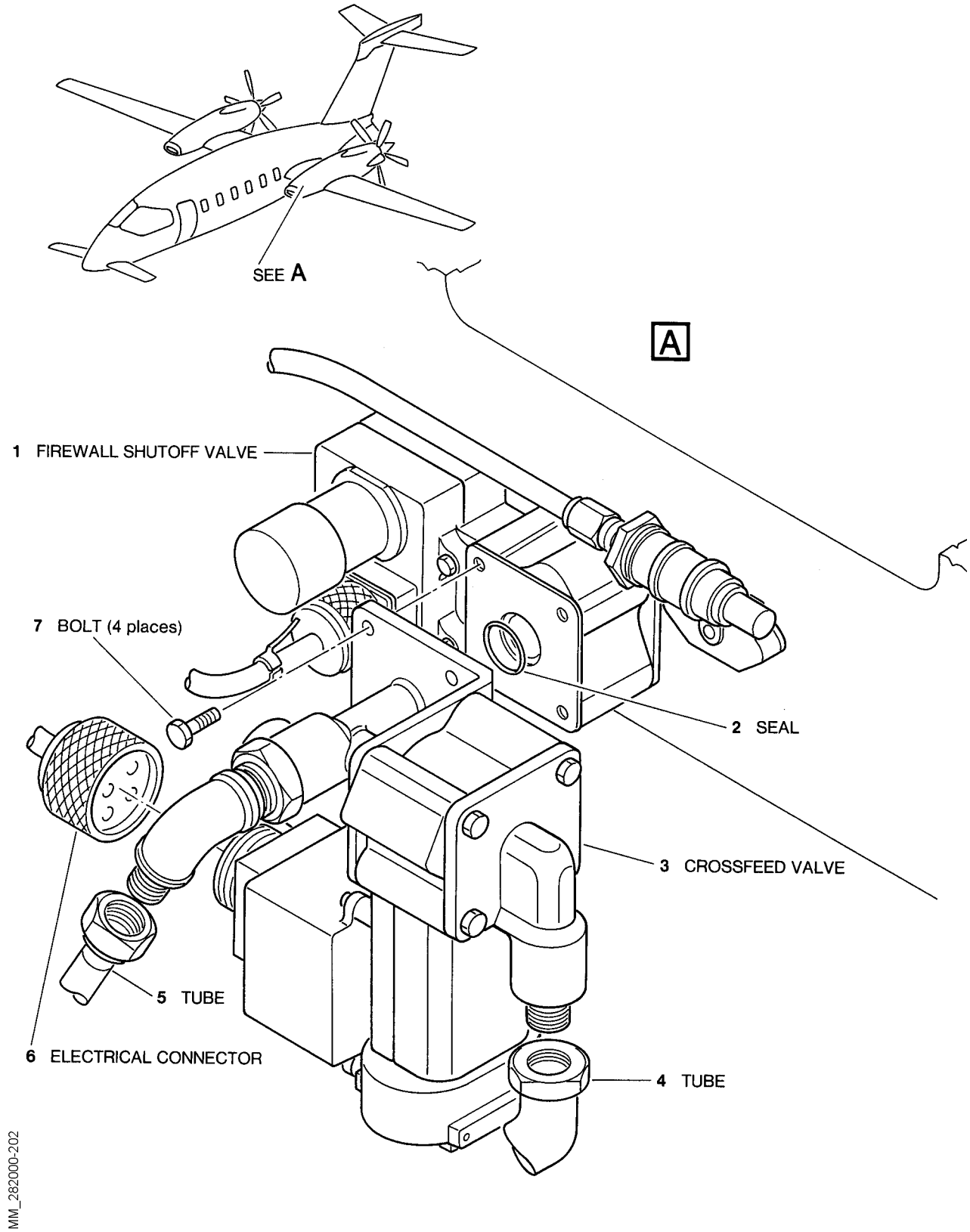


Fig. 202 - Crossfeed Valve - Removal/Installation

6. LH Firewall Shutoff Valve - Removal (Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified
Access Platform	3 ft (1 m)
Container (Minimum Capacity 1 Gallon (4 Liters))	Not Specified

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Put the access platform in position, forward of the LH engine intake.
(5) Remove the access panel 410AT.
(6) Drain the fuel filter.
(7) Remove the firewall shutoff valve (1)
  (a) Disconnect the electrical connector (8) (Refer to 20-00-00).
  (b) Cut and remove the lockwire from the connectors of the tubes (2) and (7) and the bolts (3).
  (c) Put the container in position below the firewall shutoff valve.
  (d) Disconnect the tubes (2) and (7) from the firewall shutoff valve and the crossfeed valve (6). Let the fuel drain into the container.
  (e) Remove the crossfeed valve (Refer to Para. 4).
  (f) Hold the firewall shutoff valve. Remove the bolts (3) which attach the firewall shutoff valve to the firewall (4). Remove the firewall shutoff valve.
(8) Put caps on all line ends and electrical connectors.

7. LH Firewall Shutoff Valve - Installation (Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

Lint-Free Cloth	Not Specified
Access Platform	3 ft (1 m)

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00

D. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261) to clean the replacement parts and their interfaces. Wipe the components with a clean lint-free cloth before the MEK dries.

(4) Install the firewall shutoff valve (1)
(a) Hold the firewall shutoff valve in position on the firewall (4). Install the bolts (3) to attach the firewall shutoff valve to the firewall (4). Tighten the bolts (3).
(b) Install the crossfeed valve (Refer to Para. 5).
(c) Connect the tube (2) to the firewall shutoff valve. Tighten the tube (2).
(d) Safety the tube (2) and the bolts (3) with lockwire (MS20995C32).
(e) Connect the electrical connector (8) (Refer to 20-00-00).

(5) Refuel the airplane (Refer to 12-00-00).

(6) Do an Operational Test of the firewall shutoff valve (1) (Refer to Para. 12).

(7) Make a check of the firewall shutoff valve (1) for leaks (Refer to 28-00-00). Leaks are not permitted.

(8) Install the access panel 410AT.

(9) Remove the access platform, all tools, materials and equipment from the work area. Make sure that the area is clean.

(10) Remove the Warning Notice from the flight compartment.

(11) Make sure the electrical power is available (Refer to 24-00-00).

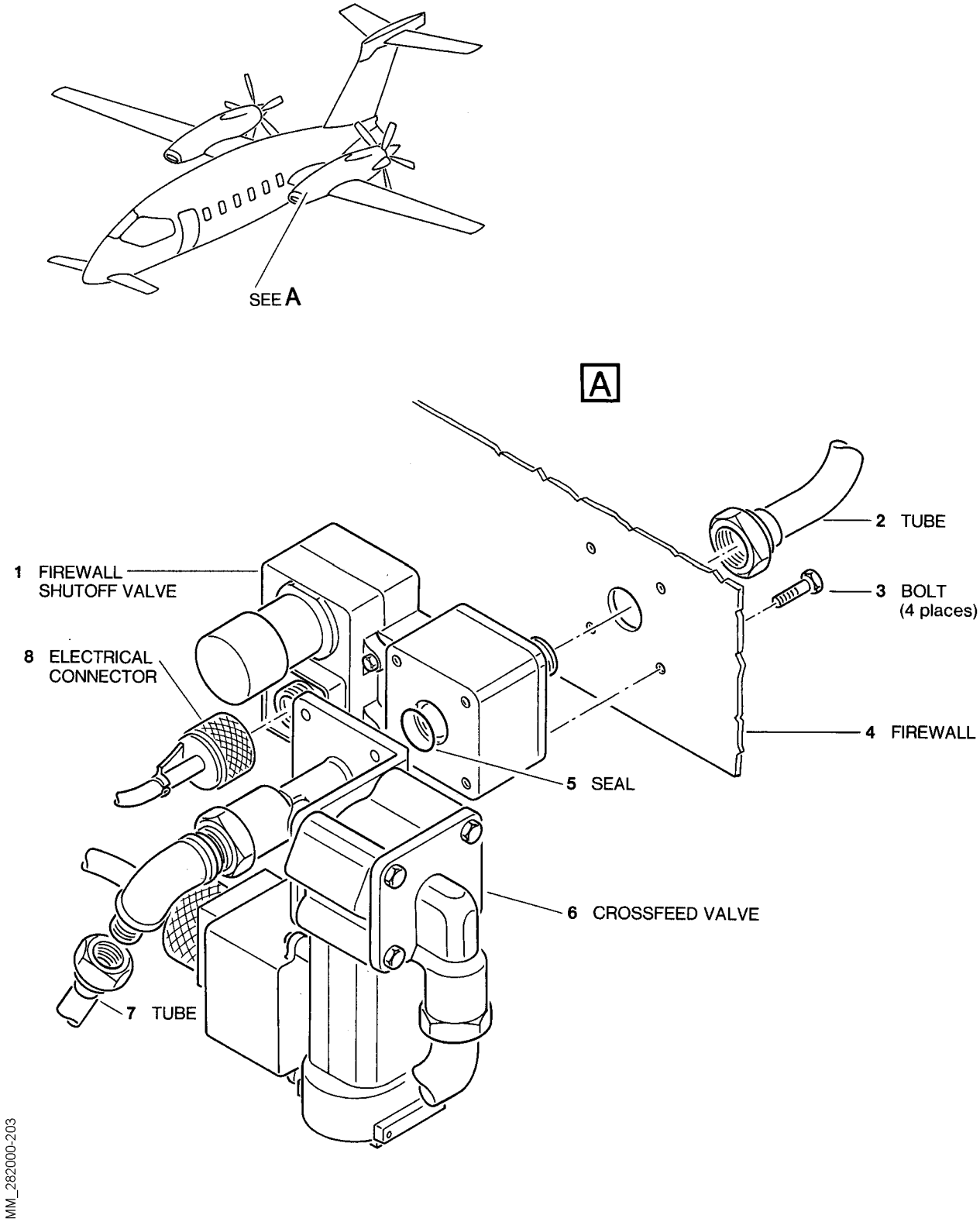


Fig. 203 - LH Firewall Shutoff Valve - Removal/Installation

8. RH Firewall Shutoff Valve - Removal (Ref. Fig. 204)

A. Fixtures, Test and Support Equipment

Blanking Caps	Not Specified
Warning Notices	Not Specified
Access Platform	3 ft (1 m)
Container (Minimum Capacity 1 Gallon (4 Liters))	Not Specified

B. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00

C. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Put the access platform in position, forward of the RH engine intake.
(5) Remove the access panel 420AT.
(6) Drain the fuel filter.
(7) Remove the firewall shutoff valve (5)
  (a) Disconnect the electrical connector (6) (Refer to 20-00-00).
  (b) Cut and remove the lockwire from the connector of the tube (3) and the bolts (2) and (7).
  (c) Put the container in position below the firewall shutoff valve.
  (d) Loosen the bolts (7) and disconnect the tube (3). Let the fuel drain into the container.
  (e) Remove the bolts (7), the adapter plate (8) and the seal (1). Discard the seal (1).
  (f) Hold the firewall shutoff valve. Remove the bolts (2) which attach the firewall shutoff valve to the firewall (4). Remove the firewall shutoff valve.
(8) Put caps on all line ends and electrical connectors.

9. RH Firewall Shutoff Valve - Installation (Ref. Fig. 204)

A. Fixtures, Test and Support Equipment

Lint-Free Cloth	Not Specified
Access Platform	3 ft (1 m)

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
1	Seal	282000 04

D. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00

E. Procedure

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from all line ends and electrical connectors.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(3) Use a clean lint-free cloth, made moist with the MEK (TT-M-261) to clean the replacement parts and their interfaces. Wipe the components with a clean lint-free cloth before the MEK dries.

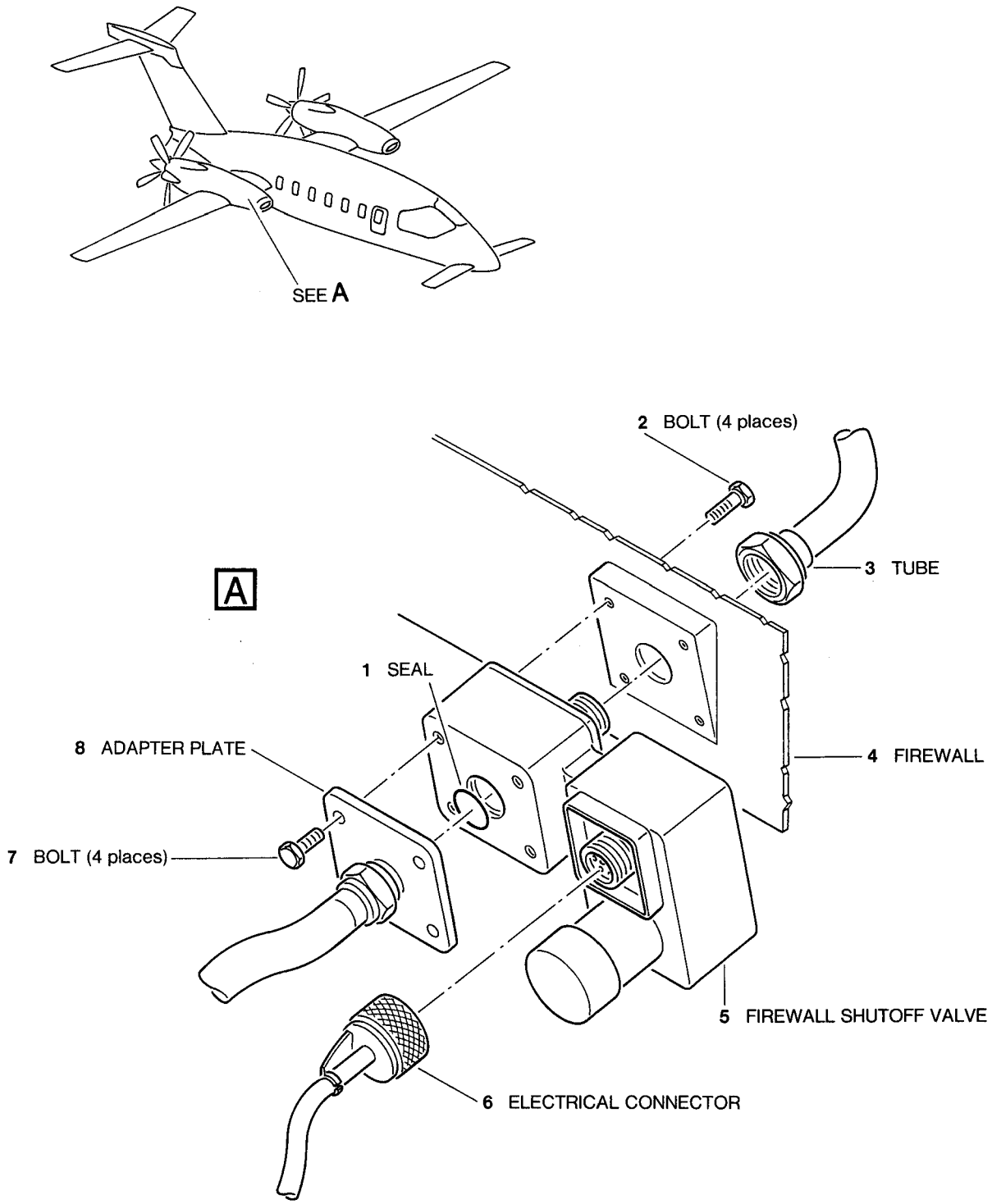
(4) Install the firewall shutoff valve (5)
- (a) Hold the firewall shutoff valve in position on the firewall (4). Install the bolts (2) to attach the firewall shutoff valve to the firewall (4). Tighten the bolts (2).
- (b) Put a new seal (1) and the adapter plate (8) in position on the firewall shutoff valve (Refer to 20-00-00).
- (c) Install the bolts (7) to attach the adapter plate (8) to the firewall shutoff valve. Tighten the bolts (7).
- (d) Connect the tube (3) to the firewall shutoff valve. Tighten the tube (3).
- (e) Safety the tube (3) and the bolts (2) and (7) with lockwire (MS20995C32).
- (f) Connect the electrical connector (6) (Refer to 20-00-00).

(5) Refuel the airplane (Refer to 12-00-00).

(6) Do an Operational Test of the firewall shutoff valve (5) (Refer to Para. 12).

(7) Make a check of the firewall shutoff valve (5) for leaks (Refer to 28-00-00). Leaks are not permitted.

(8) Install the access panel 420AT.



MM_282000-204

Fig. 204 - RH Firewall Shutoff Valve - Removal/Installation

(9) Remove the access platform, all tools, materials and equipment from the work area. Make sure the area is clean.
(10) Remove the Warning Notice from the flight compartment.
(11) Make sure the electrical power is available (Refer to 24-00-00).

10. (Pall) Fuel Filter - Cartridge Replacement (Ref. Fig. 205)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified
Access Platform	3 ft (1 m)
Container (Minimum Capacity 1 Gallon (4 Liters))	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C35

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
3	Seal	282000 03
4	Filter Cartridge	282000 03

D. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00

E. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Put the access platform in position, forward of the LH (RH) engine intake.
(4) Remove the access panel 410AT (420AT).
(5) Drain the fuel from the fuel filter assembly into the container.
(6) Cut and remove the lockwire from the cartridge housing (9) and the connector of drain tube (8).
(7) Hold the union (5) with an applicable wrench and disconnect the drain tube (8) from the cartridge housing (9).

CAUTION: REMOVE THE CARTRIDGE HOUSING WITH YOUR HAND. TOOLS CAN CAUSE DAMAGE TO THE HOUSING.

(8) Remove the cartridge housing (9) from the filter body (2).

(9) Make a note of the position of the filter cartridge (4). The replacement filter cartridge must be installed in the same position.

(10) Remove the filter cartridge (4) and the seal (3). Examine the filter cartridge (4) for metallic particles and fungal blockage. Discard the filter cartridge (4) and the seal (3).

NOTE: Large metallic particles can indicate impending failure of the fuel booster pumps. Fungal blockage can indicate microbiological contamination of the fuel system.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(11) Use a clean lint-free cloth, made moist with the MEK (TT-M-261) to clean the cartridge housing (9) and the interfaces of the filter body (2) and the drain tube (8).

(12) Put a new seal (3) in the filter body (2) (Refer to 20-00-00).

CAUTION: MAKE SURE YOU INSTALL THE FILTER CARTRIDGE IN THE POSITION NOTED DURING REMOVAL. THE FILTER ASSEMBLY CAN BE DAMAGED IF THE FILTER CARTRIDGE IS INSTALLED INCORRECTLY.

(13) Put a new filter cartridge (4) into the cartridge housing (9).

CAUTION: INSTALL THE CARTRIDGE HOUSING WITH YOUR HAND. TOOLS CAN CAUSE DAMAGE TO THE CARTRIDGE HOUSING.

(14) Install the cartridge housing (9) complete with the filter cartridge (4) to the filter body (2). Make sure that the filter cartridge (4) and the seal (3) are installed correctly. Tighten the cartridge housing (9) by hand.

(15) Connect the drain tube (8) to the cartridge housing (9). Hold the union (5) with an applicable wrench and tighten the drain tube (8).

(16) Safety the cartridge housing (9) and the connector of the drain tube (8) with lockwire (MS20995C32).

(17) On the top of the switch housing (1), examine the differential-pressure indicator (DPI). If the DPI shows above the switch housing (1) push it down to reset the indicator.

(18) Do an Operational Test of the fuel distribution system (Refer to Para. 12).

(19) Make a check of the fuel filter assembly for leaks (Refer to 20-00-00). Leaks are not permitted.

(20) Install the access panel 410AT (420AT).

(21) Remove the access platform, all tools, materials and equipment from the work area. Make sure that the area is clean.

(22) Remove the Warning Notice from the flight compartment.

(23) Make sure the electrical power is available (Refer to 24-00-00).

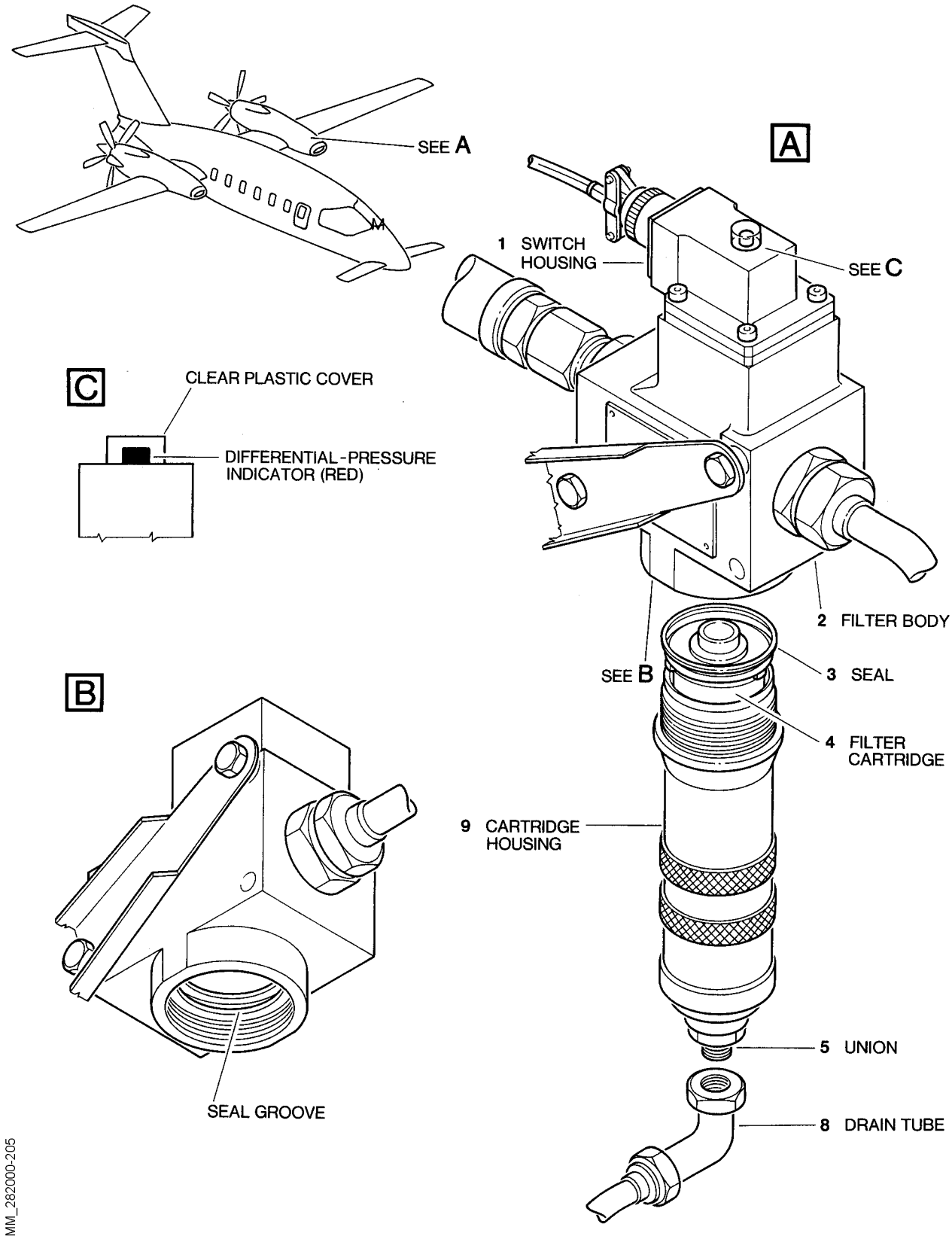


Fig. 205 - (Pall) Fuel Filter - Cartridge Replacement

11. (Purolator) Fuel Filter - Cartridge Replacement (Ref. Fig. 206)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified
Access Platform	3 ft (1 m)
Container (Minimum Capacity 1 Gallon (4 Liters))	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C35

C. Referenced Information

Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00

D. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Remove the access panel 410AT (420AT).
(4) Drain the fuel from the fuel filter assembly into the container.
(5) Cut and remove the lockwire from the cartridge housing (1) and the connector of drain tube (2).
(6) Hold the union with an applicable wrench and disconnect the drain tube (2) from the cartridge housing (1).

CAUTION: REMOVE THE CARTRIDGE HOUSING WITH YOUR HAND. TOOLS CAN CAUSE DAMAGE TO THE HOUSING.

(7) Remove the cartridge housing (1) from the filter body (3) with an applicable wrench (if needed).
(8) Make a note of the position of the filter cartridge. The replacement filter cartridge must be installed in the same position.
(9) Remove the filter cartridge. Examine the filter cartridge for metallic particles and fungal blockage. Discard the filter cartridge.

NOTE: Large metallic particles can indicate impending failure of the fuel booster pumps. Fungal blockage can indicate microbiological contamination of the fuel system.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(10) Use a clean lint-free cloth, made moist with the MEK (TT-M-261) to clean the cartridge housing (1) and the interfaces of the filter body (3) and the drain tube (2).

(11) Examine the seal for wear (Refer to 20-00-00).

CAUTION: MAKE SURE YOU INSTALL THE FILTER CARTRIDGE IN THE POSITION NOTED DURING REMOVAL. THE FILTER ASSEMBLY CAN BE DAMAGED IF THE FILTER CARTRIDGE IS INSTALLED INCORRECTLY.

(12) Put a new filter cartridge into the cartridge housing (1).

CAUTION: INSTALL THE CARTRIDGE HOUSING WITH YOUR HAND. TOOLS CAN CAUSE DAMAGE TO THE CARTRIDGE HOUSING.
IN CASE A TOOL IS NEEDED, APPLY TORQUE TO THE EXAGON AT THE BOTTOM OF THE BOWL.

(13) Install the cartridge housing (1) complete with the filter cartridge to the filter body (3). Tighten the cartridge housing (1) by a wrench with 100 ÷ 150 lb in.

(14) Connect the drain tube (2) to the cartridge housing (1). Hold the union with an applicable wrench and tighten the drain tube (2).

(15) Safety the cartridge housing (1) and the connector of the drain tube (2) with lockwire.

(16) Do an Operational Test of the fuel distribution system (Refer to Para. 12).

(17) Make a check of the fuel filter assembly for leaks (Refer to 28-00-00). Leaks are not permitted.

(18) Install the access panel 410AT (420AT).

(19) Remove all tools, materials and equipment from the work area. Make sure that the area is clean.

(20) Remove the Warning Notice from the flight compartment.

(21) Make sure the electrical power is available (Refer to 24-00-00).

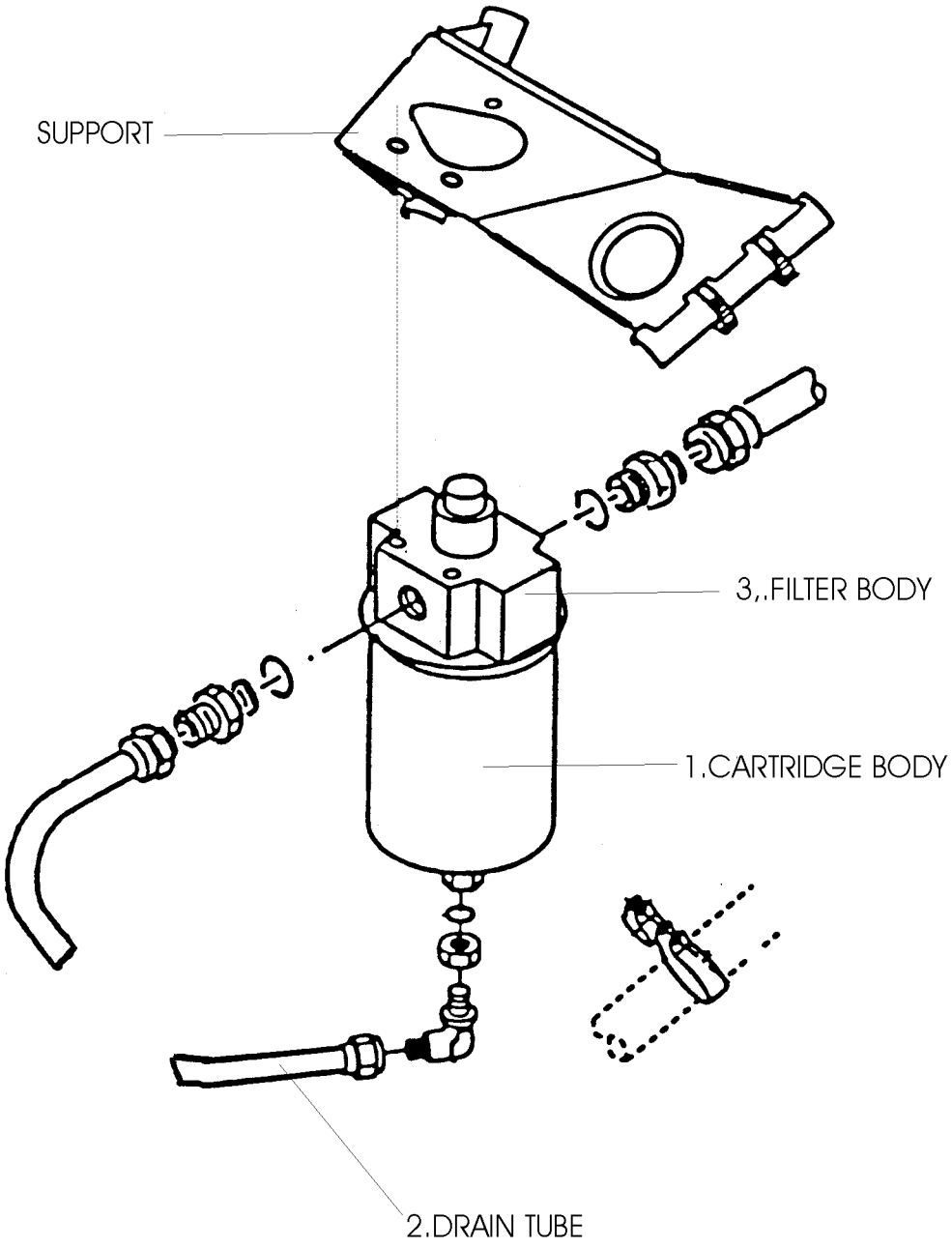


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Fig. 206 - (Purolator) Fuel Filter - Cartridge Replacement

12. (Pall) Fuel Filter - Impending By-Pass - Operational Check (Ref. Fig. 207)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified
Access Platform	3 ft (1 m)

B. Referenced Information

Maintenance Manual Chapter 24-00-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Put the access platform in position, forward of the LH (RH) engine intake.
(4) Remove the access panel 410AT (420AT).
(5) On the top of the fuel filter assembly (2), examine the red differential-pressure indicator (DPI) (1). If the DPI (1) shows above the top of the switch housing (3), replace the filter cartridge and reset the DPI (1) (Refer to Para. 10).
(6) Install the access panel 410AT (420AT).
(7) Remove the access platform, all tools, materials and equipment from the work area. Make sure that the area is clean.
(8) Remove the Warning Notice from the flight compartment.
(9) Make sure the electrical power is available (Refer to 24-00-00).

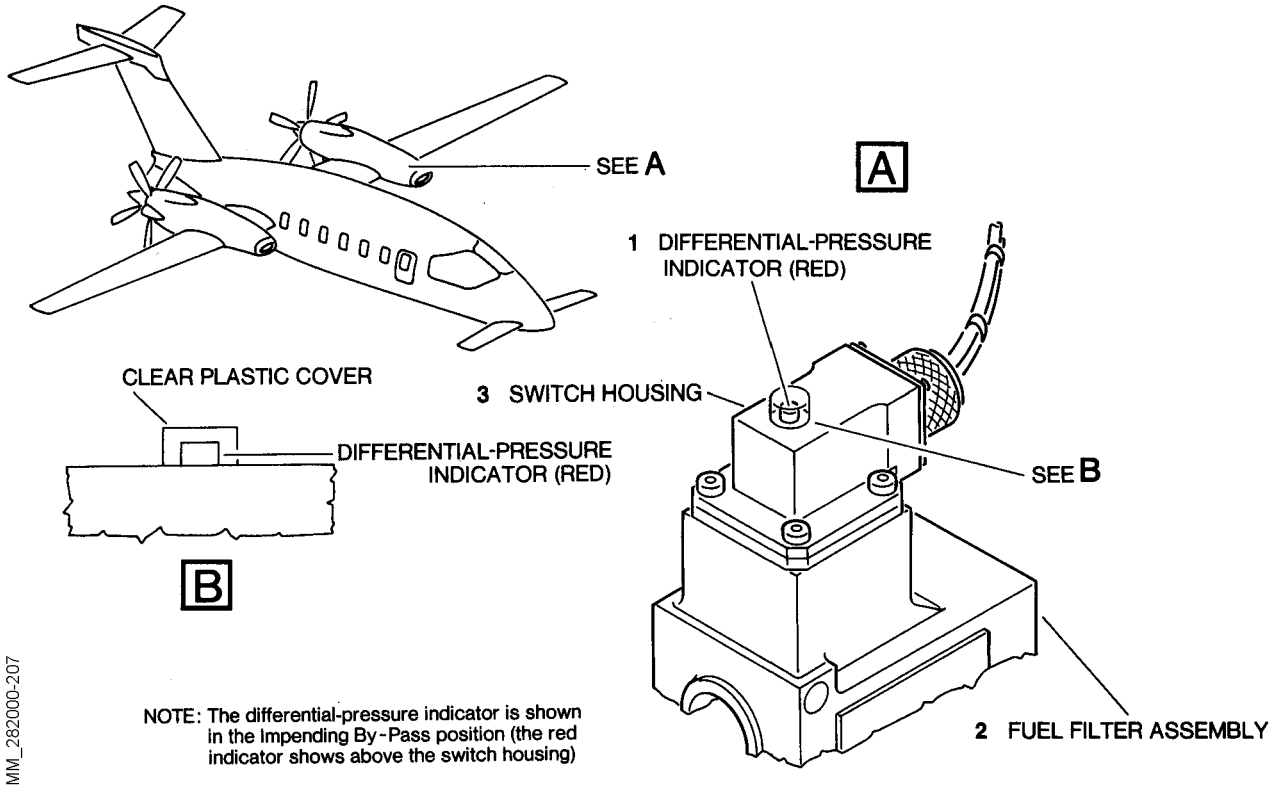


Fig. 207 - (Pall) Fuel Filter - Impending By-Pass - Operational Check

13. (Purolator) Fuel Filter - Impending By-Pass - Operational Check (Ref. Fig. 208)

A. Fixtures, Test and Support Equipment

Warning Notices	Not Specified
Access Platform	3 ft (1 m)

B. Referenced Information

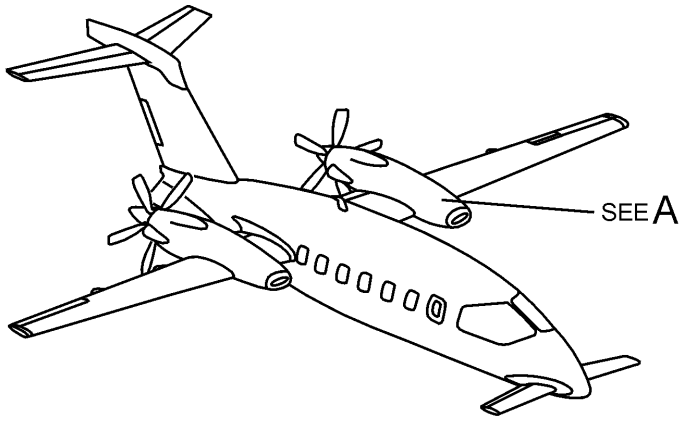
Maintenance Manual Chapter 24-00-00

C. Procedure

NOTE: For this procedure it is necessary the presence of two persons - one in the flight compartment to check the "L/R FUEL FILTER" annunciator light and the other one close the engine to push and release the Fuel Filter Annunciator Light test button.

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Set the Battery Switch to ON.
(2) Put the access platform in position, forward of the LH (RH) engine intake.
(3) Remove the access panel 410AT (420AT).
(4) On the top of the fuel filter assembly (2), push the Fuel Filter Annunciator Light test button (red) and check that the "L/R FUEL FILTER" annunciator light, located on the Annunciator Panel, comes ON.
(5) Release the Fuel Filter Annunciator Light test button (red) and check that the "L/R FUEL FILTER" annunciator light goes OFF.
(6) Install the access panel 410AT (420AT).
(7) Remove the access platform, all tools, materials and equipment from the work area. Make sure that the area is clean.
(8) Set the Battery Switch to OFF.



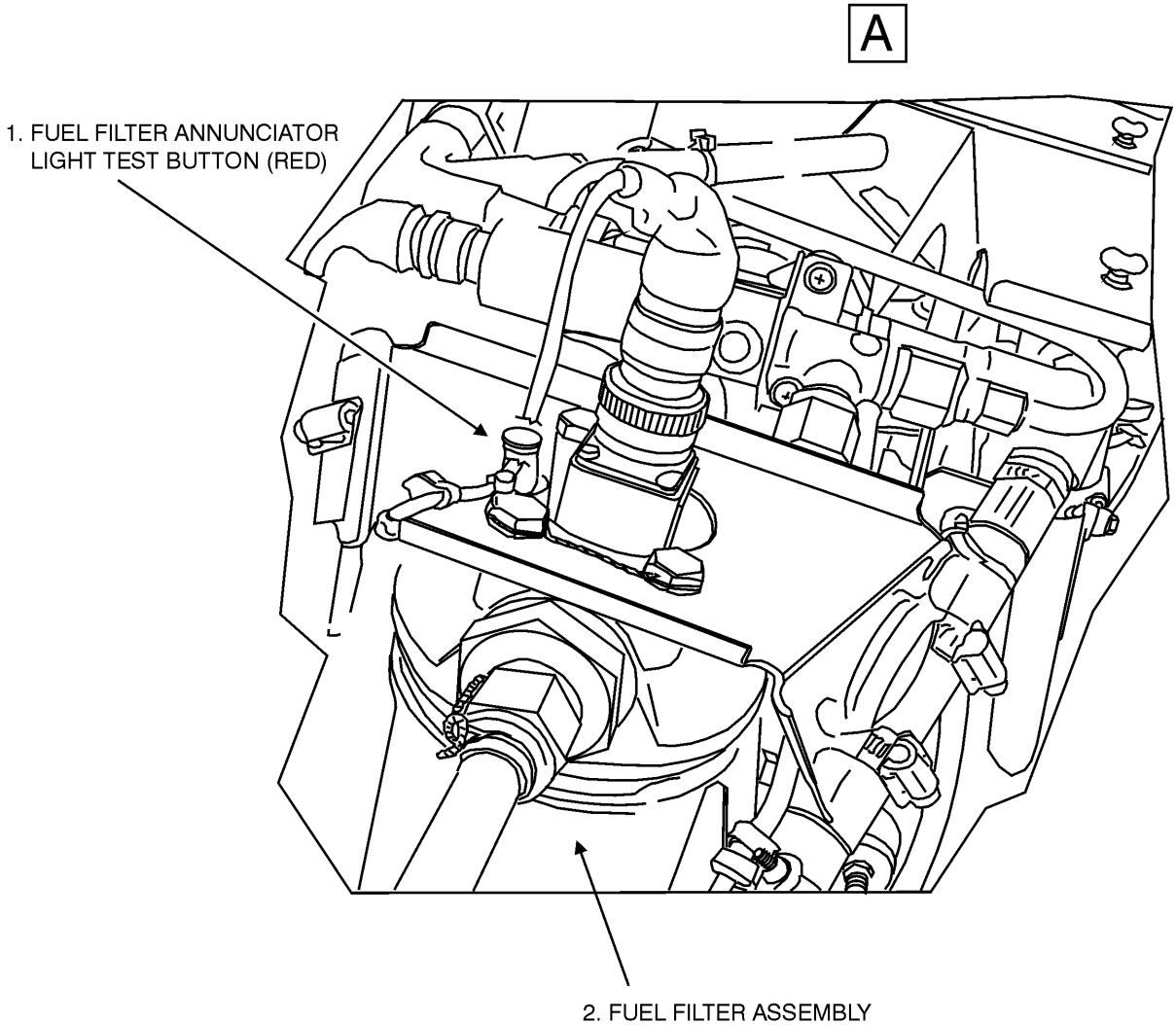


Fig. 208 - (Purolator) Fuel Filter - Impending By-Pass - Operational Check

14. Fuel Distribution System - Operational Test (Ref. Fig. 209)

A. Referenced Information

Maintenance Manual Chapter 24-00-00

B. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

CAUTION: DO NOT OPERATE THE FUEL BOOSTER PUMPS WHEN THE COLLECTOR TANKS ARE EMPTY. THE FUEL BOOSTER PUMPS CAN BE DAMAGED IF THEY ARE RUN DRY.

(1) Make sure there is sufficient fuel in the collector tanks to do the test.
(2) Make sure the electrical power is available (Refer to 24-00-00).
(3) Do the Operational Test of the fuel distribution system

NOTE: When the fuel system components are in a serviceable condition, the annunciators show as follows before the test:

– L (R) F/W V INTRAN	– OFF
– L (R) F/W V CLSD	– ON
– L (R) FUEL PUMP	– ON
– L (R) FUEL PRESS	– ON
– L (R) FUEL FILTER	– OFF
– FUEL XFEED	– OFF
– XFEED INTRAN	– OFF
– L (R) LOW FUEL	– OFF

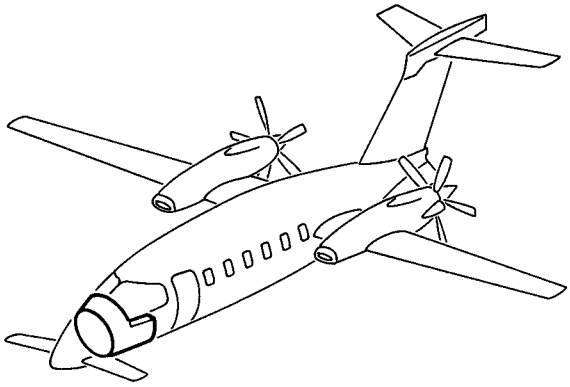
Action	Result
(a) In the flight compartment in zone 225, on the fuel control panel, set the L (R) PUMP switch to the MAIN position	In zone 251 (252) the main fuel-booster-pump starts to operate. In zone 225, on the annunciator panel, the L (R) FUEL PUMP annunciator goes off.

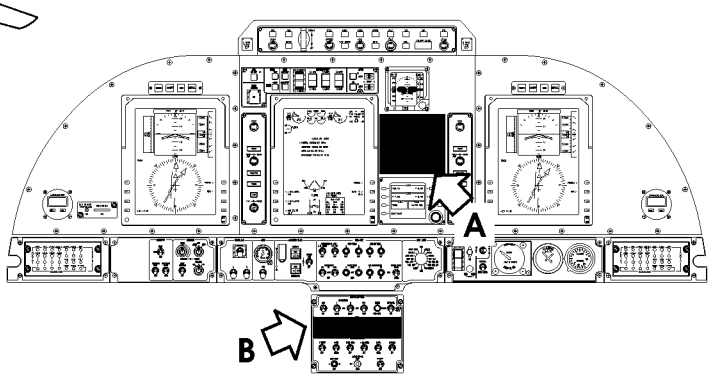
	Action	Result
(b)	On the fuel control panel, set the L (R) F/W VALVE switch to the OPEN position	In zone 410 (420) the firewall shutoff valve opens. In zone 225, on the annunciator panel: – the L (R) F/W V CLSD annunciator goes off – the L (R) F/W V INTRAN annunciator comes on for between 1 and 3 seconds – the L (R) FUEL PRESS annunciator goes off.
(c)	On the fuel control panel, set the L(R) PUMP switch to MAIN position, then open the L(R) MAIN PUMP circuit breaker.	In zone 251 (252) the main fuel-booster-pump stops. In zone 225, on the annunciator panel: – the L (R) FUEL PUMP annunciator comes on If the cross-feed is not ON, also the L (R) FUEL PRESS annunciator comes on.
(d)	Close the L(R) MAIN PUMP circuit breaker.	The L (R) FUEL PUMP annunciator goes off.
(e)	On the fuel control panel, set the L (R) PUMP switch to the OFF position	In zone 251 (252) the main fuel-booster-pump stops. In zone 225, on the annunciator panel: – the L (R) FUEL PUMP annunciator comes on – the L (R) FUEL PRESS annunciator comes on.
(f)	On the fuel control panel, set the L (R) PUMP switch to the STBY position	In zone 251 (252) the stand-by fuel-booster-pump starts to operate. In zone 225, on the annunciator panel, the L (R) FUEL PRESS annunciator goes off.

	Action	Result
(g)	On the fuel control panel, set the L (R) PUMP switch to the OFF position	In zone 251 (252) the stand-by fuel-booster-pump stops. In zone 225, on the annunciator panel, the L (R) FUEL PRESS annunciator comes on.
(h)	On the /fuel control panel, set the L (R) F/W VALVE switch to the CLOSED position	In zone 410 (420) the firewall shutoff valve closes. In zone 225, on the annunciator panel: – the L (R) F/W INTRAN annunciator comes on for 1 to 3 seconds – the L (R) F/W V CLSD annunciator comes on.
(i)	On the /fuel control panel, set the L PUMP switch to the MAIN position	In zone 251 the main fuel-booster-pump starts to operate. In zone 225, on the annunciator panel, the L FUEL PUMP and L FUEL PRESS annunciators go off.
(j)	On the fuel control panel, set the CROSSFEED switch to the horizontal position (open)	In zone 410 the crossfeed valve opens. In zone 225, on the annunciator panel: – the XFEED INTRAN annunciator comes on for 1 to 3 seconds – the FUEL XFEED annunciator comes on.
(k)	On the fuel control panel, set the R F/W VALVE switch to the OPEN position	In zone 420 the firewall shutoff valve opens. In zone 225, on the annunciator panel: – the R F/W V CLSD annunciator goes off – the R F/W V INTRAN annunciator comes on for 1 to 3 seconds – the R FUEL PRESS annunciator goes off.

	Action	Result
(l)	On the fuel control panel, set the L PUMP switch to the OFF position	In zone 251 the main fuel-booster-pump stops. In zone 225, on the annunciator panel: – the L FUEL PUMP annunciator comes on – the R FUEL PRESS annunciator comes on.
(m)	On the fuel control panel, set the R F/W VALVE switch to the CLOSED position	In zone 420 the firewall shutoff valve closes. In zone 225, on the annunciator panel: – the R F/W V INTRAN annunciator comes on for 1 to 3 seconds – the R F/W V CLSD annunciator comes on.
(n)	On the fuel control panel, set the CROSSFEED switch to the vertical position (closed)	In zone 410 the crossfeed valve closes. In zone 225 on the annunciator panel: – the FUEL XFEED annunciator goes off – the XFEED INTRAN annunciator comes on for 1 to 3 seconds

(4) Remove the electrical power (Refer to 24-00-00).



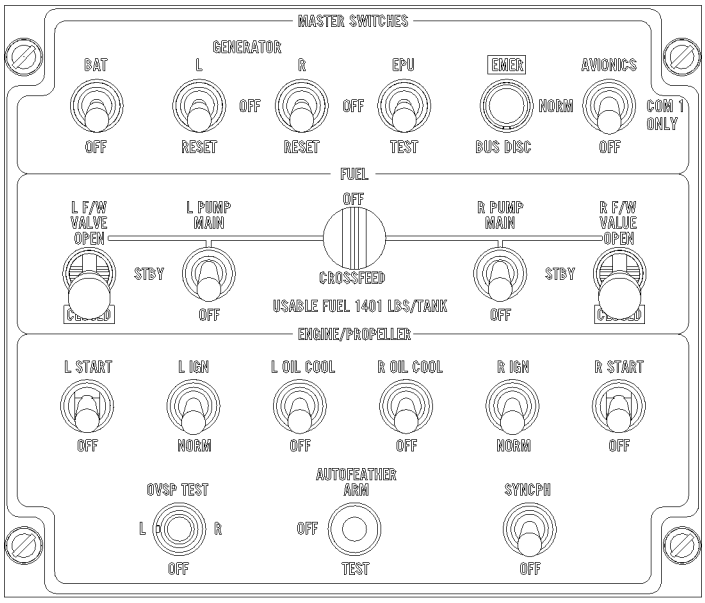


A

L FIRE	R FIRE	L MN WG OVHT	R MN WG OVHT
L OIL TEMP	R OIL TEMP	L FD WG OVHT	R FD WG OVHT
L OIL PRESS	R OIL PRESS	L WSHLD ZONE	R WSHLD ZONE
L BLEED TEMP	R BLEED TEMP	CAB PRESS	STEER FAIL
BAG DOOR	CAB DOOR		
DUCT TEMP	BAT OVHT		
L F/W V INTRAN	R F/W V INTRAN	FUEL XFEED	XFEED INTRAN
L F/W V CLSD	R F/W V CLSD	BAT TEMP	BUS DISC
L FUEL PUMP	R FUEL PUMP	AVCS FAN FAIL	HYD PRESS
L FUEL PRESS	R FUEL PRESS	EPU DRAIN	FLAP SYNC
L FUEL FILTER	R FUEL FILTER	STALL FAIL	OIL COOLING
L LOW FUEL	R LOW FUEL	AUTOFEATHER	DOOR SEAL
L GEN	R GEN	L PITOT HTR	R PITOT HTR
L PROP PITCH	R PROP PITCH		

ANNUNCIATOR PANEL

B



FUEL CONTROL PANEL

MM-282000-208-PA-05

Fig. 209 - Fuel Distribution System - Operational Test

15. Electrical Cable Hose Terminals - Fuel Leakage Check(Refer to Figg. 210, 211)

A. Procedure

Flameproof Light Source	Not specified

B. Referenced Information

Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 53-60-00
Maintenance Manual Chapter 07-10-00
Maintenance Manual Chapter 28-20-00

C. Procedure

NOTE: This procedure is applicable to the LH and RH installations, both Main and Stand by Pumps.

(1) Put the airplane on jacks (Refer to 07-10-00).
(2) Open the sub-wing access panels 251A / 252A (Refer to 53-60-00) (as applicable).
(3) Check that electrical power is available (Refer to 24-00-00)

WARNING: DO NOT STAND IN PROXIMITY OF THE FUEL COLLECTOR TANK DURING PUMP OPERATION. CAREFULLY DRY ANY PARTS THAT COULD BE WET WITH FUEL PRIOR TO PERFORMING ANY STEP OF THE FOLLOWING PROCEDURE.

NOTE: For more information about Fuel Distribution System Refer to AMM Chapter 28-20-00, para 13.

(4) Check for any fuel leakage from the electrical cable hose terminals as indicated in figures 209, 210.
(5) Check that the Firewall Shut-off Valves are closed
(6) Set the LH /RH (as applicable) Fuel Pump switch to the MAIN / STBY position (as applicable).
(7) Operate the Fuel Pump for 10 minutes.
(8) Check for any fuel leakage coming from the Collector Tank electrical cable hose passages and from the electrical cable hose terminals, as indicated in figures 209, 210. Observe for a minimum duration of 10 minutes after pump shutdown.
(9) On the Fuel Control Panel, set the LH/RH (as applicable) Fuel Pump switch to the OFF position

WARNING: CHECK THAT ALL PARTS THAT COULD BE WET WITH FUEL ARE DRIED BEFORE RETURNING THE AIRPLANE TO SERVICE.

Fig. 210 - Electrical Cable Hose Terminals - Fuel Leakage Check LH Tank

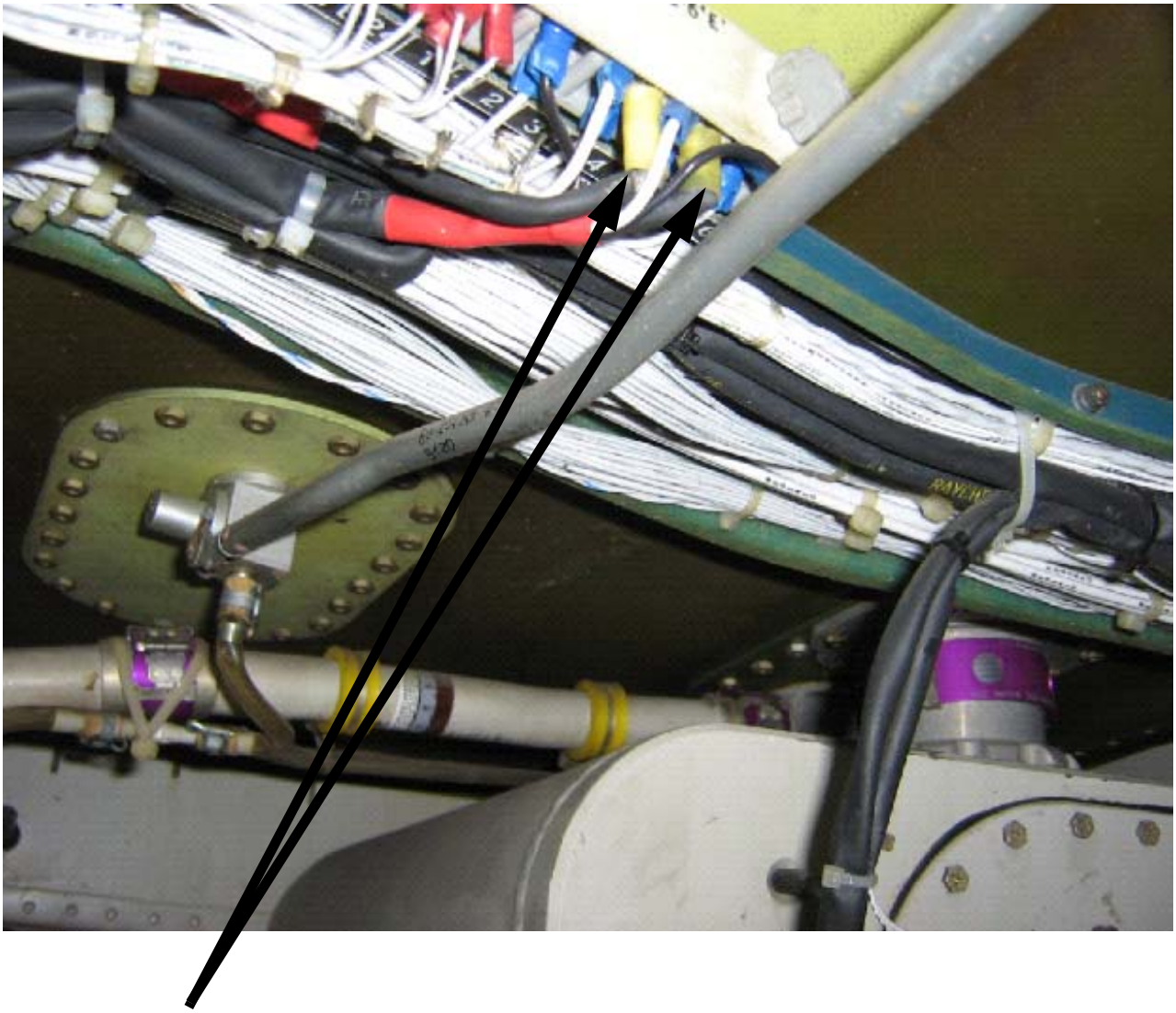


Fig. 211 - Electrical Cable Hose Terminals - Fuel Leakage Check RH Tank

INDICATING - DESCRIPTION AND OPERATION

1. General

Fuel quantity indication includes a capacitance type system connected to the LH and RH Fuel Parameter Conditioning Units that is installed on the proper support on the 6000 insulation bulkhead.

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INDICATING - MAINTENANCE PRACTICES

1. General

WARNING: OBEY THE HEALTH AND SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

A. This topic gives the Maintenance Practices for the indicating system as follows:

- Fuselage Tank Probes - Inspection
- Wing Tank Probes - Inspection
- Collector Tank Probes - Removal
- Collector Tank Probes - Inspection
- Fuel Parameter Conditioning Unit - Removal
- Fuel Parameter Conditioning Unit - Installation
- Indicating System - Adjustment/Test

B. The location of the components is as follows:

- The two fuselage-tank-probes are in zones 511 and 611 between FS6000 and FS6235
- The wing tank probes are in zones 522, 532, 622 and 632 attached to the ribs at WS 880, WS 2075 and WS 3610
- One probe is installed in each collector tank in zone 251 and 252.

2. Fuselage Tank Probes - Inspection (Ref. Fig. 201)

A. Fixtures, Test and Support Equipment

Warning Notice	Not Specified
0.5 in.(12,7 mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified
Flameproof Light Source	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
8	Seal	531800
10	Seal	531800

D. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 27-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 28-11-00

E. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(5) Remove the flap system GCU (Refer to 27-00-00), the main junction box and the battery (Refer to 24-00-00).
(6) Remove the access panels 281AZ and 282AZ. Remove and discard the seals (8) and (10).
(7) Use the light source and examine the fuel quantity probes (1) and (6)
  (a) Make sure the bolts (2), (5), (7) and (9) are tight.
  (b) Make sure the four terminal ends of the fuel quantity probe are installed correctly. .
  (c) Examine the body of the probes for excessive dents or damage.
  (d) Tighten or replace the defective parts as necessary.
(8) Install new seals (8) and (10) to the access panels 281AZ and 282AZ

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

  (a) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the new seals and the interfaces of the access panels and the integral fuselage tank (11). Wipe the components with a clean piece of lint-free cloth before the MEK dries.

WARNING: BE CAREFUL WHEN YOU USE THE ADHESIVE. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

  (b) Use the brush to apply a smooth, equal layer of the sealant to the seal seats of the access panels.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE ADHESIVE CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

  (c) Carefully push the seals in to the seal seats of the access panels.
(9) Install the access panels 281AZ and 282AZ and the new seals (8) and (10).
(10) Install the flap system GCU (Refer to 27-00-00), the main junction box and the battery (Refer to 24-00-00).

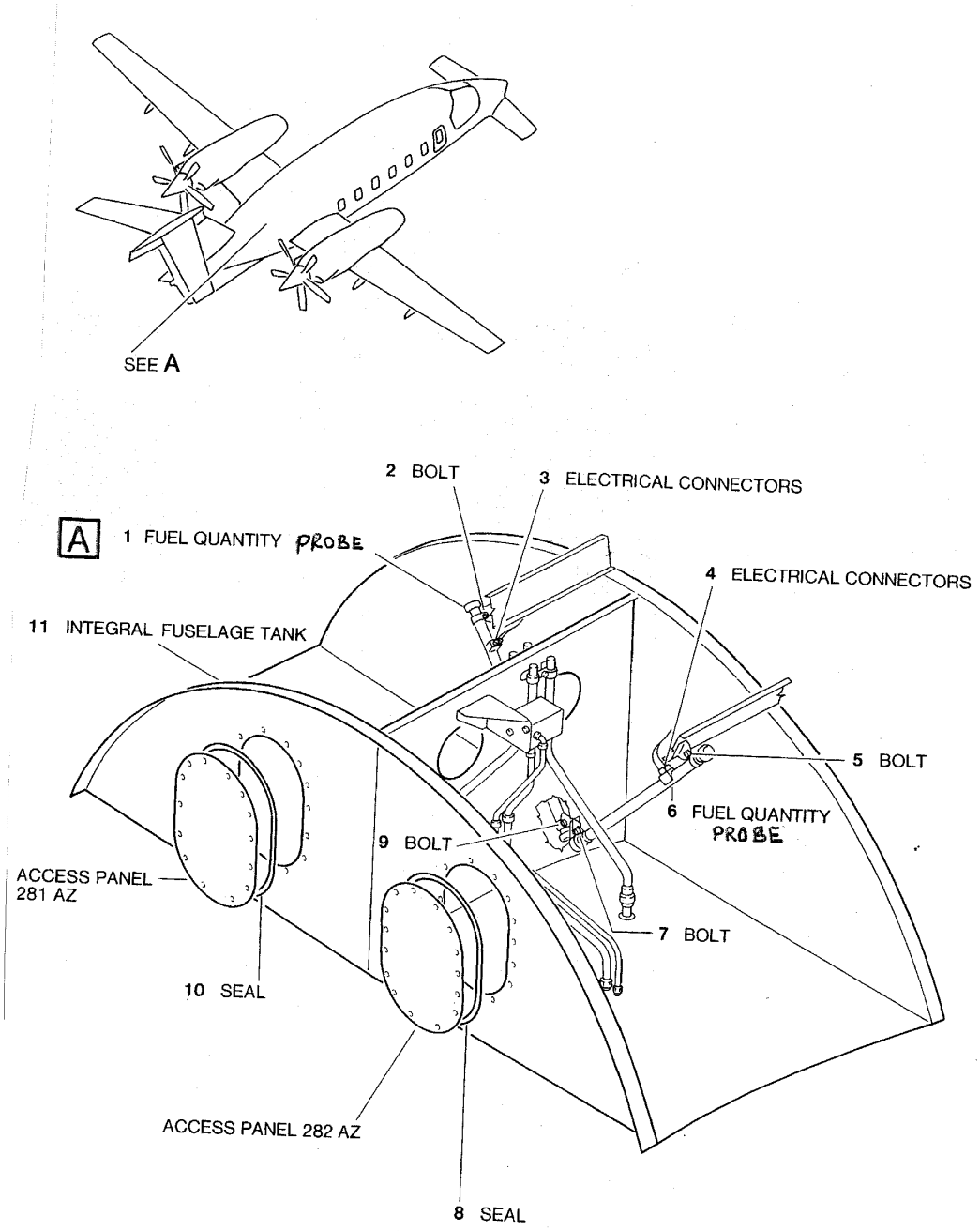

Fig. 201 - Fuselage Tank Probes - Inspection

(11) Remove all tools, materials and equipment from the work area. Make sure the area is clean.
(12) Remove the Warning Notice from the flight compartment.
(13) Make sure the electrical power is available (Refer to 24-00-00).
(14) Refuel the airplane (Refer to 12-00-00).
(15) Examine the area around the access panels 281AZ and 282AZ for leaks (Refer to 28-00-00). Leaks are not permitted.

3. Wing Tank Probes - Inspection

A. Fixtures, Test and Support Equipment

Warning Notice	Not Specified
Lint-Free Cloth	Not Specified
Flameproof Light Source	Not Specified

B. Materials

Methyl-Ethyl-Ketone (MEK)	TT-M-261

C. Referenced Information

Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Cahpter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 57-00-00

D. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Remove the wing-tank access-panels 511CB, 522DB, 532DB, 611CB, 622DB and 632DB (Refer to 57-00-00).
(5) Use the light source and examine the fuel quantity probes
  (a) Make sure the installation bolts are tight.
  (b) Make sure the electrical connectors are installed correctly.
  (c) Examine the body of the probes for excessive dents or damage.
  (d) Tighten or replace the defective parts as necessary.
(6) Install the wing-tank access-panels 511CB, 522DB, 532DB, 611CB, 622DB and 632DB (Refer to 57-00-00).
(7) Remove all tools, materials and equipment from the work area. Make sure the area is clean.
(8) Remove the Warning Notice from the flight compartment.
(9) Make sure the electrical power is available (Refer to 24-00-00).
(10) Refuel the airplane (Refer to 12-00-00).

(11) Examine the area around the wing-tank access-panels for leaks (Refer to 28-00-00). Leaks are not permitted.

4. Collector Tank Probes - Removal (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

Warning Notice	Not Specified

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-11-00
Maintenance Manual Chapter 53-60-00

NOTE: This procedure is applicable to the LH and RH removals. Data for the RH installation is given between parentheses.

NOTE: This topic gives the procedure to remove the fuel quantity probes from the LH and RH fuel collector tanks. It is not necessary to remove both of the fuel quantity probes if only one is defective.

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panel 251A (252A) (Refer to 53-60-00).
(7) Remove the top and bottom access panels (4), (10), (24) and (34) from the collector tanks (6) and (13)
  (a) Cut and remove the lockwire from the lockwire tabs (1), (9) (25) and (28) on the access panels.
  (b) For the top access panel of the RH fuel collector tank do the steps which follow:
    1) Disconnect the electrical connector (22) from the pre-check valve (12) (Refer to 20-00-00).
    2) Remove the two clamps (15) and (19) and the tube (21). Discard the seals (14), (16), (18) and (20).
    3) Remove the screws (30) and the washers (29) which attach the access panel (34) and the lockwire tab (28) to the collector tank.
    4) Pull the access panel (34) away from the collector tank. Disconnect the two flexible hoses (31) and (32) from the pre-check valve (12) and the pressure-refueling shut-off valve (35).

5) Remove the access panel (34) complete with the pre-check valve (12), the pressure-refueling shut-off valve (35) and the seal (33). Discard the seal (33).

(c) For the remaining access panels do the steps which follow:

1) Remove the screws (2), (7) and (27) and the washers (3), (8) and (26), which attach the access panels (4), (10) and (24) and the lockwire tabs (1), (9) and (25) to the collector tanks.

2) Remove the access panels (4), (10) and (24), the lockwire tabs (1), (9) and (26) and the seals (5), (11) and (23). Discard the seals (5), (11) and (25).

(8) Remove the fuel quantity probe (36)

(a) Disconnect the four quantity probe terminal ends (Refer to 20-00-00).

(b) Remove the bolt (42) and the washer (43) from the bottom mounting.

(c) Hold the fuel quantity probe. Remove the bolt (38) and the washer (39) from the top mounting.

(d) Loosen the bolt (40) on the clamp (41). Decrease the length of the probe to remove it from the collector tank.

(e) Carefully remove the fuel quantity probe from the collector tank.

(9) Put caps on all openings, line ends and electrical connectors.

5. Collector Tank Probes - Installation (Ref. Fig. 202)

A. Fixtures, Test and Support Equipment

0.5in.(12,7mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
5	Seal	281100 01
11	Seal	281100 01
14	Seal	281100 01
16	Seal	281100 01
18	Seal	281100 01
20	Seal	281100 01
23	Seal	281100 01
33	Seal	281100 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 53-60-00

E. Procedure

NOTE: This procedure is applicable to the LH and RH installations. Data for the RH installation is given between parentheses.

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from the openings, line ends and electrical connectors.

(3) Install the fuel quantity probe (36)

(a) Carefully put the fuel quantity probe in to the collector tank.

(b) Hold the probe in the correct position for installation. Attach the top mounting of the probe to the collector tank with the bolt (38) and the washer (39).

(c) Attach the bottom mounting of the probe to the collector tank with the bolt (42) and the washer (43). Tighten the bolts (38) and (42).

(d) Connect the four quantity probe terminal ends (Refer to 20-00-00).

(e) Loosen the bolt (40) on the clamp (41) and adjust the fuel quantity probe to the dimension shown. Tighten the bolt (40).

(4) Install the top and bottom access panels (4), (10), (24) and (34) collector tank

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the interfaces of the top and bottom access panels and the collector tank. Wipe the components with a clean piece of lint-free cloth before the MEK dries.

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(b) Use the brush to apply a smooth, equal layer of the sealantto the seal seat of the top and bottom access panels and the collector tank.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

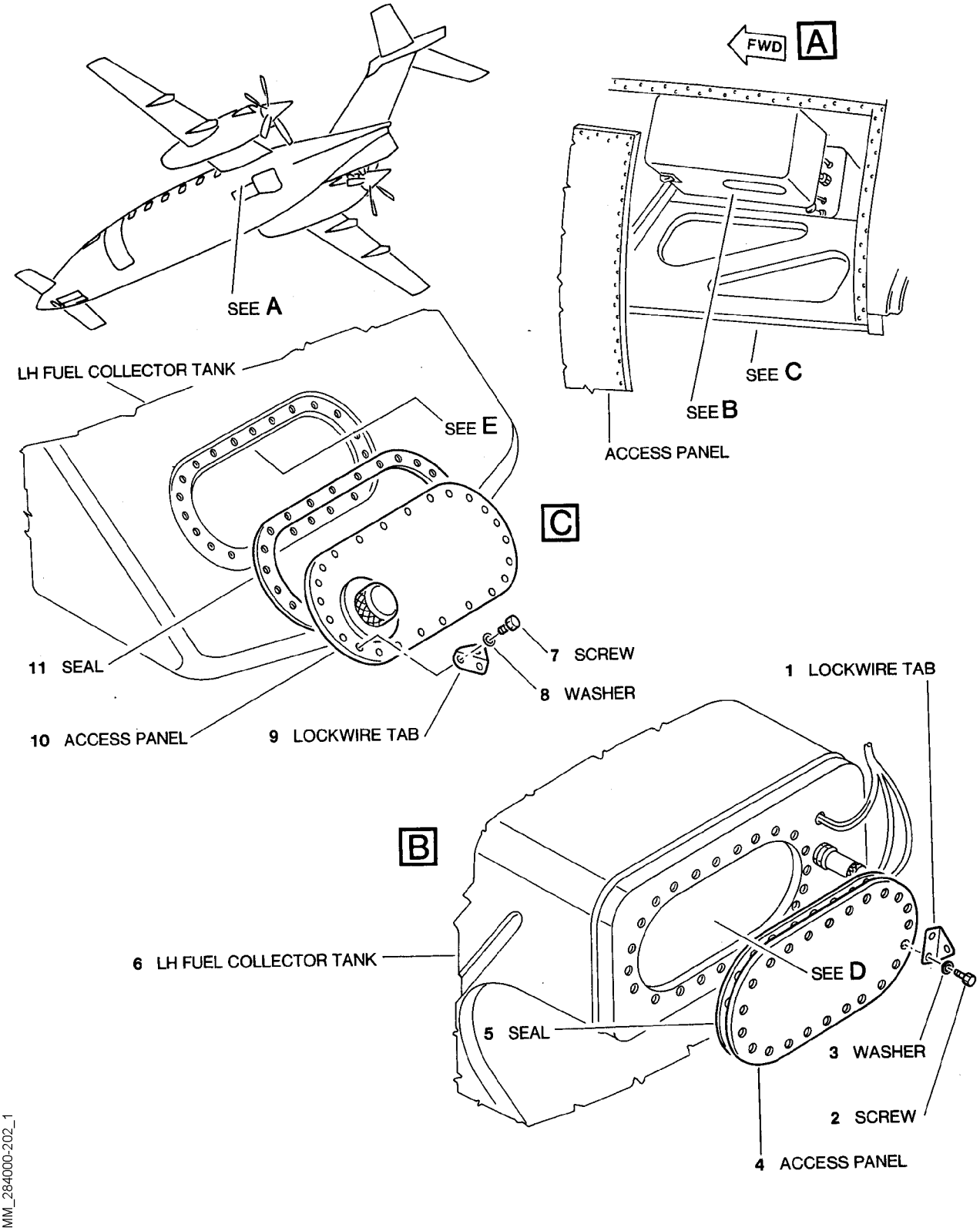

Fig. 202 - (Sheet 1) - Collector Tank Probe - Removal /Installation

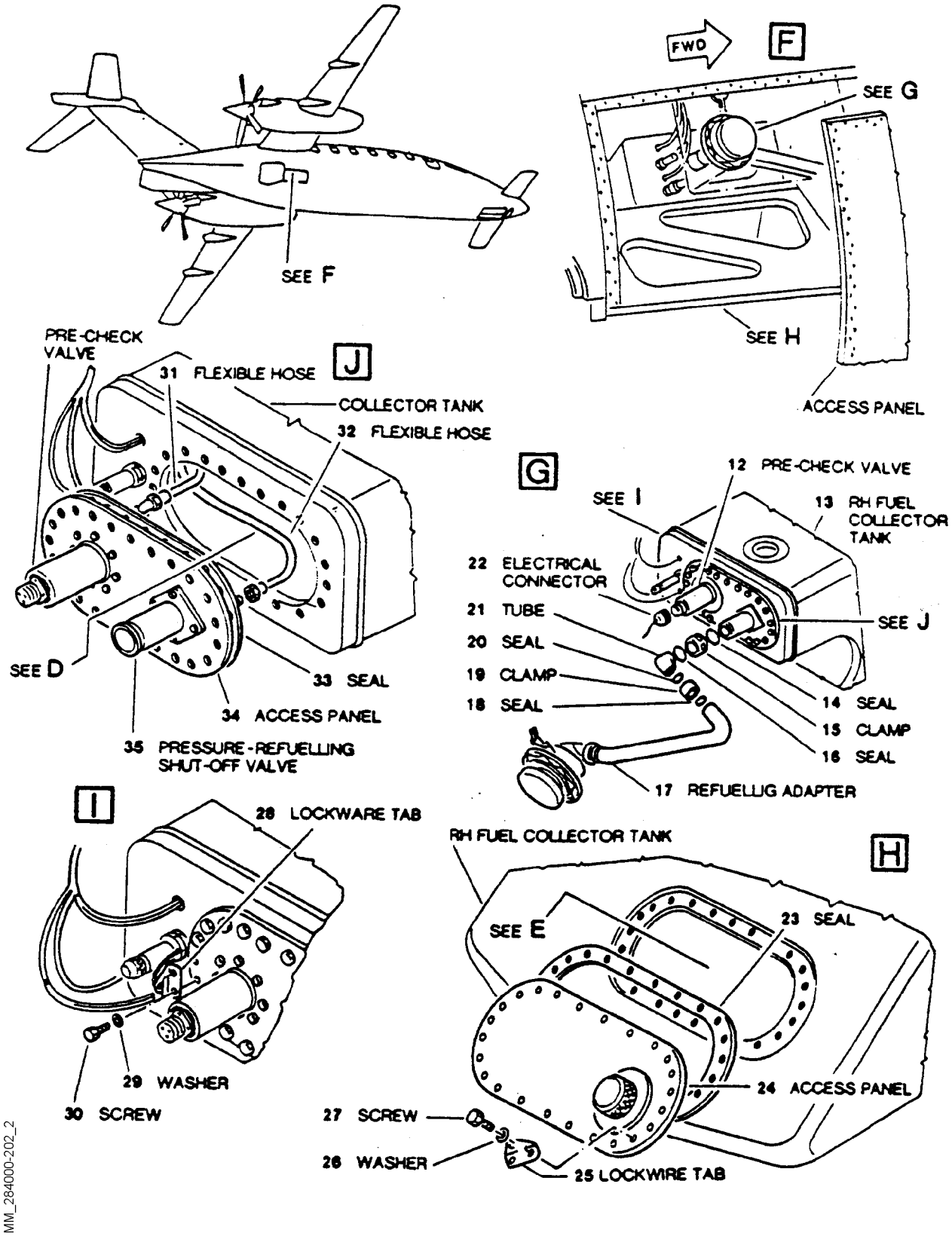

Fig. 202 - (Sheet 2) - Collector Tank Probe - Removal /Installation

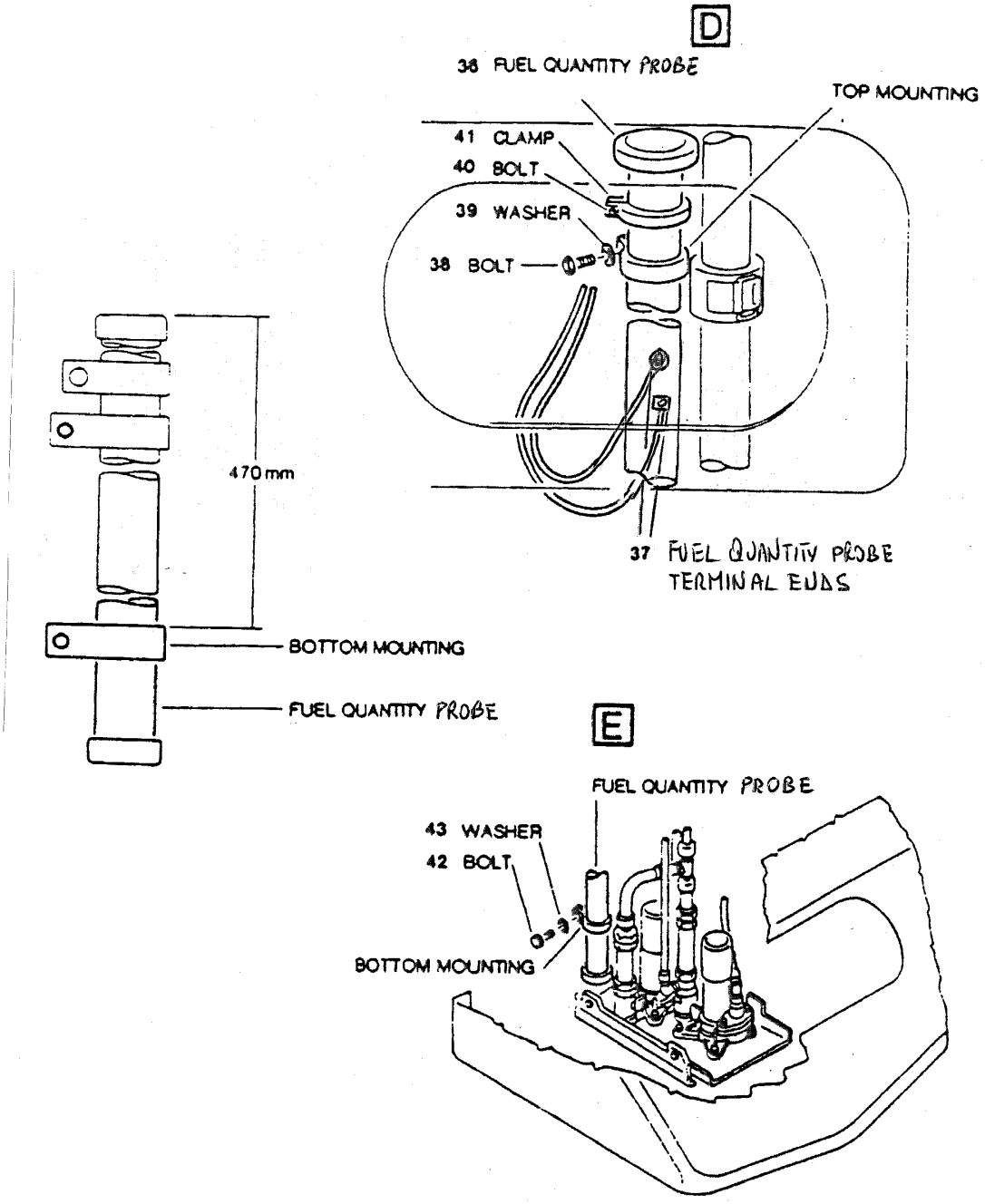

Fig. 202 - (Sheet 3) - Collector Tank Probe - Removal /Installation

(c) For the top access panel (34) of the RH fuel collector tank (13) do the steps which follow:

1) Carefully put the new seal (33) on the access panel.
2) Connect the two flexible hoses (31) and (32) to the pre-check valve (12) and the pressure-refueling shut-off valve (35). Tighten the hoses (31) and (32).
3) Attach the top access panel, the seal (33) and the lockwire tab (28) to the collector tank with the screws (30) and the washers (29). Tighten the screws (30).
4) Install new seals (14), (16), (18) and (20) to the tube (21), the refueling adapter (17) and the pressure refueling shut-off valve (35) (Refer to 20-00-00).
5) Hold the tube (21) in the correct position for installation. Attach the tube (21) to the refueling adapter (17) and the pressure-refueling shut-off valve (35) with the clamps (15) and (19).
6) Connect the electrical connector (22) to the pre-check valve (12) (Refer to 20-00-00).

(d) For the remaining access panels (4), (10) and (24) do the steps which follow:

1) Carefully put the new seals (5), (11) and (23) on the access panels.
2) Attach the access panels, the seals (5), (11) and (23) and the lockwire tabs (1), (9) and (25) to the collector tanks with the screws (2), (7) and (27) and the washers (3), (8) and (26). Tighten the screws (2), (7) and (27).

(5) Refuel the airplane (Refer to 12-00-00).
(6) Examine the area around the collector tank access-panels for leaks (Refer to 28-00-00). Leaks are not permitted.
(7) Install the access panels 251A (252A) (Refer to 53-60-00).
(8) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).
(9) Remove all tools, materials and equipment from the work area. Make sure the area is clean.
(10) Remove the Warning Notice from the flight compartment.
(11) Make sure the electrical power is available (Refer to 24-00-00).

6. Collector Tank Probes - Inspection (Ref. Fig. 203)

A. Fixtures, Test and Support Equipment

Warning Notice	Not Specified
0.5 in.(12,7 mm) Paint Brush	Not Specified
Lint-Free Cloth	Not Specified
Flameproof Light Source	Not Specified

B. Materials

Sealant	06-005
Methyl-Ethyl-Ketone (MEK)	TT-M-261
Lockwire	MS20995C32

C. Expendable Parts

ITEM	NOMENCLATURE	IPC CSN
5	Seal	281100 01
11	Seal	281100 01
14	Seal	281100 01
16	Seal	281100 01
18	Seal	281100 01
20	Seal	281100 01
23	Seal	281100 01
33	Seal	281100 01

D. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 20-00-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-00-00
Maintenance Manual Chapter 28-11-00

E. Procedure

(1) Remove the electrical power (Refer to 24-00-00).
(2) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(3) Defuel the airplane (Refer to 12-00-00).
(4) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(5) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(6) Remove the access panels 251A and 252A (Refer to 53-60-00).
(7) Remove the top and bottom access panels (4), (10), (24) and (34) from the collector tanks (6) and (13)
  (a) Cut and remove the lockwire from the lockwire tabs (1), (9), (25) and (28) on the access panels.
  (b) Disconnect the electrical connector (22) from the pre-check valve (12) (Refer to 20-00-00).
  (c) Remove the two clamps (15) and (19) and the tube (21). Discard the seals (14), (16), (18) and (20).

(d) Remove the screws (30) and the washers (29) which attach the top access panel and the lockwire tab (28) to the RH fuel collector tank (13).

(e) Pull the access panel (34) away from the RH fuel collector tank (13). Disconnect the two flexible hoses (31) and (32) from the pre-check valve (12) and the pressure-refueling shut-off valve (35).

(f) Remove the access panel (34) complete with the pre-check valve (12), the pressure-refueling shut-off valve (35) and the seal (33). Discard the seal (33).

(g) Remove the screws (2), (7) and (27) and the washers (3), (8) and (26) which attach the access panels (4), (10) and (24) and the lockwire tabs (1), (9) and (25) to the collector tanks (6) and (13).

(h) Remove the lockwire tabs (1), (9) and (25), the access panels (4), (10) and (24) and the seals (5), (11) and (23). Discard the seals (5), (11) and (23).

(8) Use the flameproof light source and examine the fuel quantity probes (37)

(a) Make sure the installation bolts (39) and (40) are tight.

(b) Make sure the clamp bolts (36) are tight.

(c) Make sure the four quantity probe terminal ends are installed correctly. (Refer to 20-00-00).

(d) Examine the body of the probes for excessive dents or damage.

(e) Tighten or replace the defective parts as necessary.

WARNING: BE CAREFUL WHEN YOU USE MEK. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(9) Use a clean lint-free cloth, made moist with the MEK (TT-M-261), to clean the interfaces of the top and bottom access panels (4), (10), (24) and (34) and the collector tanks (6) and (13). Wipe the components with a clean piece of lint-free cloth before the MEK dries.

(10) Install the top and bottom access panels (4), (10), (24) and (34) to the collector tanks (6) and (13)

WARNING: BE CAREFUL WHEN YOU USE THE SEALANT. OBEY THE HEALTH AND SAFETY INSTRUCTIONS GIVEN IN CHAPTER 20-00-00.

(a) Use the brush to apply a smooth, equal layer of the sealant to the seal seat of the top and bottom access panels and the collector tanks.

CAUTION: THE PARTS MUST BE ASSEMBLED IN LESS THAN 15 MINUTES. THE SEALANT CAN START TO CURE AFTER 15 MINUTES AND THUS GIVE AN UNSATISFACTORY JOINT.

(b) Carefully put the new seal (33) on the top access panel (34).

(c) Connect the two flexible hoses (31) and (32) to the pre-check valve (12) and the pressure-refueling shut-off valve (35). Tighten the hoses (31) and (32).

(d) Connect the electrical connector (22) to the pre-check valve (12) (Refer to 20-00-00).

(e) Attach the top access panel (34), the seal (33) and the lockwire tab (28) to the collector tank (13) with the screws (30) and the washers (29). Tighten the screws (30).

(f) Carefully put new seals (5), (11) and (23) on the top and bottom access panels (4), (10) and (24).

(g) Attach the top and bottom access panels (4), (10) and (24), the seals (5), (11) and (23) and the lockwire tabs (1), (9) and (25) to the collector tanks with the screws (2), (7) and (27) and the washers (3), (8) and (26). Tighten the screws (2), (7) and (27).

(11) Refuel the airplane (Refer to 12-00-00).

(12) Examine the area around the collector-tank access-panels for leaks (Refer to 28-00-00). Leaks are not permitted.

(13) Install the access panels 251A and 252A (Refer to 53-60-00).

(14) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).

(15) Remove all tools, materials and equipment from the work area. Make sure the area is clean.

(16) Remove the Warning Notice from the flight compartment.

(17) Make sure the electrical power is available (Refer to 24-00-00).

7. Fuel Parameter Conditioning Unit - Removal

A. Procedure

(1) Open, tag and safety these circuit breakers:

Pilot CB Panel	Copilot CB Panel
L FUEL QTY	R FUEL QTY

NOTE: This procedure is applicable to the LH and RH removals:

(2) Remove the Mirror Laminate located on the 6000 insulation bulkhead in the vanity closet.

(3) Remove the electrical connectors (2).

(4) Remove the four screws (1) that secures the Fuel Parameter Conditioning Unit (3) to the support (4).

(5) Remove the Fuel Parameter Conditioning Unit.

(6) Put caps on all openings electrical connectors.

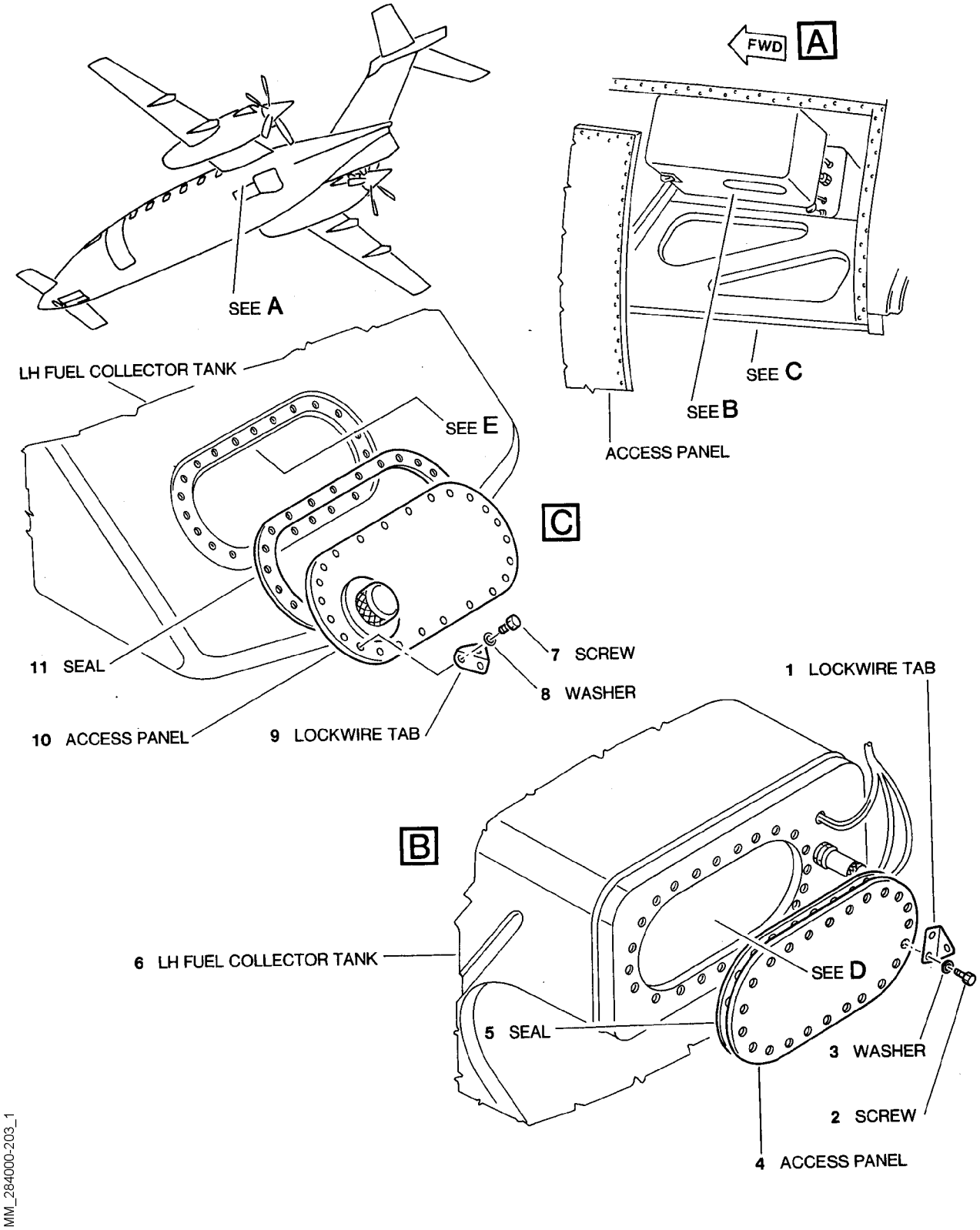

Fig. 203 - (Sheet 1) - Collector Tank Probes - Inspection/Check

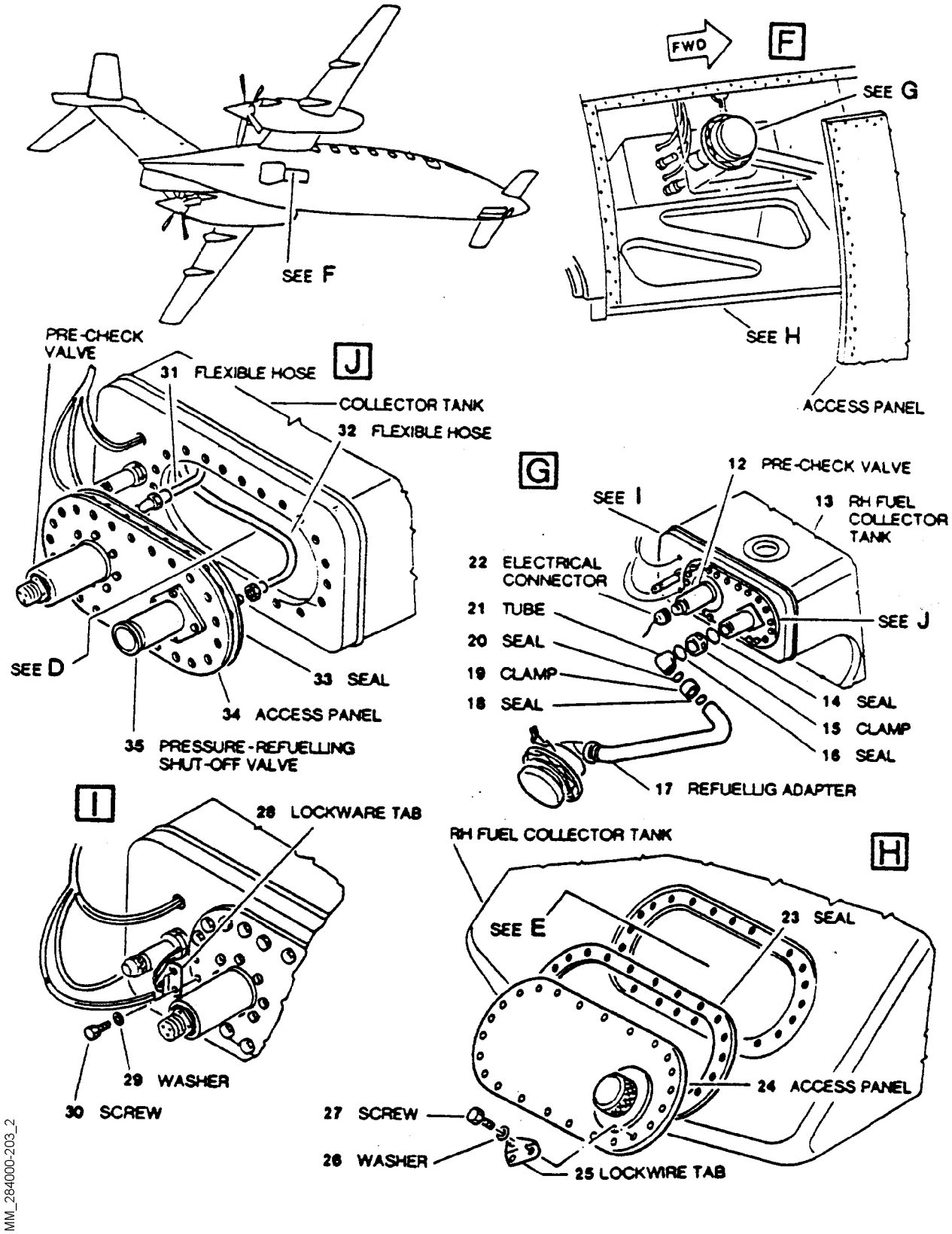

Fig. 203 - (Sheet 2) - Collector Tank Probes - Inspection/Check

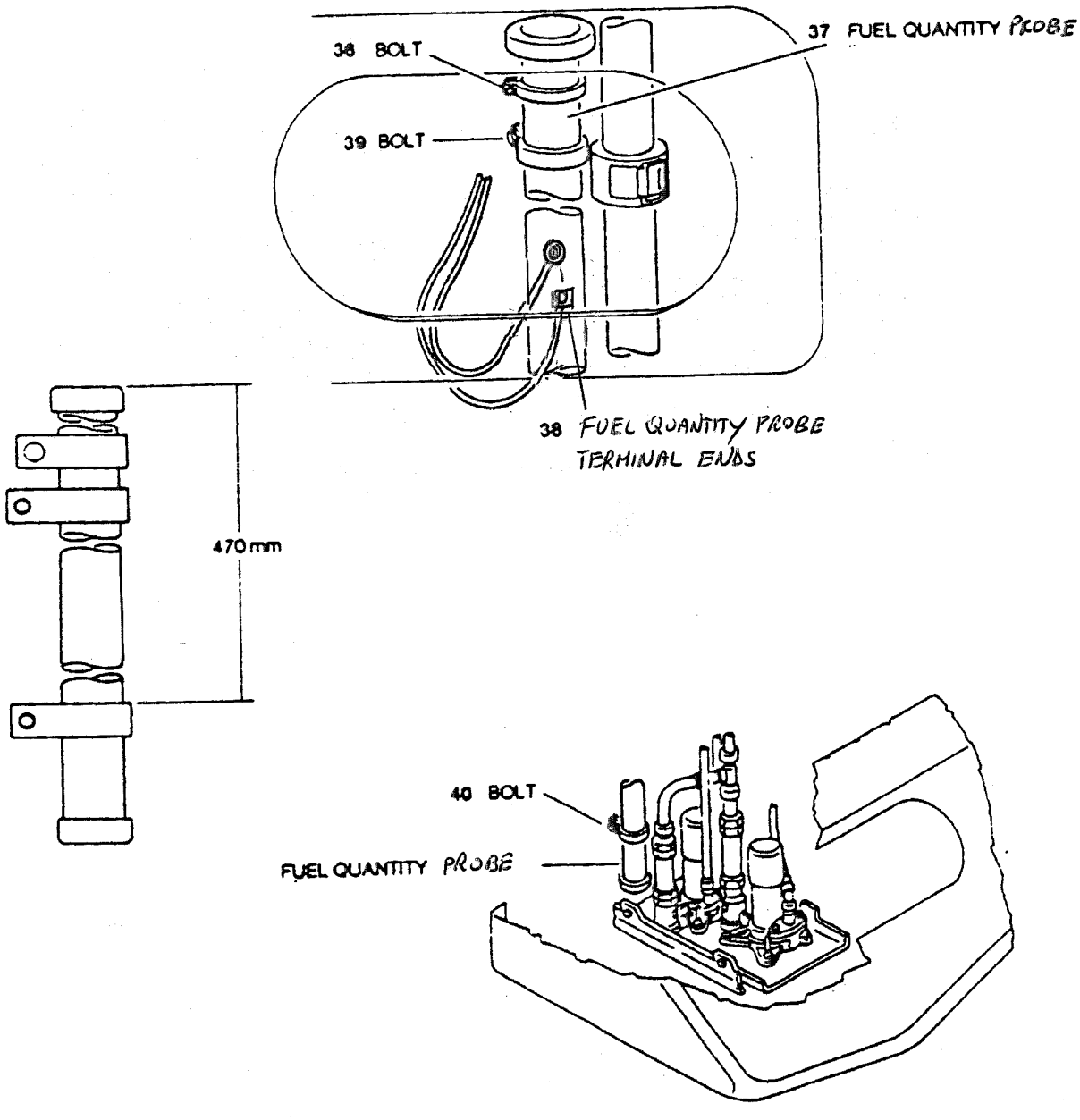

Fig. 203 - (Sheet 3) - Collector Tank Probes - Inspection/Check

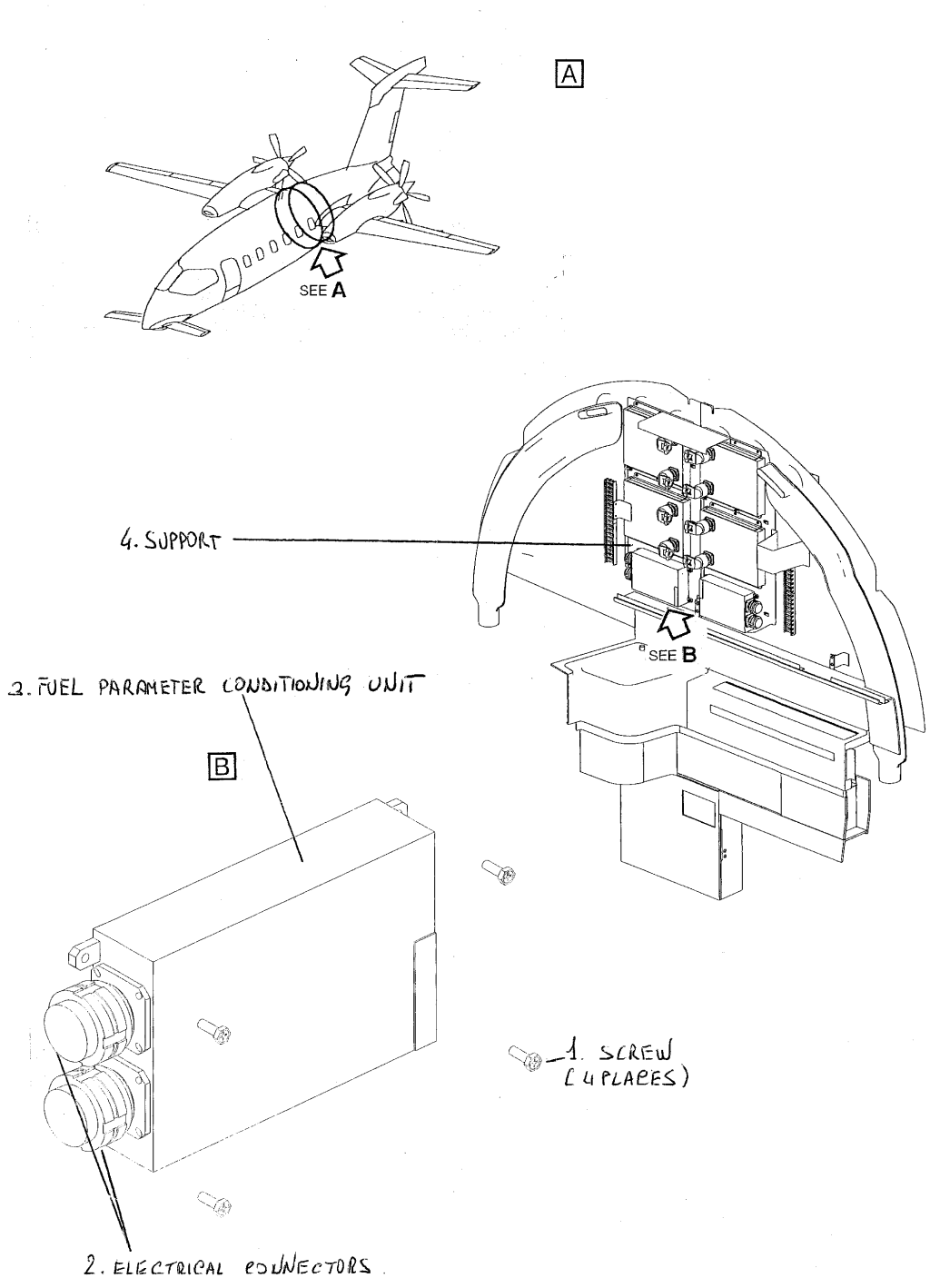

Fig. 204 - Fuel Parameter Conditioning Unit - Removal / Installation

8. Fuel Parameter Conditioning Unit - Installation

A. Procedure

NOTE: This procedure is applicable to the LH and RH installations.

(1) Make sure, as necessary that:
- There is no electrical power on the airplane
- The system is safe
- The Warning Notices are in position
- Access is available.

(2) Remove the caps from the openings electrical connectors.
(3) Place the Fuel Parameter Conditioning Unit (3) in its own position to the support (4)
(4) Secure the Fuel Parameter Conditioning Unit (3) to the support (4).
(5) Connect the electrical connectors (2).
(6) Remove the safety tags and close these circuit breakers:

Pilot CB Panel	Copilot CB Panel
L FUEL QTY	R FUEL QTY

(7) Do a Fuel Indicating Functional Test.
(8) Install the Mirror Laminate located on the 6000 insulation bulkhead in the vanity closet.

9. Indicating System - Adjustment / Test (Ref. Fig. 205)

A. Fixtures, Test and Support Equipment

Farem - ATE 265 (Test Set).
Fuel Parameter Conditioning Unit Connecting
One liter counter with pump and external tank.
Two flow regulator valves.
Pipes to connect fuel inlet duct to the tank.
Two containers with 20 liters minimum capacity

B. Referenced Information

Maintenance Manual Chapter 07-00-00
Maintenance Manual Chapter 08-10-00
Maintenance Manual Chapter 08-20-00
Maintenance Manual Chapter 12-00-00
Maintenance Manual Chapter 12-24-00
Maintenance Manual Chapter 24-00-00
Maintenance Manual Chapter 28-11-00
Maintenance Manual Chapter 28-14-00

C. Procedure

WARNING: OBEY THE SAFETY PRECAUTIONS GIVEN IN 28-00-00. JET FUEL IS EXPLOSIVE AND POISONOUS.

(1) Record the airplane weight, its configuration shall not change during all test (Refer to 08-10-00).
(2) Remove the electrical power (Refer to 24-00-00).
(3) Put a Warning Notice in the flight compartment to tell persons not to apply electrical power.
(4) Ground the airplane (Refer to 12-24-00).
(5) Defuel the airplane (Refer to 12-00-00).
(6) Drain the LH and RH fuel collector tanks (Refer to 28-11-00).
(7) Add 12.4 lbs. of unusable fuel in each collector tank (24.8 lbs. total LH and RH).
(8) Lift the airplane on jacks until the wheels are clear of the ground (Refer to 07-00-00).
(9) Make the airplane level (Refer to 08-20-00).
(10) Remove the Mirror Laminate located on the 6000 pressurization bulkhead in the vanity closet.
(11) Remove the covers of the trim adjusters on the fuel quantity indications. Let the fuel quantity indications stay for 10 minutes, to become stable, before the test.
(12) Connect the ATE 265 unit and related wire harness (Ref. Fig 205).
(13) In the flight compartment, on the MASTER SWITCHES panel, set the battery switch to BAT. Make sure the 28 Vdc is available (Refer to 24-00-00).
(14) On the SYS TEST panel, set the switch to FUEL QTY and push and release the center button.
(15) On the MFD check that the digital indications show 8888 and then 0000.
(16) On the annunciator panel the L LOW FUEL and the R LOW FUEL annunciators stay ON.
(17) Calibrate the LH and RH fuel parameter interface (P/N 19XG22A1888) in order to set the zero fuel quantity reading on the Digital Display.

D. Preliminary Operations

(1) Switch on the POWER SUPPLY 28V input.
(2) Switch on ATE through SW7.
(3) Perform the ATE self test by pushing the SW6 pushbutton and verify ATE D1 display come on.
(4) Set the SW 3 to ON position.
(5) Switch on the section F. Quantity setting SW2 to ON position.
(6) Wait for a minute before starting the functional checks.

E. Empty calibration

(a) Remove the protection cap for the adjustment.
(b) Set the switch SW4 to ON, the ATE D1 display should show the □XXX configuration.
(c) Turn the POT. ZERO COMP. clockwise (CW) to increase and counterclockwise (CCW) to decrease until you get on ATE D1 display a reading as follows: □XXX = 500 ± 20.

(d) Temporarily set on SW5. Releasing it, the ATE D1 display should show the ⊐YYY configuration.

(e) Turn the POT. ZERO FUEL clockwise (CW) to increase and counterclockwise (CCW) to decrease until you get on ATE D1 display a reading as follows: ⊐YYY = 500 ± 20.

(f) Temporarily set on SW5. Releasing it the ATE D1 display should show the ⊏XXX configuration.

(g) Repeat twice steps from "3" to "6" until not variation occur.

(h) Set the switch SW4 to OFF". The ATE D1 display should show the XXXX = 0000 configuration and an output frequency of about 100 Hz.

NOTE: On the fuel quantity indicators the indications show zero lbs on the digital indicators.

(1) Make sure the items which follow are in the correct configuration:
- the fuel vents are clear
- the fuel drains are closed
- the firewall shut-off valves are closed

(2) Open the collector-tank interconnecting-valve (Ref. to 28-14-00).

(3) Gravity fill the fuel storage system (Ref. to 12-00-00). Make sure the system is completely full.

(4) Wait at least for 10 minutes then continue with the adjustment as follows:

F. Full Calibration

(1) Set the switch SW4 to ON position.

(2) At full system, the ATE D1 display should show the ⊔ZZZ configuration.

(3) Turn the Pot..F.S. FUEL clockwise (CW) to increase and counerclockwise (CCW) to decrease until you get on ATE D1 display a reading as follows: ⊔ZZZ = 500 ± 20.

(4) Wait at least for 10 minutes, then repeat the previous step.

(5) Set the switch SW4 to OFF position. The ATE D1 display should show the fuel quantity, approximately 1388 lbs and an output frequency of about 1228 Hz.

(6) Reinstall the protection cap for the adjustment, lock the securing screws.

(7) Use the following formula to check the effective fuel quantity run into the airplane:Liters Charged x Fuel Density = fuel in the tanks 0.4536.

(8) Close the collector-tank interconnecting valve (Ref. to 28-14-00).

(9) Remove the electrical power (Ref. to 24-00-00).

(10) On the fuel parameters conditioning unit, install the covers of the trim adjusters. Tighten the screws.

(11) Use the paint brush to apply one spot of paint to each of the screw heads.

(12) Install the Mirror Laminate located close to the 6000 insulation bulkhead in the vanity closet.

(13) In the flight compartment, on the MASTER SWITCH panel, set the battery switch to BAT. Make sure the 28 Vdc is available (Ref. to 24-00-00).

(14) Make sure the fuel quantity indicators show 1390 ± 30 lbs.

(15) Remove the electrical power (Refer to 24-00-00).

(16) Remove the airplane ground (Refer to 12-24-00).

(17) Lower the airplane to the ground and remove the jacks (Refer to 07-00-00).
(18) Remove all tools, materials and equipment from the work area. Make sure the area is clean.
(19) Remove the Warning Notice from the flight compartment.
(20) Make sure the electrical power is available (Refer to 24-00-00).
(21) rain fuel tank sump LH and RH and verify the real unusable fuel quantity on ground.

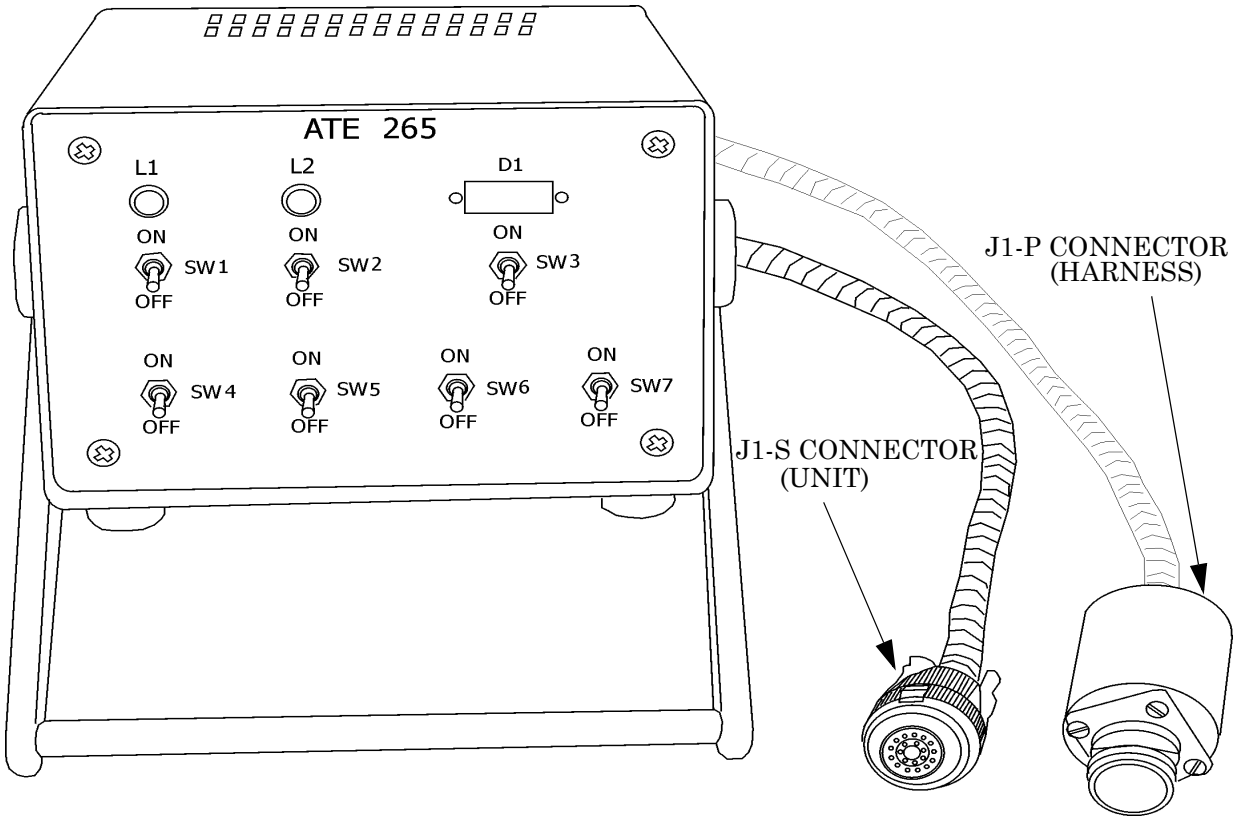

Fig. 205 - Indicating System (ate 265 Test Set) - Adjustment Test