

28

FUEL

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FUEL

DESCRIPTION AND OPERATION

1. GENERAL (Figure 1)

The function of the fuel system is to store the fuel, to supply the engine with a regular fuel flow and to constantly monitor and indicate the fuel quantities remaining in the tanks.

The fuel system includes :

- storage,
- fuel supply,
- indication system.

2. DESCRIPTION

A. Storage - refer to 28-10-00

Storage takes place in two built-in tanks, one in each wing.

B. Fuel supply - refer to 28-20-00

The fuel supply system supplies the fuel required by the engine for its operation.

C. Indication system - refer to 28-40-00

The indication system gives the quantity of fuel in the tanks and the pressure at the electric pump outlet.

- 1 - 31-10-00 - Fuel pressure indicator
- 2 - 28-40-00 & 31-50-00 - Electric pump indicator light
- 3 - 28-20-00 - Cock control knob
- 4 - 28-20-00 - Three-way cock
- 5 - 28-20-00 - Electric pump
- 6 - 73-30-00 - Fuel pressure transmitter
- 7 - 73-20-00 - Carburetor
- 8 - 73-10-00 - Engine pump
- 9 - 28-40-00 - Fuel pressure indication switch
- 10 - 28-40-00 & 31-10-00 - R.H. fuel quantity indicator
- 11 - 28-40-00 & 31-10-00 - L.H. fuel quantity indicator
- 12 - 28-10-00 - Tank cap
- 13 - 28-10-00 - Fuel tank air vent
- 14 - / - Filler neck drain
- 15 - 28-40-00 - Fuel gage
- 16 - 28-10-00 - Tank bleed
- 17 - 28-20-00 - Tank filter
- 18 - 28-10-00 - Built-in tank
- 19 - / - Floor feedthrough
- 20 - / - Firewall
- 21 - / - Instrument panel

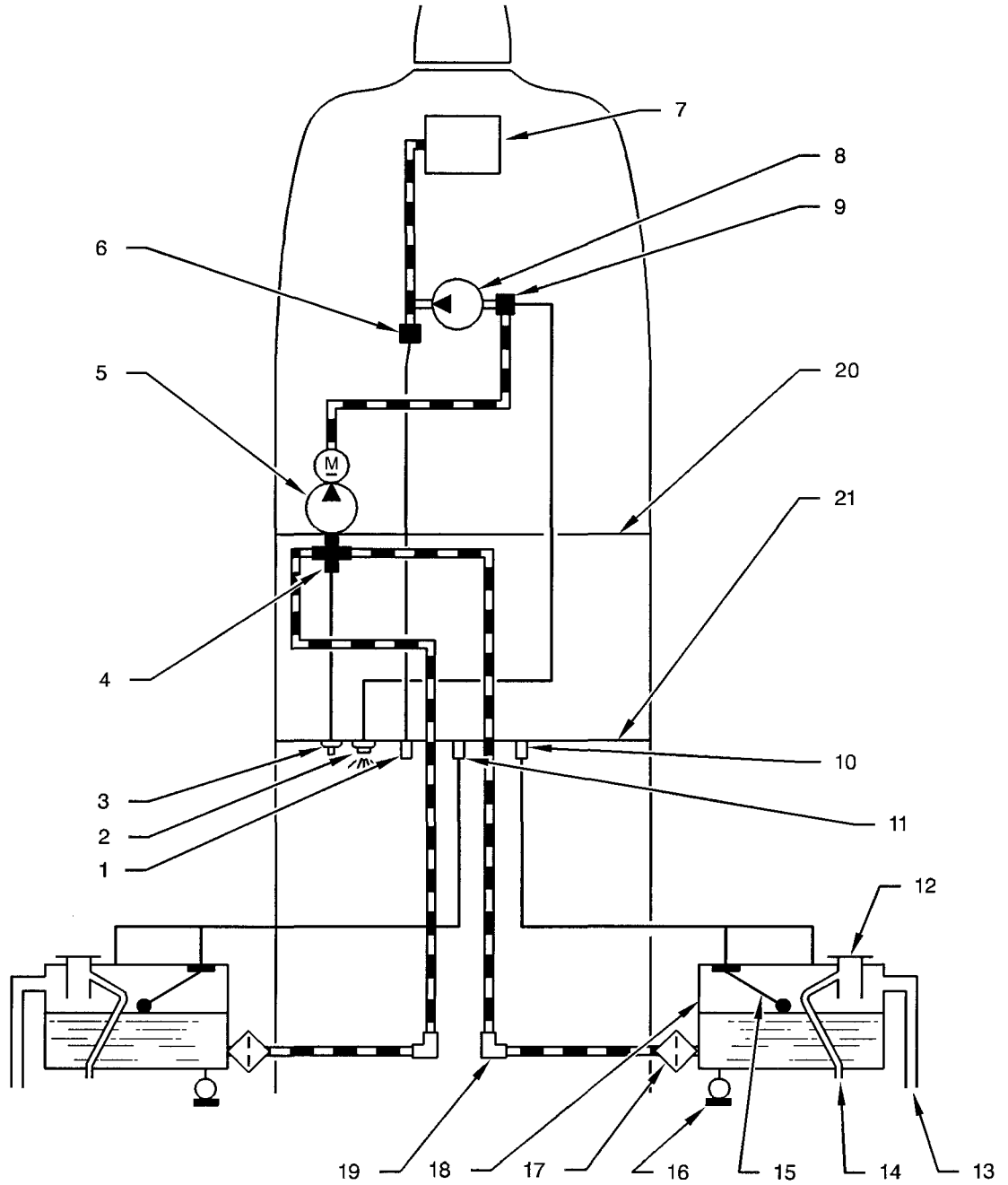
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Fuel system - Schematic
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28-00-00 (BA)

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FUEL

DESCRIPTION AND OPERATION

1. GENERAL (Figure 1)

The function of the fuel system is to store the fuel, to supply the engine with a regular fuel flow and to constantly monitor and indicate the fuel quantities remaining in the tanks.

The fuel system includes :

- storage,
- fuel supply,
- indication system.

2. DESCRIPTION

A. Storage - refer to 28-10-00

Storage takes place in two built-in tanks, one in each wing.

B. Fuel supply - refer to 28-20-00

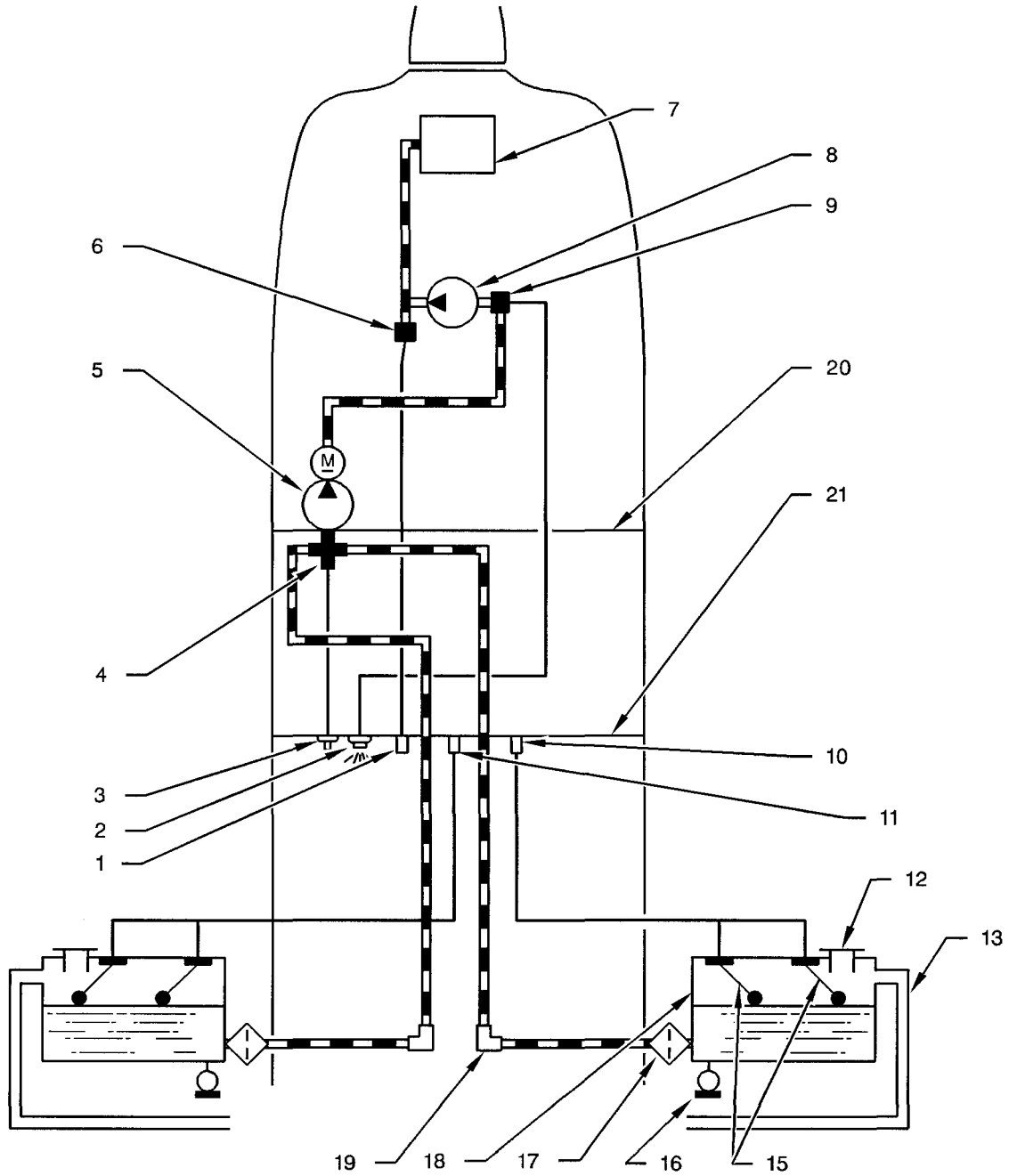
The fuel supply system supplies the fuel required by the engine for its operation.

C. Indication system - refer to 28-40-00

The indication system gives the quantity of fuel in the tanks and the pressure at the electric pump outlet.

- 1 - 31-10-00 - Fuel pressure indicator
- 2 - 28-40-00 & - Electric pump indicator light
31-50-00
- 3 - 28-20-00 - Cock control knob
- 4 - 28-20-00 - Three-way cock
- 5 - 28-20-00 - Electric pump
- 6 - 73-30-00 - Fuel pressure transmitter
- 7 - 73-20-00 - Carburetor
- 8 - 73-10-00 - Engine pump
- 9 - 28-40-00 - Fuel pressure indication
switch
- 10 - 28-40-00 & - R.H. fuel quantity indicator
31-10-00
- 11 - 28-40-00 & - L.H. fuel quantity indicator
31-10-00
- 12 - 28-10-00 - Tank cap
- 13 - 28-10-00 - Fuel tank air vent
- 15 - 28-40-00 - Fuel gage
- 16 - 28-10-00 - Tank bleed
- 17 - 28-20-00 - Tank filter
- 18 - 28-10-00 - Built-in tank
- 19 / - Floor feedthrough
- 20 - / - Firewall
- 21 - / - Instrument panel

Fuel system - Schematic
Key to Figure 1



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Fuel system - Schematic
Figure 1

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28-00-00 (BG)

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FUEL

DESCRIPTION AND OPERATION

1. GENERAL (Figure 1)

The function of the fuel system is to store the fuel, to supply the engine with a regular fuel flow and to constantly monitor and indicate the fuel quantities remaining in the tanks.

The fuel system includes :

- storage,
- fuel supply,
- indication system.

2. DESCRIPTION

A. Storage - refer to 28-10-00

Storage takes place in two built-in tanks, one in each wing.

B. Fuel supply - refer to 28-20-00

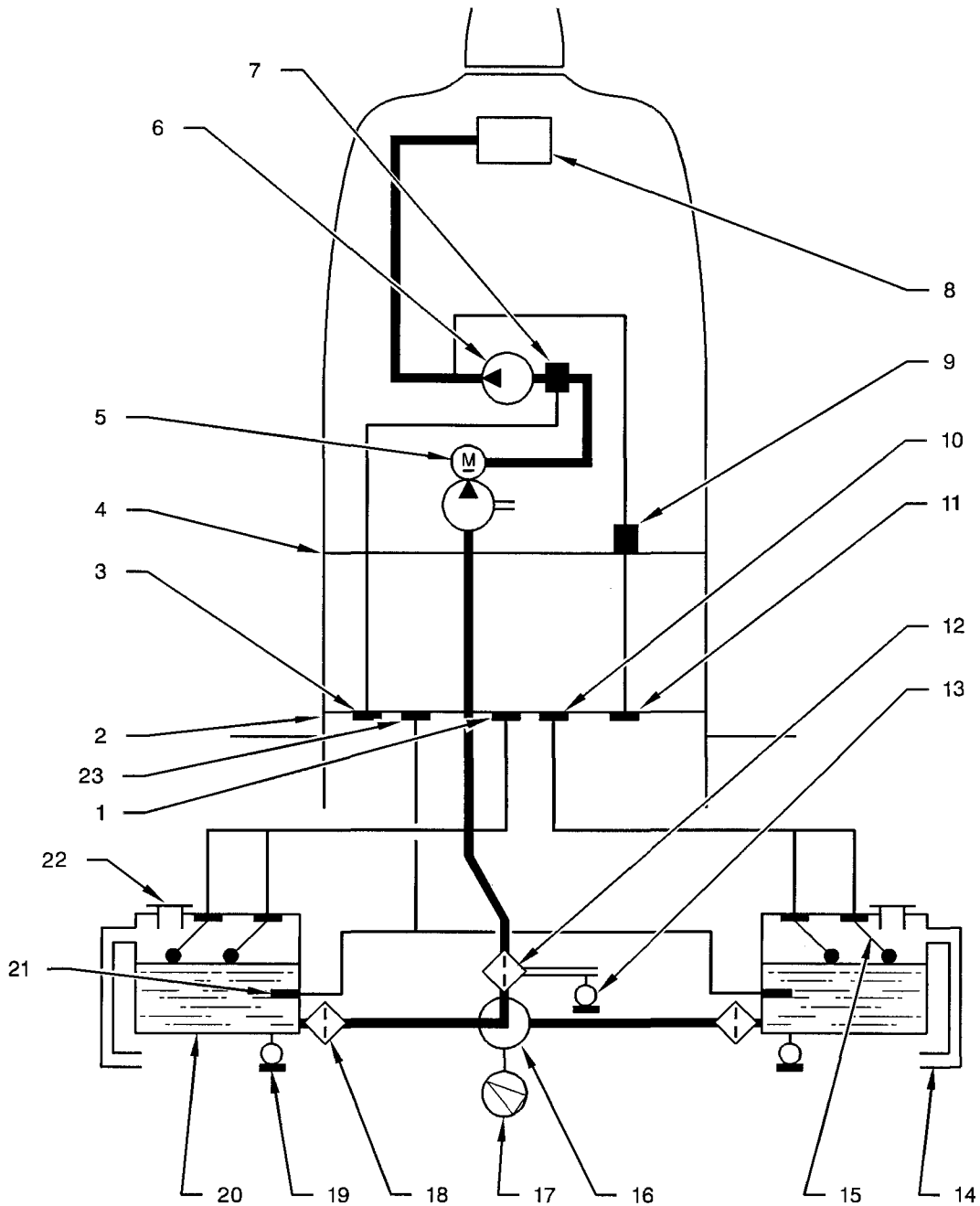
The fuel supply system supplies the fuel required by the engine for its operation.

C. Indication system - refer to 28-40-00

The indication system gives the quantity of fuel in the tanks and the pressure at the electric pump outlet.

- 1 - 28-40-00 & - L.H. fuel quantity indicator
31-10-00
- 2 - / - Instrument panel
- 3 - 28-40-00 & - Electric pump indicator light
31-50-00
- 4 - / - Firewall
- 5 - 28-20-00 - Electric pump
- 6 - 73-10-00 - Engine pump
- 7 - 28-40-00 - Fuel pressure indication
switch
- 8 - 73-20-00 - Carburetor
- 9 - 73-30-00 - Fuel pressure transmitter
- 10 - 28-40-00 & - R.H. fuel quantity indicator
31-10-00
- 11 - 31-10-00 - Fuel pressure indicator
- 12 - 28-20-00 - Filter / Selector
- 13 - 28-10-00 - Bleed
- 14 - 28-10-00 - Fuel tank air vent
- 15 - 28-40-00 - Fuel gage
- 16 - 28-20-00 - Selector (three-way cock)
- 17 - 28-20-00 - Fuel selector control
- 18 - 28-20-00 - Tank filter
- 19 - 28-10-00 - Tank bleed
- 20 - 28-10-00 - Built-in tank
- 21 - 28-40-00 - Fuel low level sensor (Option Pre-MOD. 151,
Standard Post-MOD. 151)
- 22 - 28-10-00 - Tank cap
- 23 - 28-40-00 & - Fuel low level indicator light (Option Pre-MOD. 151,
31-50-00 Standard Post-MOD. 151)

Fuel system - Schematic
Key to Figure 1



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Fuel system - Schematic
Figure 1

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FUEL
SERVICING

1. SAFETY PRECAUTIONS

A. Safety precautions to be taken before a maintenance procedure on fuel system

WARNING : COMPLY WITH ALL LOCAL AND FACILITY SAFETY REGULATIONS WHEN PERFORMING FUEL SYSTEM MAINTENANCE.

WARNING : ONLY PERFORM FUEL SYSTEM MAINTENANCE IN AREAS ALLOWING FIRE-FIGHTING AND OTHER EMERGENCY EQUIPMENT FREE MOVEMENT.

WARNING : REMOVE ALL SPARK-PRODUCING ITEMS SUCH AS ELECTRICALLY-POWERED TOOLS AND ELECTRONIC TEST EQUIPMENT FROM THE AIRCRAFT AND FUMES HAZARD AREA.

WARNING : WHEN PERFORMING FUEL SYSTEM MAINTENANCE, MAKE SURE H.F. RADIO TRANSMITTER OR RADAR ARE NOT OPERATING CLOSE TO THE AIRCRAFT.

WARNING : DO NOT WEAR NYLON OR OTHER SYNTHETIC CLOTHES ; THEY GENERATE STATIC ELECTRICITY.

WARNING : DO NOT CONNECT THE ELECTRIC CIRCUIT WHEN THE FUEL TANKS ARE OPEN.

WARNING : PRIOR TO ANY OPERATION, ENSURE THAT THE KEY IS REMOVED FROM MAGNETO SELECTOR AND THAT "MAIN SWITCH" IS OFF.
IF AIRCRAFT IS EQUIPPED WITH DISCONNECT PLUG ON FIREWALL, DISCONNECT "MAGNETO DISCONNECT" PLUG AND CONNECT IT TO "GROUND MAGNETO FOR SERVICING" PLUG.

B. Safety precautions to be taken before a maintenance procedure on fuel tanks

WARNING : COMPLY WITH ALL LOCAL AND FACILITY SAFETY REGULATIONS WHEN PERFORMING FUEL SYSTEM MAINTENANCE.

WARNING : ONLY PERFORM FUEL SYSTEM MAINTENANCE IN AREAS ALLOWING FIRE-FIGHTING AND OTHER EMERGENCY EQUIPMENT FREE MOVEMENT.

WARNING : REMOVE ALL SPARK-PRODUCING ITEMS SUCH AS ELECTRICALLY-POWERED TOOLS AND ELECTRONIC TEST EQUIPMENT FROM THE AIRCRAFT AND FUMES HAZARD AREA.

WARNING : WHEN PERFORMING FUEL SYSTEM MAINTENANCE, MAKE SURE H.F. RADIO TRANSMITTER OR RADAR ARE NOT OPERATING CLOSE TO THE AIRCRAFT.

WARNING : DO NOT WEAR NYLON OR OTHER SYNTHETIC CLOTHES ; THEY GENERATE STATIC ELECTRICITY.

WARNING : DO NOT CONNECT THE ELECTRIC CIRCUIT WHEN THE FUEL TANKS ARE OPEN.

WARNING : IN FUEL TANKS, USE EXPLOSION-PROOF LAMPS AND PNEUMATIC TOOLS.

WARNING : WHEN WORKING IN FUEL TANKS, USE CLEAN LINT-FREE COTTON CLOTHING WITH NON-SPARK PRODUCING ZIPPERS OR BUTTONS.

WARNING : ALL EQUIPMENT BROUGHT INTO FUEL TANKS SHALL BE FREE FROM DIRT AND DUST.

WARNING : WHEN WORK IS NOT IN PROGRESS, CLOSE TANKS IN ORDER TO PREVENT THE ENTRY OF DIRT, DUST OR ANY OTHER FOREIGN MATERIALS.

WARNING : VACUUM CLEAN ANY FUEL TANK IN WHICH WORK HAS BEEN PERFORMED.

2. MAINTENANCE PROCEDURE ON FUEL SYSTEM

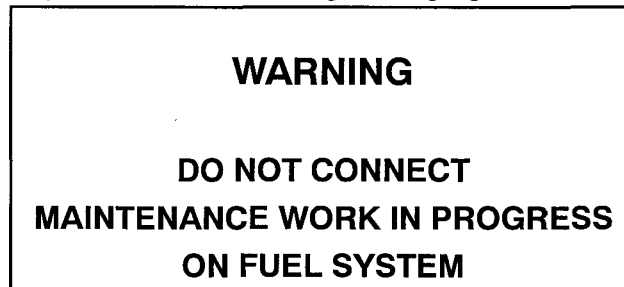
Apply the safety precautions - refer to Paragraph 1.A.

A. Tools and consumable materials

- Explosion-proof lamps
- Drain pan
- Blanking caps and plugs

B. Procedure

- 1) Connect a grounding cable to the aircraft, then to an approved ground rod.
- 2) Disconnect the battery and install the following warning sign :



- 3) Remove the powerplant cowlings and all the access doors to the unions to be checked.
- 4) Put the drain pan beneath the tank.
- 5) Bleed the fuel system and tanks - refer to 12-11-02.
- 6) Perform the maintenance operation.

NOTE : Install blanking caps and plugs on the mechanical and electrical interfaces of disconnected and / or removed components.

- 7) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 8) Install the powerplant cowlings and all the access doors that have been removed.
- 9) Disconnect the grounding cable.
- 10) Remove the drain pan and tools from the work area.
- 11) Connect the battery.
- 12) Remove the warning sign prohibiting main switch-breaker operation.

3. MAINTENANCE PROCEDURE IN TANKS

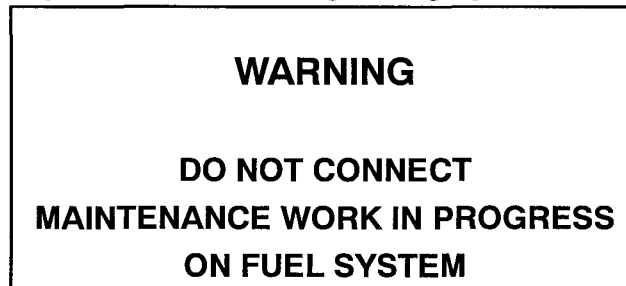
Apply the safety precautions – refer to Paragraph 1.B.

A. Tools and consumable materials

- Explosion-proof lamps
- Pneumatic vacuum cleaner

B. Procedure

- 1) Connect a grounding cable to the aircraft, then to an approved ground rod.
- 2) Disconnect the battery and install the following warning sign :



- 3) Ventilate the tanks – refer to 12-11-03.
- 4) Perform the maintenance operation.
- 5) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 6) Recondition the tanks – refer to 12-11-03.
- 7) Refuel the tank – refer to 12-11-01 and make sure there are no leaks.
- 8) Connect the battery.
- 9) Remove the warning sign prohibiting main switch-breaker operation.

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FUEL

INSPECTION / CHECK

1. SEALING CHECK OF THE FUEL SYSTEM UNDER PRESSURE

A. Tools and consumable materials

None

B. Procedure

WARNING : APPLY ALL THE SAFETY PRECAUTIONS - REFER TO PAGE 301.

WARNING : SEALING CHECK OF THE FUEL SYSTEM MUST BE PERFORMED WHEN THE ENGINE IS SHUT DOWN AND COLD.

NOTE : This procedure only allows sealing check on the system under pressure located downstream of fuel electric pump.

- 1) Remove the engine cowlings - refer to 71-10-01.
- 2) Remove all the access doors to the unions to be checked.
- 3) Close main switch-breaker.
- 4) Close fuel pump switch-breaker.
- 5) Set throttle and mixture controls to forward stop.
- 6) Wait for approx. 30 seconds to allow pressure to stabilize in the system.
- 7) Check for leaks.
- 8) Set throttle and mixture controls to rearward stop.
- 9) Open fuel pump and main switch-breakers.
- 10) If a leak is found, make sure the suspect union or pipe is correctly tightened or replace the defective part.
- 11) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 12) Install all the removed access doors.
- 13) Install the engine cowlings - refer to 71-10-01.
- 14) If the engine must be started immediately after the sealing check, refer to Flight Manual, Section 4 "ABORTED START".

2. SEALING CHECK OF THE FUEL SYSTEM WITHOUT PRESSURE

A. Tools and consumable materials

None

B. Procedure

WARNING : APPLY ALL THE SAFETY PRECAUTIONS - REFER TO PAGE 301.

- 1) Remove the engine cowlings - refer to 71-10-01.
- 2) Remove all the access doors to the unions to be checked.
- 3) Check for leaks or seepage.

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- 4) If a leak is found, make sure the suspect union or pipe is correctly tightened or replace the defective part.
- 5) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 6) Install all the removed access doors.
- 7) Install the engine cowlings - refer to 71-10-01.
- 8) If the engine must be started immediately after the sealing check, refer to Flight Manual, Section 4 "ABORTED START".

STORAGE

DESCRIPTION AND OPERATION

1. GENERAL

The fuel is stored in 2 built-in tanks located in the wings.

The total capacity is :

- 41.7 US Gal (158 liters), 40.2 US Gal (152 liters) of which are usable in the standard version,
- 55.5 US Gal (210 liters), 53.9 US Gal (204 liters) of which are usable in aircraft equipped with 26.9 US Gal (102 liters) fuel tanks.

Each tank contains :

- a tank cap,
- a gage,
- a fuel tank filter,
- a bleed valve,
- an air vent.

2. LOCATION

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Tank cap	2	520 / 620	521 / 621	28-10-00
Gage	2	510 / 610	512 / 612	28-40-01
Fuel tank filter	2	510 / 610	511 / 611	28-20-03
Bleed valve	2	510 / 610	/	12-11-02

3. DESCRIPTION

A. Fuel tank (Figures 1, 1A and 3)

Each fuel tank is equipped with its own air vent system, an essential element in the operation of the fuel system. Should a vent become blocked, the fuel flow from the related tank is reduced and the engine may cut out. The air vent is ensured by ducts which run to the lower surface of each wing.

The air vent system allows tank ventilation to avoid tank distortion due to pump suction.

NOTE : Fuel could flow out of the vent system when the aircraft is parked on an uneven surface with full tanks. This disadvantage is increased when parked by hot weather.

S / N 1 - 174 - refer to Figure 3, Detail A

The air vent hose is secured to a three-way union which connects the tube secured to the inside of the tank to the filling adapter hose.

S / N 175 - 274 - refer to Figure 3, Detail B

The air vent hose is directly secured to the filling adapter.

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S / N 1 - 274

This type of fuel tank is built in as part of the wing structure. Tank is sealed during construction by applying sealant between skins and ribs or spars. This sealant is also applied to the rivets when they are installed in the wing. Access to the inside of the tank can be gained through two inspection panels (tight doors) located on the bottom side of each fuel tank.

The tanks are considered full (since this is not marked on the gage) when the fuel level rises to the edge of the filler port.

The filling point of each tank has a cap which may be locked and which is attached to the airframe by a chain.

The quantity of fuel is measured by two electric gage transmitters (one in each wing tank) and is displayed by two tank indicators integral with the engine monitoring cluster.

The indicators are graduated in 1/4, 1/2, 1/1, with the zero indicating an empty tank. When the pointer of the indicator is at zero, approximately 0.8 US Gal (3 liters) of unusable fuel remains in the tank.

B. Tank cap (Figure 2)

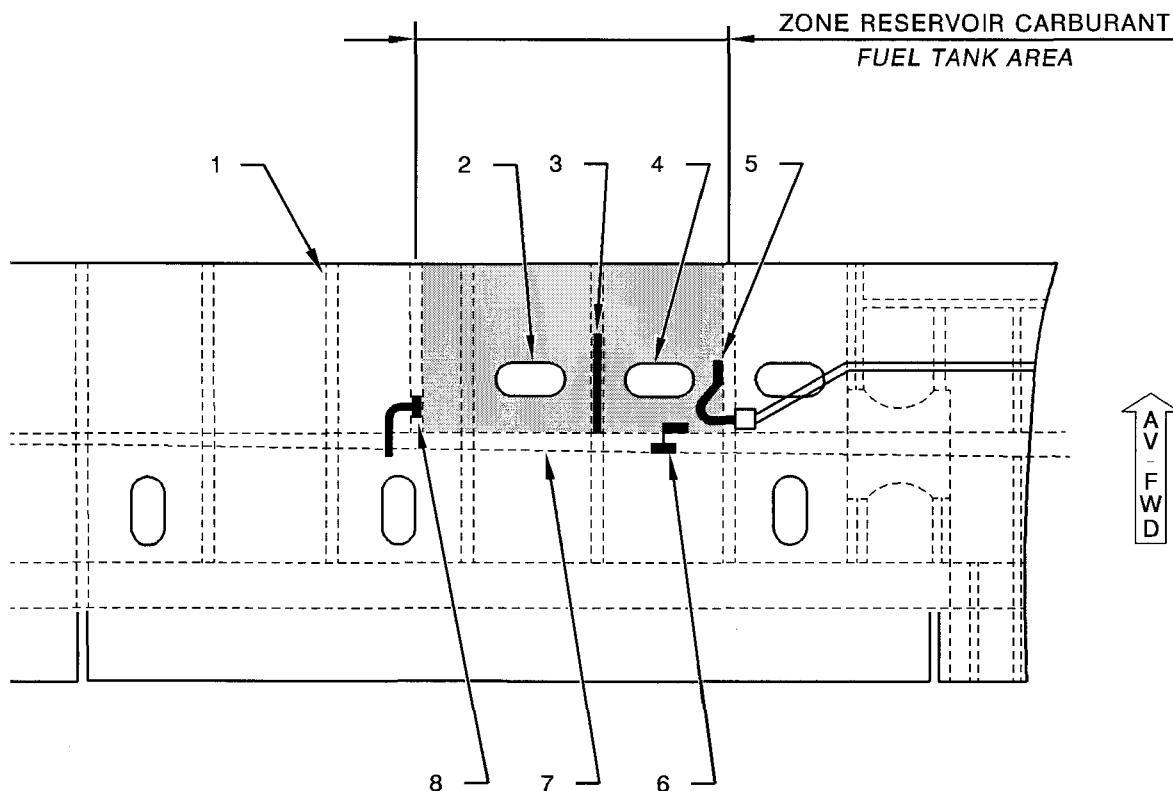
Each tank cap is located on the upper wing surface. It blanks off an opening in the tank by which fuelling is carried out. When this cap is installed, the tank has to be sealed to prevent fuel leakage and the introduction of any foreign substance (such as water).

Located near the filler cap, a placard will be installed listing tank capacity and specifications of fuel to use.

C. Fuel tank bleed and drain (Figure 2)

The fuel tanks are equipped with a drain valve on the lower surface of each wing. The drain valve is located at the lowest point of the fuel tank to provide a collection point for contamination. The tank drains are located near the sealed inspection door 513 / 613 close to the main landing gear. Use a sample cup when removing fuel from the fuel tank drains to check for contamination.

- 1 - Rib
- 2 - Sealed inspection door
- 3 - Interior door on rib
- 4 - Sealed inspection door
- 5 - Filter
- 6 - Gage
- 7 - Spar
- 8 - Air vent

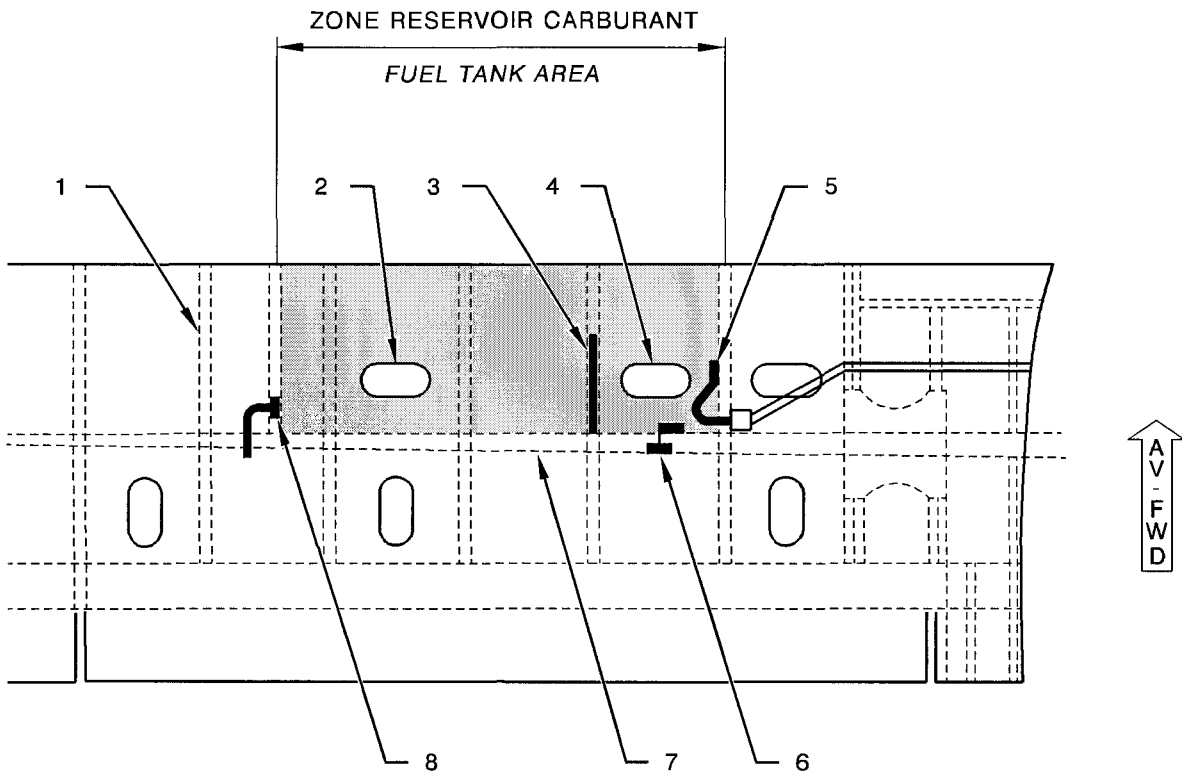


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Fuel tanks - Description and operation
Figure 1

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Validity : S / N 1 - 274

- 1 - Rib
- 2 - Sealed inspection door
- 3 - Interior door on rib
- 4 - Sealed inspection door
- 5 - Filter
- 6 - Gage
- 7 - Spar
- 8 - Air vent



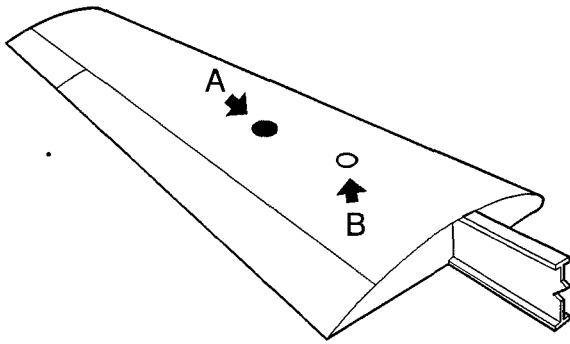
Fuel tanks - Description and operation
Figure 1A - With fuel tanks - 26.9 US Gal (102 liters)

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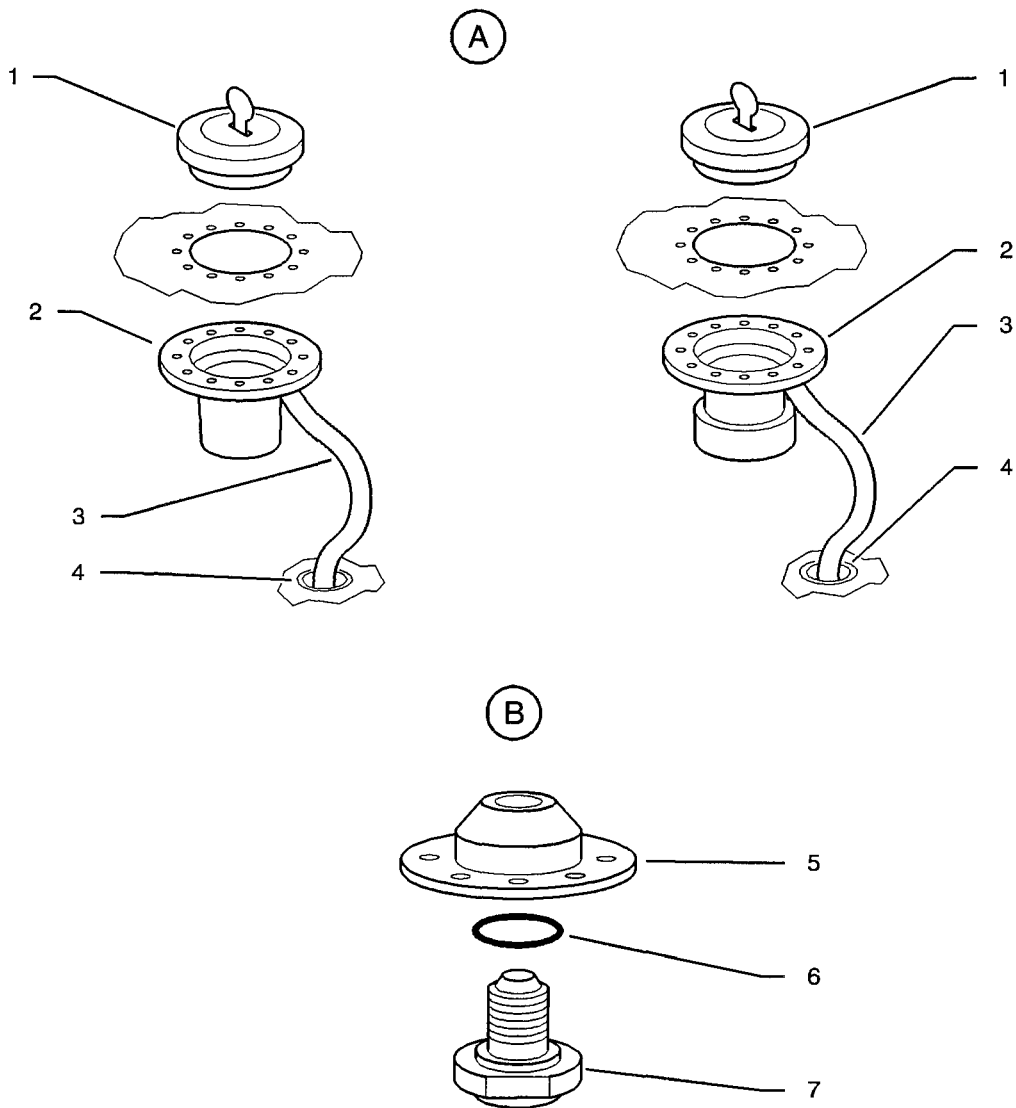
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- 1 - Tank cap
- 2 - Riveted base
- 3 - Draining tube
- 4 - Grommet
- 5 - Riveted base
- 6 - Seal
- 7 - Bleeding body



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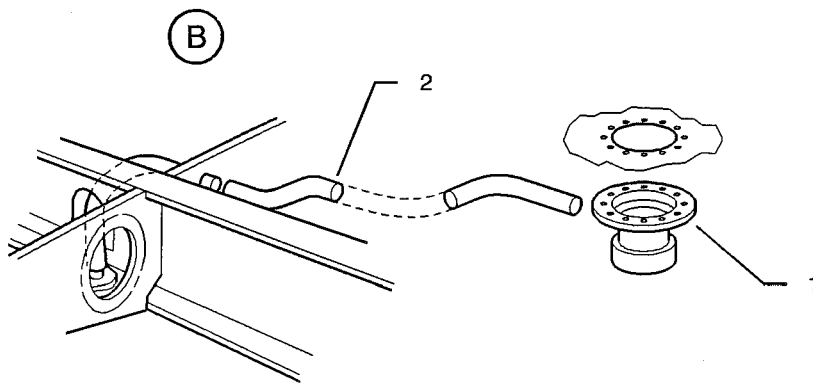
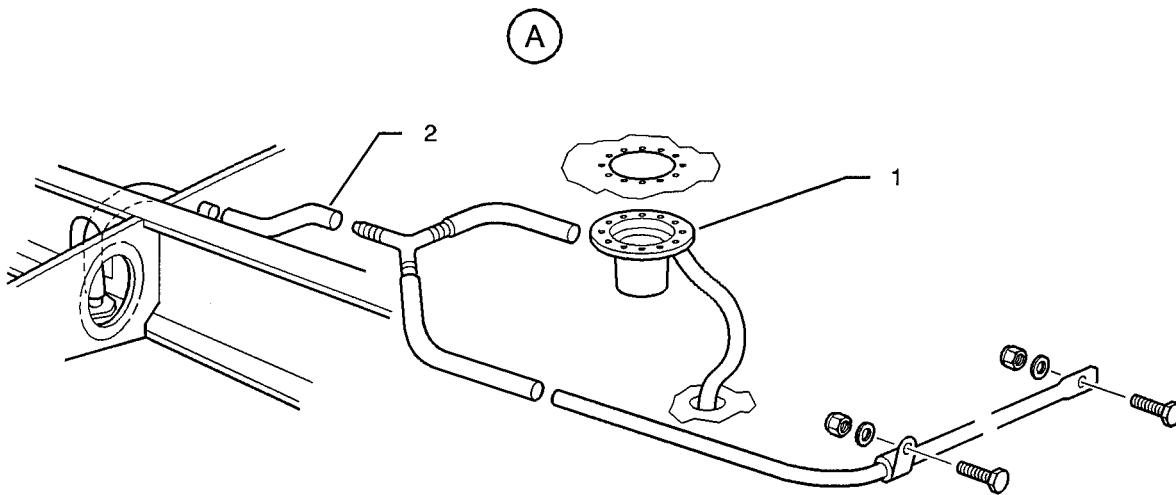
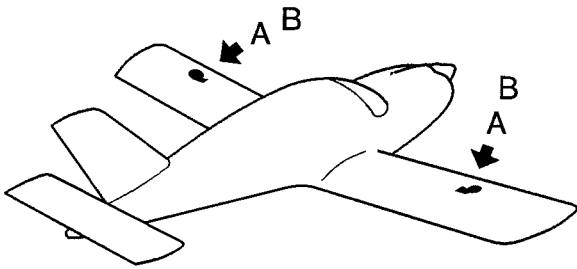
Cap and bleed - Description and operation
Figure 2

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- 1 - Filling adapter
- 2 - Air vent hose



Tank air vent - Description and operation
Figure 3

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STORAGE

DESCRIPTION AND OPERATION

1. GENERAL

The fuel is stored in 2 built-in tanks located in the wings.

The total capacity is :

- 41.7 US Gal (158 liters), 40.2 US Gal (152 liters) of which are usable in the standard version,
- 55.5 US Gal (210 liters), 53.9 US Gal (204 liters) of which are usable in aircraft equipped with 26.9 US Gal (102 liters) fuel tanks.

Each tank contains :

- a tank cap,
- two gages,
- a fuel tank filter,
- a bleed,
- an air vent,

Option Pre-MOD. 151. Standard Post-MOD. 151

- a fuel low level detector.

2. LOCATION

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Tank cap	2	520 / 620	521 / 621	28-10-00
Gages (float type)	4	510 / 610	512, 515 / 612, 615	28-40-01
Gages (capacity type)	4	510 / 610	512, 513, 514, 515/ 612, 613, 614, 615	28-40-01
Fuel tank filter	2	510 / 610	511 / 611	28-20-03
Bleed	2	510 / 610	/	12-11-02
Fuel low level detector	2	510 / 610	513 / 613	28-40-04

3. DESCRIPTION

A. Fuel tank (Figures 1, 1A and 1B)

Each fuel tank is equipped with its own air vent system, an essential element in the operation of the fuel system. Should a vent become blocked, the fuel flow from the related tank is reduced and the engine may cut out. The air vent is ensured by ducts which run to the lower surface of each wing.

The air vent system enables tank ventilation to avoid tank distortion due to pump suction. The vent hose has no check valve, because of the respective position of the tapping (high point in the fuel tank, except fuel in horizontal flight) and of the discharge at wing lower surface, on wing root side (higher than fuel level in the fuel tank when the aircraft is turning).

NOTE : Fuel could flow out of the vent system when the aircraft is parked on an uneven surface with full tanks. This disadvantage is increased when parked by hot weather.

This type of fuel tank is built in as part of the wing structure. Tank is sealed during construction by applying sealant between skins and ribs or spars. This sealant is also applied to the rivets when they are installed in the wing. Access to the inside of the tank can be gained through two inspection panels (tight doors) located on the bottom side of each fuel tank.

The tanks are equipped with a gage which is visible from the filler port.

The tanks are considered full (since this is not marked on the gage) when the fuel level rises to the edge of the filler port.

The filling point of each tank has a cap which may be locked and which is attached to the airframe by a chain.

The quantity of fuel is measured by four electric gage transmitters (two in each wing tank) and is displayed by two tank indicators integral with the engine monitoring cluster.

The indicators are graduated, with the zero indicating an empty tank. When the pointer of the indicator is at zero, approximately 0.8 US Gal (3 liters) of unusable fuel remains in the tank.

B. Tank cap (Figure 2)

Each tank cap is located on the upper wing surface. It blanks off an opening in the tank by which fuelling is carried out. When this cap is installed, the tank has to be sealed to prevent fuel leakage and the introduction of any foreign substance (such as water).

A safety chain is linked to the cap to prevent loss of the latter when removed.

Located near the tank cap, a placard will be installed listing tank capacity and specifications of fuel to be used.

C. Fuel tank bleed and drain (Figure 2)

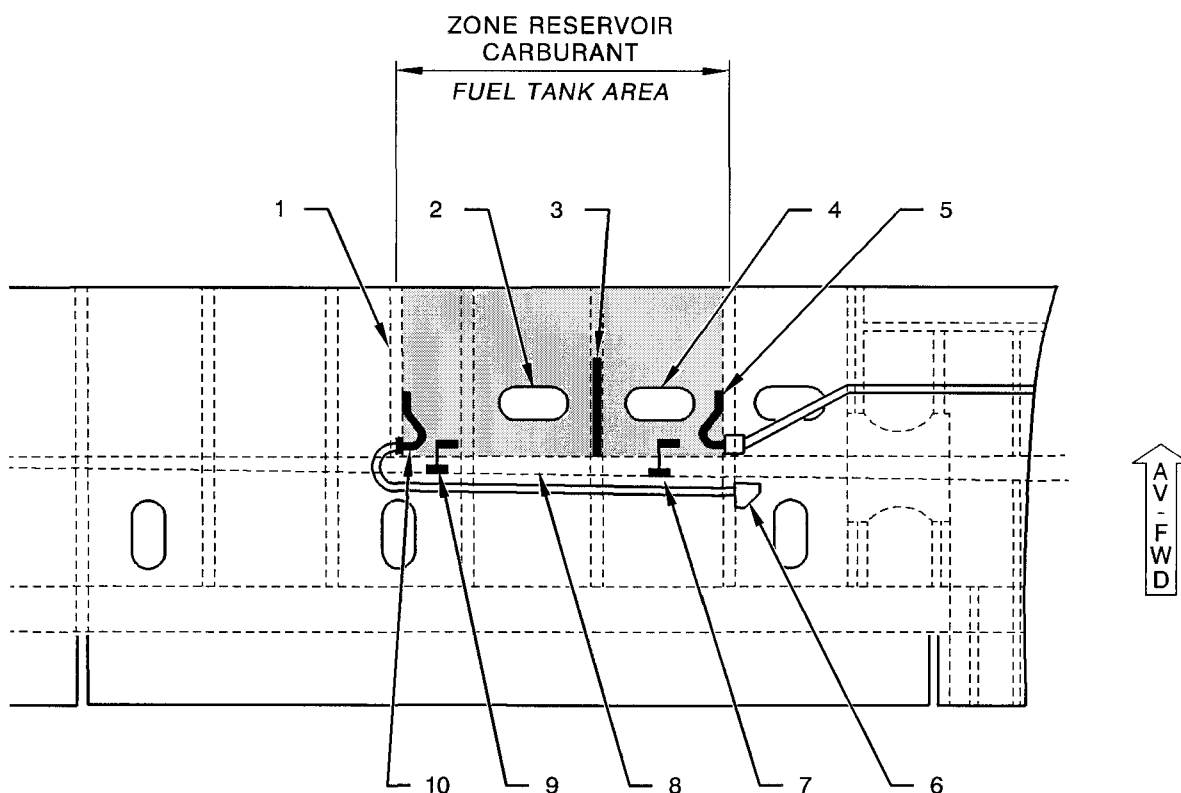
The fuel tanks are equipped with a drain valve on the lower surface of each wing. The drain valve is located at the lowest point of the fuel tank to provide a collection point for contamination. The tank drains are located near the sealed inspection door 513 / 613 close to the main landing gear. Use a sample cup when removing fuel from the fuel tank drains to check for contamination.

D. Fuel system bleed

S / N 731 - 9999

In addition to fuel tanks bleeding and draining points, as the system is lower than the tanks, an additional bleeding and draining point is installed under R.H. front fuselage near its intersection with wing.

- 1 - Rib
- 2 - Sealed inspection door
- 3 - Internal door on rib
- 4 - Sealed inspection door
- 5 - Filter
- 6 - Air inlet
- 7 - Gage
- 8 - Spar
- 9 - Gage
- 10 - Air vent



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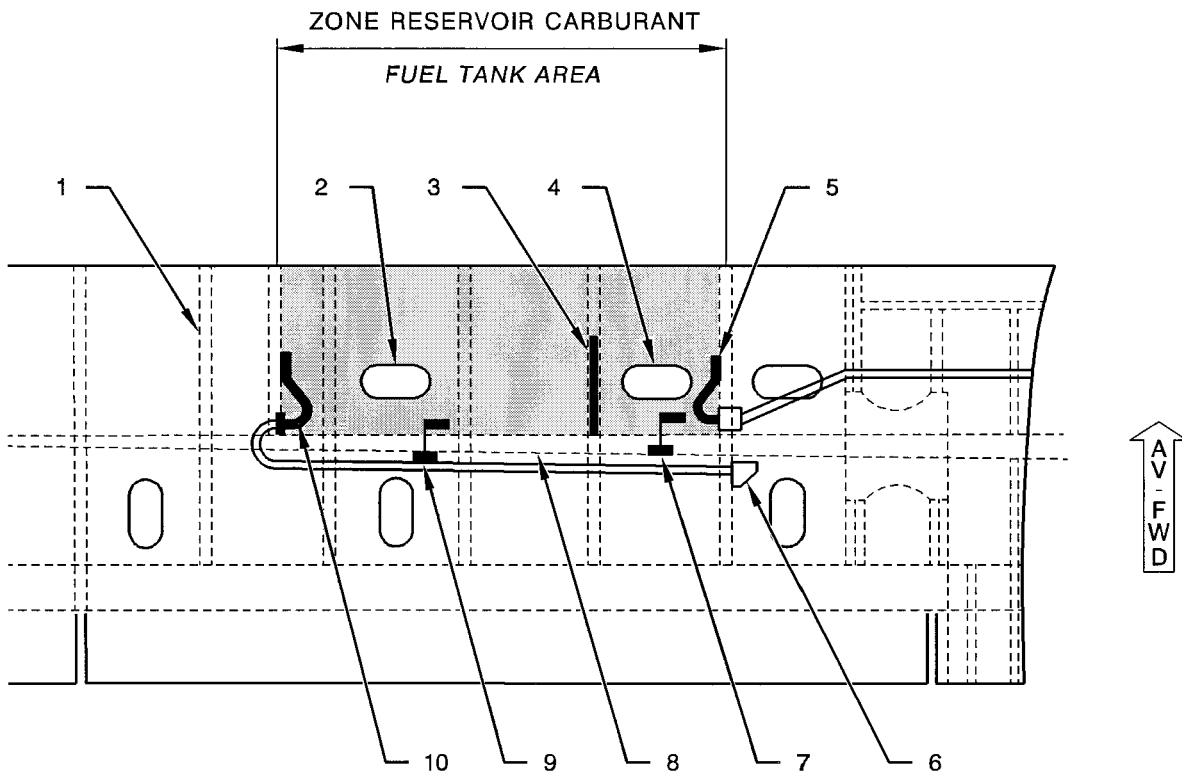
Fuel tanks - Description and operation
Figure 1 - S / N 275 - 1037

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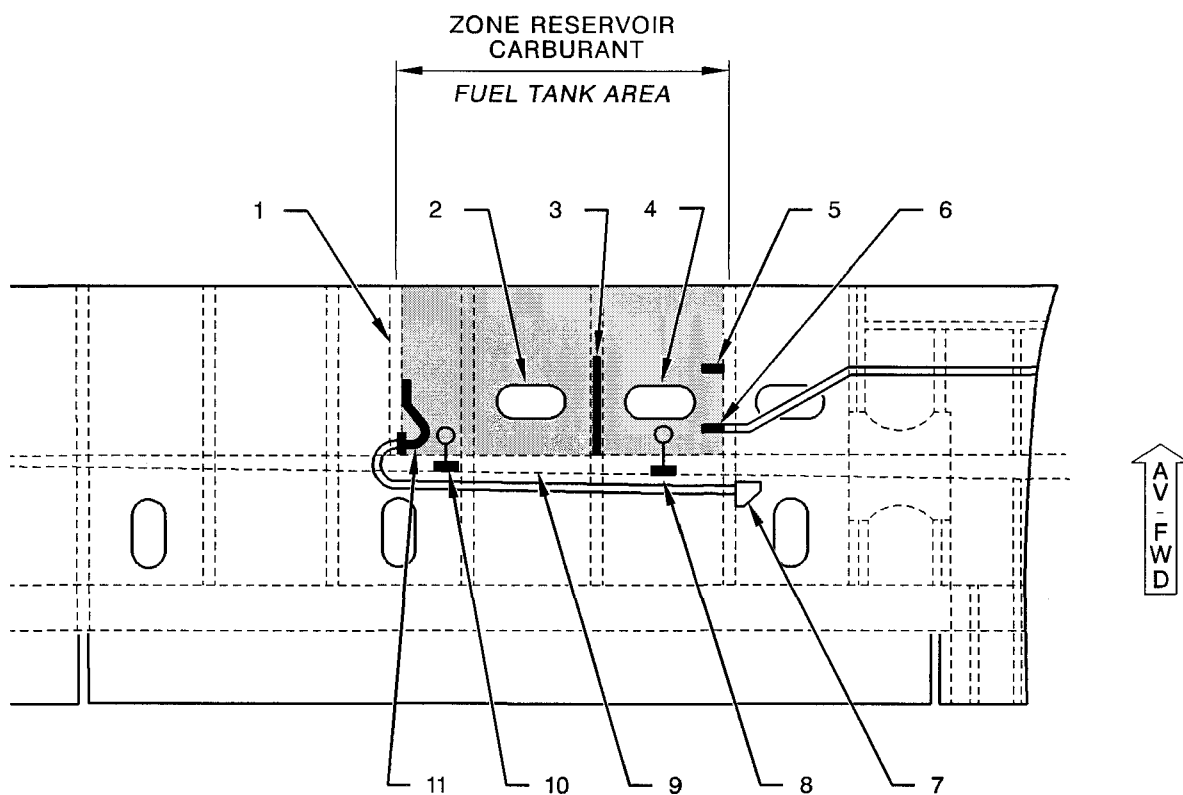
- 1 - Rib
- 2 - Sealed inspection door
- 3 - Internal door on rib
- 4 - Sealed inspection door
- 5 - Filter
- 6 - Air inlet
- 7 - Gage
- 8 - Spar
- 9 - Gage
- 10 - Air vent



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Fuel tanks - Description and operation
Figure 1A - S / N 275 - 764, 766 - 878 With fuel tanks - 26.9 US Gal (102 liters)

- 1 - Rib
- 2 - Sealed inspection door
- 3 - Internal door on rib
- 4 - Sealed inspection door
- 5 - Fuel low level detector
(Option Pre-MOD. 151,
Standard Post-MOD. 151)
- 6 - Filter
- 7 - Air inlet
- 8 - Gage
- 9 - Spar
- 10 - Gage
- 11 - Air vent



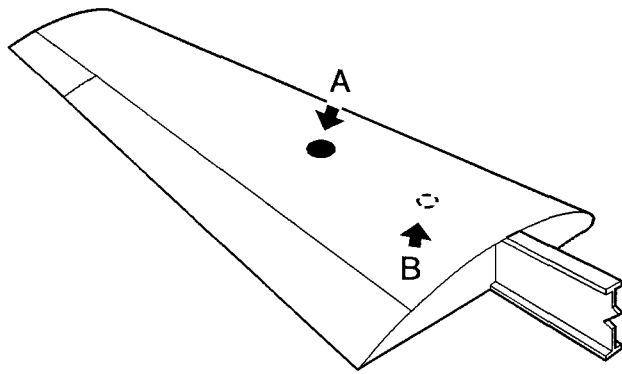
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Fuel tanks - Description and operation
Figure 1B - S/N 1038 - 9999

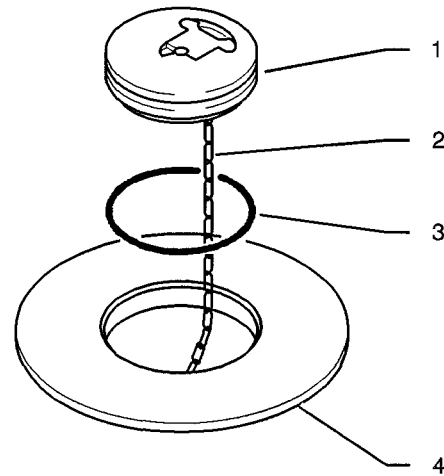
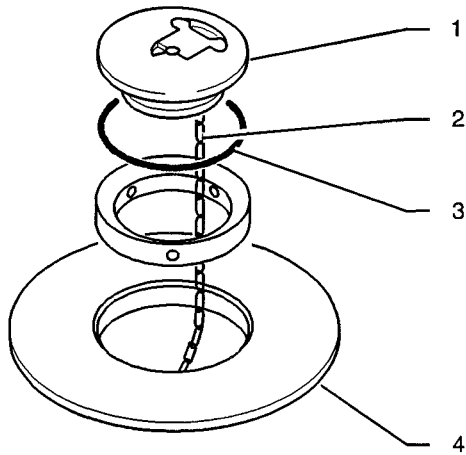
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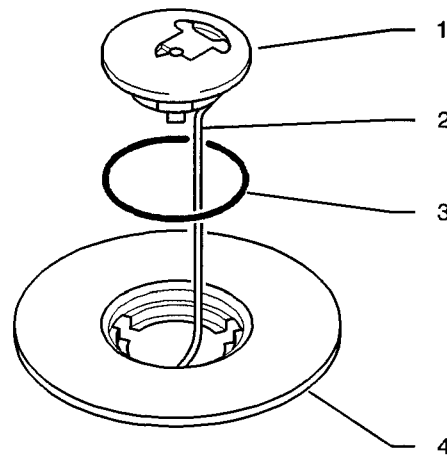
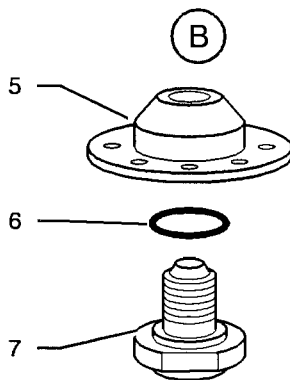
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- 1 - Tank cap
- 2 - Chain
- 3 - Seal
- 4 - Riveted base
- 5 - Riveted base
- 6 - Seal
- 7 - Bleeding body



(A)



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Cap and bleed - Description and operation
Figure 2

STORAGE

SERVICING

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. ADJUSTMENT OF TANK CAP LOCKING FORCE (Figure 301)

A. Tools and consumable materials

- Tool for tank cap, P/N TB30 91002
- Spring scale 0 - 89 lbf.in (0 - 200 N.m), Ref. ESO 563 or equivalent
- Oil (TB 03-900A)

B. Procedure

- 1) Unlock and remove tank cap (5).
- 2) Check O-ring (2) for condition, replace it if necessary.
- 3) Remove and discard cotter pin (4).
- 4) Move nut (3) 1/6 of a turn to increase or decrease the force.
- 5) Position tank cap (5) into its housing without locking it.
- 6) Lubricate hinge pin of handle assembly (1) with oil (TB 03-900A).
- 7) Screw tool (7) on spring scale (6) and position the assembly on handle assembly (1).
- 8) Lock the cap and record the value which must be 90 N.m (+ 10 ; - 0).
- 9) Repeat steps 4), 5) and 8) until obtaining the correct value.
- 10) Unlock tank cap (5), remove spring scale (6) and tool (7) and put a new cotter pin (4).
- 11) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 12) Install and lock tank cap (5).

2. CHECK OF TANK CAP LOCKING FORCE (Figure 301)

A. Tools and consumable materials

- Tool for tank cap, P/N TB30 91002
- Spring scale 0 - 89 lbf.in (0 - 200 N.m), Ref. ESO 563 or equivalent
- Oil (TB 03-900A)

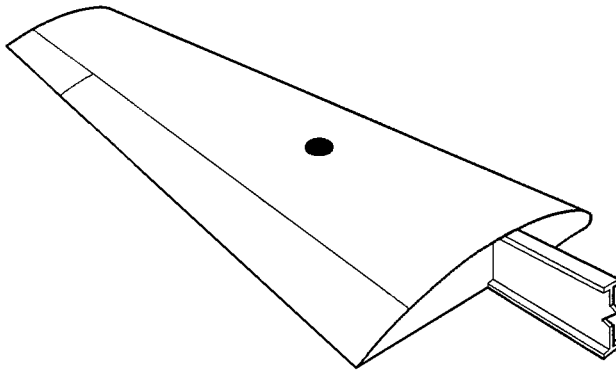
B. Procedure

- 1) Unlock tank cap (5).
- 2) Check O-ring (2) for condition, replace it if necessary.
- 3) Lubricate hinge pin of handle assembly (1) with oil (TB 03-900A).

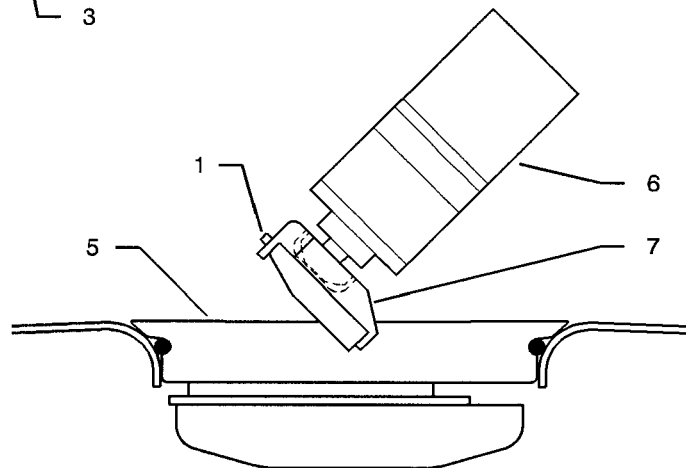
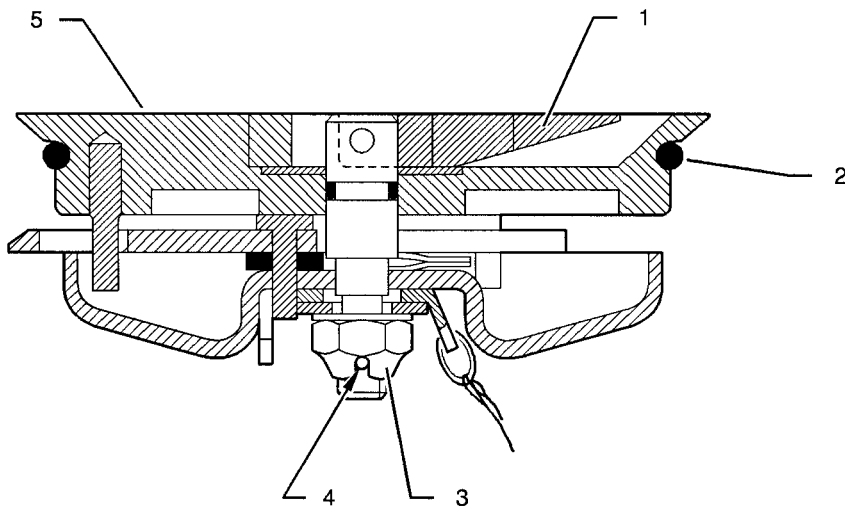
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- 4) Position tank cap (5) into its housing without locking it.
- 5) Screw tool (7) on spring scale (6) and position the assembly on handle assembly (1).
- 6) Lock the cap and record the value which must be 90 N.m (+ 10 ; - 0).
- 7) If necessary, adjust locking force - refer to Paragraph 1.
- 8) Unlock tank cap (5), remove spring scale (6) and tool (7).
- 9) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 10) Install and lock tank cap (5).



- 1 - Handle assembly
- 2 - O-ring
- 3 - Nut
- 4 - Cotter pin
- 5 - Tank cap
- 6 - Spring scale
- 7 - Tool



Storage - Adjustment of tank cap
Figure 301

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STORAGE

SERVICING

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. ADJUSTMENT OF TANK CAP LOCKING FORCE (Figure 301)

A. Tools and consumable materials

- Oil (TB 03-900A)

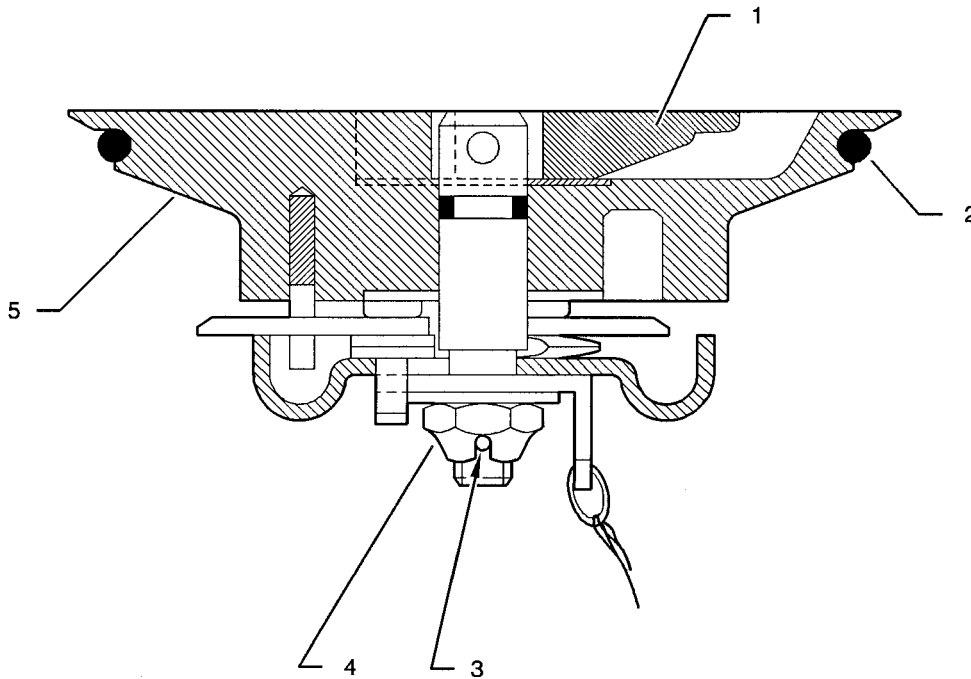
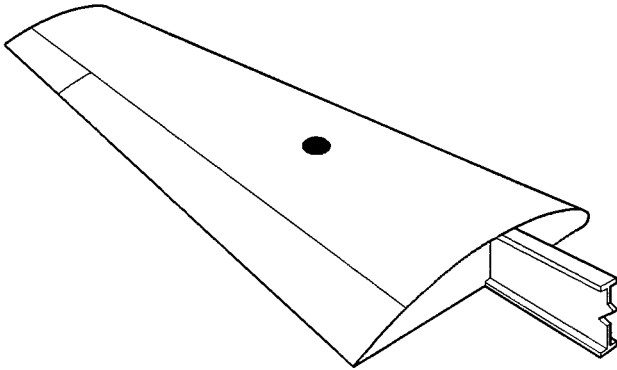
B. Procedure

- 1) Unlock and remove tank cap (5).
- 2) Check O-ring (2) for condition, replace it if necessary.
- 3) Lubricate hinge pin of handle assembly (1) with oil (TB 03-900A).
- 4) Remove and discard cotter pin (3).
- 5) Position tank cap (5) into its housing and check locking force manually. If necessary, move nut (4) 1/6 of a turn to increase or decrease the force.

NOTE : The force applied to handle assembly (1) must be sufficient to impede rain and runoff water infiltration.

- 6) Unlock tank cap (5) and install a new cotter pin (3).
- 7) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 8) Install and lock tank cap (5).

- 1 - Handle assembly
- 2 - O-ring
- 3 - Cotter pin
- 4 - Nut
- 5 - Tank cap



Storage - Adjustment of tank cap
Figure 301

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STORAGE

SERVICING

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. ADJUSTMENT OF TANK CAP LOCKING FORCE (Figure 301)

A. Tools and consumable materials

- Tool for tank cap, P/N TB86100TB10 52000100
- Spring scale 0 - 89 lbf.in (0 - 200 N.m), Ref. ESO 563 or equivalent
- Oil (TB 03-900A)

B. Procedure

- 1) Unlock and remove tank cap (5).
- 2) Check O-ring (2) for condition, replace it if necessary.
- 3) Remove and discard cotter pin (4).
- 4) Move nut (3) 1/6 of a turn to increase or decrease the force.
- 5) Position tank cap (5) into its housing without locking it.
- 6) Lubricate hinge pin of handle assembly (1) with oil (TB 03-900A).
- 7) Screw tool (7) on spring scale (6) and position the assembly on handle assembly (1).
- 8) Lock the cap and record the value which must be 80 N.m (+ 10 ; - 0).
- 9) Repeat steps 4), 5) and 8) until obtaining the correct value.
- 10) Unlock tank cap (5), remove spring scale (6) and tool (7) and put a new cotter pin (4).
- 11) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 12) Install and lock tank cap (5).

2. CHECK OF TANK CAP LOCKING FORCE (Figure 301)

A. Tools and consumable materials

- Tool for tank cap, P/N TB86100TB10 52000100
- Spring scale 0 - 89 lbf.in (0 - 200 N.m), Ref. ESO 563 or equivalent
- Oil (TB 03-900A)

B. Procedure

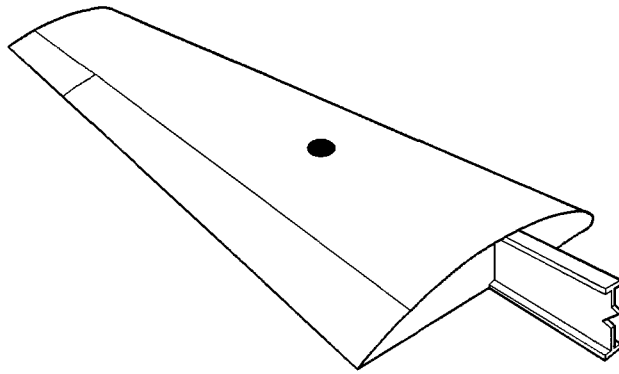
- 1) Unlock tank cap (5).
- 2) Check O-ring (2) for condition, replace it if necessary.
- 3) Lubricate hinge pin of handle assembly (1) with oil (TB 03-900A).

ABAB

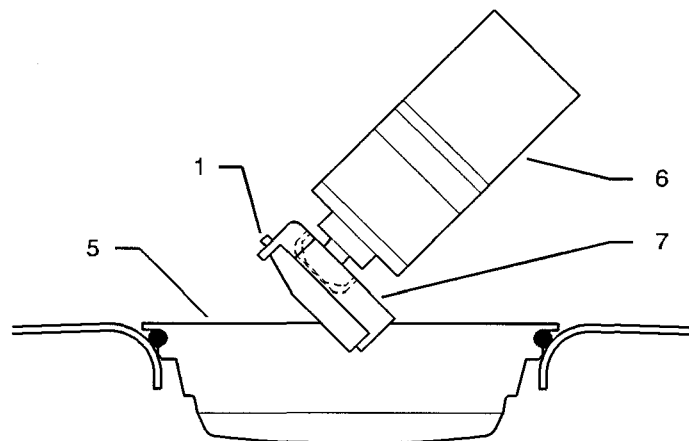
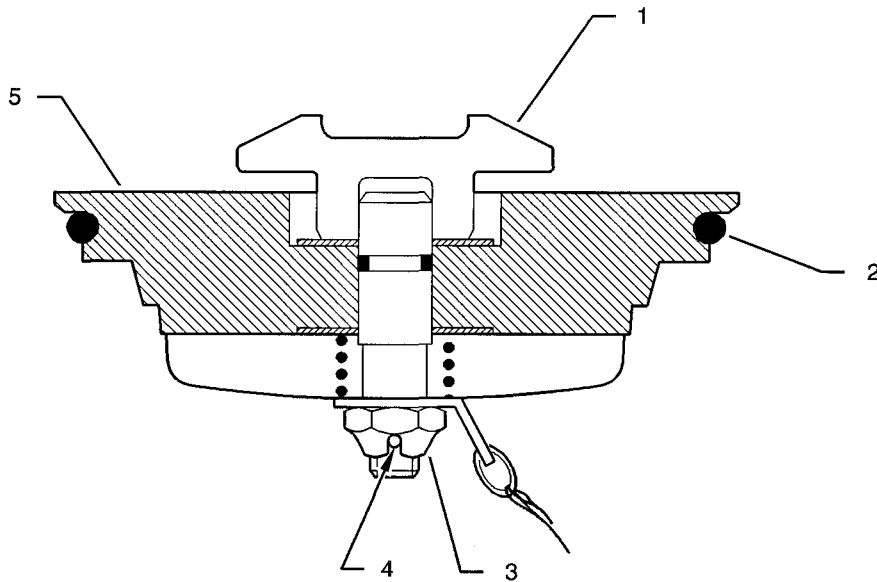
Validity : Cap SHAW AERO 531-099

28-10-00 (DA) Page 301
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- 4) Position tank cap (5) into its housing without locking it.
- 5) Screw tool (7) on spring scale (6) and position the assembly on handle assembly (1).
- 6) Lock the cap and record the value which must be 80 N.m (+ 10 ; - 0).
- 7) If necessary, adjust locking force - refer to Paragraph 1.
- 8) Unlock tank cap (5), remove spring scale (6) and tool (7).
- 9) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 10) Install and lock tank cap (5).



- 1 - Handle assembly
- 2 - O-ring
- 3 - Nut
- 4 - Cotter pin
- 5 - Tank cap
- 6 - Spring scale
- 7 - Tool



Storage - Adjustment of tank cap
Figure 301

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STORAGE

INSPECTION / CHECK

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. CHECK OF THE OUTSIDE OF THE FUEL TANKS

A. Tools and consumable materials

None

B. Procedure

NOTE : Apply this procedure during periodical or exceptional inspections.

- 1) Make sure the fuel tanks are full.
- 2) Check the tank skin for :
 - scores,
 - impact marks,
 - distortion,
 - seepage marks.
- 3) Check for leaks :
 - around rivet heads,
 - at skin junctions,
 - around tight inspection doors and attaching bolts and screws.
- 4) Check tank caps for correct operation.
- 5) Check bleed valves for correct operation.
- 6) Check air inlet of air vent for clogging.

2. CHECK OF THE INSIDE OF THE FUEL TANKS

A. Tools and consumable materials

- Endoscope

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) The inside of the tanks requires no specific maintenance procedure or inspection. However, an endoscopic inspection is required in case of :
 - leakage or seepage at skin junctions,
 - leakage or seepage around rivet heads,
 - abnormal deposits in the tank strainer,
 - skin distortion.

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Validity : S / N 1 - 9999

- 2) Perform an endoscopic inspection to determine the cause and the extent of the damage, the origin of deposits and leaks :
- tearing of sealing compound,
 - loosening of rivets,
 - presence of foreign matter accidentally fallen into the tank,
 - clogging of draining holes of non-tight ribs,
 - cracks of ribs and/or spars.

STORAGE

REPAIR

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. TANK REPAIR

A. Tools and consumable materials

- Sealant (TB 09-001A)
- Sealant (TB 09-002A)
- Cleaning agent (TB 11-003)
- Spatula
- Lintfree clean cloths

B. Procedure to be applied when the leak stems from a loose rivet

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Remove the defective rivet (s) - refer to 51-40-02.
- 2) Retain the heads of these rivets.
- 3) Remove sealant using a spatula and clean the surfaces to be sealed with a lintfree clean cloth moistened with cleaning agent (TB 11-003).
- 4) Apply sealant (TB 09-001A) to the surfaces to be sealed.
- 5) Install appropriate new rivets - refer to 51-40-02.

NOTE : To implement water / air tight products, refer to the manufacturer's instructions. Fuel the tanks when the sealant curing is completed.

C. Procedure to be applied when the leak does not stem from a loose rivet

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Clean the area around the leak with cleaning agent (TB 11-003).
- 2) Apply sealant (TB 09-001A) if the surfaces to be sealed are small.
- 3) Apply sealant (TB 09-002A) if the area to be sealed is large or requires a continuous sealant bead.

NOTE : If access to the inside of the tank is impossible, apply a sealant bead (TB 09-002A) to the involved exterior face. For tank doors tightness - refer to 52-40-00.

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FUEL SUPPLY

DESCRIPTION AND OPERATION

1. GENERAL

Fuel supply system is the sub-system which supplies engine with fuel necessary for its operation.

Its main components are :

- the electric pump,
- the filter (OPTION),
- the filter installed in the tanks,
- the fuel tank selector control.

2. LOCATION (Figure 1)

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Electric pump	1	100	121 / 131	28-20-01
Filter (OPTION)	1	100	121 / 131	28-20-02
Tank filter	2	510 / 610	511 / 611	28-20-03
Fuel tank selector control	1	250	211L	28-20-04

3. DESCRIPTION

A. Electric pump

The electric pump (also known as booster pump or auxiliary pump) supplies the engine pump and provides fuel pressure required for engine start-up.

The electric pump consists of :

- the pump casing,
- the electric motor,
- the filter.

The BUS 1 bar supplies energy to the electric pump.

B. Filter (OPTION)

The filter, located on the firewall on power plant side, has a filtering capacity of 100 microns. It filters the fuel from the tanks before it enters the electric pump. The filter has no by-pass valve.

C. Fuel tank filter

The strainer-type tank filter (one per tank) is located on the root pressure bulkhead of each tank.

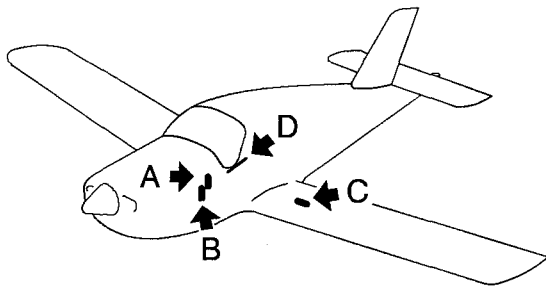
D. Fuel tank selector control

The fuel tank selector enables the pilot to control the three-way cock. The fuel tank selector control is located on the L.H. instrument panel strip. The selector has the following positions : "L TANK", "OFF" and "R TANK".

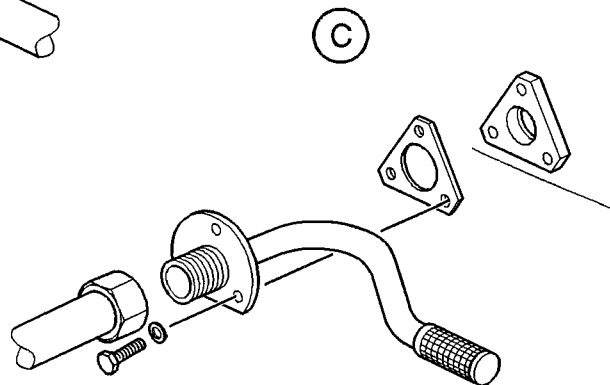
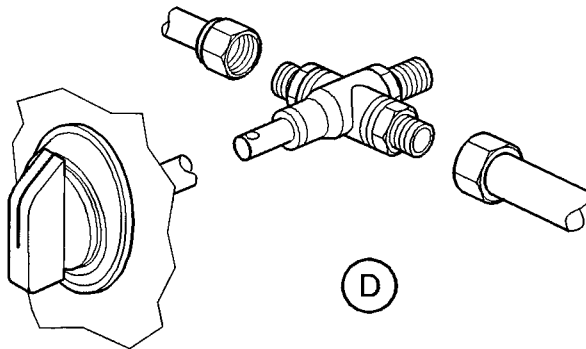
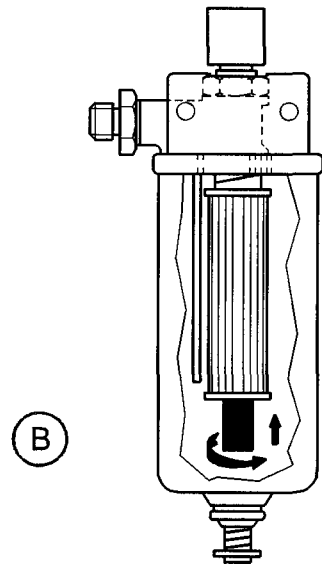
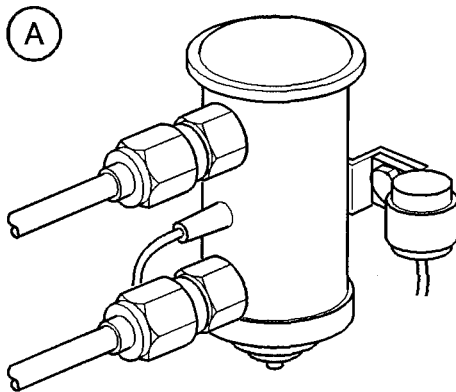
The three-way cock allows to open and to select the tanks. It is located on the front table under the L.H. instrument panel and is accessible by tilting the table.

4. OPERATION

The pilot selects the tank using the selector and the fuel flows to the electric and engine pumps through the tank filter, three-way cock and filter (if installed) on the firewall.



- A - Electric pump
- B - Filter (OPTION)
- C - Tank filter
- D - Tank selector control and cock



Fuel supply - Identification and location of components
Figure 1

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FUEL SUPPLY

DESCRIPTION AND OPERATION

1. GENERAL

Fuel supply system is the sub-system which supplies engine with fuel necessary for its operation.

Its main components are :

- the electric pump,
- the filter / selector,
- the filter installed in the tanks,
- the fuel tank selector control.

2. LOCATION (Figures 1 and 1A)

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Electric pump	1	210	214	28-20-01
Filter / selector	1	210	215	28-20-02
Tank filter	2	510 / 610	511 / 611	28-20-03
Fuel tank selector control	1	250	253	28-20-04

3. DESCRIPTION

A. Electric pump

The electric pump (also known as booster pump or auxiliary pump) supplies the engine pump and provides fuel pressure required for engine start-up.

The electric pump consists of :

- the pump casing,
- the electric motor,
- the filter.

The BUS 1 bar supplies energy to the electric pump.

B. Filter / selector

The filter / selector assembly selects and opens the tanks and filters the fuel arriving at the electric pump.

The filter / selector includes :

- the filter, located in the lower part of the assembly, has a filtering capacity of 100 microns and is equipped with a by-pass valve which opens at 0.120 bar \pm 0.020 (1.74 psi \pm 0.3),
- the selector, in the upper section, is a three-way distributor manually controlled by a button located on the central pedestal and named "FUEL SELECTOR". The control has the following positions : "OFF", "L TANK" and "R TANK".

C. Fuel tank filter

The strainer-type tank filter (one per tank) is located on the root pressure bulkhead of each tank.

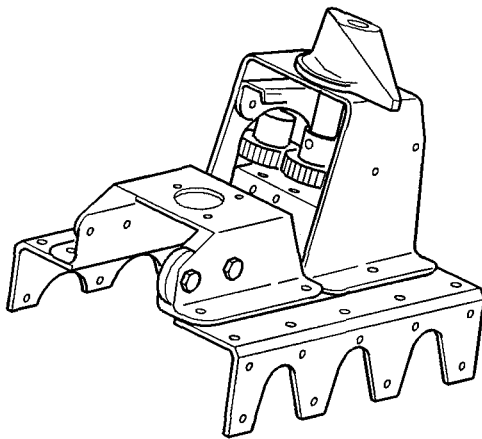
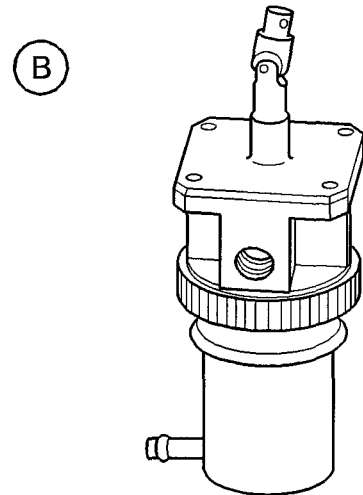
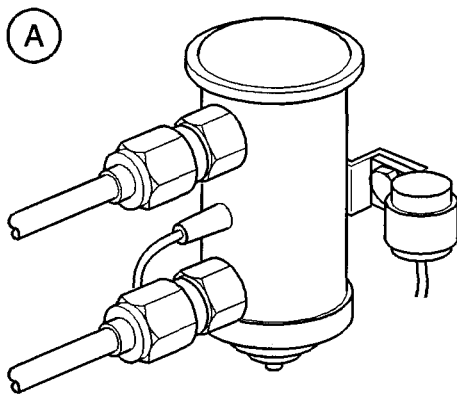
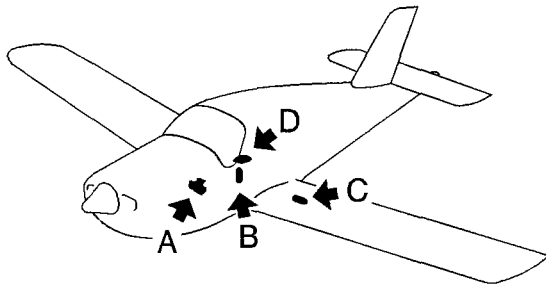
D. Fuel tank selector control

The fuel tank selector enables the pilot to control the filter / selector assembly. The fuel tank selector control is located on the central pedestal.

4. OPERATION

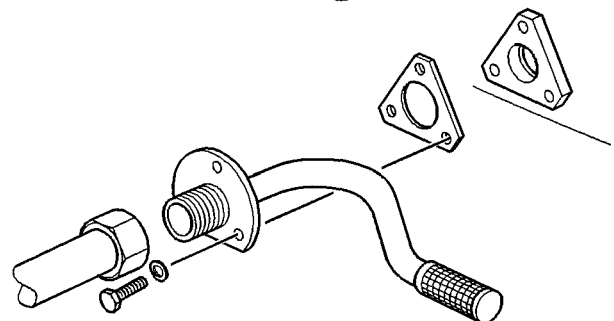
The pilot selects the tank using the selector and the fuel flows to the electric and engine pumps through tank filter and filter / selector.

- A - Electric pump
- B - Filter / selector
- C - Tank filter
- D - Fuel tank selector control



(D)

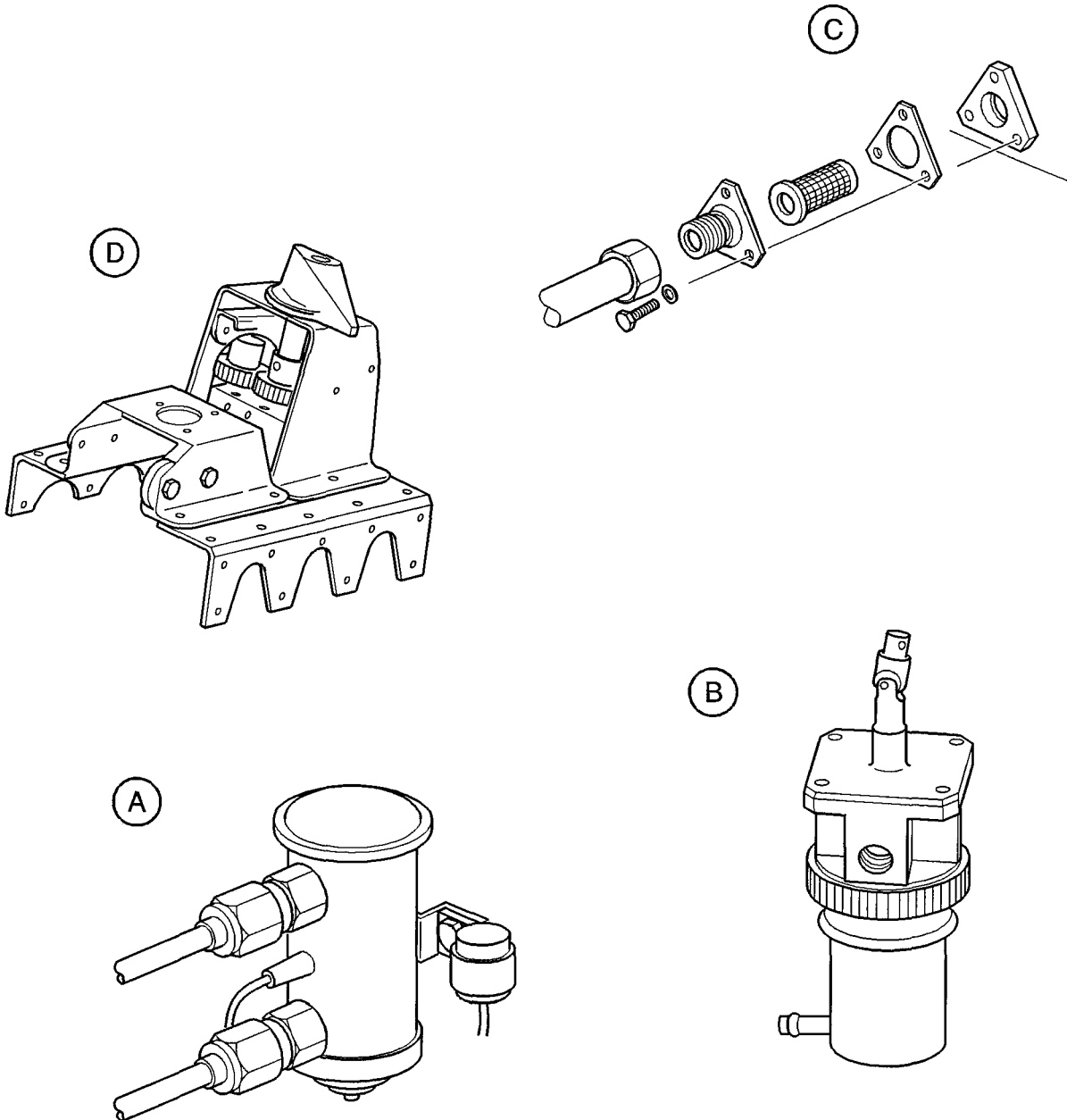
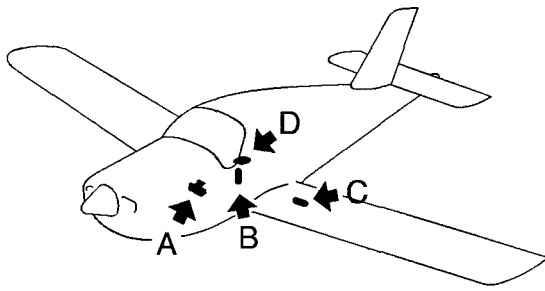
(C)



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Fuel supply - Identification and location of components
Figure 1 - S/N 731 - 1037

- A - Electric pump
- B - Filter / selector
- C - Tank filter
- D - Fuel tank selector control



Fuel supply - Identification and location of components
Figure 1A - S / N 1038 - 9999

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ELECTRIC PUMP

REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. REMOVAL OF THE ELECTRIC PUMP (Figure 401)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)
- Loctite (TB 09-906)
- Blanking caps
- Stainless steel lockwire, dia. 0.025 in (0.6 mm)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Open main switch-breaker.
- 2) Set the fuel selector to “CLOSED” position.
- 3) Remove the engine cowlings – refer to 71-10-01.
- 4) Loosen bolt (10) and remove noise filter (8) from clamp (7).
- 5) Disconnect electrical connector (11).
- 6) Put a drain pan beneath pump (3).
- 7) Drain the fuel system in the fuselage – refer to 12-11-02.
- 8) Disconnect hose (1) and tube (15). Blank off.
- 9) Hold pump (3), remove bolts (10) and washers (9), retain clamp (7) and remove pump (3).

NOTE : If the bulkhead is not equipped with anchor nuts (6), retain nuts (5) and washers (4) in the cabin in front of the pedals.

- 10) Check the tube and the hose for condition. Replace them if necessary.
- 11) Remove lower cover (13) from pump (3).
- 12) Clean filter (12). Replace it if necessary.
- 13) Install lower cover (13) on pump (3) and lockwire it.
- 14) If pump (3) has to be replaced, perform the following operations :
 - a) Remove unions (2) or (2A) and (14).
 - b) Apply Loctite (TB 09-906) to both threads of the new pump – refer to 20-00-08.
 - c) Install unions (2) or (2A) and (14) – refer to 20-00-06.

NOTE : If installed, point union (2A).

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Validity : S / N 1 - 9999

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2. INSTALLATION OF THE ELECTRIC PUMP (Figure 401)

A. Tools and consumable materials

- Red paint
- Loctite (TB 09-906)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

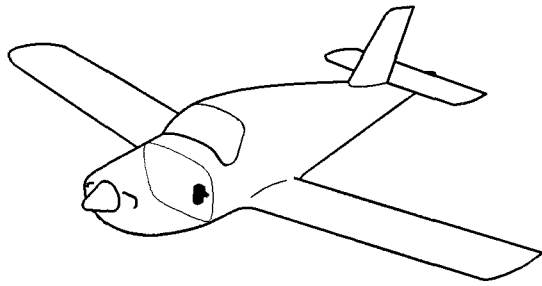
- 1) Install pump (3) on the firewall.
- 2) Attach pump (3) with bolts (10) and washers (9) and if necessary, new nuts (5) and washers (4).

NOTE : Do not forget to install clamp (7) of noise filter.

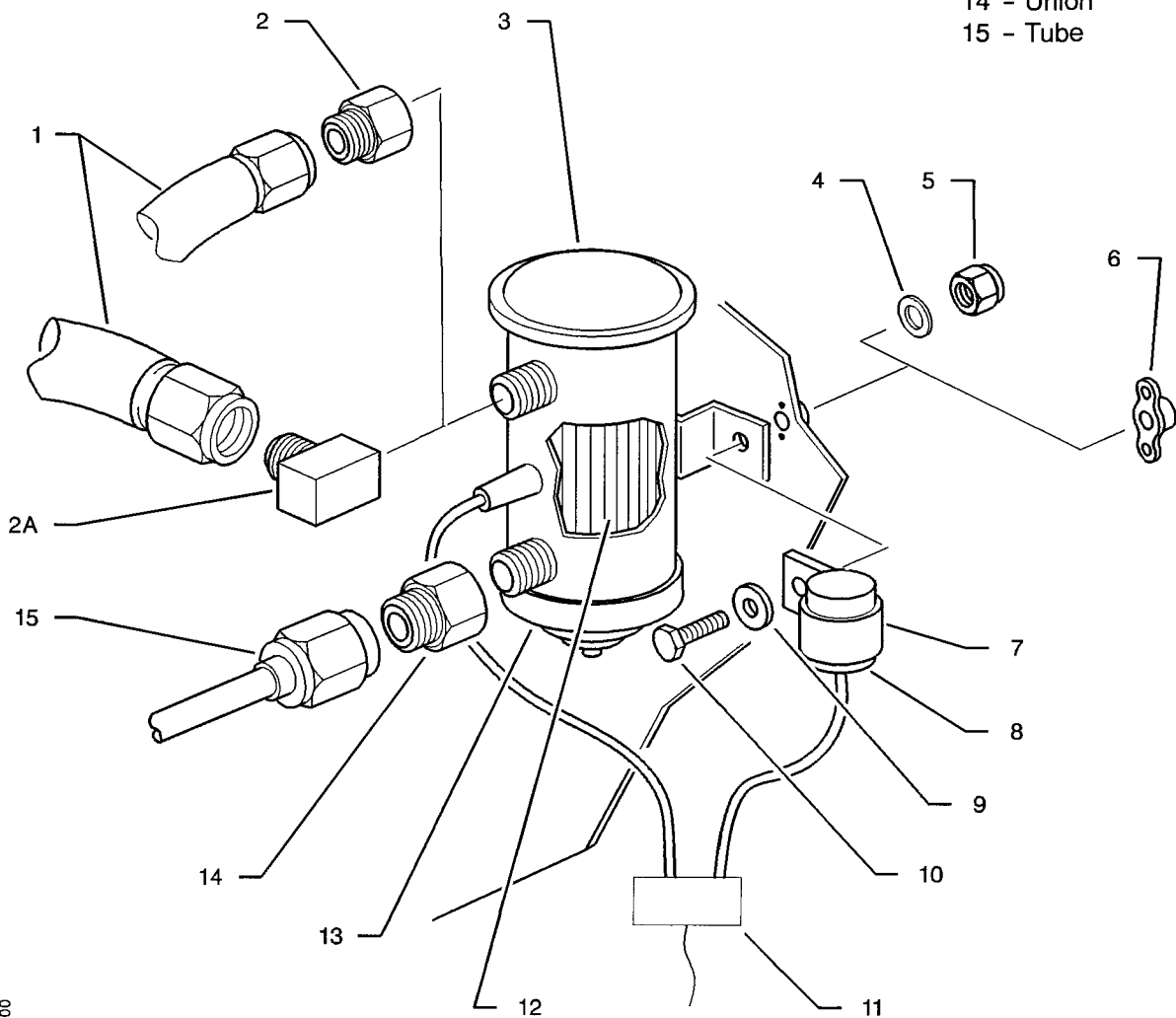
- 3) Apply Loctite (TB 09-906) to the threads of unions (2) or (2A) and (14) – refer to 20-00-08.
- 4) Remove the blanking caps, connect hose (1) and tube (15) – refer to 20-00-02.
- 5) Connect electrical connector (11).
- 6) Install noise filter (8) into its clamp (7) and tighten bolt (10).
- 7) Set fuel selector to “LEFT” or “RIGHT” position.
- 8) Bleed the fuel system – refer to 12-11-02.

CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 9) Perform a leakage test with the fuel system pressurized – refer to 28-00-00 and check the fuel pump indicator light on the advisory panel for operation.
- 10) Check for leaks.
- 11) Mark with a red paint line unions (2) or (2A) and (14), nuts of hose (1) and tube (15) and bolts (10).
- 12) Remove the drain pan.
- 13) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 14) Install the engine cowlings – refer to 71-10-01.
- 15) Perform a test run-up – refer to 05-30-02.



- 1 - Hose
- 2 - Union
- 2A - Union
- 3 - Pump
- 4 - Washer
- 5 - Nut
- 6 - Anchor nut
- 7 - Clamp
- 8 - Noise filter
- 9 - Washer
- 10 - Bolt
- 11 - Electrical connector
- 12 - Filter
- 13 - Lower cover
- 14 - Union
- 15 - Tube



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Electric pump - Removal / Installation
Figure 401

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Validity : S / N 1 - 9999

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FILTER

REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. REMOVAL OF THE FILTER ASSEMBLY (Figure 401)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)
- Blanking caps

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Open main switch-breaker.
- 2) Set the fuel selector to “CLOSED” position.
- 3) Remove the engine cowlings – refer to 71-10-01.
- 4) Put a drain pan beneath filter assembly (16).
- 5) Drain the fuel system in the fuselage – refer to 12-11-02.
- 6) Disconnect tube (4) from union (5). Blank off.
- 7) Disconnect tube (15) from union (14). Blank off.
- 8) Hold filter assembly (16), remove bolts (1) and washers (2) and remove filter assembly (16).

NOTE : If the bulkhead is not equipped with anchor nuts (3), retain nuts (7) and washers (2) in the cabin in front of the pedals.

- 9) If filter assembly (16) has to be replaced, perform the following operations :
 - a) Remove unions (5) and (14). Discard seals (6) and (13).
 - b) Install unions (5) and (14) and new seals (6) and (13) on new filter assembly (16).
 - c) Install a new filter (10) – refer to Paragraph 3.

2. INSTALLATION OF THE FILTER ASSEMBLY (Figure 401)

A. Tools and consumable materials

- Red paint

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Install filter assembly (16) and secure it with bolts (1) and washers (2) and, if necessary, new nuts (7). Do not tighten.
- 2) Remove the blanking caps and connect tubes (4) and (15) – refer to 20-00-02. Do not tighten.
- 3) Tighten filter assembly (16) to the firewall.

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Validity : S / N 1 - 730 with decanting filter

- 4) Tighten tubes (4) and (15) - refer to 20-00-02.
- 5) Set the fuel selector to "LEFT" or "RIGHT" position.
- 6) Bleed the fuel system - refer to 12-11-02.

CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 7) Perform a leakage test with the fuel system pressurized - refer to 28-00-00.
- 8) Check for leaks.
- 9) Mark with a red paint line unions (5) and (14), nuts of tubes (4) and (15) and filter.
- 10) Remove the drain pan.
- 11) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 12) Install the engine cowlings - refer to 71-10-01.
- 13) Perform a test run-up - refer to 05-30-02 and check fuel pressure.

3. REMOVAL OF THE FILTER (Figure 401)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM - REFER TO 28-00-00.

- 1) Open main switch-breaker.
- 2) Set the fuel selector to "CLOSED" position.
- 3) Remove the engine cowlings - refer to 71-10-01.
- 4) Put a drain pan beneath filter assembly (16).
- 5) Drain the fuel system in the fuselage - refer to 12-11-02.
- 6) Cut and discard lockwire of clamp (12) which attaches bowl (9) to filter assembly (16).
- 7) Hold bowl (9) and remove clamp (12) which attaches bowl (9) to filter assembly (16).
- 8) Remove bowl (9) and discard O-ring (8).
- 9) Push upwards, rotate 1/4 of a turn, then pull filter (10) downwards to remove it.

4. REPLACEMENT OF THE BLEED (Figure 402)

A. Tools and consumable materials

- Torque wrench 0 - 177 lbf.in (0 - 20 N.m)
- Socket 0.75 in (19 mm)
- Ring spanner 0.83 in (21 mm)
- Loctite (TB 08-002) or equivalent

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Validity : S / N 1 - 730 with decanting filter

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B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

NOTE : Bleed, P/N 002400 AA000 NAOA is replaced with bleed, P/N 002400 AA000 NDOB, with delivery of Kit 03037 000 000 NDOA.

- 1) Remove bowl (3) – refer to Paragraph 3.
- 2) Secure, in a vice, an extension with a socket 0.75 in (19 mm).
- 3) Engage bowl internal nut (2) on this socket (bowl overturned).
- 4) Loosen bleed with a ring spanner 0.83 in (21 mm).

NOTE : The effort to be performed during loosening is important because it is safetied with Loctite.

- 5) Clean bowl (3) at the level of the bearing surface between bleed seal and internal nut.

CAUTION : THE PRODUCT MUST BE COMPATIBLE WITH HYDROCARBONS AND RECOMMENDED DRYING TIME MUST BE APPLIED.

- 6) Apply a few drops of Loctite (TB 08-002) to nut (2) thread – refer to 20-00-08.
- 7) To install “B” index bleed, reverse removal instructions. Make sure O-ring (1) is correctly positioned.
- 8) Torque nut (2) – refer to 20-00-01.
- 9) Install bowl (3) – refer to Paragraph 5.

5. INSTALLATION OF THE FILTER (Figure 401)

A. Tools and consumable materials

- Stainless steel lockwire, dia. 0.025 in (0.6 mm)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

CAUTION : AFTER 2 CLEANING PROCEDURES, FILTER (10) MUST BE REPLACED.

- 1) Clean or replace filter (10). Engage it fully into filter assembly (16) and turn by a quarter of a turn. Make sure filter (10) is correctly locked.
- 2) Install a new O-ring (8) on bowl (9) upper section.

CAUTION : FILL UP BOWL (9) WITH FUEL.

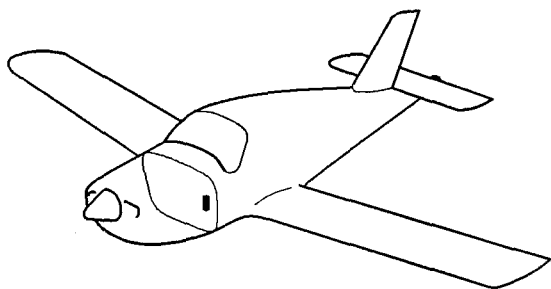
- 3) Fill up bowl (9) with fuel and engage it correctly into filter assembly (16).
- 4) Install and tighten clamp (12).
- 5) Set the fuel selector to “LEFT” or “RIGHT” position.
- 6) Bleed the fuel system – refer to 12-11-02.
- 7) Check bleed for leaks.

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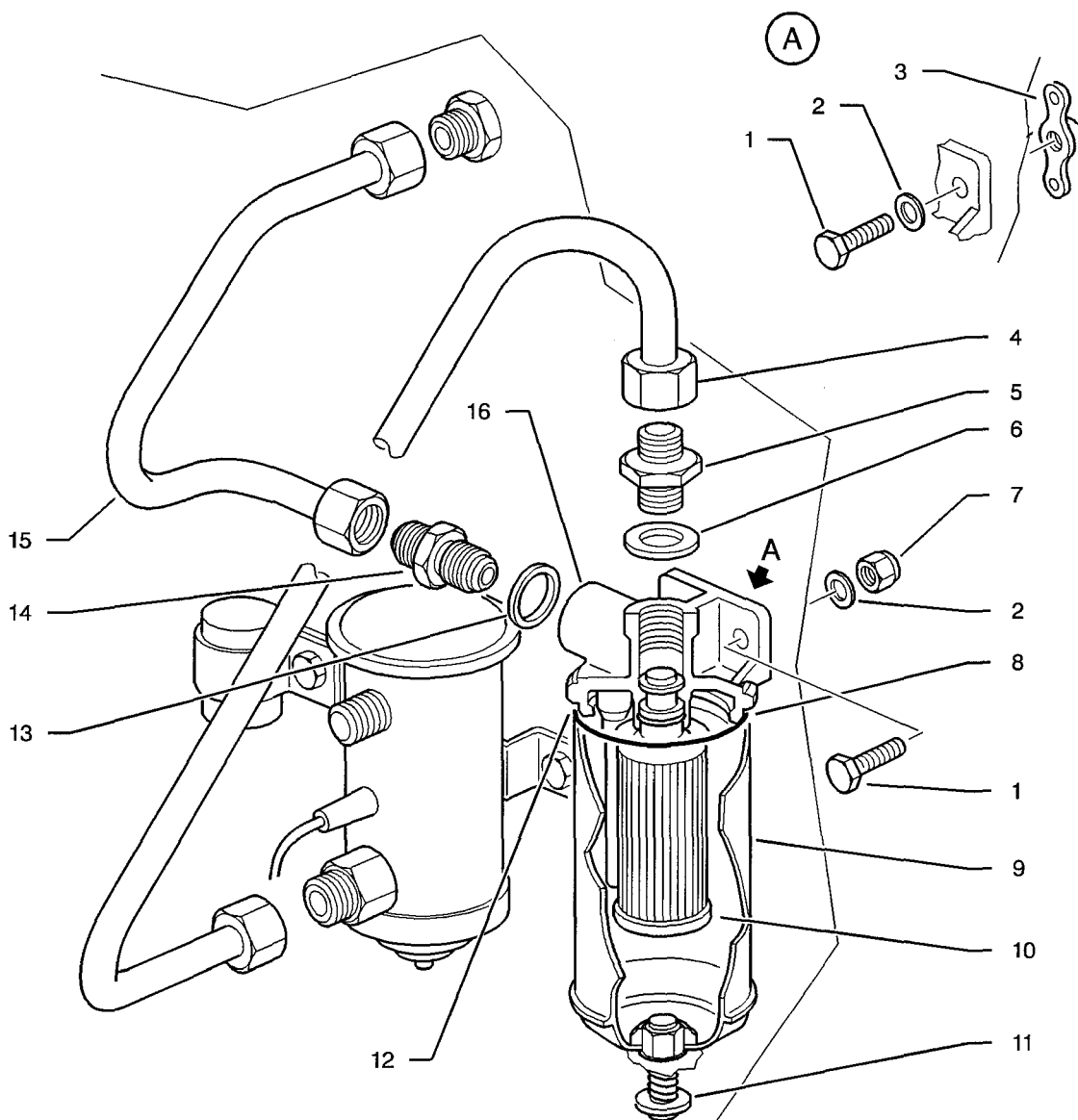
Validity : S / N 1 – 730 with decanting filter

CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 8) Perform a leakage test with the fuel system pressurized - refer to 28-00-00.
- 9) Check for leaks.
- 10) Lockwire clamp (12).
- 11) Remove the drain pan.
- 12) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 13) Install the engine cowlings - refer to 71-10-01.
- 14) Perform a test run-up - refer to 05-30-02.



- | | |
|----------------|----------------------|
| 1 - Bolt | 9 - Bowl |
| 2 - Washer | 10 - Filter |
| 3 - Anchor nut | 11 - Bleed |
| 4 - Tube | 12 - Clamp |
| 5 - Union | 13 - Seal |
| 6 - Seal | 14 - Union |
| 7 - Nut | 15 - Tube |
| 8 - O-ring | 16 - Filter assembly |



Filter - Removal / Installation
Figure 401

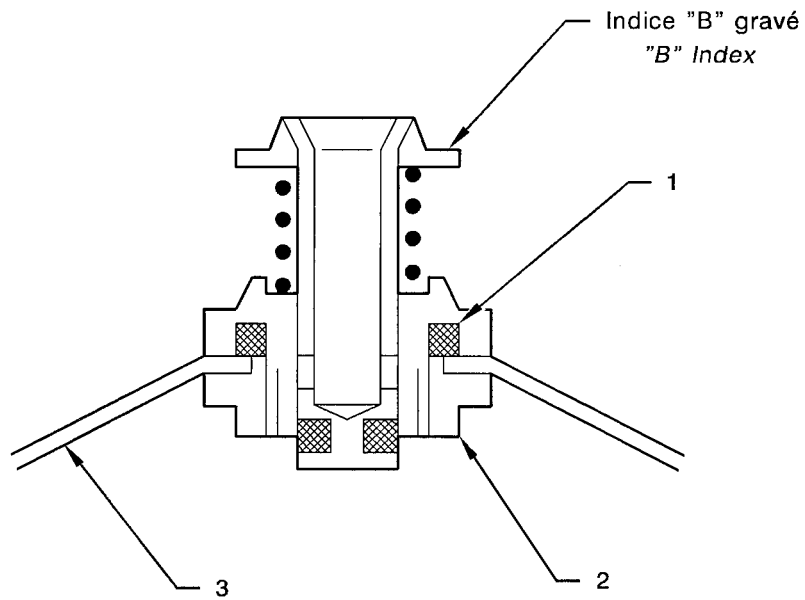
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Validity : S / N 1 - 730 with decanting filter

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- 1 - O-ring
- 2 - Nut
- 3 - Bowl



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Filter - Removal / Installation
Figure 402

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Validity : S / N 1 - 730 with decanting filter

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FILTER / SELECTOR REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. REMOVAL OF THE FILTER / SELECTOR (Figures 401 and 401A)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)
- Blanking caps

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Drain the fuel tanks and system in the fuselage – refer to 12-11-02.
- 2) Remove the R.H. front seat – refer to 25-11-00.
- 3) Detach carpet at the R.H. pedestal side lower section by about 8 in (200 mm) – refer to Detail A.
- 4) Remove and discard nut (2), remove bolt (26) and washer (1).
- 5) Remove the cowling under hull 218.
- 6) Put a drain pan beneath filter / selector (21).
- 7) Remove clamp (16) and disconnect hose (17) from bowl (10). Blank off.
- 8) Disconnect tubes (8), (13) and (20) from unions (7), (12) and (15). Blank off.
- 9) Hold filter / selector (21), remove bolts (3) and washers (4) and remove filter / selector (21) from bracket (5).
- 10) If filter / selector (21) has to be replaced, perform the following operations :
 - a) Remove unions (7), (12) and (15). Discard seals (6), (11) and (14).
 - b) Install unions (7), (12) and (15) and new seals (6), (11) and (14) on new filter / selector (21).
 - c) Install a new filter – refer to Paragraph 4.
Aircraft equipped with bracket P/N TB20 52026108
 - d) Modify bracket (5) to allow new filter / selector (21) to be installed according to Technical Instruction Nbr OPT10 9239-28.

2. INSTALLATION OF THE FILTER / SELECTOR (Figures 401 and 401A)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)
- Grease (TB 04-004A)
- Adhesive (TB 08-907)
- Blanking caps

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Validity : S / N 731 - 9999

- Red paint

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Lubricate with grease (TB 04-004A) gimbal joint (22) and fuel selector axle - refer to 12-21-02.
- 2) Set the fuel selector to "LEFT" position and make sure the gimbal joint is to the central position with regard to its deflection.
- 3) Position filter / selector (21) assembly on its bracket (5) and on control tube (25) and attach it with bolts (3) and washers (4).
- 4) Install bolt (26), washer (1) and a new nut (2).
- 5) Make sure the fuel selector operates correctly - refer to 28-20-04 and set it to "CLOSED" position.
- 6) Remove the blanking caps, connect tubes (8), (13) and (20) onto unions (7), (12) and (15) - refer to 20-00-02.
- 7) Remove the blanking caps, connect hose (17) to bowl (10) and attach it with clamp (16).
- 8) Make sure clamp (18) is correctly attached to bleed (19).
- 9) Fill up the tanks - refer to 12-11-01.
- 10) Set the fuel selector to "LEFT" or "RIGHT" position.
- 11) Bleed the fuel system - refer to 12-11-02.

CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 12) Perform a leakage test with the fuel system pressurized - refer to 28-00-00.
- 13) Check for leaks.
- 14) Mark with a red paint line unions (7), (12) and (15), nuts of tubes (8), (13) and (20).
- 15) Remove the drain pan.
- 16) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 17) Install the cowling under hull 218.
- 18) Bond carpet to the R.H. pedestal side using adhesive (TB 08-907).
- 19) Install the R.H. front seat - refer to 25-11-00.
- 20) Perform a test run-up - refer to 05-30-02.

3. REMOVAL OF THE FILTER (Figure 402)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Open main switch-breaker.
- 2) Set the fuel selector to “CLOSED” position.
- 3) Drain the fuel system in the fuselage – refer to 12-11-02.
- 4) Remove the inspection door 215 – refer to 06-30-00.
- 5) Put a drain pan beneath filter / selector (1).
- 6) Cut and discard lockwire.
- 7) Hold bowl (7) and loosen knurled nut (2) manually.
- 8) Disengage bowl (7).
- 9) Pull filter (6) downwards to remove it.
- 10) Discard seals (5), (8), (9) and (10).

4. INSTALLATION OF THE FILTER (Figure 402)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)
- Stainless steel lockwire, dia. 0.025 in (0.6 mm)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Install new seals (5), (8), (9) and (10).
- 2) Insert new lockwire on fixed section of filter / selector (1), twist it by 2 or 3 turns.

CAUTION : AFTER 2 CLEANING PROCEDURES (UPSTREAM CLEANING FROM INSIDE TO OUTSIDE OR CLEANING IN AN ULTRASONIC TANK), FILTER (6) MUST BE REPLACED.

- 3) Clean or replace filter (6) and engage it onto filter / selector (1).

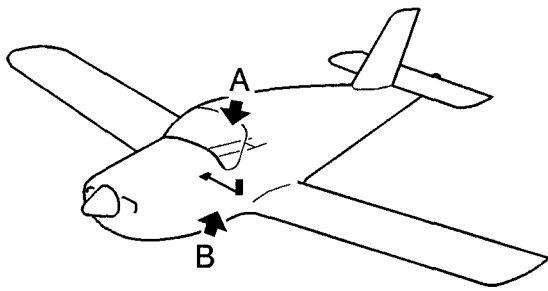
CAUTION : DO NOT USE A WRENCH TO TIGHTEN KNURLED NUT (2) BECAUSE BOWL TIGHTNESS IS ENSURED BY SEAL (10) AND NOT BY BEARING FACE (a).

- 4) Engage bowl (7) on filter / selector (1), turn the bowl bleed, push bowl (7) so that it rests vertically on the fixed section and tighten knurled nut (2) manually.
- 5) Check hose (4) and clamp (3) for condition.
- 6) Set the fuel selector to “LEFT” or “RIGHT” position.
- 7) Bleed the fuel system – refer to 12-11-02.

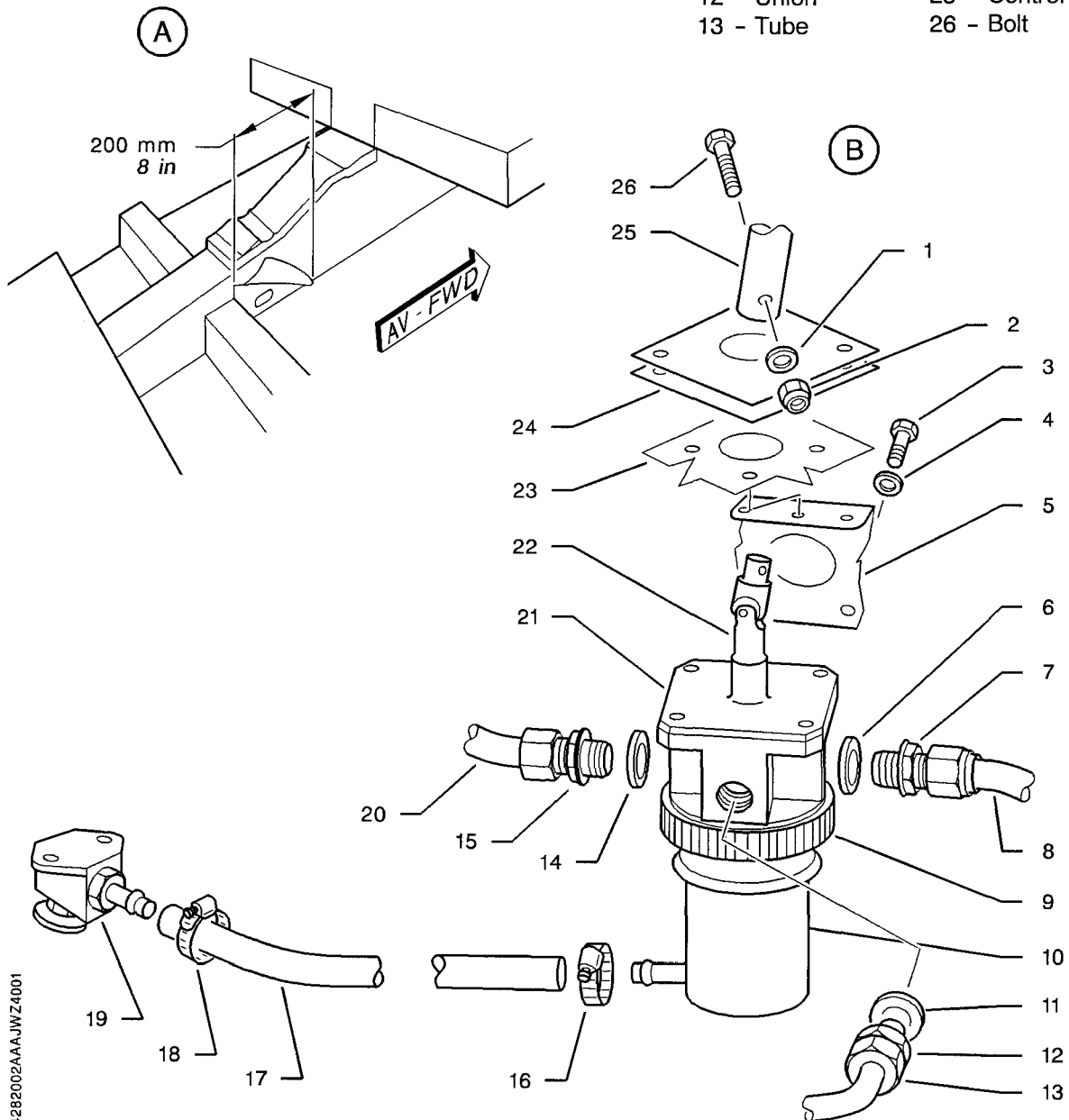
CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 8) Perform a leakage test with the fuel system pressurized – refer to 28-00-00.

- 9) Check for leaks.
- 10) Lockwire knurled nut (2).
- 11) Remove the drain pan.
- 12) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 13) Install the inspection door 215.
- 14) Perform a test run-up - refer to 05-30-02.

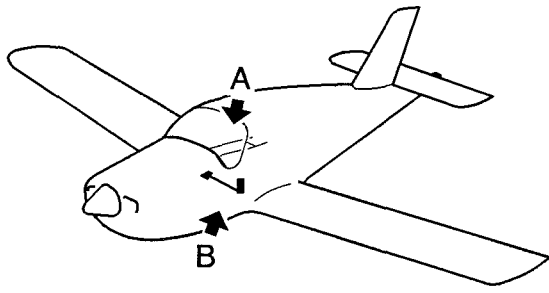


- | | |
|-----------------|------------------------|
| 1 - Washer | 14 - Seal |
| 2 - Nut | 15 - Union |
| 3 - Bolt | 16 - Clamp |
| 4 - Washer | 17 - Hose |
| 5 - Bracket | 18 - Clamp |
| 6 - Seal | 19 - Bleed |
| 7 - Union | 20 - Tube |
| 8 - Tube | 21 - Filter / Selector |
| 9 - Knurled nut | 22 - Gimbal joint |
| 10 - Bowl | 23 - Cabin floor |
| 11 - Seal | 24 - Seal |
| 12 - Union | 25 - Control tube |
| 13 - Tube | 26 - Bolt |

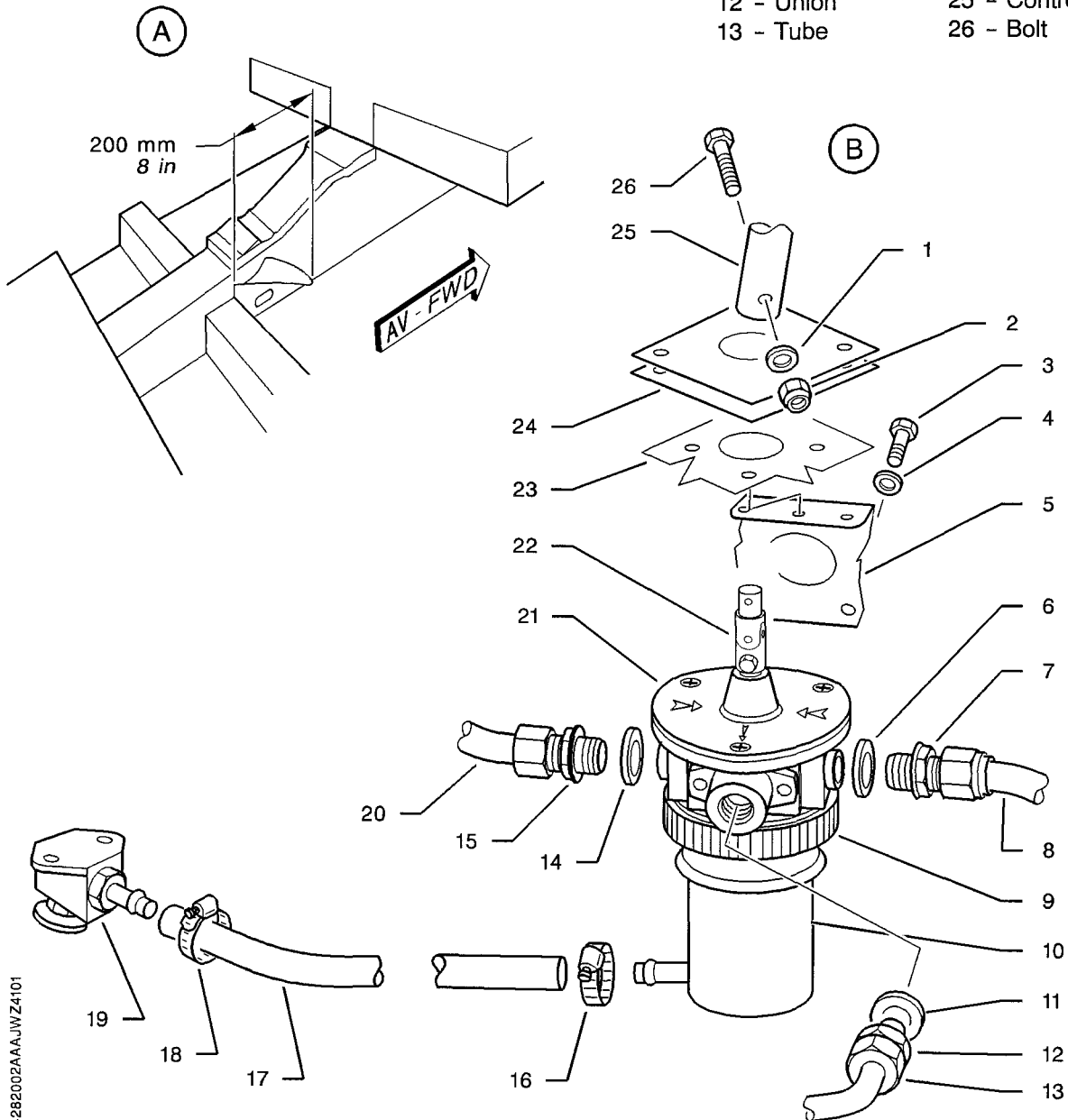


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Filter / Selector - Removal / Installation
Figure 401 - Pre-MOD. 100



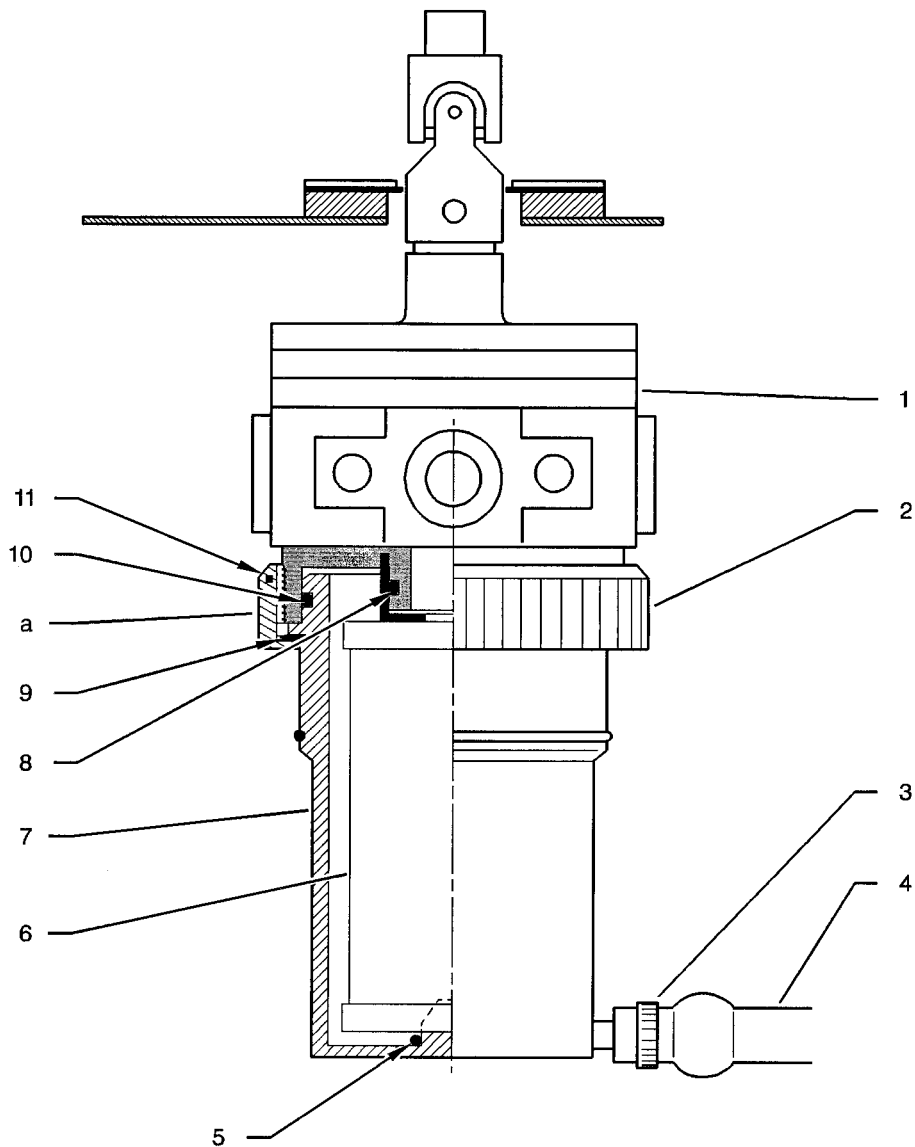
- | | |
|-----------------|------------------------|
| 1 - Washer | 14 - Seal |
| 2 - Nut | 15 - Union |
| 3 - Bolt | 16 - Clamp |
| 4 - Washer | 17 - Hose |
| 5 - Bracket | 18 - Clamp |
| 6 - Seal | 19 - Bleed |
| 7 - Union | 20 - Tube |
| 8 - Tube | 21 - Filter / Selector |
| 9 - Knurled nut | 22 - Gimbal joint |
| 10 - Bowl | 23 - Cabin floor |
| 11 - Seal | 24 - Seal |
| 12 - Union | 25 - Control tube |
| 13 - Tube | 26 - Bolt |



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Filter / Selector - Removal / Installation
Figure 401A - Post-MOD. 100

- 1 - Filter / Selector
- 2 - Knurled nut
- 3 - Clamp
- 4 - Hose
- 5 - Seal
- 6 - Filter
- 7 - Bowl
- 8 - Seal
- 9 - Seal
- 10 - Seal
- 11 - Lockwire



Filter - Removal / Installation
Figure 402

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TANK FILTER

REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. REMOVAL OF TANK FILTER (Figures 401 and 401A)

A. Tools and consumable materials

- Blanking caps

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Drain the related tank – refer to 12-11-02.
- 2) Remove the inspection door 511 [611] – refer to 52-40-00.
- 3) Disconnect tube (1) from end fitting (4). Blank off.
- 4) Remove bolts (2) and washers (3).
- 5) Disengage end fitting (4), discard seal (7) and disengage strainer (5).
- 6) Check tube (1) for condition and replace it if necessary.

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- 7) Check grommet (10) for condition and replace it if necessary.

2. INSTALLATION OF TANK FILTER (Figures 401 and 401A)

A. Tools and consumable materials

- Red paint

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Clean or replace strainer (5) if necessary.
- 2) Install new seal (7), strainer (5) and end fitting (4) on base (8). Attach the assembly with bolt (2) and washer (3).
- 3) Remove the blanking caps and connect tube (1) – refer to 20-00-02.

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- 4) Make sure tube (1) is correctly engaged on support (9).

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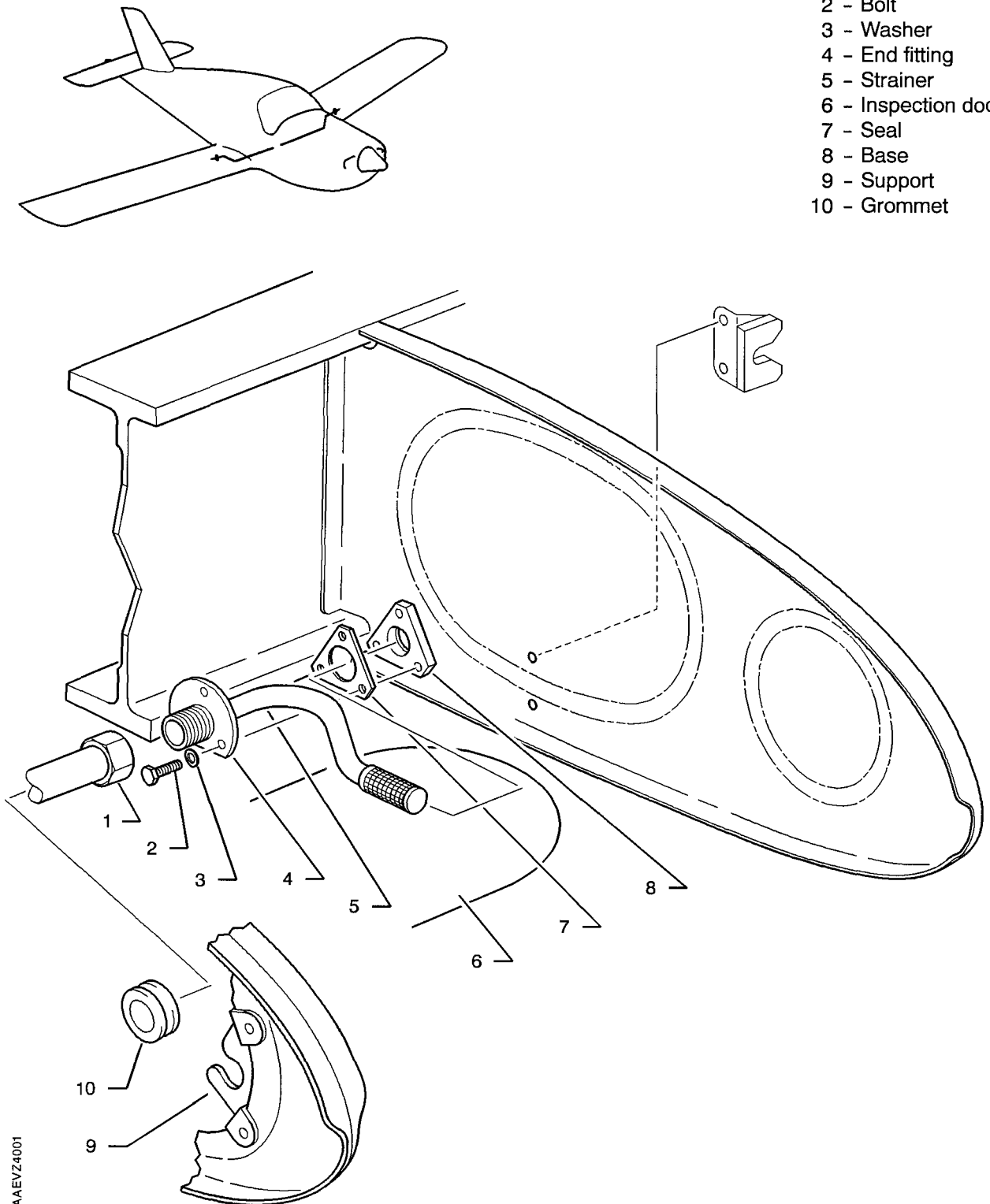
- 5) Fill up fuel tank – refer to 12-11-01.
- 6) Check for leaks.

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- 7) Mark with a red paint line nut of tube (1), end fitting (4), bolts (2) and base (8).
- 8) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 9) Install the inspection door 511 [611] - refer to 52-40-00.

- 1 - Tube
- 2 - Bolt
- 3 - Washer
- 4 - End fitting
- 5 - Strainer
- 6 - Inspection door
- 7 - Seal
- 8 - Base
- 9 - Support
- 10 - Grommet

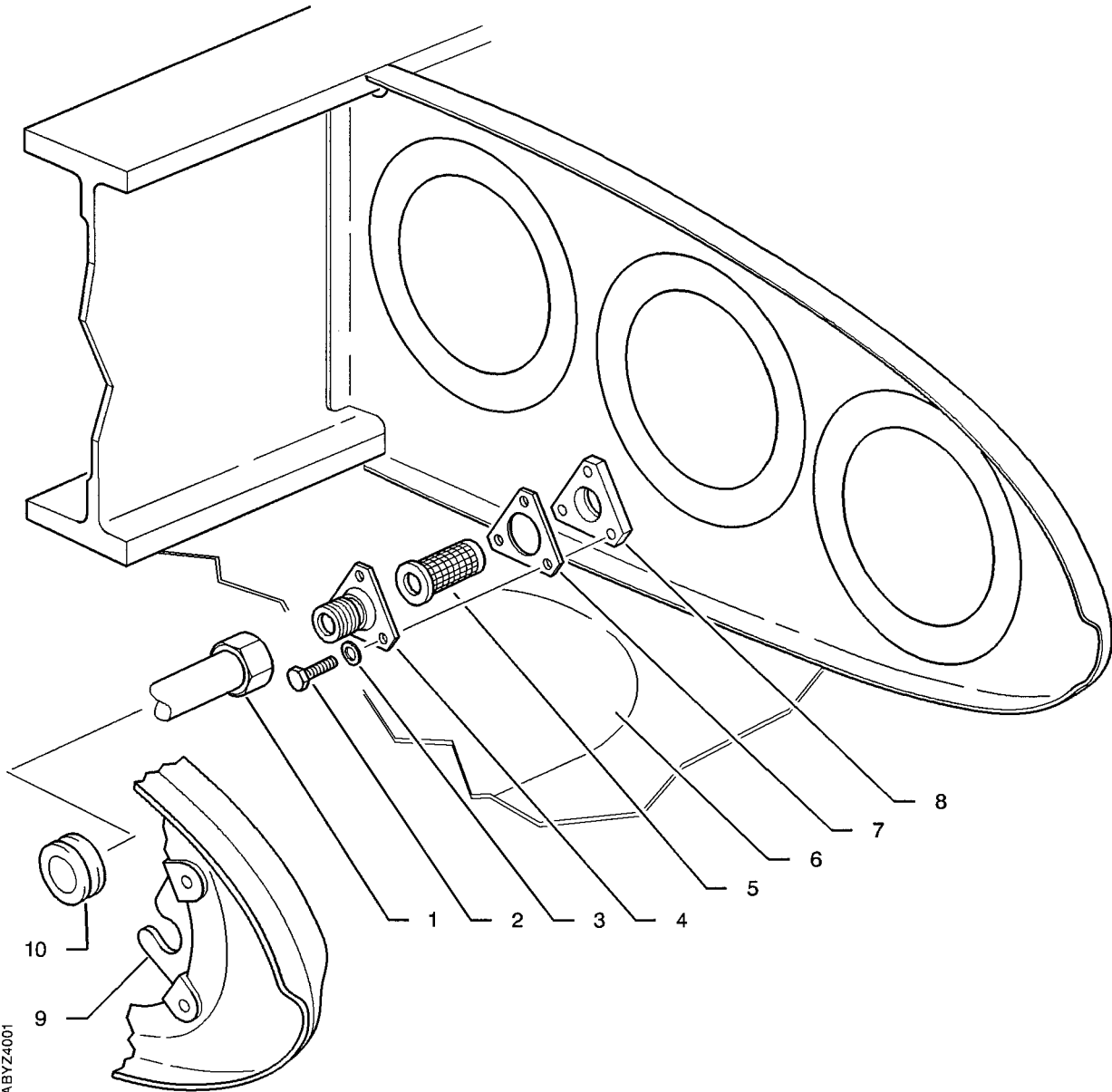
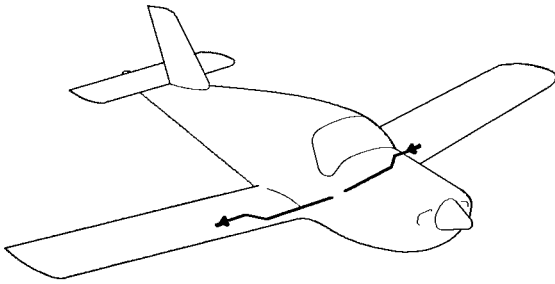


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Tank filter - Removal / Installation
Figure 401 - S/N 1 - 1037

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- 1 - Tube
- 2 - Bolt
- 3 - Washer
- 4 - End fitting
- 5 - Strainer
- 6 - Inspection door
- 7 - Seal
- 8 - Base
- 9 - Support
- 10 - Grommet



14282003AAA BYZ4001

Tank filter - Removal / Installation
Figure 401A - S / N 1038 - 9999

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FUEL SELECTOR CONTROL REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. REMOVAL OF THE FUEL SELECTOR CONTROL (Figure 401)

A. Tools and consumable materials

- Blanking caps

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Drain the fuel tanks and system in the fuselage - refer to 12-11-02.
- 2) Remove engine cowling 121 - refer to 71-10-01.
- 3) Remove the inspection door 212L - refer to 06-30-00.
- 4) Disconnect fuel tube (5) from electric pump. Blank off.
- 5) Unlock instrument panel and tilt it backward - refer to 31-10-01.
- 6) Remove and discard nut (11), remove washer (10) and bolt (7) and disconnect control tube (8).
- 7) Disconnect tubes (1) and (6). Blank off.
- 8) Remove nut (4) and washer (3) attaching three-way cock (2) to firewall.
- 9) Disengage three-way cock (2).

2. INSTALLATION OF THE FUEL SELECTOR CONTROL (Figure 401)

A. Tools and consumable materials

- Red paint
- Grease (TB 04-004A)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Lubricate control shaft (12) of three-way cock (2) with grease (TB 04-004A).
- 2) Install three-way cock (2) on the firewall and secure it with nut (4) and washer (3). Do not tighten.
- 3) Remove the blanking caps and connect tubes (1) and (6) - refer to 20-00-02. Do not tighten.
- 4) Tighten three-way cock (2) on the firewall.
- 5) Tighten tubes (1) and (6) - refer to 20-00-02.
- 6) Remove the blanking caps and connect fuel tube (5) of electric pump.
- 7) Install control tube (8), set control knob (9) to "RIGHT" position, engage bolt (7) moving it from left to right and install washer (3) and a new nut (11).

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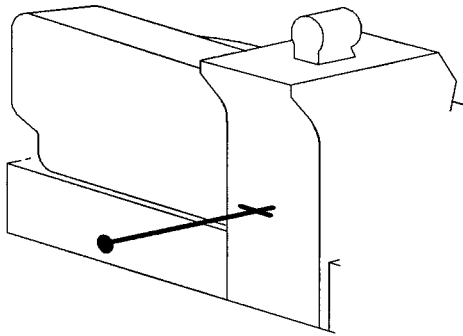
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SEP 02

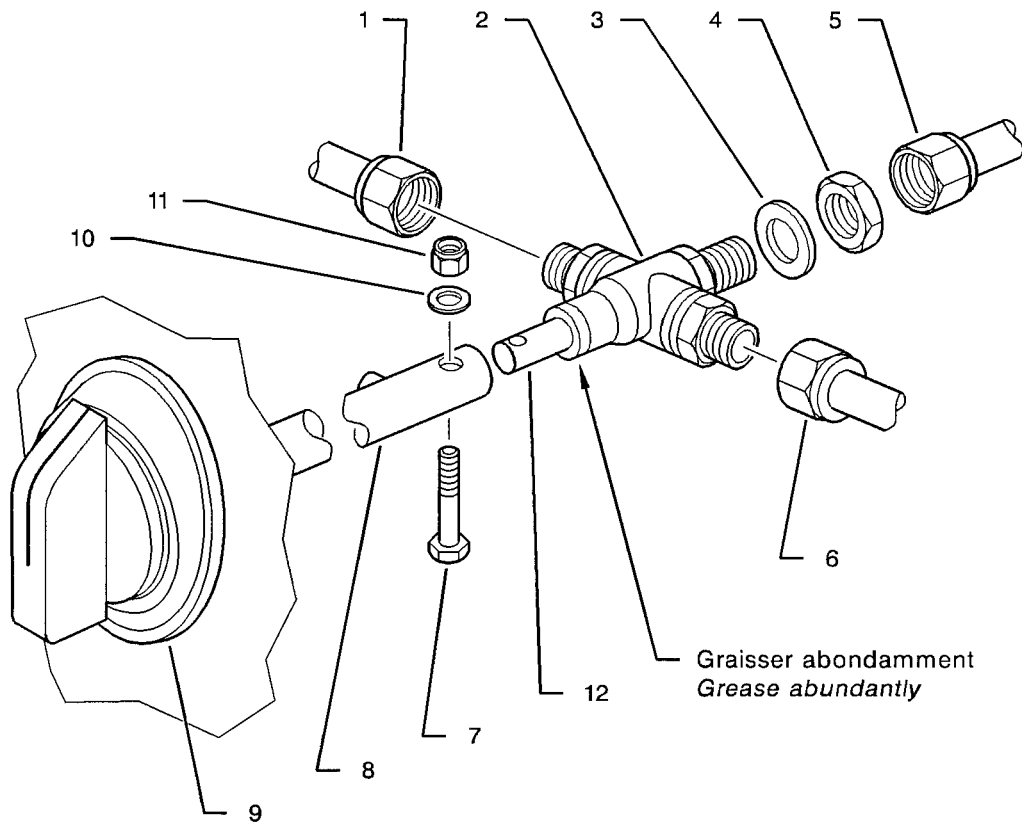
- 8) Set the fuel selector to "CLOSED" position.
- 9) Fill up the tanks - refer to 12-11-01.
- 10) Set the fuel selector to "LEFT" or "RIGHT" position.
- 11) Bleed the fuel system - refer to 12-11-02.
- 12) Close main switch-breaker.
- 13) Check the fuel selector indicator light on the advisory panel for operation :
 - when the fuel selector is set to "OFF", the indicator light must be ON.
 - when the fuel selector is set to "LEFT" or "RIGHT", the indicator light must be OFF.

CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 14) Perform a leakage test with the fuel system pressurized - refer to 28-00-00.
- 15) Check for leaks.
- 16) Mark with a red paint line the nuts of tubes (1), (5) and (6) and three-way cock (2).
- 17) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 18) Tilt the instrument panel forward and lock it - refer to 31-10-01.
- 19) Install the inspection door 212L.
- 20) Install engine cowling 121 - refer to 71-10-01.



- 1 - Tube
- 2 - Three-way cock
- 3 - Washer
- 4 - Nut
- 5 - Fuel tube
- 6 - Tube
- 7 - Bolt
- 8 - Control tube
- 9 - Control knob
- 10 - Washer
- 11 - Nut
- 12 - Control shaft



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Fuel selector control - Removal / Installation
Figure 401

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FUEL SELECTOR CONTROL

REMOVAL / INSTALLATION

1. REMOVAL OF THE FUEL SELECTOR CONTROL (Figure 401)

A. Tools and consumable materials

- Cable grip P/N T700A2799000008

B. Procedure

- 1) Remove the R.H. front seat - refer to 25-11- 00.
- 2) Detach carpet at the R.H. pedestal side lower section by about 8 in (200 mm) - refer to Detail A.
- 3) Remove and discard nut (60), remove washer (59) and bolt (58).
- 4) Remove the rear cover from central control pedestal - refer to 25-14-00.
- 5) Block the elevator tab cable (53) at the lower part of handwheel (51) with a cable grip (52) to avoid an untimely unwinding of the cable on handwheel.
- 6) Remove the two bolts (29) and washers (28).
- 7) Remove bolt (4) and retain washer (5).
- 8) Disconnect, if necessary, microswitch (3) and disengage knob support (30).
- 9) Disengage cam assembly (6).
- 10) Remove bolts (13) and washers (14).
- 11) Disassemble front pulley (54), retain the shaft, the washer, the nut and discard cotter pin (55).
- 12) Disengage cable (53) (two strands) to remove support (12). To do so, route it between supports (21) and (12), use a screwdriver as a lever at point "a" if necessary.
- 13) Remove support (12).
- 14) If necessary, perform the following operations :
 - a) To disengage tube (19), remove and discard nut (18), remove bolt (20) and washer (17).
 - b) To disengage shaft (7), remove circlip (16) and retain washer (15).
 - c) To remove large gear (24) from shaft (22), remove and discard nut (26), remove screw (27) and washer (25).
 - d) To remove small gear (11) from shaft (7), remove and discard nut (10), remove bolt (8) and washer (9).

2. INSTALLATION OF THE FUEL SELECTOR CONTROL (Figure 401)

A. Tools and consumable materials

- Grease (TB 04-004A)
- Sealant (TB 08-907)

B. Procedure

1) If removed, perform the following operations :

- a) Install rear pulley (56) with a shaft, a washer, a nut and a new cotter pin (57).
- b) Install small gear (11) on shaft (7), attach it with bolt (8), washer (9) and a new nut (10).
- c) Lubricate with grease (TB 04-004A) shaft (7), install it on support (12) and attach it with washer (15) and circlip (16).

CAUTION : DURING INSTALLATION, BOTH HOLES (b) LOCATED ON EACH GEAR WEB, MUST BE FACE TO FACE -REFER TO DETAIL B.

- d) Lubricate with grease (TB 04-004A) shaft (22), install it on gear support (23), then install large gear (24) and attach it with screw (27), washer (25) and a new nut (26).
- e) Install tube (19) on shaft (22) and attach it with bolt (20), washer (17) and a new nut (18).

NOTE : Obey the installation direction of the tube. Dimension 0.28 in (7 mm) must be on shaft (22) side.

- 2) Install cable (53) (two strands) to install support (12). To do so, route it between supports (21) and (12), use a screwdriver as a lever at point "a" if necessary.
- 3) Install support (12) on the pedestal and position tube (19) into gimbal joint (61).
- 4) Install front pulley (54) with a shaft, a washer and a nut. Install a new cotter pin (55).
- 5) Attach supports (12) and (21) on the pedestal structure with washers (14) and bolts (13).
- 6) Remove cable grip (52).

CAUTION : KEEP THE POSITION OF HOLES (b). DURING INSTALLATION, BOTH HOLES (b) MUST BE FACE TO FACE - REFER TO DETAIL B.

- 7) Install cam assembly (6) on shaft (7) with the rounded section directed to the left, oblong hole (under cam) perpendicular to the aircraft centerline.
- 8) Attach knob support (30) with washers (5) and (28) and bolts (4) and (29) and connect microswitch (3).
- 9) Install temporarily control knob (2) with the head directed to the left and perpendicular to the aircraft centerline. Attach it with screw (1).
- 10) Set the fuel selector to "LEFT" position and make sure gimbal joint (61) is to the central position with regard to its deflection then, install bolt (58), washer (59) and a new nut (60).
- 11) Lubricate gimbal joint (61) and cable (53) with grease (TB 04-004A).
- 12) Close main switch-breaker.
- 13) Check the control and the fuel selector indicator light on the advisory panel for operation :
 - when the fuel selector is set to "OFF", the indicator light must be ON.
 - when the fuel selector is set to "LEFT" or "RIGHT", the indicator light must be OFF.
- 14) Open main switch-breaker.
- 15) Remove screw (1) and control knob (2).
- 16) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 17) Install the rear cover of central control pedestal - refer to 25-14-00.

- 18) Check handwheel (51) and elevator tab for correct deflection - refer to 27-30-00.
- 19) Bond carpet to the R.H. pedestal side using adhesive (TB 08-907).
- 20) Install the R.H. front seat - refer to 25-11-00.

- | | |
|------------------|-------------------|
| 1 - Screw | 16 - Circlip |
| 2 - Control knob | 17 - Washer |
| 3 - Microswitch | 18 - Nut |
| 4 - Bolt | 19 - Tube |
| 5 - Washer | 20 - Bolt |
| 6 - Cam assembly | 21 - Support |
| 7 - Shaft | 22 - Shaft |
| 8 - Bolt | 23 - Gear support |
| 9 - Washer | 24 - Large gear |
| 10 - Nut | 25 - Washer |
| 11 - Small gear | 26 - Nut |
| 12 - Support | 27 - Screw |
| 13 - Bolt | 28 - Washer |
| 14 - Washer | 29 - Bolt |
| 15 - Washer | 30 - Knob support |

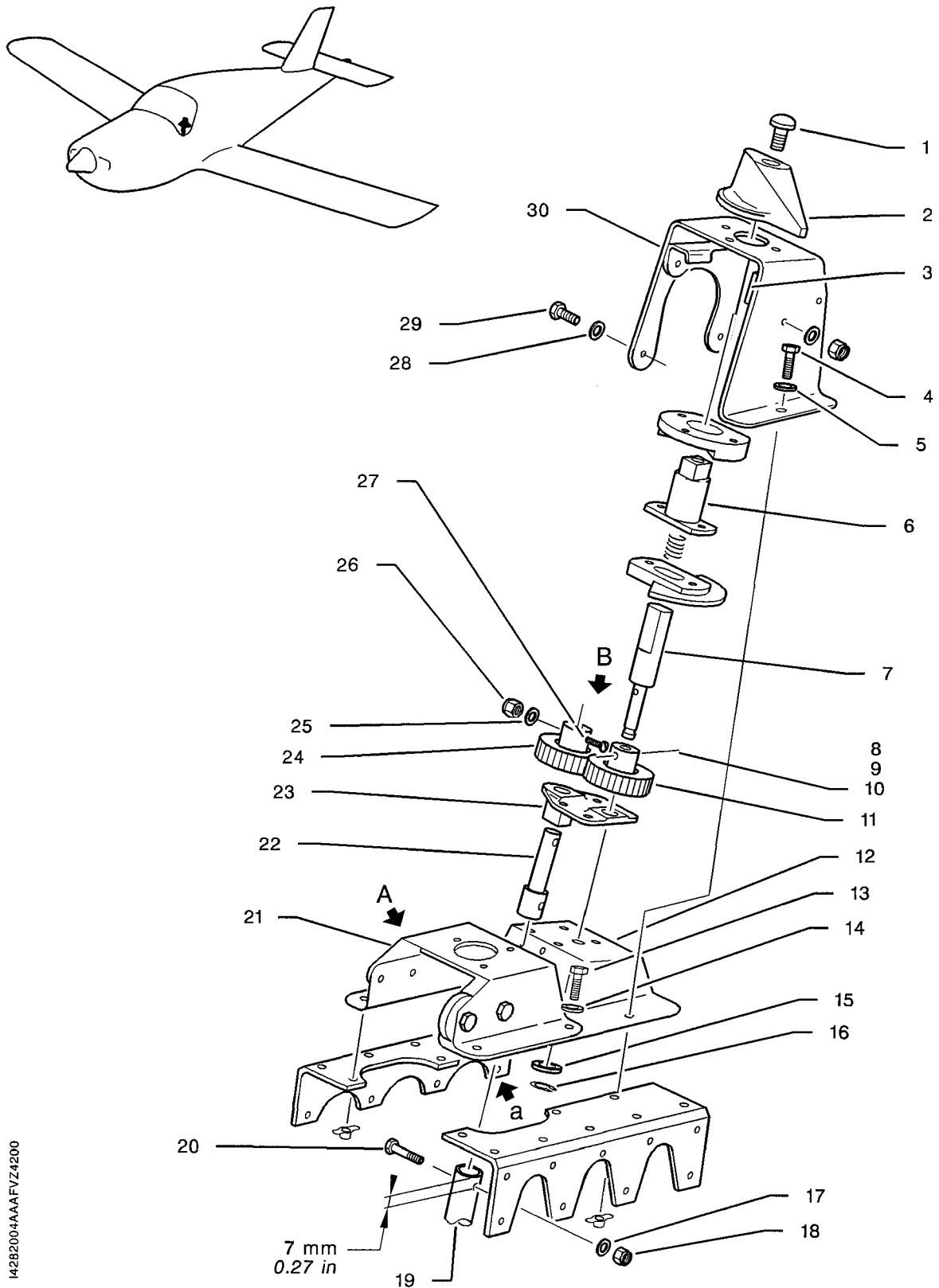
Fuel selector - Removal / Installation
Key to Figure 401 (1/2)

ABAB

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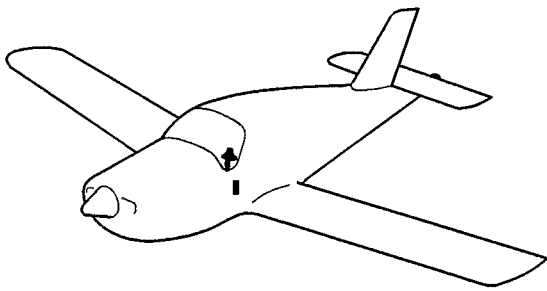
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SEP 02



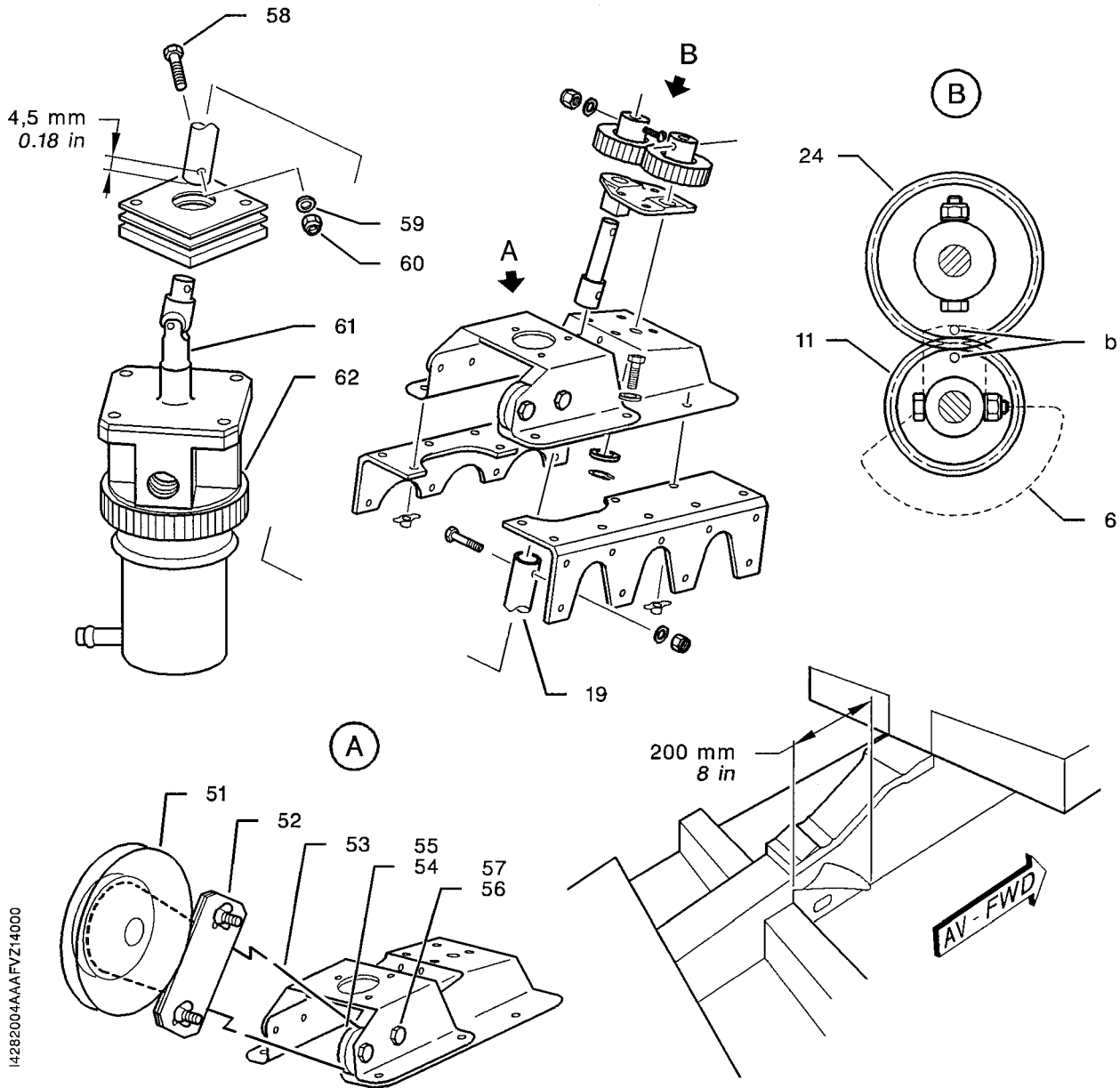
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Fuel selector - Removal / Installation
Figure 401 (1/2)

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- | | |
|-------------------|-------------------|
| 6 - Cam assembly | 55 - Cotter pin |
| 11 - Small gear | 56 - Rear pulley |
| 19 - Tube | 57 - Cotter pin |
| 24 - Large gear | 58 - Bolt |
| 51 - Handwheel | 59 - Washer |
| 52 - Cable grip | 60 - Nut |
| 53 - Cable | 61 - Gimbal joint |
| 54 - Front pulley | 62 - Unit |



Fuel selector - Removal / installation
Figure 401 (2/2)

14282004AAA FVZ14000

INDICATION SYSTEM

DESCRIPTION AND OPERATION

1. GENERAL

The main function of the indication system is to provide the pilot with information about fuel pressure and quantity.

The indication system includes :

- gages,
- fuel pressure switch,
- microswitch of selector valve indicator light,
- tank indicators fitted into engine monitoring cluster - refer to 31-10-00,
- fuel pressure indicator fitted into engine monitoring cluster - refer to 31-10-00,
- pressure indicator light of the electric pump on advisory panel - refer to 31-50-00,
- tank selector valve indicator light on advisory panel - refer to 31-50-00,
- pressure transmitter - refer to 73-30-00.

Post-MOD. 171

- low level detector,
- low-level double indicator light.

2. LOCATION (Figure 1)

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Gage	2	510 / 610	512 / 612	28-40-01
Fuel pressure switch	1	100	121, 131	28-40-03
Microswitch of selector valve indicator light	1	210	/	28-40-00
Engine monitoring cluster	1	251C	/	31-10-00
Advisory panel	1	251L	/	31-50-00
Pressure transmitter	1	100	121, 131	73-30-00
<u>Post-MOD. 171</u> Low level detector	2	510 / 610	511, 513 / 611, 613	28-40-04
<u>Post-MOD. 171</u> Low-level double indicator light	1	251L	/	28-40-00

3. DESCRIPTION

A. Gages

The gages, one on each wing, are the float type and are attached to the rear of the tanks.

B. Tank indicators

The tank indicators are fitted into engine monitoring cluster and display the remaining fuel quantities.

C. Fuel pressure switch

The fuel pressure switch allows to transmit the correct operation of the electric fuel pump to the pilot.

It controls the illumination of the pump indicator light on the advisory panel when the pressure supplied by electric fuel pump is :

- "JAEGER" pressure switch $P \geq 3.6 \pm 0.8$ PSI (0.25 ± 0.05 bar)
- "HOBBS" pressure switch $P \geq 4 \pm 1$ PSI (0.28 ± 0.07 bar)

It is located at the engine pump intake.

D. Microswitch of selector valve indicator light

The microswitch of selector valve indicator light allows to transmit the open or closed position of the selector valve to the pilot.

It controls the extinguishing of the selector valve indicator light on the advisory panel when it is on the L.H. or R.H. position.

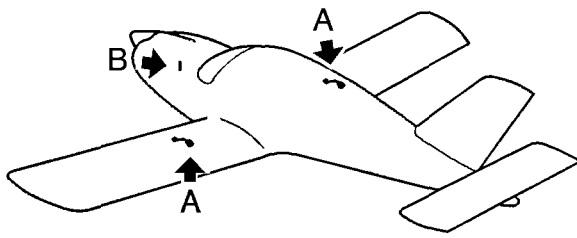
It is located on the selector valve control.

E. Low level detector

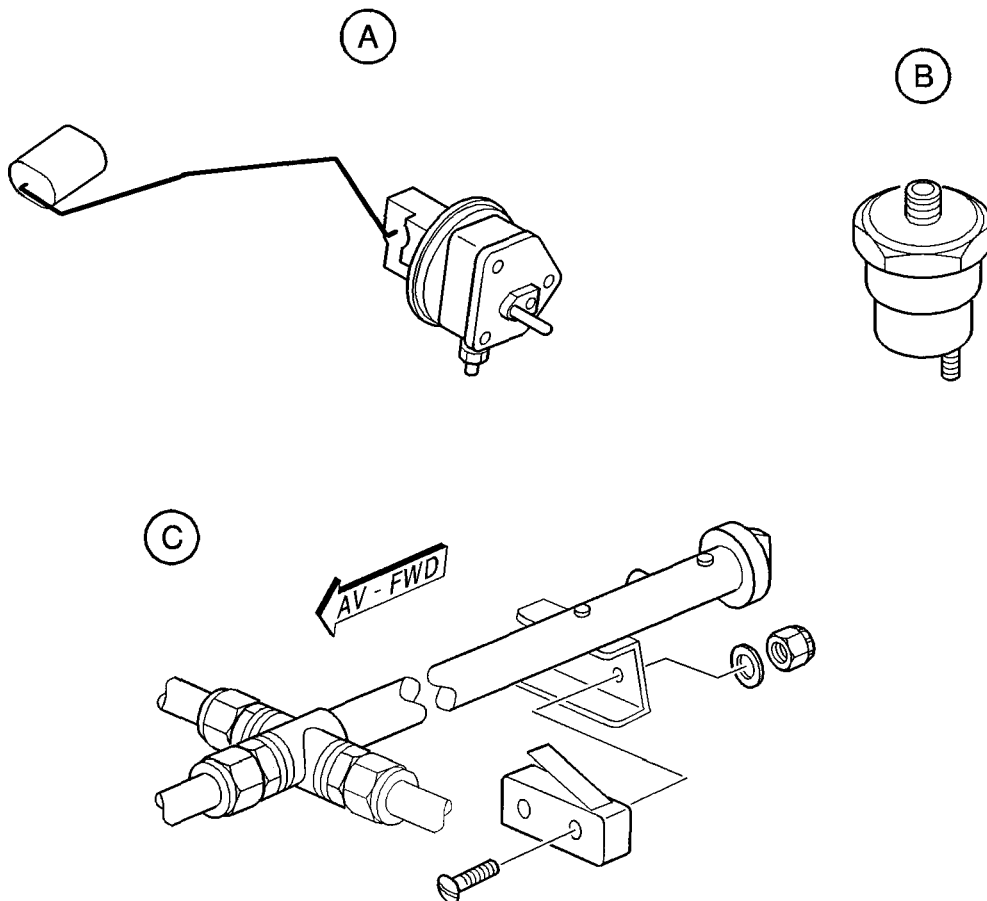
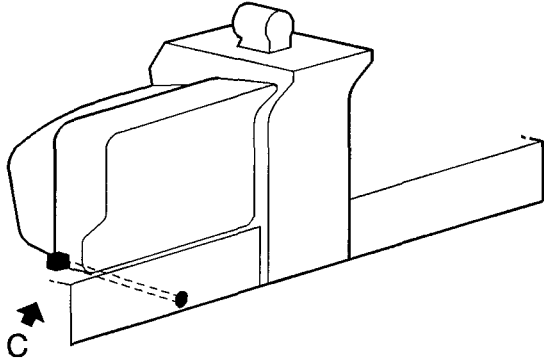
The low level detector (one for each tank) transmits to the pilot the minimum quantity of usable fuel that remains in any of the two tanks.

It is located on the root pressure bulkhead of each tank.

It controls the illumination of L.H. or R.H. red indicator light on the L.H. advisory panel when the usable fuel quantity that remains in the corresponding tank is approximately 3.4 US Gal (13 liters) for TB 9 aircraft, 6.6 US Gal (25 liters) for TB 10 aircraft.



- A - Gage
- B - Fuel pressure switch
- C - Microswitch of selector valve indicator light



Indication system - Identification and location of components
Figure 1

14284000AAAAPVZ24000

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**INDICATION SYSTEM
DESCRIPTION AND OPERATION**

1. GENERAL

The main function of the indication system is to provide the pilot with information about fuel pressure and quantity.

The indication system includes :

- gages,
- fuel pressure switch,
- microswitch of selector valve indicator light,
- tank indicators fitted into engine monitoring cluster - refer to 31-10-00,
- fuel pressure indicator fitted into engine monitoring cluster - refer to 31-10-00,
- pressure indicator light of the electric pump on advisory panel - refer to 31-50-00,
- tank selector valve indicator light on advisory panel - refer to 31-50-00,
- pressure transmitter - refer to 73-30-00.

Option Pre-MOD. 171

- low level detector,
- low level indicator light on advisory panel - refer to 31-50-00.

Post-MOD. 171

- low level detector,
- low-level double indicator light.

2. LOCATION (Figures 1 and 1A)

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Gage	4	510 / 610	512, 515 / 612, 615	28-40-01
Fuel pressure switch	1	100	121, 131	28-40-03
Microswitch of selector valve indicator light	1	210	/	28-40-00
Low level detector	2	510 / 610	513 / 613	28-40-04
Engine monitoring cluster	1	251C	/	31-10-00
Advisory panel	1	251L	/	31-50-00
Pressure transmitter	1	100	121, 131	73-30-00
<u>Post-MOD. 171</u> Low-level double indicator light	1	251L	/	28-40-00

ABAB

Validity : S/N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-00 (BG)

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3. DESCRIPTION

A. Gages

The gages, two on each wing, are the float type and are attached to the rear of the tanks.

B. Tank indicators

The tank indicators are fitted into engine monitoring cluster and display the remaining fuel quantities.

C. Fuel pressure switch

The fuel pressure switch allows to transmit the correct operation of the electric fuel pump to the pilot.

It controls the illumination of the pump indicator light on the advisory panel when the pressure supplied by electric fuel pump is :

- "JAEGER" pressure switch $P \geq 3.6 \pm 0.8$ PSI (0.25 ± 0.05 bar)
- "HOBBS" pressure switch $P \geq 4 \pm 1$ PSI (0.28 ± 0.07 bar)

It is located at the engine pump intake.

D. Microswitch of selector valve indicator light

The microswitch of selector valve indicator light allows to transmit the open or closed position of the selector valve to the pilot.

It controls the extinguishing of the selector valve indicator light on the advisory panel when it is on the L.H. or R.H. position.

It is located on the selector valve control.

E. Low level detector

The low level detector (one for each tank) transmits to the pilot the minimum quantity of usable fuel that remains in any of the two tanks.

It is located on the root pressure bulkhead of each tank.

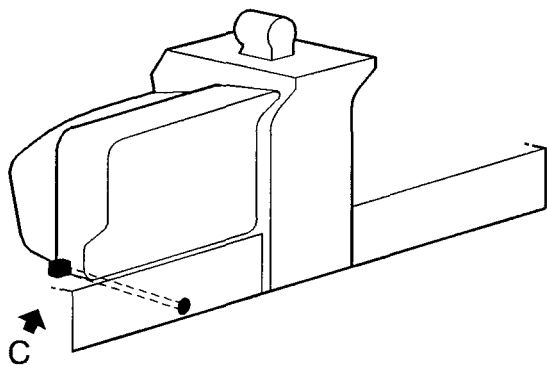
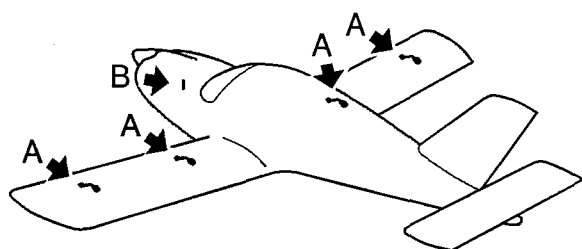
Option Pre-MOD. 171

It controls the illumination of a red indicator light on the advisory panel when the usable fuel quantity that remains in any of the two tanks is approximately 3.4 US Gal (13 liters) for TB 9 aircraft, 6.6 US Gal (25 liters) for TB10 aircraft.

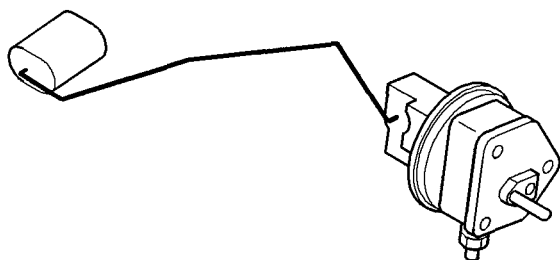
Post-MOD. 171

It controls the illumination of L.H. or R.H. red indicator light on the L.H. advisory panel when the usable fuel quantity that remains in the corresponding tank is approximately 3.4 US Gal (13 liters) for TB 9 aircraft, 6.6 US Gal (25 liters) for TB 10 aircraft.

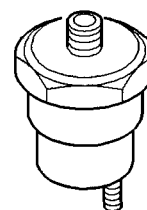
- A - Gage
- B - Fuel pressure switch
- C - Microswitch of selector valve indicator light



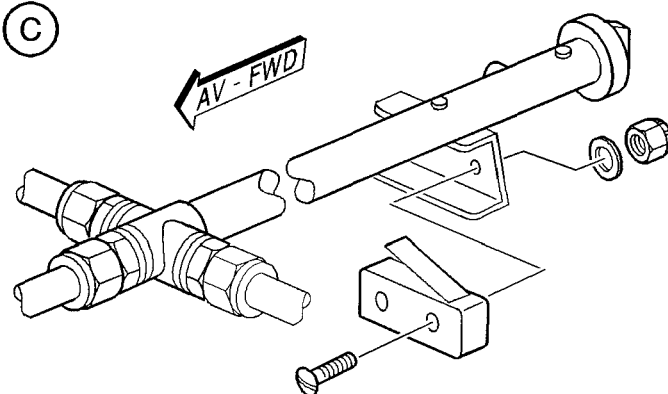
(A)



(B)



(C)



I4284000AAAAPVZ24100

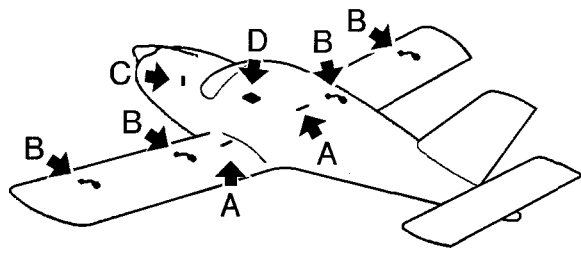
Indication system - Identification and location of components
Figure 1 - S / N 275 - 730

ABAB

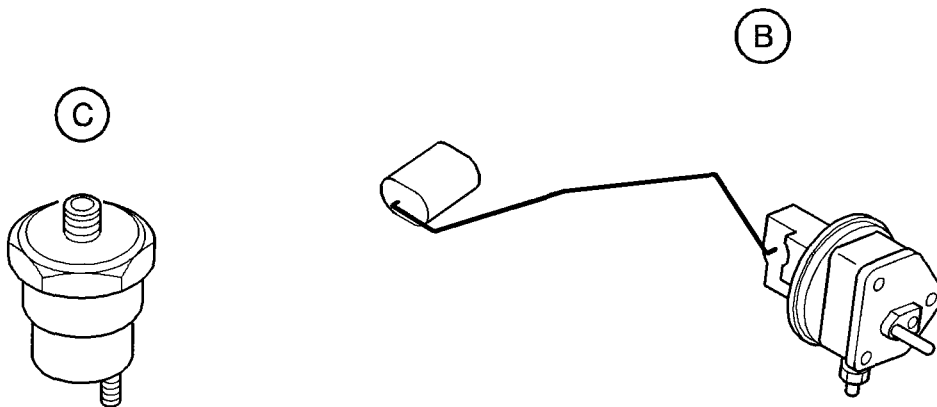
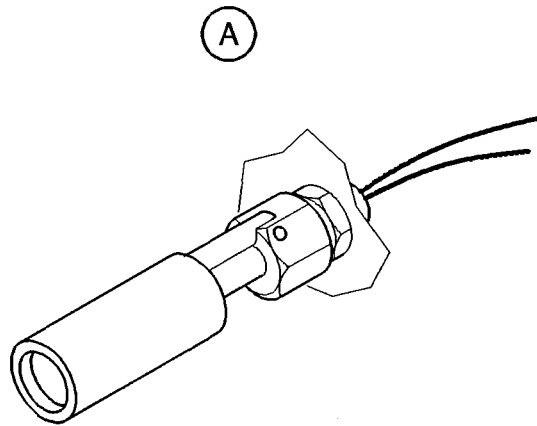
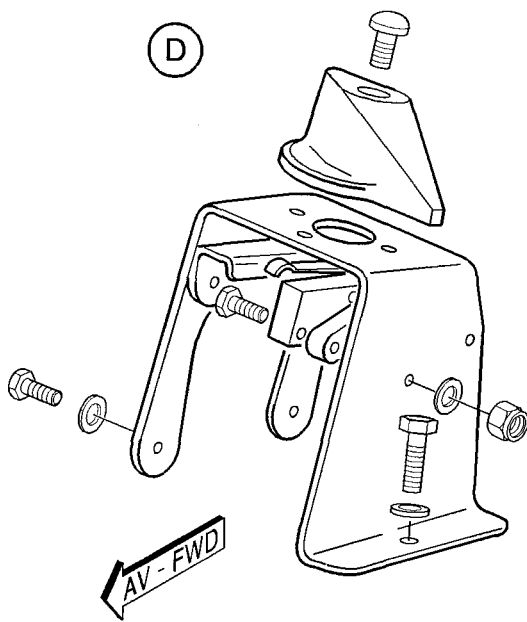
Validity : S/N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-00 (BG)

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SEP 02



- A - Low level detector (option)
- B - Gage
- C - Fuel pressure switch
- D - Microswitch of selector valve indicator light



14284000AAA PVZ14200

Indication system - Identification and location of components
Figure 1A - S / N 731 - 9999

ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-00 (BG)

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SEP 02

INDICATION SYSTEM

DESCRIPTION AND OPERATION

1. GENERAL (Figure 2)

The main function of the indication system is to provide the pilot with information about fuel pressure and quantity.

The indication system includes :

- gages,
- fuel pressure switch,
- microswitch of selector valve indicator light,
- gaging conditioner,
- tank indicators fitted into engine monitoring cluster - refer to 31-10-00,
- fuel pressure indicator fitted into engine monitoring cluster - refer to 31-10-00,
- pressure indicator light of the electric pump on advisory panel - refer to 31-50-00,
- tank selector valve indicator light on advisory panel - refer to 31-50-00,
- pressure transmitter - refer to 73-30-00.

Option Pre-MOD. 151, Standard Post-MOD. 151

- low level detector,
- low level indicator light on advisory panel - refer to 31-50-00.

Post-MOD. 171

- low level detector,
- low-level double indicator light.

2. LOCATION (Figure 1)

COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Gage	4	510 / 610	512, 513, 514, 515, 519 / 612, 613, 614, 615, 619	28-40-01
Fuel pressure switch	1	100	121, 131	28-40-03
Microswitch of selector valve indicator light	1	210	/	28-40-00
Gaging conditioner	1	210	218	28-40-02
Low level detector	2	510 / 610	511, 513 / 611, 613	28-40-04
Engine monitoring cluster	1	251C	/	31-10-00
Advisory panel	1	251L	/	31-50-00

ACAC

Validity : S/N969, 1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-00 (BM) Page 1
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COMPONENT	QTY	AREA	ACCESS DOOR	REFERENCE
Pressure transmitter	1	100	121, 131	73-30-00
Post-MOD. 171 Low-level double indicator light	1	251L	/	28-40-00

3. DESCRIPTION

A. Gages

The gages, two on each wing, are capacity gage type and are attached to the rear of the tanks on the wing spar.

The level is measured by a capacitor made of two concentric tubes which form the frames.

The sensor capacity value varies proportionally with the level.

The oscillator, located on each sensor, changes the capacitor value in frequencies which are proportional to the level.

The sensor transmits the numerical signal into the conditioner.

B. Gaging conditioner

The conditioner which is supplied by the aircraft network, generates the auxiliary power supplies (+ 9 V and + 5 V).

The electric signals which come from the sensors, are converted and commuted before the micro-controller is in charge of them.

The micro-controller calculates the level of each wing. After reading the aircraft type thanks to the coding, the micro-controller selects the volume which corresponds to the measured level, in the aircraft data table. The measure is successively made on each wing, the average value is converted by a numerical filter.

During the level calculation, the micro-controller checks if the frequency of each sensor is right.

- full tanks : Frequency = 6000 HZ ± 200
- empty tanks : Frequency = 8200 HZ ± 200

If a reading is wrong, the micro-controller informs the user about the failure by a pointer pulse on the galvanometer corresponding to the concerned wing.

- external sensor failure : the pointer hunts around the value read by the internal sensor.
- internal sensor failure : the pointer hunts around zero value.

After the conversion by a dual digital-analogical converter, the voltages which are proportional to the volumes of the wings go through an adapter stage allowing the independent setting of the Min and Max of each wing thanks to the potentiometers accessible with the closed boxes.

Each volume is displayed on an indicator.

C. Tank indicators

The tank indicators are fitted into engine monitoring cluster and display the remaining fuel quantities.

D. Fuel pressure switch

The fuel pressure switch allows to transmit the correct operation of the electric fuel pump to the pilot.

It controls the illumination of the pump indicator light on the advisory panel when the pressure supplied by electric fuel pump is :

- "JAEGER" pressure switch $P \geq 3.6 \pm 0.8$ PSI (0.25 \pm 0.05 bar)
- "HOBBS" pressure switch $P \geq 4 \pm 1$ PSI (0.28 \pm 0.07 bar)

It is located at the engine pump intake.

E. Microswitch of selector valve indicator light

The microswitch of selector valve indicator light allows to transmit the open or closed position of the selector valve to the pilot.

It controls the extinguishing of the selector valve indicator light on the advisory panel when it is on the L.H. or R.H. position.

It is located on the selector valve control.

F. Low level detector

The low level detector (one for each tank) transmits to the pilot the minimum quantity of usable fuel that remains in any of the two tanks.

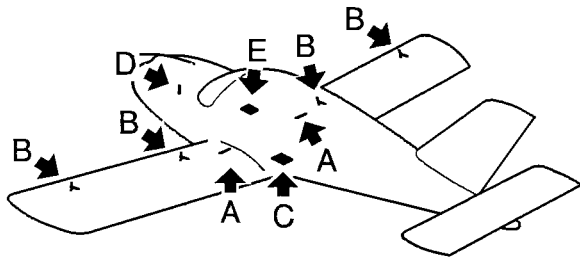
It is located on the root pressure bulkhead of each tank.

Option Pre-MOD. 151, Standard Post-MOD. 151

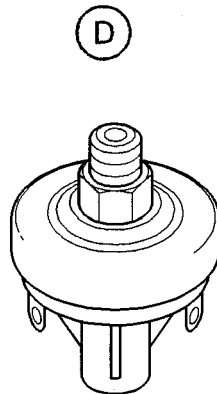
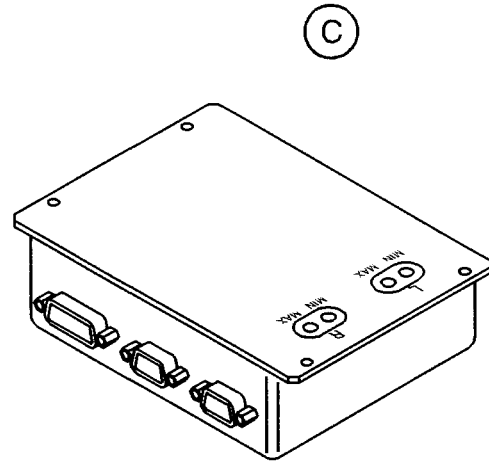
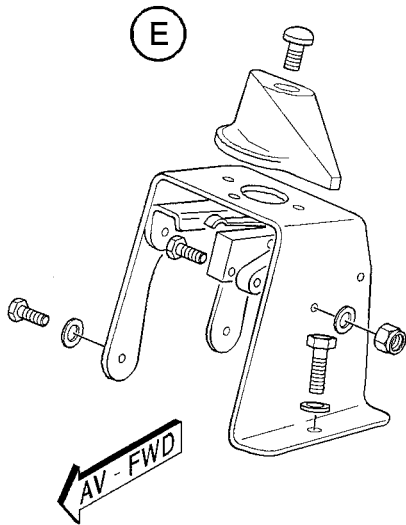
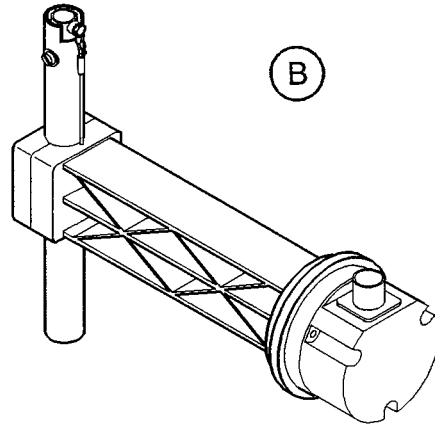
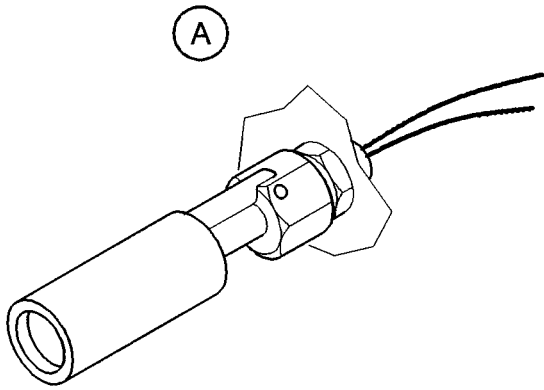
It controls the illumination of a red indicator light on the advisory panel when the usable fuel quantity that remains in any of the two tanks is approximately 3.4 US Gal (13 liters) for TB 9 aircraft, 6.6 US Gal (25 liters) for TB10 aircraft.

Post-MOD. 171

It controls the illumination of L.H. or R.H. red indicator light on the L.H. advisory panel when the usable fuel quantity that remains in the corresponding tank is approximately 3.4 US Gal (13 liters) for TB 9 aircraft, 6.6 US Gal (25 liters) for TB 10 aircraft.

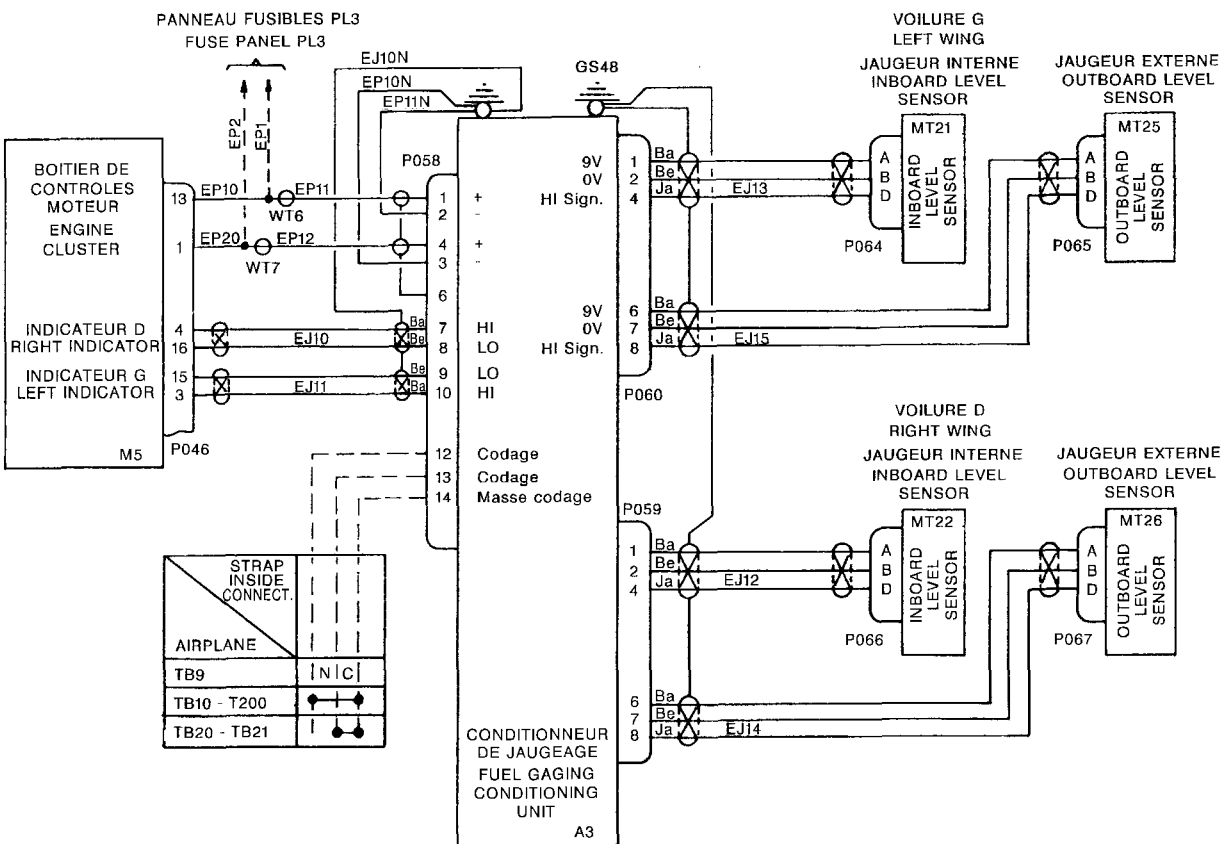


- A - Low level detector
- B - Gage
- C - Gaging conditioner
- D - Fuel pressure switch
- E - Microswitch of selector valve indicator light



Indication system - Identification and location of components
Figure 1

I4284000AAAAPVZ4000



Indication system - Schematic
Figure 2

I4284000AACIVZ4000

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Validity : S/N 969, 1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-00

(BM)

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INDICATION SYSTEM

TROUBLE-SHOOTING

1. TROUBLE-SHOOTING PROCEDURE

Figure 101 : No information display on both gage indicators.

Figure 102 : Pointer hunting on L.H. indicator.

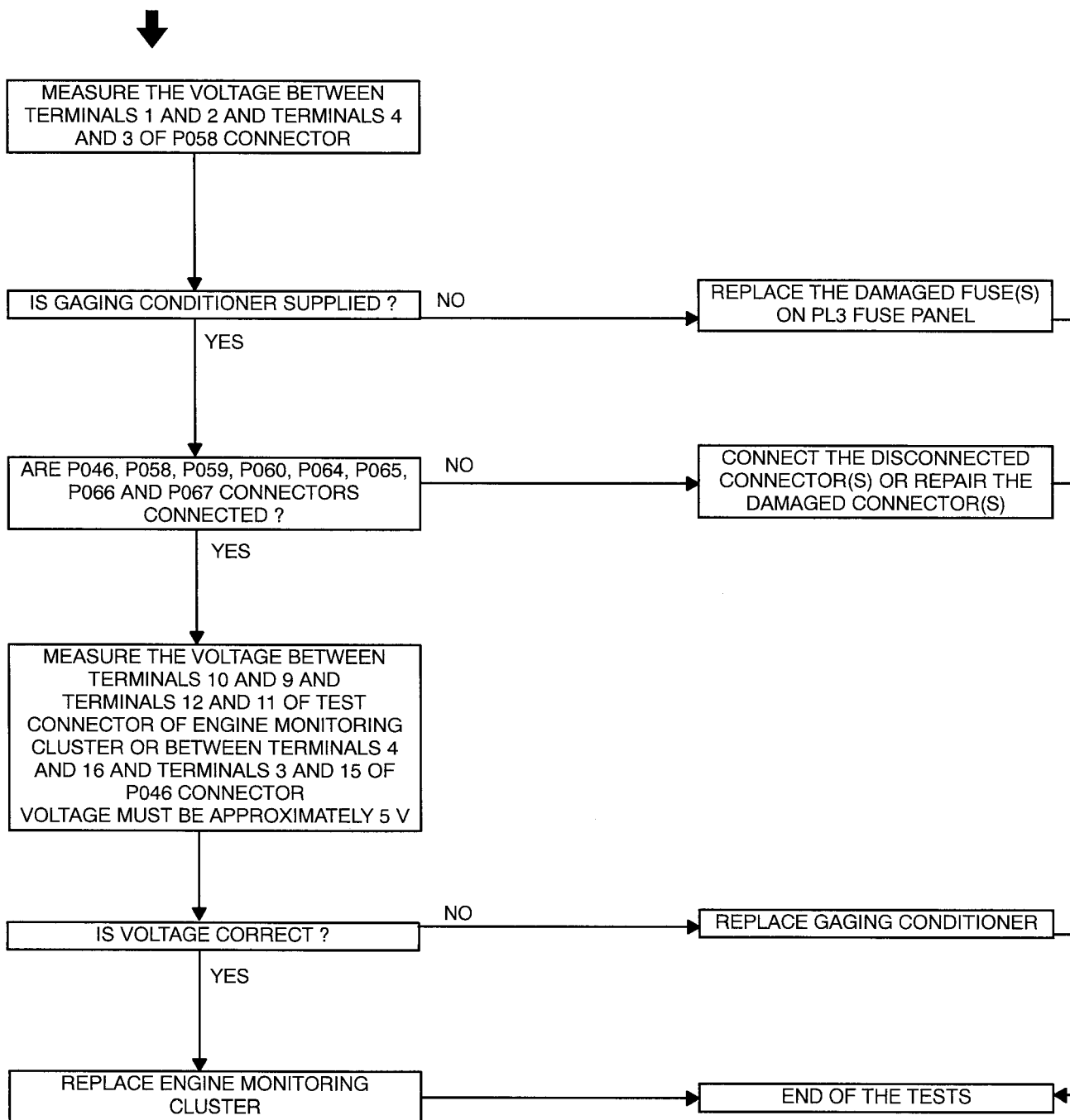
Figure 103 : Pointer hunting on R.H. indicator.

Figure 104 : No information display on L.H. gage indicator.

Figure 105 : No information display on R.H. gage indicator.

NO INFORMATION DISPLAY
ON BOTH GAGE INDICATORS

REQUIREMENTS
FULL TANKS
MAIN SWITCH-BREAKER IS CLOSED



No information display on both gage indicators
Figure 101

AAAA

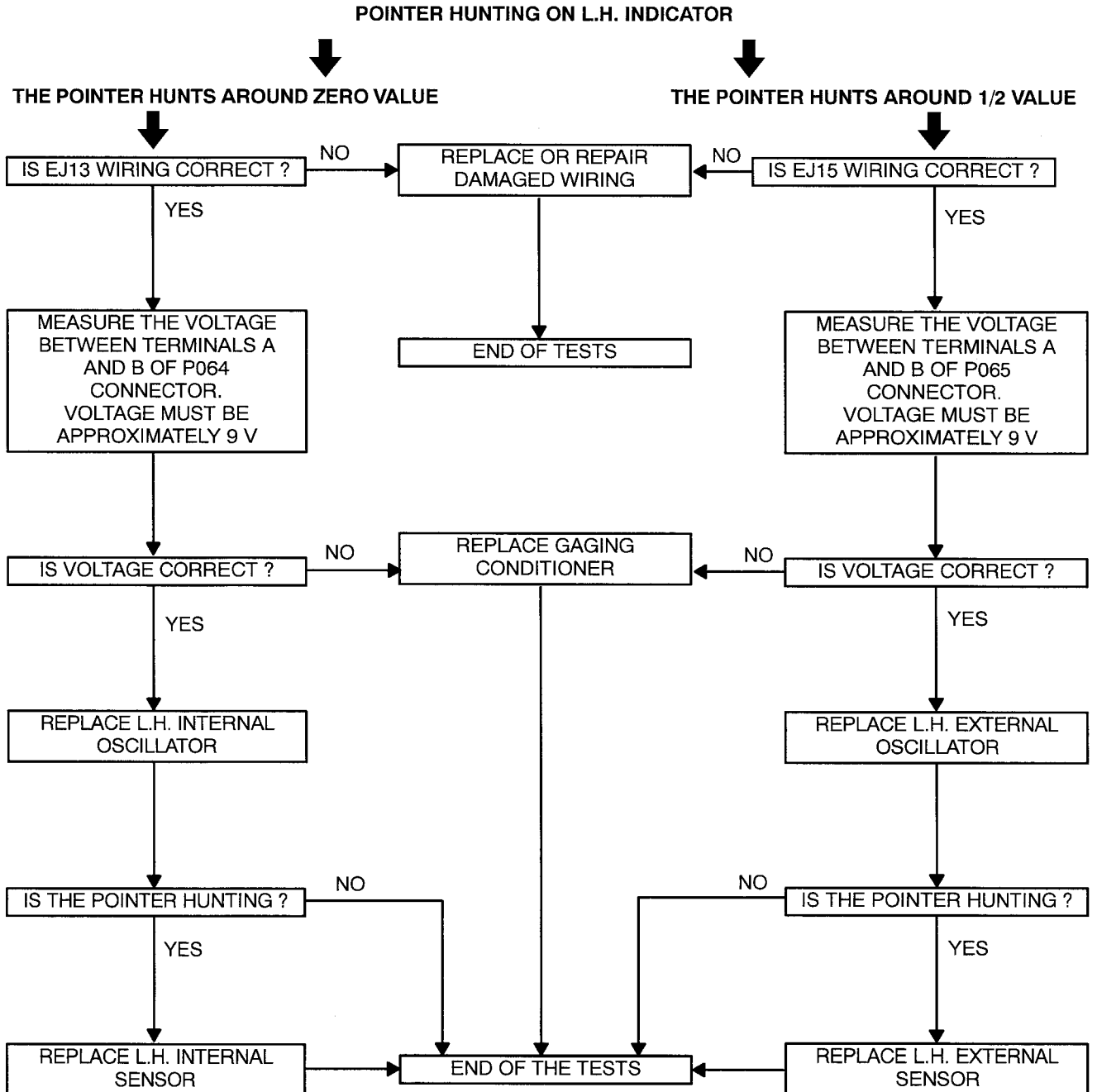
Validity : S/N 969,1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-00

(BA)

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REQUIREMENTS
FULL TANKS
MAIN SWITCH-BREAKER IS CLOSED



Pointer hunting on L.H. indicator
Figure 102

AAAA

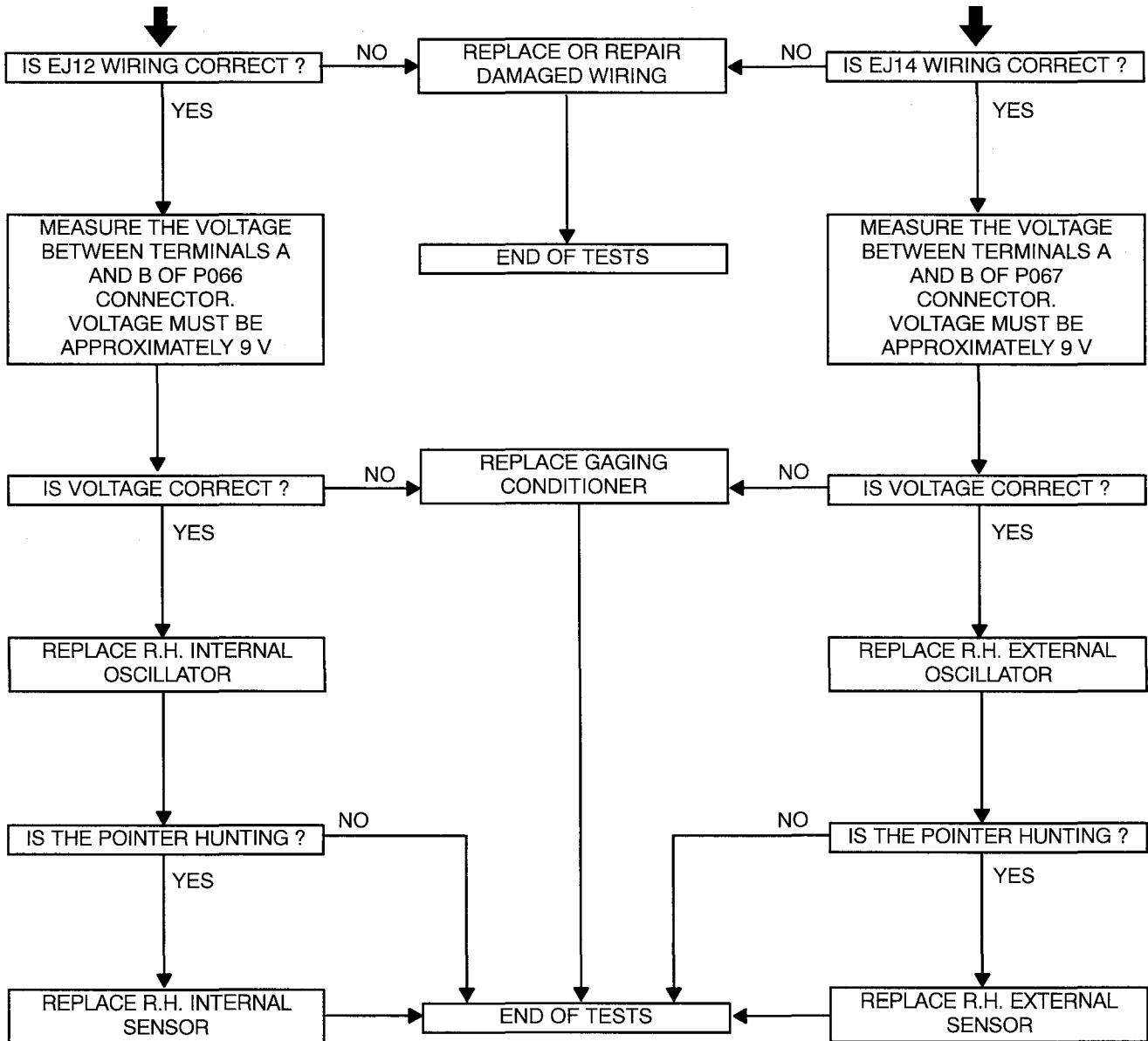
Validity : S/N 969,1185, 1214, 1478, 1506 - 1508, 1513 - 9999

REQUIREMENTS
FULL TANKS
MAIN SWITCH-BREAKER IS CLOSED

POINTER HUNTING ON R.H. INDICATOR

THE POINTER HUNTS AROUND ZERO VALUE

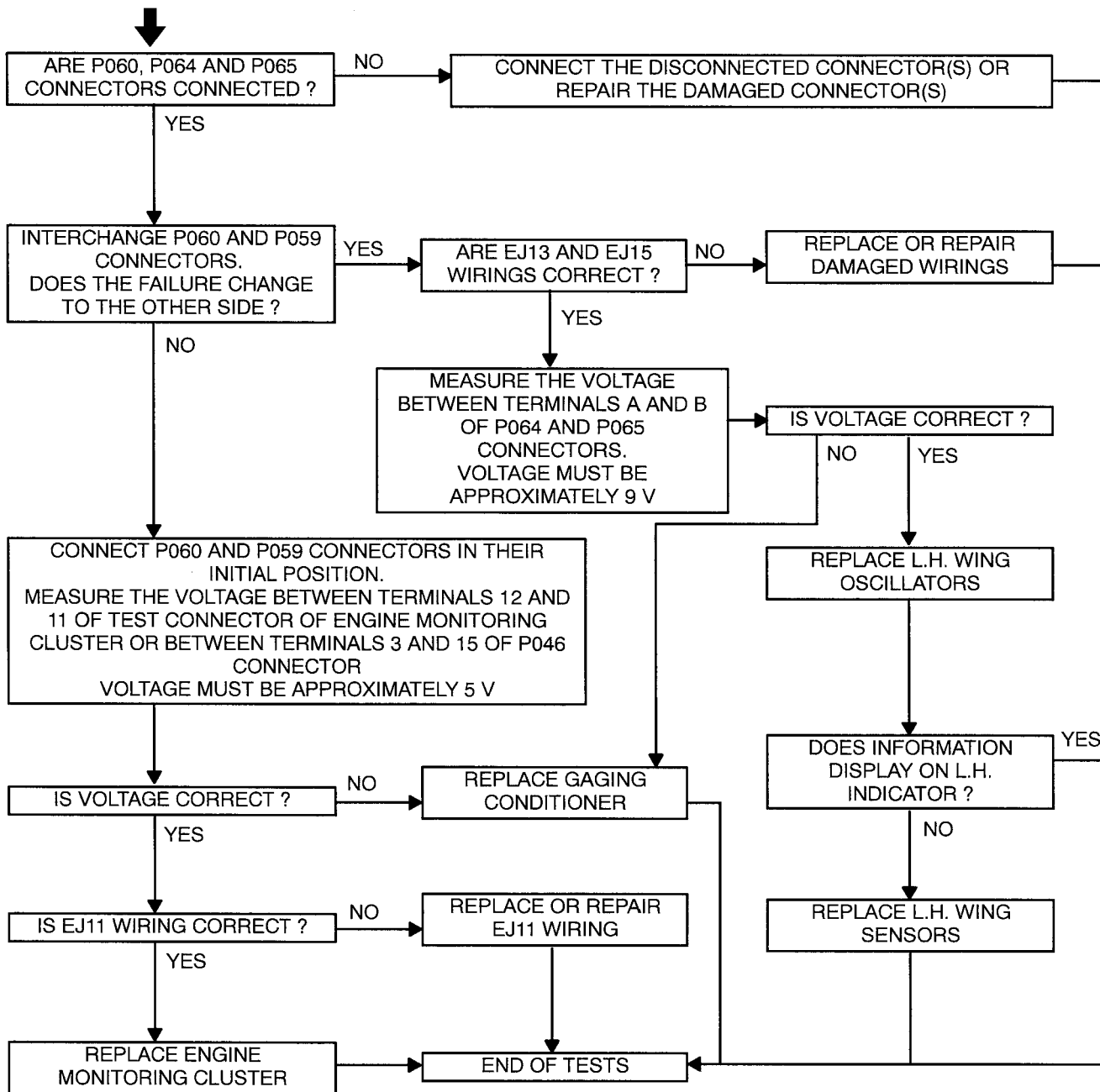
THE POINTER HUNTS AROUND 1/2 VALUE



Pointer hunting on R.H. indicator
Figure 103

NO INFORMATION DISPLAY ON
L.H. GAGE INDICATOR

REQUIREMENTS
FULL TANKS
MAIN SWITCH-BREAKER IS CLOSED



No information display on L.H. gage indicator
Figure 104

AAAA

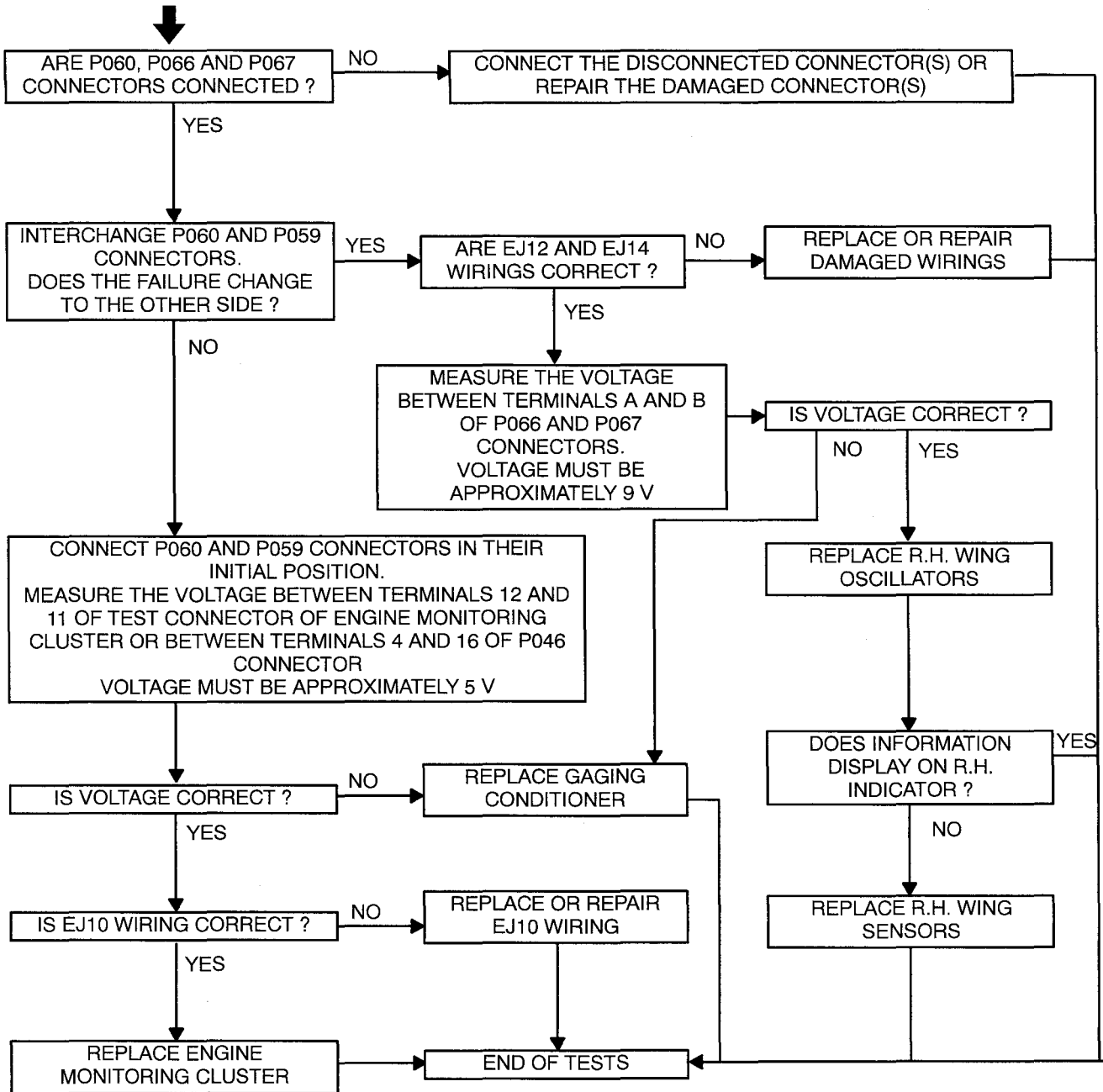
Validity : S/N 969,1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-00 (BA)

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NO INFORMATION DISPLAY
ON R.H. GAGE INDICATOR

REQUIREMENTS
FULL TANKS
MAIN SWITCH-BREAKER IS CLOSED



No information display on R.H. gage indicator
Figure 105

AAAA

Validity : S/N 969,1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-00 (BA)

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GAGES

REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

NOTE : Removal and installation of gages do not affect adjustment. However, if an adjustment is necessary, it should be done only by a specialized workshop or by the manufacturer. Thus, before dispatching gages, make sure that an adjustment or a replacement is necessary.

1. REMOVAL OF THE GAGES (Figure 401)

A. Tools and consumable materials

- Cleaning agent (TB 11-914)
- Lintfree clean cloth

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Drain the fuel tanks – refer to 12-11-02.
- 2) Remove the inspection doors 512 and 516 [612 and 616] – refer to 52-40-00.
- 3) Remove nuts (14) and (17), washers (13) and (20), bolts (11) and (21) and discard cotter pins (15) and (18). Disconnect intermediate aileron control rod (10) from bellcranks (12) and (19).
- 4) Pull rod (10) towards the wing tip.
- 5) Disconnect electric connector (5) from gage (2).
- 6) Remove bolts (4) securing gage (2) to base (6). Retain washers (3).
- 7) Disengage gage (2) from wing.
- 8) Remove residual sealant from base (6) and gage (2) and clean both surfaces with a lintfree clean cloth moistened with cleaning agent (TB 11-914).

2. INSTALLATION OF THE GAGES (Figure 401)

A. Tools and consumable materials

- Sealant (TB 09-019A)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Apply sealant (TB 09-019A) to base (6) and gage (2) – refer to 20-00-09.

CAUTION : MAKE SURE GAGE (2) IS CORRECTLY POSITIONED ON BASE (6).

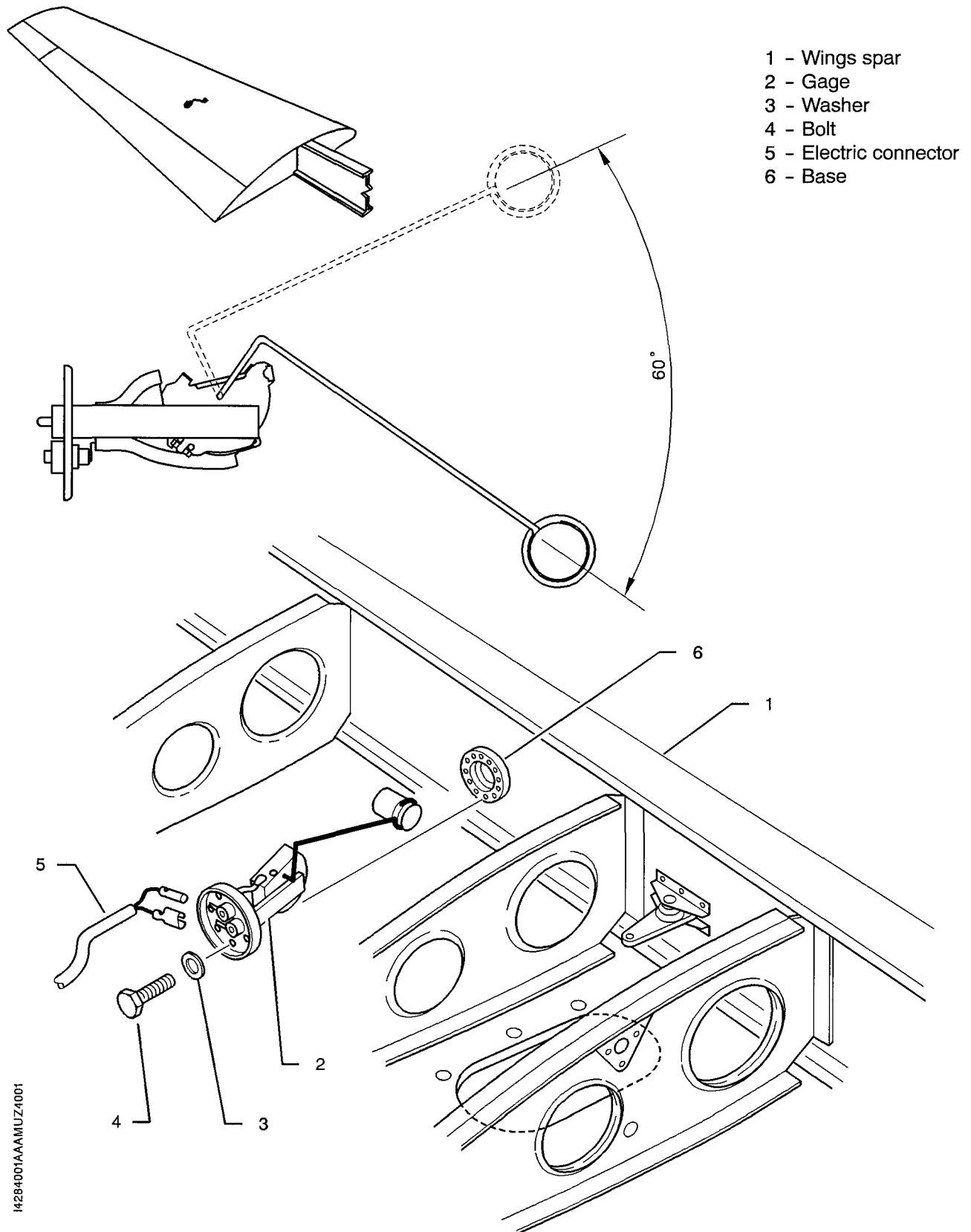
- 2) Install gage (2) on base (6) and attach it with bolts (4) and washers (3).

AAAA

Validity : S / N 1 - 274

28-40-01 (BA) Page 401
SEP 02

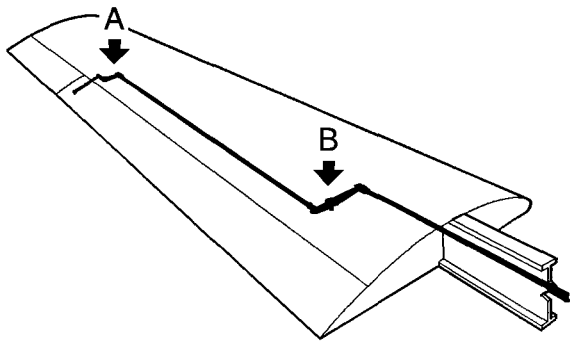
- 3) Connect electric connector (5).
- 4) Install rod (10) and attach it to bellcranks (12) and (19) with bolts (11) and (21), washers (13) and (20) and nuts (14) and (17). Install new cotter pins (15) and (18).
- 5) Fill up fuel tanks - refer to 12-11-01.
- 6) Make sure that there is no leakage between base (6) and gage (2).
- 7) Close main switch-breaker.
- 8) Make sure the fuel quantity displayed on the gage indicator is correct.
- 9) Open main switch-breaker.
- 10) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 11) Install the inspection doors 512 and 516 [612 and 616] - refer to 52-40-00.



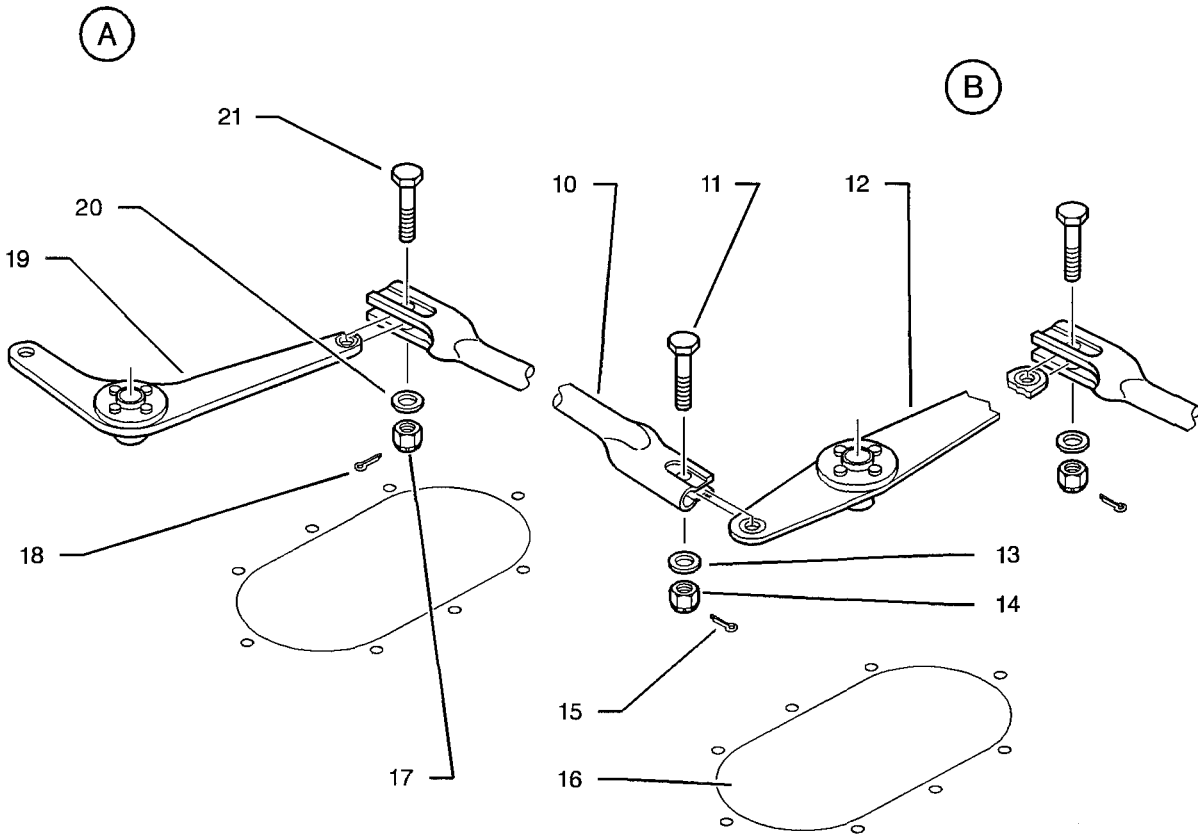
14284001AAAAMUZ4001

Gages - Removal / Installation
Figure 401 (1/2)

AAAA
Validity : S / N 1 - 274



- 10 - Rod
- 11 - Bolt
- 12 - Bellcrank
- 13 - Washer
- 14 - Nut
- 15 - Cotter pin
- 16 - Inspection door
- 17 - Nut
- 18 - Cotter pin
- 19 - Bellcrank
- 20 - Washer
- 21 - Bolt



14271002AAAA BYZ14100

Gages - Removal / Installation
Figure 401 (2/2)

AAAA
Validity : S / N 1 - 274

GAGES

REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

NOTE : Removal and installation of gages do not affect adjustment. However, if an adjustment is necessary, it should be done only by a specialized workshop or by the manufacturer. Thus, before dispatching gages, make sure that an adjustment or a replacement is necessary.

1. REMOVAL OF THE GAGES (Figure 401)

A. Tools and consumable materials

None

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Drain the fuel tanks - refer to 12-11-02.
- 2) Remove the inspection doors 512 and 516 [612 and 616] and 515 [615], if necessary - refer to 52-40-00.
- 3) Remove nuts (14) and (17), washers (13) and (21), bolts (11) and (22) and discard cotter pins (15) and (18). Disconnect intermediate aileron control rod (10) from bellcranks (12) and (20).
- 4) Pull rod (10) towards the wing tip.
- 5) Disconnect electric connector (8) from gage (5).
- 6) Remove bolts (4) securing gage (5) to base (7). Retain washers (3).
- 7) Disengage gage (5) from wing.
- 8) Discard seal (6).

2. INSTALLATION OF THE GAGES (Figure 401)

A. Tools and consumable materials

None

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

CAUTION : MAKE SURE GAGES ARE CORRECTLY POSITIONED IN THE WINGS.

NOTE 1 : Cylindrical float gages - Detail B

Gage, rod elbowed at 64°

ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-01 (BG) Page 401
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NOTE 2 : Oblong float gages - Detail C

Gage, rod elbowed at 56°

The oblong float gages have a distinctive mark on the body (color point) in order to avoid installation errors during their replacement.

With fuel tanks 20.1 US Gal (76 liters)

L.H. wing	:	Root gage	:	green point
		Tip gage	:	red point
R.H. wing	:	Root gage	:	green point
		Tip gage	:	red point

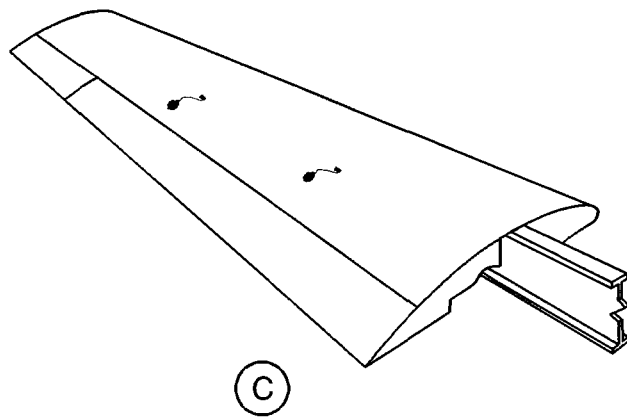
With fuel tanks 26.9 US Gal (102 liters)

L.H. wing	:	Root gage	:	green point
		Tip gage	:	green point
R.H. wing	:	Root gage	:	red point
		Tip gage	:	red point

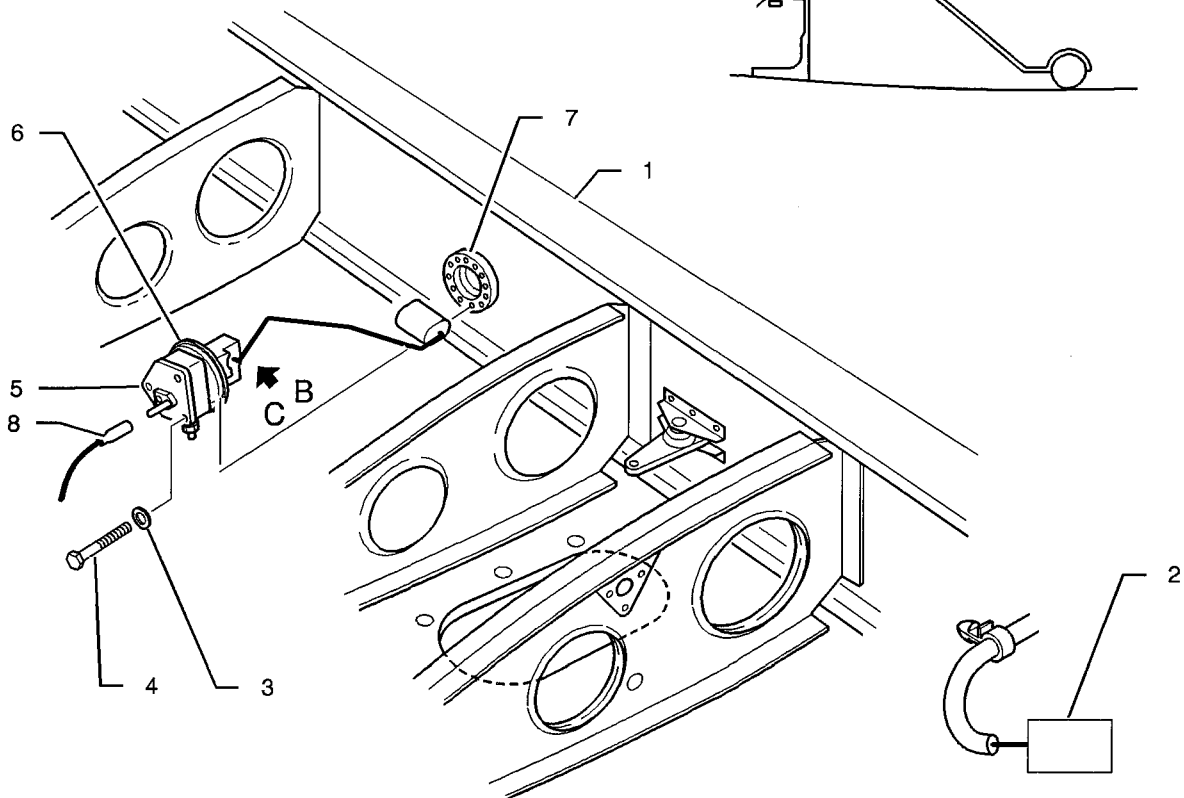
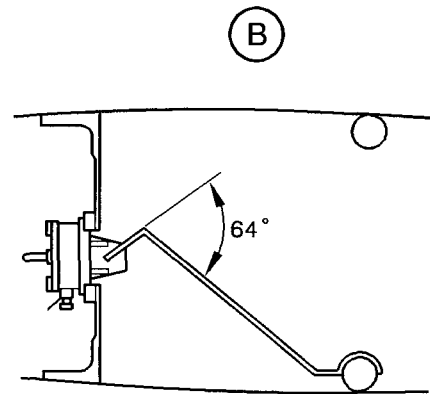
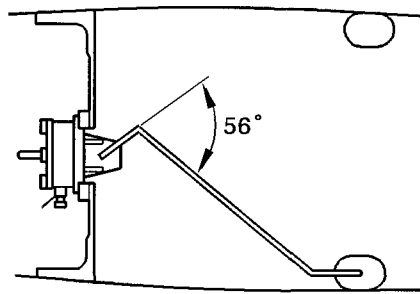
- 1) Install a new seal (6) on gage (5).

CAUTION : MAKE SURE GAGE (5) IS CORRECTLY POSITIONED ON BASE (7).

- 2) Install gage (5) on base (7) and attach it with bolts (4) and washers (3).
- 3) Connect electric connector (8).
- 4) Install rod (10) and attach it to bellcranks (12) and (20) with bolts (11) and (22), washers (13) and (21) and nuts (14) and (17). Install new cotter pins (15) and (18).
- 5) Fill up fuel tanks - refer to 12-11-01.
- 6) Make sure that there is no leakage between base (7) and gage (5).
- 7) Close main switch-breaker.
- 8) Make sure the fuel quantity displayed on the gage indicator is correct.
- 9) Open main switch-breaker.
- 10) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 11) Install the inspection doors 512 and 516 [612 and 616] and 515 [615], if removed - refer to 52-40-00.



- 1 - Wings spar
- 2 - Fuselage wing electric connector
- 3 - Washer
- 4 - Bolt
- 5 - Gage
- 6 - Seal
- 7 - Base
- 8 - Electric connector



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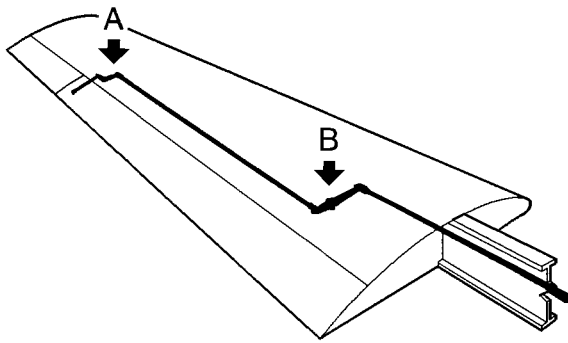
Gages - Removal / Installation
Figure 401 (1/2)

ABAB

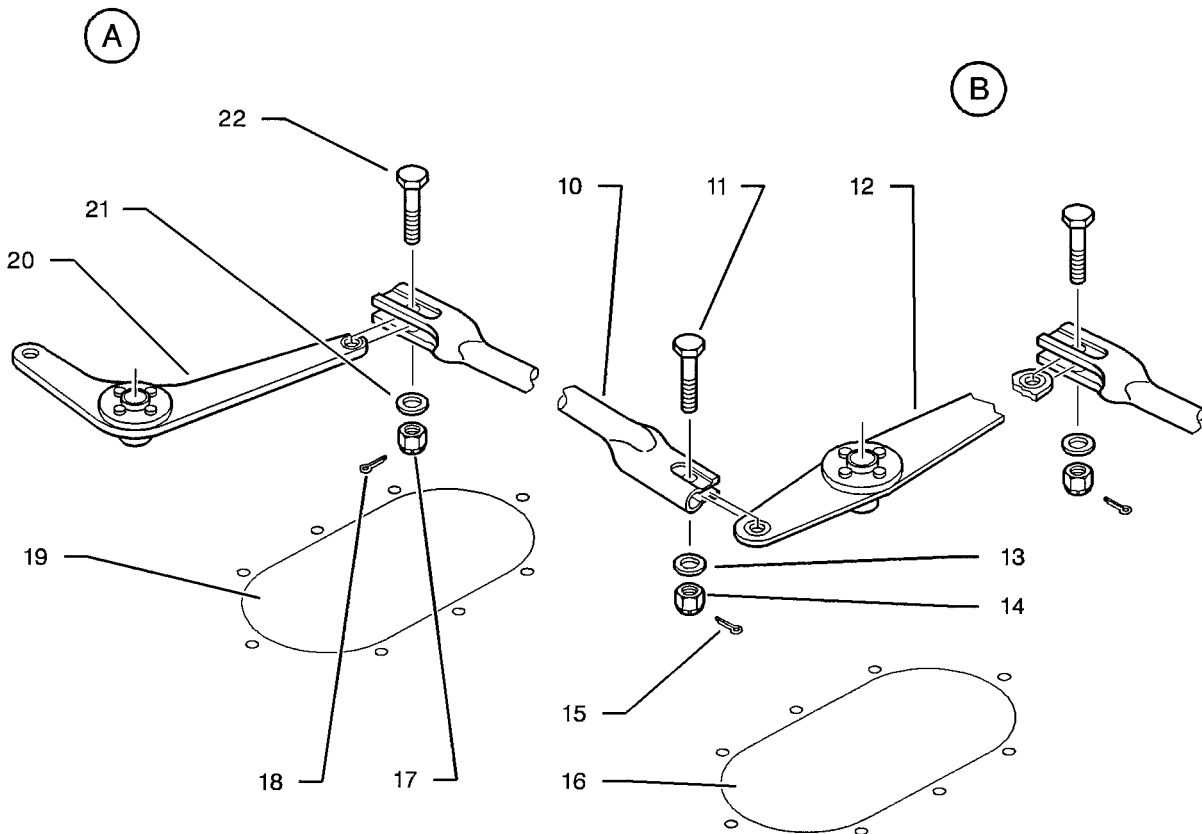
Validity : S/N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-01 (BG)

Page 403
SEP 02



- 10 - Rod
- 11 - Bolt
- 12 - Bellcrank
- 13 - Washer
- 14 - Nut
- 15 - Cotter pin
- 16 - Inspection door
- 17 - Nut
- 18 - Cotter pin
- 19 - Inspection door
- 20 - Bellcrank
- 21 - Washer
- 22 - Bolt



Gages - Removal / Installation
Figure 401 (2/2)

14271002AAABYZ14200

ABAB
Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

GAGES

REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

NOTE : Removal and installation of gages do not affect adjustment. However, if the gage has been replaced or if an adjustment is necessary, refer to Page 501.

NOTE : After applying this procedure, MOD. 194 is applied.

1. REMOVAL OF THE GAGES (Figure 401)

A. Tools and consumable materials

- Isopropyl alcohol (TB 10-002)
- Lintfree clean cloth
- Spatula
- Hot air generator

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Drain the fuel tanks - refer to 12-11-02.
- 2) Remove the inspection doors 512, 515, 516 [612, 615, 616] and 519 [619], if installed - refer to 52-40-00.
- 3) Remove the tight inspection doors 513 and 514 [613 and 614] - refer to 52-40-00.
- 4) Remove nuts (18) and (21), washers (17) and (25), bolts (15) and (26) and discard cotter pins (19) and (22). Disconnect intermediate aileron control rod (14) from bellcranks (16) and (24).
- 5) Pull rod (14) towards the wing tip.
- 6) Disconnect electric connector (10) from oscillator (7).
- 7) Remove bolts (9) and washers (8) and retain oscillator (7).
- 8) Hold sensor (3) through tight inspection door and remove and discard locknuts (11) and retain washers (12).
- 9) Remove sensor (3) and discard O-ring (2).
- 10) Remove bolts (6) and molded spacer (13) from base (1).

Post-MOD. 194

- 11) Remove sealant from molded spacer (13), washers (12) and bolts (6) using a spatula and clean the surfaces with a lintfree clean cloth moistened with isopropyl alcohol (TB 10-002).
- 12) Dry the surfaces using a hot air generator.

2. INSTALLATION OF THE GAGES (Figure 401)

A. Tools and consumable materials

- Petrolatum (TB 04-012)
- Sealant (TB 08-004B)
- Isopropyl alcohol (TB 10-002)
- Lintfree clean cloth

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

CAUTION : A GAGE INCLUDES ONE SENSOR AND ONE OSCILLATOR. INSTALLATION OF ONE OSCILLATOR AND ONE SENSOR WITH DIFFERENT AMENDMENTS (A00 OR A01 OR A02...) IS PROHIBITED. BUT INSTALLATION OF TWO GAGES WITH DIFFERENT AMENDMENTS (A00 OR A01 OR A02...) IS AUTHORIZED.

- 1) Check molded spacer (13) for condition. Replace it if necessary.
- 2) Apply sealant (TB 08-004B) to bolts (6).
- 3) Secure molded spacer (13) onto base (1) with bolts (6).
- 4) Make sure there is no sealant on bearing surface of O-ring (2) inside the tank.
- 5) Put sensor (3) equipped with a new O-ring (2) through the tight inspection door.

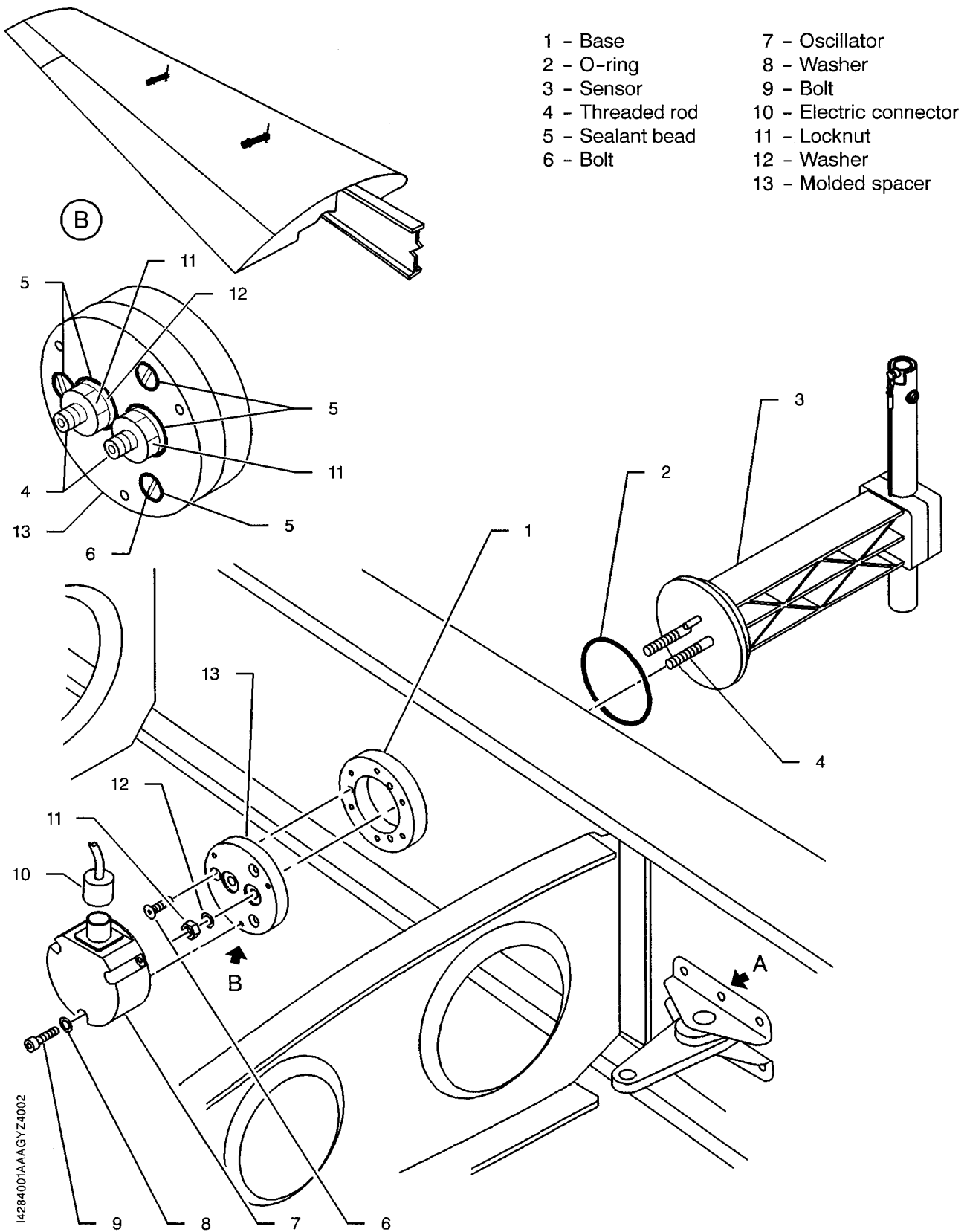
NOTE : During installation of sensor (3) hold O-ring (2) with petrolatum (TB 04-012).

- 6) Install and attach sensor (3) onto molded spacer (13) with washers (12) and new locknuts (11). Torque - refer to 20-00-01.

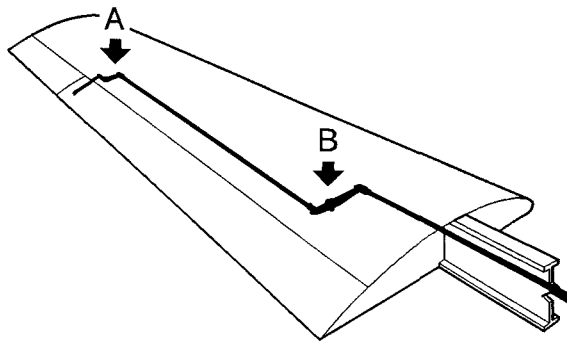
CAUTION : DO NOT APPLY SEALANT TO THREADED RODS (4) OF SENSOR (3) TO AVOID CONNECTION PORTS OF OSCILLATOR (7) FROM BEING BLOCKED.

- 7) Make a sealant bead (5) around washers (12) and bolts (6) with sealant (TB 08-004B) - refer to Detail B.
- 8) Wipe off excess sealant using a lintfree clean cloth moistened with isopropyl alcohol (TB 10-002).
- 9) Install and secure oscillator (7) onto threaded rods (4) of sensor (3) using washers (8) and bolts (9).
- 10) Connect electric connector (10) to oscillator (7).
- 11) Install rod (14) and secure it to bellcranks (16) and (24) with bolts (15) and (26), washers (17) and (25) and nuts (18) and (21). Install new cotter pins (19) and (22).
- 12) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 13) Install the tight inspection doors 513 and 514 [613 and 614] - refer to 52-40-00.
- 14) Fill up fuel tanks - refer to 12-11-01.
- 15) Check base (1), molded spacer (13) and the tight inspection doors 513 and 514 [613 and 614] for leaks.
- 16) Close main switch-breaker.
- 17) Make sure the fuel quantity displayed on the gage indicator is correct. Adjust if necessary - refer to Page 501.

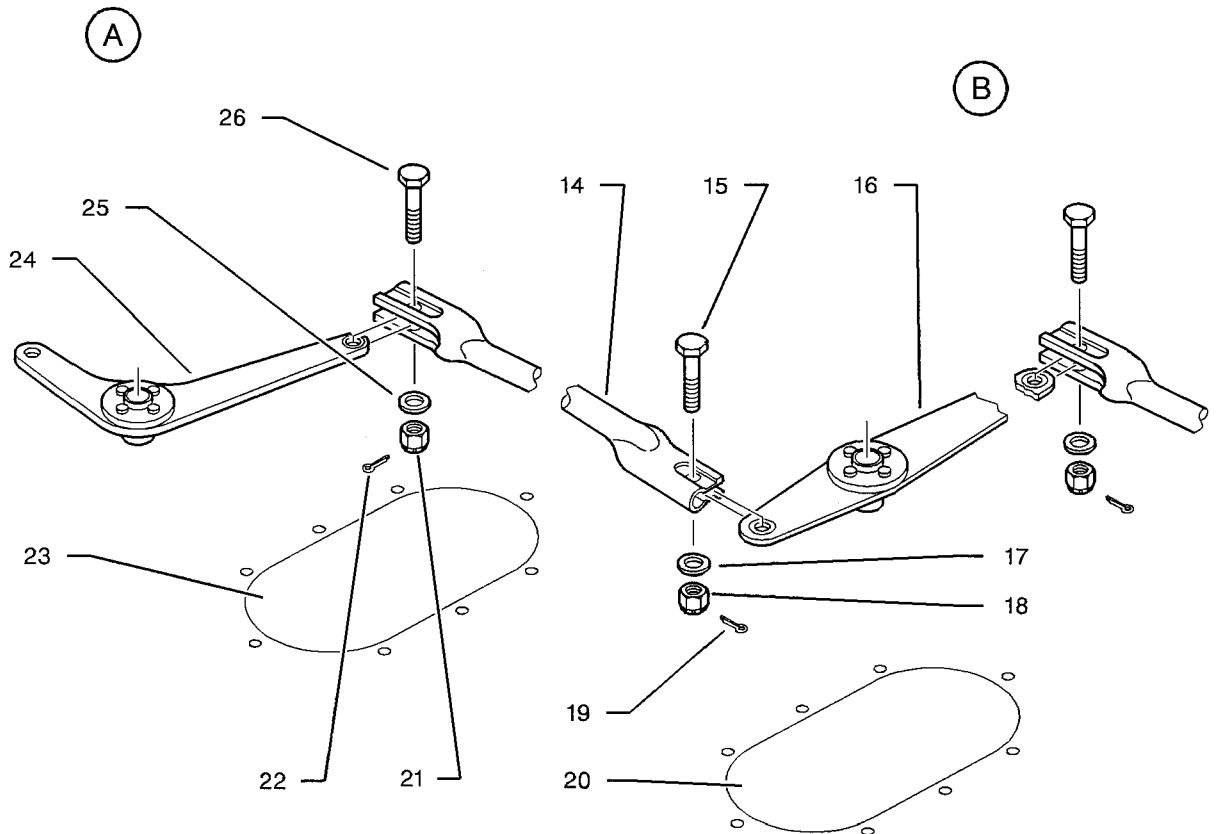
- 18) Open main switch-breaker.
- 19) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 20) Install the inspection doors 512, 515, 516 [612, 615, 616] and 519 [619], if installed - refer to 52-40-00.



Gages - Removal / Installation
Figure 401 (1/2)



- 14 - Rod
- 15 - Bolt
- 16 - Bellcrank
- 17 - Washer
- 18 - Nut
- 19 - Cotter pin
- 20 - Inspection door
- 21 - Nut
- 22 - Cotter pin
- 23 - Inspection door
- 24 - Bellcrank
- 25 - Washer
- 26 - Bolt



14271002AAABYZ24000

Gages - Removal / Installation
Figure 401 (2/2)

AEAC

Validity : S/N 969, 1185, 1214, 1478, 1506 - 1508, 1513 - 9999

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GAGES

ADJUSTMENT / TEST

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. ADJUSTMENT OF CAPACITY GAGES (Figures 501 and 502)

A. Tools and consumable materials

- 1 clinometer
- 1 voltmeter or 1 test bench P/N 8270TB10 00200000
- Ground power unit
- Varnish (TB 07-906)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

NOTE : To adjust the gages, the two following conditions have to be examined :

- **dry gage** : 12 hours minimum out of fuel
- **wet gage** : 24 hours minimum in fuel

The condition of the gages leads to differences in output voltage adjustment.

- 1) Jack up the aircraft - refer to 07-10-00.
- 2) Level the aircraft - refer to 08-10-00 and, using a clinometer, adjust the longitudinal attitude to + 1° in the nose-up attitude - refer to 20-00-13.
- 3) Drain the fuel tanks - refer to 12-11-02.
- 4) Remove the engine monitoring cluster without disconnecting it - refer to 31-10-03.
- 5) Remove the seat part of the rear seat - refer to 25-12-00.
- 6) Remove and discard the self-adhesive pads which blank access ports to potentiometers of gaging conditioner (20).
- 7) Pour the unusable fuel quantity of 0.79 US Gal (3 liters) in each tank.
- 8) Wait for the fuel to be stable (2 minutes minimum).
- 9) For the aircraft fitted with a ground power receptacle, connect ground power unit - refer to 24-40-00.
- 10) Close main switch-breaker.

Adjustment without test bench

- 11) Connect the voltmeter between terminals (9) and (10) of test connector to adjust the minimum value of R.H. wing gages.

Adjustment with test bench

- 11) Connect the test bench connector to test connector of engine monitoring cluster. Set the test bench selector to "Jaugeur droit (RH gauge)" position and start the test bench.

All

12) Actuate "MIN" potentiometer (17) to adjust gaging conditioner (20) and obtain the following output voltage :

- dry gage : - 20 mV \pm 10 mV,
- wet gage : 0 \pm 10 mV.

Adjustment without test bench

13) Connect the voltmeter between terminals (11) and (12) of test connector to adjust the minimum value of L.H. wing gages.

Adjustment with test bench

13) Set the test bench selector to "Jaugeur gauche (LH gauge)" position.

All

14) Actuate "MIN" potentiometer (16) to adjust gaging conditioner (20) and obtain the same output voltage as the voltage obtained on the R.H. side.

15) Open main switch-breaker.

16) Fill up fuel tanks - refer to 12-11-01.

17) Wait for the fuel to be stable (2 minutes minimum).

18) Close main switch-breaker.

Adjustment without test bench

19) Connect the voltmeter between terminals (9) and (10) of test connector to adjust the maximum value of R.H. wing gages.

Adjustment with test bench

19) Set the test bench selector to "Jaugeur droit (RH gauge)" position. Energize the test bench.

All

20) Actuate "MAX" potentiometer (18) to adjust gaging conditioner (20) and obtain the following output voltage :

- dry gage : 5 V \pm 10 mV,
- wet gage : 5.2 \pm 10 mV.

Adjustment without test bench

21) Connect the voltmeter between terminals (11) and (12) of test connector to adjust the maximum value of L.H. wing gages.

Adjustment with test bench

21) Set the test bench selector to "Jaugeur gauche (LH gauge)" position.

All

22) Actuate "MAX" potentiometer (19) to adjust gaging conditioner (20) and obtain the same output voltage as the voltage obtained on the R.H. side.

23) Open main switch-breaker.

24) If connected, disconnect the ground power unit - refer to 24-40-00.

Adjustment with test bench

25) Stop the test bench and disconnect test bench connector from engine monitoring cluster.

All

26) Safety potentiometers (16), (17), (18) and (19) with varnish (TB 07-906).

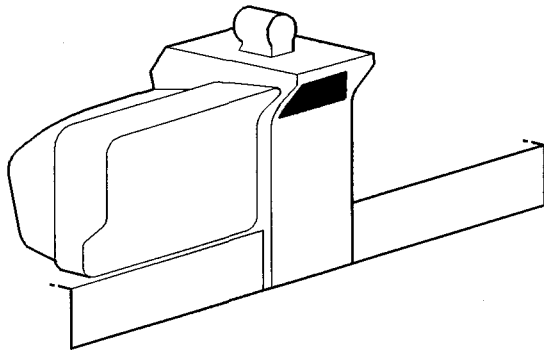
27) Make sure all the tools and materials are removed and the work area is clean and free from debris.

28) Blank access ports to potentiometers with new self-adhesive pads.

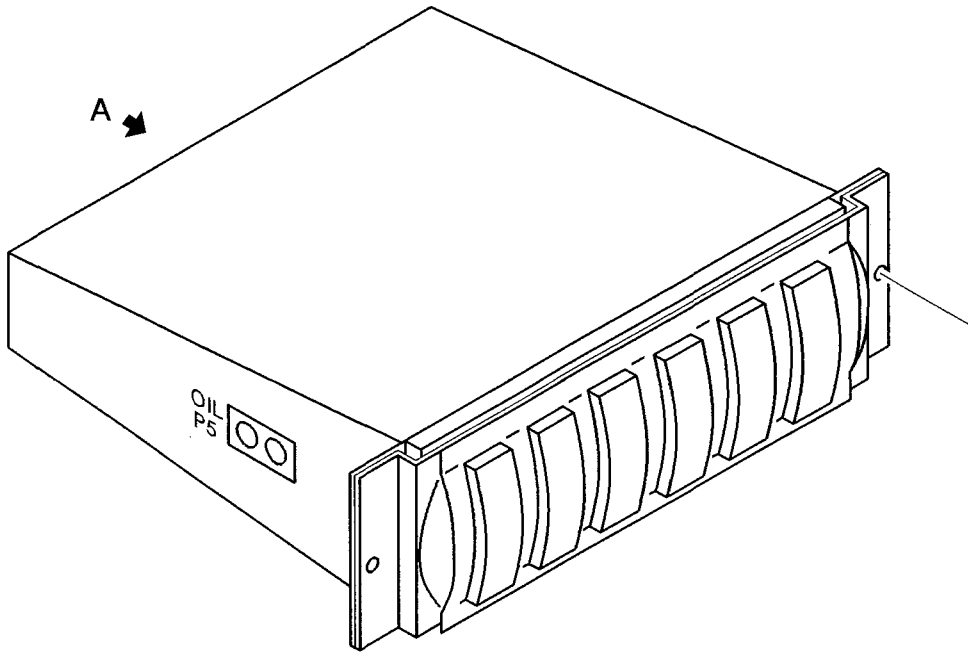
29) Lower the aircraft to ground and remove the jacks - refer to 07-10-00.

30) Install the seat part of the rear seat - refer to 25-12-00.

31) Install the engine monitoring cluster - refer to 31-10-03.

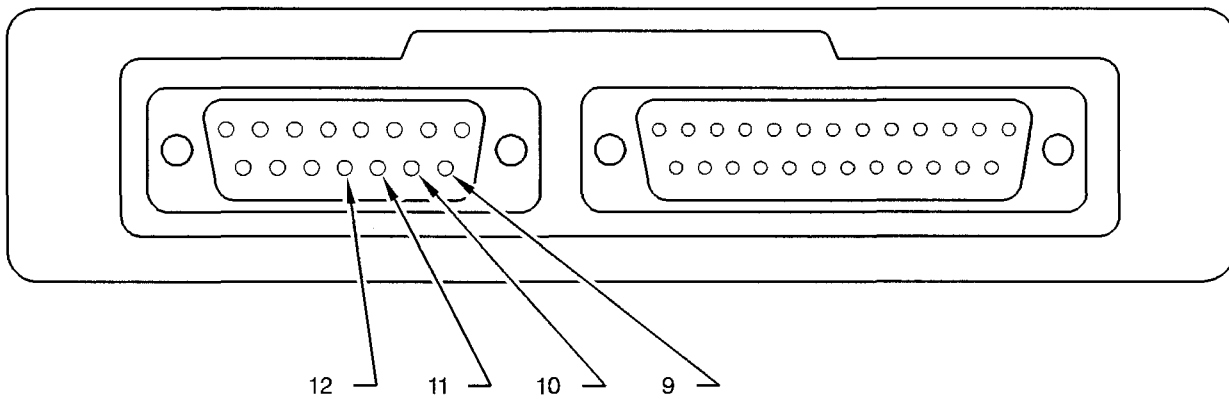


- 9 - Terminal (- Indicator, R.H. capacity gage)
- 10 - Terminal (+ Indicator, R.H. capacity gage)
- 11 - Terminal (- Indicator, L.H. capacity gage)
- 12 - Terminal (+ Indicator, L.H. capacity gage)

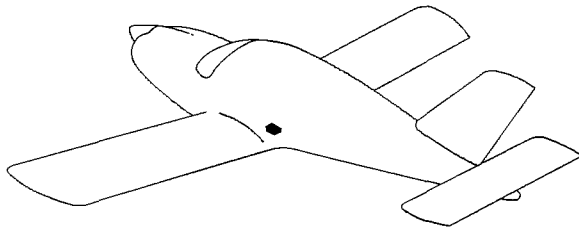


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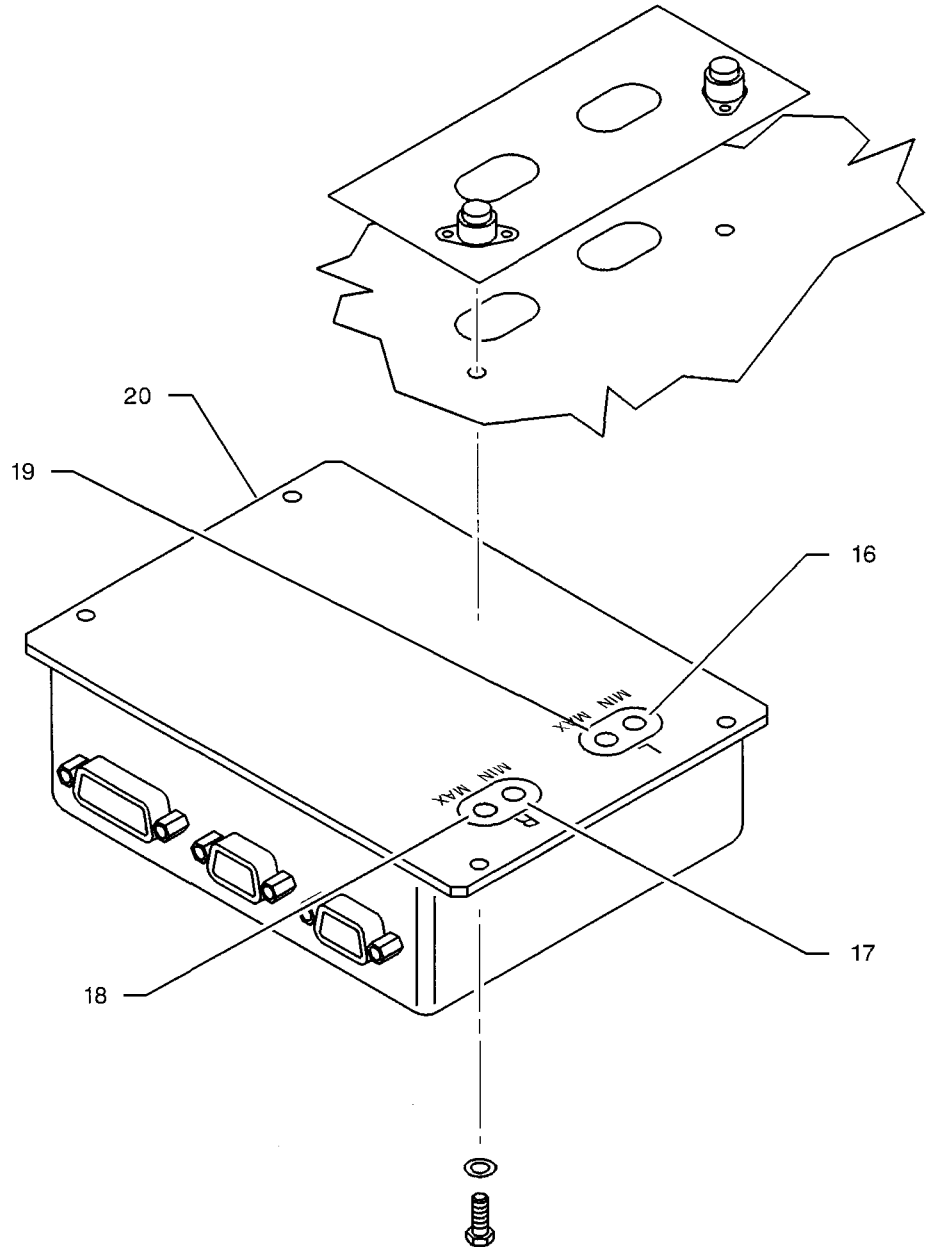
(A)



Gages - Adjustment / Test
Figure 501



- 16 - "MIN" potentiometer
- 17 - "MIN" potentiometer
- 18 - "MAX" potentiometer
- 19 - "MAX" potentiometer
- 20 - Gaging conditioner



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Gages - Adjustment / Test
Figure 502

AAAA

Validity : S/N 969, 1185, 1214, 1478, 1506 - 1508, 1513 - 9999

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GAGES

INSPECTION / CHECK

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. CHECK OF THE GAGES

A. Tools and consumable materials

- Ohmmeter

B. Procedure

- 1) Remove the inspection door 512 [612] - refer to 52-40-00.
- 2) Disconnect the flat lug of the fuel gage. The indicator pointer (engine monitoring cluster) should be against low stop.
- 3) Ground this flat lug. The pointer should be against the high stop.
- 4) Place a resistor of approximately 150 ohms between the flat lug and the ground. The pointer deflection should be 1 / 4 of the indicator.
- 5) For a resistor of approximately 110 ohms, the pointer deflection should be half of the indicator.
- 6) For a resistor of approximately 73 ohms, the pointer should indicate the full position on the indicator.
- 7) If the pointer exceeds the positions indicated in the above paragraphs, the fuel gage shall be replaced or sent to a specialized repair shop.
- 8) If the pointer does not reach the positions indicated, check connections at wing / fuselage junction and at galvanometers location and check galvanometers for condition - refer to 31-10-03.
- 9) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 10) Install the inspection door 512 [612] - refer to 52-40-00.

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GAGES

INSPECTION / CHECK

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. CHECK OF FUEL TANK LEVEL INDICATORS AND FUEL ELECTRICAL SYSTEM IN FUSELAGE (Figure 601)

A. Tools and consumable materials

- Ohmmeter

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

S / N 275 - 528, 530 - 560

- 1) Fill up the appropriate fuel tank – refer to 12-11-01.
- 2) Check on the engine monitoring cluster that the indicator shows full.
- 3) If it does not :
 - a) Disconnect electric connectors (1) at wing / fuselage junction.
 - b) On fuselage side connector, connect wire (EJ4 for R.H. wing, EJ5 for L.H. wing) to ground. The indicator should show full.
 - c) With an ohmmeter, set up a resistor of about 108 ohms on the wire EJ4 or EJ5. The indicator should show approximately half-full.
 - d) Set up a resistor of about 185 ohms. The indicator should show empty.
- 4) If all these results are obtained, the indicator and fuselage system are operating properly.
- 5) If not, disconnect the indicator and test the wire (EJ4 or EJ5). If the wire is correct then the indicator is faulty.

2. CHECK OF FUEL GAGES AND FUEL ELECTRICAL SYSTEM IN WINGS (Figure 601)

A. Tools and consumable materials

- Ohmmeter

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

NOTE : Any defective fuel gage must be sent to a specialized repair shop for overhaul or must be replaced.

ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-01 (BG)

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S / N 275 - 528, 530 - 560

- 1) Drain the appropriate tank - refer to 12-11-02.
- 2) Perform the preceding checks on the level indicator and fuel electrical system in the fuselage. If they are operating properly, proceed as follows.
- 3) Connect an ohmmeter to electric connector (1) on the wing side and test the wire (EJ4E for the R.H. wing, EJ5E for the L.H. wing) as specified below :
 - a) If ohmmeter reads infinite : wire is broken at point "a".
 - b) If ohmmeter reads approximately 305 ohms : wire is broken at point "b".
 - c) If ohmmeter reads approximately 485 ohms : wire is broken at point "c".
 - d) If ohmmeter reads approximately 190 ohms : the electrical system is operating properly, therefore check the fuel gages.
- 4) Disconnect wire from wing root fuel gage.
- 5) Via the filler port, control the displacement of the tip fuel level gage and take ohmmeter readings at electric connector (1) ; when the fuel gage is at its uppermost limit of displacement, the ohmmeter should read approximately 0 ohm, and when the gage is at its lowest limit, the ohmmeter should read approximately 305 ohms.
- 6) If these results are obtained, the tip fuel gage is operating correctly, therefore, it means that the wing root fuel gage is defective.
- 7) If one of these values is not reached, the tip level gage is defective.

3. CHECK OF FUEL TANK LEVEL INDICATORS AND FUEL ELECTRICAL SYSTEM IN FUSELAGE AND WINGS (cylindrical float gages) (Figures 602 and 602A)

A. Tools and consumable materials

- Ohmmeter

B. Procedure

NOTE : No operation on the engine monitoring cluster is allowed. In case of failure, the engine monitoring cluster shall be replaced.

S / N 529, 561 - 968, 970 - 1184, 1186 - 1213, 1215 - 1477, 1479 - 1505, 1509 - 1512

- 1) Remove engine monitoring cluster (2) - refer to 31-10-03.
- 2) Using an ohmmeter, measure on electric connector (1) the resistance between the positive terminals (No. 1, 2, 6 and 7) and the ground terminals (No. 11 and 12).
- 3) Compare the measurements with the Table Figure 602 or 602A for each configuration of the tanks (full, 3/4, 1/2, 1/4 and empty).
- 4) If the value of each tank configuration (from full to empty) remains at the maximum value with an empty tank, the float of this fuel level gage must be defective (disconnected or pierced and full of fuel etc.).
- 5) In case of significant deviations (deviation greater than 50 ohms), calibration should be verified.
- 6) For each value measured "infinite", the wiring is cut.
- 7) For each value measured "0" ohm, there is a short-circuit.
- 8) Install engine monitoring cluster (2) - refer to 31-10-03.

ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-01 (BG) Page 602
SEP 02

4. CHECK OF FUEL TANK LEVEL INDICATORS AND FUEL ELECTRICAL SYSTEM IN FUSELAGE AND WINGS (oblong float gages) (Figures 603 and 603A)

A. Tools and consumable materials

- Ohmmeter

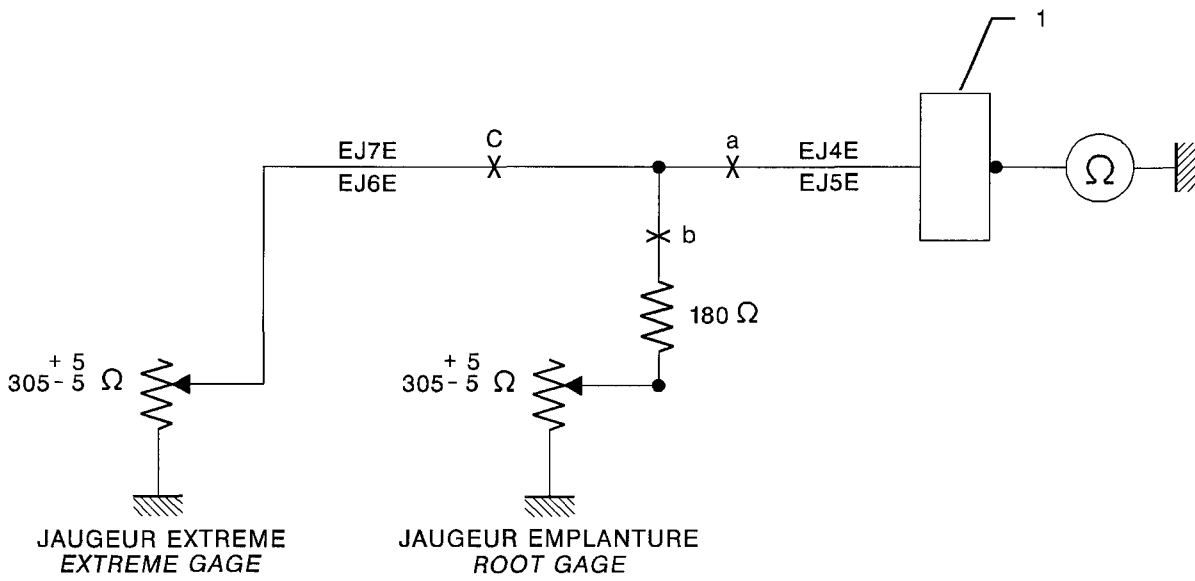
B. Procedure

NOTE : No operation on the engine monitoring cluster is allowed. In case of failure, the engine monitoring cluster shall be replaced.

S / N 529, 561 - 968, 970 - 1184, 1186 - 1213, 1215 - 1477, 1479 - 1505, 1509 - 1512

- 1) Remove engine monitoring cluster (2) - refer to 31-10-03.
- 2) Using an ohmmeter, measure on electric connector (1) the resistance between the positive terminals (No. 1, 2, 6 and 7) and the ground terminals (No. 11 and 12).
- 3) Compare the measurements with the Table Figure 603 or 603A for each configuration of the tanks (full, 3/4, 1/2, 1/4 and empty).
- 4) If the value of each tank configuration (from full to empty) remains at the maximum value with an empty tank, the float of this fuel level gage must be defective (disconnected or pierced and full of fuel etc.).
- 5) In case of significant deviations (deviation greater than 50 ohms), calibration should be verified.
- 6) For each value measured "infinite", the wiring is cut.
- 7) For each value measured "0" ohm, there is a short-circuit.
- 8) Install engine monitoring cluster (2) - refer to 31-10-03.

1 - Electric connector



14284001AAA0VZ4000

Gages - Inspection / Check
Figure 601

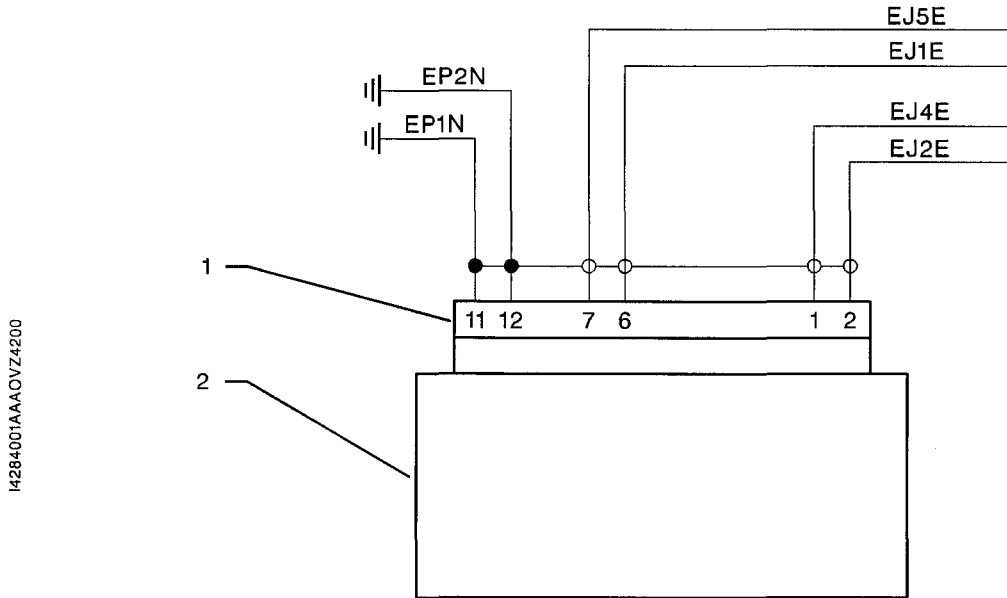
ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

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- 1 - Electric connector
- 2 - Engine monitoring cluster



I4284001AAA0VZ4200

Tank gage	Cable	Terminal	Full	3/4	1/2	1/4	Empty
R.H. wing tip	EJ2E	2	40 Ω	110 Ω	182 Ω	278 Ω	290 Ω (+ 20 ; - 0)
R.H. wing root	EJ4E	1	0 Ω	0 Ω	0 Ω	0 Ω	244 Ω
L.H. wing tip	EJ1E	6	40 Ω	110 Ω	182 Ω	278 Ω	290 Ω (+ 20 ; - 0)
L.H. wing root	EJ5E	7	0 Ω	0 Ω	0 Ω	0 Ω	244 Ω
Ground	EP1N	11					
Ground	EP2N	12					

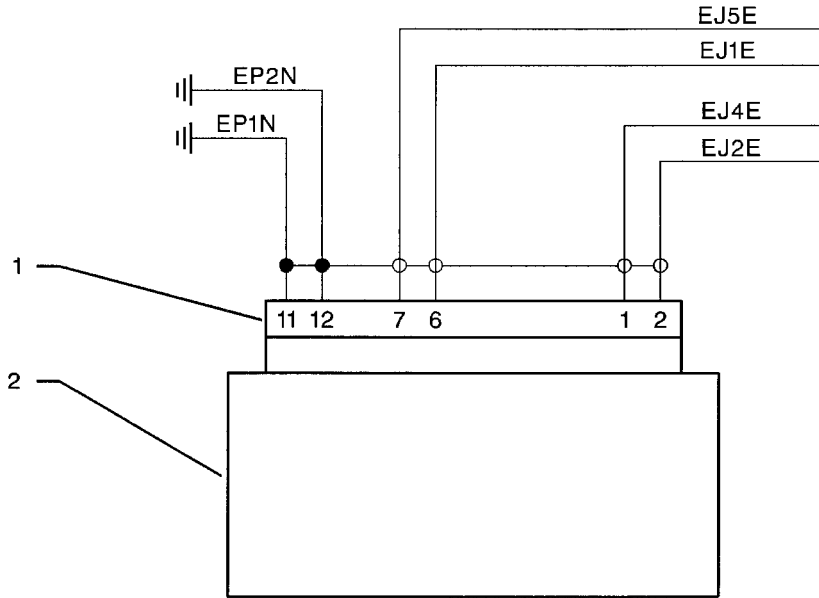
Gages - Inspection / Check
Figure 602 - With fuel tanks - 20.1 US Gal (76 liters)

ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-01 (BG)

- 1 - Electric connector
- 2 - Engine monitoring cluster



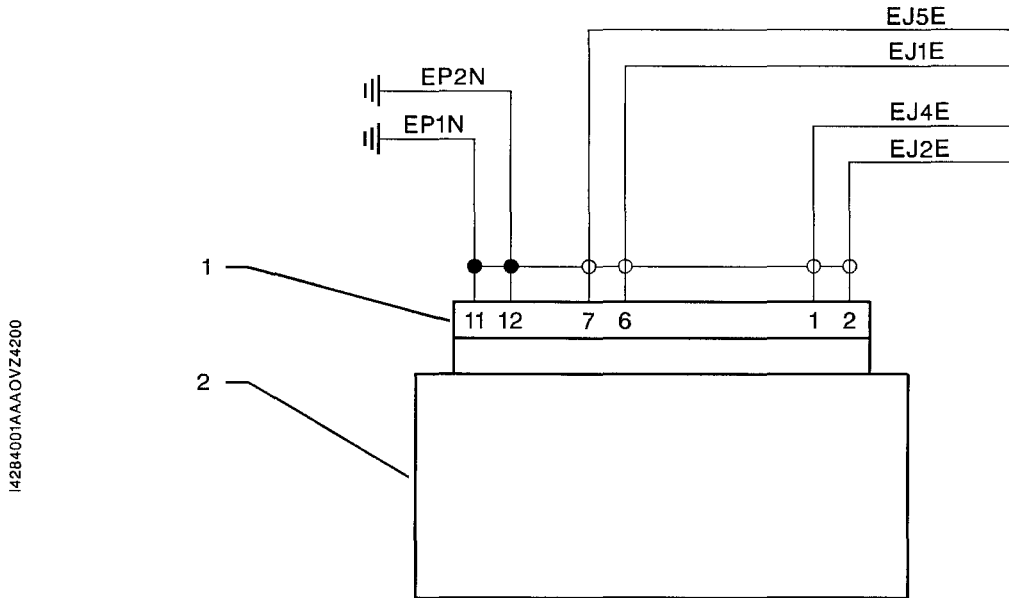
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Tank gage	Cable	Terminal	Full	3/4	1/2	1/4	Empty
R.H. wing tip	EJ2E	2	55 Ω	115 Ω	190 Ω	279 Ω	290 Ω (+ 20 ; - 0)
R.H. wing root	EJ4E	1	0 Ω	0 Ω	0 Ω	0 Ω	250 Ω
L.H. wing tip	EJ1E	6	55 Ω	115 Ω	190 Ω	279 Ω	290 Ω (+ 20 ; - 0)
L.H. wing root	EJ5E	7	0 Ω	0 Ω	0 Ω	0 Ω	250 Ω
Ground	EP1N	11					
Ground	EP2N	12					

Gages - Inspection / Check
Figure 602A - With fuel tanks - 26.9 US Gal (102 liters)

ABAB
Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

- 1 - Electric connector
- 2 - Engine monitoring cluster



I42B4001AAA0VZ4200

JAEGER Transmitter

Tank gage	Cable	Terminal	Full	Empty
R.H. wing tip Green point	EJ2E	2	5 Ω ± 5	305 Ω (+ 5 ; 0)
R.H. wing root Red point	EJ4E	1	5 Ω ± 5	305 Ω (+ 5 ; 0)
L.H. wing tip Red point	EJ1E	6	5 Ω ± 5	305 Ω (+ 5 ; 0)
L.H. wing root Green point	EJ5E	7	5 Ω ± 5	305 Ω (+ 5 ; 0)
Ground	EP1N	11		
Ground	EP2N	12		

MAGNETI MARELLI Transmitter

Tank gage	Cable	Terminal	Full	Empty
R.H. wing tip Green point	EJ2E	2	5 Ω ± 5	295 Ω (+ 10 ; - 5)
R.H. wing root Red point	EJ4E	1	5 Ω ± 5	295 Ω (+ 10 ; - 5)
L.H. wing tip Red point	EJ1E	6	5 Ω ± 5	295 Ω (+ 10 ; - 5)
L.H. wing root Green point	EJ5E	7	5 Ω ± 5	295 Ω (+ 10 ; - 5)
Ground	EP1N	11		
Ground	EP2N	12		

Gages - Inspection / Check
Figure 603 - With fuel tanks - 20.1 US Gal (76 liters)

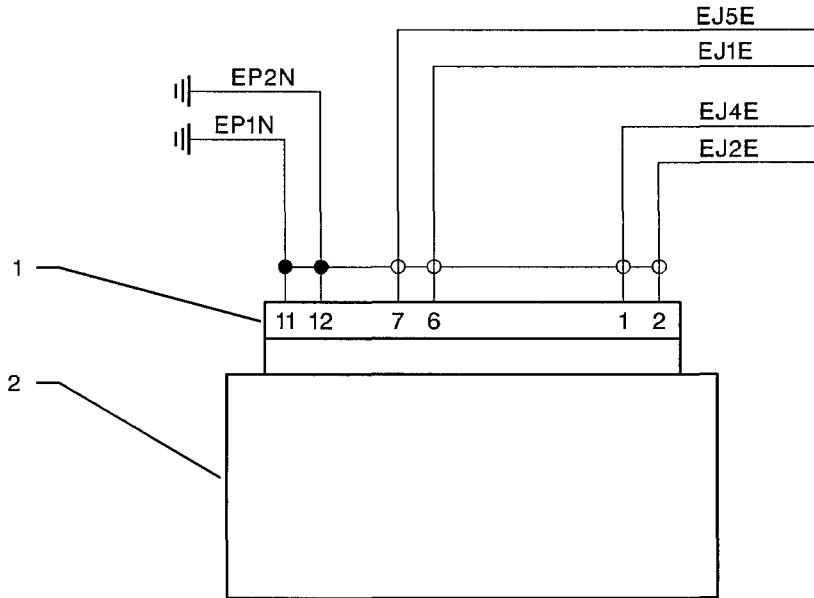
ABAB

Validity : S / N 275 - 968, 970 - 1184, 1186 - 1213,
1215 - 1477, 1479 - 1505, 1509 - 1512

28-40-01 (BG)

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SEP 02

- 1 - Electric connector
- 2 - Engine monitoring cluster



I4284001AAA0VZ4200

JAEGER Transmitter

MAGNETI MARELLI Transmitter

Tank gage	Cable	Terminal	Full	Empty
R.H. wing tip Red point	EJ2E	2	5 Ω ± 5	305 Ω (+ 5 ; 0)
R.H. wing root Red point	EJ4E	1	5 Ω ± 5	305 Ω (+ 5 ; 0)
L.H. wing tip Green point	EJ1E	6	5 Ω ± 5	305 Ω (+ 5 ; 0)
L.H. wing root Green point	EJ5E	7	5 Ω ± 5	305 Ω (+ 5 ; 0)
Ground	EP1N	11		
Ground	EP2N	12		

Tank gage	Cable	Terminal	Full	Empty
R.H. wing tip Red point	EJ2E	2	5 Ω ± 5	295 Ω (+ 10 ; - 5)
R.H. wing root Red point	EJ4E	1	5 Ω ± 5	295 Ω (+ 10 ; - 5)
L.H. wing tip Green point	EJ1E	6	5 Ω ± 5	295 Ω (+ 10 ; - 5)
L.H. wing root Green point	EJ5E	7	5 Ω ± 5	295 Ω (+ 10 ; - 5)
Ground	EP1N	11		
Ground	EP2N	12		

Gages - Inspection / Check
Figure 603A - With fuel tanks - 26.9 US Gal (102 liters)

GAGING CONDITIONER REMOVAL / INSTALLATION

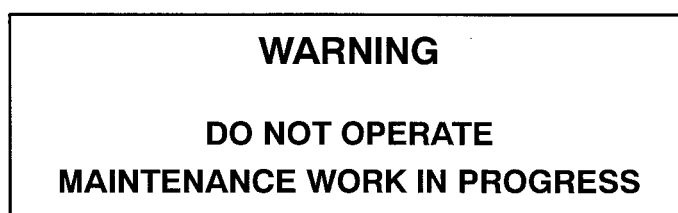
1. REMOVAL OF THE GAGING CONDITIONER (Figure 401)

A. Tools and consumable materials

None

B. Procedure

- 1) Open main switch-breaker.
- 2) Install the warning sign prohibiting main switch-breaker operation.



- 3) Remove the cowling under hull 218.
- 4) Disconnect connectors (1), (2) and (9) from gaging conditioner (6).
- 5) Hold gaging conditioner (6), remove bolts (8) and washers (7) and then, remove gaging conditioner (6).
- 6) If it is necessary to replace a gaging conditioner at amendment A with a gaging conditioner at the same amendment, perform the following operations :
 - a) Remove extension screws (3) and washers (4) and disconnect filtering adapters (5) from gaging conditioner (6).
 - b) Connect filtering adapters (5) to new gaging conditioner (6) and install washers (4) and extension screws (3).

NOTE : Filtering adapters are integral with the gaging conditioners from amendment B.

2. INSTALLATION OF THE GAGING CONDITIONER (Figure 401)

A. Tools and consumable materials

None

B. Procedure

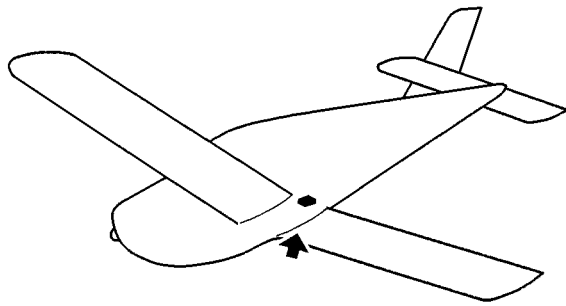
- 1) Clean and repair if necessary the surfaces to be bonded electrically - refer to 20-00-12.
- 2) Install gaging conditioner (6) and grounding wires (10), secure them with bolts (8) and washers (7).
- 3) Apply varnish to electrical bondings - refer to 20-00-12.
- 4) Connect P058 connector (9) to J1 connector of gaging conditioner (6).
- 5) Connect P059 connector (2) to J3 connector of gaging conditioner (6).
- 6) Connect P060 connector (1) to J2 connector of gaging conditioner (6).

AAAA

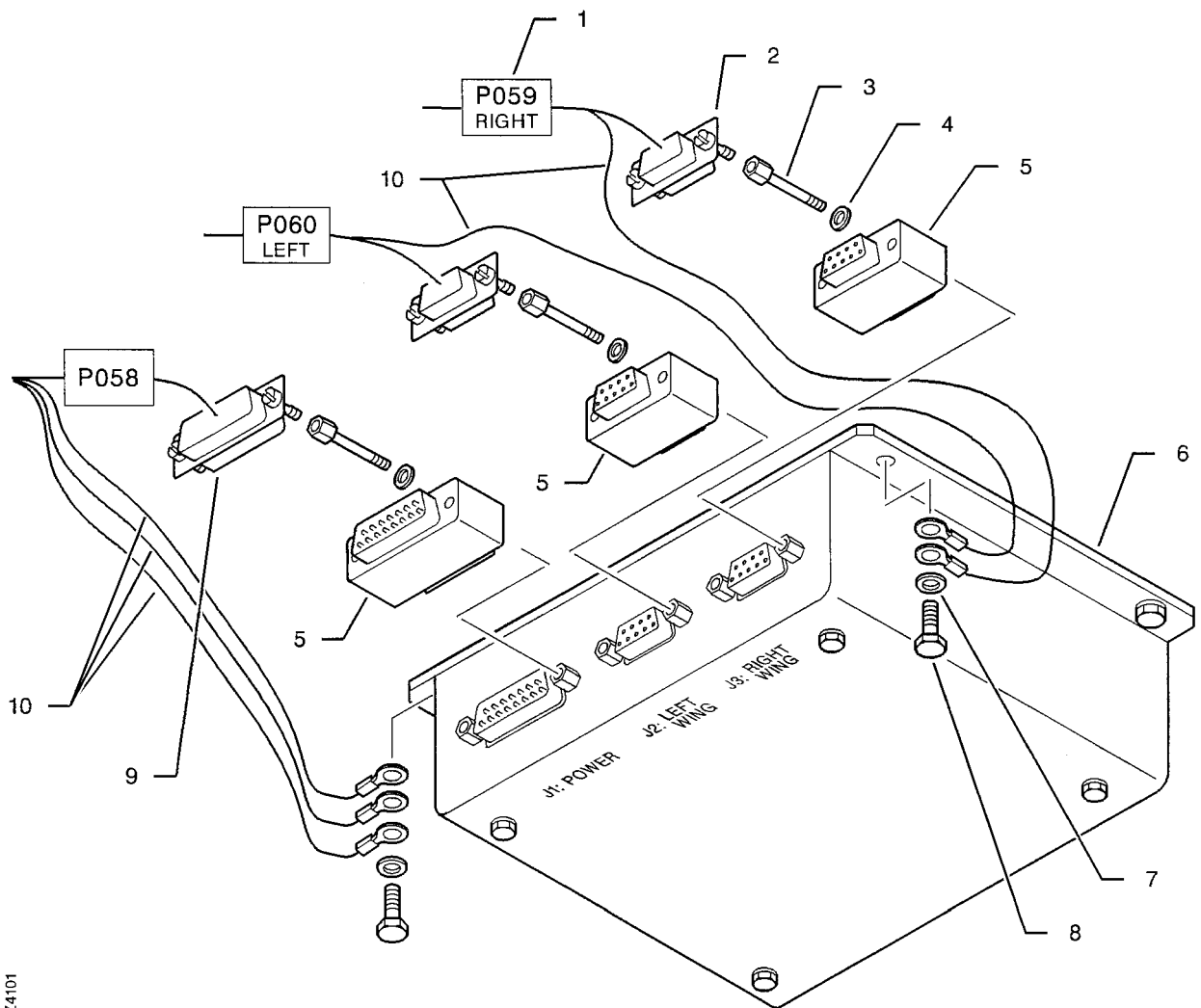
Validity : S/N 969, 1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-02 (BA) Page 401
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- 7) Remove the warning sign prohibiting main switch-breaker operation.
- 8) Close main switch-breaker.
- 9) Make sure the quantity of fuel in the tanks is the same as the quantity displayed on the indicators. Adjust it if necessary - refer to 28-40-01.
- 10) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 11) Install the cowling under hull 218.



- 1 - Connector
- 2 - Connector
- 3 - Extension screw
- 4 - Washer
- 5 - Filtering adapter
- 6 - Gaging conditioner
- 7 - Washer
- 8 - Bolt
- 9 - Connector
- 10 - Grounding wire



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Gaging conditioner - Removal / Installation
Figure 401

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Validity : S/N 969, 1185, 1214, 1478, 1506 - 1508, 1513 - 9999

28-40-02 (BA)

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FUEL PRESSURE SWITCH REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. REMOVAL OF THE FUEL PRESSURE SWITCH (Figures 401, 401A and 401B)

A. Tools and consumable materials

- Drain pan 0.5 US Gal (2 liters)
- Blanking caps

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

- 1) Open main switch-breaker.
- 2) Set the fuel selector to “CLOSED” position.
- 3) Remove the engine cowlings - refer to 71-10-01.
- 4) Drain the fuel system in the fuselage - refer to 12-11-02.
- 5) Put a drain pan beneath engine pump (1).

S / N 1 - 968, 970 - 1048 - refer to Figure 401

- 6) Disconnect power cable (5) from fuel pressure switch (4).
- 7) Remove fuel pressure switch (4) and blank off.

S / N 1049 - 1184, 1186 - 1213, 1216 - 1505, 1509 - 1512 - refer to Figure 401A

- 6) Disconnect power cable (5) from fuel pressure switch (4).
- 7) Remove fuel pressure switch (4) and blank off. Discard O-ring (6).

S / N 969, 1185, 1214, 1506 - 1508, 1513 - 9999 - refer to Figure 401B

- 6) Disconnect power cable (5) from fuel pressure switch (4). Retain bolt (7).
- 7) Disconnect grounding wire (3) from fuel pressure switch (4). Retain bolt (8).
- 8) Remove fuel pressure switch (4) and blank off.

2. INSTALLATION OF THE FUEL PRESSURE SWITCH (Figures 401, 401A and 401B)

A. Tools and consumable materials

- Loctite (TB 08-013C)
- Loctite (TB 09-906)
- Varnish (TB 07-901)
- Red paint

AAAA

Validity : S / N 1 - 9999

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL SYSTEM – REFER TO 28-00-00.

S / N 1 - 968, 970 - 1048 - refer to Figure 401

- 1) Apply Loctite (TB 09-906) to fuel pressure switch (4) thread - refer to 20-00-08.

CAUTION : DO NOT FORGET TO SECURE GROUNDING WIRE (3) WITH FUEL PRESSURE SWITCH (4).

- 2) Remove blanking cap and install grounding wire (3).
- 3) Install and tighten fuel pressure switch (4) onto union (2).
- 4) Connect power cable (5) to fuel pressure switch (4).

S / N 1049 - 1184, 1186 - 1213, 1216 - 1505, 1509 - 1512 - refer to Figure 401A

- 1) Install a new O-ring (6) on fuel pressure switch (4).
- 2) Apply Loctite (TB 08-013C) to fuel pressure switch (4) thread - refer to 20-00-08.
- 3) Remove blanking cap, install and tighten fuel pressure switch (4) onto union (2).
- 4) Connect power cable (5) to fuel pressure switch (4).

S / N 969, 1185, 1214, 1506 - 1508, 1513 - 9999 - refer to Figure 401B

- 1) Apply Loctite (TB 09-906) to fuel pressure switch (4) thread - refer to 20-00-08.
- 2) Remove blanking cap, install and tighten fuel pressure switch (4) onto union (2).
- 3) Connect power cable (5) to fuel pressure switch (4) using bolt (7).
- 4) Connect grounding wire (3) to fuel pressure switch (4) using bolt (8).

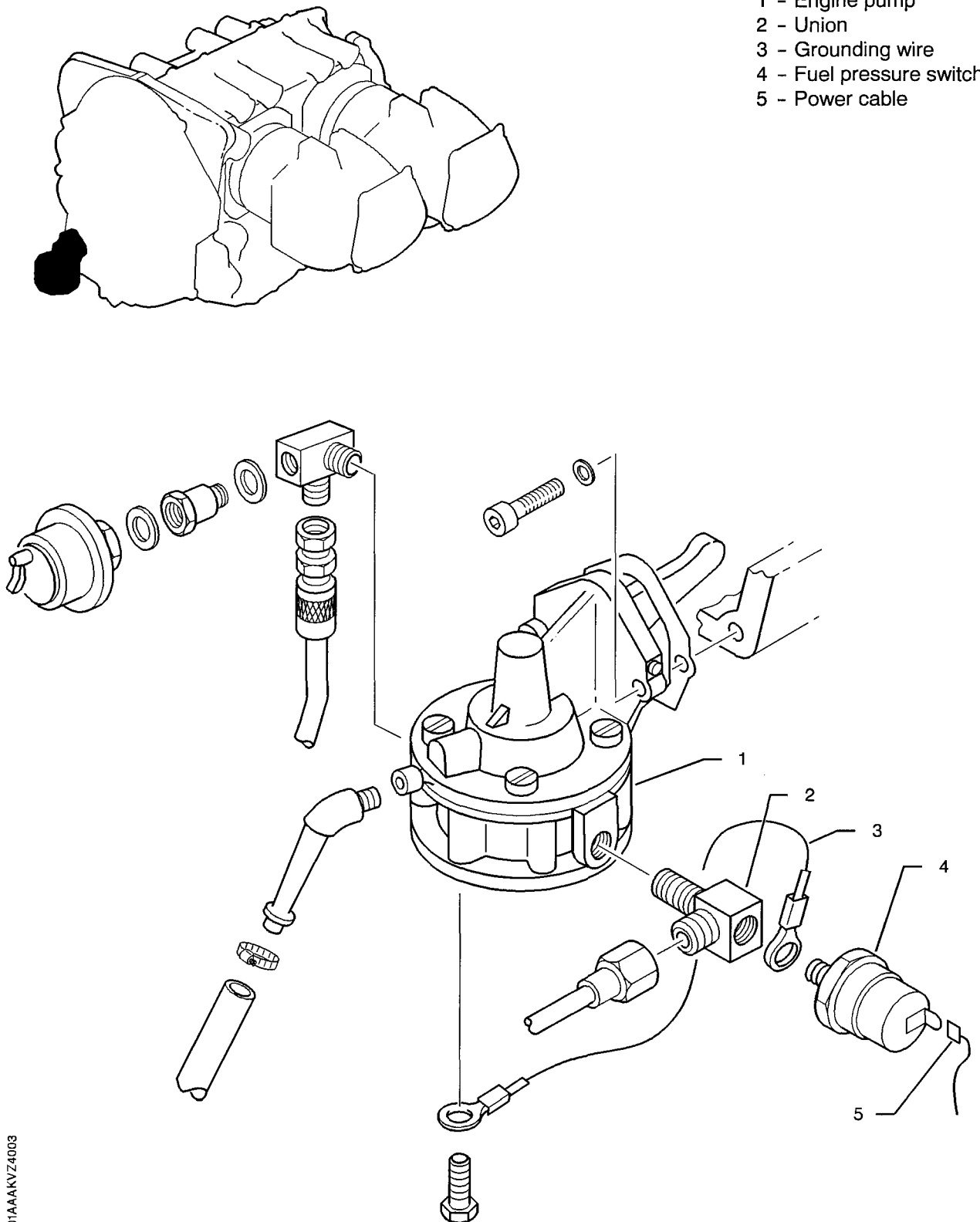
S / N 1 - 9999

- 5) Apply varnish (TB 07-901) to fuel pressure switch connections.
- 6) Set the fuel selector to "LEFT" or "RIGHT" position.
- 7) Bleed the fuel system - refer to 12-11-02.

CAUTION : MAKE SURE THAT THE SELECTED TANK CONTAINS FUEL BEFORE ACTUATING THE ELECTRIC PUMP.

- 8) Perform a leakage test with the fuel system pressurized - refer to 28-00-00 and check the fuel pump indicator light on the advisory panel for operation.
- 9) Check for leaks.
- 10) Remove the drain pan.
- 11) Mark fuel pressure switch (4) with a red paint line.
- 12) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 13) Install the engine cowlings - refer to 71-10-01.

- 1 - Engine pump
- 2 - Union
- 3 - Grounding wire
- 4 - Fuel pressure switch
- 5 - Power cable

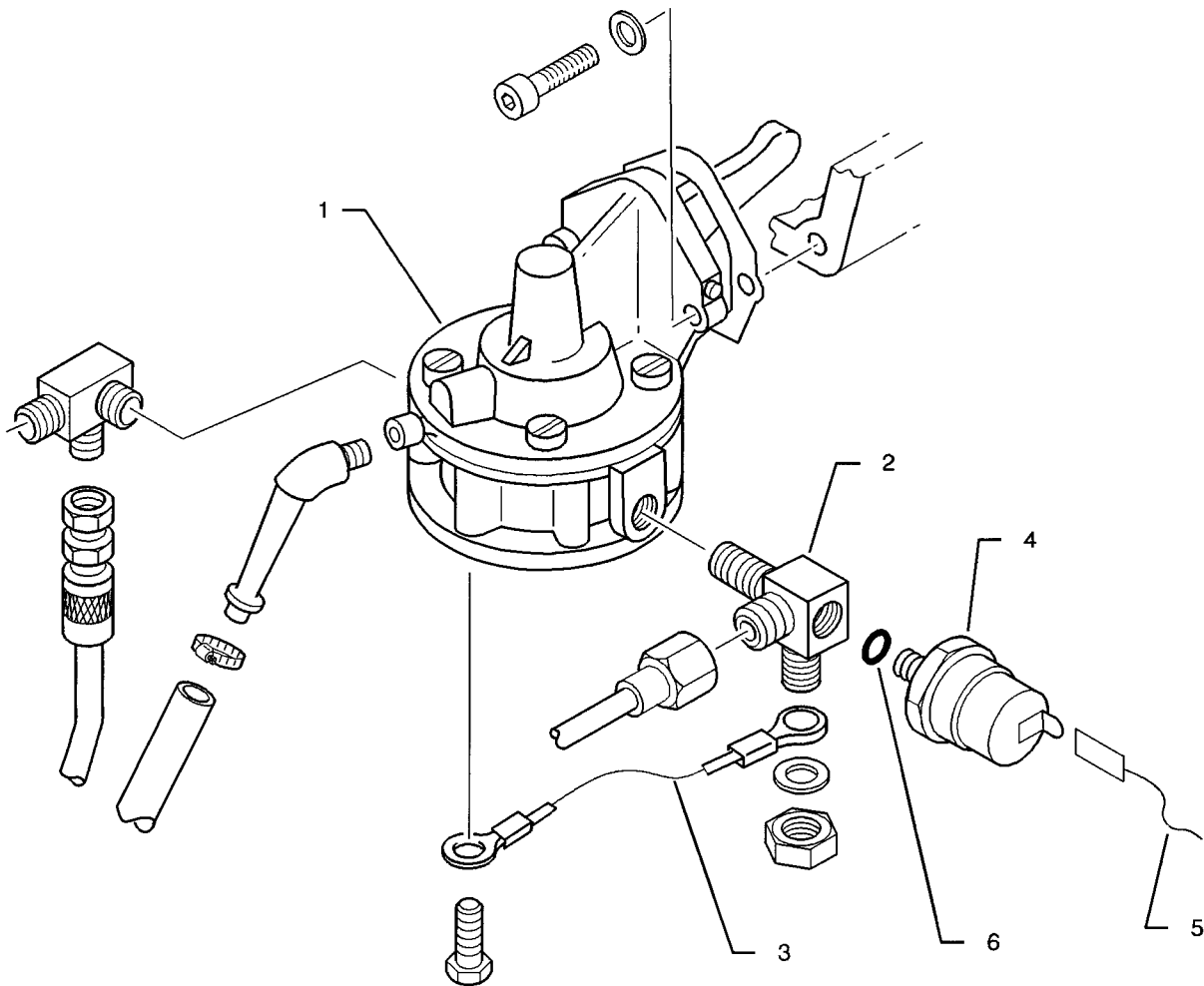
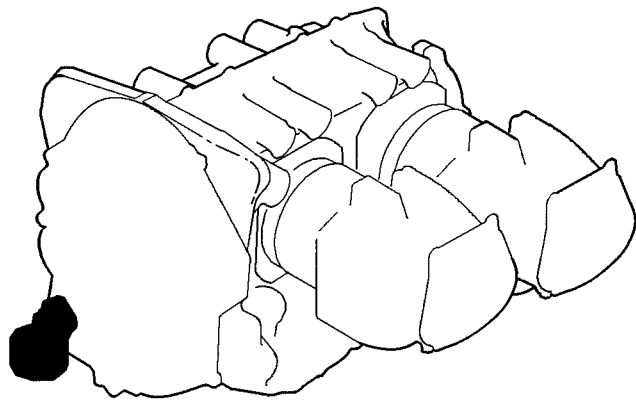


14731001AAAKVZ4003

Fuel pressure switch - Removal / Installation
Figure 401

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Validity : S / N 1 - 9999

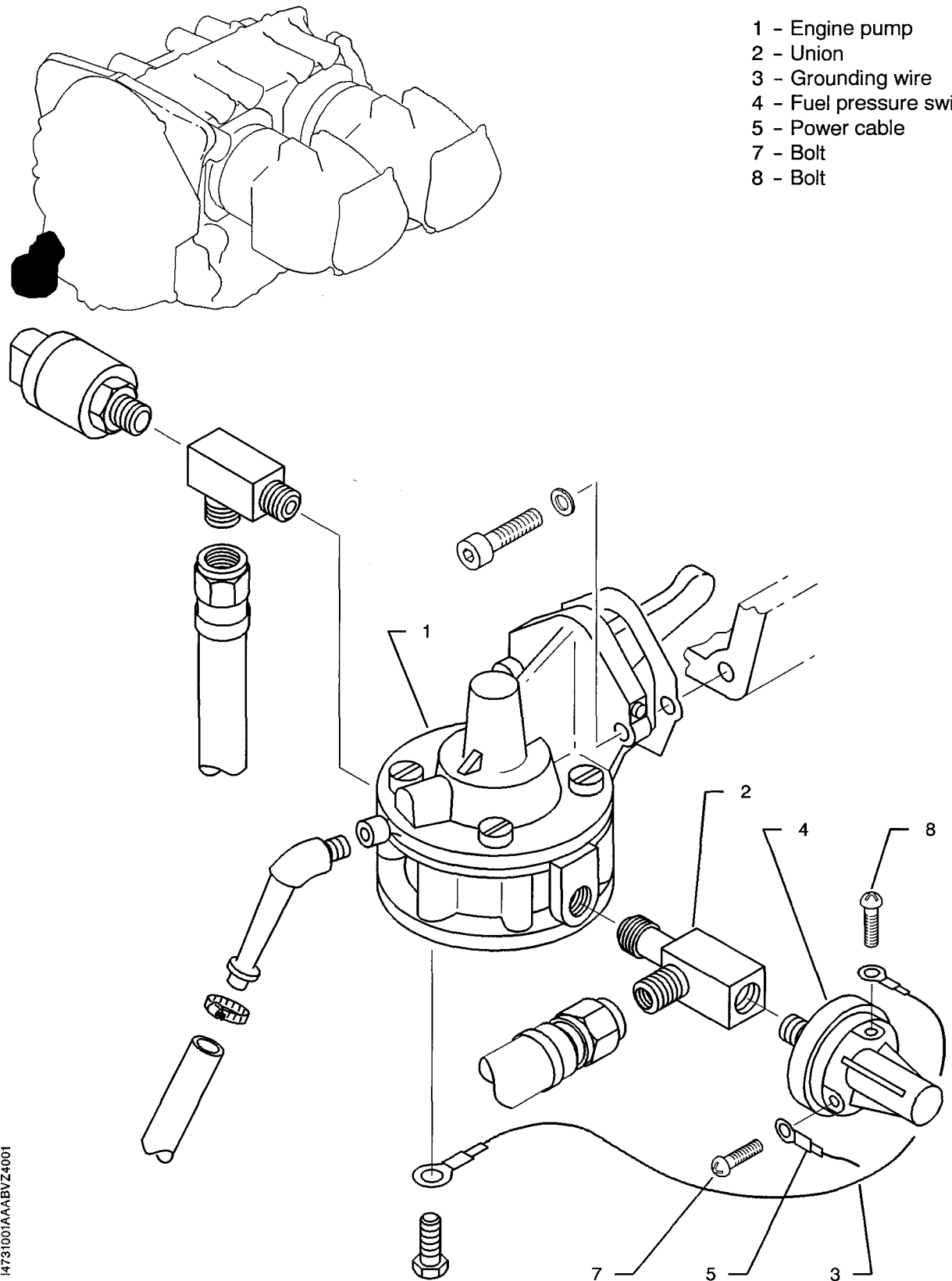
- 1 - Engine pump
- 2 - Union
- 3 - Grounding wire
- 4 - Fuel pressure switch
- 5 - Power cable
- 6 - O-ring



14731001AAAUVZ4001

Fuel pressure switch - Removal / Installation
Figure 401A

AAAA
Validity : S / N 1 - 9999



- 1 - Engine pump
- 2 - Union
- 3 - Grounding wire
- 4 - Fuel pressure switch
- 5 - Power cable
- 7 - Bolt
- 8 - Bolt

14731001AAAABVZ4001

Fuel pressure switch - Removal / Installation
Figure 401B

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LOW LEVEL DETECTOR REMOVAL / INSTALLATION

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

NOTE : This procedure is applicable to L.H. and R.H. installations. Information specific to R.H. installation are given in square brackets.

1. REMOVAL OF THE LOW LEVEL DETECTOR (Figure 401)

A. Tools and consumable materials

- 1 contact extraction tool, model HT 2285, P/N 11-03-0002 Molex

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Drain the fuel tanks - refer to 12-11-02.
- 2) Remove the inspection door 511 [611] and the tight inspection door 513 [613] – refer to 52-40-00.
- 3) Remove sealant which covers the attachment assembly.
- 4) Through the inspection door 513 [613], unscrew and retain bolt (1) and washer (2). Remove cover (3).
- 5) Through the inspection door 511 [611], disconnect connector (4).
- 6) Using the extraction tool, disconnect both connector contacts (5) of the detector to be removed.
- 7) Remove and retain nut (6), spring washers (7) and washer (8). Discard spring washers (7).
- 8) Remove low level detector (10). Discard gasket (9).
- 9) Remove all sealant traces from the attachment area.
- 10) Make sure the tank is clean. Clean if necessary.

2. INSTALLATION OF THE LOW LEVEL DETECTOR (Figure 401)

A. Tools and consumable materials

- Torque wrench 0 - 177 lbf.in (0 - 20 N.m)
- Sealant (TB 09-019A)

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Remove all sealant traces from nut (6), washer (8) and low level detector (10).
- 2) Apply a slight layer of sealant (TB 09-019A) to the bearing face of new gasket (9) and low level detector (10).
- 3) Position gasket (9) on low level detector and engage low level detector into box (13).
- 4) Turn low level detector (10) so that float (11) deflects upwards.

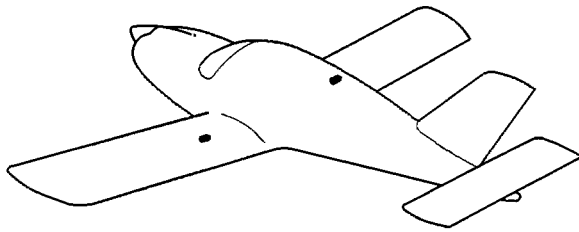
- 5) Install washer (8), new spring washers (7) and nut (6).
- 6) Torque – refer to 20-00-01.

NOTE : Hold the detector with a wrench to prevent its rotation during tightening.

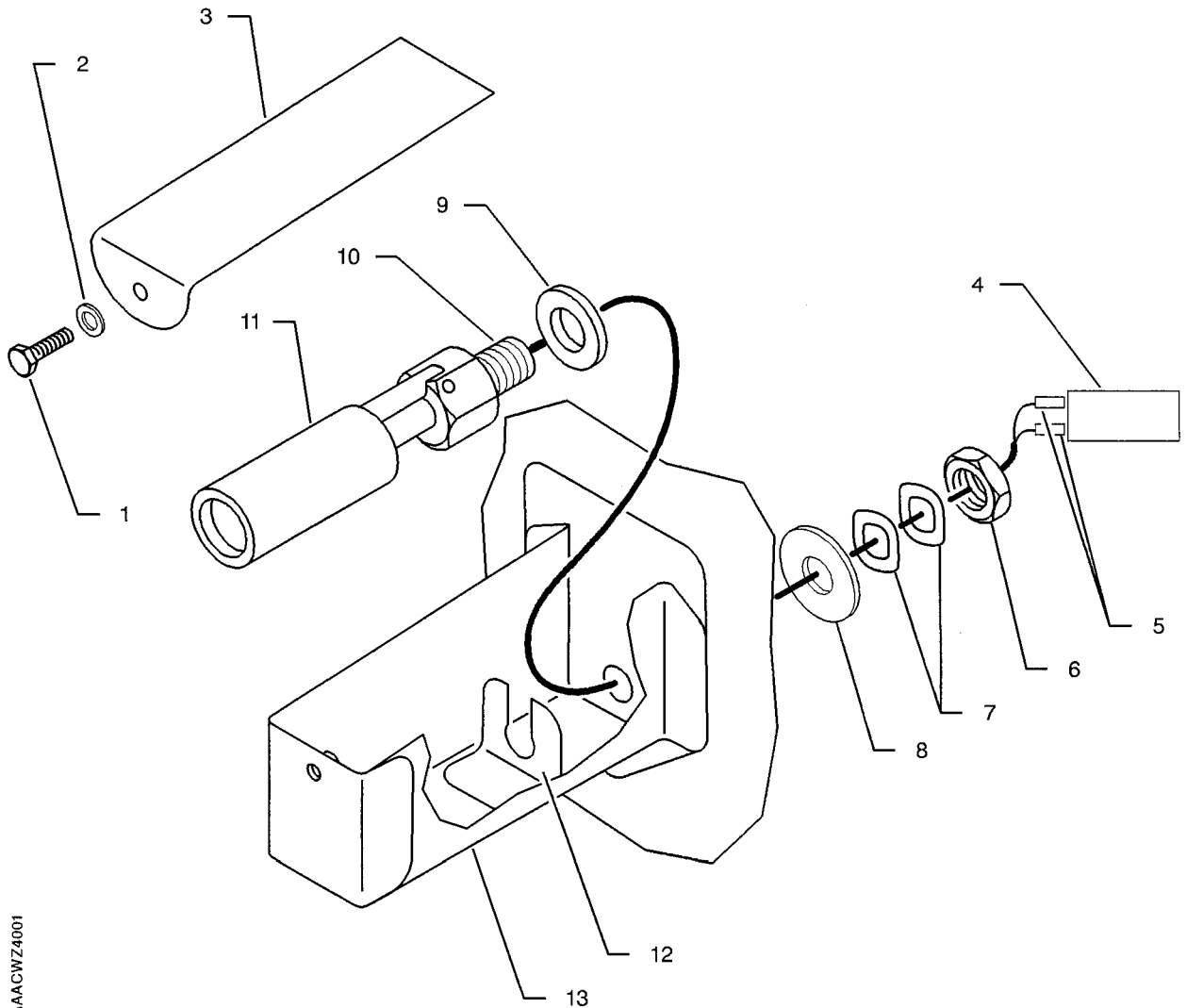
- 7) Check float (11) deflection.
- 8) Install cover (3), bolt (1) and washer (2).
- 9) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 10) Install the tight inspection door 513 [613] – refer to 52-40-00.
- 11) Fill the wing tank with about 19 US Gal (50 liters) of fuel.
- 12) Check the low level detector base and the tight inspection door 513 [613] for leaks.
- 13) Smear detector, washers and nut (6) with sealant (TB09-019A) and apply some to the rib.
- 14) Plug contacts (5) into connector (4).

NOTE : Since the detector is a switch, the position of terminal “1” or terminal “2” contacts is not important.

- 15) Connect connector (4).
- 16) Make sure all the tools and materials are removed and the work area is clean and free from debris.
- 17) Close the inspection door 511 [611] – refer to 52-40-00.
- 18) Check the low level detector for correct operation – refer to Page 601.



- 1 - Bolt
- 2 - Washer
- 3 - Cover
- 4 - Connector
- 5 - Contact
- 6 - Nut
- 7 - Spring washer
- 8 - Washer
- 9 - Gasket
- 10 - Low level detector
- 11 - Float
- 12 - Guide
- 13 - Box



14284004AAAACWZ4001

Low level detector - Removal / Installation
Figure 401

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Validity : S / N 1 - 9999

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LOW LEVEL DETECTOR

INSPECTION / CHECK

WARNING : OBEY THE SAFETY PRECAUTIONS DESCRIBED IN 28-00-00.

1. CHECK OF THE LOW LEVEL DETECTOR

A. Tools and consumable materials

- Clinometer
- Fuel drain pan
- 1 bucket graduated in US Gal (liters)
- Ground power unit

B. Procedure

WARNING : APPLY THE MAINTENANCE PROCEDURE OF THE FUEL TANKS – REFER TO 28-00-00.

- 1) Jack up the aircraft – refer to 07-10-00.
- 2) Level the aircraft – refer to 08-10-00 and, using a clinometer, adjust the longitudinal attitude to + 1° in the nose-up attitude – refer to 20-00-13.
- 3) For the aircraft fitted with a ground power receptacle, connect ground power unit – refer to 24-40-00.
- 4) Close main switch-breaker.
- 5) Drain the tank until “LOW LEVEL” red warning light comes on – refer to 12-11-02.
- 6) Complete the drain of the tank using the graduated bucket.

NOTE : The fuel quantity drained from the light illumination is 5.5 ± 1.3 US Gal (21 ± 5 liters).

- 7) Open main switch-breaker.
- 8) If connected, disconnect the ground power unit – refer to 24-40-00.
- 9) Lower the aircraft to ground and remove the jacks – refer to 07-10-00.

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