CHAPTER

33

LIGHTS

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CHAPTER 33 - LIGHTS
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CHAPTER 33 - LIGHTS
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LIGHTS - DESCRIPTION AND OPERATION

1. Description

A. The lighting circuits and related components described in this chapter are to be used in conjunction with the wiring diagrams and electrical control schematics.

B. The airplane lighting is divided into four major systems:

- the flight compartment lights (Refer to 33-10-00)
- the passenger compartment lights (Refer to 33-20-00)
- the baggage compartment lights (Refer to 33-30-00)
- the exterior lights (Refer to 33-40-00).

C. Flight compartment lighting consists of display brightness, electroluminescent panels brightness, incandescent panel brightness, annunciator lights brightness, glareshield flood lights, crew lights and map lights controls.

D. Passenger compartment lighting consists of general lighting in the left and right upper side of the ceiling, individual and table lights throughout the cabin.

E. The baggage compartment light.

F. The exterior lighting consists of the landing and taxi lights, anti-collision lights, strobe light, recognition light, left and right navigation lights, wing inspection light and position lights.

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LIGHTS - TROUBLESHOOTING

1. Trouble Shooting

NOTE: The following troubleshooting steps are provided to augment specific circuit information found in the wiring manual diagrams, and to serve as a basis for developing the more detailed procedures required to locate the cause of faults in the lighting systems.

A. Tools and Equipment

Voltmeter	Not specified

B. When possible, investigate any report of a defect at source to ascertain conditions leading to any defect and under which any occurred and whether failure of other light circuits or electrical systems occured simultaneously. Such information, carefully analyzed, is often indicative of the nature and most likely location of a defect.

C. Study the circuit wiring diagrams of the affected light system and its related power supply. A thorough understanding of the function is necessary before a troubleshooting procedure can be effectively planned and executed. By combining a knowledge of the applicable circuits with information gained from a defect report, an investigation usually indicates circuits, or section of circuit, in which a defect is located.

D. Visually inspect the circuit for open circuit breakers, blown fuses, broken wiring, loose wire connections, loose electrical connectors, and evidence of shorting. Observe particularly, security of connections and presence of foreign matter.

E. Perform a continuity check. A blown fuse, burned wires, or other evidence of shorting indicates that a power-on check would create a dangerous condition. With power off, isolate the defective circuit and check one section at a time until the shorted or open circuit section is found.

F. Perform a power-on check only when it has been determined that such a check cannot create a hazardous condition. With power on, perform operational tests to confirm the report of defect and to determine if possible, whether the cause of a defect is in the light circuit or in the power supply system. A voltmeter test light may also be used for a power check at various breakpoints in the circuit, such as terminal straps and equipment input terminals, to determine if power is available at these points.

G. Replace any filament, lamp or light assembly that remains inoperative after making certain that power is available at the unit and that ground connections are secure at the unit.

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LIGHTS - MAINTENANCE PRACTICES

1. Removal/Installation

   A. The lighting circuit requires minor maintenance such as lamp or switch replacement. The lighting components are readily accessible and can be maintained without the use of special tools.

   B. When defective lamps, light assemblies, or components are replaced, only equipment with identified part numbers should be installed, unless authorized substitutes are available (Refer to table 201).

LAMP	LOCATION
INTERIOR GLARESHIELD	// //
GLARESHIELD FLOODLIGHTS	CONTROL PANEL
ELECTROLUMINESCENT PANELS	//
TRIM SWITCH	CENTER PEDESTAL
ENGINE CONTROL LEVERS	CENTER PEDESTAL
C/B PANEL PILOT	COCKPIT LH SIDE
C/B PANEL PILOT	COCKPIT LH SIDE
C/B PANEL PILOT	COCKPIT LH SIDE
C/B PANEL PILOT	COCKPIT LH SIDE
C/B PANEL COPILOT	COCKPIT RH SIDE
C/B PANEL COPILOT	COCKPIT RH SIDE
C/B PANEL COPILOT	COCKPIT RH SIDE
C/B PANEL COPILOT	COCKPIT RH SIDE
MISCELLANEOUS	//
MAP LIGHTS	COCKPIT
CREW LIGHTS	COCKPIT
ENTRY LIGHT	ENTRY DOOR
CABIN LIGHTS	PASSENGER COMPARTMENT CEILING
READING LIGHTS	PASSENGER COMPARTMENT CEILING
TABLE LIGHTS	PASSENGER COMPARTMENT CEILING
NO SMOKING AND FASTEN SEAT BELT	FWD AND REAR PARTITIONS
BAGGAGE LIGHT	BAGGAGE COMPARTMENT
VANITY LIGHTS	VANITY COMPARTMENT

Table 201 - Lights Location

LAMP	LOCATION
EXTERIOR	//
LANDING LIGHTS	FWD FUSELAGE LOWER SIDE
TAXI LIGHT	FWD FUSELAGE LOWER SIDE
ANTI-COLLISION LIGHTS	TOP AND BOTTOM FUSELAGE
RECOGNITION LIGHT	VERTICAL STABILIZER TOP
POSITION LIGHT	LH AND RH WING TIPS
WING INSPECTION	LH NACELLE (EXTERNAL SIDE)
NAVIGATION LIGHT	LEFT WING
NAVIGATION LIGHT	RIGHT SIDE

Table 201 - Lights Location

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FLIGHT COMPARTMENT LIGHTING - DESCRIPTION AND OPERATION

1. General

A. Flight compartment lighting consists of incandescent and electroluminescent lights. A Power Supply Dimmer Unit that receives 28 Vdc from the "R SINGLE FEED BUS" through two 7.5 A circuit breakers labeled "LTS DIM 1" and "LTS DIM 2", feeds the Dimmer Contol Panel.

B. The power required for the different types of lighting is as follows:

- 115 Vac for electroluminescent lighting.
- 1 to 5 Vdc for incandescent lighting.

The electroluminescent panels powered by 115 Vac are the following:

- Bled Air / Hyd / Landing Gear / Anti-Ice /Sys Test Panel (Central Control Panel)
- Master Switches / Fuel / Engine-Propeller Panel (Master Control Panel)
- Cooling and Heating Panel (Pilot Panel)
- Cabin Press Panel (Copilot Panel)
- Reversionary Miscellaneous Control Panel
- Lights Control Panel
- Lights Dimming Panel
- Pilot Circuit Breaker Panels
- Copilot Circuit Breaker Panels
- Trim Switch Panel
- Trottle Quadrant Panel
- Flap Control Panel

The Incandescent panels powered by 1 to 5 Vdc are the following:

- Flight Guidance Panel (FGP)
- Radio Tuning Unit (RTU)
- Left Pilot Primary Flight Display (L PFD)
- Multi Function Display (MFD)
- Right Pilot Primary Flight Display (R PFD)
- Pilot Copilot Display Control Panel (L DCP)
- Copilot Display Control Panel (R DCP)
- Control Cursor Panel (CCP)
- Control Display Unit (CDU)
- Standby Indicator
- Magnetic Compass
- Pilot clock
- Copilot clock
- Pilot Audio Panel
- Copilot Audio Panel
- Trim Indicator

- Hydraulic Pressure Indicator
- Oxygen Pressure Indicator
- Cabin Air Pressure Selector
- Cabin Rate of Climb Indicator
- Cabin Altitude Indicator

2. Component Description (Ref. Fig. 1)

A. Map Lights

A map light assembly is mounted on each side of the flight compartment in Zone 211 (212). The light assembly consists of a base, flexneck, lens cap, incandescent lamp and a potentiometer for control.

B. Glareshield Floodlight

The floodlights consist of incandescent lights. The flood lights are installed under the coaming below the autopilot control panel. A three position (BRT-DIM-OFF) control switch captioned "FLOOD" is installed on the lights dimming control panel.

C. Cockpit Lights

Crew lights are installed on the cockpit ceiling at FS 920. The angle of each light can be adjusted. The lights are powered by two switches located, one on the Lights Dimming Control Panel (COCKPIT) and the other one on the Membrane Switch Panel close to the entry door.

In the "Ferry Flight Configuration" a switch labeled CREW LTS - OFF located near the HF Control Panel, controls the Crew Lights.

D. Cabin Lights

The Passenger Compartment (Cabin Lights) are powered by two switches located, one on the Lights Dimming Control Panel (CABIN) and the other one on the Membrane Switch Panel close to the entry door.

E. Annunciator Lamps

The annunciator lamps are installed on the Instrument Panel . The brightness of the lamps is controlled by the switch labeled "LAMP - BRT - OFF" located on the Dimmer Panel.

F. Electroluminescent and Incandescent Panels

(1) Instrument and avionics lights are dimmed by a Dimmer Control Panel located on the left side of the flight compartment.

(2) The lights dimming control panel is located on the left side of the flight compartment under the windshield. Two knobs and four switches are located on the panel. The knob, captioned "DISPLAYS" controls the dimming for the Multi Function Display (MFD), Pilot and Copilot Primary Flight Display (PFD) and the Control Data Unit display (CDU), while the knob captioned "PANELS" controls the dimming for the following panels:

- Flight Guidance Panel (FGP)
- Reversionary Miscellaneous Panel

- Stand-by Gyro (Around Display)
- Multi Function Display (Around Display)
- Pilot and Copilot Primary Flight Display (Around Display)
- Pilot and Copilot Display Control Panel
- Radio Tuning Unit (Around Display)
- Pilot and Copilot clock
- Pilot and Copilot Audio Panel
- Cooling and Heating Panel (Pilot Panel)
- Bled Air / Hyd / Landing Gear / Anti-Ice /Sys Test Panel (Central Control Panel)
- Cabin Press Panel (Copilot Panel)
- Master Switches / Fuel / Engine-Propeller Panel (Master Control Panel)
- Trottle Quadrant Panel
- Flap Control Panel
- Lights Control Panel
- Lights Dimming Panel
- Control Cursor Panel (CCP)
- Control Display Unit (Around Display)
- Trim Indicating Panel
- Trim Control Panel
- Pilot and Copilot Circuit Breaker Panels
- Dimmer Control Panel
- Oxygen Indicator
- Magnetic Compass

(3) The switch labeled "LAMP - BRT - OFF" controls the brightness of the Annunciator Panel, ICE Light on the Master Warning Annunciator, Landing Gear advisory Lights and .....lights on the Reversionary Miscellaneous Panel.

(4) The switch labeled"FLOOD - BRT - DIM - OFF" controls the glareshield floodlights brightness.

(5) The switch labeled "INTERNAL LTS - COCKPIT - OFF" controls the Cockpit Lights.

(6) The switch labeled " INTERNAL LTS - CABIN - OFF" controls the Passenger Compartment Lights

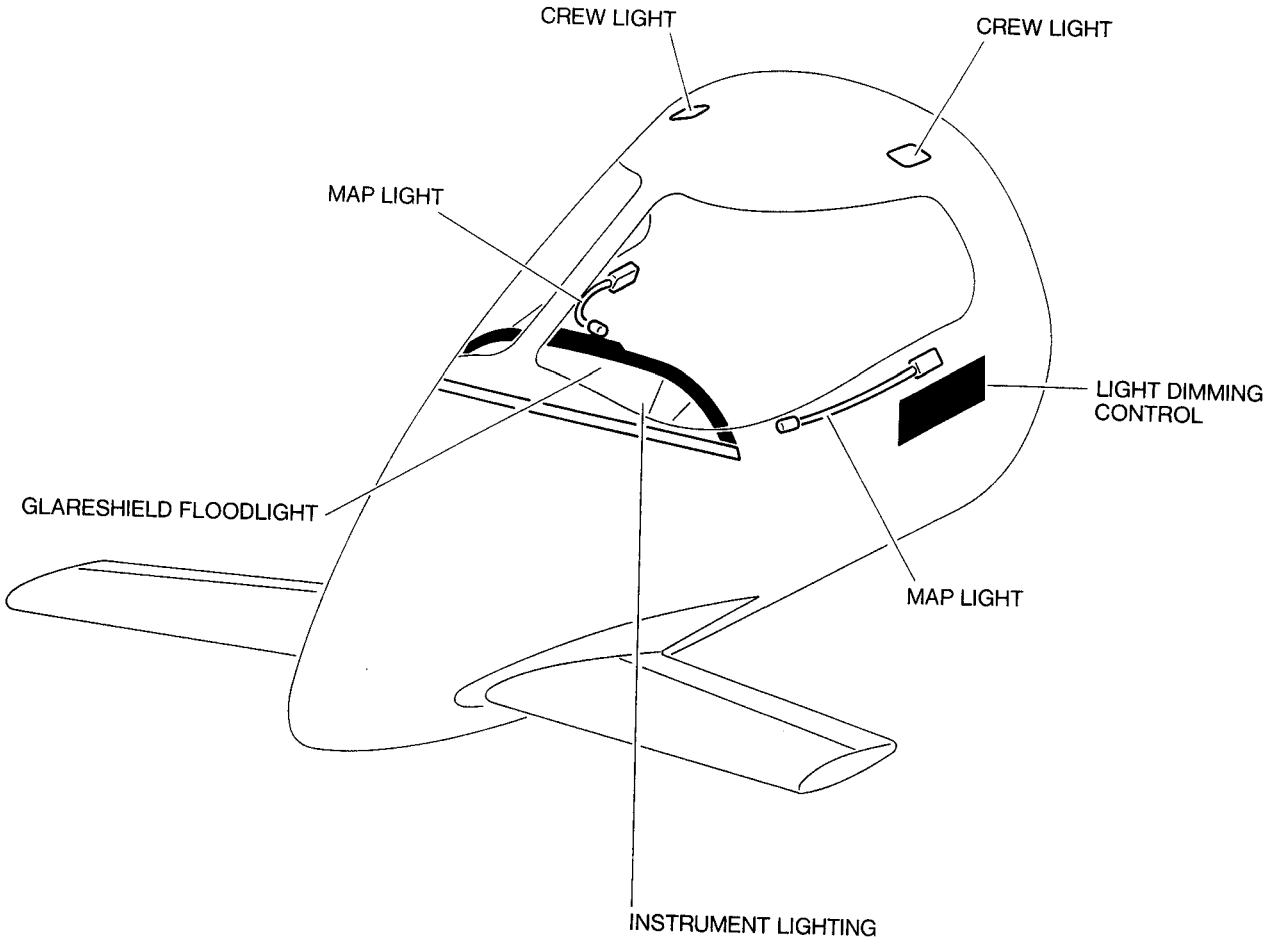

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Fig. 1 - Flight Compartment Lighting Location

3. Operation

A. Map lights (Ref. Fig. 2)

Each map light receives 28 Vdc from the ESSENTIAL BUS through a 3A circuit breaker captioned "FLOOD LTS", located on the pilot circuit breaker panel. The connection with the essential bus ensures the power supply to the lights in an emergency situation.

B. Glareshield floodlights (Ref. Fig. 2)

The four glareshield lights are connected in parallel and receive 28 Vdc from the ESSENTIAL BUS through a 3A circuit breaker, captioned "FLOOD LTS", located on the pilot circuit breaker panel. The connection with the essential bus ensures the power supply to the lights in an emergency situation.

C. Cockpit Lights (Ref. Fig. 3)

The crew lights receive 28Vdc through a 3A circuit breaker captioned ENTRY/ BAGGAGE LT, located on the baggage compartment. The wiring for the crew light includes connections to the nose gear weight switch and a microswitch on the airplane entrance door; so when the airplane is on the ground, with the BAT switch OFF, the entrance door microswitch acts as a crew light ON-OFF switch. When the door is open the crew light is on; closing the door puts the crew light off.

D. Cabin Light (Ref. Fig. 4)

A switch labeled "CABIN" located on the Dimme Panel, controls the Cabin Lights in the passenger compartment

E. Annunciator Lamps (Ref. Fig. 7)

The annunciator lamps are installed on the Instrument Panel . The brightness of the lamps is controlled by the switch labeled "LAMP - BRT - OFF" located on the Dimmer Panel.

F. Electroluminescent and Incandescent Panels (Ref. Fig. 6)

(1) The instruments and avionic lights operate on 1 to 5Vdc and 115 Vac through the light dimmer.

(2) Two Power Supply Dimmer Units that receive 28Vdc through the 7.5A circuit breakers captioned LTS DIM 1 and LTS DIM 2 convert it to 5 Vdc and 115 Vac which is used to power various instrument lights. The circuit breaker is located on the copilot circuit breaker panel.

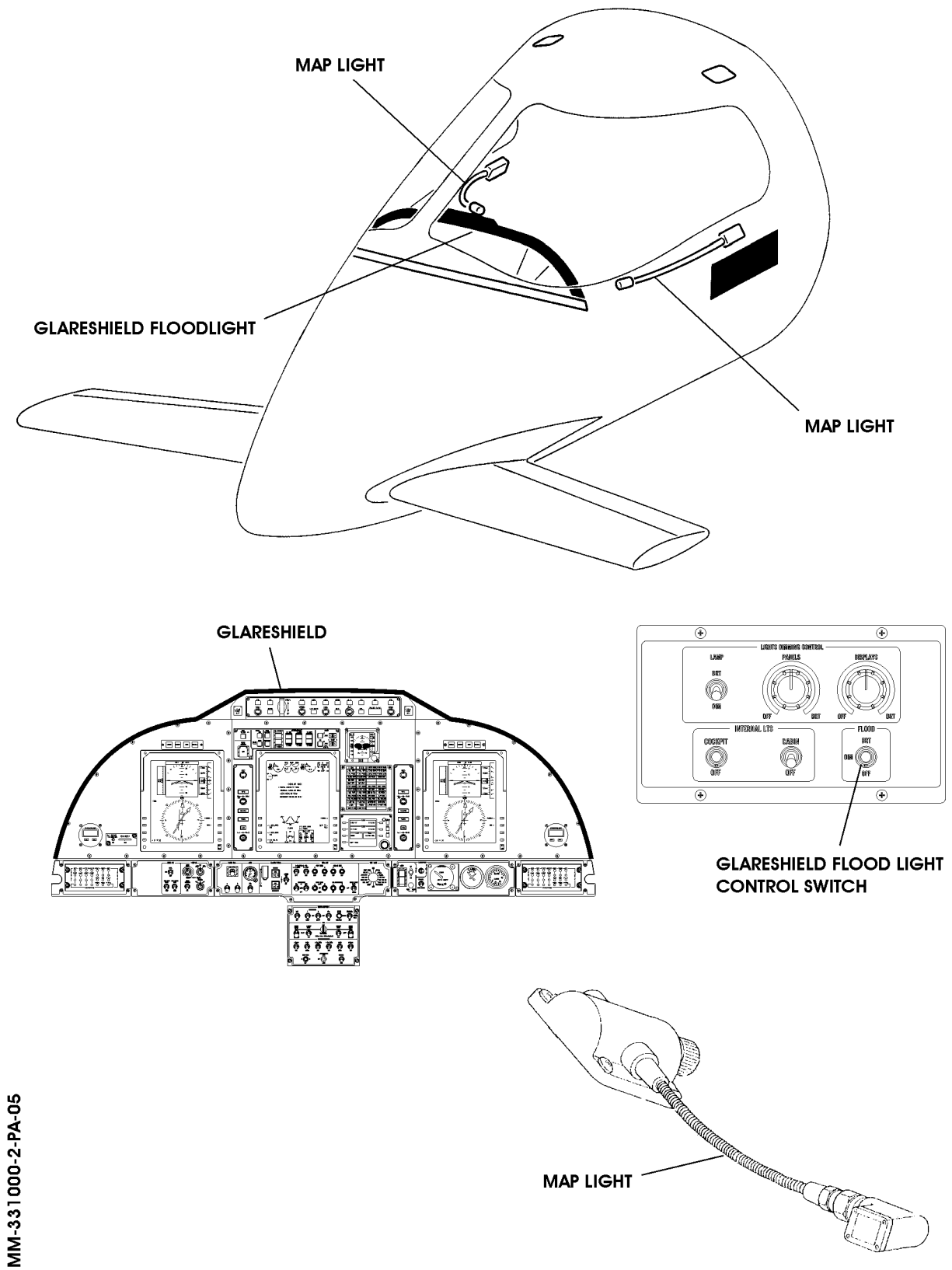


Fig. 2 - Glareshield Floodlights and Map Lights - Controls / Locations

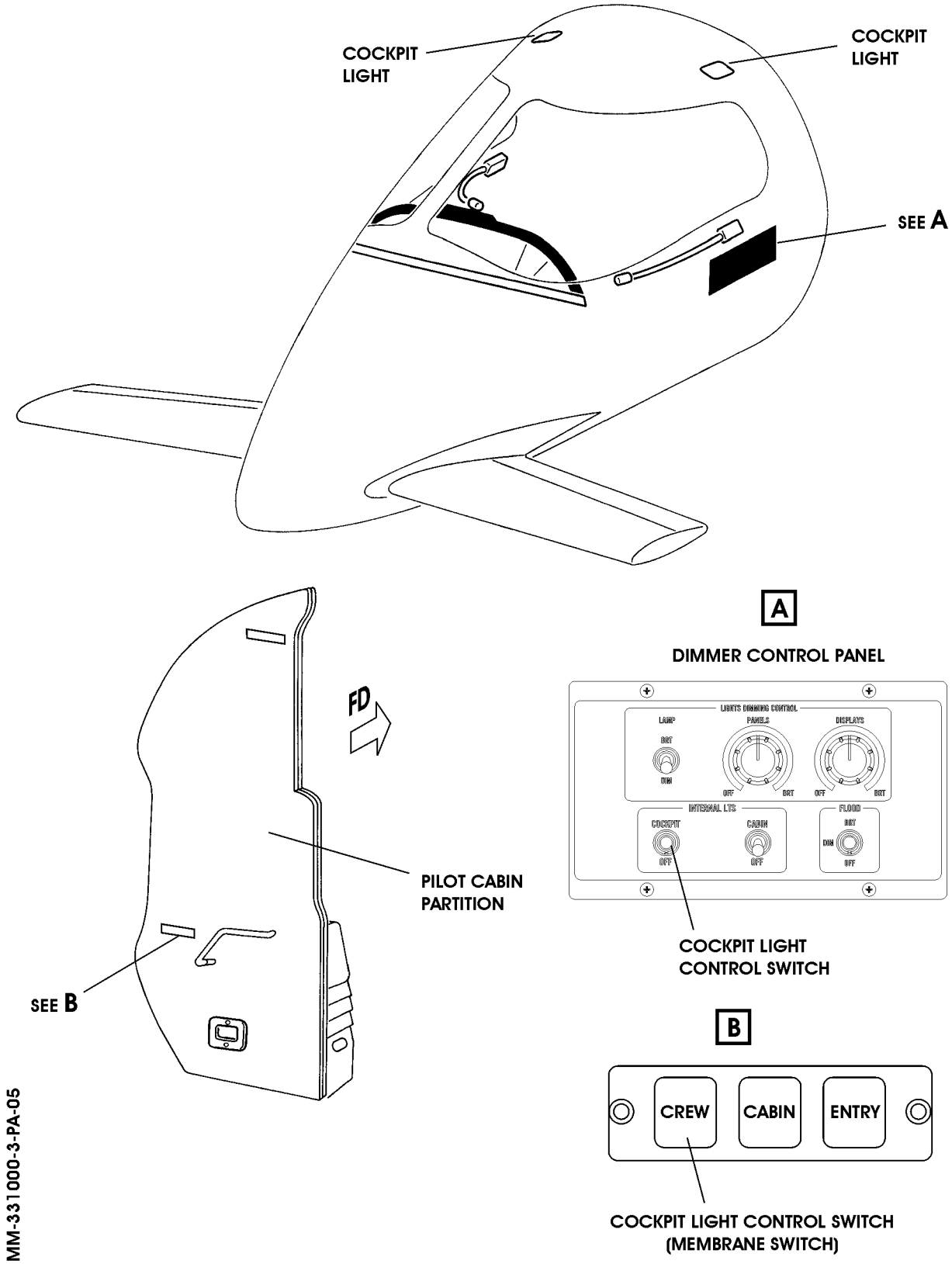


Fig. 3 - Cockpit Lights - Control / Location

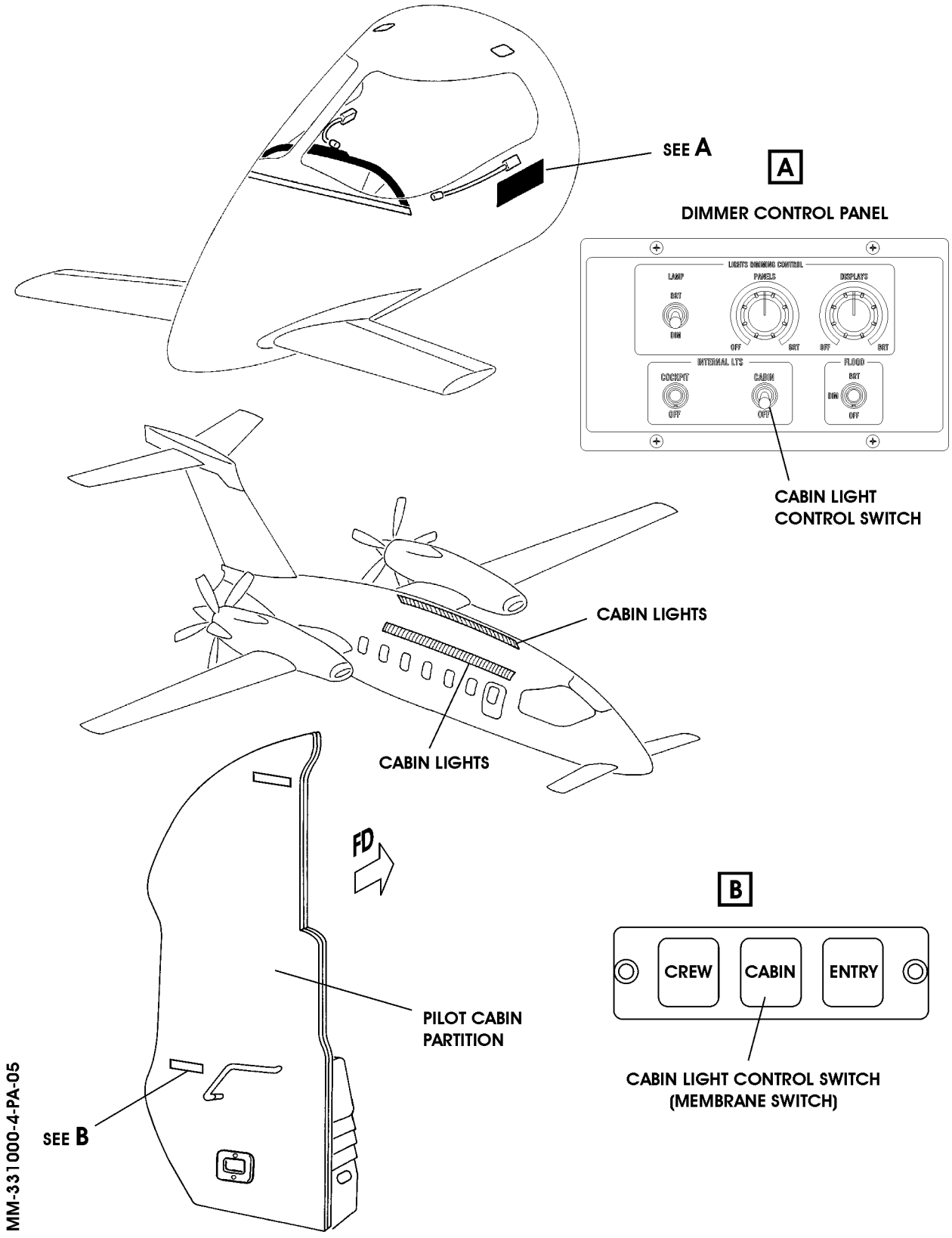


Fig. 4 - Cabin Lights - Control / Location

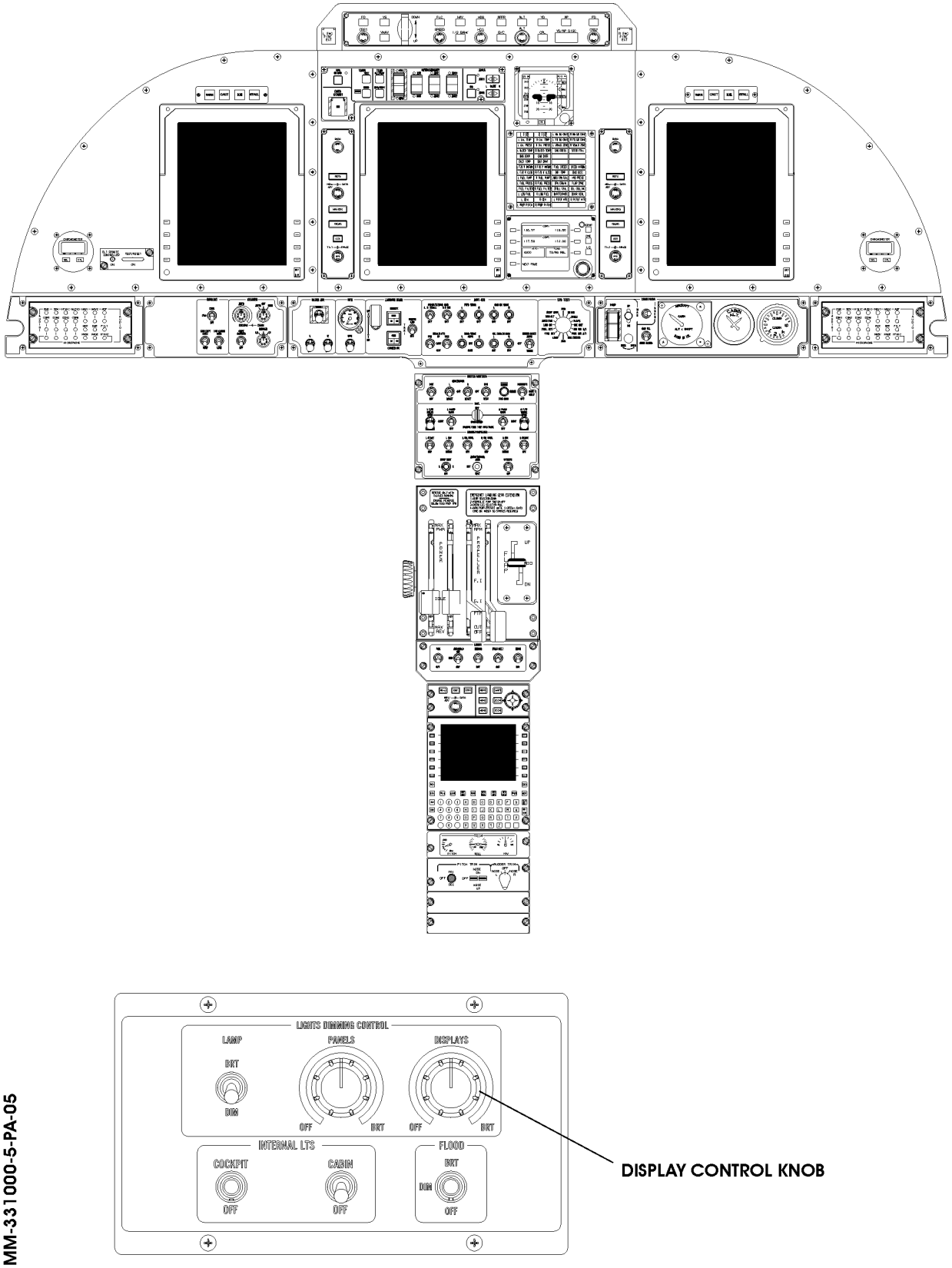
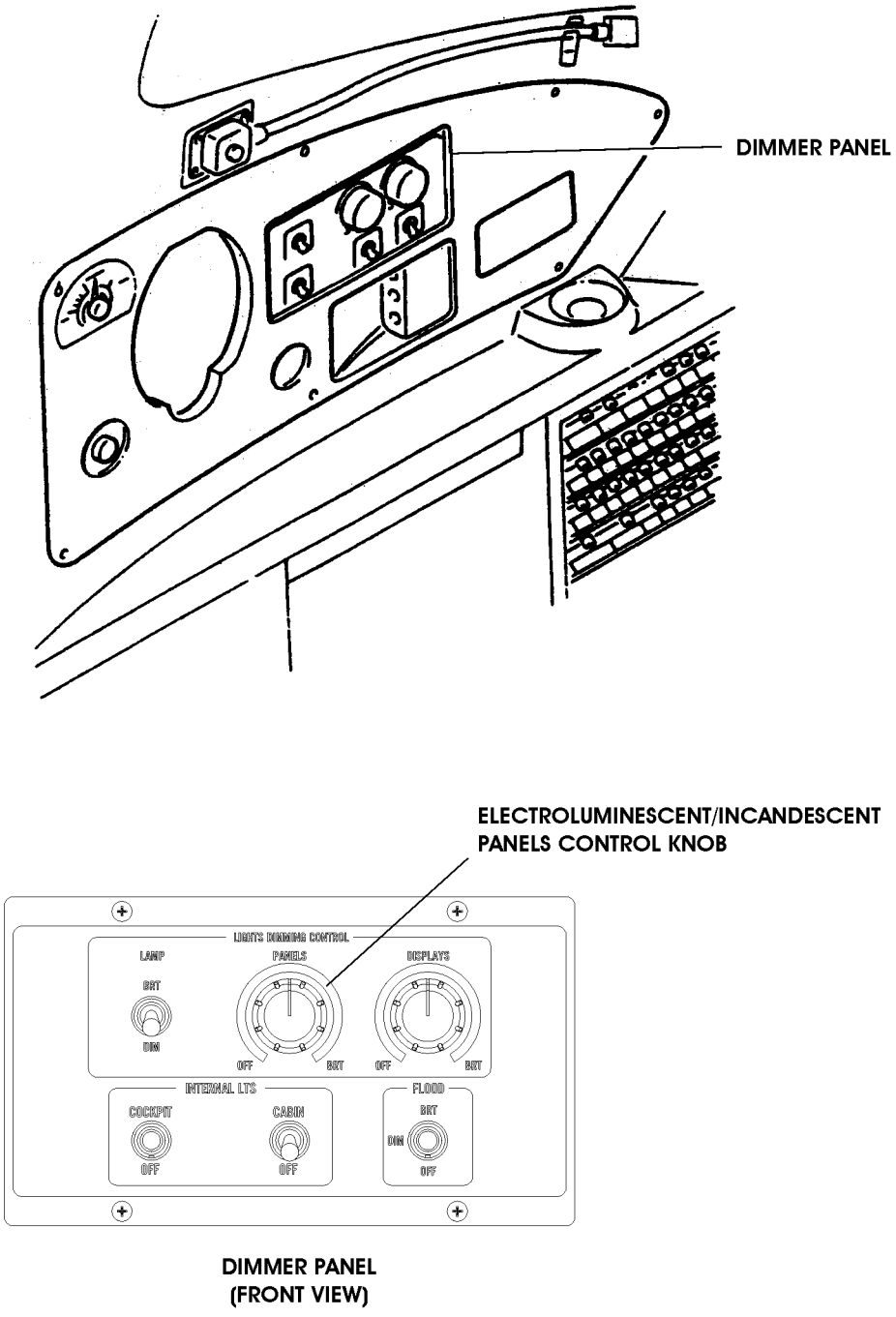


Fig. 5 - Displays - Control / Location



DIMMER PANEL
(FRONT VIEW)

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Fig. 6 - Electroluminescent and Incandescent Panels - Control / Location (Sheet 1 of 3)

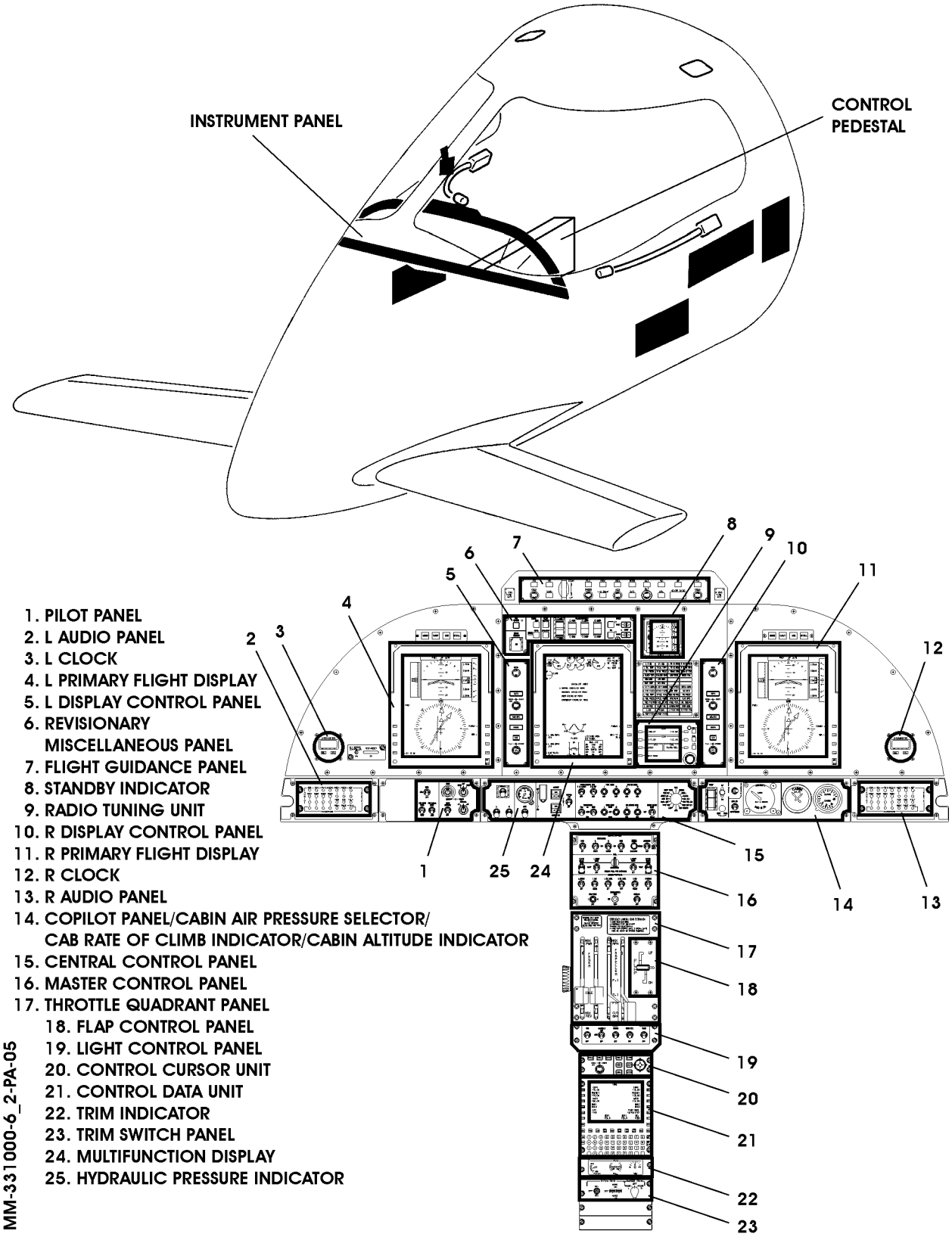

Fig. 6 - Electroluminescent and Incandescent Panels - Control / Location (Sheet 2 of 3)

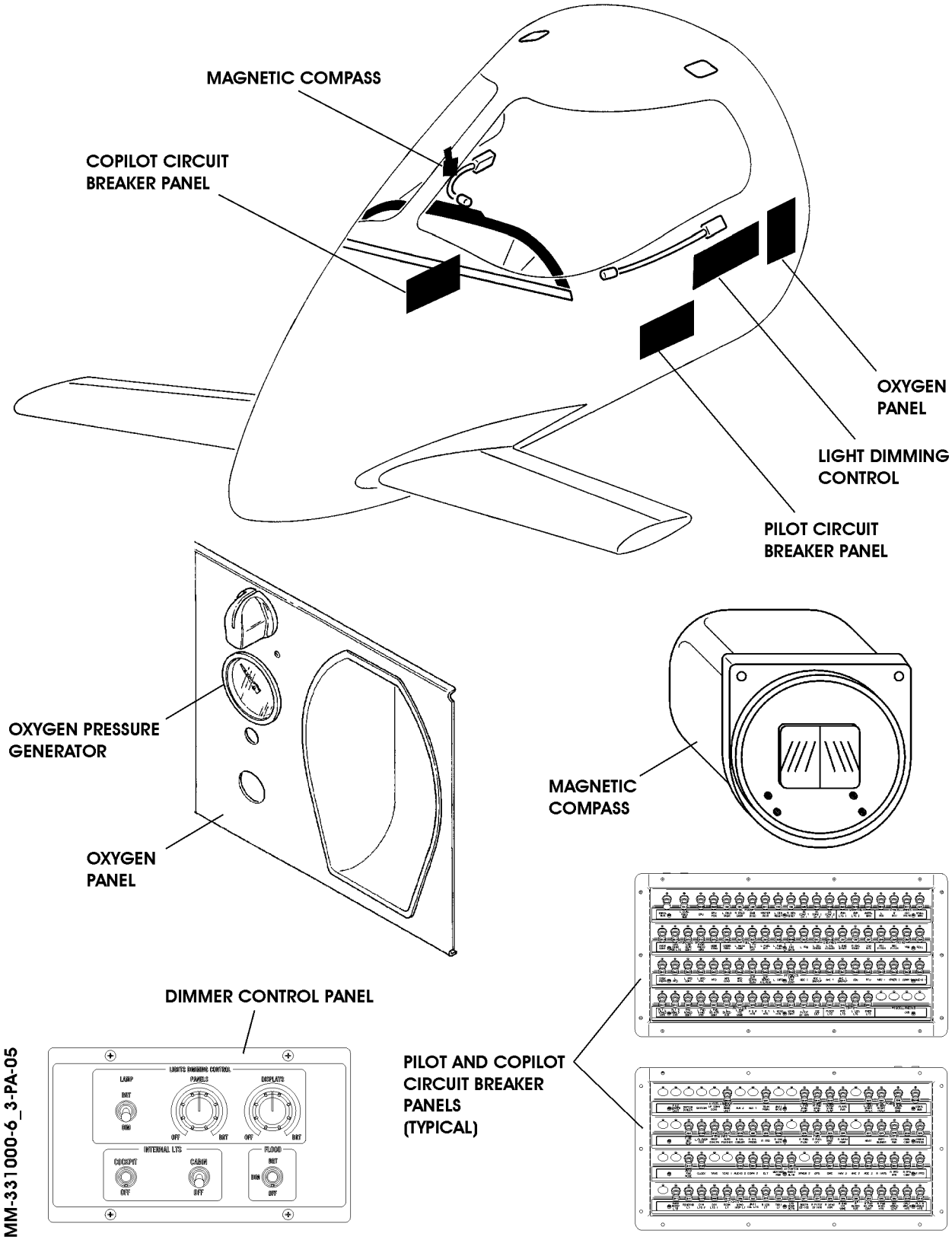

Fig. 6 - Electroluminescent and Incandescent Panels - Control / Location (Sheet 3 of 3)

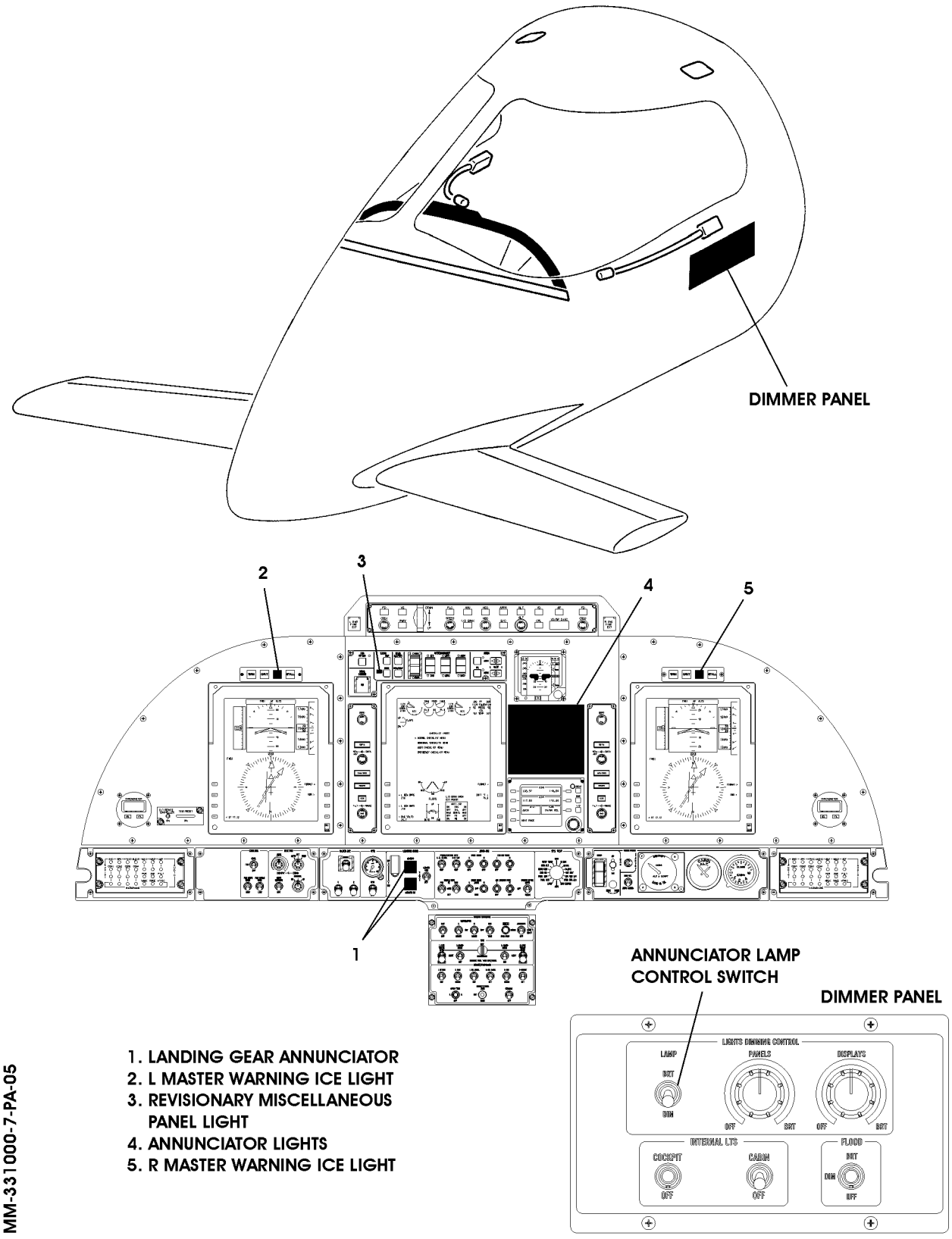

Fig. 7 - Annunciator Lights - Control / Location

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MAP LIGHTS - MAINTENANCE PRACTICES

1. Map Lights - Removal (Ref. Fig. 201)

   A. Procedure

      (1) Open, tag and safety these circuit breakers:

      Pilot CB panel
      FLOOD LTS

      (2) Remove the four screws (2) that secure the base (1) to the structure below the left/right side of the windshield.
      (3) Pull out the map light assembly.
      (4) Attach temporary tags to identify the position of the electrical cables.
      (5) Remove the two screws of the terminal block inside the map light base and disconnect the electrical cables.
      (6) Remove the map light assembly.

2. Map Lights - Installation (Ref. Fig. 201)

   A. Procedure

      (1) Make sure as necessary that:
      – the applicable circuit breaker is open, tagged and safetied
      – the system is safe
      – access is available.
      (Refer to the Removal Procedure).
      (2) Attach the electrical cables to the terminal block with the two screws in the positions identified during removal.
      (3) Remove the temporary tags.
      (4) Secure the map light assembly to the structure below the left/right side of the windshield, with the four screws (2).
      (5) Remove and safety tags and close these circuit breakers:

      Pilot CB panel:
      FLOOD LTS

      (6) Set the BATTERY switch to ON.
      (7) Set the potentiometer on the light base to bright and back to dim and check that it operates correctly.
      (8) Set the BATTERY switch to OFF.

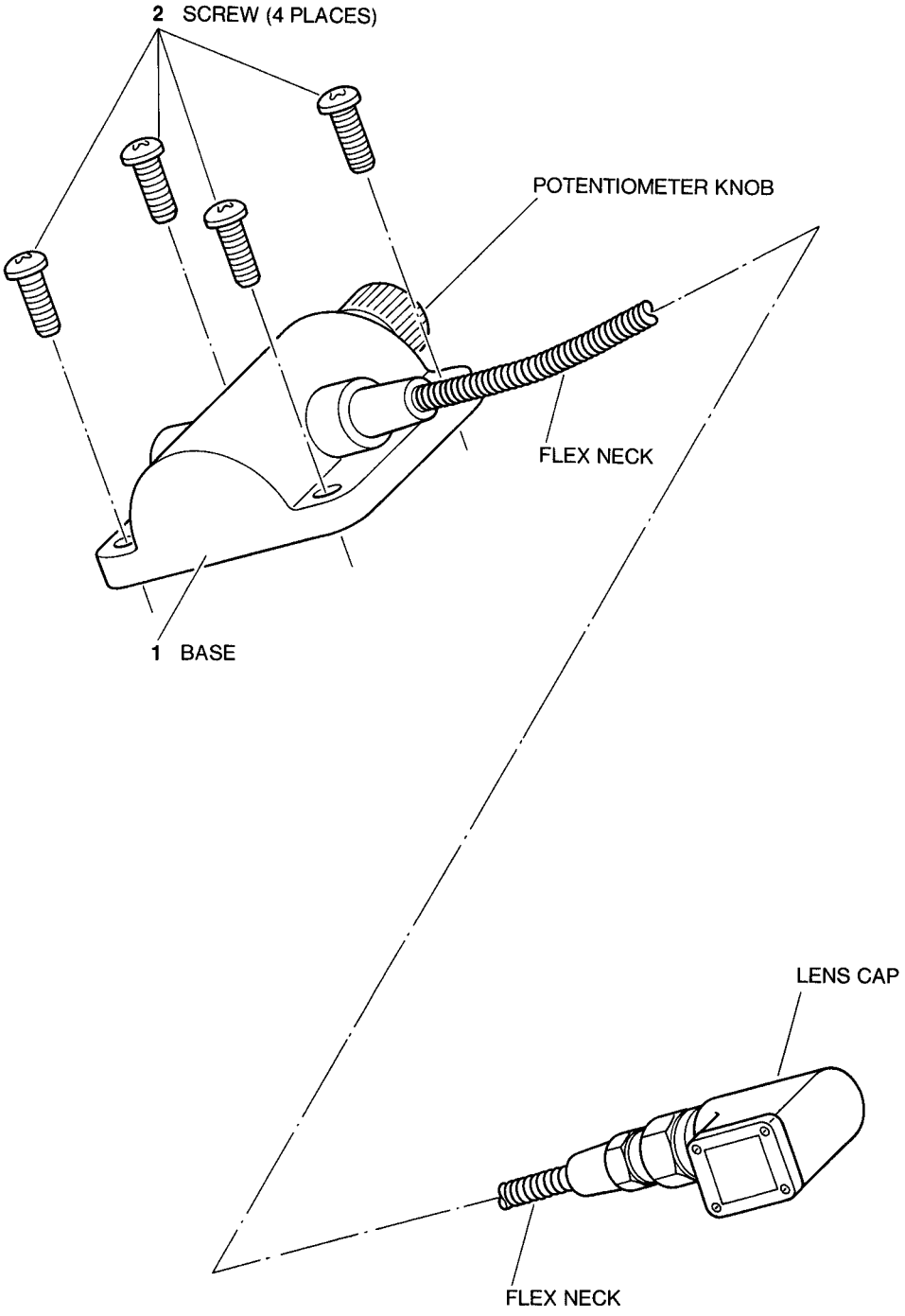

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Fig. 201 - Map Lights - Removal/Installation

GLARESHIELD FLOODLIGHTS - MAINTENANCE PRACTICES

1. Glareshield Lights - Removal (Ref. Fig. 201)

NOTE: The flood lights are installed under the glareshield.

A. Referenced Information

Wiring Manual Chapter 33

B. Procedure

(1) Open, tag and safety these circuit breakers:

Pilot CB panel:
FLOOD LTS

(2) Remove the screws (4) that secure flood light (1) to the glareshield (2).
(3) Remove the clamps (5) that secure the flood light electrical cable to the glareshield.
(4) Disconnect the electrical connector (3).
(5) Remove the pins of the flood light to be removed from the electrical connector (3).
(6) Mark the pins position in the electrical connector (3).
(7) Slide out the flood light from the glareshield (2).

2. Glareshield Lights - Installation (Ref. Fig. 201)

A. Referenced Information

Wiring Manual Chapter 33

B. Procedure

(1) Make sure as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.

(2) Put the flood light (3) in position under the glareshield (2).
(3) Install the flood light (3) with the screws (2).
(4) Secure the flood lights electrical cable to the glareshield with clamps (5).
(5) Install the connector pins to the flood light electrical cable ends.
(6) Insert the pins in the electrical connector (3) in the position marked during removal procedure.
(7) Connect the electrical connector.
(8) Remove the safety tags and close these circuit breakers:

Pilot CB panel:
FLOOD LTS

(9) Set the BAT switch to ON.

(10) Set FLOOD - BRT - DIM - OFF switch to the BRT and DIM position and check that the flood lights operates correctly.

(11) Set the BAT switch to OFF.

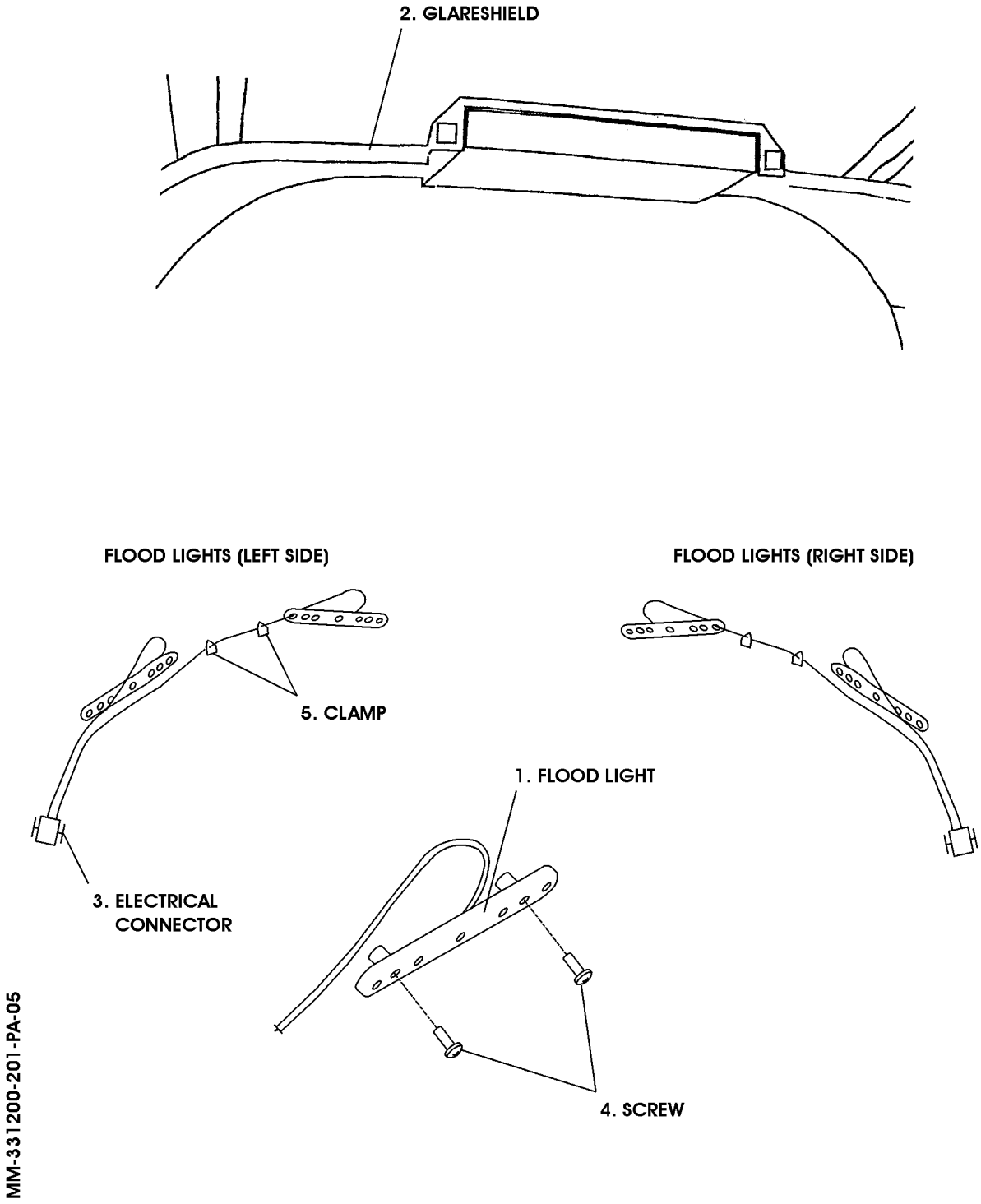

Fig. 201 - Glareshield Flood Lights - Removal/Installation

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CREW LIGHT - MAINTENANCE PRACTICES

1. Crew Lights - Removal (Ref. Fig. 201)

   A. Procedure

      (1) Open, tag and safety these circuit breakers:

          Main Junction Box (Baggage Compartment) CB Panel:
          ENTRY CREW LIGHT

      (2) Remove the visors (1).
      (3) Support the overhead panel (2) and remove the four screws (3) which secure the panel to the flight compartment roof.
      (4) Disconnect the two crew light connectors (4).
      (5) Remove the overhead panel (2).
      (6) Pull back the rubber cover (5) to get access to the electrical connection.
      (7) Remove the two screws (6) from the electrical connection to the lamp (7).
      (8) Remove the lamp.

2. Crew Lights - Installation (Ref. Fig. 201)

   A. Procedure

      (1) Make sure as necessary that:
          – the applicable circuit breakers are open, tagged and safetied
          – the system is safe
          – access is available.
          (Refer to the Removal Procedure).
      (2) Install the lamp (7).
      (3) Install the electrical connection and secure with the two screws (6).
      (4) Put the rubber cover (5) back into position.
      (5) Connect the two crew light connectors (4).
      (6) Install the overhead panel (2) and the visors (1).
      (7) Remove the safety tags and close these circuit breakers:

          Main Junction Box (Baggage Compartment) CB Panel:
          ENTRY BAGGAGE LT

      (8) Set the BATTERY switch to BAT.
      (9) Open the entry door.
      (10) Set to on the CKPT-LTS switch located on the dimming control panel and make sure that the crew lights come on.
      (11) Set to off the COCKPIT switch located on the switch panel near the entry door and make sure that the two crew lights go off.
      (12) Set the BATTERY switch to OFF.

(13) Set to on the CKPT-LTS switch located on the dimming control panel and make sure that the crew light comes on.
(14) Close the entry door and make sure that the crew lights go off.
(15) Set to off the CKPT-LTS switch located on the dimming control panel.

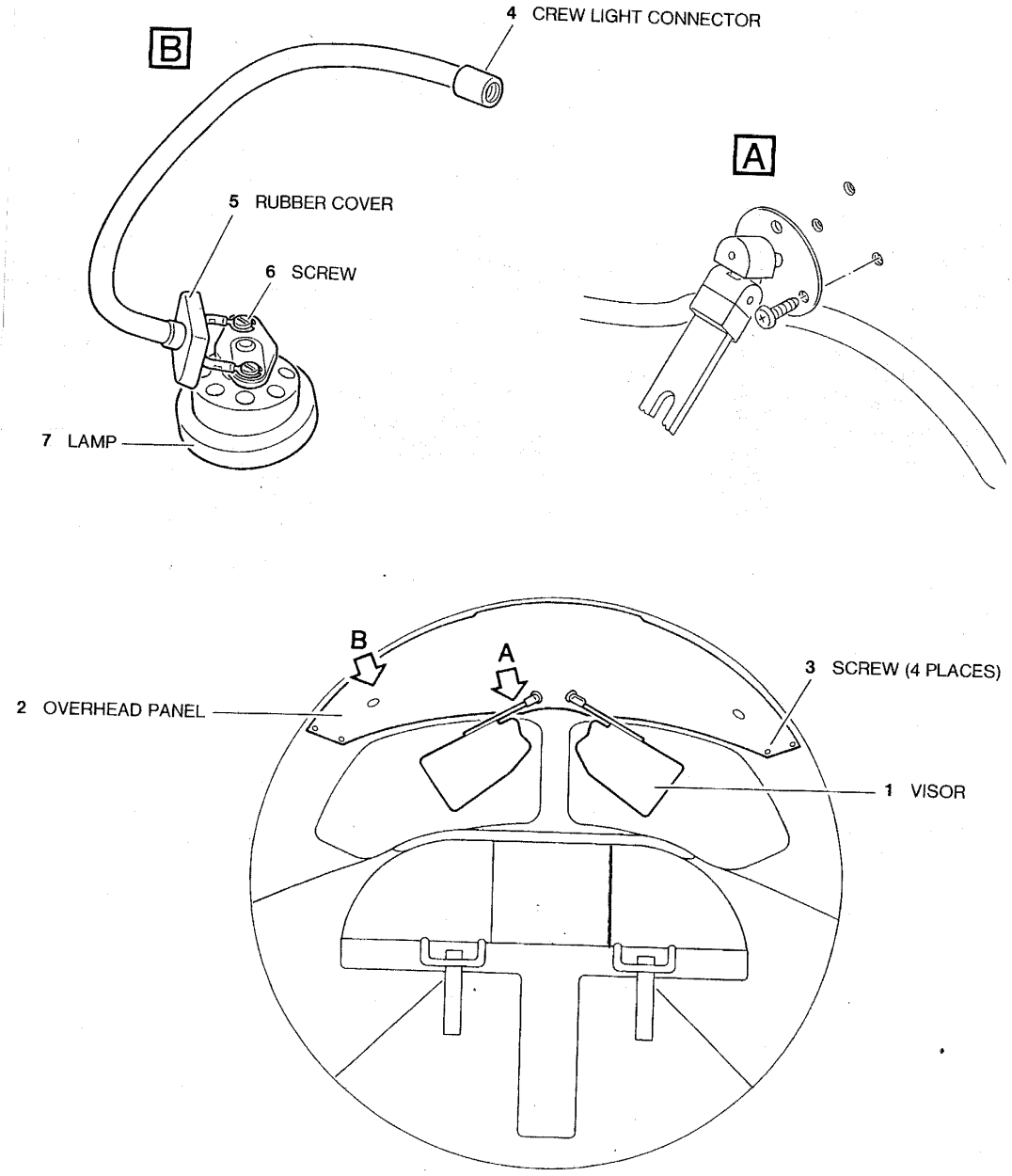

Fig. 201 - Crew Light - Removal/Installation

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DIMMER CONTROL PANEL - MAINTENANCE PRACTICES

1. Dimmer Control Panel - Removal (Ref. Fig. 201)

A. Reference Information

Maintenance Manual Chapter 35-10-00
Maintenance Manual Chapter 23-50-00

B. Procedure

(1) Open, tag and safety these circuit breakers:

Copilot CB panel:
DIM LTS 1
DIM LTS 2

(2) Remove the screws (5) which attach the panel (1) to the wall (pilot side).
(3) Remove the oxygen mask (Refer to Chapter 35-10-00).
(4) Remove the oxygen selector (Refer to Chapter 35-10-00).
(5) Remove the oxygen jack (Refer to Chapter 35-10-00).
(6) Remove the oxygen microphone jack (Refer to Chapter 23-50-00).
(7) Remove the hand microphone jack (Refer to Chapter 23-50-00).
(8) Remove the headset jack (Refer to Chapter 23-50-00).
(9) Disconnect the electrical plug (4) from the dimmer light control (3).
(10) Remove the four bolts (2) which secure the dimmer light control (3) to the panel (1).
(11) Remove the dimmer light control (3).

2. Dimmer Control Panel - Installation (Ref. Fig. 201)

A. Reference Information

Maintenance Manual Chapter 35-10-00
Maintenance Manual Chapter 23-50-00

B. Procedure

(1) Make sure as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure).

(2) Install the dimmer light control (3) on the panel (1) with the four bolts (2).
(3) Connect the electrical plug (4) to the dimmer light control (3).
(4) Install the headset jack (Refer to Chapter 23-50-00).
(5) Install the hand microphone jack (Refer to Chapter 23-50-00).
(6) Install the oxygen microphone jack (Refer to Chapter 23-50-00).

(7) Install the oxygen jack (Refer to Chapter 35-10-00).
(8) Install the oxygen selector (Refer to Chapter 35-10-00).
(9) Install the oxygen mask (Refer ot Chapter 35-10-00).
(10) Attach the panel (1) to the wall pilot side.
(11) Remove the safety tags and close these circuit breakers:

Copilot CB panel:
DIM LTS 1
DIM LTS 2

(12) Check the operation of the dimmer light control.

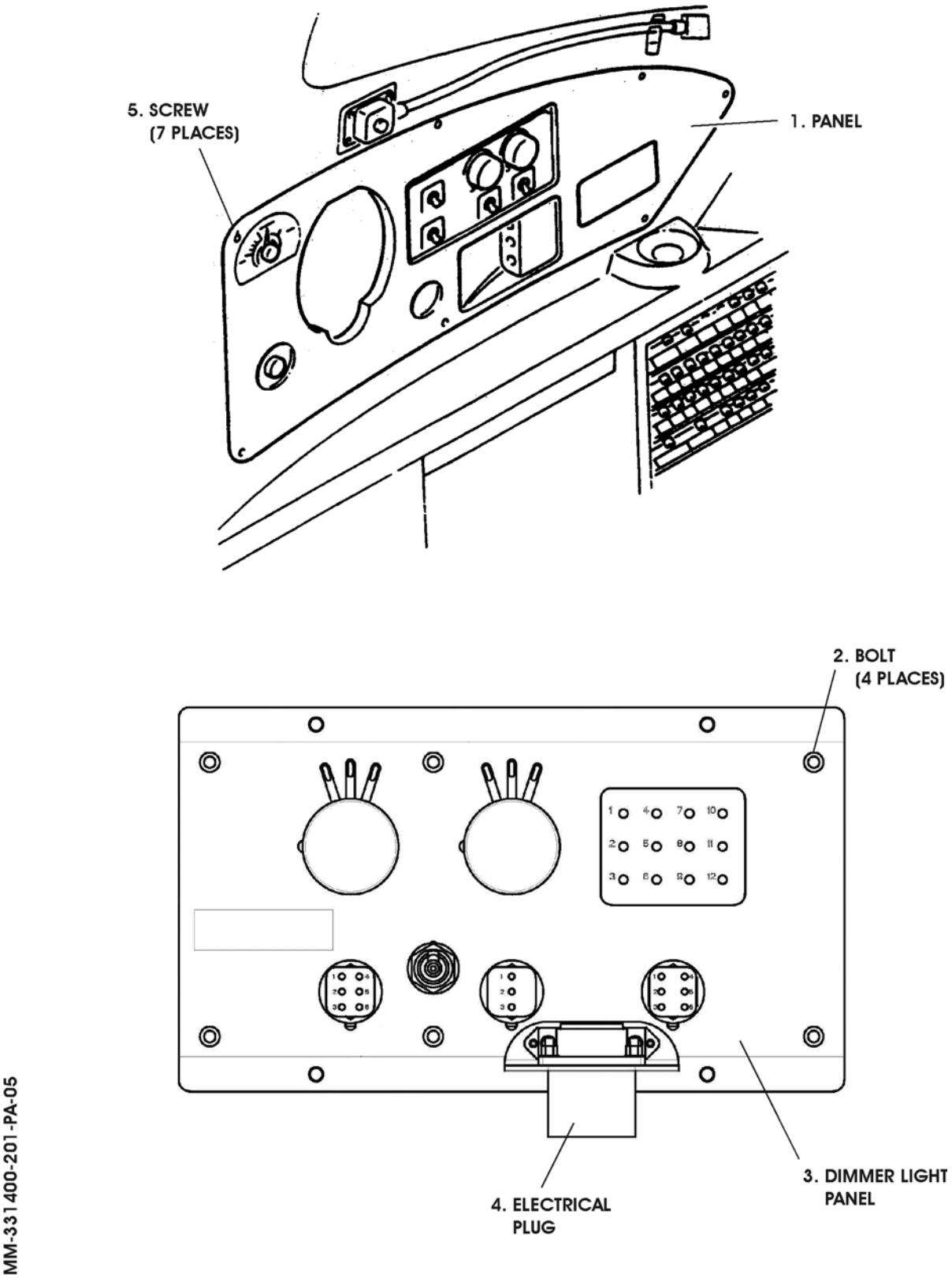

Fig. 201 - Dimmer Control Panel - Removal/Installation

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INVERTER DUAL VOLTAGE - MAINTENANCE PRACTICES

1. Inverter Dual Voltage - Removal (Ref. Fig. 201)

NOTE: Two Light Dimming Units are installed on the airplane forward of the instrument panel, left and right side respectively. The removal procedures are the same for both sides.

A. Procedure

(1) Remove the copilot seat.
(2) Open, tag and safety these circuit breakers:

Copilot CB panel:
DIM LTS 1
DIM LTS 2

(3) Disconnect the electrical plug (1).
(4) Remove the two screws that fasten the dimming light unit, below the support forward of the instrument panel (2).
(5) Remove the inverter dual voltage (3).

2. Inverter Dual Voltage - Installation (Ref. Fig. 201)

NOTE: Two Light Dimming Units are installed on the airplane forward of the instrument panel, left and right side respectively. The installation procedures are the same for both sides.

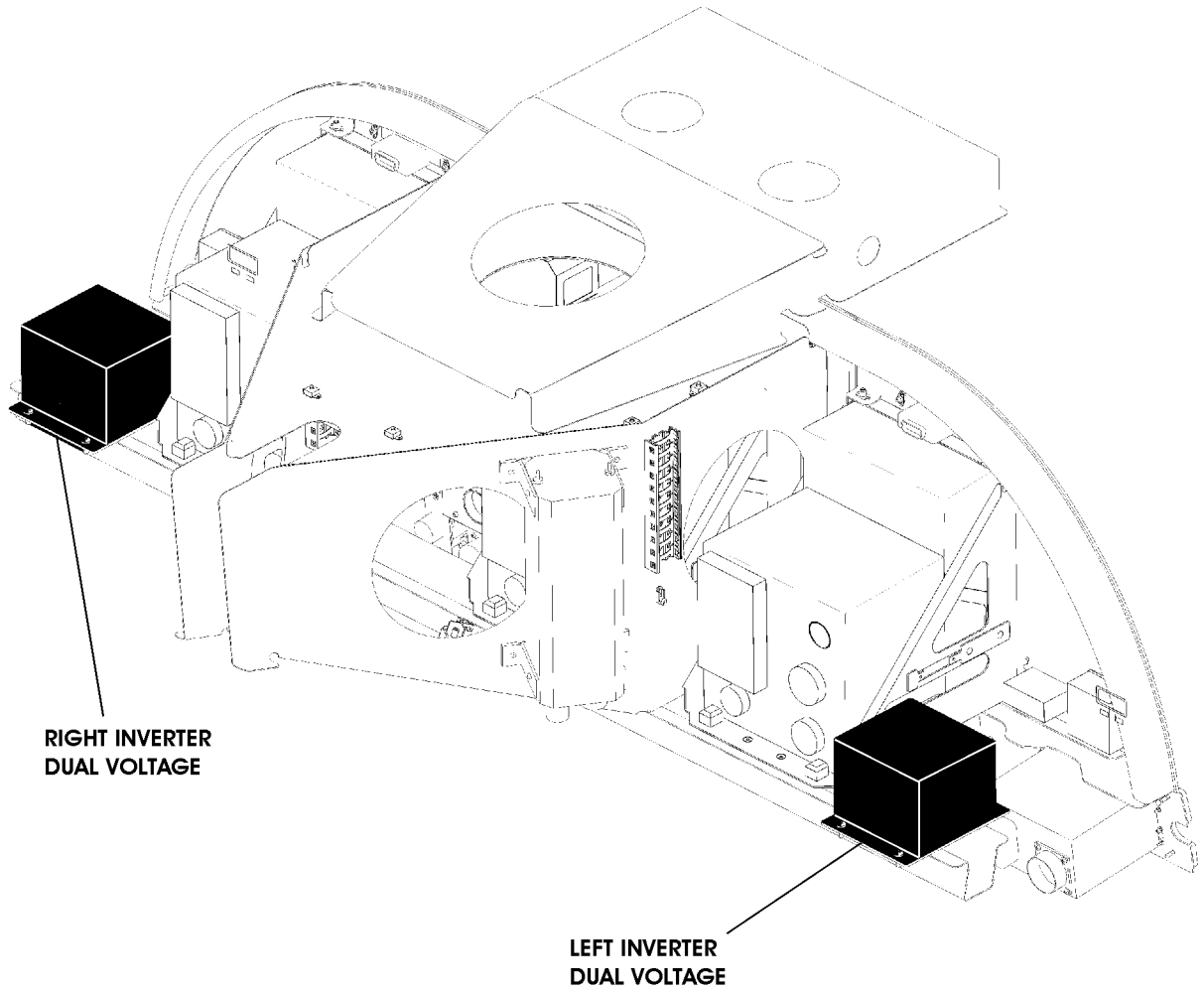
A. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure)

(2) Position the inverter dual voltage (3) below the support with the two screws (2).
(3) Connect the electrical plug.
(4) Remove the safety tags and close these circuit breakers:

Copilot CB panel:
DIM LTS 1
DIM LTS 2

(5) Check the light dimming system.
(6) Install the copilot seat.



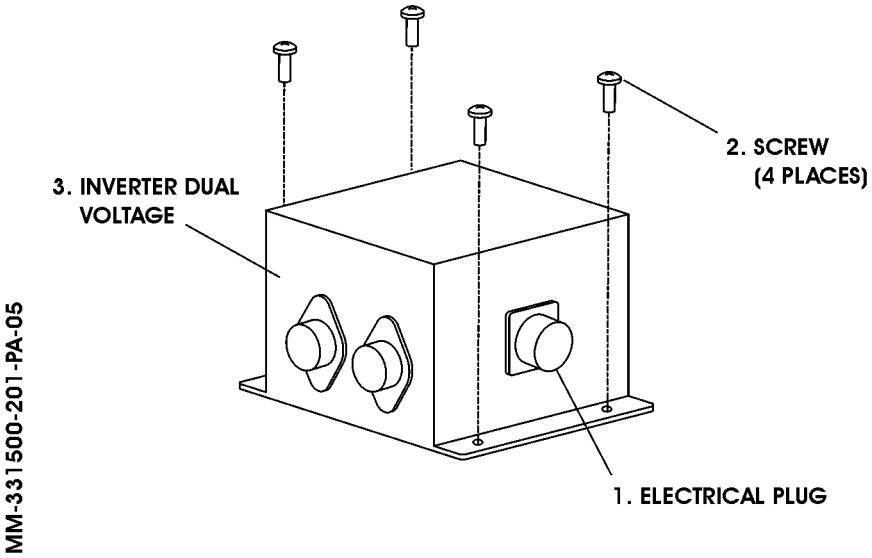


Fig. 201 - Inverter Dual Voltage - Removal/Installation

PASSENGER COMPARTMENT LIGHTING - DESCRIPTION AND OPERATION

1. General

A. Passenger compartment lighting consists of general cabin lighting, reading lights, table lights, no smoking, fasten seat belt light, entry light and lavatory compartment lights (Ref. Fig. 1).

2. Component Description

A. The general lighting consists of thirteen cold cathode lights located on the left and right side of the passenger compartment ceiling under the louver assembly. Each light assembly consists of two tubes connected in series and a power supply unit.

B. The seven reading lights are located on the left and right side of the passenger compartment ceiling under the louver assembly above the seats.

C. The two table lights are located on the left and right side of the passenger compartment ceiling under the louver assembly above the tables.

D. The no smoking fasten seat belt lights are located:

- on the right forward bulkhead
- on the right rear bulkhead
- in the lavatory compartment.

E. The entry light is located on the lower side of the right forward bulkhead, near the steps.

F. In the lavatory compartment the lights is installed in front of toilet seat and on the center of the vanity ceiling.

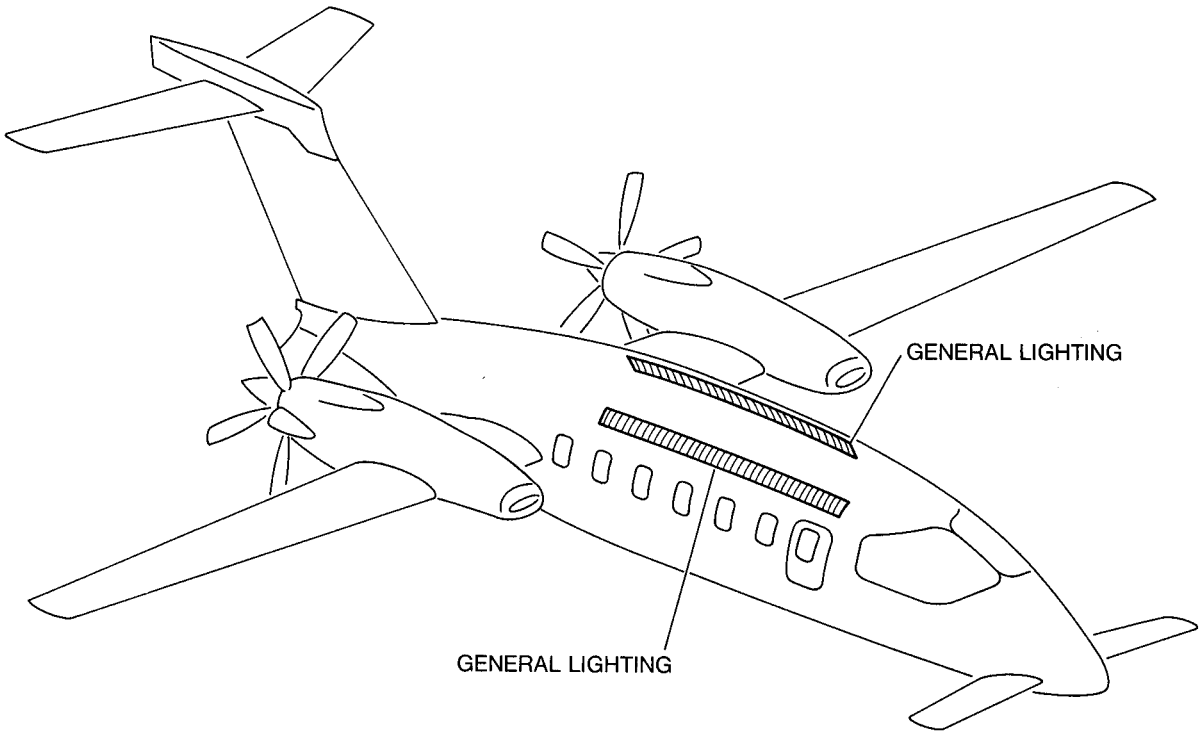


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Fig. 1 - (Sheet 1 of 6) - General Lighting Location

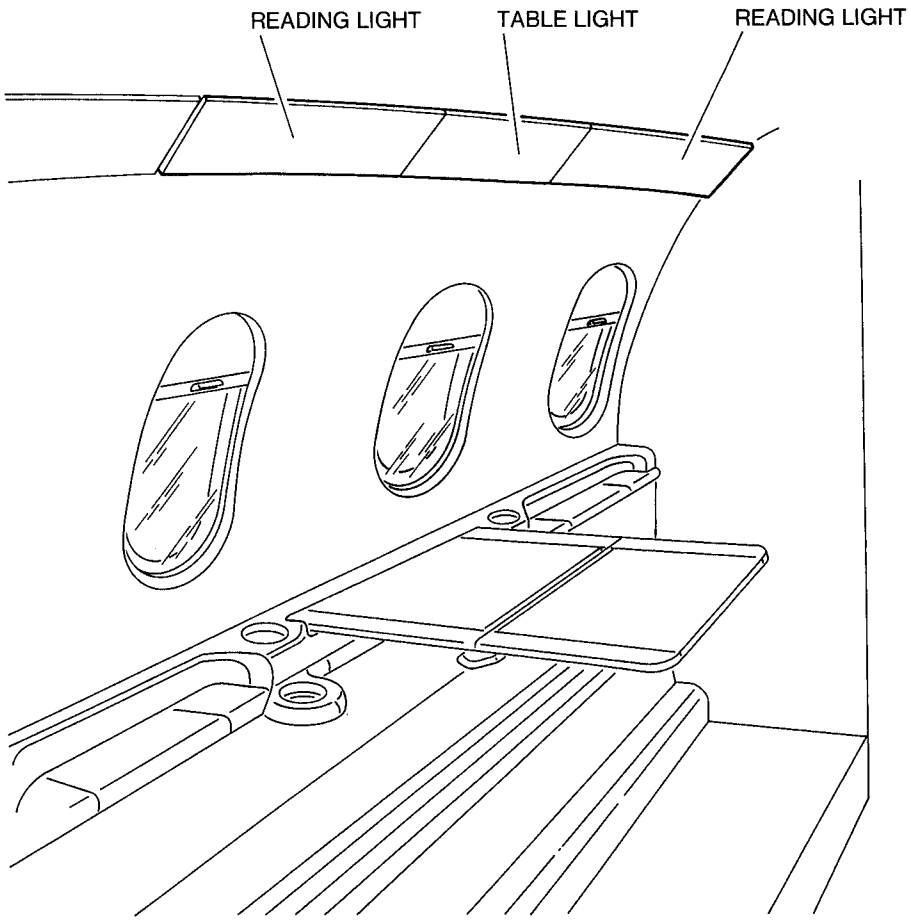

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Fig. 1 - (Sheet 2 of 6) - Reading and Table Lights Locations

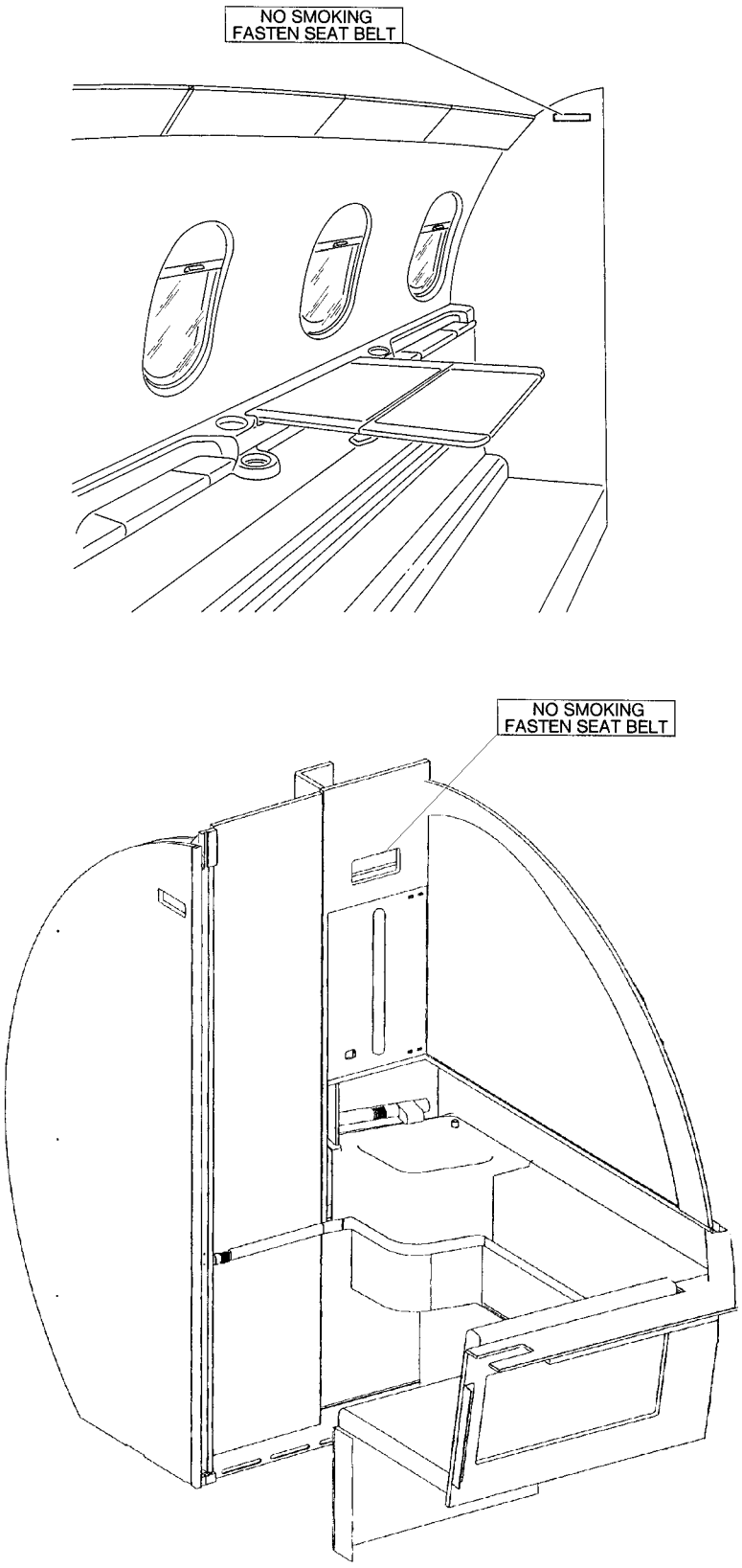

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Fig. 1 - (Sheet 3 of 6) - No Smoking Fasten Seat Belt Light Location

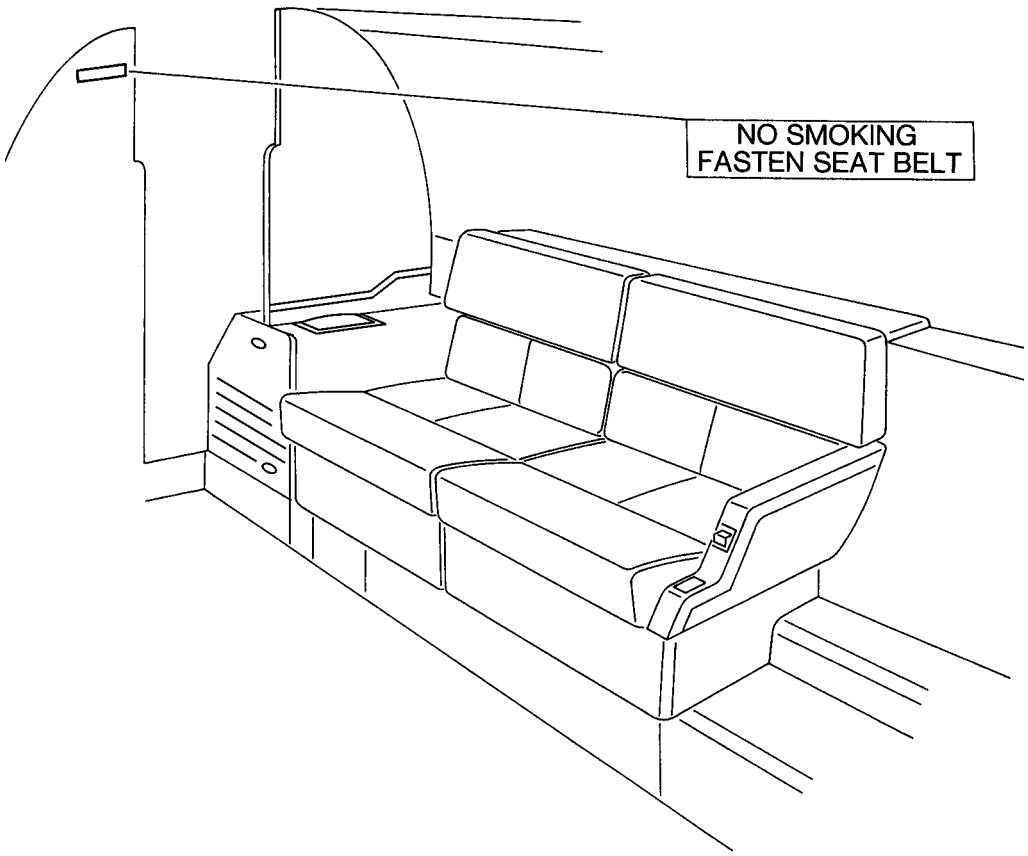

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Fig. 1 - (Sheet 4 of 6) - No Smoking Fasten Seat Belt Light Location

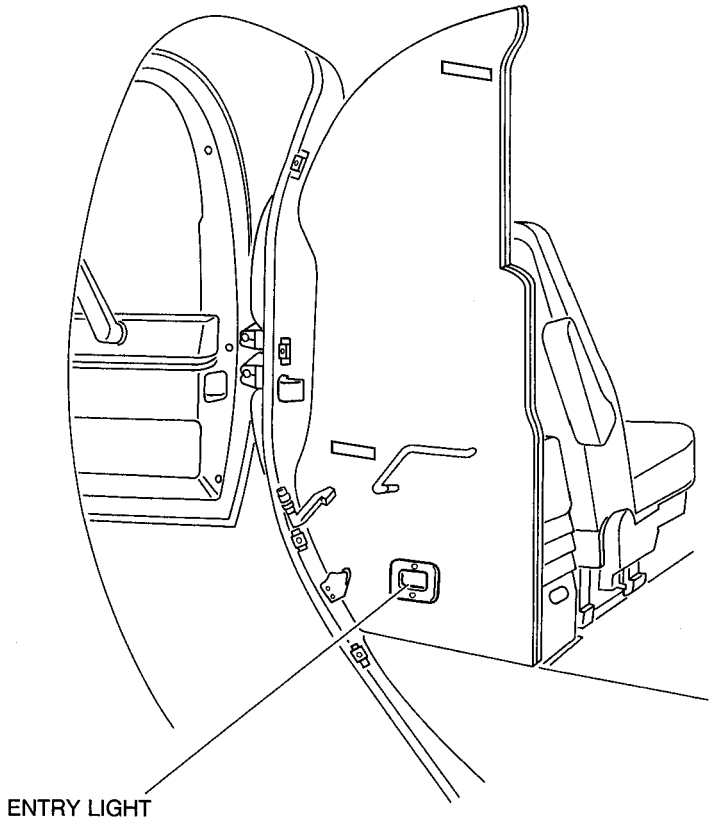

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Fig. 1 - (Sheet 5 of 6) - Entry Lights Location

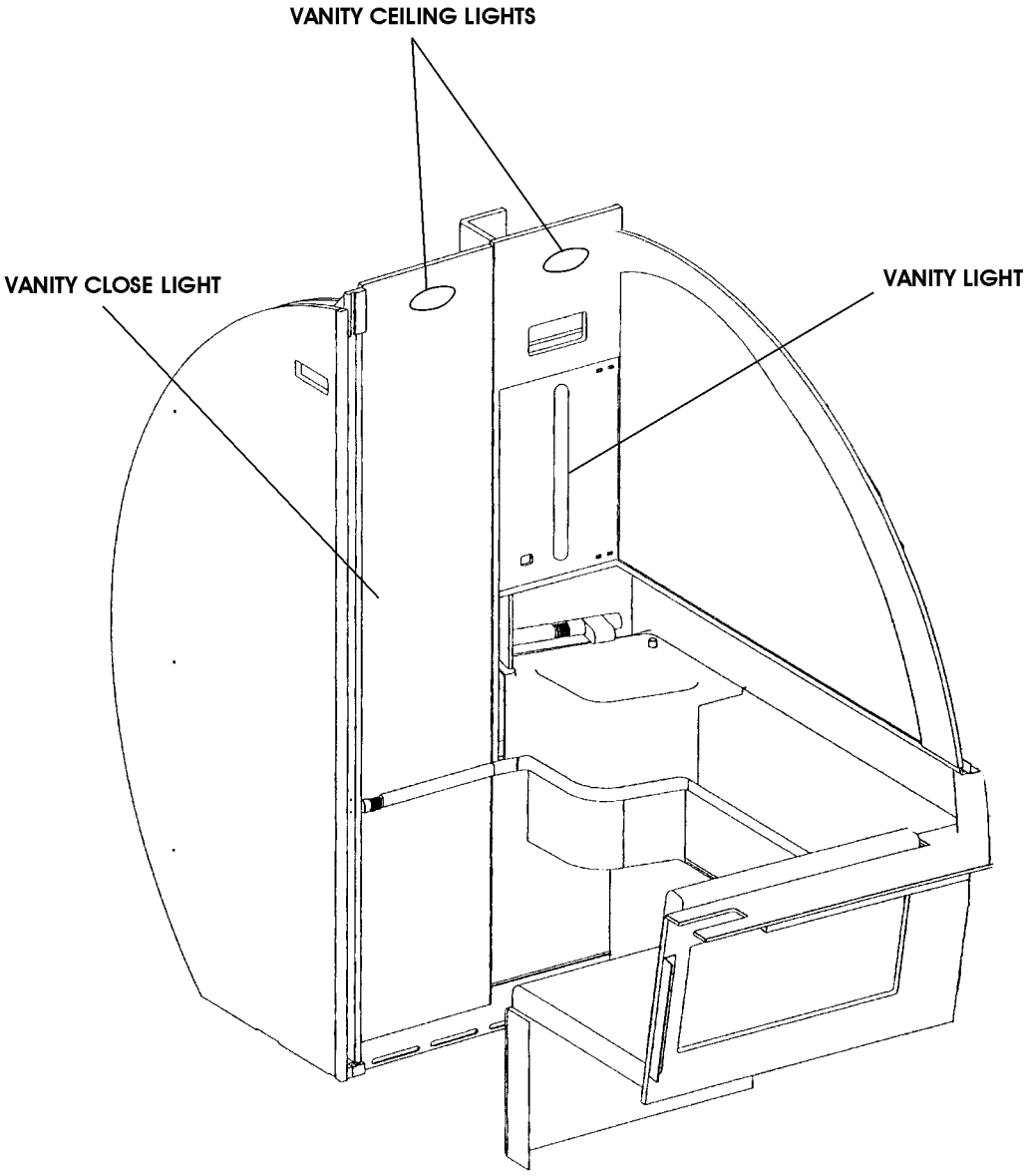


Fig. 1 - (Sheet 6 of 6) - Lavatory Compartment Lights Locations

3. Component Operation

A. Cabin lighting is controlled by switches, captioned CABIN LIGHTS, located:

– on the membrane switch panel located on the armrest.

–

The CABIN LIGHTS are also controlled by a switch captioned CABIN, located on the panel on the forward cabin bulkhead close to the entry steps, by a switch on the dimmer panel in the cockpit and by a membrane switches located on the armrest membrane switch. The push of membrane switches give three light settings:

– push once on for bright
– push again for on dim
– push again for off.

The cabin lighting is controlled by means of relays, located in the CABIN LTS RLY BOX in the lavatory compartment, through a 10A circuit breaker captioned CABIN LTS located on the upper side in the rear vanity closet (Ref. Fig. 2 and 3).

B. The reading lights are controlled by the switches captioned READ LIGHT located on the armrest panel membrane switches. The reading lights are controlled through a 10A circuit breaker captioned READING LTS, located on the copilot circuit breaker panel (Ref. Fig. 2).

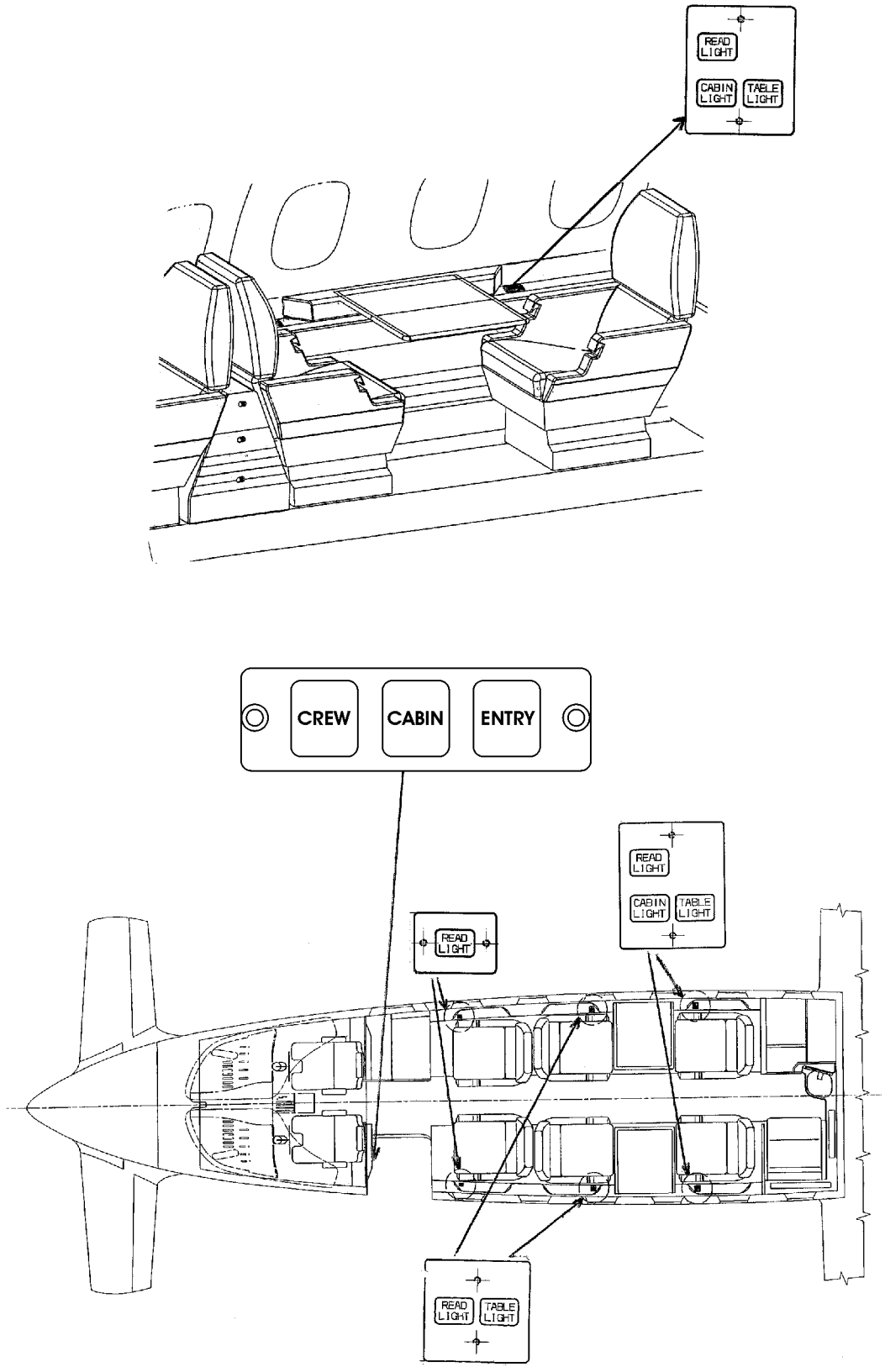
C. The table lights are controlled by the switches captioned TABLE LIGHT located on the armrest panel membrane switches. The table lights are controlled through a 10A circuit breaker captioned READING LTS located on the copilot circuit breaker panel (Ref. Fig. 2).

D. The no smoking fasten seat belt lights are controlled by a three position switch captioned FAST BELT/OFF, located on the pilot switch panel. When the pilot sets the switch to the FAST BELT position both lights come on, when the pilot sets the switch to the FAST BELT position, only the FAST BELT light comes on. The lights are controlled through a 3A circuit breaker captioned PASS ADVSY LTS, located on the copilot circuit breaker panel (Ref. Fig. 4).

E. The entry light is controlled by a switch captioned ENTRY located on the panel on the forward bulkhead close to the entry steps. The entry light is controlled through a 3A circuit breaker labelled ENTRY / BAGGAGE LIGHT, located on the baggage compartment (Ref. Fig. 2).

F. The vanity lights are controlled by a switch captioned VANITY LIGHT located in the switch panel in the lavatory compartment. The lights located on the vanity ceiling are controlled by a CABIN switches. The vanity lights are powered through a 5A circuit breaker captioned VANITY LTS, located on the upper side in the rear vanity closet (Ref. Fig. 5).

G. The rear vanity closet light is controlled by a microswitch installed on the door frame. The light comes on automatically when the door opens and goes off when the door closes. The rear Vanity closet light is controlled through a 10A circuit breaker captioned VANITY LTS, located in the rear vanity closet.



MM-332000-2-PA-05

Fig. 2 - Cabin Membrane Switch Panel Locations

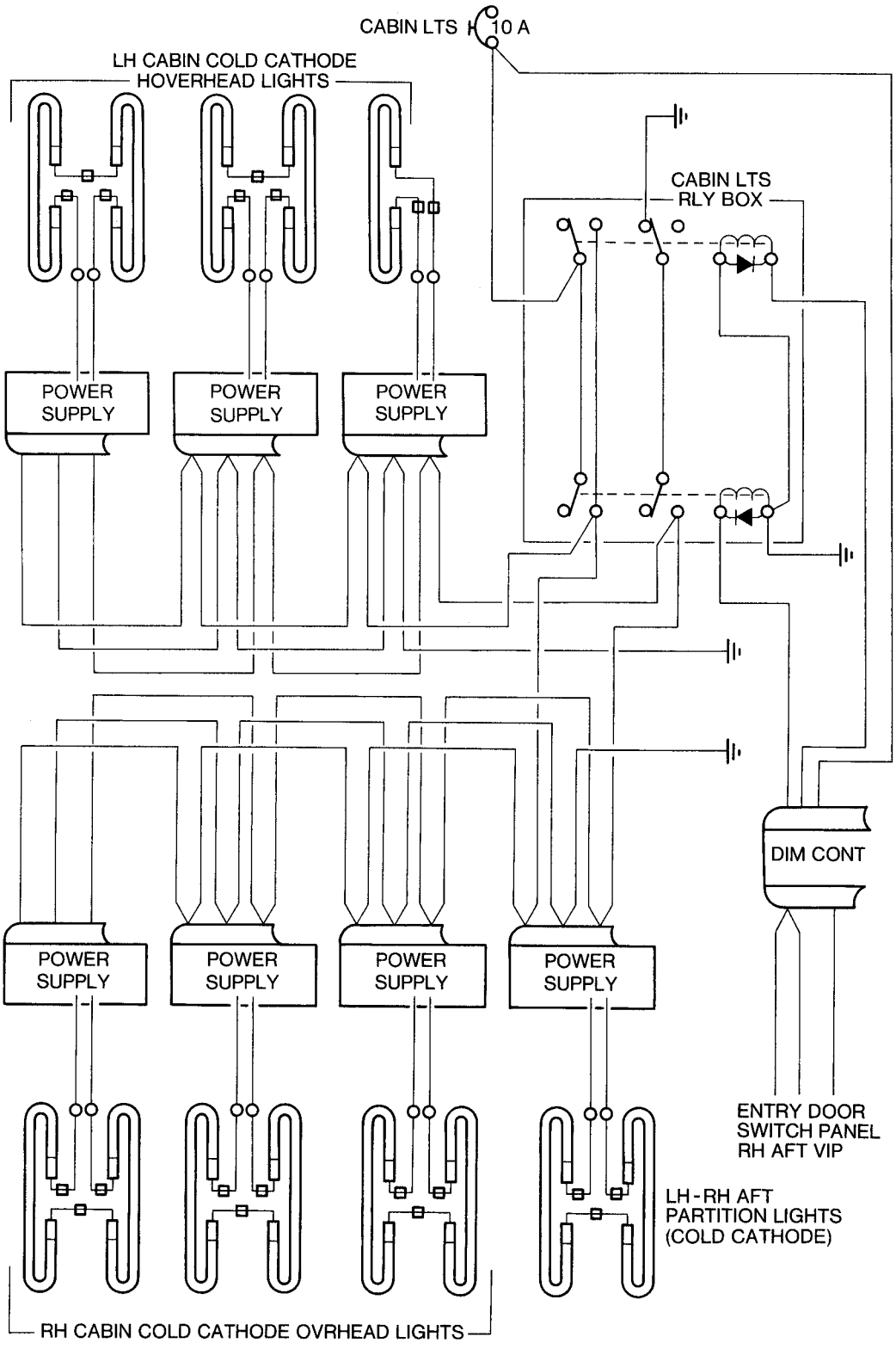


Fig. 3 - Cabin Lights Control Schematic

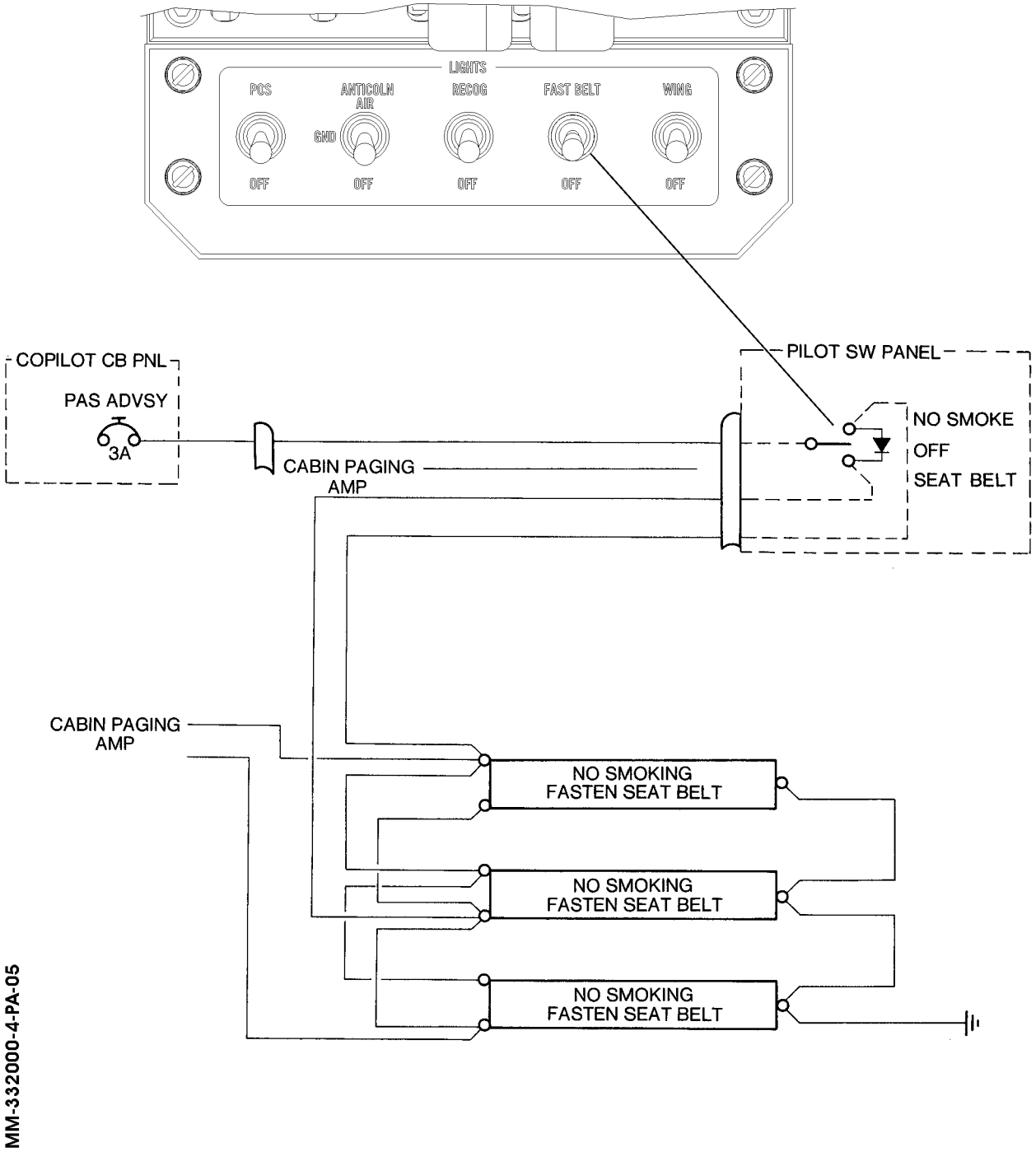
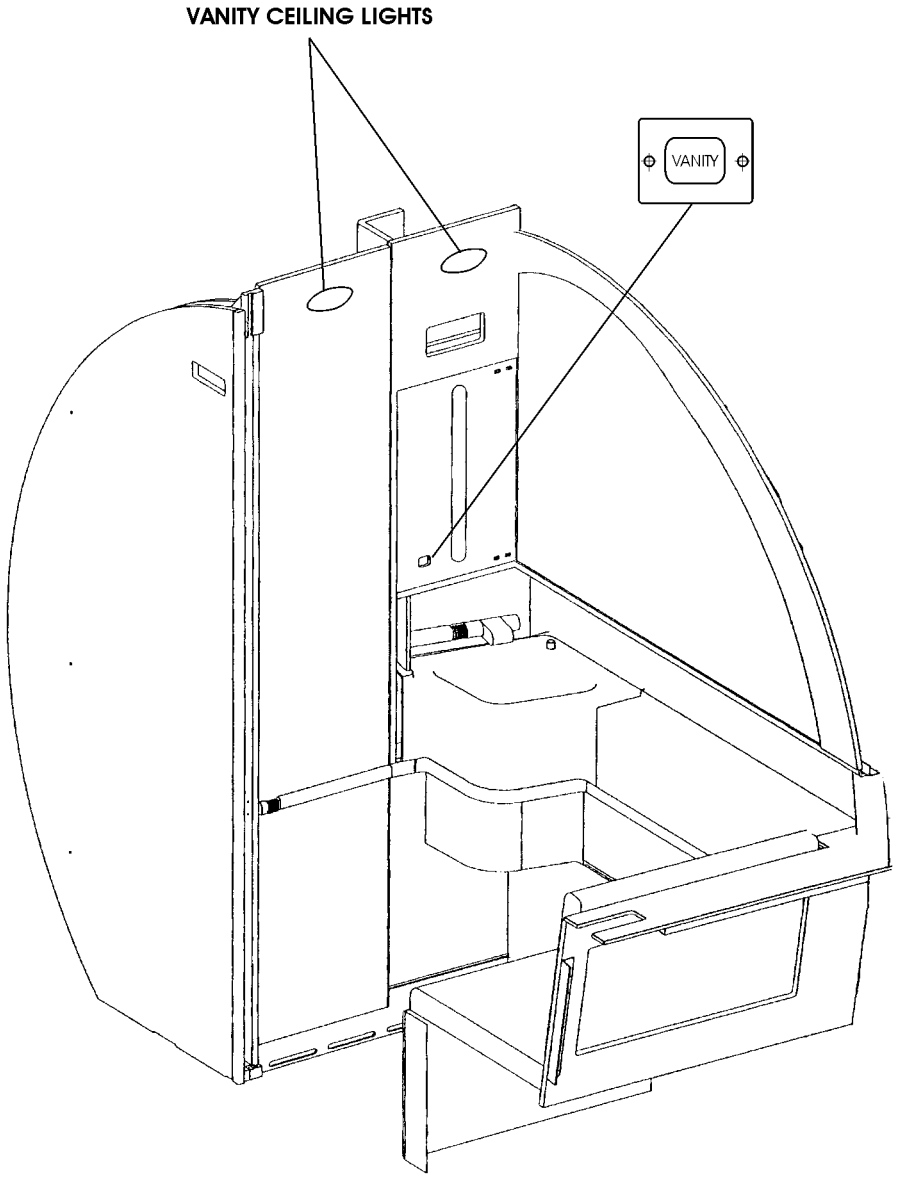


Fig. 4 - No Smoking Fasten Seat Belt Lights Control Schematic



MM-332000-5-PA-05

Fig. 5 - Lavatory Compartment Membrane Switch - Location

PASSENGER COMPARTMENT LIGHTING - MAINTENANCE PRACTICES

1. Cabin Light - Removal (Ref. Fig. 201)

A. Procedure

CAUTION: BE VERY CAREFUL WHEN YOU REMOVE THE UNITS. MATERIAL WITHIN THE COLD CATHODE LAMPS MAY BE DETRIMENTAL TO THE AIRPLANE SURFACES SHOULD CONTACT OCCUR.

WARNING: MAKE SURE THAT ALL POWER IS OFF BEFORE REMOVING THE LAMPS FROM THE HOLDERS. THE COLD CATHODE LAMPS ARE POWERED BY HIGH VOLTAGE.

(1) Open, tag and safety the CABIN LTS circuit breaker located on the upper side in the rear vanity closet.
(2) Unclip the louver panels (3, 4); use a locally made flat tool.
(3) Disconnect the holders (5, 7).
(4) Remove the bulb (2) from the clamps (1, 6).

2. Cabin Light - Installation (Ref. Fig. 201)

A. Procedure

CAUTION: BE VERY CAREFUL WHEN YOU INSTALL THE UNITS. MATERIAL WITHIN THE COLD CATHODE LAMPS MAY BE DETRIMENTAL TO THE AIRPLANE SURFACE SHOULD CONTACT OCCUR.

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure).

(2) Install the bulb (2) and attach it with the clamps (1, 6).
(3) Connect the holders (5, 7).
(4) Install the louver panels (3, 4).
(5) Remove the safety tag and close the CABIN LTS circuit breaker.
(6) Set the BATTERY switch to BAT.
(7) On the switch panel on the forward cabin bulkhead do the steps that follow:
- push the CABIN switch for bright and make sure the lights come on bright
- push the CABIN switch for dim and make sure the lights dim
- push the switch again and make sure the lights go off.

(8) Set the BATTERY switch to OFF.

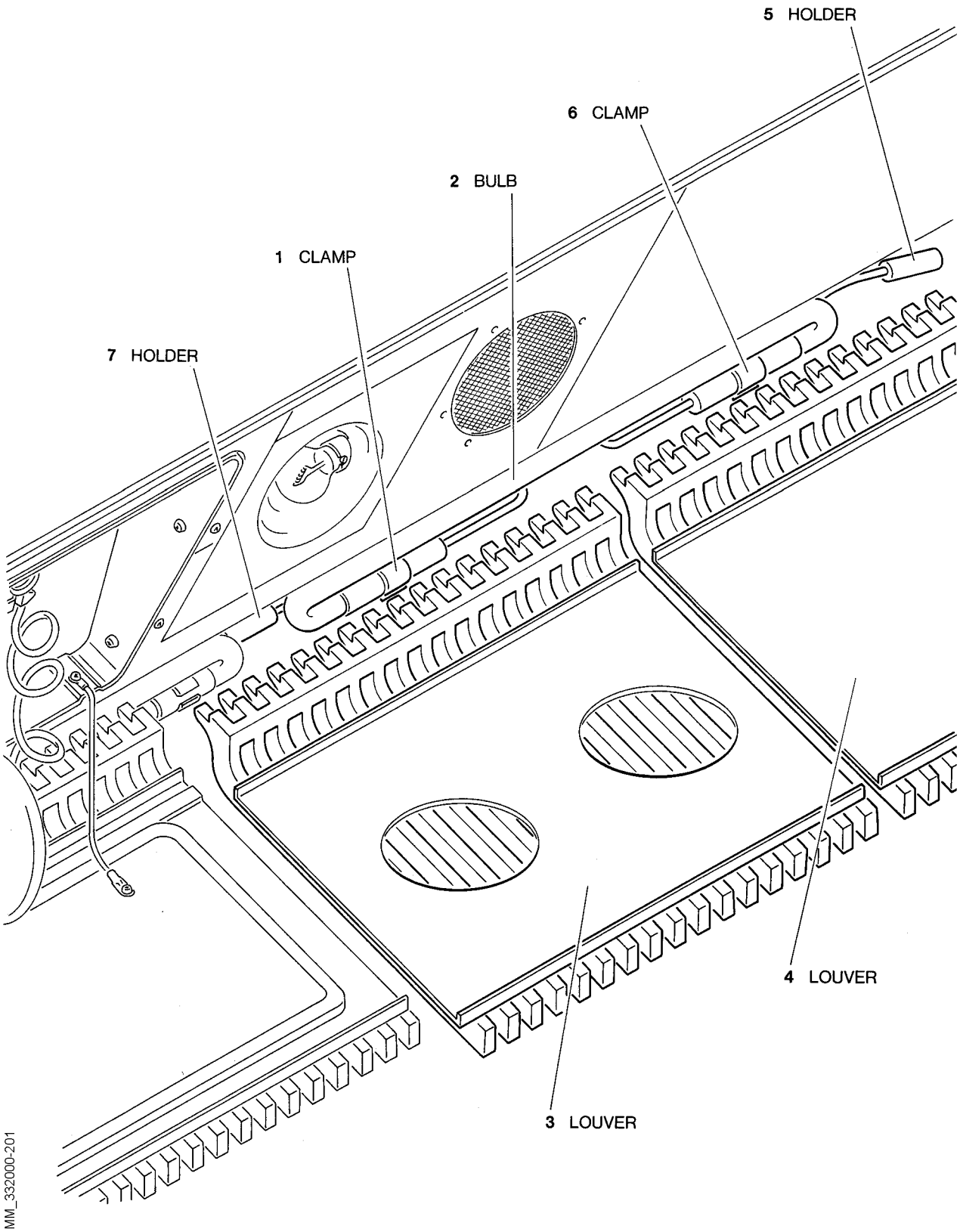


Fig. 201 - Cabin Light - Removal/Installation

3. Reading Lights - Removal (Ref. Fig. 202)

A. Procedure

(1) Open, tag and safety the READING LTS circuit breaker located on the copilot circuit breaker panel.
(2) Unclip the louver panel (3); use a locally made flat tool (4).
(3) Remove the lamp (2) from the lamp support (1).

4. Reading Lights - Installation (Ref. Fig. 202)

A. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breaker is open, tagged and safetied
- the system is safe
- access is available.
(Refer to Removal Procedure).

(2) Install the lamp to the support (1).
(3) Install the lower panel (3).
(4) Remove the safety tag and close the READING LTS circuit breaker.
(5) Set the BATTERY switch to BAT.
(6) On the seat switch panel do the steps that follow:
- push the READ LIGHT switch and make sure the light comes on
- push the READ LIGHT switch again and make sure the light goes off.

(7) Set the BATTERY switch to OFF.

5. Table Lights - Removal (Ref. Fig. 202)

A. Procedure

(1) Open, tag and safety the READING LTS circuit breaker located on the copilot circuit breaker panel.
(2) Unclip the louver (3); use a locally made flat tool (4).
(3) Remove the lamp (2) from the support (1).

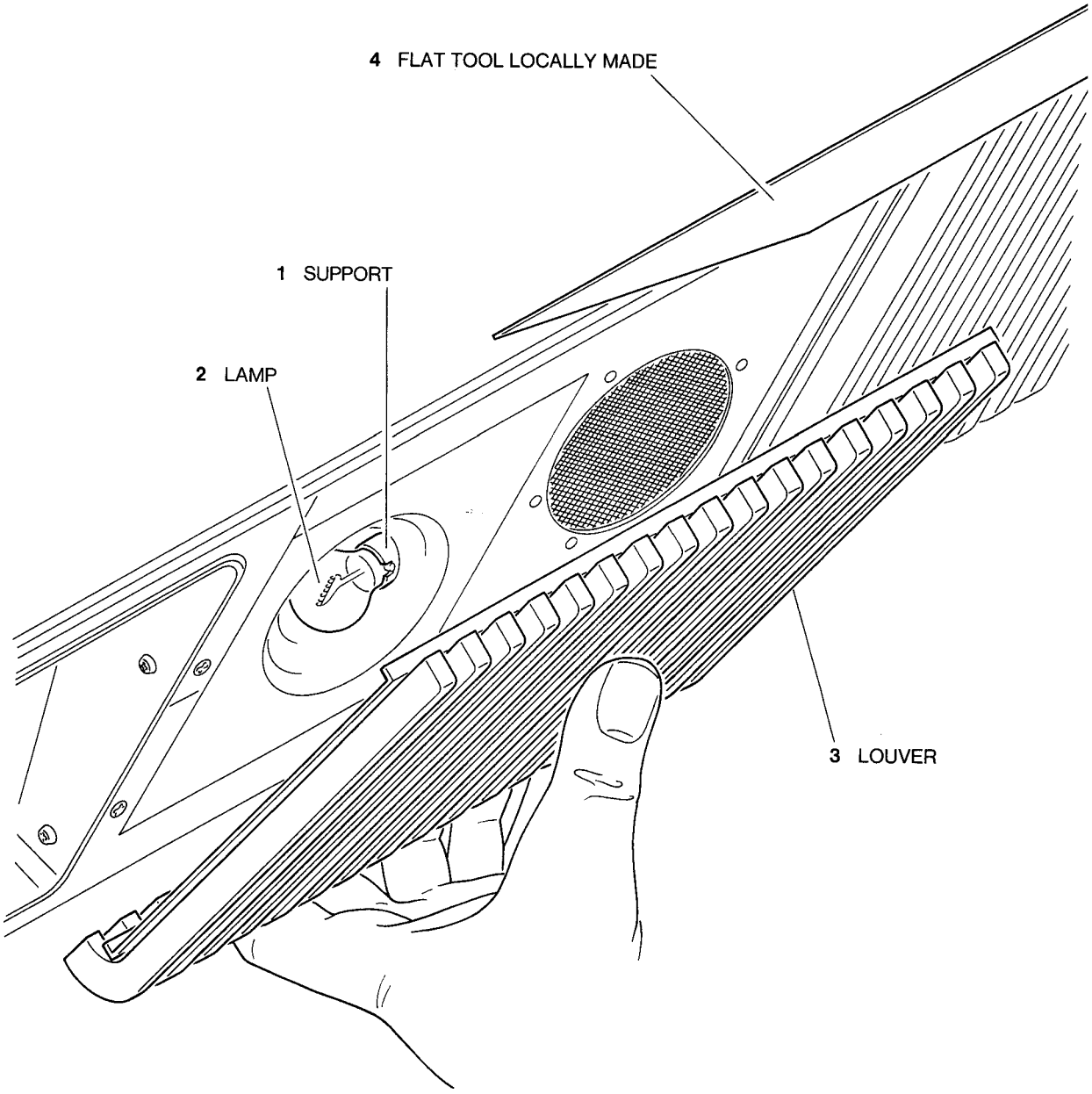


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Fig. 202 - Reading and Table Lights - Removal/Installation

6. Table Lights - Installation (Ref. Fig. 202)

A. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breaker is open, tagged and safetied
- the system is safe
- access is available.
(Refer to Removal Procedure).

(2) Install the lamp (2).
(3) Install the louver (3).
(4) Remove the safety tag and close the READING LTS circuit breaker.
(5) Set the BATTERY switch to BAT.
(6) On the seat switch panel do the steps that follow:
- push the TABLE LIGHT switch and make sure the light comes on
- push the TABLE LIGHT switch again and make sure the light goes off.

(7) Set the BATTERY switch to OFF.

7. Entry and Rear Closet Lights - Removal (Ref. Fig. 203)

A. Procedure

(1) Open, tag and safety the ENTRY/CREW LTS circuit breaker located on the main junction box in the baggage compartment.
(2) Remove the screws (2) and the cover (1).
(3) Remove the lamp (4) from the lamp support (3).

8. Entry and Rear Closet Lights - Installation (Ref. Fig. 203)

A. Procedure

(1) Make sure as necessary that:
- The applicable circuit breakers are open, tagged and safetied
- The system is safe
- Access is available
(Refer to the Removal Procedure).

(2) Install the lamp (4) to the support (3).
(3) Install the cover (1) and secure with the screws (2).
(4) Remove the safety tags and close the ENTRY/CREW LTS circuit breaker.
(5) Set the BATTERY switch to ON.
(6) If the entry light has been removed, on the entry switch panel, do the steps that follow:
- Push the ENTRY switch and make sure that the light comes on.
- Push the ENTRY switch and make sure that the light goes.

(7) Set the BATTERY switch to OFF.
(8) If the closet light has been removed, do the steps that follow:
- Open the closet door and make sure that the light comes on.

– Push the switch, located close to the upper hinge of the closet door and make sure that the light goes off.

(9) Set the BATTERY switch to OFF.

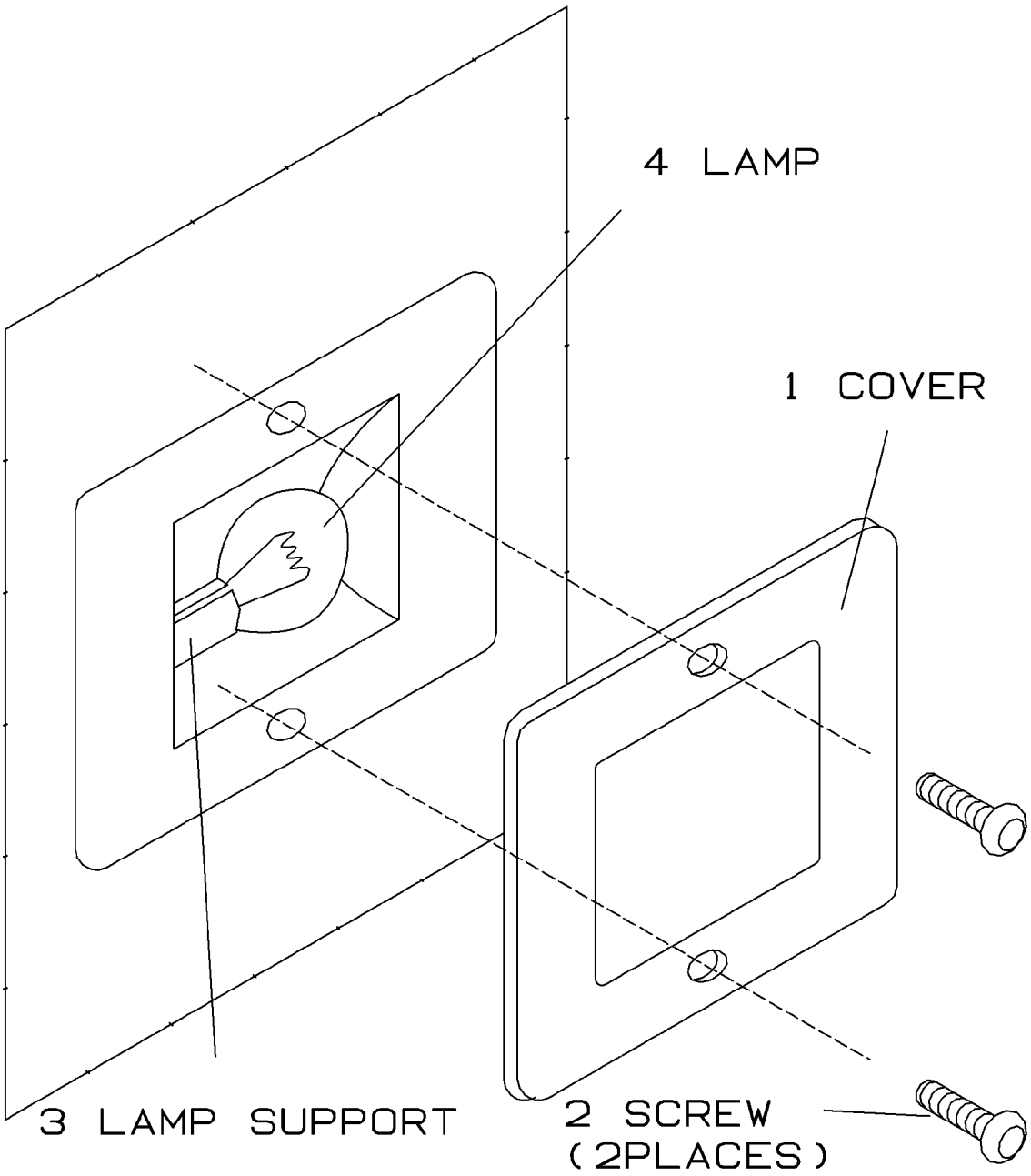

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Fig. 203 - Entry and Rear Closet Lights - Removal/Installation

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BAGGAGE LIGHT - DESCRIPTION AND OPERATION

1. General

The baggage light is installed on the left side of the ceiling in the baggage compartment. The light is operated by a microswitch, located at the baggage compartment door, so that the light is on only when the door is open, and goes off when the door is closed. A control switch, located inside the baggage compartment near the baggage door left side, is installed in the circuit so that the light can be switched off when the baggage compartment door is open and the light is not required. The system is powered by 28 Vdc from the HOT BATTERY BUS through a 3 Amp circuit breaker captioned ENTR/BAG LTS located on the main junction box in the baggage compartment.

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BAGGAGE LIGHT - MAINTENANCE PRACTICES

1. Baggage Light - Removal (Ref. Fig. 201)

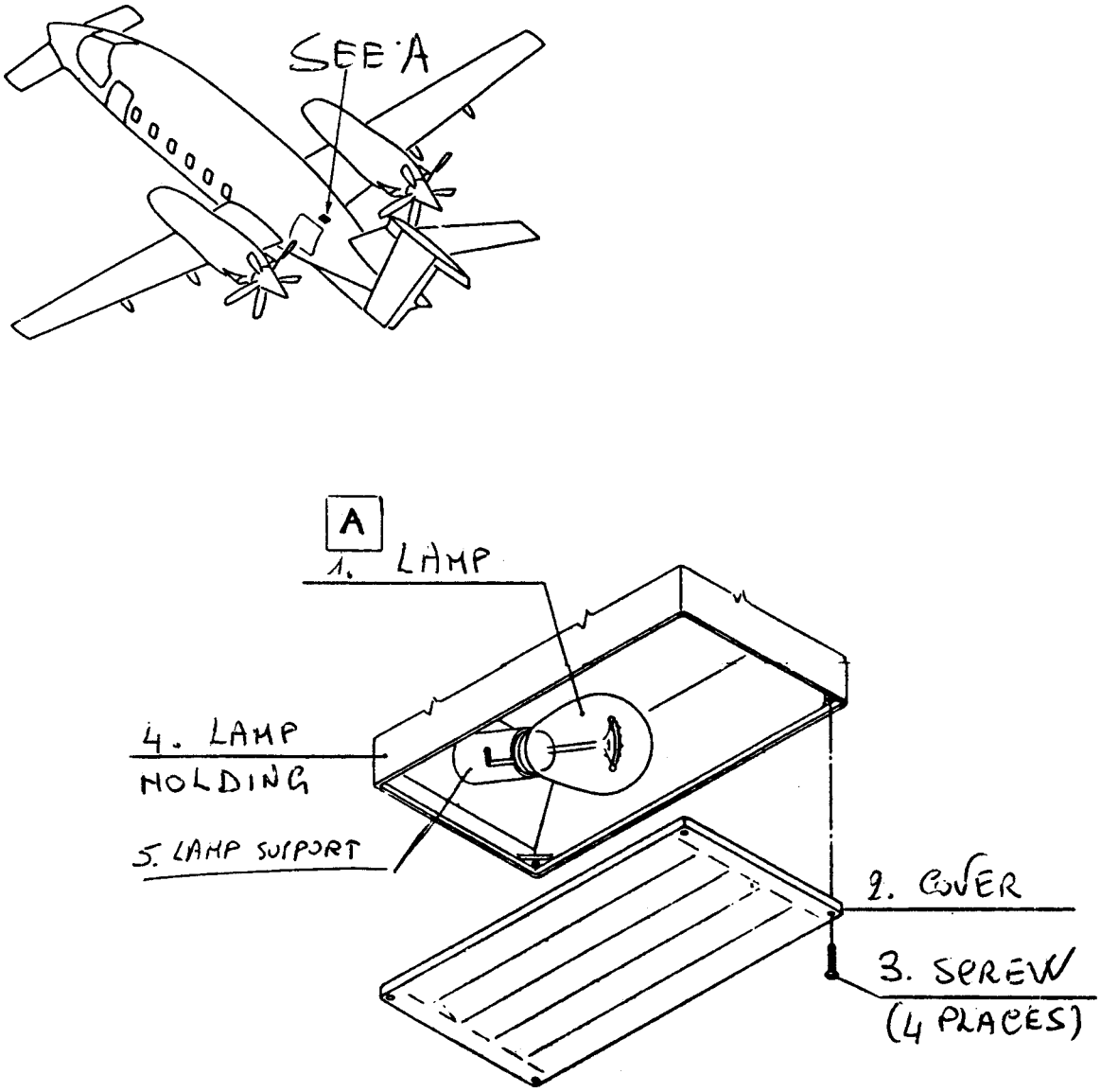
   A. Procedure

      (1) Open, tag and safety the ENTR/BAG LTS circuit breaker located on the main junction box in the baggage compartment.
      (2) Remove the screws (3) that secure the cover (2) to the lamp housing (4).
      (3) Remove the lamp (1) from the lamp support (5).

2. Baggage Light - Installation (Ref. Fig. 201)

   A. Procedure

      (1) Install the lamp (1) to the lamp support (5).
      (2) Install the cover (2) to the lamp housing (4) with the four screws (3).
      (3) Remove the safety tag and close the ENTR BAG LTS circuit breaker.
      (4) Set to ON the baggage light control switch and make sure that the light comes on.
      (5) Set to OFF the baggage light control switch and make sure that the light goes off.



MM_333000-201

Fig. 201 - Baggage Light - Removal/Installation

EXTERIOR LIGHTING - DESCRIPTION AND OPERATION

1. General

A. The airplane exterior lighting system consists of a combination of landing and taxi light, anticollision lights, ground beacon light, recognition light, left and right navigation lights, left and right position lights and a wing ice inspection light (Ref. Fig. 1). The external lights are controlled by a panel installed on the control pedestal.

2. Component Description

A. Two 450-watt landing lights are installed, together with the taxi light, on the landing/taxi lights panel (110B) located under the airplane nose just forward of the nose landing gear doors. Each landing light system consists of a resistor, relay and lamp.

B. A 250-watt taxi light is installed between the two landing lights on the landing/ taxi light panel (110B). The taxi light system consists of a resistor, relay and lamp.

C. The anticollision lights are mounted on top of the vertical stabilizer and on the bottom of the fuselage. Each anticollision light is a strobe type-light and consists of a power supply unit and a strobe light assembly.

D. The optional ground beacon light is installed on the top of the fuselage to the rear of the VHF antenna. The ground beacon consists of a flasher unit and a lamp.

E. A recognition light is located on the leading edge of the vertical stabilizer.

F. The navigation lights are located on the leading edge of each main wing tip. The navigation light located on the leading edge of the left wing tip is colored red. The navigation light located on the leading edge of the right wing tip is colored green.

G. The position lights are located on each trailing edge of the left and right wing tips and are both clear.

H. The wing inspection light is installed in the left upper nacelle panel (410AT) to give light to the outboard left wing leading edge.

3. Component Operation

A. The landing lights are controlled by a LIGHTS LDG-TAXI-OFF switch located on the central control panel (Ref. Fig. 2). When the pilot sets the switch to the LIGHTS LDG position, the landing/taxi lights door (110B) opens. The Landing Lights Door Status is displayed on the MFD System Page. When the pilot moves the switch from the LIGHTS LDG-TAXI-OFF switch to OFF position, the door begins to close.

The right landing light is powered by +28Vdc from the R SINGLE FEED BUS through a relay and a resistor located in the nose of the airplane and through a 20 Amp circuit breaker captioned R LDG LT, located on the copilot circuit breaker panel. The left landing light is powered by +28Vdc from the L SINGLE FEED BUS, through a relay and a resistor located in the nose of the airplane and through a 20 Amp circuit breaker captioned L LDG LT, located on the pilot circuit breaker panel.
The electrical motor of the landing/taxi lights panel (110B) is powered from the 28Vdc L DUAL FEED BUS through a 3 Amp circuit breaker captioned LTS DOOR ACTR, located on the copilot circuit breaker panel.
The Landing Lights Door Status is displayed on the MFD System Page when the landing/taxi lights panel (110B) is open.

B. The taxi light is controlled by a LIGHTS LDG-TAXI-OFF switch located on the pilot switch panel. When the pilot sets the switch to the TAXI position, the landing/ taxi lights panel (110B) opens. A green "LTS DOOR OPEN" annunciation shall be displayed on the MFD (Multi Function Display) System Page when the Lights Door Open discrete input is true and airspeed is less than or equal to 155 knots.
A white "LTS DOOR OPEN" annunciation shall be displayed on the MFD flashing for 5 seconds, then steady, it stops flashing if it turn green in less than the 5 second time period, when the Lights Door Open discrete input is true and airspeed is greather than 155 knots (Ref. Fig. 2).
On all formats other than the MFD System Page, a green "LTS DOOR OPEN" annunciation shall be displayed below (Right - Line Selector Key - 4) ; flashing for 5 seconds when it first turns green, then steady, when the Lights Door Open discrete input is true and airspeed is less than or equal to 155 knots.
The taxi light is powered from the +28Vdc L DUAL FEED BUS through a relay and a 15 Amp circuit breaker, captioned TAXI LT, located on the copilot circuit breaker panel.

C. The anticollision lights are controlled by a three position (AIR-GND-OFF) switch captioned ANTI COLN, located on the Lights Panel on the control pedestal. Each strobe light is powered by a power supply unit.
The power supply modules are powered by +28Vdc R SINGLE FEED BUS through a 5 Amp circuit breaker captioned ANTI COLN LTS, located on the copilot circuit breaker panel.
To power the anticollision lights the ANTI COLN switch must be in the AIR position (Ref. Fig. 3).
The power supply unit for the upper strobe light is located on top of the vertical stabilizer inside the vertical fairing (zone 340) close to the strobe light.
The power supply unit for the lower strobe light is located on the bottom of the fuselage on the left lower side of the bulkhead at FS 6710.5.

D. The optional ground beacon light is controlled by a flasher unit that provides a timed impulse to the lamp.
The flasher is controlled by a three position (AIR-GND-OFF) switch captioned ANTI COLN, located on the Lights Panel on the control pedestal. The power is supplied from the +28Vdc R SINGLE FEED BUS through a 5 Amp circuit breaker captioned ANTI COLN LTS, located on the copilot circuit breaker panel. To power the ground beacon light the ANTI COLN switch must be in the GND position (Ref. Fig. 3).
The ground beacon flasher unit is installed on the bulkhead at FS 6710.5.

E. The recognition light is controlled by a RECOG switch located on the Lights Panel on the control pedestall. The light is powered from the +28Vdc R SINGLE FEED BUS through a 5 Amp circuit breaker captioned RECOG LT located on the copilot circuit breaker panel (Ref. Fig. 4).

F. The two navigation and the two position lights are controlled by a POS switch located on the Lights Panel on the control pedestal. The lights are powered from the +28Vdc L SINGLE FEED BUS through a 5 Amp circuit breaker captioned POS LTS located on the pilot circuit breaker panel (Ref. Fig. 5).

G. The wing inspection light is controlled by a WING INSP switch located on the Lights Panel on the control pedestal. The light is powered from the +28Vdc R SINGLE FEED BUS through a 3 Amp circuit breaker captioned WING INSP LT, located on the copilot circuit breaker panel (Ref. Fig. 4).

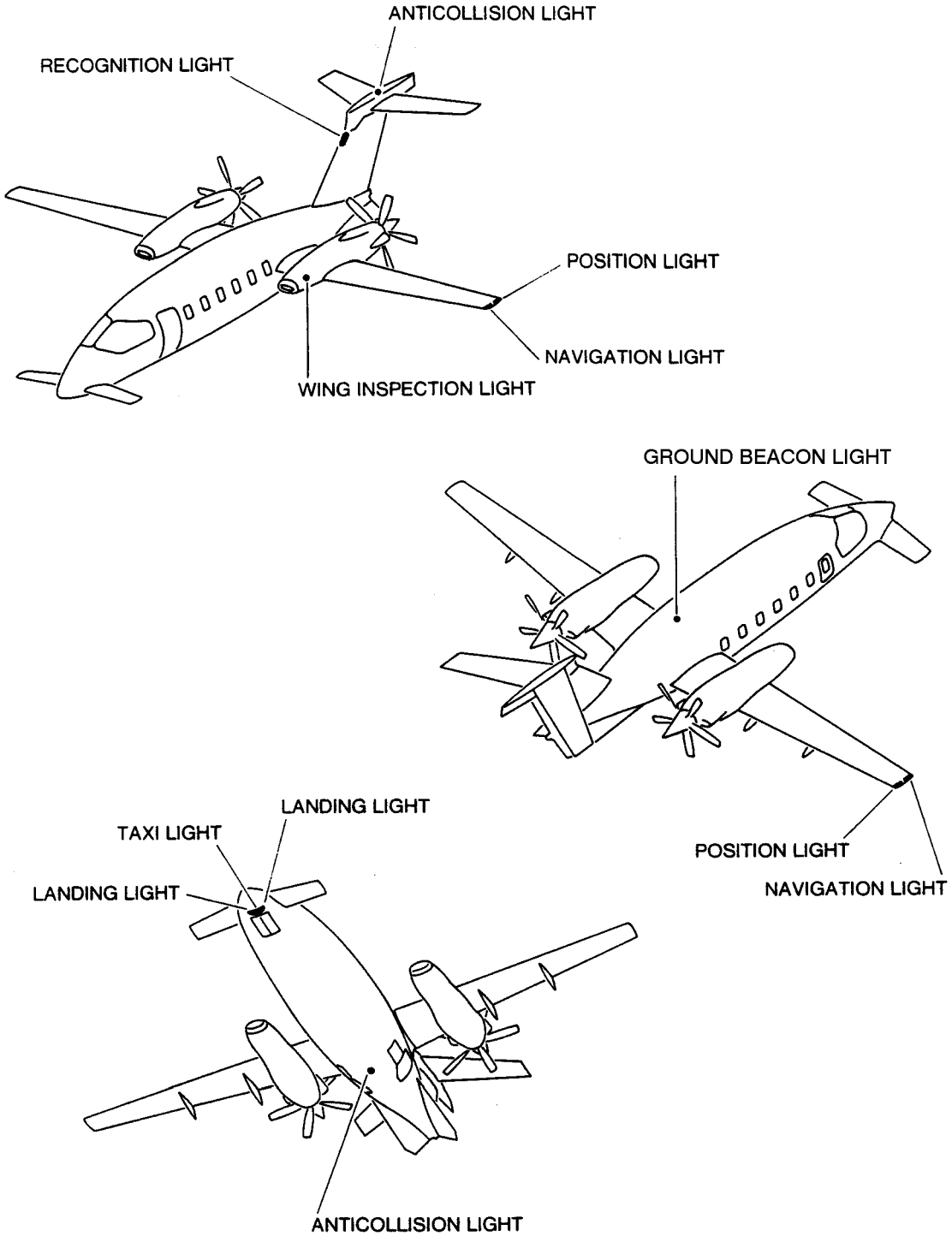


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Fig. 1 - Exterior Lighting Location

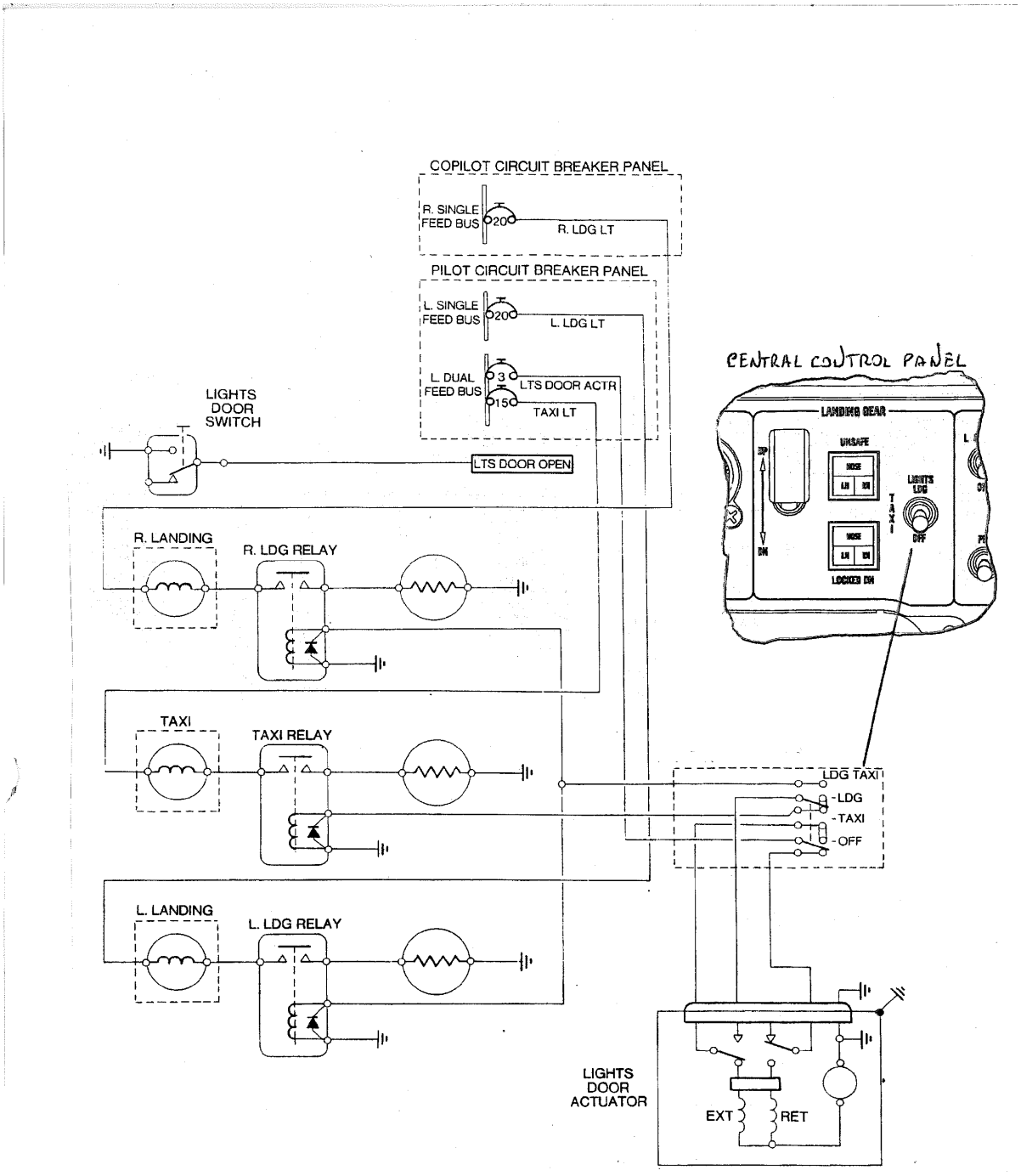

Fig. 2 - Landing and Taxi Light - Electrical Control Schematic (Sheet 1 of 2)

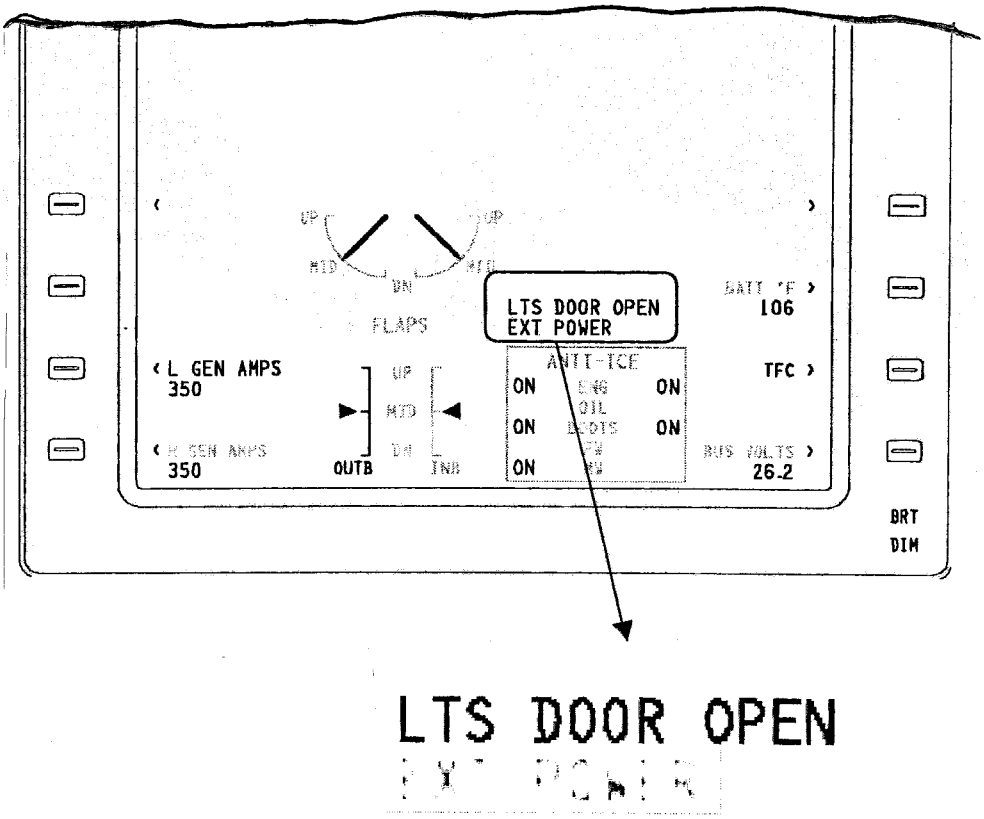

Fig. 2 - Landing and Taxi Light - Lights Doors Open Annunciation (Sheet 2 of 2)

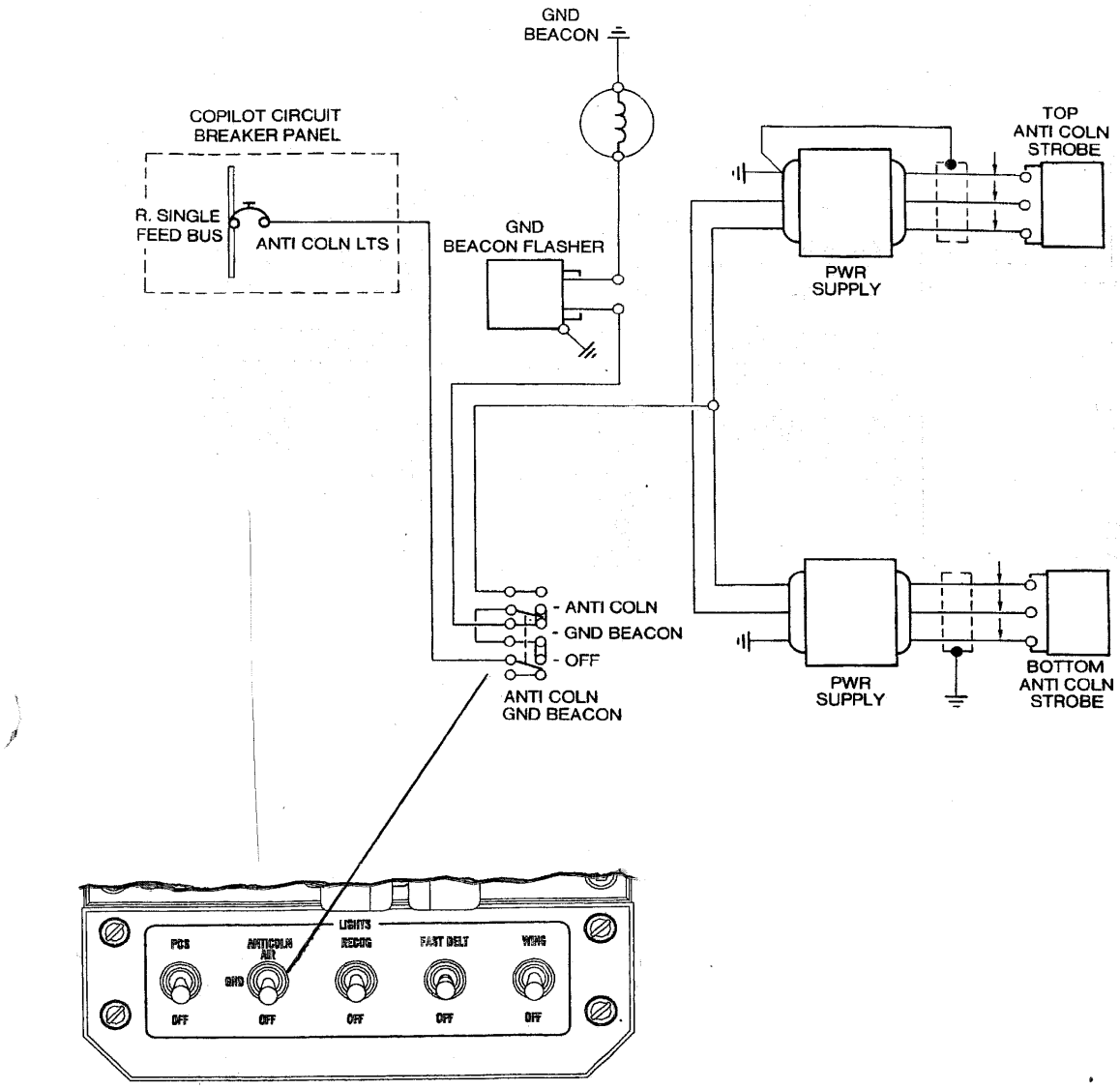

Fig. 3 - Anticollision and Ground Beacon Light - Control Schematic

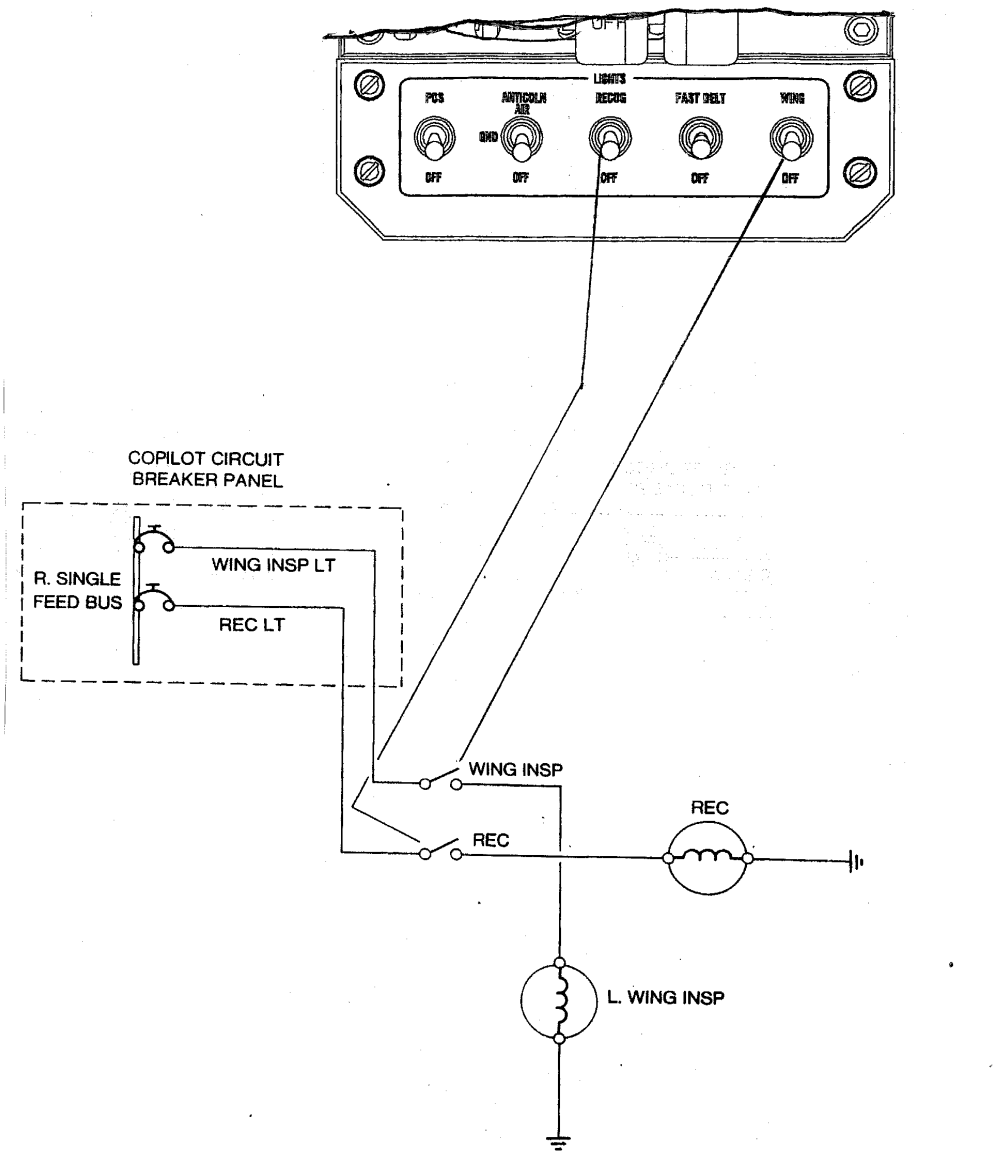

Fig. 4 - Recognition and Wing Inspection Light - Control Schematic

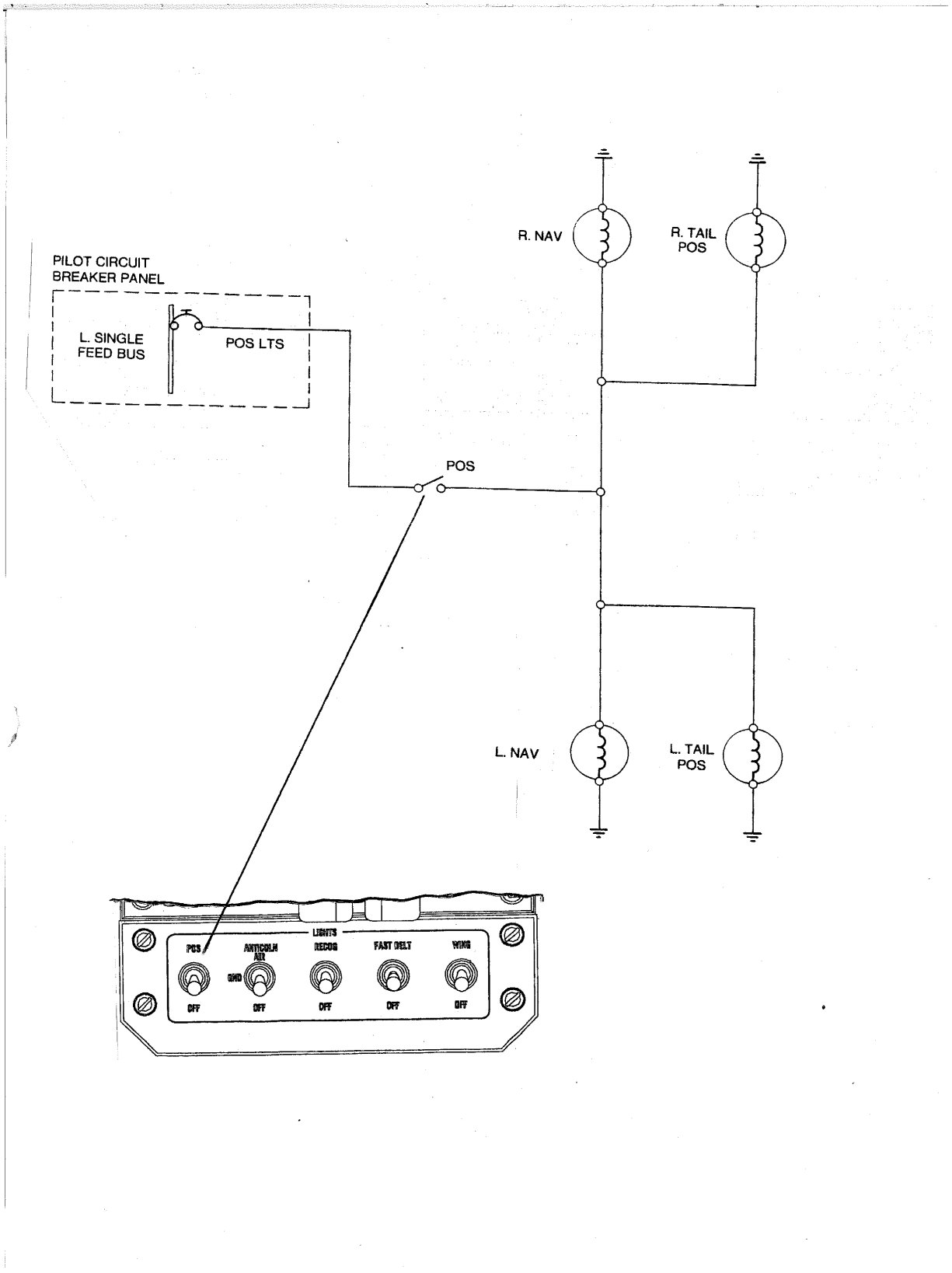

Fig. 5 - Navigation and Position Lights - Control Schematic

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LANDING AND TAXI LIGHTS - MAINTENANCE PRACTICES

1. Landing lights - Removal (Ref. Fig. 201)

NOTE: Removal and installation procedures for both landing lights are identical.

A. Procedure

(1) Set the BATTERY switch to the BAT position.
(2) Set the LANDING/TAXI/OFF switch to the TAXI or LANDING position.
(3) Set the BATTERY switch to the OFF position.
(4) Open, tag and safety these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	

(5) Remove the bolt (3) and nut (5) of the clamp (4) that attaches the landing light (6) to the support.
(6) Remove the two screws (1,2) that connect the electrical cables to the landing light (6).
(7) Remove the landing light (6).

2. Landing light - Installation (Ref. Fig. 201)

A. Materials

Isopropyl Alcohol	02-008

B. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure).

(2) Connect the electrical cables to the landing light (6) with the two screws (1,2).
(3) Position the light (6) in the clamp (4) and install and tighten the bolt (3) and the nut (5).

CAUTION: AFTER THE INSTALLATION CLEAN THE LIGHT WITH ISOPROPYL ALCOHOL. CONTAMINATION FROM YOUR SKIN CAN CAUSE DAMAGE TO THE LIGHT.

(4) Remove and safety tags and close these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	

(5) Set the BATTERY switch to the BAT position.
(6) Set the LANDING/TAXI/OFF switch to the LANDING position and check that the landing light (6) comes on correctly.
(7) Check and adjust as necessary the angle of the landing light (Refer to Para. 3).
(8) Set the LANDING/TAXI/OFF switch to the OFF position.
(9) Set the BATTERY switch to the OFF position.

3. Landing Lights - Adjustment (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 08-20-00

B. Materials

Isopropyl Alcohol	02-008

C. Procedure

NOTE: The landing lights can be adjusted only in the vertical plane.

(1) Level the airplane on jacks (Refer to 08-20-00).
(2) Place a flat surface directly in front of the airplane (in a vertical position) a distance of 25 feet (7.62 meters) from the center of the landing light lens.
(3) Measure the distance between the center of the landing light lens and the ground; make a note of the measurement - this is dimension h as shown on Fig. 202.
(4) Put a horizontal line on the flat surface a distance of "h" minus 15.16 inches (385 mm) from the ground - this is dimension "p" shown on Fig. 202.
(5) Set the battery switch to BAT and set the LANDING/TAXI/OFF switch to either the LANDING or TAXI position.
(6) Check that the center of the landing light beams are aligned with the horizontal line on the flat surface. If necessary, adjust the position of the light(s) as follows:

CAUTION: DO NOT LOOSEN OR TIGHTEN THE BOLTS WHILE THE LIGHT IS ON.

(a) Set the LANDING/TAXI/OFF switch to OFF.
(b) Loosen the two bolts (1, 2) each side of the landing light.
(c) Set the LANDING/TAXI/OFF switch to either LANDING or TAXI.
(d) Move the light as required to put the center of beam in line with the horizontal line on the flat surface.
(e) Set the LANDING/TAXI/OFF switch to OFF.
(f) Tighten the bolts (1, 2).

(7) Clean the lens of the lights with isopropyl alcohol.
(8) Set the battery switch to OFF.
(9) Lower the airplane to the ground (Refer to 08-20-00).

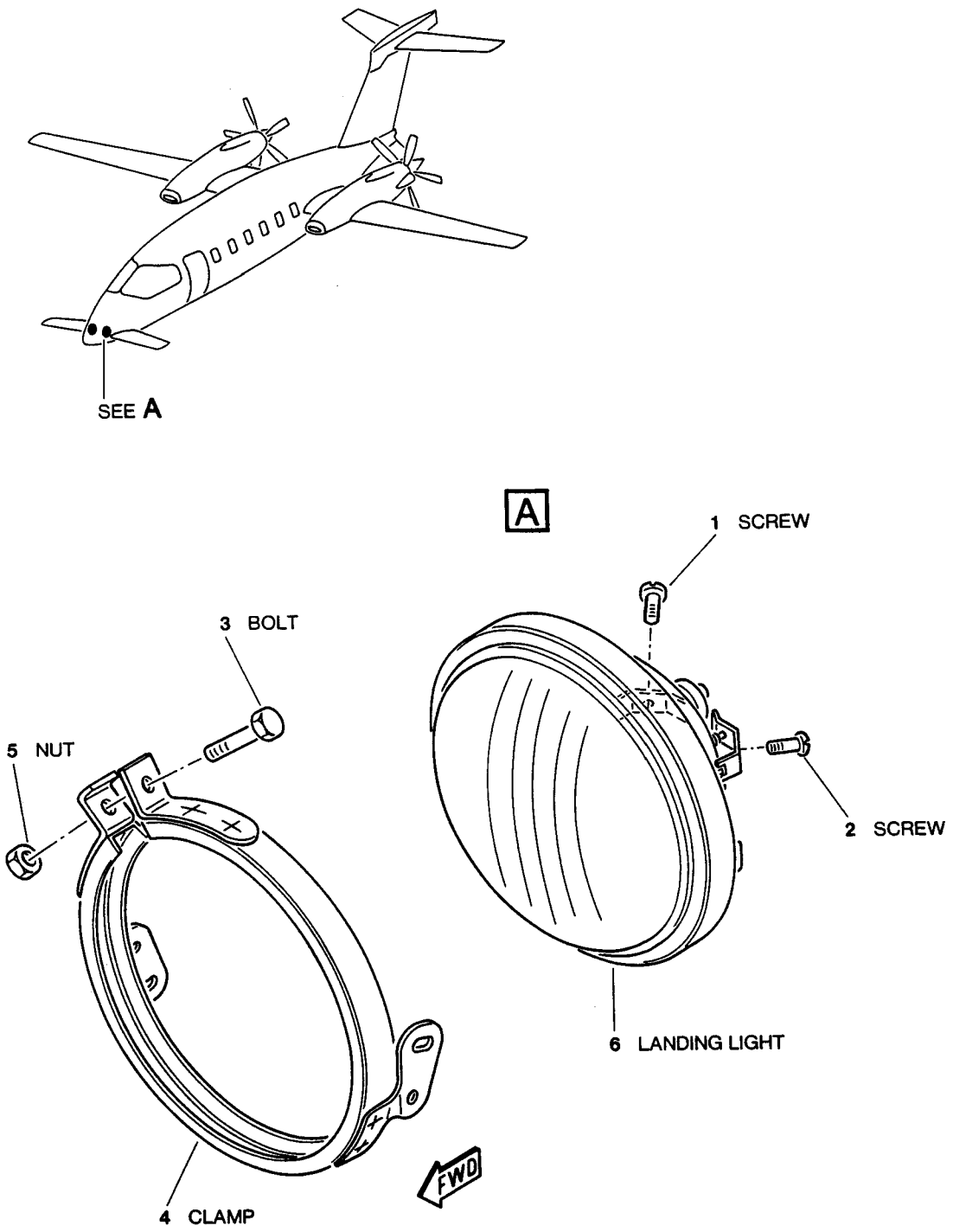
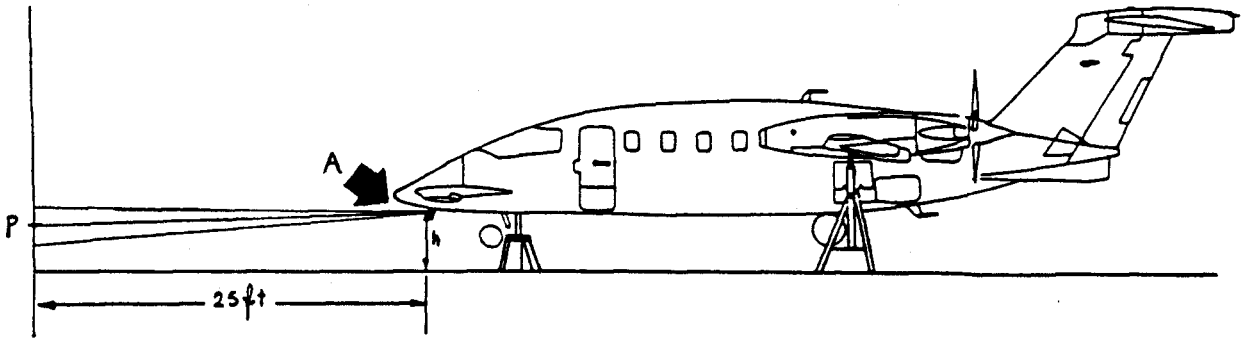
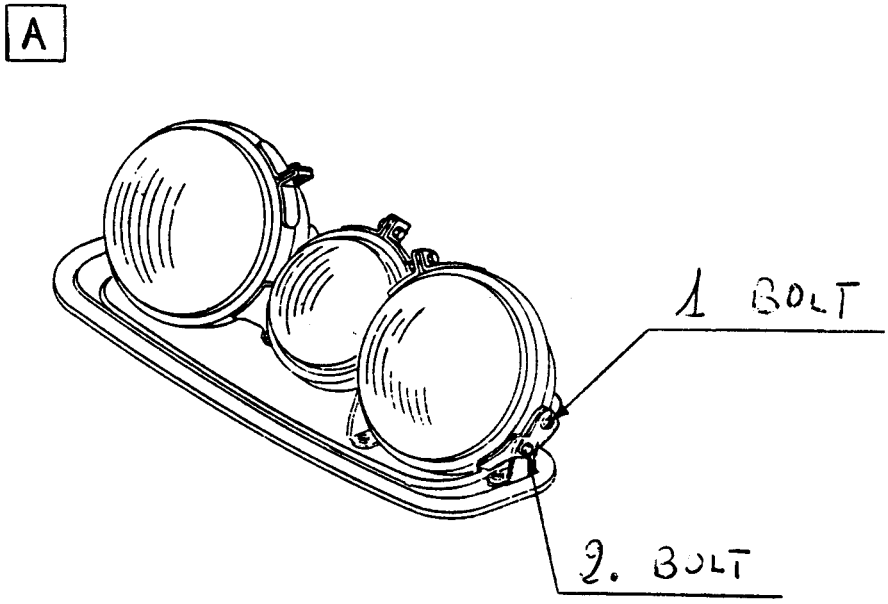


Fig. 201 - Landing Light - Removal/Installation





MM_334100-202

Fig. 202 - Landing Lights - Adjustment

4. Taxi Light - Removal (Ref. Fig. 203)

A. Procedure

(1) Set the BATTERY switch to the BAT position.
(2) Set the LANDING/TAXI/OFF switch to the TAXI or LANDING position.
(3) Set the battery switch to the OFF position.
(4) Open, tag and safety these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	

(5) Remove the bolt (3) and nut (5) of the clamp (4) that attaches the taxi light (6) to the support.
(6) Remove the two screws (1,2) that connect the electrical cables to the taxi light (6).
(7) Remove the taxi light (6).

5. Taxi Light - Installation (Ref. Fig. 203)

A. Materials

Isopropyl Alcohol	02-008

B. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.

(Refer to the Removal Procedure).

(2) Connect the electrical cables to the Taxi Light (6) with the two screws (1,2).
(3) Position the light (6) in the clamp (4) and install and tighten the bolt (3) and the nut (5).
(4) Remove the safety tags and close these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	

(5) Set the BATTERY switch to the BAT position.
(6) Set the LANDING/TAXI/OFF switch to the TAXI position and check that the taxi light (6) comes on correctly.

CAUTION: AFTER INSTALLATION CLEAN THE LIGHT WITH ISOPROPYL ALCOHOL. CONTAMINATION FROM YOUR SKIN CAN CAUSE DAMAGE TO THE LIGHT.

(7) Check and adjust as required the angle of the taxi light (6) (Refer to Para. 6.).
(8) Set the LANDING-TAXI-OFF switch to the OFF position.
(9) Set the BATTERY switch to the OFF position.

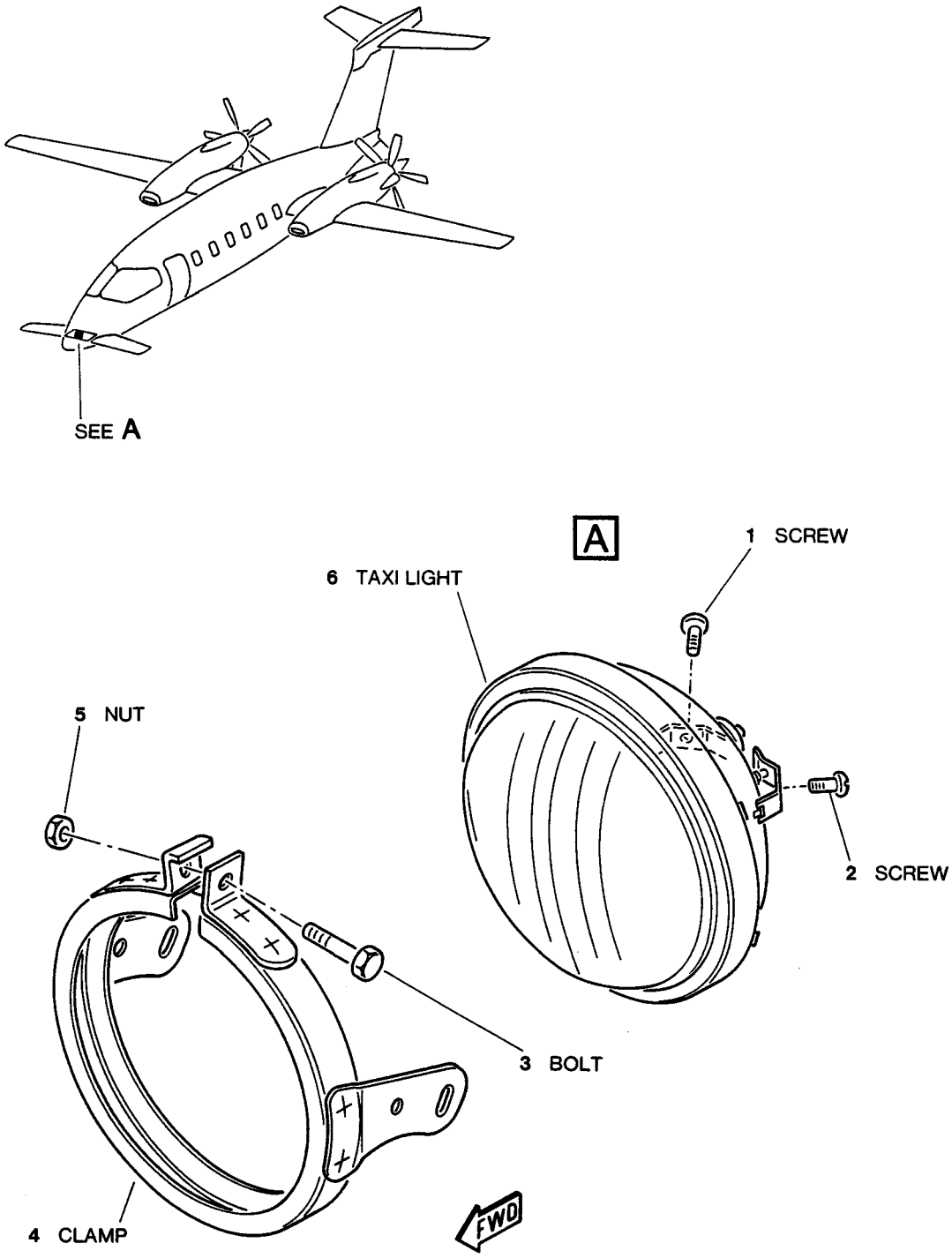


Fig. 203 - Taxi Light - Removal/Installation

6. Taxi Light - Adjustment

A. Procedure

(1) Set the BATTERY switch to BAT.
(2) Set the LANDING/TAXI/OFF switch to the TAXI or LANDING position.
(3) Set the BATTERY switch to OFF.
(4) Adjust the taxi light so that its lower end touches the door panel. Secure the taxi light in this position.
(5) Set the BATTERY switch to BAT.
(6) Set the LANDING/TAXI/OFF switch to the OFF position.
(7) Set the BATTERY switch to OFF.

7. Actuator - Removal (Ref. Fig. 204)

A. Referenced Information

Maintenance Manual Chapter 34-41-00
Maintenance Manual Chapter

B. Procedure - Removal With Door Retracted

(1) Open, tag and safety these circuit breakers 53-10-00

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	
LTS DOOR ACTR	

(2) Remove the radome/nosecone (Refer to 53-10-00).
(3) Remove the weather radar assembly (Refer to 34-41-00).
(4) Remove the access panel located under the weather radar assembly.
(5) Support the door.
(6) Remove the cotter pin (10), nut (13), washers (9) and bolt (11) that connect the actuator fork end (8) to the lower support (12). Discard the cotter pin.
(7) Disconnect the connector from the electrical plug (6).
(8) Remove the screw (5) that attaches the cable end of the ground cable (4) to the airplane.
(9) Remove the cotter pin (2), washer (15) and pin (3) that attach the actuator attachment fitting (14) to the upper support (1).
(10) Remove the actuator (7).

C. Procedure - Removal With Door Extended

(1) Open, tag and safety these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	
LTS DOOR ACTR	

(2) Support the door.
(3) Remove the cotter pin (10), nut (13), washers (9) and bolt (11) that connect the actuator fork end (8) to the lower support (12). Discard the cotter pin.
(4) Disconnect the connector from the electrical plug (6).
(5) Remove the screw (5) that attaches the cable end of the ground cable (4) to the airplane.
(6) Remove the cotter pin (2), washer (15) and pin (3) that attach the actuator attachment fitting (14) to the upper support (1).
(7) Remove the actuator (7).

8. Actuator - Installation (Ref. Fig. 204)

A. Expendable Parts

	IPC-CSN
Cotter pin (Fig. 205; item 2)	33-41-00 01-250
Cotter pin (Fig. 205; item 10)	33-41-00 01-240

B. Referenced Information

Maintenance Manual Chapter 34-41-00
Maintenance Manual Chapter 53-10-00

C. Procedure

(1) Make sure as necessary that:
– the applicable circuit breakers are open, tagged and safetied
– the system is safe
– access is available.

(Refer to the Removal Procedure)
(2) Put the upper attachment fittings (14) of the actuator (7) in the upper support (1) and attach it with the pin (3), washer (15) and new cotter pin (2).
(3) Connect the connector to the electrical plug (6), and the ground connection cable end (4) to the airplane.
(4) Lengthen completely the fork end (8).
(5) Close the LTS DOOR ACTR circuit breaker located in the pilot circuit breaker panel.
(6) Position the LANDING/TAXI/OFF switch to LANDING or TAXI.
(7) When the actuator rod is completely extended connect the fork end (8) and the support (12) with the bolt (11) and the nut (13).
(8) Position the LANDING/TAXI/OFF switch to the OFF position and when the actuator rod is completely retracted check the distance between the door and the fuselage.
(9) Position the LANDING/TAXI/OFF switch to the LANDING or TAXI position, when the actuator rod is completely extended remove the bolt (11) and the nut (13) then screw in the fork end (8) one turn.
(10) Connect the fork end (8) and the support (12) with the bolt (11) and the nut (13).

(11) Repeat the procedure from step (7) thru step (9) until the door is closed correctly.

(12) Connect the fork end (8) to the support (12) with bolt (11), washers (9), nut (6) and new cotter pin (10).

NOTE: Make sure that the four washers (9) are installed as follows:

- one washer between the head of the bolt (11) and the fork end (8)
- one washer between the fork end (8) and the support (12) each side
- one washer between the fork end (8) and the nut (13).

(13) Remove and safety tags and close these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	
LTS DOOR ACTR	

(14) If the actuator was removed with the door retracted install, access panel, the weather radar assembly and the radome/nosecone (Refer to 34-41-00 and 53-10-00 respectively).

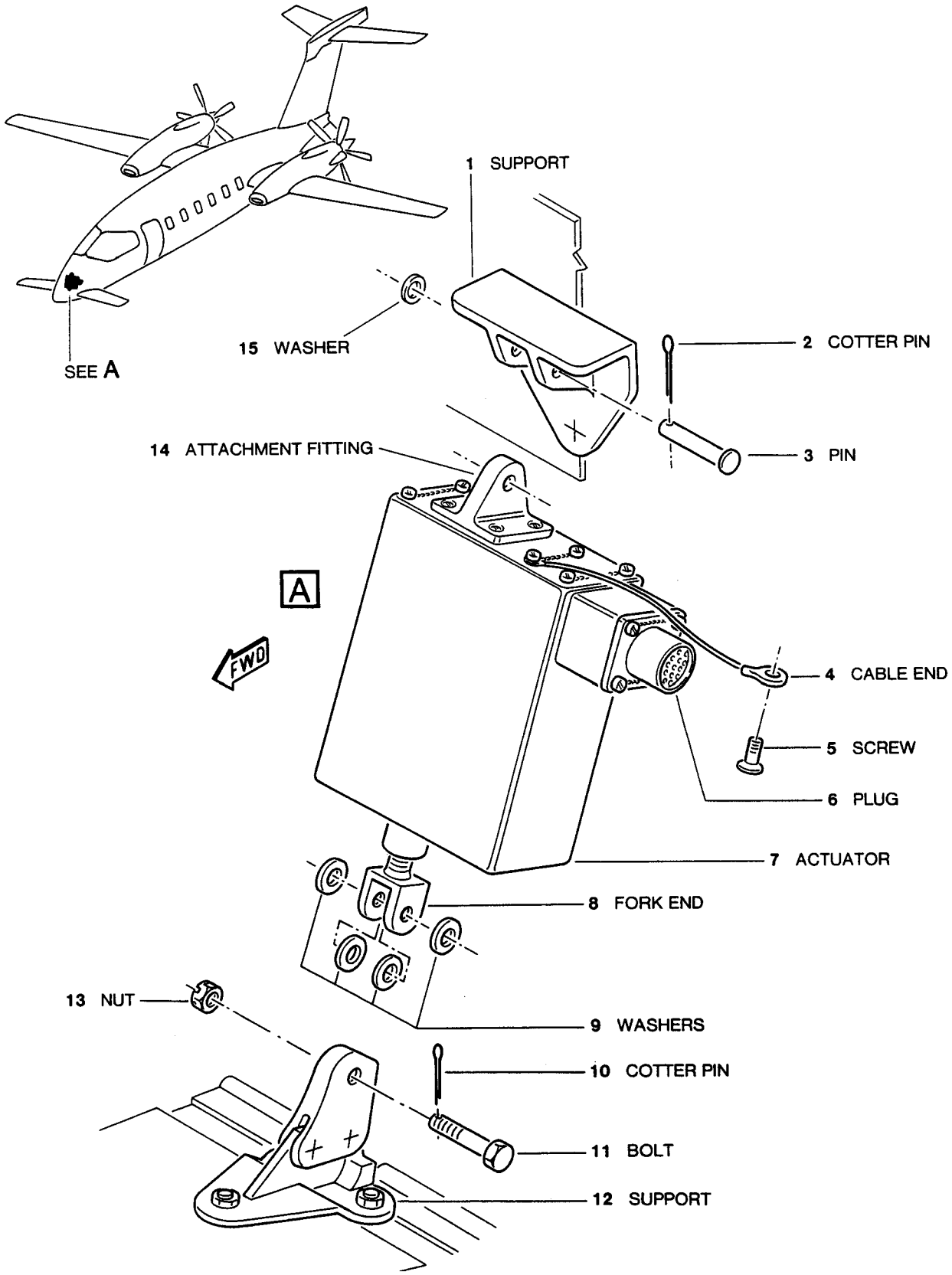


Fig. 204 - Landing and Taxi Lights Panel Actuator - Removal/Installation

9. Landing and Taxi Light Door Switch - Removal (Ref. Fig. 205)

A. Procedure

(1) Set the BATTERY switch to the BAT position.
(2) Set the LANDING/TAXI/OFF switch to TAXI or LANDING.
(3) Set the BATTERY switch to the OFF position.
(4) Open, tag and safety these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	
LTS DOOR ACTR	

(5) Remove the screws (2,3) that secure the microswitch to its support.
(6) Disconnect the electrical wires.
(7) Remove the switch (1).

10. Landing and Taxi Light Door Switch - Installation (Ref. Fig. 205)

A. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure).

(2) Connect the electrical wires to the switch (1).
(3) Put the switch (1) on the support and attach it with the screws (2,3).
(4) Remove and safety tags and close these circuit breakers:

Copilot CB panel:	Pilot CB panel:
R LDG LT	L LDG LT
TAXI LT	
LTS DOOR ACTR	

(5) Check and adjust the position of the switch (1) (Refer to Para. 11).

11. Landing and Taxi Light Door Switch - Adjustment (Ref. Fig. 206)

A. Procedure

(1) Set the BATTERY switch to the BAT position.
(2) Set the LANDING/TAXI/OFF switch to OFF position.
(3) The LTS DOOR OPEN Advisory green light should be OFF
(4) If the advisory light is ON perform the following steps:
(a) Set the LANDING/TAXI/OFF switch to TAXI or LANDING.
(b) When the Landing and Taxi Light Door is completely open set the

BATTERY switch to the OFF position.

(c) Loosen the two bolts that secure the microswitch to its support.

(d) Move the switch 2mm down along the slotted hole and lock it tightening the two bolts.

(e) Set the BATTERY switch to the BAT position.

(f) Set the LANDING/TAXI/OFF switch to OFF position.

(g) When the Landing and Taxi Light Door is closed, check that the LTS DOOR OPEN Advisory green light comes OFF.

(h) If the advisory light is still ON, repeat procedure from step (c) thru (g).

(i) When the Landing and Taxi Light Door is closed and the LTS DOOR OPEN Advisory green light is OFF, open the Landing and Taxi Light Door and move the microswitch further 1,5mm down and lock it tightening the two bolts in this position.

(j) Close the Landing and Taxi Light Door.

NOTE: If the slotted hole is not enough to rig the microswitch could be necessary to apply a thin rubber stripe on the door panel in order to have a better contact between the door and the switch.

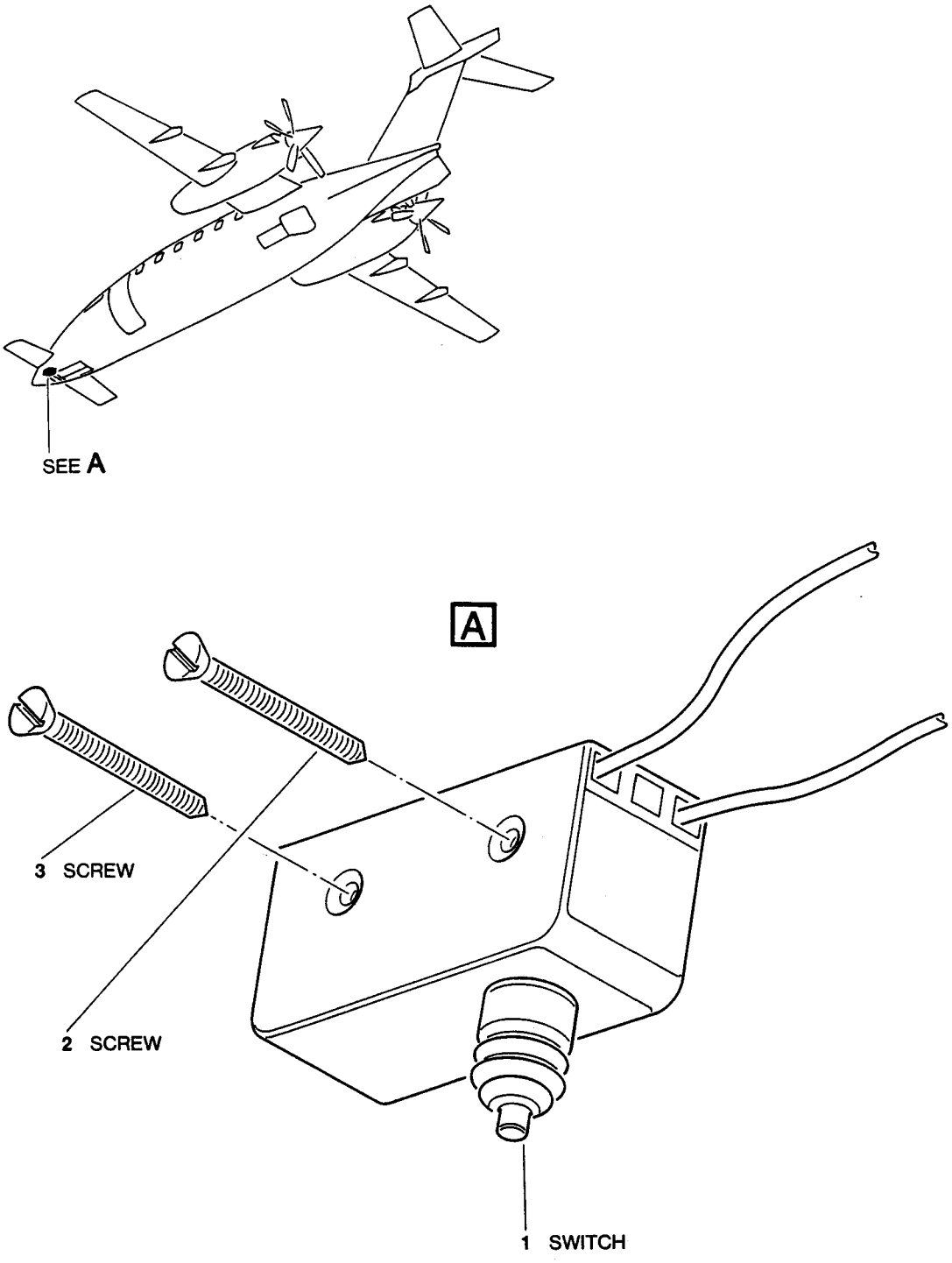


Fig. 205 - Landing and Taxi Lights Door Switch - Installation

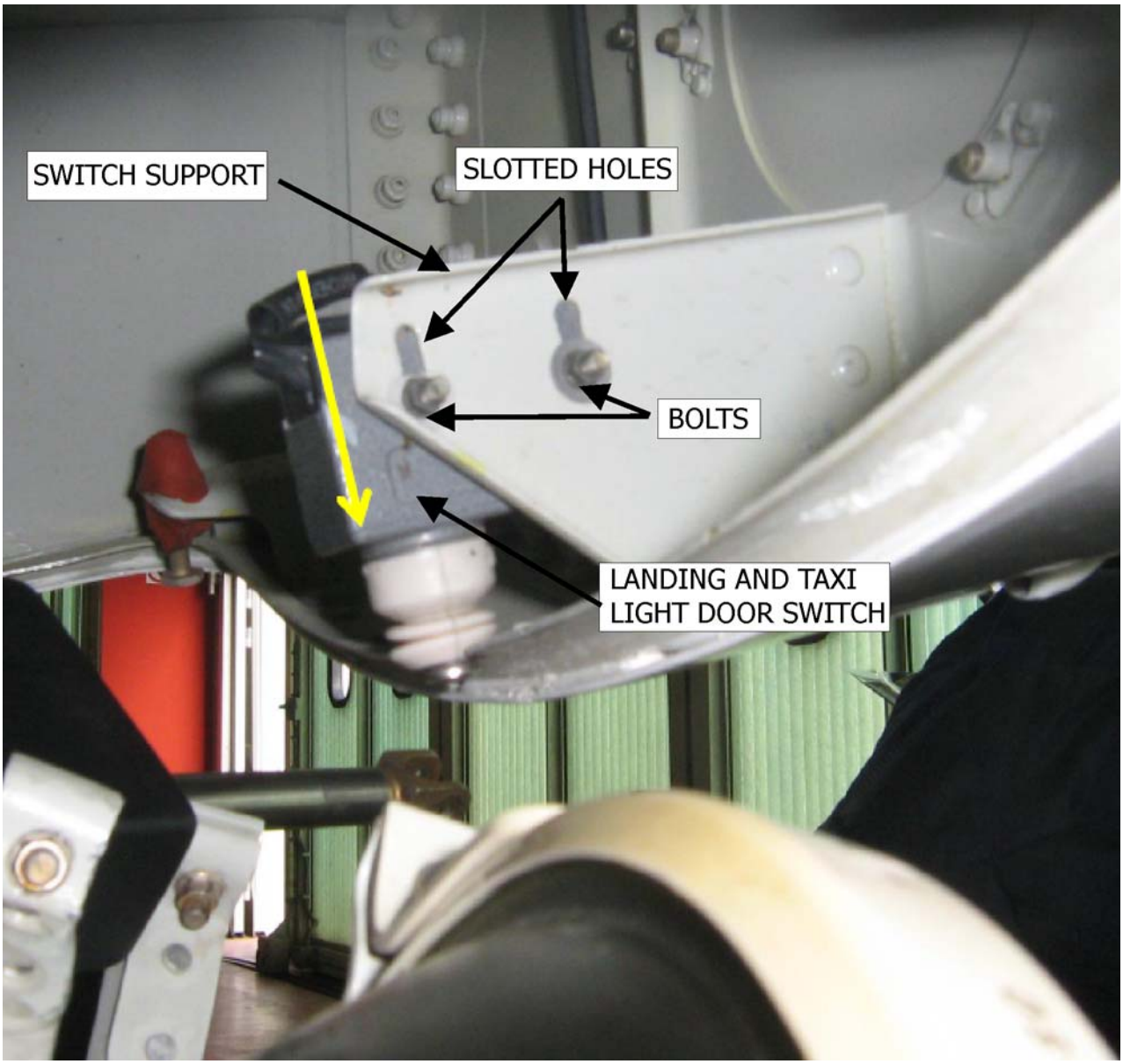


Fig. 206 - Landing and Taxi Lights Door Switch - Adjustment

EXTERIOR LIGHTS - MAINTENANCE PRACTICES

1. Anticollision Light - Removal (Ref. Fig. 201)

NOTE: The procedures for removal and installation of the upper and lower anticollision lights are identical.

A. Procedure

(1) Open, tag and safety these circuit breakers:

Copilot CB panel:
ANTI COLN LTS

WARNING: BE CAREFUL WHEN YOU WORK ON THE ANTICOLLISION LIGHTS. LET THE STORAGE CAPACITOR DISCHARGE FOR 6 MINUTES BEFORE YOU TOUCH THE SYSTEM COMPONENT. INJURY TO PERSONS CAN OCCUR.

(2) Remove the screws (1,3).
(3) Pull the anticollision light (2) away from the airplane.
(4) Tag the wires, then remove the screws (4,5,6,) and disconnect the electrical wires.
(5) Remove the anticollision light (2).

2. Anticollision Light - Installation (Ref. Fig. 201)

A. Materials

Isopropyl Alcohol	02-008

B. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure).

(2) Connect the electrical wires according to the identity tags to the anticollision light (2) with the screws (4,5,6).
(3) Put the light into position on the airplane and secure with the screws (1,3).

CAUTION: AFTER INSTALLATION CLEAN THE LIGHT WITH ISOPROPYL ALCOHOL. CONTAMINANTS FROM YOUR SKIN CAN CAUSE DAMAGE TO THE LIGHT.

(4) Remove and safety tags and close these circuit breakers:

Copilot CB panel:
ANTI COLN LTS

(5) Set the BATTERY switch to BAT.
(6) Set the ANTI COLN switch to the AIR position.

(7) Check if the light comes on and goes off 50 &piumeno 10 times per minute.
(8) Set the ANTI COLN switch to OFF position.
(9) Set the BATTERY SWITCH to OFF.

3. Power Supply Unit (Vertical Stabilizer) - Removal (Ref. Fig. 202)

A. Referenced Information

Maintenance Manual Chapter 55-30-00

B. Procedure

(1) Open, tag and safety these circuit breakers:

Copilot CB panel:
ANTI COLN LTS

WARNING: BE CAREFUL WHEN YOU WORK ON THE ANTICOLLISION LIGHT. LET THE STORAGE CAPACITOR DISCHARGE FOR 6 MINUTES BEFORE YOU TOUCH THE SYSTEM COMPONENT. INJURY TO PERSONS CAN OCCUR.

(2) Remove the Forward Fairing (Ref. to 55-30-00).
(3) Remove the four screws (2) that secure the Anticollision Light Power Supply to the Forward Fairing.
(4) Disconnect the connectors from the two electrical plugs (3,4).
(5) Remove the power supply unit (1).

4. Power Supply Unit (Vertical Stabilizer) - Installation (Ref. Fig. 202)

A. Procedure

(1) Make sure, as necessary that:
– the applicable circuit breakers are open, tagged and safetied
– the system is safe
– access is available.
(Refer to the Removal Procedure).
(2) Put the Power Supply Unit in its own position to the Forward Fairing.
(3) Secure the Power Supply Unit to the Forward Fairing with the four screws (2).
(4) Connect the electrical plugs (3,4).
(5) Install the vertical stabilizer fairing (Refer to 55-30-00).
(6) Remove the safety tags and close these circuit breakers:

Copilot CB panel:
ANTI COLN LTS

(7) Set the BATTERY switch to BAT.
(8) Set the ANTI COLN switch to the AIR position.
(9) Check if the light comes on and goes off 50 ± 10 times per minute.
(10) Set the ANTI COLN switch to the OFF position.
(11) Set the BATTERY switch to OFF.

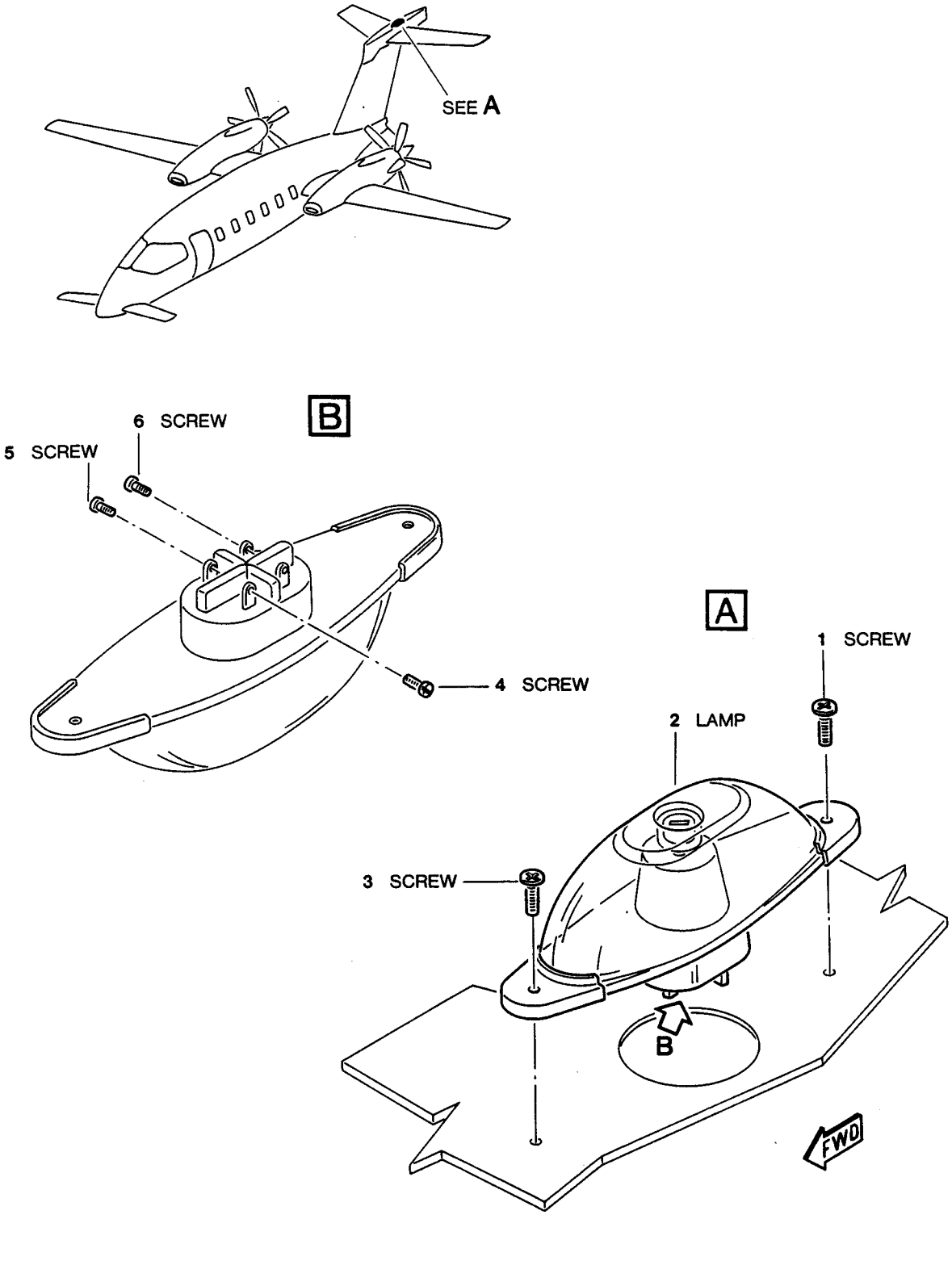


Fig. 201 - Anticollision Light - Removal/Installation

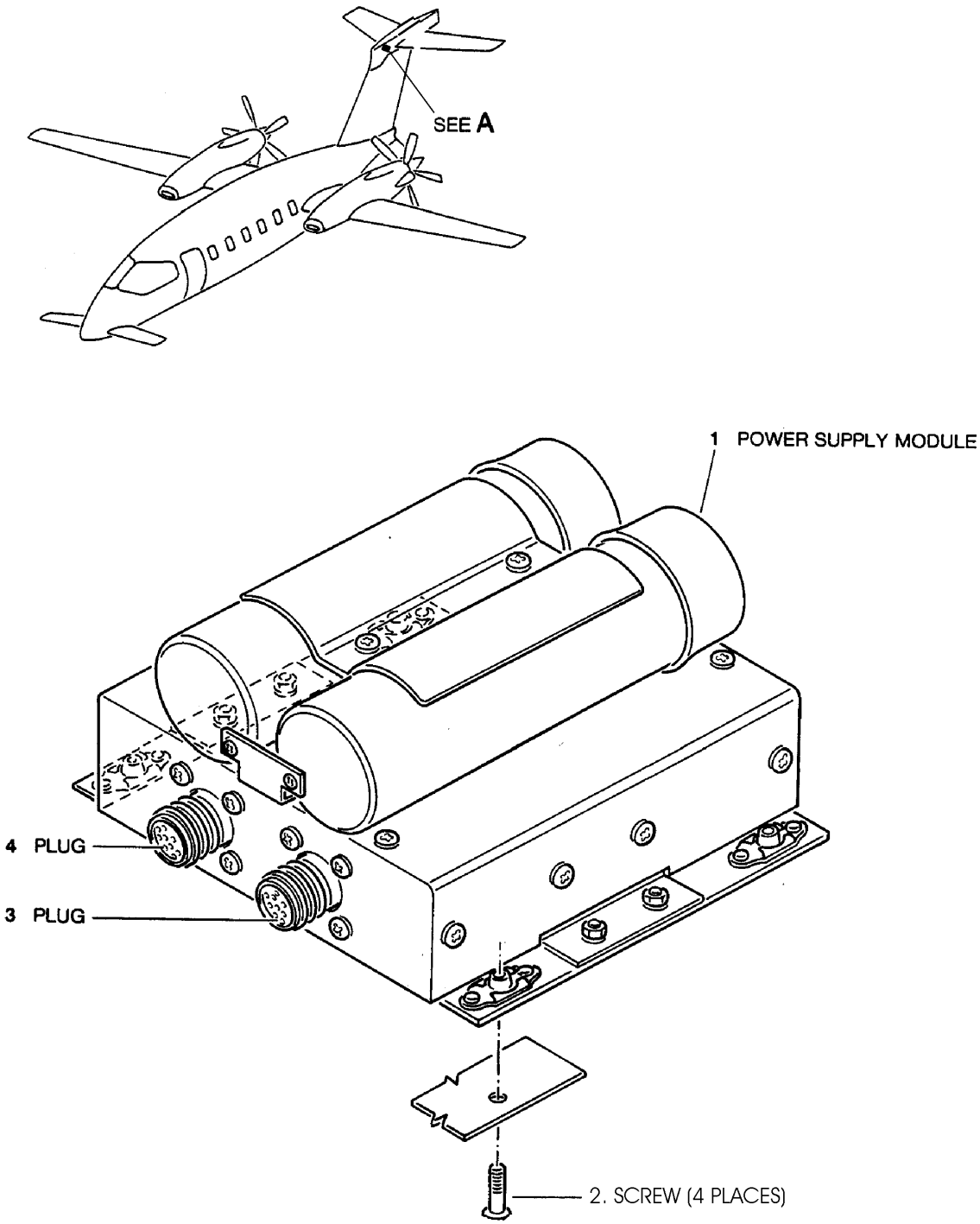


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Fig. 202 - Power Supply Unit (Vertical Stabilizer) - Removal/Installation

5. Power Supply Unit (Wheel Well) - Removal (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 52-82-00

B. Procedure

(1) Open the left main landing gear rear door (Refer to 52-82-00).
(2) Open, tag and safety these circuit breakers:

Copilot CB panel:	Pilot CB panel:
ANTI COLN LTS	LDG GEAR CONT

WARNING: BE CAREFUL WHEN YOU WORK ON THE ANTICOLLISION LIGHT. LET THE STORAGE CAPACITOR DISCHARGE FOR 6 MINUTES BEFORE YOU TOUCH THE SYSTEM COMPONENT. INJURY TO PERSONS CAN OCCUR.

(3) Disconnect the connectors from the two electrical plugs (3,4).
(4) Support the power supply unit (2).
(5) Remove the four screws (1) that secure the power supply unit to the bulkhead.
(6) Remove the power supply unit (2).

6. Power Supply Unit (Wheel Well) - Installation (Ref. Fig. 203)

A. Referenced Information

Maintenance Manual Chapter 52-82-00

B. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breakers are open, tagged and safetied
- the system is safe
- access is available.

(Refer to the Removal Procedure).

(2) Put the power supply unit (2) into position on the bulkhead and secure it with the four screws (1).
(3) Connect the electrical plugs (3,4).
(4) Close the left main landing gear rear door (Refer to 52-82-00).
(5) Remove the safety tags and close these circuit breakers:

Copilot CB panel:	Pilot CB panel:
ANTI COLN LTS	LDG GEAR CONT

(6) Set the BATTERY switch to BAT.
(7) Set the ANTI COLN switch to the AIR position.
(8) Check that the light comes on and goes off 50 ± 10 times per minute.
(9) Set the ANTI COLN switch to OFF position.
(10) Set the BATTERY switch to OFF.

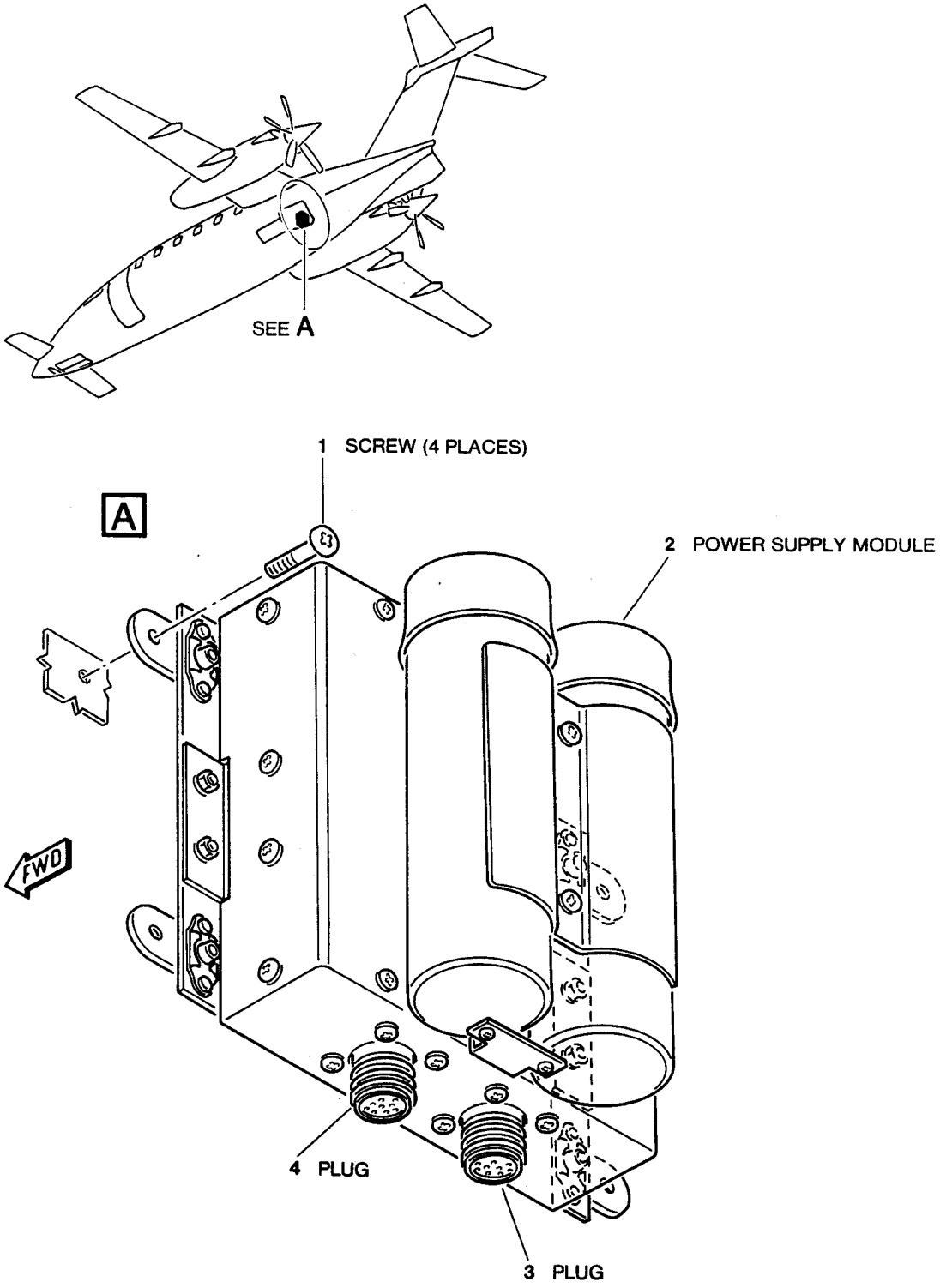

Fig. 203 - Power Supply Unit (Wheel Well) - Removal/Installation

7. Ground Beacon Light - Removal (Ref. Fig. 204)

A. Procedure

(1) Open, tag and safety this circuit breaker:

Copilot CB panel:
ANTI COL LTS

(2) Remove the six screws (4) that secure the glass (1) and the light support (6) to the airplane.
(3) Pull the glass (1), bulb (2), light support (6) and the gasket (5) from the airplane.
(4) Disconnect the two electrical cables from the bulb by removing the two screws (3, 7).
(5) Remove the screw (9) and gasket (8) and remove the glass (1) from the light support (6).
(6) Remove the bulb (2).

8. Ground Beacon Light - Installation (Ref. Fig. 204)

A. Expendable parts — IPC-CSN

Gasket (Fig. 204, item 5)	33-42-00 05-010

B. Materials

Methyl-Ethyl-Ketone	02-009
Lint Free Cloth	04-013

C. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breaker is open, tagged and safetied
- the system is safe
- access is available.

(Refer to the Removal Procedure).

(2) Clean the mating surfaces of the light support (6) and the glass (1). Use a lint-free cloth made moist with MEK.
(3) Insert the bulb (2) in the light support (6).
(4) Install the glass (1) so that its seats correctly against the seal of the light support (6); secure the glass (1) in position with gasket (8) and screw (9).
(5) Examine the gasket (5) for damage and deterioration. If necessary install a new gasket.
(6) Insert the two electrical wires through to the gasket.
(7) Connect the electrical wire to the bulb (2) with the screws (3, 7).
(8) Place the gasket (5) and the light support (6) in the proper position on the airplane.
(9) Install and tighten the six screws (4).

(10) Remove the safety tag and close this circuit breaker:

Copilot CB panel:

ANTI COL LTS

(11) Set the BATTERY switch to BAT.
(12) Set the ANTI COLN switch to GND position.
(13) Check that the ground beacon light comes on and goes off TBD times per minute.
(14) Set the ANTI COLN switch to OFF.
(15) Set the BATTERY switch to OFF.

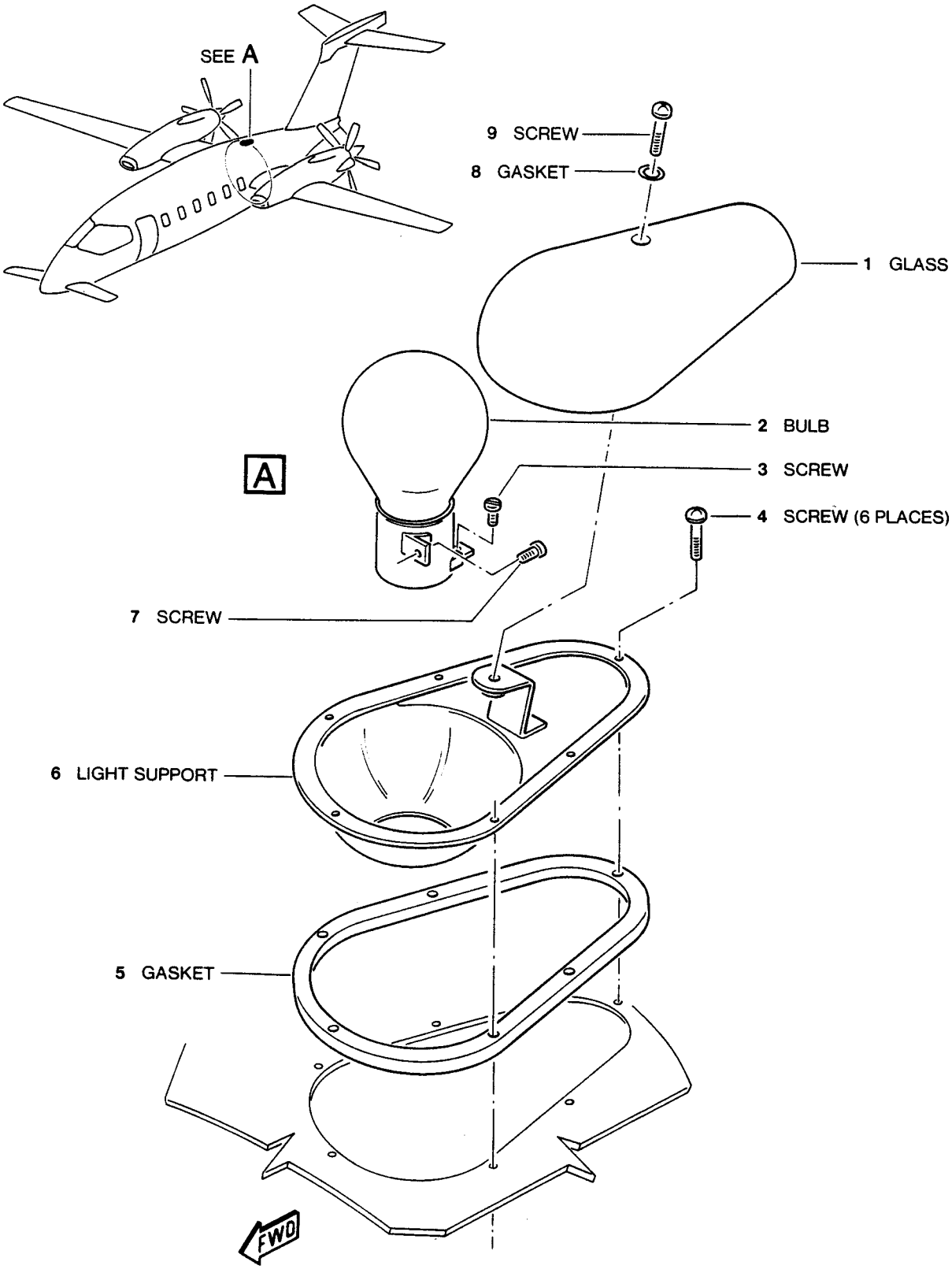

Fig. 204 - Ground Beacon - Removal/Installation

9. Ground Beacon Flasher Unit - Removal (Ref. Fig. 205)

A. Procedure

(1) Open, tag and safety this circuit breaker:

Copilot CB panel
ANTI COL LTS

(2) Open the baggage door.
(3) Remove the access panel that covers the forward bulkhead in the baggage compartment.
(4) Remove the screw that connects the flasher unit ground terminal (5) to the airframe.
(5) Cut the other electrical cable.
(6) Remove the bolts (1, 7) and washers (2, 6) that secure the flasher unit (3) to the support (4).
(7) Remove the flasher unit (3).

10. Ground Beacon Flasher Unit - Installation (Ref. Fig. 205)

A. Referenced information

Maintenance Manual Chapter 20-00-00

B. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breaker is open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure)

(2) Install flasher unit (3) on the support and secure it with bolts (1, 7) and washers (2, 6).
(3) Connect the ground terminal (5) to the airframe with the screw.
(4) Connect the other cable to the system with an in-line connector (Refer to 20-00-00).
(5) Remove the safety tag and close this circuit breaker:

Copilot CB panel
ANTI COL LTS

(6) Set the BATTERY switch to BAT.
(7) Set the ANTI COLN switch to the GND position.
(8) Check that the ground beacon light comes on and goes off TBD times per minute.
(9) Set the ANTI COLN switch to OFF.
(10) Set the BATTERY switch to OFF.

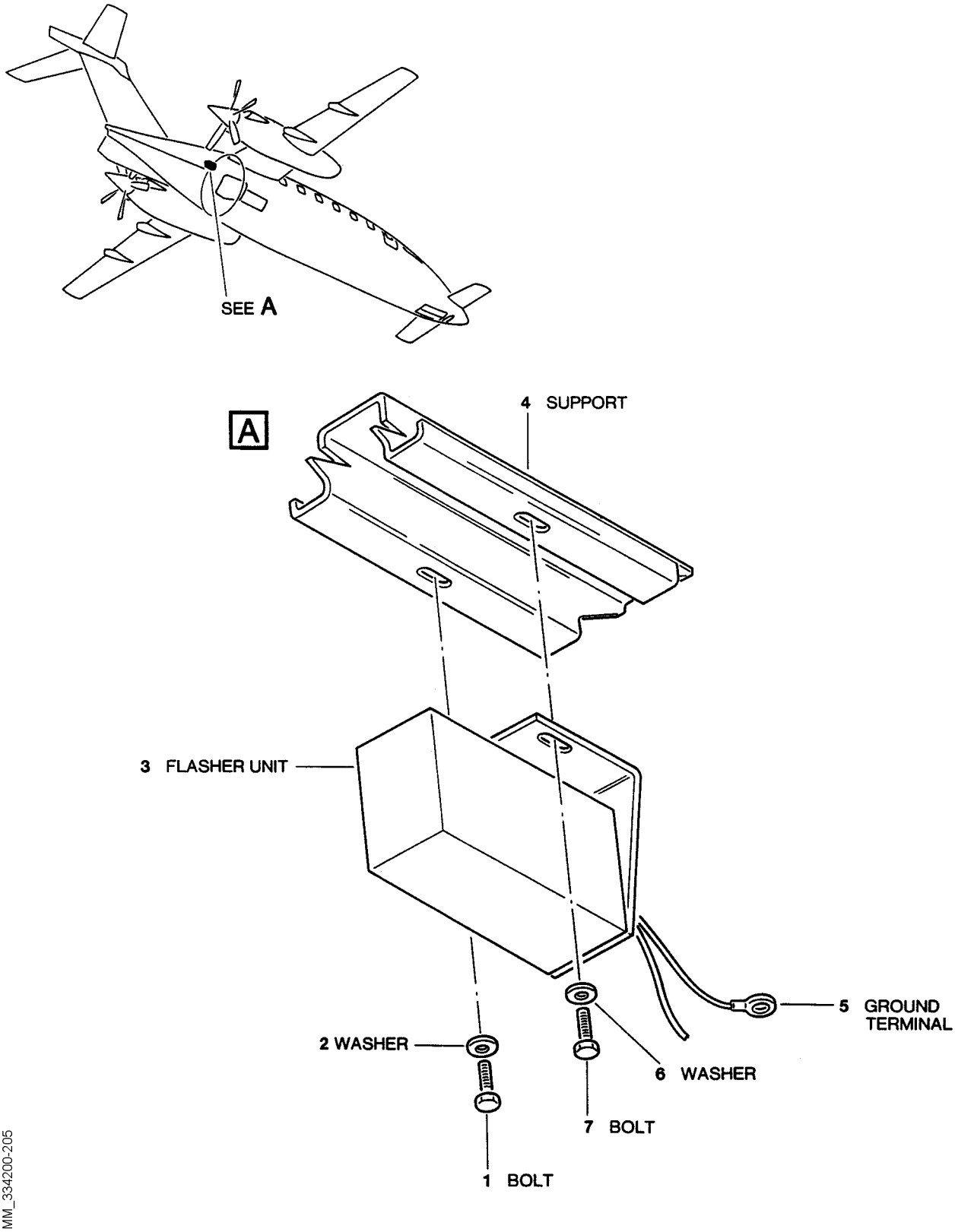

Fig. 205 - Beacon Light Flasher Unit - Removal/Installation

11. Recognition Light - Removal (Ref. Fig. 206)

A. Procedure

(1) Open, tag and safety this circuit breaker:

Copilot CB panel
RCNG LT

(2) Remove the forward part of vertical stabilizer fairing (5).
(3) Remove the screw (1) of the recognition light clamp (6).
(4) Remove the clamp (6) and the glass (2).
(5) Remove the lamp (4).

12. Recognition Light - Installation (Ref. Fig. 206)

A. Materials

Lint Free Cloth	04-013
Isopropyl Alcohol	02-008

B. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breaker is open, tagged and safetied
- the system is safe
- access is available.
(Refer to the Removal Procedure).

CAUTION: DO NOT TOUCH THE LAMP WITH YOUR SKIN. CONTAMINANTS FROM YOUR SKIN CAN CAUSE DAMAGE TO THE LAMP.

(2) Insert the lamp (4) in the lamp support (3); use a lint free cloth or similar to hold the lamp so that there is no direct contact with the skin.
(3) Place the glass (2) and the clamp (6) into position in the lamp support (3).
(4) Lock the clamp with the screw (1).
(5) Clean the glass (2) with alcohol.
(6) Install the forward part of the vertical stabilizer fairing (5).
(7) Remove and safety tag and close this circuit breaker:

Copilot CB panel
RCNG LT

(8) Set the BATTERY switch to BAT.
(9) Set the RECOG switch to the RECOG position.
(10) Check that the lamp (4) comes on correctly.
(11) Set the RECOG switch to OFF.
(12) Set the BATTERY switch to OFF.

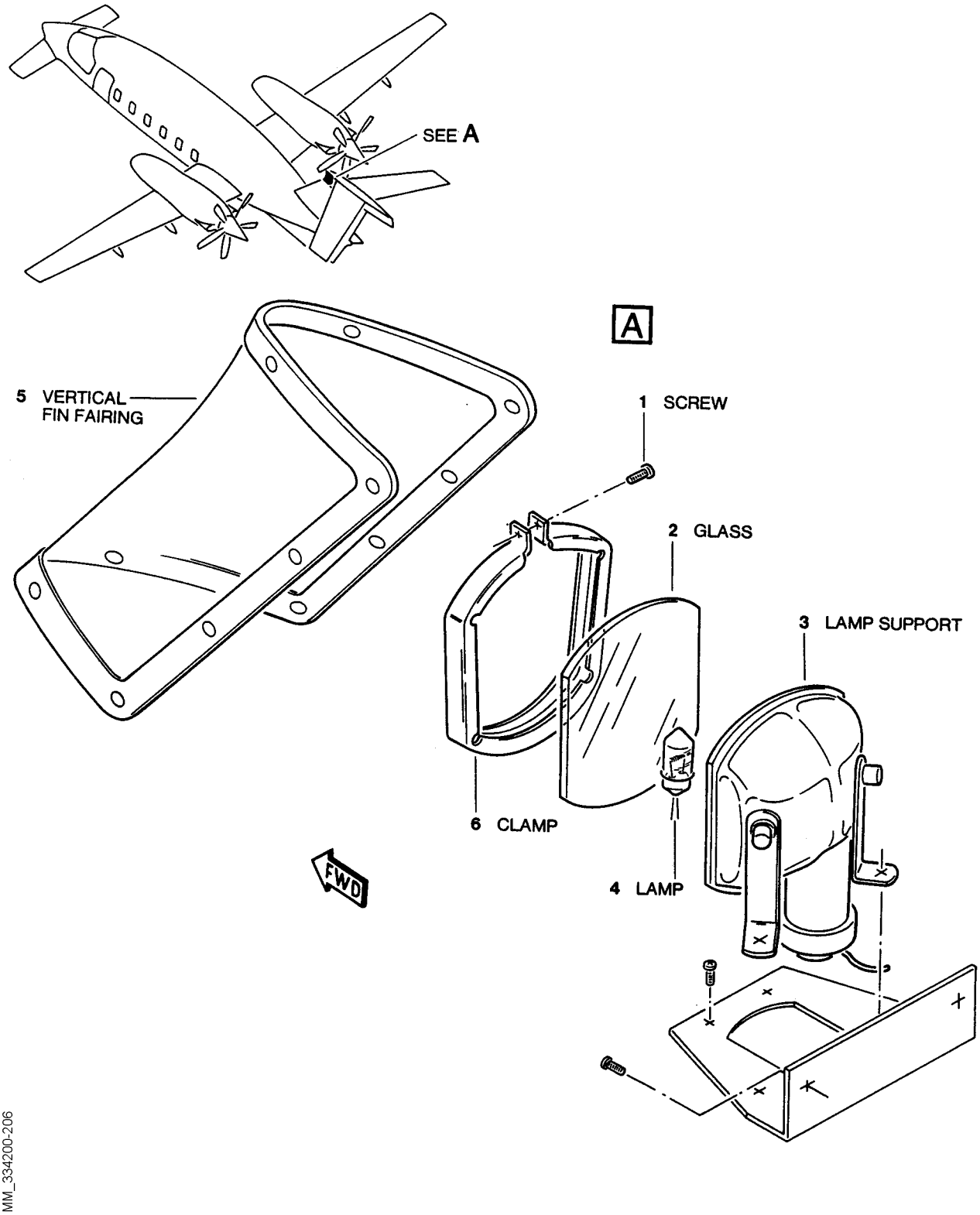

Fig. 206 - Recognition Light - Removal/Installation

13. Navigation Light - Removal (Ref. Fig. 207)

NOTE: Removal and installation procedures for both navigation lights are identical

A. Procedure

(1) Open, tag and safety this circuit breaker:

Pilot CB panel:
POS LTS

(2) Remove the six screws (1) that secure the cover (2) to the wing tip.
(3) Remove the cover (2).
(4) Remove the screw (5) that secures the colored (green or red) cover to the lamp support (4); remove the cover.
(5) Remove the lamp (3).

14. Navigation Light - Installation (Ref. Fig. 207)

A. Procedure

(1) Make sure, as necessary that:
- the applicable circuit breaker is open, tagged and safetied
- the system is safe
- access is available.

(Refer to the Removal Procedure)

CAUTION: DO NOT TOUCH THE LAMP WITH YOUR SKIN. CONTAMINANTS FROM YOUR SKIN CAN CAUSE DAMAGE TO THE LIGHT.

(2) Install the lamp (3) in the lamp support (4); use a lint free cloth or similar to hold the lamp so that there is no direct contact with the skin.
(3) Secure the colored cover to the lamp support (4) with the screw (5).
(4) Install the cover (2) at the wing tip with the screws (1).
(5) Remove and safety tag and close this circuit breaker:

Pilot CB panel:
POS LTS

(6) Set the BATTERY switch to BAT.
(7) Set the POS switch to the POS position.
(8) Check that the navigation lights come on.
(9) Set the POS switch to the OFF position.
(10) Check that if the navigation lights go off.
(11) Set the BATTERY switch to OFF.

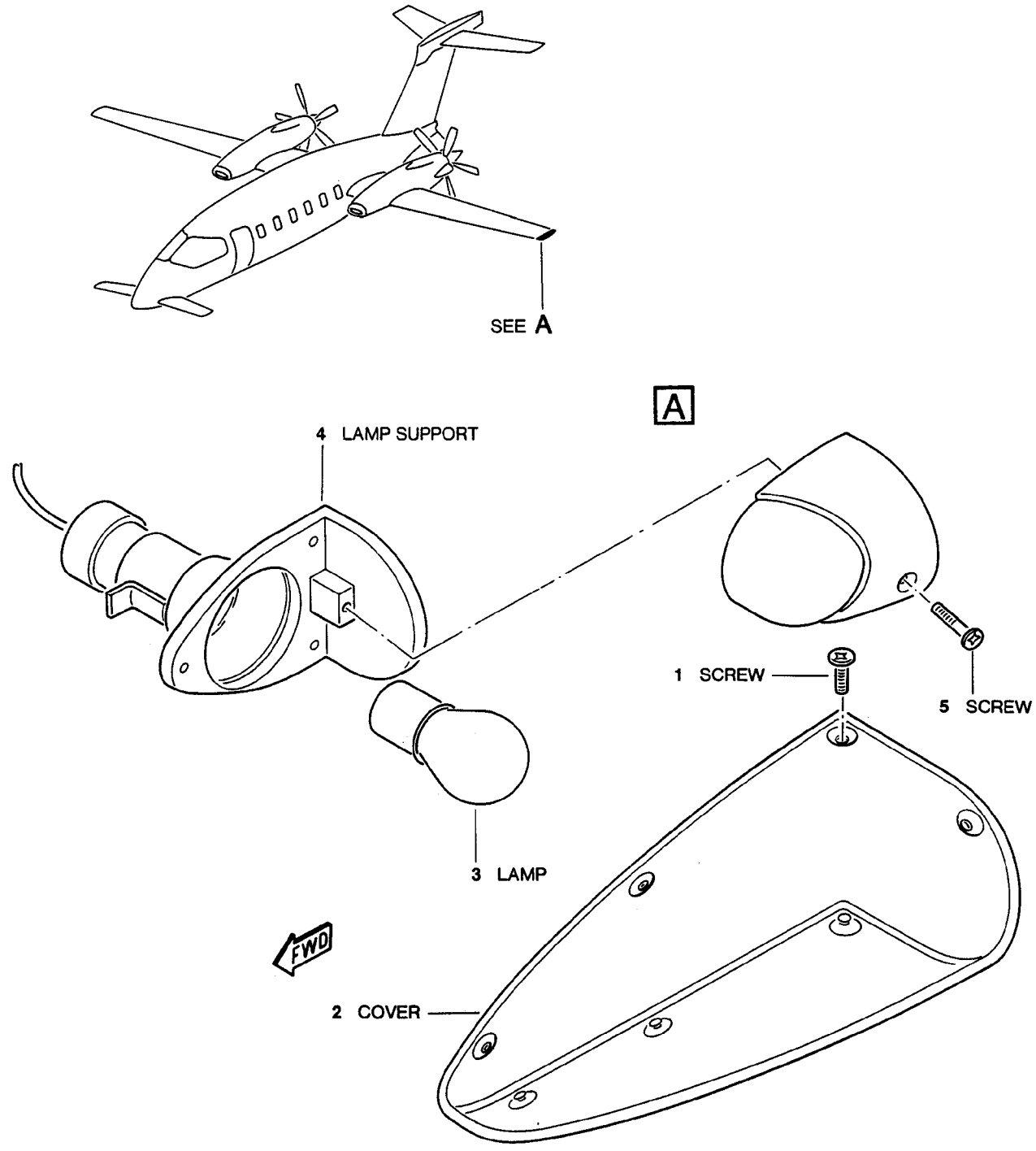

Fig. 207 - Navigation Light - Removal/Installation

15. Position Light - Removal (Ref. Fig. 208)

A. Procedure

NOTE: Removal and installation procedures for both position lights are identical.

(1) Open, tag and safety this circuit breaker:

Pilot CB panel:
POS LTS

(2) Remove the two screws (2, 5) that secure the lamp support (1) to the wing trailing edge.
(3) Pull out the lamp support (1), the cover (4) and the lamp (3).
(4) Remove the cover (4) and the lamp (3) from the lamp support (1).

16. Position Light - Installation (Ref. Fig. 208)

A. Procedure

(1) Make sure, as necessary that:
- The applicable circuit breaker is open, tagged and safetied
- The system is safe
- Access is available.
  (Refer to the Removal Procedure).

CAUTION: DO NOT TOUCH THE LAMP WITH YOUR SKIN. CONTAMINANTS FROM YOUR SKIN CAN CAUSE DAMAGE TO THE LIGHT.

(2) Install the lamp (3) and the cover (4) in the lamp support (1); use a lint free cloth or similar to hold the lamp so that there is no direct contact with the skin.
(3) Place the lamp (3), the cover (4) and the lamp support (1) in position on the wing trailing edge.
(4) Secure the lamp support (1) to the wing with the screws (2, 5).
(5) Remove the safety tag and close this circuit breaker:

Pilot CB panel:
POS LTS

(6) Set the BATTERY switch to BAT.
(7) Set the POS switch to the POS position.
(8) Check that the position lights come on.
(9) Set the POS switch to the OFF position.
(10) Check that the position lights go off.
(11) Set the BATTERY switch to OFF.

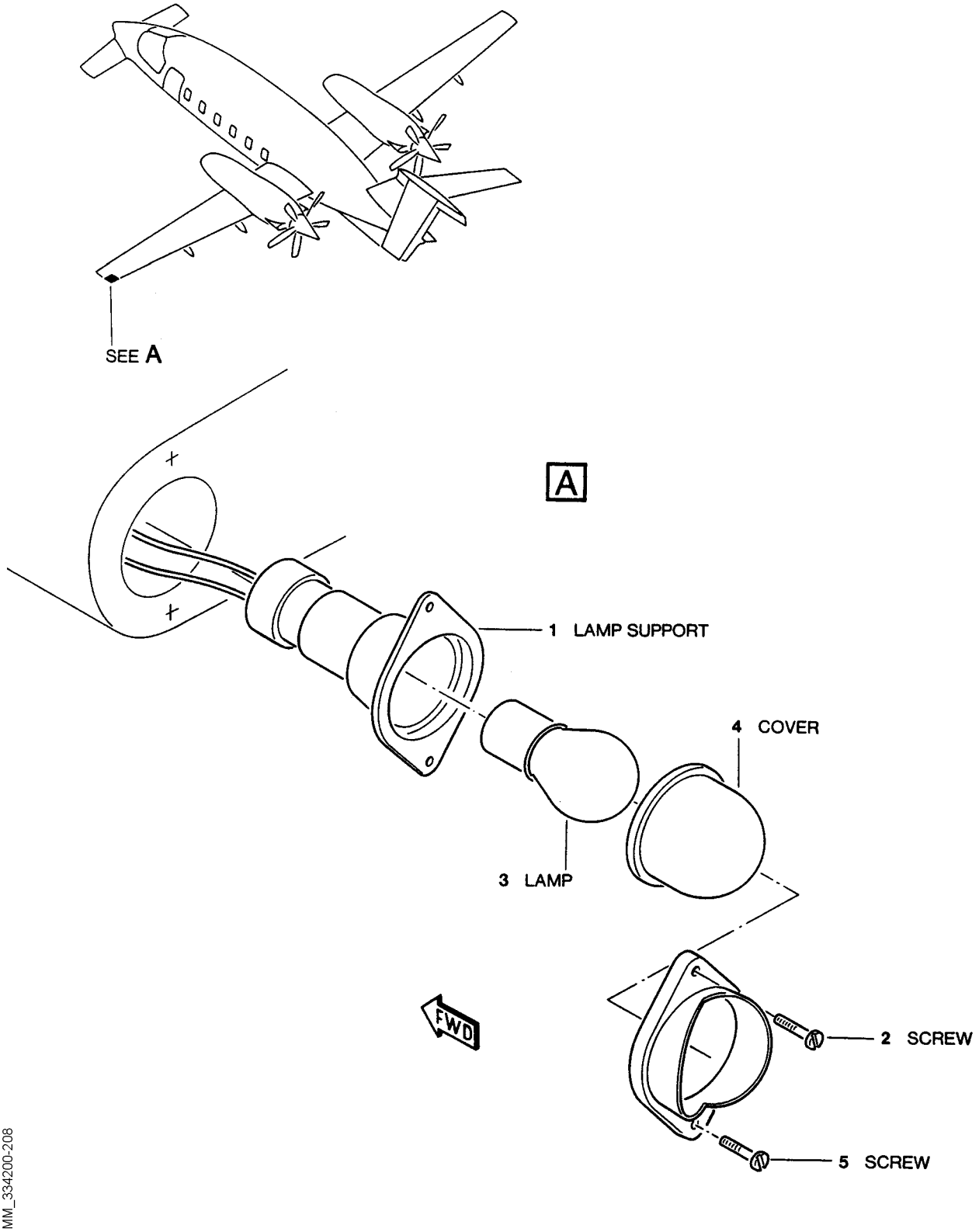

Fig. 208 - Position Light - Removal/Installation

17. Wing Inspection Light - Removal (Ref. Fig. 209)

A. Referenced Information

Maintenance Manual Chapter 54-10-00

B. Procedure

(1) Open, tag and safety this circuit breaker:

Copilot CB panel:
WING INSP LT

(2) Remove the upper nacelle panel 410AT (Refer to 54-10-00).
(3) Remove the lamp (1) from the support (2).

18. Wing Inspection Light - Installation (Ref. Fig. 209)

A. Procedure

(1) Install the lamp (1) in the support (2).
(2) Install the upper nacelle panel 410AT (Refer to 54-10-00).
(3) Remove the safety tags and close this circuit breaker:

Copilot CB panel:
WING INSP LT

(4) Set the BATTERY switch to BAT.
(5) Set the WING INSP switch to WING INSP position.
(6) Check that the wing inspection light comes on.
(7) Set the WING INSP switch to OFF position.
(8) Check that the wing inspection light goes off.
(9) Set the BATTERY switch to OFF.

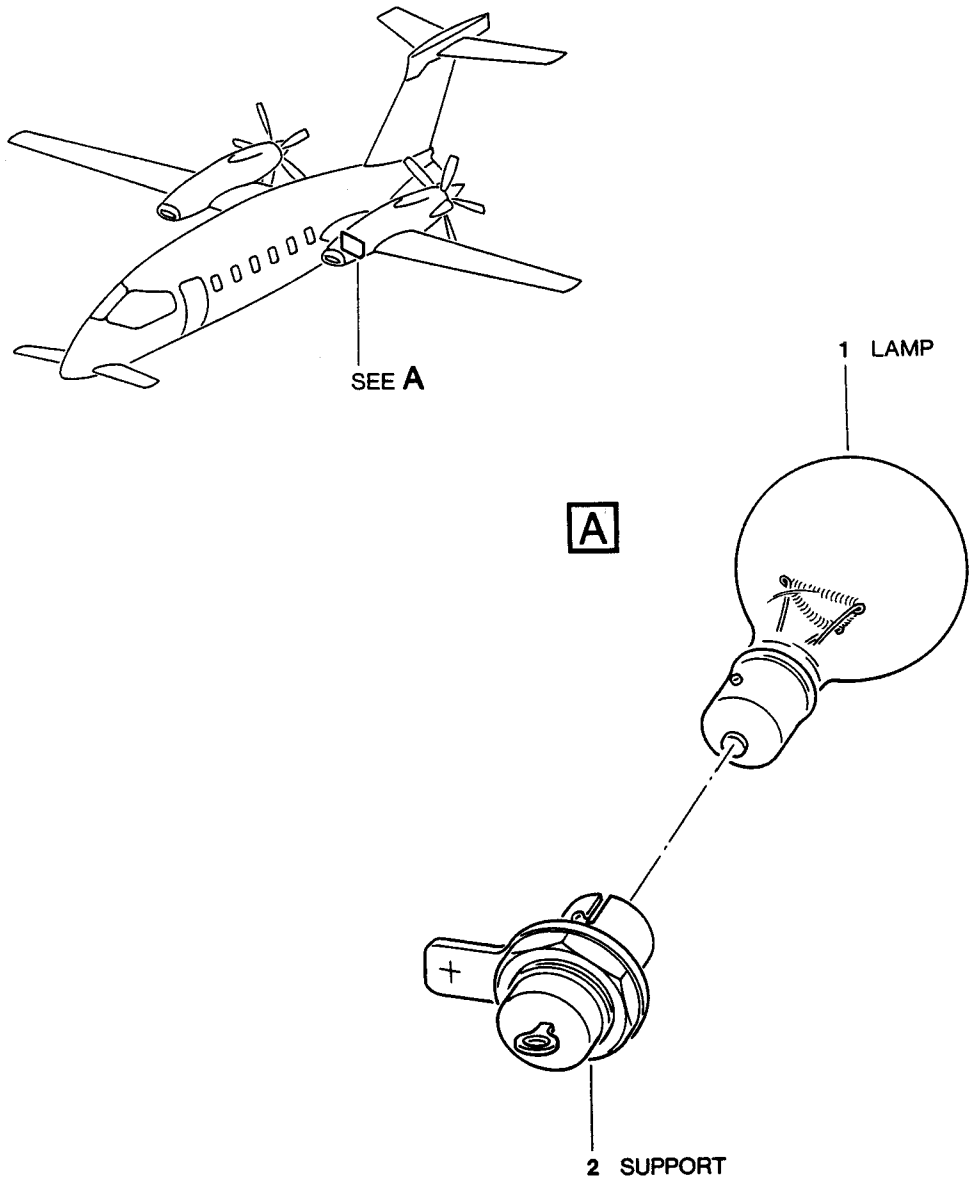

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Fig. 209 - Wing Inspection Light - Removal/Installation

19. Lights Control Panel - Removal (Ref. Fig. 210)

A. Procedure

(1) Set the Battery switch to OFF position.
(2) Unscrew the four screws (1) that secure the Lights Panel (2) to the control pedestal.
(3) Slide out the Lights Panel until in order to remove the two Electrical Connector (3) located in the Lights Panel rear side.
(4) Remove the Electrical Connectors (3).
(5) Remove the Lights Panel (2).
(6) Put the blanking caps to the Electrical Connector.

20. Lights Control Panel - Installation (Ref. Fig. 210)

A. Procedure

(1) Make sure that the Battery switch is to OFF position.
(2) Remove the blanking caps from the Electrical Connectors (3).
(3) Connect the Electrical Connectors (3) to the Lights Panel (2).
(4) Insert the panel in its own position in the control pesdestal.
(5) Secure the Light Panel (2). to the control pedestal with the four screws (1).
(6) Set the battery switch to ON position and check that the control switches on the Lights Panel and the related lioghts operate correctly.

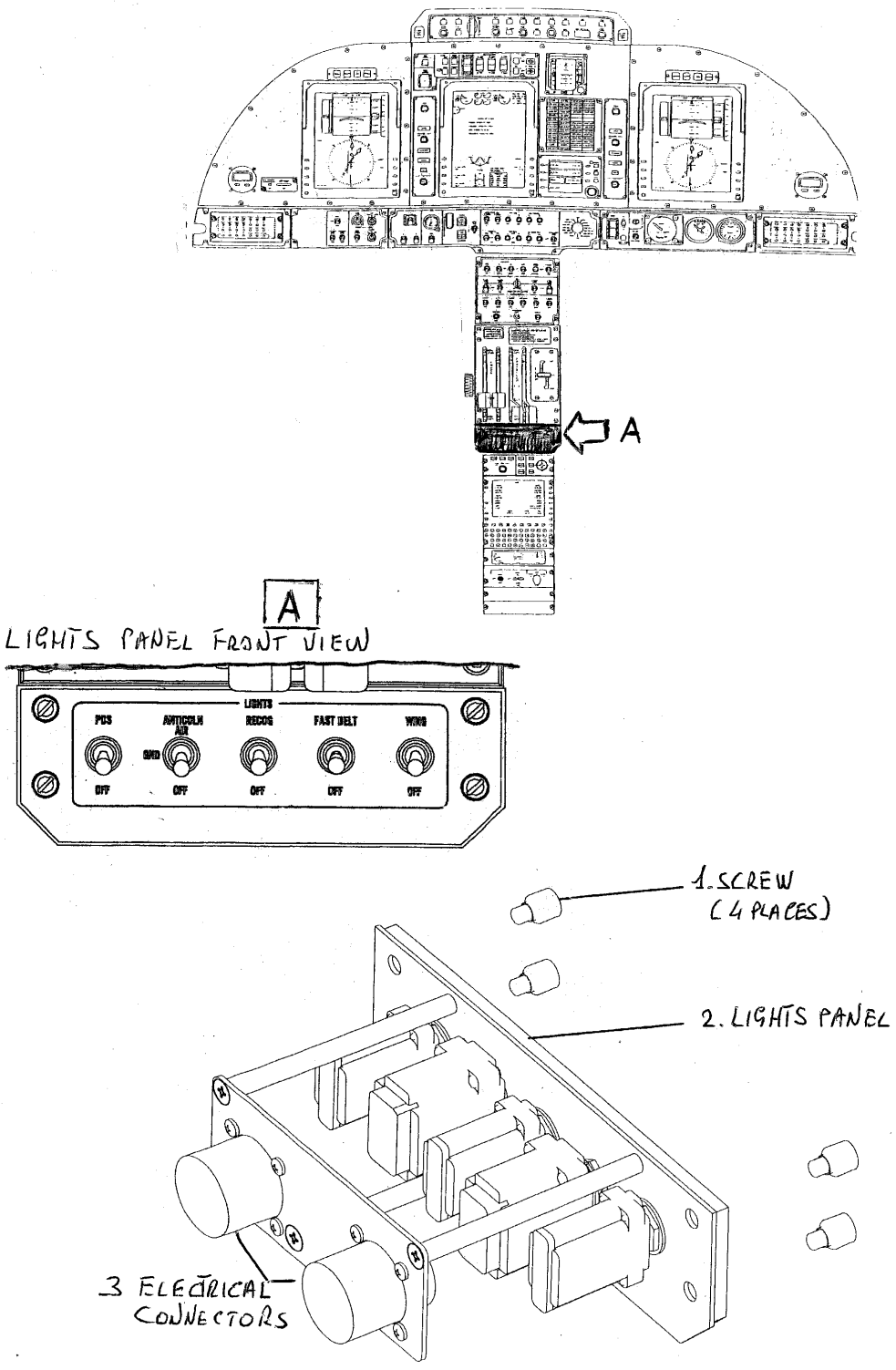

Fig. 210 - Lights Control Panel - Removal/Installaiton

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