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210	DEC 22/06	08
211	AUG 10/98	09
212	DEC 22/06	10
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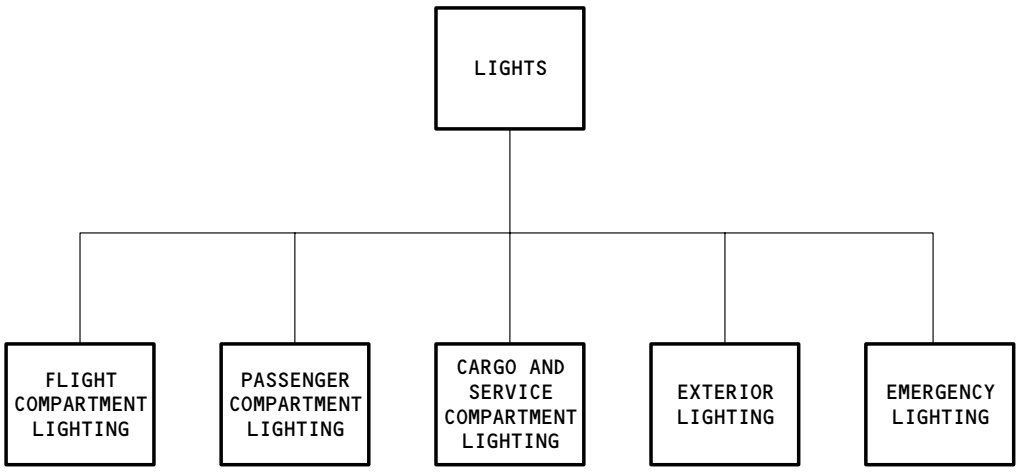
LIGHTS - GENERAL - DESCRIPTION AND OPERATION

1. General (Fig. 1)
   A. The airplane lighting systems provide illumination of areas within and around the airplane. The lighting is used by the flight crew, passengers and ground servicing personnel.
   B. Airplane lighting systems are divided into these groups:
      (1) Flight Compartment Lights (Ref 33-10-00)
         (a) Flight compartment lighting illuminates the control cabin work areas and control panels. A master dim and test system for testing annunciators is provided.



767 Aircraft Lighting
Figure 1

(2) Passenger Compartment Lights (Ref 33-20-00)
    (a) Passenger compartment lights illuminate seats, aisles, entryways, lavatories, and galley areas. Call lights and passenger information signs provide messages for the flight crew, flight attendants, and passengers.
(3) Cargo and Service Compartment Lights (Ref 33-30-00)
    (a) Cargo and service compartment lights illuminate maintenance and cargo loading areas during ground operations.
(4) Exterior Lights (Ref 33-40-00)
    (a) Exterior lights illuminate the airplane and landing area during flight operations. They illuminate the runway and taxi areas during ground operations.
(5) Emergency Lighting (Ref 33-50-00)
    (a) Interior emergency lights provide lighting of aisles and exits. Exterior emergency lights provide lighting of escape slides and associated areas.

LIGHTS - DDG MAINTENANCE PROCEDURES

1. General
   A. This procedure contains the maintenance task that is necessary for the operation of the airplane as shown in the Minimum Equipment List (MEL). The procedure also contains the maintenance task to put the airplane back in its usual condition after operation under MEL specifications. These tasks are:
      (1) DDG 33-24-1 Preparation Procedure - A passenger seat from which a No Smoking/Fasten Seat Belt sign is not visible.
      (2) DDG 33-24-1 Restoration Procedure - A passenger seat from which a No Smoking/Fasten Seat Belt sign is not visible.
      (3) DDG 33-24-1 Preparation Procedure - A cabin attendant seat from which a No Smoking/Fasten Seat Belt sign is not visible.
      (4) DDG 33-24-1 Restoration Procedure - A cabin attendant seat from which a No Smoking/Fasten Seat Belt sign is not visible.
      (5) DDG 33-24-1 Preparation Procedure - A lavatory from which a Return To Seat sign is not visible.
      (6) DDG 33-24-1 Restoration Procedure - A lavatory from which a Return To Seat sign is not visible.

TASK 33-00-00-049-001

2. DDG 33-24-1 Preparation Procedure - NS/FSB Sign Inoperative, Passenger Seat
   A. General
      (1) This procedure applies when a NO SMOKING/FASTEN SEAT BELT sign for a passenger seat does not operate.
   B. Standard Tools and Equipment
      (1) Placard labeled "INOP"
   C. Access
      (1) Location Zone
          200 Passenger Compartment Overhead

   D. Procedure

      S 429-002
      (1) Put this placard on the passenger seat from which a No Smoking/Fasten Seat Belt sign cannot be seen:

INOP

TASK 33-00-00-449-003

3. DDG 33-24-1 Restoration Procedure - NS/FSB Sign Inoperative, Passenger Seat

A. General

(1) This task contains the steps to put the airplane back in its usual condition after operation under MEL requirement 33-24-1, NS/FSB sign Inoperative for a passenger seat.

B. Standard Tools and Equipment

(1) Placard labeled "INOP"

C. Access

(1) Location Zone

200 Passenger Compartment Overhead

D. Procedure

S 969-004

(1) Replace the lamps in the defective sign (AMM 33-24-00/201) or replace the sign.

S 719-005

(2) Do a test of the sign (AMM 33-24-00/201).

S 029-006

(3) Remove the INOP placards from the passenger seat.

TASK 33-00-00-049-007

4. DDG 33-24-1 Preparation Procedure - NS/FSB Sign Inoperative, Attendant Seat

A. General

(1) This procedure applies when a NO SMOKING/FASTEN SEAT BELT sign for an attendant's seat does not operate.

B. Standard Tools and Equipment

(1) Placard labeled "INOP"

C. Access

(1) Location Zone

200 Passenger Compartment Overhead

D. Procedure

S 049-008

(1) Put this placard on the attendant's seat from which a No Smoking/Fasten Seat Belt sign cannot be seen:

INOP

TASK 33-00-00-449-009

5. DDG 33-24-1 Restoration Procedure - NS/FSB Sign Inoperative, Attendant Seat

A. General

(1) This task contains the steps to put the airplane back in its usual condition after operation under MEL requirement 33-24-1, NS/FSB sign Inoperative attendant's seat.

B. Standard Tools and Equipment

(1) Placard labeled "INOP"

C. Access

(1) Location Zone

200 Passenger Compartment Overhead

D. Procedure

S 969-010

(1) Replace the lamps in the defective sign (AMM 33-24-00/201) or replace the sign.

S 719-011

(2) Do a test of the sign per MM 33-24-00/201.

S 449-012

(3) Remove the INOP placards from the attendant's seat.

TASK 33-00-00-049-013

6. DDG 33-24-1 Preparation Procedure - RTS Sign Inoperative, Lavatory

A. General

(1) This procedure applies when a RETURN TO SEAT sign in a lavatory does not operate.

B. Standard Tools and Equipment

(1) Placard labeled "INOP"

C. Access

(1) Location Zone

200 Passenger Compartment

D. Procedure

S 049-014

(1) Put this placard on the lavatory from which a RETURN TO SEAT sign cannot be seen:

INOP

TASK 33-00-00-449-015

7. DDG 33-24-1 Restoration Procedure - RTS Sign Inoperative, Lavatory

A. General

(1) This task contains the steps to put the airplane back in its usual condition after operation under MEL requirement 33-24-1, Return To Seat sign inoperative.

B. Standard Tools and Equipment

(1) Placard labeled "INOP"

C. Access

(1) Location Zone

200 Passenger Compartment

D. Procedure

S 969-016

(1) Replace the lamps in the defective sign (AMM 33-24-00/201) or replace the sign.

S 719-017

(2) Do a test of the sign (AMM 33-24-00/201).

S 449-018

(3) Remove the INOP placards from the lavatory.

FLIGHT COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. The flight compartment lighting provides high/low and variable lighting at each crewmembers station. Annunciator lights are all dimmed and tested from master controls.
   B. Flight compartment lighting is divided into four sections:
      (1) Flight Compartment Illumination (AMM 33-11-00)
         (a) Flight compartment lighting is provided by incandescent dome lights in the ceiling panels, fluorescent floodlights over each crewmember's instrument panel, and incandescent floodlights for glareshield and aisle stand panels.
      (2) Integral Panel Lights (AMM 33-13-00)
         (a) The instruments, switch-lights, and systems control panels have integral incandescent lights. The lights illuminate dials, control panel lettering, and switch position lettering.
      (3) Flight Compartment Miscellaneous Lights (AMM 33-14-00)
         (a) Area lights such as map, chart, and flight kit/utility lights are provided.
      (4) Master Dim and Test (AMM 33-16-00)
         (a) A master dim and test system allows the crew to dim and test all annunciator lights in the flight compartment.
   C. Lighting control panels at each crewmembers station and overhead panel P5 allow the lights to be turned on/off and dimmed.
2. Component Details
   A. Control Components
      (1) Lighting Control Panels
         (a) Lighting control panels at each crew station and overhead panel P5 contain controls for operating the various lights. Potentiometers or rheostats are used to control lights requiring a variable voltage. Some control assemblies consist of two potentiometers or rheostats. One is mounted on the inner knob and the other on the outer knob. The inner knob controls the floodlight and the outer knob controls the panel lights.
      (2) Floodlight Dimmer Control Units
         (a) Floodlight dimmer control units provide starting and dimming voltages for the fluorescent lights and dimming voltage for the incandescent floodlights in the flight compartment. The units are on the forward aisle stand access panels.
      (3) Panel Dimmer Control Units
         (a) Panel dimmer control units provide dimming voltages for incandescent panel lights.

(4) Autobright Sensor Unit
  (a) An autobright sensor unit in the P1-3 panel automatically brightens all status/caution/warning annunciator lights when ambient light exceeds a certain brightness. It is part of the master dim and test system.
(5) Discrete Warning Display Module
  (a) The discrete warning display module in the P1-3 panel contains caution and warning lights for various systems. It is part of the master dim and test system.
(6) Main Power Distribution Panel P6
  (a) The main power distribution panel contains the various flight compartment lighting system override, autobright, and standby relays. The P6 panel face contains the secondary indicator light circuit breakers for the master dim and test system.
(7) Lighting Equipment Panel P29
  (a) The lighting equipment panel is located on the right side of the nose wheel well in the main E/E compartment. The P29 panel contains:
    1) Type I Dimmer Control Cards for dimming annunciator lights connected to the master dim and test system.
    2) Bright/Dim Relays for the master dim and test system.
(8) Standby Instrument Lighting, Potentiometer Control Override, and RDMI Light Relays
  (a) The relays transfer the power source and control of the standby instruments and remove power from non-essential instruments.

B. Spare Lamp Box
  (1) There is a spare lamp box on the aft wall of the flight compartment.

C. AIRPLANES WITH A FORWARD LAV OCCUPIED LIGHT;
  On some airplanes, a Forward Lavatory Occupied light is mounted near the cockpit door that illuminates when the Forard Lavatory is occupied.

FLIGHT COMPARTMENT ILLUMINATION - DESCRIPTION AND OPERATION

1. General
   A. Flight compartment illumination is provided by floodlights and dome lights. Floodlights provide specific area lighting of the instrument panels, aisle stand, and main power distribution panel P6. Dome lights provide general area lighting of the flight compartment. Adjustable light intensity at each panel compensates for varying light conditions.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-11-01 thru 33-11-99
      (2) WDM 33-11-11 thru 33-11-99
2. Operation
   A. Functional Description
      (1) Pilots' Panel Floodlights and Light Override
         (a) The instrument panel fluorescent floodlights operate with 115 volts ac through stanby relays. During usual operation, you can change the intensity of these lights with their switches. If there is an electrical power failure, the the standby relays will automatically connect the lights to the standby bus. When this happens, the lights will become and stay dim. You cannot use the switches to change the intensity of the lights in this mode.
         (b) During usual operation, pushing and then turning the floodlight control clockwise closes a switch to apply electrical power to the floodlight dimmer control unit. The integral potentiometer varies the voltage to the dimmer control unit control circuit. A line replaceable fuse on the 115v ac input to the dimmer control unit power transformer provides current protection. Automatic resetting thermal switches provide overheat protection on input and output circuits of the unit. A fail-safe circuit in the dimmer control unit reduces the light intensity when a silicon-control rectifier (SCR) failure occurs. The fail-safe circuit does this by bypassing the primary lamp power and maintaining the lamps at a reduced setting.
         (c) An override switch on the left lighting control panel (P5) enables the crew to simultaneously illuminate all floodlights, dome lights, and lighted annunciators (Ref 33-16-00) to maximum brightness regardless of control switch positions. Pressing the LT OVRD switch to ON causes 115v ac from the standby bus to energize three override relays. The energized relays bypass the normal controls, and connect electrical power directly to the dimmer control units, floodlights, and dome lights. This causes the floodlights and dome lights to illuminate at maximum brightness. The dimming function of the master dim and test system is disabled by the flight deck override relays (Ref 33-16-00).

(2) Glareshield, Aisle Stand, and Main Power Distribution (P6) Panel Floodlights

(a) The glareshield floodlights are incandescent, and are mounted in 2 separate assemblies on the P7 panel. The lamps in each floodlight are soldered and are not line replaceable. The entire assembly is replaced as a unit. Poke-home pins connect the wiring to each assembly. A dimmer control unit with a line replaceable fuse uses 115v ac from the left bus. The glareshield lighting dimmer control on left lighting control panel (P5) has 2 knobs with 2 potentiometers. The inner knob controls the floodlight potentiometer. The outer knob controls the integral panel lights potentiometer (Ref 33-13-00). The glareshield floodlight control does not have an on-off switch, its electrical power is connected directly to the dimmer control unit. The dimmer control unit does not have separate bright/dim control circuits to standby and override relays. The override switch on the left lighting control panel bypasses the potentiometer circuit and lights the glareshield floodlights at maximum brightness whenever the override switch is ON.

(b) The aisle stand floodlight in overhead panel P11 is an incandescent light. It uses 28v dc from the standby bus. A rotary control (potentiometer) on left lighting control panel (P5) controls electrical power to the light. The override switch on the left lighting control panel bypasses the potentiometer and illuminates the light at maximum brightness when the override switch is ON. The aisle stand floodlight standby light control relay uses 115v ac from the captain's flight instrument transfer bus. When the relay is energized the floodlight operates normally. When de-energized the floodlight's power goes through a fixed standby resistor, lighting the floodlight at a fixed dim mode.

(c) Two main power distribution panel floodlights are mounted on the bottom of the P61 panel. They are powered from the 28v ac right bus and are controlled by the overhead circuit breaker panel lights control on the right lighting control panel (P5). The control has a rheostat and a potentiometer connected to its shaft.

(3) Flight Deck Dome Lights

(a) The dome lights are installed on the ceiling to give general lighting in the flight compartment. These lights operate with 28 volts ac from the ground service bus. The dome lights do not have an alternate power source.

1) There is a switch on the pilot's overhead panel, P5, you use to control the intensity of the dome lighting.

2) AIRPLANES WITH A SWITCH ON THE P61 PANEL;
You cannot control the aft dome lights from the P5 panel. There is a separate on-off switch on the P61 panel for these lights.

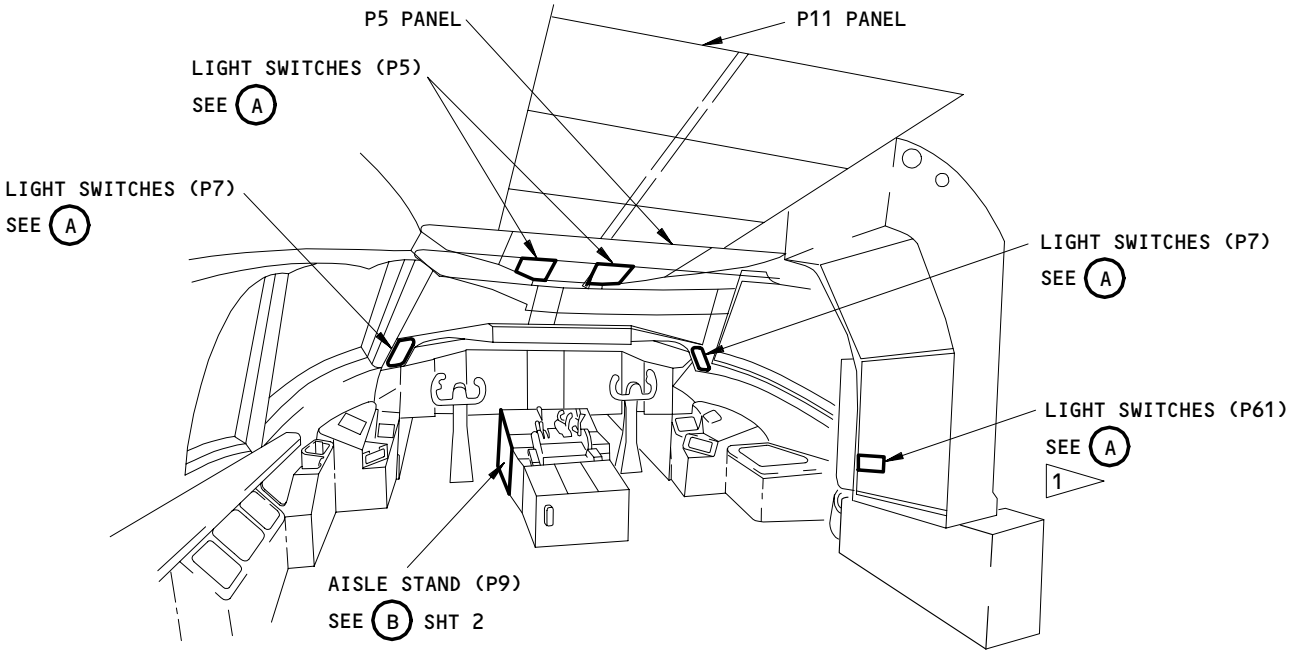
(b) If you set the override switch on the pilot's overhead panel, P5, to the on position, a relay causes all the dome lights to come on brightly. You cannot use the usual switch to make the dome lights become dim again in this mode. You must set the override switch to the off position first.

FLIGHT COMPARTMENT ILLUMINATION

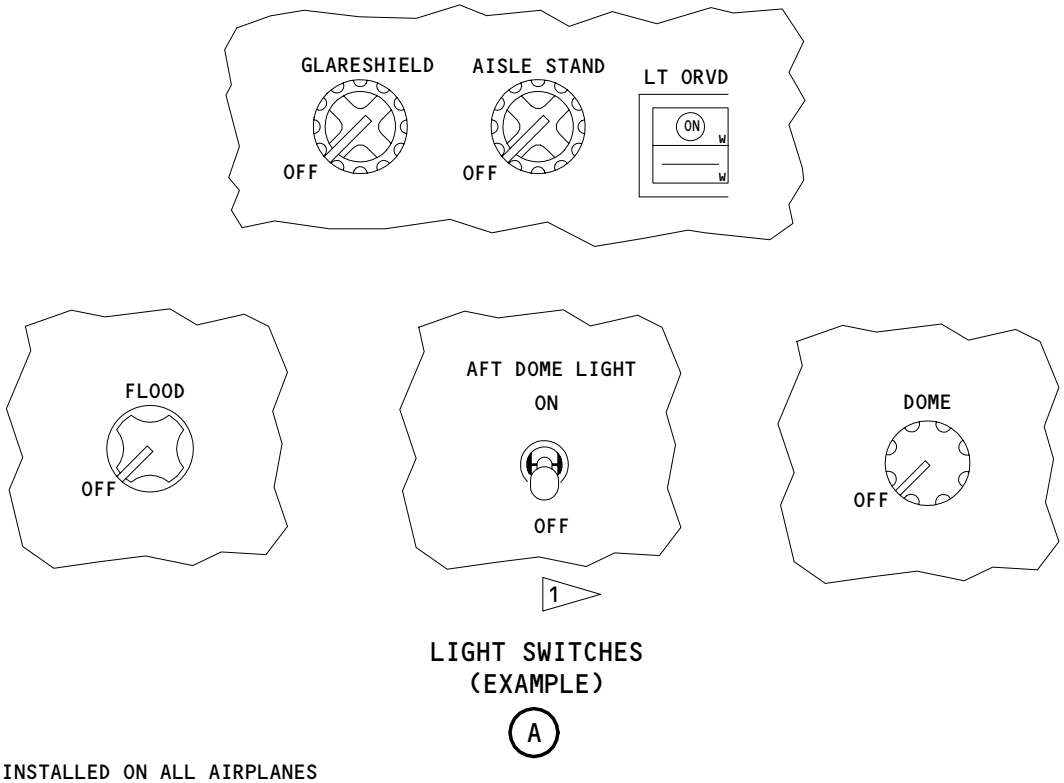
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P11	*
CIRCUIT BREAKER –	2		119AL, MAIN EQUIP CTR, P33	*
DIMMER CONTROL UNIT, FLOODLIGHT	2		FLT COMPT, P9	33-11-03
LIGHT –				
FLOOD				33-11-00
DOME				33-11-00
SWITCH –				
LIGHT	1		FLT COMPT, P5, P7 AND P61	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Flight Compartment Illumination – Component Index
Figure 101



FLIGHT COMPARTMENT

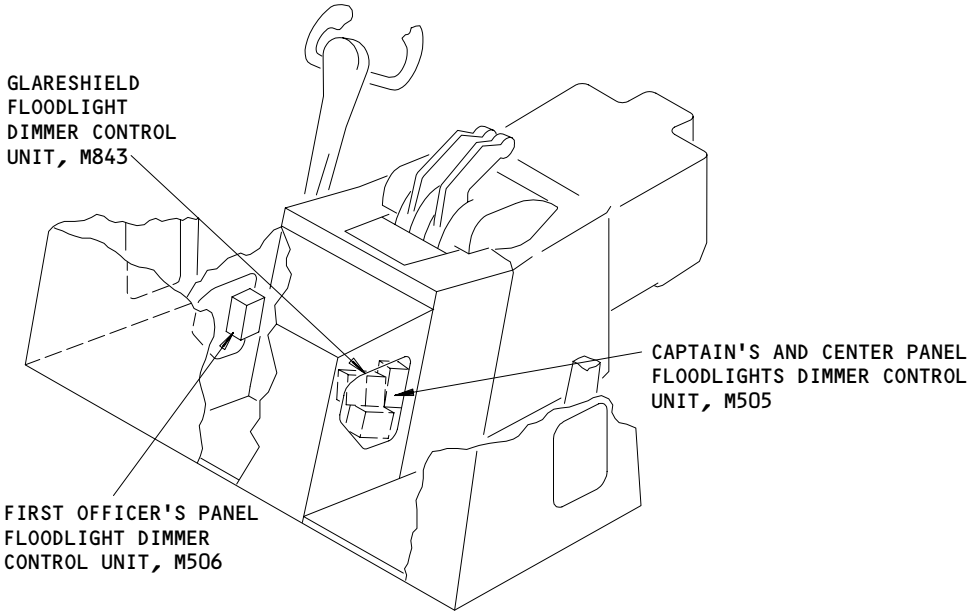


LIGHT SWITCHES
(EXAMPLE)

A

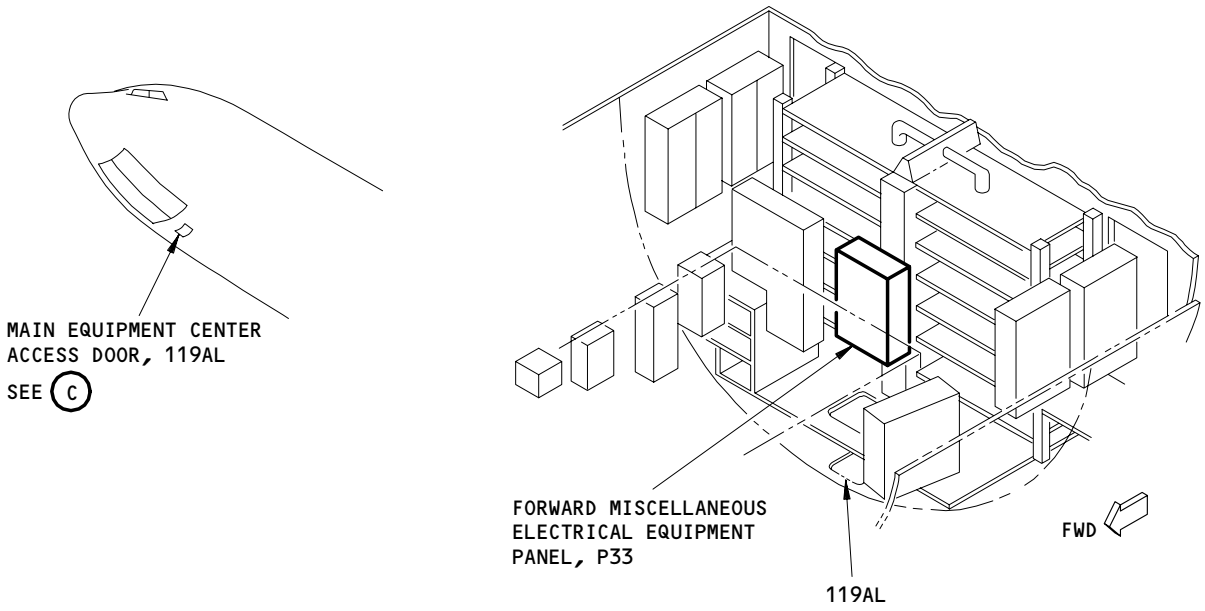
1 NOT INSTALLED ON ALL AIRPLANES

Flight Compartment Illumination - Component Location
Figure 102 (Sheet 1)



AISLE STAND (P9)

B



MAIN EQUIPMENT CENTER

C

Flight Compartment Illumination - Component Location
Figure 102 (Sheet 2)

FLIGHT COMPARTMENT ILLUMINATION - MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks for the flight compartment lighting:
      (1) Instrument Panel Floodlight - Lamp Replacement
      (2) Dome Light - Lamp Replacement
      (3) Glareshield Floodlight - Lamp Replacement
      (4) Aisle Stand Floodlight - Lamp Replacement
      (5) Main Power Distribution Panel Floodlight - Lamp Replacement

   TASK 33-11-00-962-001

2. Instrument Panel Floodlight - Lamp Replacement
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-11-01
      (3) WDM 33-00-11, Lamp Usage Chart
      (4) WDM 33-11-11
   B. Access
      (1) Location Zones
          211 Left Flight Compartment
          212 Right Flight Compartment
   C. Procedure

      S 962-005
      (1) Replace the lamp.
          (a) At the glareshield, P7, set the switch for the floodlight to the on position.
              1) Identify each lamp that does not come on.
          (b) Set the switch to the off position.
          (c) Remove electrical power from the light:
              1) Open each applicable circuit breaker for the instrument panel floodlight and attach the DO-NOT-CLOSE tag:
                 a) On the overhead circuit breaker panel, P11.
          (d) Loosen the fasteners and lower the lens.
          (e) Carefully replace the lamp.

      S 712-019
      (2) Do a test of the new lamp.
          (a) Supply electrical power (AMM 24-22-00/201).

(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
(c) Set the switch to the on position.
1) Make sure the new lamp comes on correctly.
(d) Set the switch to the usual position.
(e) Close the lens and tighten the fasteners.
(f) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-11-00-962-006

3. Dome Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-11-02
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-11-14

B. Access
(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 962-007
(1) Replace the lamp.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the dome light and attach the DO-NOT-CLOSE tag:
a) On the forward miscellaneous electrical equipment panel, P33.
(b) Turn the lens counterclockwise to remove it.
(c) Carefully replace the lamp.
(d) Install the lens.

S 712-008
(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
(c) At the overhead panel, P5, set the switch for the dome light to the on position.
1) Make sure the new lamp comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-11-00-962-007

4. Glareshield Floodlight - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-11-01
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-11-13

B. Access

(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 962-008

(1) Replace the lightplate.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the glareshield floodlight and attach the DO-NOT-CLOSE tag:
a) On the overhead circuit breaker panel, P11.
(b) Loosen the fasteners and remove the floodlight lightplate.
(c) Replace the circuit board of the lightplate.

NOTE: Do not try to replace the lamps in the lightplate while you are on the airplane. Before you use the lightplate again, you must send it to the shop for lamp replacement. Instructions for lamp replacement are in the vendor's manual.

1) Remove the screws and remove the circuit board from the lightplate assembly.
2) Install a new lightplate.

S 712-009

(2) Do a test of the new lightplate.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
(c) At the overhead panel, P5, set the switch for the glareshield floodlight to the on position.
1) Make sure the new lightplate comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-11-00-962-009

5. Aisle Stand Floodlight - Lamp Replacement

A. References

(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-11-01
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-11-13

B. Access

(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 962-011

(1) Replace the lamp.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the aisle stand floodlight and attach the DO-NOT-CLOSE tag:
a) On the overhead circuit breaker panel, P11.
(b) Remove the screws that hold the lamp cover to the P11 panel and remove the cover.
(c) Carefully replace the lamp.
(d) With the screws, install the lamp cover on the P11 panel.

S 712-012

(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
(c) At the overhead panel, P5, set the switch for the aisle stand floodlight to the on position.
1) Make sure the new lamp comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-11-00-962-008

6. Main Power Distribution Panel Floodlight - Lamp Replacement

A. References

(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-11-01
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-11-16

B. Access

(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 962-009

(1) Replace the lamp.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the main power distribution panel floodlight and attach the DO-NOT-CLOSE tag:
a) On the overhead circuit breaker panel, P11.
(b) Pull the lens free from the springs that hold it in position.
(c) Carefully replace the lamp.
(d) Install the lens.

S 712-010

(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
(c) At the overhead panel, P5, set the switch for the main power distribution panel to the on position.
1) Make sure the new lamp comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

FLIGHT COMPARTMENT ILLUMINATION - ADJUSTMENT/TEST

1. General
   A. This procedure contains these tasks:
      (1) Flight Compartment Lighting - Operational Test
      (2) Flight Compartment Lighting - Functional Test

TASK 33-11-00-715-023

2. Flight Compartment Lighting - Operational Test
   A. General
      (1) This task contains a test of the flight compartment lighting while operated with the usual electrical power.
   B. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-11-01 thru 33-11-99
      (3) WDM 33-11-11 thru 33-11-99
   C. Access
      (1) Location Zones
          211/212 Flight compartment
   D. Procedure

      S 865-021
      (1) Supply electrical power (AMM 24-22-00/201).

      S 715-020
      (2) Do a test of the floodlights.
          (a) At the glareshield, P7, slowly set the switches for the instrument panel floodlights from the off to bright position.
              1) Make sure each floodlight comes on correctly.
          (b) At the overhead panel, P5, slowly set the switch for the glareshield floodlights from the off to bright position.
              1) Make sure all floodlights come on correctly.
          (c) At the P5 panel, slowly set the switch for the aisle stand floodlight from the off to bright position.
              1) Make sure the floodlight comes on correctly.
          (d) At the P5 panel, slowly set the switch for the floodlights for the main power distribution panel from the off to bright position.
              1) Make sure each floodlight comes on correctly.
          (e) Set each switch to the usual position.

      S 715-022
      (3) Do a test of the dome lights.
          (a) At the overhead panel, P5, slowly set the switch for the dome lights from the off to bright position.

(b) AIRPLANES WITH A SWITCH ON THE P61 PANEL FOR THE DOME LIGHTS; At the right side panel, P61, slowly set the switch for the dome lights from the off to bright position.
1) Make sure each dome light comes on correctly.

S 865-015
(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-11-00-725-025
3. Flight Compartment Lighting - Functional Test
A. General
(1) This task contains a test of the flight compartment lighting while operated with the override and standby electrical power.
B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-11-01 thru 33-11-99
(3) WDM 33-11-11 thru 33-11-99
C. Access
(1) Location Zones
211/212 Flight compartment
D. Procedure

S 725-024
(1) Do a test of the lights with the override electrical power.

NOTE: The floodlights for the main power distribution panel are not included in this test.

(a) Set the switches for the floodlights and dome lights to the off position.
(b) At the overhead panel, P5, set the light override switch-light to the on position.
1) Make sure each floodlight and dome light comes on brightly.
(c) Slowly set each switch for the floodlights and dome lights to the bright position.
1) Make sure each floodlight and dome light stayed bright.
(d) At the P5 panel, slowly set the switch for the P5 panel lights from the off to bright position.
1) Make sure the light override switch-light comes on correctly.
(e) Set the light override switch-light to the off position.
1) Make sure the floodlights and dome lights stay bright.

S 725-017

(2) Do a test of the lights with standby electrical power.

(a) Open the applicable circuit breakers on the overhead circuit breaker panel, P11:

1) For the captain's instrument & panel lights (WDM 33-11-13) (SSM 33-13-01)

2) For the floodlight standby lighting control (WDM 33-11-11) (SSM 33-11-01)

3) For the glareshield floodlights (WDM 33-11-13) (SSM 33-11-01)

4) For the map lights (WDM 33-11-16) (SSM 33-14-01)

(b) Open the applicable circuit breaker on the forward miscellaneous electronic equipment panel, P33:

1) For the dome lights in the flight compartment (WDM 33-11-14) (SSM 33-11-02)

2) Make sure the floodlights become dim for the pilot's instrument panels and the aisle stand.

3) Make sure the other floodlights and the dome lights go off.

(c) At the glareshield, P7, slowly set the switches for the instrument panel floodlights from the off to bright position.

1) Make sure each floodlight for the pilot's instrument panels stays dim.

(d) At the P5 panel, set the light override switch-light to the on position.

1) Make sure the floodlights stay dim.

(e) Set the light override switch-light to the off position.

(f) Close each circuit breaker that was opened.

(g) Set each switch for the floodlights and dome lights to the usual position.

S 865-019

(3) Remove electrical power (AMM 24-22-00/201) if it is not necessary.

FLOODLIGHT DIMMER CONTROL UNITS - REMOVAL/INSTALLATION

1. General
   A. This procedure also refers to a floodlight dimmer control unit as a dimmer control unit.

TASK 33-11-03-004-001

2. Dimmer Control Unit - Removal (Fig. 401)
   A. References
      (1) SSM 33-11-01
      (2) WDM 33-11-11 thru 33-11-13
   B. Access
      (1) Location Zone
          211/212 Flight Compartment

   C. Procedure

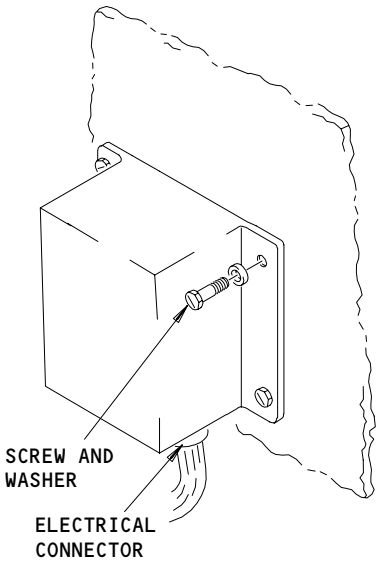
      S 014-018
      (1) Get access to the dimmer control unit.
          (a) Remove electrical power from the dimmer control unit.
              1) Open each applicable circuit breaker for the dimmer control unit and attach the DO-NOT-CLOSE tag:
                 a) On the overhead circuit breaker panel, P11.

          WARNING: REMOVE ELECTRICAL POWER FROM THE CAPTAIN'S AND FIRST OFFICER'S SEATS. YOU CAN ACCIDENTALLY CAUSE A SEAT TO MOVE AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

          (b) Open these circuit breakers and attach DO-NOT-CLOSE tags:
              1) On the main power distribution panel, P6:
                 a) 6J15 or 6H15, CAPT SEAT
                 b) 6J21, F/O SEAT
          (c) To get access to a dimmer control unit for a captain's, center, or glareshield panel floodlight (P1, P3, P7):
              1) Push the inboard rudder pedal forward.

                 NOTE: If necessary, turn the adjustment for the rudder pedals to the fully forward position.

              2) Remove the access panel that of the left side of the aisle stand.



DIMMER CONTROL UNIT
(EXAMPLE)

NOTE: FOR THE LOCATION OF THE DIMMER
CONTROL UNIT, REFER TO FIM 33-11-00/101

Dimmer Control Unit Installation
Figure 401

(d) To get access to a dimmer control unit for a first officer's panel floodlight (P3):
1) Push the inboard rudder pedal forward.

NOTE: If necessary, turn the adjustment for the rudder pedals to the fully forward position.

2) Remove the access panel that is forward of the right side of the aisle stand.

S 024-019
(2) Remove the dimmer control unit.
(a) Disconnect the electrical connector.
(b) Remove the screws and washers.

TASK 33-11-03-404-008
3. Dimmer Control Unit - Installation (Fig. 401)
A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-11-01
(3) WDM 33-11-11 thru 33-11-13
B. Access
(1) Location Zone
211/212 Flight Compartment

C. Procedure

S 424-009
(1) Install the new dimmer control unit.
(a) Install the dimmer control unit with the screws and washers.
(b) Connect the electrical connector.

S 714-020
(2) Do a test of the new dimmer control unit.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tags and close each circuit breaker for the dimmer control unit:
1) On the overhead circuit breaker panel, P11.
(c) Set the switch for the floodlights connected to the new dimmer control unit from the off to the bright position.
1) Make sure the applicable floodlights come on correctly.

(d) Set the switch to the usual position.

S 414-015

(3) Install the panel that was removed for access to the dimmer control unit.
   (a) Remove the DO-NOT-CLOSE tags and close the circuit breakers for the electrically operated seats:
      1) On the main power distribution panel, P6:
   (b) Remove electrical power if it is not necessary (AMM 24-22-00/201).

INTEGRAL PANEL LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. The integral panel lights provide lighting of the instrument lights, pushbutton switch-lights, and lightplates in the flight compartment. Separate rotary controls at each crew station and overhead panel provide inputs to dimmer control units which provide 0-5v ac to the lights. Selected instruments on the captain's P1, overhead P5, and glareshield P55 have a standby lighting power source.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-13-01 thru 33-13-99
      (2) WDM 33-13-11 thru 33-13-99
2. Operation
   A. Functional Description
      (1) Integral Panel Lights
         (a) Instrument lights are for indicator illumination. Some instrument lights can be relamped with the instrument installed. All others must be removed and relamped in shop.
         (b) Pushbutton switch-light lighting can occur three different ways depending on the switch-light circuit. The three ways lighting occurs in the switch-light are: as an annunciator, a system actuation indicator, or a combination of both. The annunciator half of switch-lights are powered by Master Dim and Test, while the actuation indicator half of a switch-light is powered by the associated system.
         (c) Lightplates provide lighting to illuminate any writing on the lightplate. There are two types of lightplates - module and control stand.
            1) Module lightplate lamps are soldered to a printed circuit board which is imbedded in a plastic light panel. The lightplates are painted on the front except for the panel markings. An electrical connector soldered to the printed circuit board mates with the front panel of the module.
            2) Control stand lightplate lamps are soldered to a printed circuit board which is embedded in a plastic light panel. Wires are soldered directly to the printed circuit board and are routed through tubes in the control stand to a terminal board.

(d) There is a dimmer control unit for each group of panel lights. Each dimmer control unit operates with 115 volts ac. If there is an electrical power failure of both the left and right 115 volt ac buses, the standby lightplates and instrument lights come on dimly for emergency operation. Relays de-energize to connect specific dimmer control units to the standby bus. At the same time, all the instrument lights and lightplates, except for the standby instruments, are disconnected from the dimmer control units. You cannot use the switches to change the intensity of the lights in this mode.

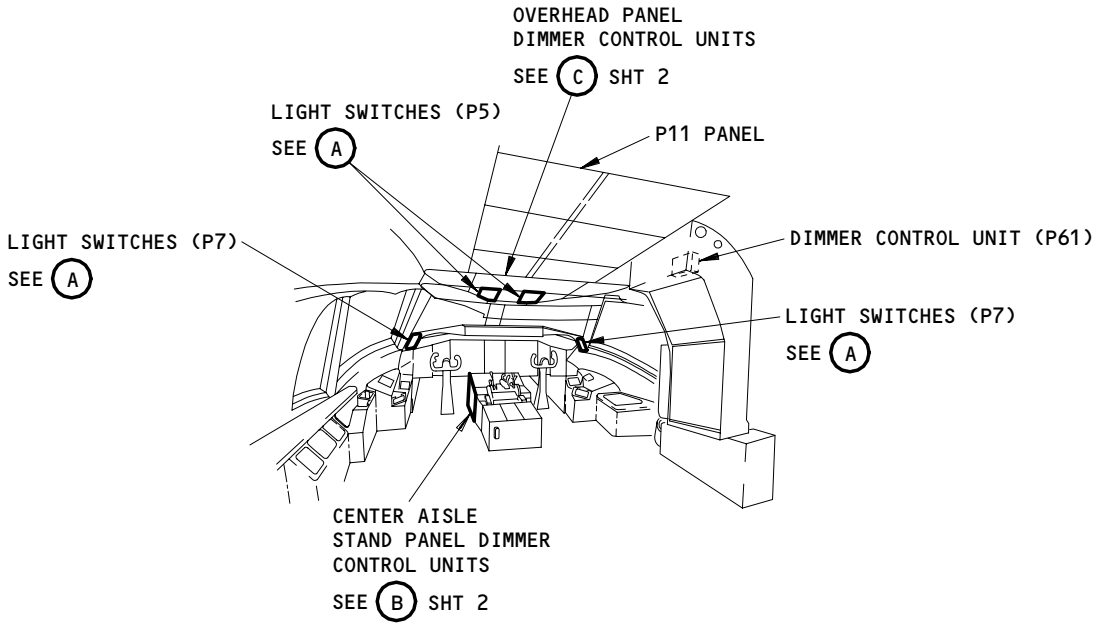
(e) The 115v ac is reduced to 0-5v ac for use by the various lights installed within the instruments, switch/lights, and lightplates. Rotary controls labeled PANEL at each crew station provide a variable voltage to 1 or more dimmer control units. The dimmer control units reduce the input voltage in proportion to rotary control position. When the control is positioned to OFF, dimmer control units provide a zero output. Initial movement from the OFF position causes the dimmer control units to provide a 1v ac step output. Continued rotation of the control causes dimmer control units output to vary from 1v ac to 5v ac. A replaceable fuse on each dimmer control unit provides current protection for the 115v ac input circuit.

INTEGRAL PANEL LIGHTS

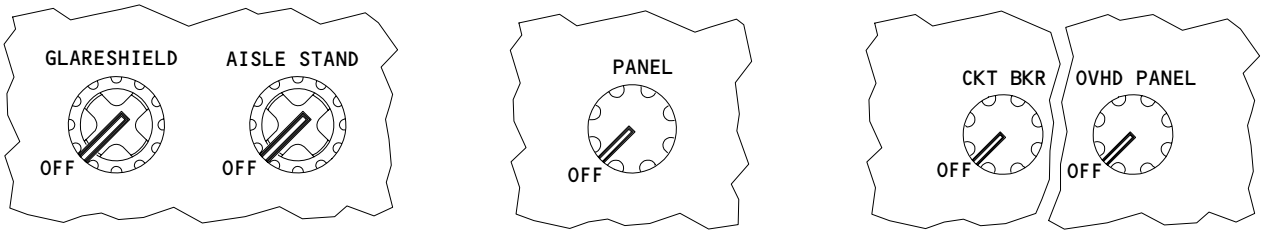
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	--		FLT COMPT, P11	
DIMMER CONTROL UNIT –	1		FLT COMPT	33-13-02
LIGHT –				
CIRCUIT BREAKER PANEL			FLT COMPT	*
INSTRUMENT AND PANEL			FLT COMPT	*
RELAY –			FLT COMPT	*
SWITCH –				
LIGHT	2		FLT COMPT, P5 AND P7	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Integral Panel Lights – Component Index
Figure 101

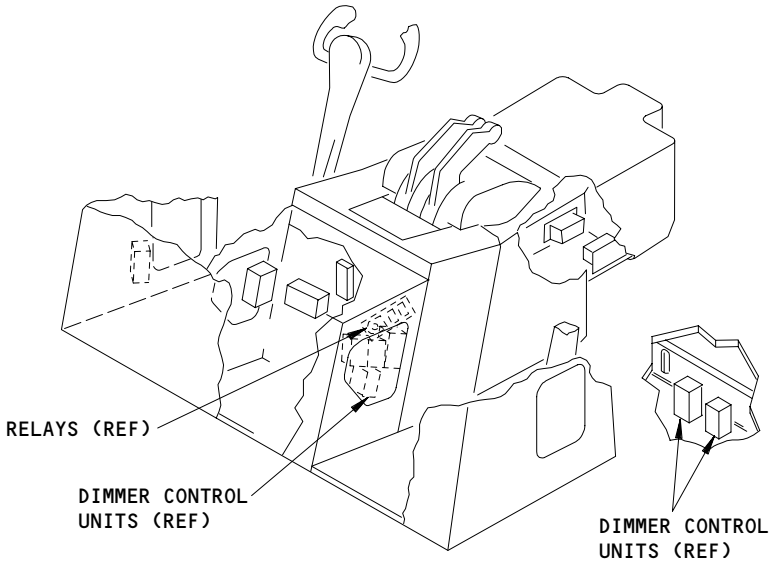


FLIGHT COMPARTMENT



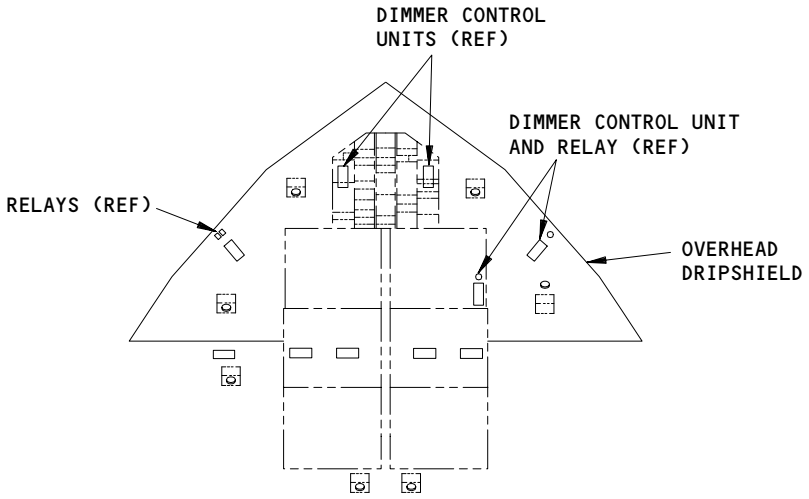
LIGHT SWITCHES
(EXAMPLE)
A

Integral Panel Lights - Component Location
Figure 102 (Sheet 1)



CENTER AISLE STAND
PANEL DIMMER CONTROL UNITS

B



OVERHEAD PANEL DIMMER CONTROL UNITS

C

Integral Panel Lights - Component Location (Details from Sht 1)
Figure 102 (Sheet 2)

PUSHBUTTON SWITCH-LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks:
      (1) Prepare to Do the Maintenance
      (2) Repair the Lens Cap Assembly (-2000 Switch-Lights)
      (3) Replace the Lamps (-2000 and -3000 Switch-Lights)
      (4) Replace the LED Cap/Base Module (-3000 Switch-Lights)

          NOTE: LED lens should be replaced if the lamp fails.

      (5) Remove/Install the Diode/Fuse Card (-2000 and -3000 Switch-Lights)
      (6) Remove/Install the Switch-Light (-2000 and -3000 Switch-Lights)
      (7) Replace the Lamps (-1000 and -4000 Switch-Lights)
      (8) Remove/Install the Diode/Fuse Card (-1000 and -4000 Switch-Lights)
      (9) Remove/Install the Master Module (-1000 and -4000 Switch-Lights)
      (10) Remove/Install the Lens Cap (-1000 and -4000 Switch-Lights)
      (11) Remove/Install the Switch-Light (-1000 and -4000 Switch-Lights)
      (12) Do the Test of the Switch-Lights
   B. When the PANEL control is turned clockwise, some lamps in each switch-light come on when the switch-light is on (pushed in). To do the test of the remaining lamp(s), do a test of the related system.
   C. The labels (such as ON, AUTO, etc.) come on only when the PANEL control is turned clockwise and the switch-lights are on.
   D. You will find the diode/fuse cards in the switch-lights.

TASK 33-13-00-842-001

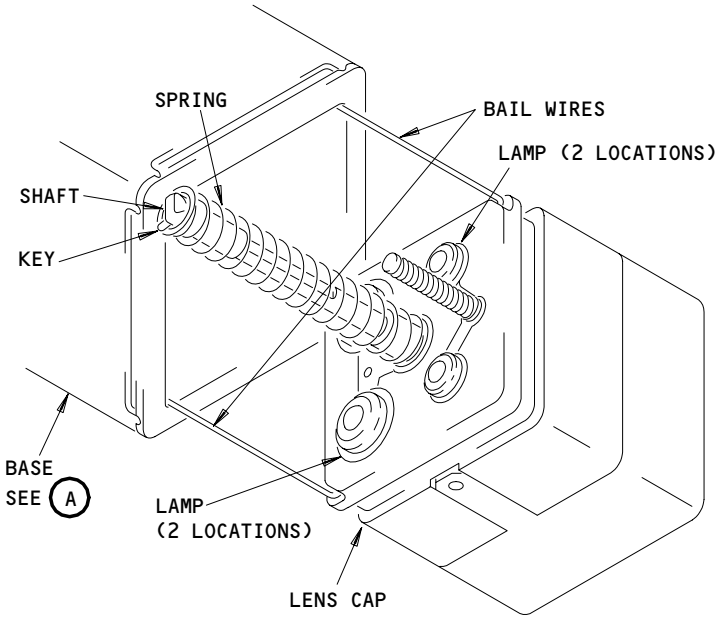
2. Prepare to Do the Maintenance
   A. Access
      (1) Location Zones
          211/212 Flight compartment
   B. Procedure

      S 862-002
      (1) Turn the applicable control to OFF.

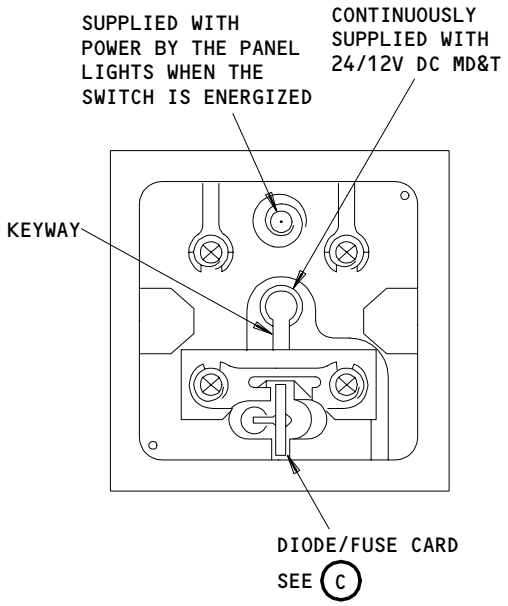
      S 862-003

      CAUTION: OPEN THE APPLICABLE CIRCUIT BREAKER(S). DAMAGE TO THE EQUIPMENT CAN OCCUR IF YOU REPLACE THE LENS CAP WHEN THE CIRCUIT BREAKER(S) IS CLOSED.

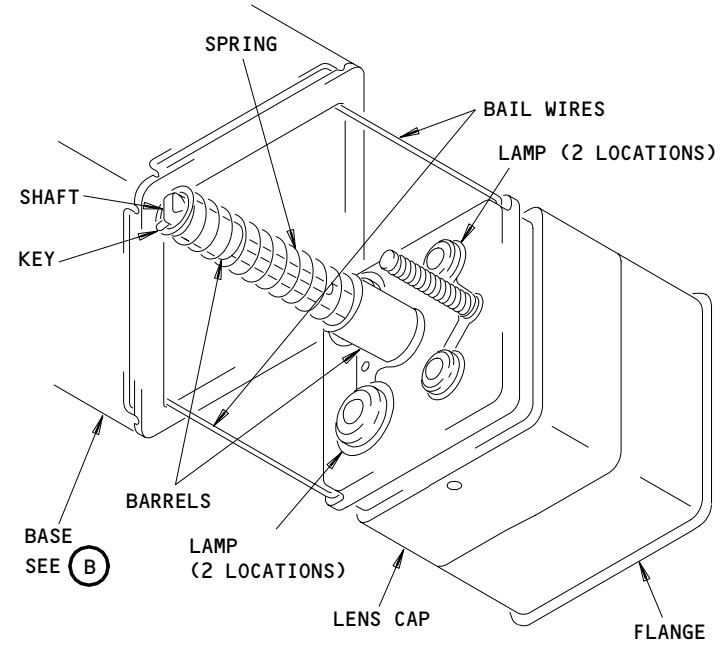
      (2) Open the circuit breaker(s) that controls the power to the annunciator-half of the switch-light(s) and attach the DO-NOT-CLOSE tag(s). Refer to the Schematic Manual, 33-16-00, circuit breaker data.



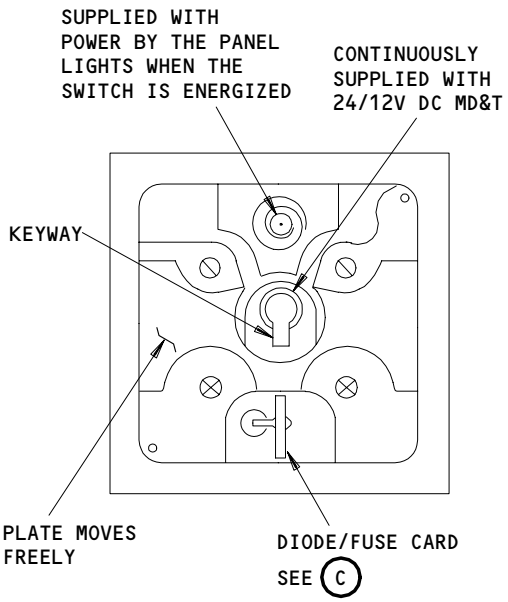
-2000 SWITCH-LIGHT
(ALTERNATE ACTION)



BASE
(FRONT VIEW)
A



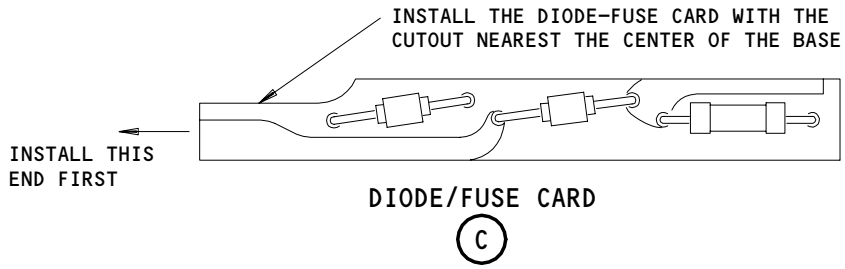
-3000 SWITCH-LIGHT
(ALTERNATE ACTION)



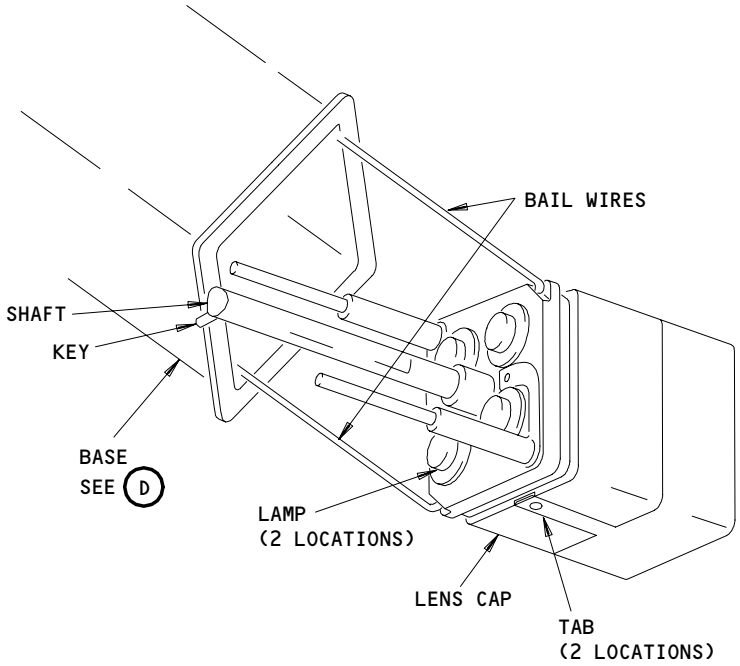
BASE
(FRONT VIEW)
B

Switch-Light Maintenance Practices
Figure 201 (Sheet 1)

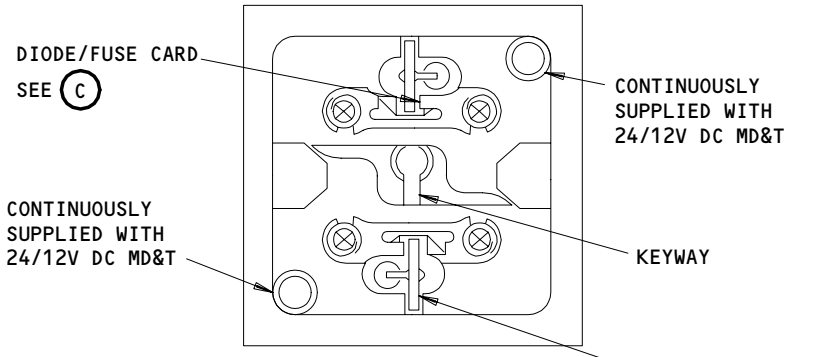
74970



DIODE/FUSE CARD
C



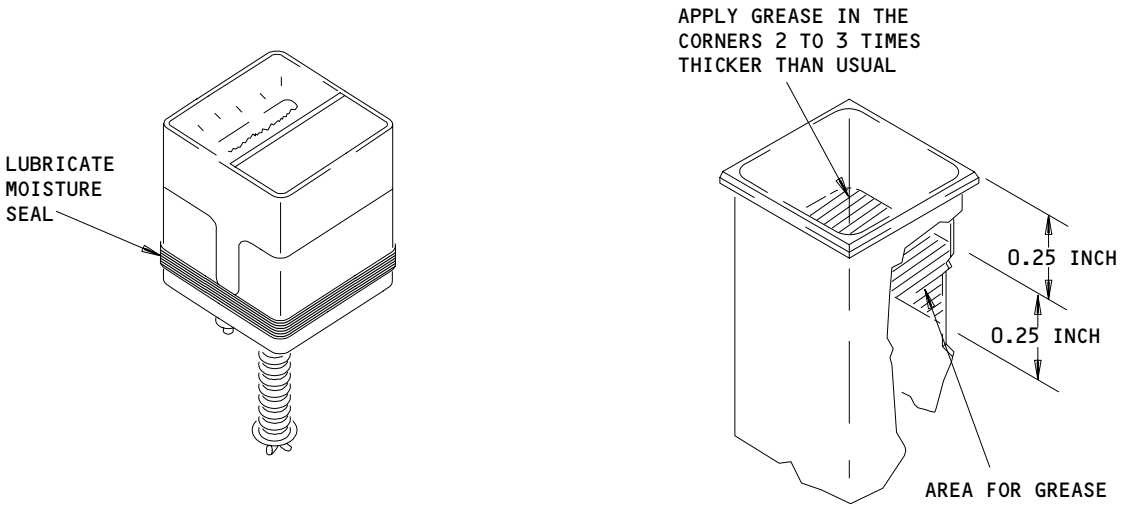
SWITCH-LIGHT
(MOMENTARY)



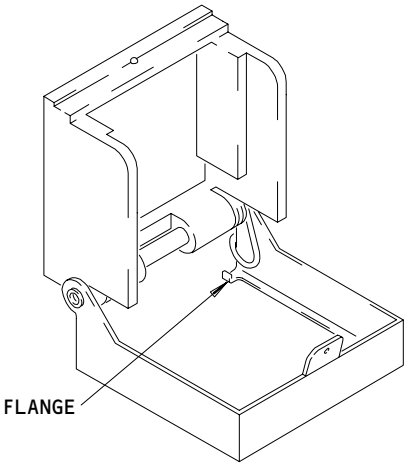
BASE
(FRONT VIEW)
D

Switch-Light Maintenance Practices
Figure 201 (Sheet 2)

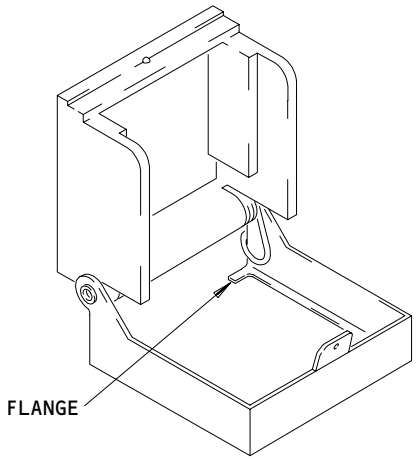
120411



-2000 SWITCH-LIGHT SEAL



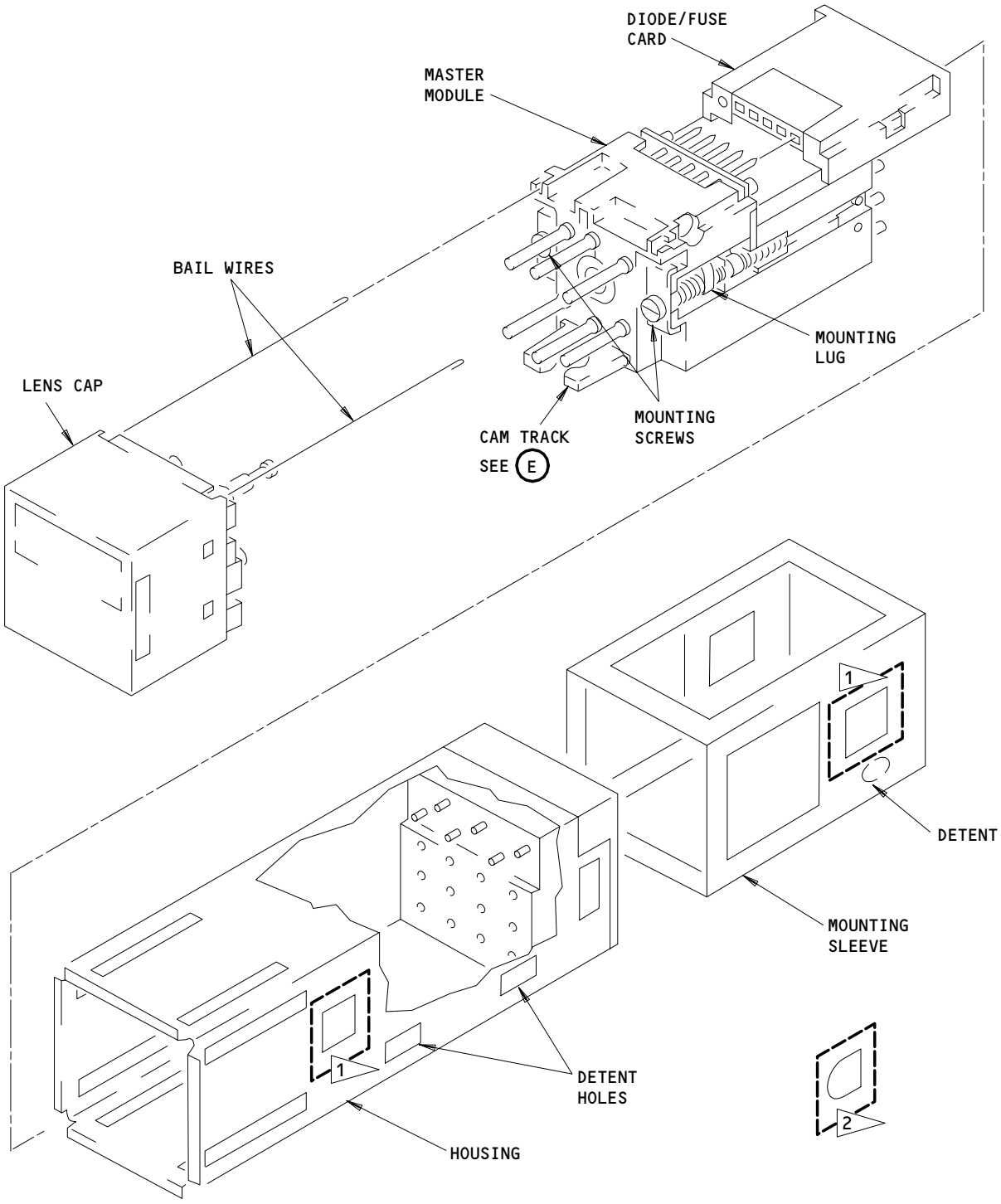
-2000 SWITCH GUARD



-3000 SWITCH GUARD

Switch-Light Maintenance Practices
Figure 201 (Sheet 3)

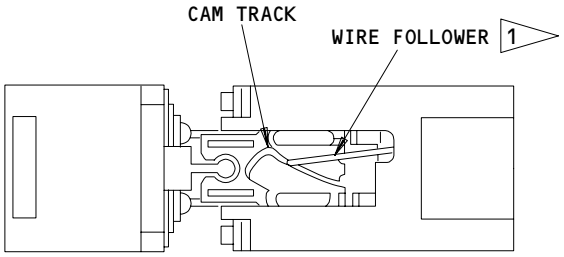
234844



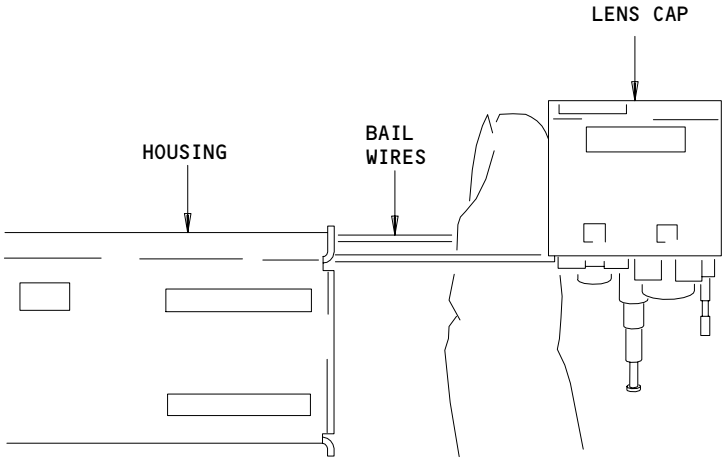
1 -1000 SWITCH-LIGHTS
2 -4000 SWITCH-LIGHTS

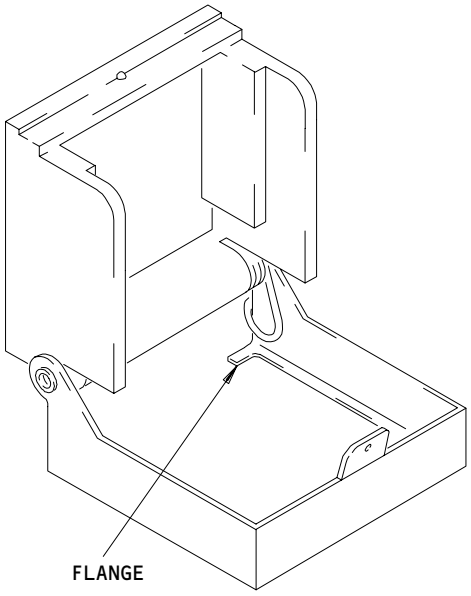
Switch-Light Maintenance Practices
Figure 201 (Sheet 4)

170833



E

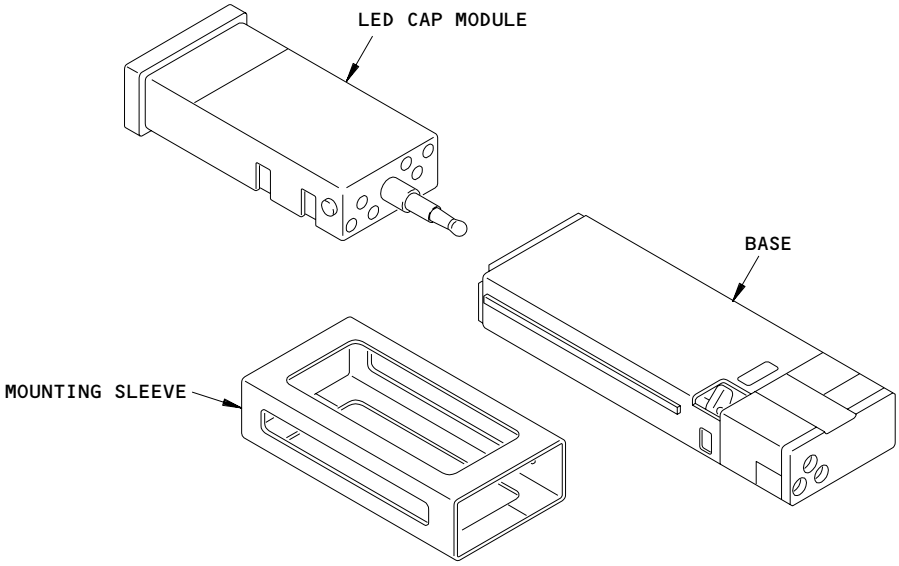




SWITCH GUARD

1 -1000 SWITCH-LIGHTS

Switch-Light Maintenance Practices
Figure 201 (Sheet 5)



LED VERSION OVERVIEW

Switch-Light Maintenance Practices
Figure 201 (Sheet 6)

S 862-004

CAUTION: OPEN THE APPLICABLE CIRCUIT BREAKER(S). IF THE CIRCUIT BREAKER(S) IS CLOSED, DAMAGE TO EQUIPMENT CAN OCCUR BY THE ACCIDENTAL OPERATION OF A SYSTEM.

(3) Open the circuit breaker(s) that controls the power to the system(s) connected to the switch-light(s) and attach the DO-NOT-CLOSE tag(s).

TASK 33-13-00-342-005

3. Repair the Lens Cap Assembly (-2000 Switch-Lights, Fig. 201)
   A. Consumable Materials
      (1) B00130 Solvent - Spec, TT-I-735, Isopropyl Alcohol
      (2) A00272 Adhesive - Loctite 416
   B. Access
      (1) Location Zones
          211/212 Flight compartment
   C. Procedure

S 342-006

(1) Do these steps to repair the lens cap assembly:
   (a) Remove the two tabs from the lens cap.
   (b) Clean the inner edge of the lens cap and the mating lens with the solvent, isopropyl alcohol.
   (c) Assemble the lens and the lens cap.
   (d) Loosen the lens from the lens cap to permit a 0.05 inch space between the two.
   (e) Fill all four sides with the adhesive, Locatite No. 416.
   (f) Hold the lens and lens cap together while you apply pressure to the two with your fingers.
   (g) Remove the unwanted adhesive.
   (h) Keep the pressure on the lens cap for 15 seconds.

S 342-007

(2) Permit the adhesive to cure for 15 minutes before you use the switch-lights.

S 342-008

(3) Permit the adhesive to cure for 12 hours before you replace the lamps in the switch-light.

TASK 33-13-00-962-010

4. Replace the Lamps (-2000 and -3000 Switch-Lights, Fig. 201)
   A. General
      (1) Each switch-light uses two or four lamps. The four lamps, or the two lamps plus the two plugs, must be installed in the lens cap at all times. Get access to the lens cap from the front side of the panels; replace the lamps behind the lens cap. Make sure the switch-light is off (not pushed in) before you do this procedure.

B. Consumable Materials
(1) D00385 Grease - Molykote No. 33
C. Access
(1) Location Zones
211/212 Flight compartment
D. Procedure

S 842-016
(1) Do the task: Prepare to Do the Maintenance.

S 962-017

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

(2) Do these steps to replace the lamps:
(a) ON THE -2000 SWITCH-LIGHTS;
with the switch-light off, carefully push it until the shutters open to the width of the flow bar or the label, but no more. Then release the switch-light. (The shutters return to the closed position. The switch-light does not operate its related system; you do not hear a click).

NOTE: On switch-lights with no shutters (such as the master caution/warning switch-lights), push in the switch-light in, about 1/8-inch, but no more. Then release it. Do not push in on the switch-light too far. If you do, you will operate the related system.

(b) Carefully pull out the lens cap until it extends from the panel.
(c) Turn the lens cap on the bail wires to get access to the lamps.

NOTE: You can turn the lens cap in two possible directions.

(d) Replace the lamps.
(e) ON THE -2000 SWITCH-LIGHTS ON THE AISLE STAND (P8);
apply grease, Molykote No. 33, to the seal and in the housing (Fig. 201).

NOTE: Keep the grease away from the lamp contacts and the circuit boards at the base of the switch-lights.

CAUTION: WHEN YOU INSTALL THE LENS CAP INTO THE BASE, MAKE SURE YOU ALIGN THE KEY AND KEYWAY. IF YOU DO NOT, THE KEYWAY CAN BREAK AND CAUSE THE SWITCH-LIGHT TO OPERATE INCORRECTLY.

(f) Carefully push the lens cap into the base with one movement to prevent the operation of the switch-light. (If, in error, you push the lens cap a second time, you will operate the related system.)

S 712-018

(3) Do the test of the switch-lights.

NOTE: If the two lamps in the annunciator-half of the switch-light do not come on after you replace the lamps, replace the diode/fuse card.

TASK 33-13-00-962-060

5. Replace the LED Cap/Base Module (-3000 LED Switch-Lights, Fig. 201)

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones
211/212 Flight compartment

C. Procedure

S 862-061

(1) Supply electrical power (AMM 24-22-00/201).

S 962-062

(2) Do these steps to replace the LED cap/base module:

WARNING: USE ONLY YOUR HANDS TO REMOVE THE LED CAP MODULE. TOOLS CAN CAUSE DAMAGE TO THE MODULE.

(a) Replace the entire LED cap module.
(b) Carefully remove the lens cap assembly.
1) Hold the sides of the lens cap assembly between your fingers.
2) Use a side-to-side movement to pull the LED cap module out until it releases.
(c) Remove the LED cap module.
(d) Remove the base module.
(e) Install the new base module.
(f) Install a new LED cap module into the base.
(g) Push the LED cap module straight into the base until it locks into position.

S 712-063
(3) Do the test of the switch-lights.

S 862-064
(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-13-00-902-019
6. Remove/Install the Diode/Fuse Card (-2000 and -3000 Switch-Lights, Fig. 201)

A. Consumable Materials
(1) D00385 Grease - Molykote No. 33
(2) Tape - Commercially Available
B. Access
(1) Location Zones
211/212 Flight compartment
C. Procedure

S 842-020
(1) Do the task: Prepare to Do the Maintenance.

S 022-021

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. THE USE OF TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

(2) Do these steps to remove the diode/fuse card:
(a) ON THE -2000 SWITCH-LIGHT ASSEMBLIES;
with the switch-light off, slowly push it until the shutter opens to the width of the flow bar or the label, but no more. Then release the switch-light. (The shutters return to the closed position. The switch-light does not operate; you do not hear a click.)

NOTE: On the switch-lights with no shutters (such as the master caution/warning switch-lights), push in the switch-light, about 1/8-inch, but no more. Then release it. Do not push in the switch-light too far. If you do, you will operate the related system.

(b) Carefully pull the lens cap out until it extends from the panel.
(c) Turn the lens cap on the bail wires to get access to the diode/fuse card.

NOTE: You can turn the lens cap in two possible directions.

(d) Disconnect the lens cap from the bail wires.
(e) ON -2000 SWITCH-LIGHT ASSEMBLIES;
if the face of the switch-light points up, prevent retraction of the bail wires into the base. To do this, put tape on the bail wires.
(f) Remove the diode/fuse card from the base. To do this, use a small pair of needle-nose pliers.

S 422-022
(3) Do these steps to install the diode/fuse card:
(a) Install the new diode/fuse card in the base.

NOTE: Do not use force to install the diode/fuse card.

(b) Connect the lens cap to the bail wires.
(c) ON -2000 AISLE STAND (P8) SWITCH-LIGHTS;
lightly lubricate the outer seal and the inner side of the housing (Fig. 201) with grease, Molykote No. 33. Do not permit the grease to touch the lamp contact or the circuit board on the base.

CAUTION: WHEN YOU INSTALL THE LENS CAP INTO THE BASE, MAKE SURE YOU ALIGN THE KEY AND KEYWAY. IF YOU DO NOT, THE KEYWAY CAN BREAK AND CAUSE THE SWITCH-LIGHT TO OPERATE INCORRECTLY.

(d) Carefully push the lens cap into the base with one movement to prevent the operation of the switch-light. (If you push the lens cap a second time, you will operate the related system.)

S 712-023

(4) Do the test of the switch-lights.

TASK 33-13-00-902-024

7. Remove/Install the Switch-Light (-2000 and-3000 Switch-Lights, Fig. 201)

A. Access

(1) Location Zones

211/212 Flight compartment

B. Procedure

S 842-025

(1) Do the task: Prepare to Do the Maintenance.

S 022-026

(2) Do these steps to remove the switch-light:

(a) Remove/lower the panel to get access to the wires behind the switch-light.

(b) Remove the contacts for the wires from behind the switch-light.

1) Use the correct tool from Table 201 below.

CONTACT WIRE BARREL SIZE	TOOL PART NUMBER
22	M83723/31s20
20	M83723/31s20
16	M83723/31s16
12	M83723/31s12

Insertion/Removal Tools
Table 201

2) Move the wire to the rear of the tool, then move it suddenly into the front part of the tool.

3) With the tool and the wire together, remove the two from the hole at the same time.

4) Identify the wires to aid during the installation of the switch-light.

(c) Remove the two screws on the end of the switch-light.
(d) Remove the switch-light.
1) Move the mounting sleeve.
2) Remove the switch-light from the panel.
3) If it is applicable, keep the switch guard. You will use it when you install the switch-light.

S 422-027
(3) Do these steps to install the switch-light:
(a) If it is applicable, install the switch guard on the switch-light.
(b) Put the switch-light into the panel and move the sleeve around the switch-light.
1) Pull open the end of the flange on the switch-guard and move it around the flange on the housing.

CAUTION: DO NOT TIGHTEN THE SCREWS TOO MUCH. DAMAGE TO THE SCREWS CAN OCCUR.

(c) Install the two screws on the end of the switch-light.

NOTE: A clearance between the rear of the switch-light and the tabs on the sleeve is permitted.

(d) Install the contacts for the wires behind the switch-light.
1) Use the correct tool from Table 201.
2) Move the contact into the end of the tool.
3) Put the contact into the hole and lightly push it into its position.
4) Pull lightly on the wire to make sure the contact is attached.
(e) Put the access panel back.

S 712-028
(4) Do the test of the switch-lights.

TASK 33-13-00-962-029
8. Replace the Lamps (-1000 and -4000 Switch-Lights, Fig. 201)
A. Access
(1) Location Zones
211/212 Flight compartment
B. Procedure

S 712-057
(1) Do the task: Prepare to Do the Maintenance.

S 962-058

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

(2) Do these steps to replace the lamps:
(a) Make sure the lens cap is off (not pushed in) before you replace the lamps.

CAUTION: DO NOT USE TOO MUCH FORCE ON THE BAIL WIRES WHEN THE LENS CAP IS DISENGAGED. DAMAGE TO THE BAIL WIRES OR THE WIRE ATTACHMENT CAN OCCUR.

(b) Carefully pull the lens cap out until it extends from the master module.
(c) Turn the lens cap on the bail wires to get access to the lamps.
(d) Replace the lamps.

CAUTION: DO NOT TWIST OR USE TOO MUCH FORCE ON THE LENS CAP WHEN YOU INSTALL IT. DAMAGE TO THE EQUIPMENT CAN OCCUR.

(e) Turn the lens cap on the bail wire.
(f) Move the lens cap into the master module until it engages.
(g) ON -1000 SWITCH-LIGHT ASSEMBLIES;
if the lens cap will not engage in the master module, do the steps that follow:
1) Remove the lens cap.
2) With an 1/8-inch wooden dowel or equivalent, push and immediately release the actuator in the center of the master module.
3) Install the lens cap.

S 712-031
(3) Do the test of the switch-lights.

TASK 33-13-00-902-032

9. Remove/Install the Diode/Fuse Card (-1000 and -4000 Switch-Lights, Fig. 201)
A. Access
(1) Location Zones
211/212 Flight compartment
B. Procedure

S 842-033
(1) Do the task: Prepare to Do the Maintenance.

S 022-034
(2) Do these steps to remove the diode/fuse card:
(a) Make sure the lens cap is off (not pushed in) before you do this procedure.

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

CAUTION: DO NOT USE TOO MUCH FORCE ON THE BAIL WIRES WHEN THE LENS CAP IS DISENGAGED. DAMAGE TO THE BAIL WIRES OR THE WIRE ATTACHMENT CAN OCCUR.

(b) Carefully pull the lens cap out until it extends from the master module.
(c) Turn the lens cap on the bail wires to get access to the mounting screws.
(d) Turn the mounting screws counterclockwise eight times.
(e) Remove the lens cap.
    1) Turn the lens cap approximately 90°.
    2) Put a finger between the bail wires, then pull the lens cap out while you hold the housing in its position as shown in Fig. 201.
    3) If the bail wires become disconnected from the master module during this procedure, do these steps:
        a) Make sure the mounting lugs are in a recess.
        b) Remove the master module with needle-nose pliers that have insulation.
(f) Pull the diode/fuse card back to disconnect it.
(g) Remove the diode/fuse card.

S 422-035

(3) Do these steps to install the diode/fuse card:
(a) Install the diode/fuse card on the master module. Move the diode/fuse card forward from the rear of the master module until it engages.
(b) ON -1000 SWITCH-LIGHT ASSEMBLIES;
make sure the wire follower is in the cam track as shown in (Fig. 201).
(c) Put the master module (with the lens cap disengaged) into the housing.
(d) Make sure the master module is in its position. To do this, use your finger to push in the master module.
(e) Tighten the two mounting screws equally.
    1) Tighten one then the other mounting screw in 1/4-turn increments. Use a jeweler's screwdriver.
    2) Do not make more than 1-1/4 turns (20 inch-ounce).
    3) Make sure the mounting lugs engage with the mounting sleeve.

CAUTION: DO NOT TWIST OR USE TOO MUCH FORCE ON THE LENS CAP WHEN YOU PUT IT BACK IN THE MASTER MODULE. DAMAGE TO THE MASTER MODULE CAN OCCUR.

(f) Carefully move the lens cap into the master module until it engages.
(g) ON -1000 SWITCH-LIGHT ASSEMBLIES;
if the lens cap does not engage in the master module, do these steps:
1) Remove the lens cap.
2) With an 1/8-inch wooden dowel or equivalent, push and immediately release the actuator in the center of the master module.
3) Install the lens cap.

S 712-036
(4) Do the test of the switch-lights.

TASK 33-13-00-902-037
10. Remove/Install the Master Module (-1000 and -4000 Switch-Lights, Fig. 201)
A. Access
(1) Location Zones
211/212 Flight compartment
B. Procedure

S 842-038
(1) Do the task: Prepare to Do the Maintenance.

S 022-039
(2) Do these steps to remove the master module:
(a) Push and release the lens cap to put it in its extended position.

CAUTION: USE ONLY YOU HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

CAUTION: DO NOT USE TOO MUCH FORCE ON THE BAIL WIRES WHEN THE LENS CAP IS DISENGAGED. DAMAGE TO THE BAIL WIRES OR THE WIRE ATTACHMENT CAN OCCUR.

(b) Carefully pull the lens cap out until it extends from the master module.
(c) Turn the lens cap on the bail wires to get access to the mounting screws.
(d) Turn the mounting screws counterclockwise eight times.
(e) Remove the master module.
1) Turn the lens cap approximately 90°.

2) Put a finger between the bail wires, then pull the lens cap out while you hold the housing in its position as shown in Fig. 201.
3) If the bail wires become disconnected from the master module during this procedure, do these steps:
a) Make sure the mounting lugs are in a recess.
b) Remove the master module with needle-nose pliers that have insulation.

S 422-040

(3) Do these steps to install the master module:
(a) ON -1000 SWITCH/LIGHT ASSEMBLIES;
make sure the wire follower is in the cam track (Fig. 201).
(b) Put the master module (with the lens cap disengaged) into the housing.
(c) Make sure the master module is in its position. To do this, use your finger to push in the master module.
(d) Tighten the two mounting screws equally.
1) Tighten one then the other mounting screw in 1/4-turn increments. Use a jeweler's screwdriver.
2) Do not make more than 1-1/4 turns (20 inch-ounce).
3) Make sure the mounting lugs engage with the mounting sleeve.

CAUTION: DO NOT TWIST OR USE TOO MUCH FORCE ON THE LENS CAP WHEN YOU PUT IT BACK IN THE MASTER MODULE. DAMAGE TO THE MASTER MODULE CAN OCCUR.

(e) Carefully move the lens cap into the master module until it engages.
(f) ON -1000 SWITCH/LIGHT ASSEMBLIES;
if the lens cap does not engage in the master module, do these steps:
1) Remove the lens cap.
2) With an 1/8-inch wooden dowel or equivalent, push and immediately release the actuator in the center of the master module.
3) Install the lens cap.

S 712-041

(4) Do the test of the switch-lights.

TASK 33-13-00-902-042

11. Remove/Install the Lens Cap (-1000 and -4000 Switch-Lights, Fig. 201)
A. Access
(1) Location Zones
211/212 Flight compartment

B. Procedure

S 022-043

(1) Do these steps to remove the lens cap:

(a) Do the steps to remove the master module in Remove/Install the Master Module.

(b) With the switch-light off (not pushed in), lift the lens cap until the bail wires turn away from the master module.

1) When the bail wires turn approximately 45 degrees, the bail wires and the master module will disconnect.

S 422-044

(2) Do these steps to install the lens cap:

(a) Put the bail wires on the slots on the side of the master module.

(b) Carefully push in the bail wires.

NOTE: Do not bend the bail wires.

(c) Do the steps to install the master module in Remove/Install the Master Module.

TASK 33-13-00-902-045

12. Remove/Install the Switch-Light (-1000 and -4000 Switch-Lights, Fig. 201)

A. Access

(1) Location Zones

211/212 Flight compartment

B. Procedure

S 842-046

(1) Do the task: Prepare to Do the Maintenance.

S 022-047

(2) Do these steps to remove the switch-light:

(a) Remove/lower the panel to get access to the wires behind the switch-light.

(b) Remove the contacts for the wires from behind the switch-light.

1) Use the correct tool from Table 201.

2) Move the wire into the rear of the tool, then move it suddenly into the front part of the tool.

3) With the tool and the wire together, remove the two from the hole at the same time.

a) Identify the wires to aid during the installation of the switch-light.

(c) Make sure the switch-light is off (not pushed in) before you do this procedure.

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

CAUTION: DO NOT USE TOO MUCH FORCE ON THE BAIL WIRES WHEN THE LENS CAP IS DISENGAGED. DAMAGE TO THE BAIL WIRES OR THE WIRE ATTACHMENT CAN OCCUR.

(d) Carefully pull the lens cap out until it extends from the master module.
(e) Turn the lens cap on the bail wires to get access to the mounting screws.
(f) Turn the mounting screws counterclockwise eight times.
(g) Remove the mounting sleeve from behind the panel.
(h) Remove the housing from the front side of the panel.

S 422-048

(3) Do these steps to install the switch-light:
(a) If it is applicable, install the switch guard on the switch-light.
1) Pull open the end of the flange on the switch guard and move it around the flange on the housing (Ref Fig. 201).
(b) Remove the mounting sleeve from the housing.
(c) Make sure the switch-light is off (not pushed in).
1) If it is necessary, push and release the switch-light.

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

CAUTION: DO NOT USE TOO MUCH FORCE ON THE BAIL WIRES WHEN THE LENS CAP IS DISENGAGED. DAMAGE TO THE BAIL WIRES OR THE WIRE ATTACHMENT CAN OCCUR.

(d) Carefully pull the lens cap from the master module.
(e) Put the master module with its housing into the front side of the panel.
(f) Remove/lower the panel to get access to the wires.
(g) Install the mounting sleeve behind the panel on the housing.
(h) Make sure the master module is in its position. To do this, use your finger to push in the master module.
(i) Tighten the two mounting screws equally.
1) Tighten one then the other mounting screw in 1/4-turn increments. Use a jeweler's screwdriver.
2) Do not make more than 1-1/4 turns.
3) Make sure the mounting lugs engage with the mounting sleeve.

CAUTION: DO NOT TWIST OR USE TOO MUCH FORCE ON THE LENS CAP WHEN YOU PUT IT BACK IN THE MASTER MODULE. DAMAGE TO THE MASTER MODULE CAN OCCUR.

(j) Carefully move the lens cap into the master module until it engages.
(k) ON -1000 SWITCH/LIGHT ASSEMBLIES;
if the lens cap does not engage in the master module, do these steps:
1) Remove the lens cap.
2) With an 1/8-inch wooden dowel or equivalent, push and immediately release the actuator in the center of the master module.
3) Install the lens cap.
(l) Install the contacts for the wires from behind the switch-lights.
1) Use the correct tool from Table 201.
2) Move the contact into the end of the tool.
3) Put the contact into the hole and lightly push it into its position.
4) Pull lightly on the wire to make sure the contact is in its position.
(m) Install/close the access panel.

S 712-049
(4) Do the test of the switch-lights.

TASK 33-13-00-712-050
13. Do the Test of the Switch-Lights
A. Reference
(1) 24-22-00/201, Electrical Power - Control
B. Access
(1) Location Zones
211/212 Flight compartment
C. Procedure

S 862-051
(1) Supply electrical power (Ref 24-22-00).

S 862-052
(2) Remove the DO-NOT-CLOSE tag(s), and close the circuit breaker(s) that controls the power to the annunciator-half of the switch-light(s). Refer to the task: Prepare to Do the Maintenance.

S 862-053
(3) Remove the DO-NOT-CLOSE tag(s) and close the circuit breaker(s) that controls the power to the system(s) connected to the switch-light(s). Refer to the task: Prepare to Do the Maintenance.

S 712-054

(4) Do these steps to do the test of the switch-lights:

(a) At the right lighting control panel, P5, set the test switch to the on position.

NOTE: On some airplanes, you push and hold the test switch to make the switch-lights come on. On other airplanes, you push and release the test switch.

1) Make sure the annunciator part of each switch-light comes on.

(b) Set the switch to the off position.

NOTE: On some airplanes, you release the test switch to make the switch-lights go off. On other airplanes, you push the test switch again and then release it.

(c) Do a check of the signal into the switch-light(s) from its related system; do a system test.

S 862-056

(5) Remove electrical power if it is not necessary (Ref 24-22-00).

INTEGRAL PANEL LIGHTS - ADJUSTMENT/TEST

TASK 33-13-00-725-002

1. Integral Panel Lights - Functional Test

A. General

(1) Integral panel lights are referred to as panel lights in this procedure. These lights include the lightplates and instrument lights.

(2) This task contains a test of the panel lights on these panels:

(a) Captain's instrument panels, P1-1 and P1-3

(b) First officer's instrument panels, P3-1 and P3-3

(c) Glareshield panels, P7 and P55

(d) Overhead panel, P5

(e) Aisle stand panels, P8, P9, and P10

(f) Overhead circuit breaker panel, P11

(g) Right side panel, P61

B. References

(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-13-01

(3) WDM 33-13-11 thru 33-13-99

C. Access

(1) Location Zone

211 Left Flight Compartment

212 Right Flight Compartment

D. Procedure

S 865-003

(1) Supply electrical power (AMM 24-22-00/201).

S 715-006

(2) Do a test of the captain's panel lights.

(a) At the glareshield, P7, slowly set the switch for the captain's panel lights from the off to bright position.

1) Make sure the panel lights come on correctly at these locations:

a) Captain's instrument panels P1-1 and P1-3.

b) First officers instrument panel P3-1.
c) Captain's auxiliary instrument panels, P13 and P15
d) Gear lever lightplate, flaps position indicator, and thrust mode select panel on P3-1

(b) Open the captains instruments and panel lights circuit breaker:
1) On the overhead circuit breaker panel, P11.
2) Make sure each captain's panel light, connected to the standby electrical power, stays on dimly (SSM 33-13-01 or WDM 33-13-11 thru 33-13-12).
3) Make sure the other captain's panel lights go off.
(c) Close each circuit breaker that was opened.
(d) Slowly set the switch to the off position.
1) Make sure the captain's panel lights are off.
(e) Set the switch to the usual position.

S 715-007
(3) Do a test of the first officer's panel lights.
(a) At the glareshield, P7, slowly set the switch for the first officer's panel lights from the off to bright position.
1) Make sure the panel lights come on correctly at these locations:
a) First officer's instrument panels, P3-1 and P3-3 .

NOTE: Make sure the flaps position indicator, the thrust mode select panel lights, and the gear lever lightplate do not come on.

b) First officer's auxiliary instrument panels, P14 and P16
(b) Set the switch to the usual position.

S 715-016
(4) Do a test of the glareshield panel lights.
(a) At the overhead panel, P5, slowly set the switch for the glareshield panel lights from the off to bright position.
1) At the glareshield, P7 and P55, make sure the panel lights come on correctly.

(b) Open the glare shield instruments and panel lights circuit breaker:
1) On the overhead circuit breaker panel, P11.

NOTE: On some airplanes, you must also open each applicable circuit breaker for the captain's panel lights.

2) Make sure each glareshield panel light, connected to the standby electrical power, stays on brightly (SSM 33-13-01 or WDM 33-13-17).
3) Move the panel lights switch slightly towards the off and then the bright position.
a) Make sure the brightness of the panel lights varies slightly as the switch is moved.
4) Make sure the other glareshield panel lights go off.
(c) Close each circuit breaker that was opened.
(d) Slowly set the switch to the off position.
1) Make sure the glareshield panel lights are off.
(e) Set the switch to the usual position.

S 715-015
(5) Do a test of the panel lights on the overhead panel.
(a) At the overhead panel, P5, slowly set the pilots overhead panel control from the off to the bright position.
(b) At the overhead panel, P5, set the indicator lights dim/bright switch to the bright position.
1) At the overhead panel, P5, make sure the panel lights come on correctly.
(c) At the P11 panel, open circuit breakers for the captains instruments and panel lights, and the overhead instruments and panel lights.
(d) At the overhead panel, P5, set the indicator lights, dim/bright switch to the dim position.
1) On the overhead circuit breaker panel, P5, make sure that each overhead panel light, connected to the standby electrical power, stays on dimly (SSM 33-13-01 or WDM 33-13-16).
2) Make sure the other overhead panel lights go off.
(e) Close each circuit breaker that was opened.
(f) Slowly set the control from the bright to the off position.
1) Make sure the correct overhead panel lights go from bright to off.

(g) Set the switch to the usual position.

S 715-008

(6) Do a test of the panel lights on the aisle stand.
  (a) At the overhead panel, P5, slowly set the switch for the panel lights on the aisle stand from the off to bright position.
    1) At the aisle stand, P8, P9, and P10, make sure the panel lights come on correctly.
    2) AIRPLANES WITH AN AUDIO SELECTION PANEL FOR AN OBSERVER; At the first or second observer's panel, P17 or P63, make sure the audio selection lightplate comes on correctly.
  (b) AIRPLANES WITH AISLE STAND LIGHTS CONNECTED TO STANDBY POWER; Open the aisle stand instruments and panel lights and captains instrument and panel lights circuit breakers:
    1) On the overhead circuit breaker panel, P11.
    2) Make sure the lights not connected to standby power on the P8 aisle stand go off (WDM 33-13-18).
  (c) Slowly set the switch to the off position.
    1) Make sure the lights on the P8 aisle stand connected to standby electrical power go dim (WDM 33-13-18).
  (d) Close each circuit breaker that was opened.
  (e) Set the switch to the usual position.

S 715-009

(7) Do a test of the panel lights on the overhead circuit breaker panel.
  (a) At the overhead panel, P5, slowly set the switch for the panel lights from the off to bright position.
    1) At the overhead circuit breaker panel, P11, make sure the panel lights come on correctly.
  (b) Set the switch to the usual position.

S 735-010

(8) AIRPLANES WITH PANEL LIGHTS ON THE RIGHT SIDE PANEL; Do a test of the panel lights on the right side panel.
  (a) At the right side panel, P61, slowly set the switch for the right side panel lights from the off to bright position.
    1) Make sure the right side panel lights come on correctly.
  (b) Set the switch to the usual position.

S 865-015

(9) Remove electrical power if it is not necessary (AMM 24-22-00/201).

LIGHTPLATES - REMOVAL/INSTALLATION

1. General
   A. This procedure contains these tasks:
      (1) Lightplate in a Module - Removal
      (2) Lightplate in a Module - Installation
      (3) Lightplate in the Aisle Stand - Removal
      (4) Lightplate in the Aisle Stand - Installation
   B. Lightplates give lighting to the components and words on the pilot's panels.
   C. When the lighting becomes too dim, you must replace the lightplate lamp.

      NOTE: Onboard repair of lightplates is not recommended. Replacement of the complete assembly is the preferred maintenance practice. Instructions for lamp replacement can be found in the Standard Overhaul Practices Manual (SOPM), Chapter 20-11-05 or the vendor's manual.

TASK 33-13-01-004-001

2. Lightplate in a Module - Removal
   A. References
      (1) SSM 33-13-01 thru 33-13-99
      (2) WDM 33-13-11 thru 33-13-17
      (3) WDM 33-13-19 thru 33-13-99
   B. Access
      (1) Location Zones
          211/212 Flight compartment
   C. Procedure

      S 024-002
      (1) Remove the lightplate.
          (a) Remove electrical power from the lightplate:
              1) Open each applicable circuit breaker for the lightplate and attach a DO-NOT-CLOSE tag:
                 a) On the overhead circuit breaker panel, P11.
          (b) Carefully remove the lightplate.
              1) Remove the knobs, if it is necessary.
              2) Remove the mounting screws that hold the lightplate in position.
              3) Lift the lightplate from the module.

TASK 33-13-01-404-023

3. Lightplate in a Module - Installation

A. References

(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-13-01 thru 33-13-99
(3) WDM 33-13-11 thru 33-13-17
(4) WDM 33-13-19 thru 33-13-99

B. Access

(1) Location Zones
211/212 Flight compartment

C. Procedure

S 424-021

(1) Install the lightplate.
(a) Attach the lightplate to the module with the correct screws.
(b) Attach the knobs, if it is necessary.

S 714-020

(2) Do a test of the lightplate.
(a) Supply electrical power (AMM 24-22-00).
(b) Remove each DO-NOT-CLOSE tag.
1) Close each circuit breaker that was opened when the lightplate was removed.
(c) Set the switch for the lightplate to the bright position.
1) Make sure the lightplate comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-13-01-004-019

4. Lightplate in the Aisle Stand - Removal

A. References

(1) SSM 33-13-01
(2) WDM 33-13-18

B. Access

(1) Location Zones
211/212 Flight compartment

C. Procedure

S 024-022

(1) Remove the lightplate.

WARNING: REMOVE ELECTRICAL POWER FROM THE FLIGHT COMPARTMENT SEAT. ACCIDENTAL ELECTRICAL OPERATION OF THE FLIGHT COMPARTMENT SEAT CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
    1) On the main power distribution panel, P6.
        a) 6J21, F/O SEAT
(b) Remove electrical power from the lightplate:
    1) On each applicable circuit breaker and attach a DO-NOT-CLOSE tag:
        a) On the overhead circuit breaker panel, P11.
(c) Remove the access panel on the right side of the aisle stand.
(d) Remove the fastener that holds the electrical wires together.
(e) Identify which wires at the terminal block are connected to the lightplate.
(f) Disconnect the electrical wires from the terminal block.
(g) Attach a piece of electrical lacing tape or string to the applicable electrical wires at the terminal block.
(h) Carefully remove the lightplate.
    1) Remove the screws that hold the lightplate in position.
    2) Lift out the lightplate along with its attached wires to a distance of approximatedly four inches above the aisle stand.
    3) For the speedbrake lightplate, also remove the seal assembly.
    4) For the flap lightplate, also do these steps:
        a) Remove the cover assembly.
        b) Remove the seal assembly.
(i) Carefully pull the electrical wires through the aisle stand until you can get access to the tape or string.

NOTE: As you pull the electrical wire through the aisle stand, make sure the tape or string stays attached.

(j) Remove the end of the tape or string from the end of the electrical wires.

NOTE: Let the end of the string hang on the outer side of the aisle stand.

(k) Remove the lightplate and its electrical wires.

TASK 33-13-01-404-008

5. Lightplate in the Aisle Stand - Installation

A. Parts
(1) Crimp-type electric contact pins -- Burndy YHMM-18-3D28

B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-13-01
(3) WDM 33-13-18

C. Access
(1) Location Zones
211/212 Flight compartment

D. Procedure

S 424-011

(1) Install the lightplate.
(a) Attach the end of the string or tape to the end of the electrical wires on the lightplate.

NOTE: The end of the tape or string is on the outer side of the aisle stand.

(b) Carefully pull the other end of the string to pull the electrical wires to the terminal block.

NOTE: As you pull the tape or string through the aisle stand, make sure the electrical wires stay attached.

(c) For the speedbrake lightplate, install the seal assembly.
(d) For the flap lightplate, also do these steps:
1) Install the seal assembly.
2) Install the cover assembly.
(e) Carefully pull on the electrical wires until the lightplate moves into its correct position.
(f) Remove the tape or string from the electrical wires.
(g) Install the screws that hold the lightplate in position.
(h) If it is necessary, cut the ends of the electrical wire at the terminal block.

NOTE: Keep approximately eight inches more electrical wire than is necessary.

(i) Install the crimp-type electric contact pins on the ends of the electrical wires.

(j) Make a loop of the loose wire and fasten the wire together.
(k) Insert the pins into the terminal blocks.

S 714-013
(2) Do a test of the lightplate.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove each DO-NOT-CLOSE tag.
1) Close each circuit breaker that was opened when the lightplate was removed.
(c) At the overhead panel, P5, set the switch for the panel lights in the aisle stand to the bright position.
1) Make sure the new lightplate comes on correctly.
(d) Remove electrical power, if it is not necessary (Ref 24-22-00).
(e) Install the access panel on the right side of the aisle stand.

PANEL DIMMER CONTROL UNITS - REMOVAL/INSTALLATION

1. General
   A. This procedure also refers to a panel dimmer control unit as a dimmer control unit.

TASK 33-13-02-004-001

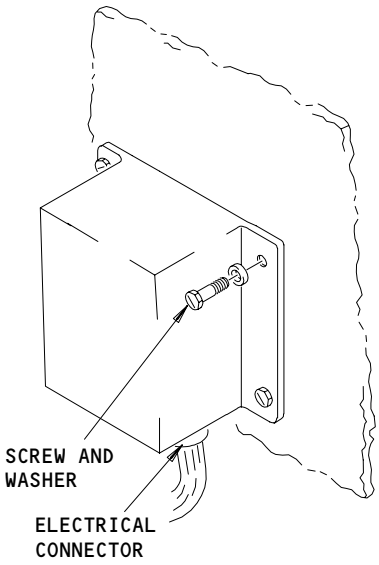
2. Dimmer Control Unit - Removal (Fig. 401)
   A. References
      (1) SSM 33-13-01
      (2) WDM 33-13-11 thru 33-13-99
   B. Access
      (1) Location Zones
          211 Left Flight Compartment
          212 Right Flight Compartment
   C. Procedure

S 014-015

(1) Get access to the dimmer control unit.
   (a) Remove electrical power from the dimmer control unit.
      1) Open each applicable circuit breaker for the dimmer control unit and attach the DO-NOT-CLOSE tag:
         a) On the overhead circuit breaker panel, P11.

WARNING: REMOVE ELECTRICAL POWER FROM THE CAPTAIN'S AND FIRST OFFICER'S SEATS. YOU CAN ACCIDENTALLY CAUSE A SEAT TO MOVE AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

   (b) Open these circuit breakers and attach DO-NOT-CLOSE tags:
      1) On the main power distribution panel, P6:
         a) 6J15 or 6H15, CAPT SEAT
         b) 6J21, F/O SEAT
   (c) To get access to a dimmer control unit for the captain's instrument panel lights (P1):
      1) Set the rudder pedals fully forward and push the inboard pedal fully forward.



DIMMER CONTROL UNIT
(EXAMPLE)

NOTE: FOR THE LOCATION OF THE DIMMER CONTROL UNIT, REFER TO FIM 33-13-00/101

Dimmer Control Unit Installation
Figure 401

2) Remove the access panel that is forward of the left side of the aisle stand.

(d) To get access to a dimmer control unit for the first officer's instrument panel lights (P3):

1) Remove the access panel that is on the sidewall below the first officer's forward auxiliary instrument panel, P14.

(e) To get access to a dimmer control unit for the glareshield panel lights (P7):

1) Remove the two center panels from the aisle stand panel, P9.

(f) To get access to a dimmer control unit for the aisle stand panel lights (P8, P9, and P10):

1) For a dimmer control unit in the aisle stand, remove the access panel on each side of the aisle stand.

2) For a dimmer control unit below the floor, put your hand in the left crawl space forward of the main equipment center.

NOTE: You will find the dimmer control unit left of the aisle stand, between the floor beams below.

(g) To get access to a dimmer control unit for the overhead panel lights (P5 and P11):

1) Remove the applicable ceiling panel.

(h) To get access to a dimmer control unit for the right side panel lights (P61):

1) Remove the access panel above the P61 panel.

S 024-007

(2) Remove the dimmer control unit.

(a) Remove the electrical connector.

(b) Remove the screws and washers.

TASK 33-13-02-404-008

3. Dimmer Control Unit - Installation (Fig. 401)

A. References

(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-13-01

(3) WDM 33-13-11 thru 33-13-99

B. Access
(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 424-009
(1) Install the new dimmer control unit.
(a) Install the dimmer control unit with the screws and washers.
(b) Attach the electrical connector.

S 714-017
(2) Do a test of the new dimmer control unit.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag and close each circuit breaker for the dimmer control unit:
1) On the overhead circuit breaker panel, P11.
(c) Slowly set the switch for the panel lights connected to the dimmer control unit from the off to bright position.
1) Make sure the applicable panel lights come on correctly.

S 414-016
(3) Install the panel that was removed for access to the dimmer control unit.
(a) Remove the DO-NOT-CLOSE tags and close the circuit breakers for the electrically operated seats:
1) On the main power distribution panel, P6.
(b) Remove electrical power if it is not necessary (AMM 24-22-00/201).

INSTRUMENT LIGHTS - SERVICING

1. General
   A. This procedure contains these tasks:
      (1) Replace the Brake Pressure indicator instrument light
      (2) Replace the Taxi Speed Indicator Instrument Light

TASK 33-13-03-963-001

2. Replace the Brake Pressure Indicator Instrument Light
   A. General
      (1) This section refers to the brake pressure indicator instrument light as the light. It refers to the brake pressure indicator as the indicator.
      (2) You will find the indicator on the P3-1 panel.
   B. References
      (1) 24-22-00/201, Electrical Power - Control
   C. Access
      (1) Location Zones
          211/212 Flight compartment
   D. Procedure

      S 863-002
      (1) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
          (a) 11P28, LIGHTING INSTRUMENT & PANEL F/O
          (b) 11U22, BRAKE PRESS

      S 963-003
      (2) Do these steps to replace the brake pressure indicator instrument light:
          (a) Loosen the screw on the lower left corner of the indicator.
          (b) Pull the indicator out from the panel.
          (c) Disconnect the connectors from the indicator.
          (d) Loosen the two screws on the lamp container, evenly, until the lamp container is released.
          (e) Remove the lamp assembly from lamp container.
          (f) Install the new lamp assembly in the lamp container.
          (g) Tighten the two screws on the lamp container, evenly, to attach the lamp container to the indicator.
          (h) Connect the connector to the indicator.
          (i) Put the indicator back into the panel.
          (j) Tighten the screw on the lower left corner of the indicator.

      S 713-004
      (3) Do the test of the brake pressure indicator instrument light as given below.

E. Do the Test of the Brake Pressure Indicator Instrument Light

S 863-005
(1) Supply electrical power (Ref 24-22-00).

S 863-006
(2) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the overhead circuit breaker panel, P11:
(a) 11P28, LIGHTING INSTRUMENT & PANEL F/O
(b) 11U22, BRAKE PRESS

S 713-007
(3) Do these steps to do the test of the break pressure indicator light:
(a) Turn the PANEL light control on first officer's lighting control panel, P7, clockwise.
(b) Make sure the light becomes brighter as you turn the light control.

S 863-008
(4) Remove electrical power if it is not necessary (Ref 24-22-00).

TASK 33-13-03-963-009

3. Replace the Taxi Speed Indicator Instrument Light

A. General
(1) This section refers to the taxi speed indicator instrument light as the light. It refers to the taxi speed indicator as the indicator.
(2) You will find the light on the P1-1 panel.

B. References
(1) 24-22-00/201, Electrical Power - Control

C. Access
(1) Location Zones
211/212 Flight compartment

D. Procedure

S 863-010
(1) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
(a) 11P2, LIGHTING INSTRUMENT & PANEL CAPT

(b) 11U12, AUTOBRKS ANTISKID TEST/IND 1

S 963-011

(2) Do these steps to replace the taxi speed indicator instrument light:
(a) Loosen the screw on the lower left corner of the indicator.
(b) Pull the indicator out from the panel.
(c) Disconnect the connector from the indicator.
(d) Loosen the two screws on the lamp container, evenly, until the lamp container is released.
(e) Loosen the lamp assembly from the lamp container.
(f) Install the new lamp assembly in the lamp container.
(g) Tighten the two screws on the lamp container, evenly, to attach the lamp container to the indicator.
(h) Connect the connector to the indicator.
(i) Put the indicator back into the panel.
(j) Tighten the screw on the lower left corner of the indicator.

S 713-012

(3) Do the test of the taxi speed indicator instrument light as given below.

E. Do the Test of the Taxi Speed Indicator Instrument Light

S 863-014

(1) Supply electrical power (Ref 24-22-00).

S 863-013

(2) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the overhead circuit breaker panel, P11:
(a) 11P2, LIGHTING INSTRUMENT & PANEL CAPT
(b) 11U12, AUTOBRKS ANTISKID TEST/IND 1

S 713-015

(3) Do these steps to do the test of the taxi speed brake indicator instrument light:
(a) Turn the PANEL light control on captain's lighting control panel, P7, clockwise.

(b) Make sure the light becomes bright as you turn the light control.

S 863-016

(4) Remove electrical power if it is not necessary (Ref 24-22-00).

STANDBY RELAYS - REMOVAL/INSTALLATION

1. General
   A. Use this procedure to remove/install these relays:
      (1) The RDMI and engine standby lighting relay, K395 (if installed)
      (2) The standby instrument lighting relay, K396
      (3) The captain's standby dimmer control relay, K726
   B. When the instructions are the same for the above items, this procedure refers to them as "the relay".
   C. Two people are necessary to do this procedure. The second person will operate the rudder pedals to clear the area for the first person to remove/install the relay.

TASK 33-13-04-004-001

2. Remove the Relay
   A. Access
      (1) Location Zones
          211/212 Flight compartment
   B. Prepare for Removal

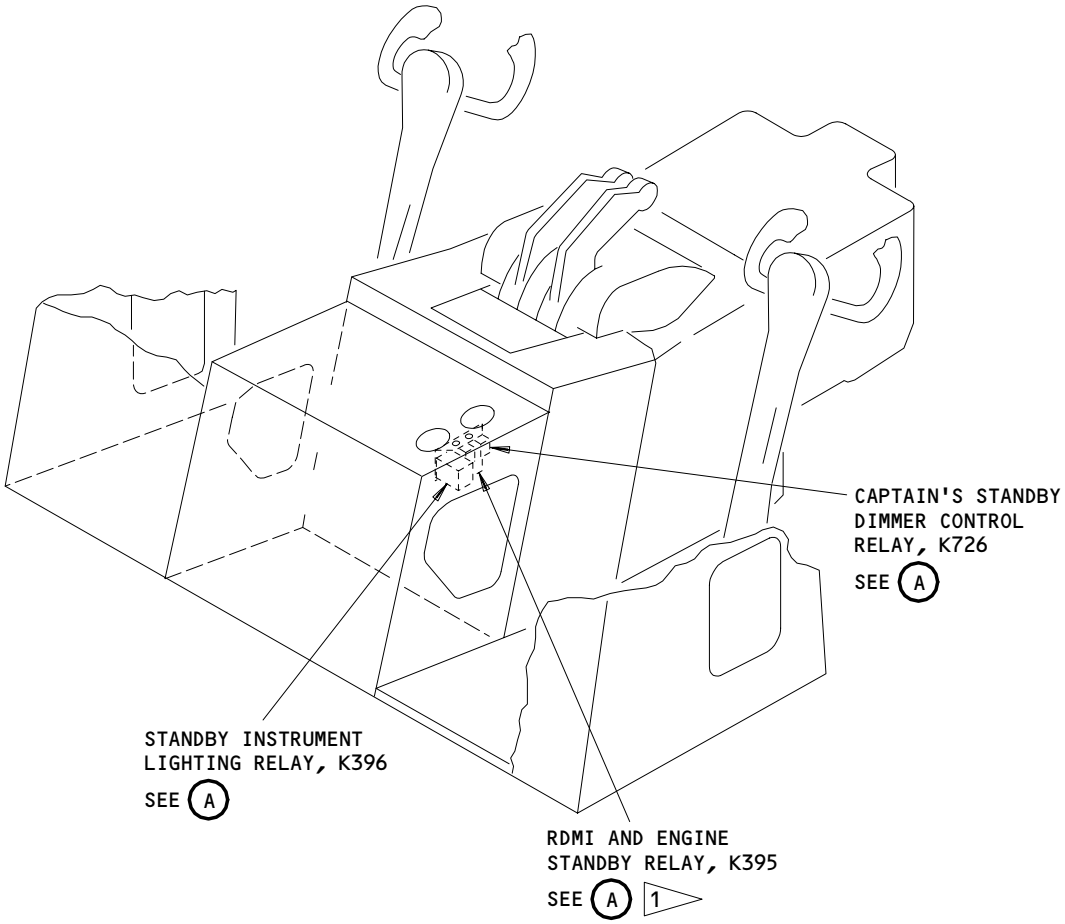
      S 864-002
      (1) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
          (a) 11B7, LIGHTS INSTR
          (b) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

      S 864-029

      WARNING: REMOVE ELECTRICAL POWER FROM THE FLIGHT COMPARTMENT SEAT. ACCIDENTAL ELECTRICAL OPERATION OF THE FLIGHT COMPARTMENT SEAT CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

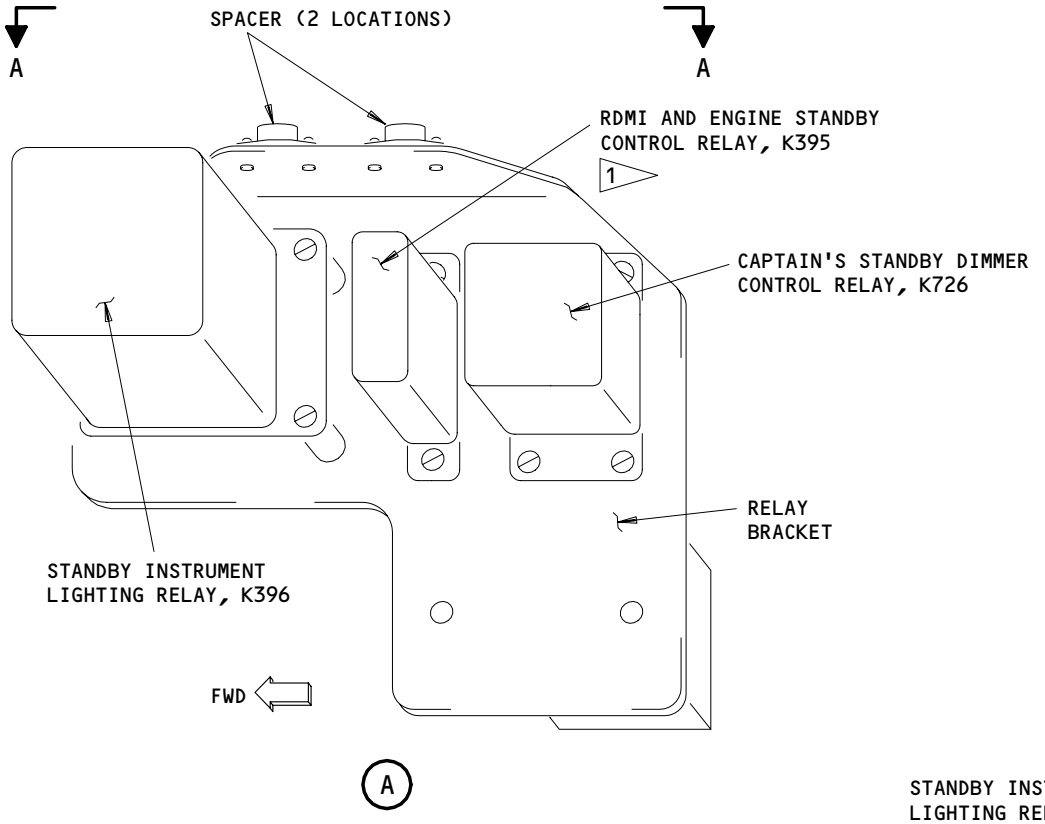
      (2) AIRPLANES WITH FLIGHT COMPARTMENT SEATS CONTROLLED BY ELECTRICAL POWER;
      Open the applicable circuit breaker for the CAPT SEAT on the main power distribution panel, P6, and attach a DO-NOT-CLOSE tag.
   C. Procedure (Fig. 401)

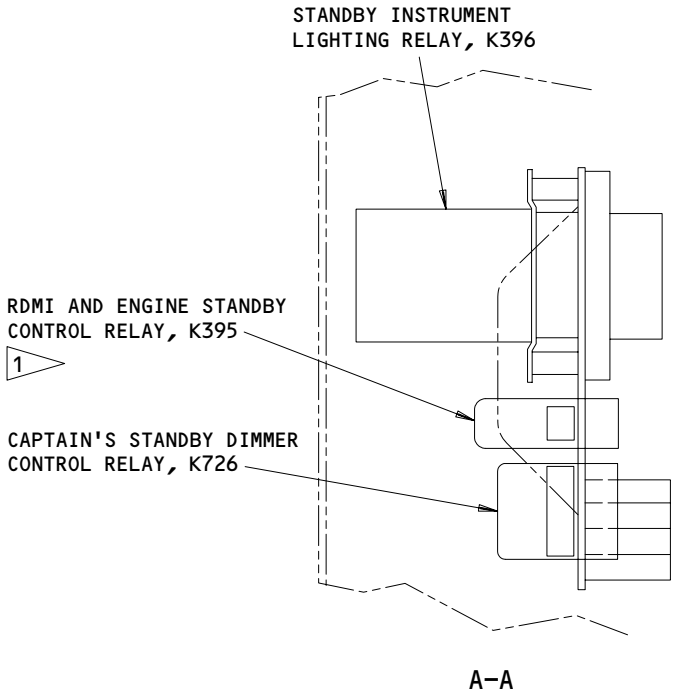
      S 034-008
      (1) Disconnect the relay bracket from its structure.
          (a) Remove the fasteners on the face of the P1-3 panel.



1 NOT INSTALLED ON ALL AIRPLANES

Standby Relays Installation
Figure 401 (Sheet 1)





A-A

1 NOT INSTALLED ON ALL AIRPLANES

Standby Relays Installation
Figure 401 (Sheet 2)

CAUTION: DO NOT DISCONNECT THE CABLES FROM THE BACK OF THE P1-3 PANEL. DAMAGE TO EQUIPMENT CAN OCCUR. IF THE CABLES BECOME DISCONNECTED, YOU MUST PERFORM ALL ADJUSTMENT/TEST PROCEDURES FOR EACH SYSTEM ON THE P1-3 PANEL BEFORE THE AIRPLANE CAN RETURN TO SERVICE.

(b) Carefully pull out the P1-3 panel.

NOTE: Pull out the P1-3 panel only as far as it is necessary to get access to the two screws on the bottom structure.

(c) Reach behind the P1-3 panel and carefully remove the two screws on the bottom structure.

NOTE: Spacers are bonded to the bracket. They will come apart if you do not remove the screws carefully.

1) Let the relay bracket fall on the adjacent cables.

S 014-017

(2) Remove the access panel on the forward part of the aisle stand below the captain's instrument panels.
(a) Turn the rudder pedal adjustment crank (below the P1-2 and P3-2 panels) until the rudder pedals are fully extended.
(b) Push and hold down the applicable rudder pedal to clear the area to the access panel.

NOTE: It is necessary to hold down the rudder pedal during the removal and installation of the relay.

(c) Remove the access panel.
(d) Disconnect the cables from the dimmer control units installed on the inner side of the access panel.
1) Identify the cables to aid during the installation of the relay.

S 014-018

(3) Pull the relay bracket through the opening.

S 024-019

(4) Do these steps to remove the relay:
(a) Remove the screws, nuts, and washers that hold the relay in position.
(b) Remove the relay.

TASK 33-13-04-404-030

3. Install the Relay (Fig. 401)

A. References

(1) 33-13-02/401, Panel Dimmer Control Units - Removal/Installation

B. Access

(1) Location Zones

211/212 Flight compartment

C. Procedure

S 424-010

(1) Do these steps to install the relay:

(a) Hold the relay in position.

(b) Install the screws, nuts, and washers.

S 414-020

(2) Install the relay bracket.

(a) Move the relay bracket back to its original position.

(b) Hold the relay bracket in position while you install the two screws.

1) Reach behind the P1-3 panel.

2) Carefully install the screws through the panel structure to the relay bracket.

NOTE: Spacers are bonded to the relay bracket. They will come apart if you do not install the screws carefully.

S 414-022

(3) Install the access panel.

(a) Connect the cables to the correct dimmer control units.

(b) Install the screws that hold the access panel in position.

S 414-021

(4) Move the P1-3 panel back to its original position.

(a) Install the fasteners on the face of the P1-3 panel.

S 864-011

(5) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P11 panel:

(a) 11B7, LIGHTS INSTR

(b) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

S 864-028
(6) AIRPLANES WITH FLIGHT COMPARTMENT SEATS CONTROLLED BY ELECTRICAL POWER;
Remove the DO-NOT-CLOSE tag and close the applicable circuit breaker for the CAPT SEAT on the P6 panel.

S 714-024
(7) Do the test of the applicable relay as given below.

D. Do the Test of the Relay

S 714-015
(1) Do these steps to do the test of the RDMI and engine standby lighting relay, K395:
(a) Open these circuit breakers on the P11 panel:
1) 11B7, LIGHTS INSTR
2) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT
(b) Disconnect the captain's instrument and panel lights dimmer control unit, M788 (Ref 33-13-02).
(c) Close this circuit breaker on the P11 panel:
1) 11B7, LIGHTS INSTR
(d) Make sure the left RDMI instrument light comes on.
(e) Close this circuit breaker on the P11 panel:
1) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT
(f) Make sure the left RDMI instrument goes off.
(g) Open these circuit breakers on the P11 panel:
1) 11B7, LIGHTS INSTR
2) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT
(h) Connect the captain's instrument and panel lights dimmer control unit, M788 (Ref 33-13-02).

S 714-025
(2) Do these steps to do the test of the standby instrument lighting relay, K396:
(a) Open these circuit breakers on the P11 panel:
1) 11B7, LIGHTS INSTR

2) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

(b) Disconnect the pilots' center instrument and panel lights dimmer control unit, M790 (Ref 33-13-02).

(c) Make sure the lights and lightplates on the P1-1, P1-3, and P13 panels go off.

(d) Close this circuit breaker on the P11 panel:

1) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

(e) Make sure the lights on the P1-1, P1-3, and P13 come on.

(f) Open this circuit breaker on the P11 panel:

1) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

(g) Connect the pilots' center instrument and panel lights dimmer control unit, M790 (Ref 33-13-02).

S 714-026

(3) Do these steps to do the test of the captain's standby dimmer control relay, K726:

(a) Open this circuit breaker on the P11 panel:

1) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

(b) Close this circuit breaker on the P11 panel:

1) 11B7, LIGHTS INSTR

(c) Turn the PANEL control, R511 on the captain's lighting control panel, P7, fully clockwise then fully counterclockwise.

1) Make sure the PANEL control has no effect on the instrument light for the standby altimeter, N23.

(d) Close this circuit breaker on the P11 panel:

1) 11P2, LIGHTING INSTRUMENT AND PANEL CAPT

(e) Turn the PANEL control on the captain's lighting control panel fully clockwise.

1) Make sure the instrument light for the standby altimeter becomes bright.

(f) Turn the PANEL control on the captain's lighting control panel fully counterclockwise.

1) Make sure the instrument light for the standby altimeter becomes dim then goes off.

FLIGHT COMPARTMENT MISCELLANEOUS LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. Flight compartment miscellaneous lights provide incandescent lighting at each crew station and observer station. The lights are for reading maps, charts, and other items needing bright directional controllable lighting. Each crewmember and observer has a flight kit/utility/note pad light that that can be hand carried.
   B. Each map and chart light is controlled by rotary pull-on/push-off dimming controls. The flight kit/utility/note pad lights on/off dimming controls are part of the light assembly.
   C. For more data about this lighting system, refer to these sources:
      (1) SSM 33-14-01 thru 33-14-99
      (2) WDM 33-14-11 thru 33-14-99
2. Operation
   A. Functional Description
      (1) Map Lights and Controls
         (a) These incandescent lights are installed on the ceiling to give specific lighting to the stations in the flight compartment. Each light operates with 28 volts ac. You can move the lens assembly to change the direction that the light beam is pointed.
         (b) A MAP rotary control is on the lighting control panel at each station. The control consists of a pull-on/push-off switch with a rheostat. The control is pulled and then rotated clockwise to turn on the light.
      (2) Chart Lights and Controls
         (a) Incandescent chart lights under the glareshield at the captain's and first officer's stations use 28v ac. The lights are not adjustable.
         (b) A CHART rotary control is on the lighting control panel at each P7 light control panel. The control is the same as for the MAP light control.
      (3) Flight Kit/Utility/Note Pad Lights
         (a) The flight kit/utility/note pad lights give specific lighting in the flight compartment. These lights operate with 28 volts ac.
         (b) These portable lights are released from a mounting stand with a snap release tensioner. A red/white filter in each unit is selected by rotating the front lens assembly. Two switches and a rheostat are built into the assembly. One switch is in series with the rheostat. When pressed, the other bypasses the rheostat and provides maximum brightness. The rotary control is on the back of the light assembly.

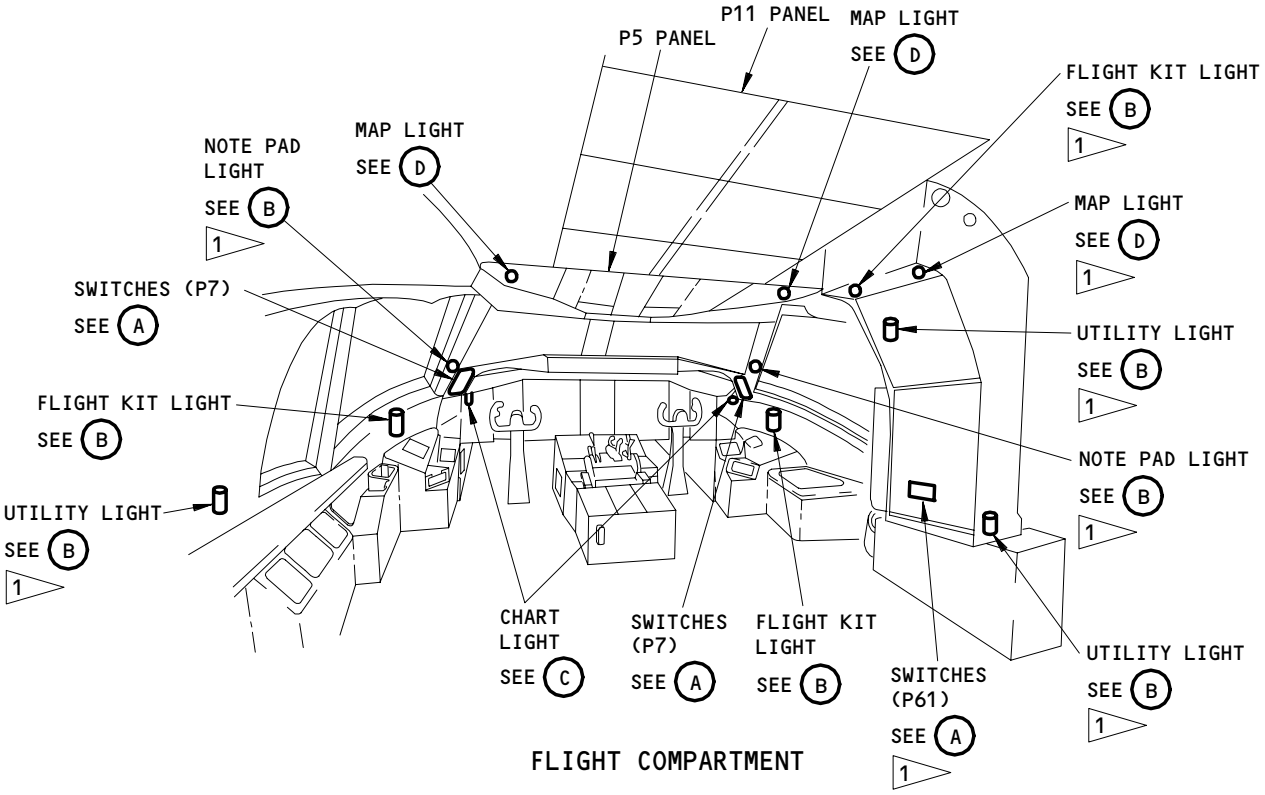
FLIGHT COMPARTMENT MISCELLANEOUS LIGHTS

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
BOX – SPARE LAMP	2		FLT COMPT	*
CIRCUIT BREAKER –	--		FLT COMPT, P11	*
LIGHT –				
CHART	1		FLT COMPT	33-14-00
FLIGHT KIT	1		FLT COMPT	33-14-00
MAP	1		FLT COMPT	33-14-00
NOTE PAD 1	1		FLT COMPT	33-14-00
UTILITY	1		FLT COMPT	33-14-00
SWITCH –	1		FLT COMPT	*

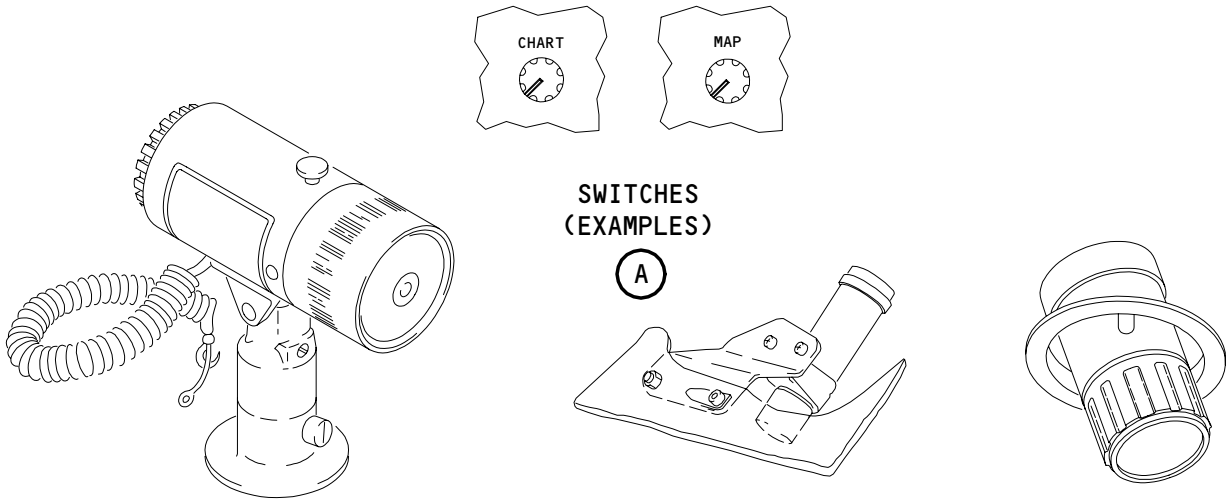
* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

1 NOT INSTALLED ON ALL AIRPLANES

Flight Compartment Miscellaneous Lights – Component Index
Figure 101



FLIGHT COMPARTMENT



FLIGHT KIT/UTILITY/NOTE PAD LIGHT
(EXAMPLE)
B

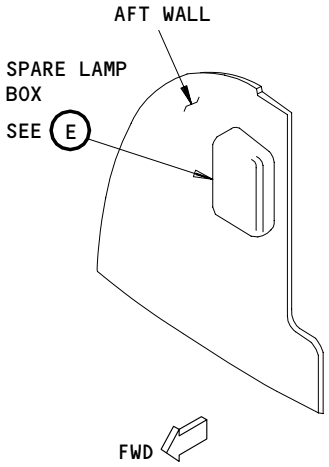
SWITCHES
(EXAMPLES)
A

CHART LIGHT
(EXAMPLE)
C

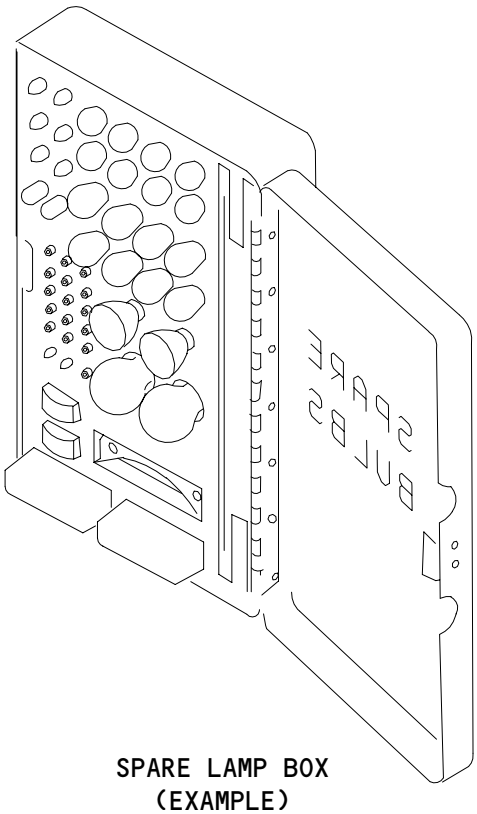
MAP LIGHT
(EXAMPLE)
D

1 NOT INSTALLED ON ALL AIRPLANES

Flight Compartment Miscellaneous Lights - Component Location
Figure 102 (Sheet 1)



FLIGHT COMPARTMENT



SPARE LAMP BOX
(EXAMPLE)

E

Flight Compartment Miscellaneous Lights – Component Location
Figure 102 (Sheet 2)

FLIGHT COMPARTMENT MISCELLANEOUS LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks:
      (1) Map Light - Lamp Replacement
      (2) Chart Light - Lamp Replacement
      (3) Flight Kit Light, Utility Light, or Note Pad Light - Lamp Replacement
      (4) Flight Kit Light, Utility Light, or Note Pad Light - Light Assembly Replacement

   TASK 33-14-00-962-001

2. Map Light - Lamp Replacement
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-14-01
      (3) WDM 33-00-11, Lamp Usage Chart
      (4) WDM 33-14-11
   B. Access
      (1) Location Zones
          211 Control cabin - sect 41 (Left)
          212 Control cabin - sect 41 (Right)

   C. Procedure

      S 862-051
      (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
          (a) On the circuit breaker panel assembly P11:
              1) 11P31, MAP LIGHTS

      S 962-065
      (2) Do these steps to replace the lamp:
          (a) Remove the four screws from the map light assembly and lower it.
          (b) Turn the lens assembly counterclockwise while you hold the upper housing.
          (c) Separate the bottom lens assembly from the upper housing.

(d) Replace the lamp.
(e) Install the lens assembly.
(f) Put the map light assembly in position and secure with four screws.

S 862-066
(3) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
(a) On the P11 panel:
1) 11P31, MAP LIGHTS

S 862-067
(4) Supply electrical power (AMM 24-22-00/201).

S 712-068
(5) Do these steps to test the new lamps:
(a) On the glareshield panel, P7, or the right side panel, P61, set the applicable MAP switch to the on position.
1) Make sure the new lamp comes on.
2) Set the applicable MAP switch to the off position.

S 862-069
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-14-00-962-021

3. Chart Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-14-01
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-14-21

B. Access
(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 962-022
(1) Replace the lamp.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the map light and attach the DO-NOT-CLOSE tag:
a) On the overhead circuit breaker panel, P11.
(b) Pull the lens free of the retainer springs.
(c) Carefully replace the lamp.
(d) Install the lens.

S 712-023
(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag and close each circuit breaker that was opened.

(c) At the glareshield, P7, or the right side panel, P61, set the switch for the chart light to the on position.
1) Make sure the new lamp comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-14-00-962-024

4. Flight Kit Light, Utility Light, or Note Pad Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-14-01
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-14-31

B. Access
(1) Location Zones
211 Left Flight Compartment
212 Right Flight Compartment

C. Procedure

S 962-027
(1) Replace the lamp.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the light and attach the DO-NOT-CLOSE tag:
a) On the overhead circuit breaker panel, P11.
(b) Remove the spring clip that holds the lens in position.
(c) Remove the lens.
(d) If you suspect that there are crossed wires connected to this light, do the following:
1) Remove the lamp
2) Using an ohmmeter, verify continuity between the light base and airplane structure.
(e) Carefully replace the lamp.
(f) Install the lens.
(g) Install the spring clip.

S 712-025
(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag and close each circuit breaker that was opened.
(c) Set the switch on the rear of the light to the on position.
1) Make sure the new lamp comes on correctly.
(d) Set the switch to the usual position.
(e) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-14-00-902-076

5. Flight Kit Light, Utility Light, or Note Pad Light - Light Assembly Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-14-01
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-14-31

B. Access
(1) Location Zones
(a) 211 Left Flight Compartment
(b) 212 Right Flight Compartment

C. Procedure

S 022-077

(1) Do these steps to remove the light assembly:
(a) Open this circuit breaker, and attach a DO-NOT-CLOSE tag:
1) On the overhead equipment panel, P11:
a) 11P32, UTILITY
(b) Disconnect the electrical connectors:
1) Open the applicable panel to gain access to the light assembly terminal board.
2) Loosen the screw on the clamp.
3) Loosen the screws that hold electrical connectors on the terminal board.
4) Remove the electrical connectors from the terminal board.
(c) Remove the light assembly:
1) Pull the wire through the container.
2) Pull the light assembly from the base holder that holds the light assembly in its position.

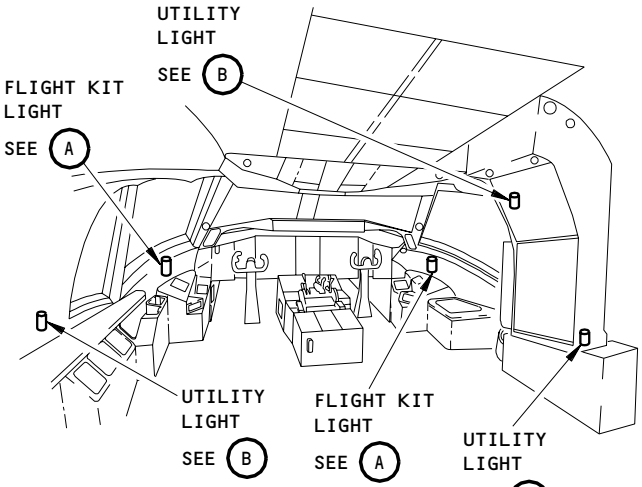
S 422-073

(2) Do these steps to install the light assembly:
(a) Install the light assembly:
1) Hold the light assembly in its position.
2) Push the light assembly into the base holder.
(b) Install the connector to the terminal board:
1) Put the spring wire through the container.
2) Put the electrical connector to the terminal board.
3) Tighten the screws on the terminal board.
4) Tighten the screw on the clamp.

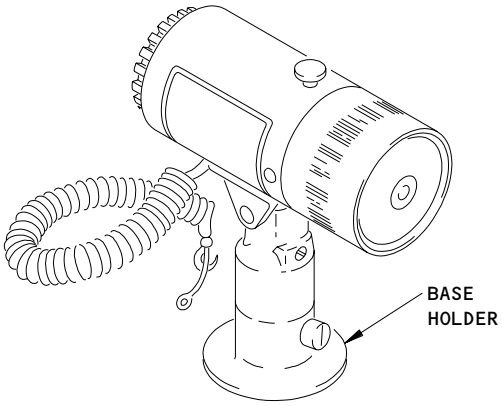
(c) To make sure that there is no crossed wire connection to the utility light, do these steps:
1) Remove the spring clip that holds the lens in position.
2) Remove the lens.
3) Remove the lamp.
4) Use the ohmmeter to make sure that there is a continuity between the light base and airplane structure.
5) Carefully re-install the lamp.
6) Install the lens.
7) Install the spring clip.

S 712-074

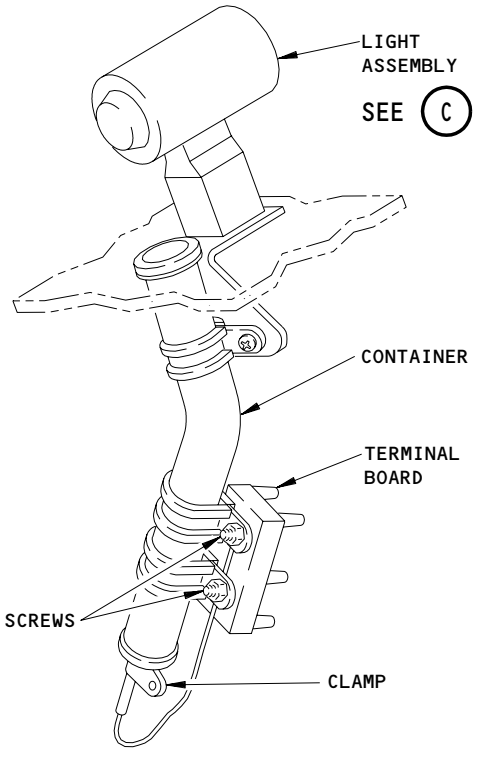
(3) Do a test of the new light assembly:
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag, and close this circuit breaker:
1) On the overhead equipment panel, P11:
a) 11P32, UTILITY
(c) Set the switch on the rear of the light to the on position.
1) Make sure that the light comes on correctly.
(d) Set the switch to the usual position.
(e) Close the applicable panel.
(f) Remove electrical power if it is not necessary (AMM 24-22-00/201).



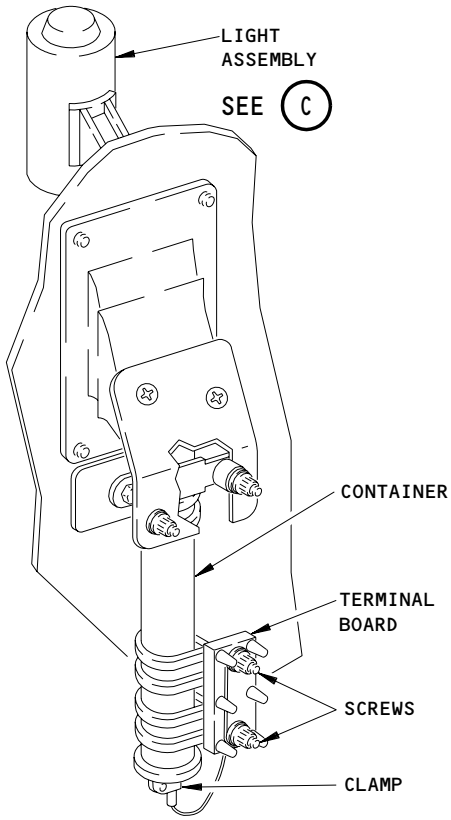
FLIGHT COMPARTMENT



LIGHT ASSEMBLY
(EXAMPLE)
C



FLIGHT KIT/UTILITY LIGHT CONSOLE
(EXAMPLE)
A



FLIGHT KIT/UTILITY LIGHT SIDEWALL
(EXAMPLE)
B

Flight Kit or Utility Light – Light Assembly Replacement
Figure 201

J65591

MASTER DIM AND TEST - DESCRIPTION AND OPERATION

1. General
   A. The master dim and test system controls the light levels of the annunciators and annunciator portions of switch-lights in the flight compartment. It tests the annunciator switches and lamps by simultaneously turning them on when the test switch is pressed.
   B. The autobright system is an automatic subsystem of master dim and test which can dim the light level of annunciators when the dim/bright switch on overhead panel P5 is in the DIM position. Associated relays and dimming control cards are in lighting equipment panel P29.
   C. An autobright sensor unit in the P1-3 instrument panel automatically switches all the annunciators to full bright when a certain ambient light intensity is sensed and DIM is selected.
   D. For more data about this lighting system, refer to these sources:
      (1) SSM 33-16-01 thru 33-16-99
      (2) WDM 33-16-11 thru 33-11-99
2. Operation
   A. Functional Description
      (1) The master dim and test system is controlled with three switches on the overhead panel, P5.
         (a) One switch controls the intensity of the lights.
         (b) A light override switch changes the intensity of the lights to bright. When the override switch is set to the on position, you cannot change the intensity of the lights with the other switch (AMM 33-11-00/001).
         (c) There is test switch to do a check of the lights.
      (2) Type I annunciators are used for all annunciators except for the IRS MODE SEL panel annunciators which are type II. Type I annunciators use a controlled ground while type II annunciators use a controlled power source. The Type I annunciators used in the flight compartment use voltage from Type I dimmer control cards. Type I dimmer control cards and associated master dim and test relays are in the lighting equipment panel P29 located on the right side of the nose wheel well. Each dimmer control card has a Light Emitting Diode (LED) which lights when the card is operating properly. If the LED is off, the card is faulty or has no power to it. The cards provide a constant output regardless of the number of lights loading the circuit.
      (3) Type I annunciators may have single or dual power sources. Type I single power source annunciators have black diode/fuse cards and drawer assemblies. Type I dual power source annunciators have white diode/fuse cards and drawer assemblies. These diode/fuse cards and drawer assemblies are not interchangeable.

(4) The type II annunciators on the IRS Mode Select panel receive power from their associated IRU. The master dim and test system provides power to the annunciators during testing in BRT mode only. The dim function of the IRS annunciators is created by connecting the annunciators ground to the IRUs DIM output. The annunciator is supplied with 28v dc, but the IRUs DIM output lead is outputting 14v dc. The 14v dc voltage potential causes the annunciators to light dim. The dim function of the IRS Mode Select panel can only be tested if at least one of the annunciators for the IRU is lighted by the IRU. The IRU output turns on the dimming output transistor. With the transistor off, the annunciators will not have a ground when in DIM mode.

(5) The autobright sensor in the P1-3 panel uses photocells with amplifier circuits to sense ambient light conditions. The sensor controls all annunciator lights. The autobright sensor is in control when the IND LTS DIM/BRT selector knob is in the DIM position. The autobright sensor overrides the dim setting for the annunciators when the ambient light conditions exceeds a specific brightness. The sensor controls the ground for energizing the two autobright channel control relays. The relays de-energize when the ambient light conditions reach a specific brightness.

(6) Under normal conditions, 28 volts dc is supplied to the dim control relays. All dim control relays are energized by the DIM position of the control switch providing a ground. When air conditioning airflow sensors or rack overheat sensors detect insufficient airflow for equipment cooling, a ground is removed from the override dim control relay by the air conditioning trim valve controller. The override dim control relay then removes 28v dc from the dim control relays and de-energizes dimming function. This ensures warning and caution annunciation is visible to indicate overheat and airflow problems.

(7) Positioning the rotary switch to BRT also removes the ground from the dim control relays. They de-energize and remove the ground from the DIM relays. The DIM relays transfer the power supply for the annunciators from dimmer cards 12v dc to normal 28v dc and also remove a ground from EFIS/EICAS day/night discrete.

(8) When the TEST switch is pressed, a ground is provided for test relays which complete a ground to all the flight compartment annunciators. The annunciators then light at the brightness selected. Faulty bulbs can be observed and replaced as necessary, and dimmer cards checked.

(9) The master dim and test system also provides a ground for a test signal used by the EICAS, EADI, and EHSI displays. Each signal is routed through separate air/ground relays so the test function is inhibited when the airplane is in-air.

(a) The DIM function of the master dim and test system provides a ground for the day/night signals to the displays. Selecting DIM on the IND LTS control causes the displays to dim.

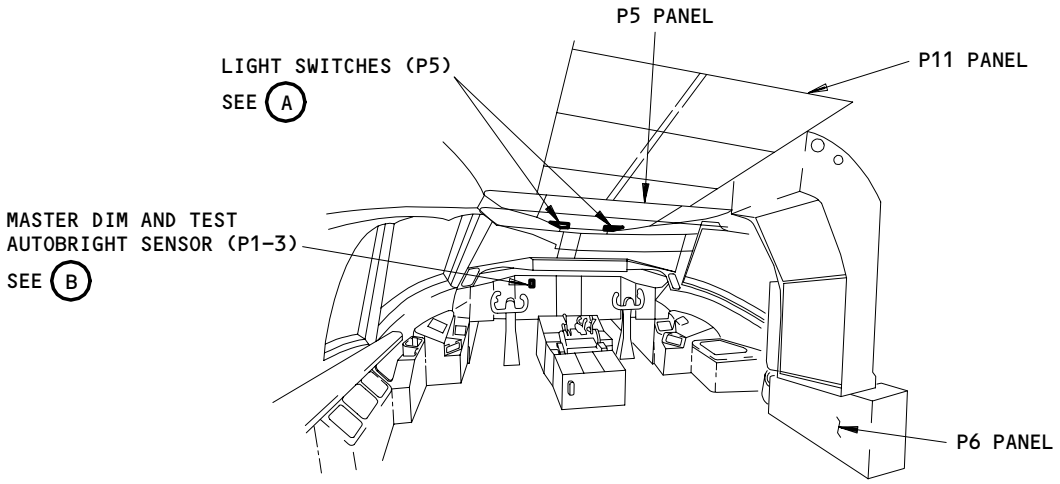
(10) All primary 28v dc circuit breakers for master dim and test systems are on overhead circuit breaker panel P11. Secondary circuit breakers are on the P6 panel.

MASTER DIM AND TEST

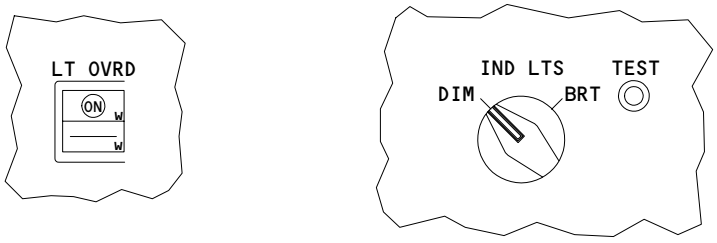
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CARD –				
DIMMER PC	2		119AL, MAIN EQUIP CTR, P29	33-16-01
REVERSE CURRENT BLOCKING DIODE PC	2		119AL, MAIN EQUIP CTR, P29	33-16-01
CIRCUIT BREAKER –	1		FLT COMPT, P6 AND P11	*
RECEPTACLE – SHORTING	1		FLT COMPT, P1-3	*
RELAY –	2		119AL, MAIN EQUIP CTR, P29	*
RELAY –	2		119AL, MAIN EQUIP CTR, P36	*
SENSOR – MASTER DIM AND TEST AUTOBRIGHT	2		FLT COMPT, P1-3	*
SWITCH –				
LIGHT	1		FLT COMPT, P5	*
TEST	1		FLT COMPT, P5	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Master Dim and Test – Component Index
Figure 101

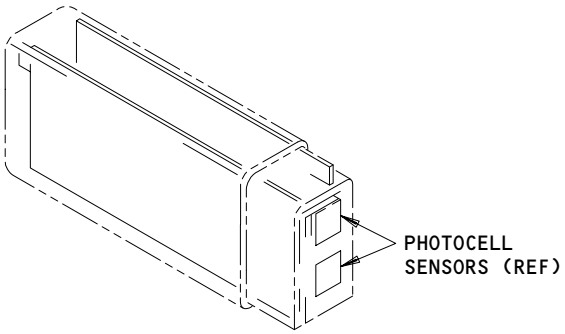


FLIGHT COMPARTMENT



LIGHT SWITCHES
(EXAMPLE)

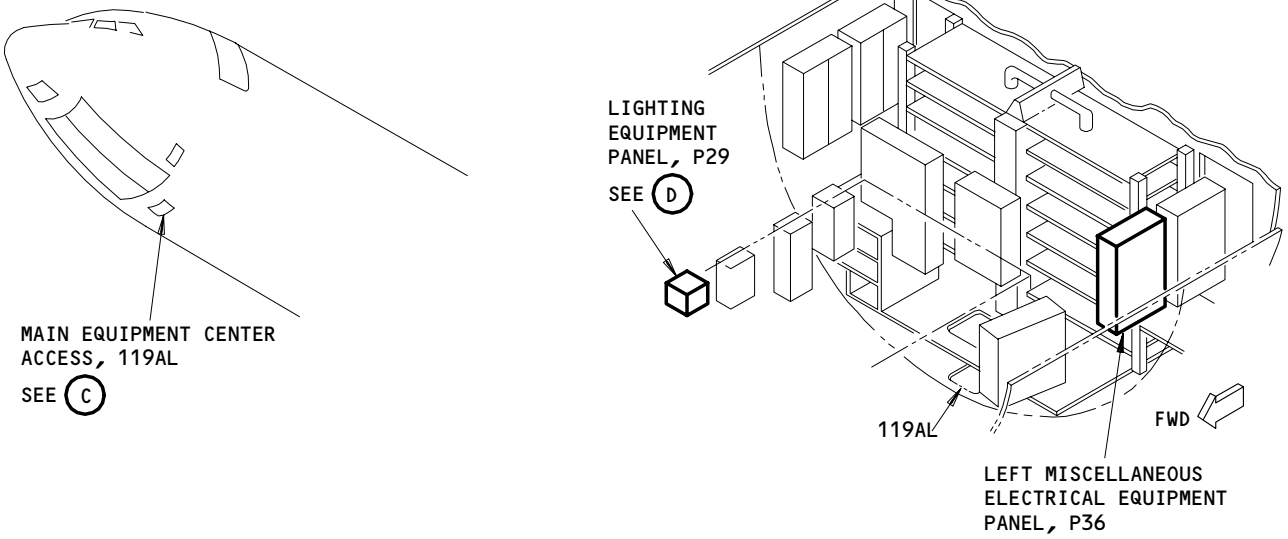
(A)



MASTER DIM AND TEST
AUTOBRIGHT SENSOR, P1-3

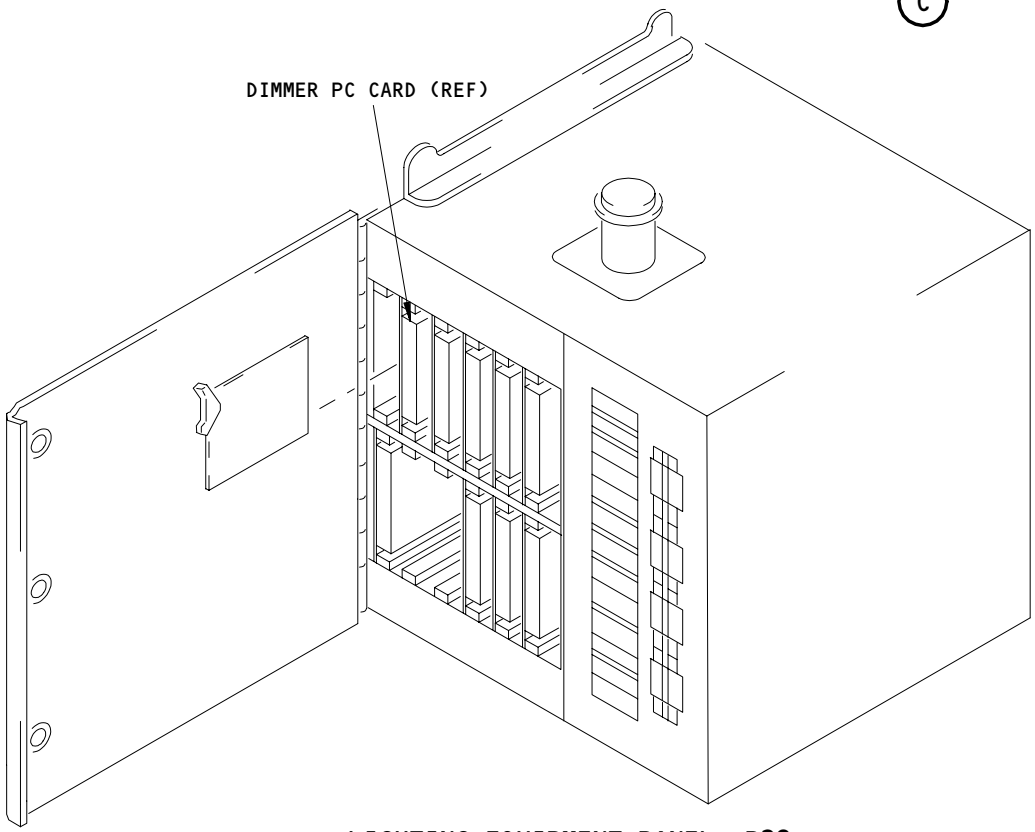
(B)

Master Dim and Test - Component Location
Figure 102 (Sheet 1)



MAIN EQUIPMENT CENTER

C



LIGHTING EQUIPMENT PANEL, P29

D

Master Dim and Test - Component Location
Figure 102 (Sheet 2)

MASTER DIM AND TEST - ADJUSTMENT/TEST

1. General
   A. This procedure contains these tasks:
      (1) Pilots' Annunciators and Switch-lights - Operational Test
      (2) Pilots' Override System, Autobright Control, EFIS System, and Landing Gear Annunciators - Operational Test
      (3) Master Dim and Test - Operational Test
   B. The tests in this procedure make sure the lighting of the annunicators and switch-lights operates correctly. To make sure the function related to an annunciator or switch-light operates correctly, you must do the test of that system.

TASK 33-16-00-715-034

2. Pilots' Annunciators and Switch-lights - Operational Test
   A. References
      (1) AMM 21-58-00/501, Equipment Cooling System
      (2) AMM 24-22-00/201, Electrical Power - Control
      (3) AMM 31-41-00/501, EICAS
      (4) AMM 34-21-00/501, Inertial Reference System
      (5) AMM 34-22-00/501, Flight Instrument System
      (6) SSM 33-16-01
      (7) WDM 33-16-11 thru 33-16-99
   B. Access
      (1) Location Zones
          211/212 Flight Compartment
   C. Prepare for the Test

      S 865-037
      (1) Supply electrical power (AMM 24-22-00/201).

      S 865-038
      (2) Make sure the equipment cooling system operates (AMM 21-58-00/501).

      S 865-039
      (3) Make sure the top and the bottom displays of the EICAS come on (AMM 31-41-00/501).

S 865-040
(4) Make sure a minimum of one IRU comes on (AMM 34-21-00/501).

S 865-041
(5) Make sure the EFIS comes on (AMM 34-22-00/501).

S 865-042
(6) At the overhead panel, P5, make sure the light override switch-light is in the off position.

S 865-043
(7) Put some tape on the photocells of these sensors:
  (a) At the captain's instrument panel, P1-3, the top and the bottom photocells of the autobright sensor
  (b) At the captain's instrument panel, P1-2, the EADI sensor
  (c) At the first officer's panel, P3-2, the EHSI sensor

D. Procedure

S 715-011
(1) Do a test of the pilots' annunciators and switch-lights.
  (a) At the right and left EFIS control panels, P10, set the lighting switch to the bright position.

    NOTE: There are six lighting switches, three on each EFIS control panel.

  (b) At the EICAS display select panel, P9, set the lighting switch to the bright position.
  (c) At the inertial reference mode panel of the overhead panel, P5, set the lighting switch to the bright position.
  (d) At the overhead panel, P5, set the switch for the indicator lights to the bright position.
  (e) At the P5 panel, set the test switch to the on position.
    1) Make sure the RESERVE BKS & STRG switch-light on the P1-3 panel comes on brightly.

2) Make sure all switch-lights on the P5, P8, and P61 panels come on brightly, but not these switch-lights:
   a) The switch-lights on the anti-collision and landing lights control panel (P5)
   b) WING on the wing and engine anti-ice control panel (P5)
   c) LT OVRD on the left lighting control panel (P5)
   d) LOGO on the right lighting control panel (P5)
3) Make sure all blue switch-lights on the pilots' call panel (P5) come on but not those with an INOP label.
4) Make sure each half of the captain's and the first officer's master CAUTION and WARNING switch-lights on the glareshield panel (P7) comes on brightly.
5) Make sure the switch-lights on the AFCS mode control panel (P55) come on brightly.
6) Make sure the lights that follow come on brightly:
   a) All the annunciators on the P1-3, P3-1, P3-3, P5, P55, P8, P10, and P61 panels
   b) The DSPY, FAIL, MSG, and OFST annunciators on the left and right FMC CDUs (P9)
   c) The ALT annunciators on the captain's and the first officer's altimeters on the P1-3 and the P3-3 panels
7) Make sure the EHSI and EADI for the captain and the first officer show the word TEST with a test pattern.

   NOTE: EFIS sets the bits that display the "ATT DISAGREE" and "COMPARATOR BITE" messages while in test mode. Display of these messages while in test mode is a standard output and is not related to attitude comparator function or any comparison of pitch or roll data.

8) Make sure the inertial reference mode panel (P5) shows NS 88° 88.8' EW 188° 88.8'.

   NOTE: The N moves on top of the S and the E moves on top of the W.

(f) At the P5 panel, set the switch for the indicator lights to the dim position.
   1) Make sure the switch-lights and annunciators you used to do the test up to this time go from bright to dim, but not the OFF annunciator on the standby power panel (P5).
   2) Make sure the top and the bottom EICAS displays stay bright.

3) Make sure the EADI and the EHSI displays stay bright.
4) Make sure the inertial reference mode panel stays bright.

(g) At the P5 panel, set the test switch to the off position.

E. Put the Airplane Back to Its Usual Condition

S 865-030

(1) Remove the tape from the sensors.

S 865-028

(2) Remove electrical power if it is not necessary (Ref 24-22-00).

TASK 33-16-00-715-031

3. Pilots' Override System, Autobright Control, EFIS System, and Landing Gear Annunciators - Operational Test

A. References

(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 27-61-00/201, Spoiler/Speedbrake Control System
(3) AMM 31-41-00/501, EICAS
(4) AMM 32-09-02/201, Air/Ground Relays
(5) AMM 34-21-00/501, Inertial Reference System
(6) AMM 34-22-00/501, Flight Instrument System
(7) SSM 33-16-01
(8) WDM 33-16-11 thru 33-16-99

B. Access

(1) Location Zones
211/212 Flight Compartment

C. Prepare for the Test

S 865-046

(1) Supply electrical power (AMM 24-22-00/201).

S 715-047

(2) Make sure the equipment cooling system operates (AMM 21-58-00/501).

S 715-048

(3) Make sure the top and the bottom displays of the EICAS come on (AMM 31-41-00/501).

S 715-049

(4) Make sure a minimum of one IRU comes on (AMM 34-21-00/501).

S 715-050

(5) Make sure the EFIS comes on (AMM 34-22-00/501).

S 715-051

(6) At the overhead panel, P5, make sure the light override switch-light is in the off position.

S 425-045

(7) Put some tape on the photocells of these sensors:

(a) At the captain's instrument panel, P1-3, the top and the bottom photocells of the autobright sensor

(b) At the captain's instrument panel, P1-2, the EADI sensor

(c) At the first officer's instrument panel, P3-2, the EHSI sensor

D. Procedure

S 715-013

(1) Do a test of the pilots' override system.

(a) At the right and left EFIS control panels, P10, set the lighting switch to the dim position.

NOTE: There are six lighting switches, three on each EFIS control panel.

(b) At the EICAS display select panel, P9, set the lighting switch to the dim position.

(c) At the overhead panel, P5, set the lighting switch for the inertial reference mode panel to the dim position.

(d) At the P5 panel, set the switch for the indicator lights to the dim position.

(e) At the overhead panel, P5, set the test switch to the on position.

(f) At the P5 panel, set the light override switch-light to the on position.

1) Make sure the lights you used to do the test up to this time go from dim to bright, but the EADI, EHSI, and EICAS displays stay dim.

(g) Set the light override switch-light to the off position.

(h) Set the EQUIP COOLING mode select switch on the equipment cooling control panel (P5) to AUTO.

(i) Hold down the EQUIP COOL test switch on the miscellaneous test panel (P61) for a minimum of 30 seconds.

1) After 30 seconds, make sure the ground crew call horn operates and the EICAS shows data.

a) Erase the data from the EICAS display.

2) Make sure the lights you used to do the test up to this time go from dim to bright, but the EADI, EHSI, and EICAS displays stay dim.

(j) Release the EQUIP COOL test switch.

(k) At the P5 panel, set the test switch to the off position.

S 715-015

(2) Do a test of the autobright control.

(a) At the P5 panel, set the switch for the indicator lights to the dim position.

(b) At the P5 panel, set the test switch to the on position.

(c) At P1-3 panel, remove the tape from the top photocells of the autobright sensor.

(d) Point a light on the top photocells.

1) At the P1-3 panel, make sure each annunciator light connected to the autobright control comes on (SSM 33-16-01 or 33-16-13).

(e) At the P1-3 panel, remove the tape from the bottom photocells of the autobright sensor.

(f) Point a light on the bottom photocell sensors.

1) Make sure all the remaining annunciators go from dim to bright.

(g) At the P5 panel, set the test switch to the off position.

S 715-016

(3) Do a test of the EFIS system.

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE SPOILERS OR MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE SPOILERS. THE SPOILERS CAN MOVE QUICKLY AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(a) Do the deactivation procedure for the spoilers (AMM 27-61-00/201) or move all persons and equipment away from the control surfaces.

WARNING: PREPARE THE SAFETY-SENSITIVE SYSTEMS FOR THE AIR MODE BEFORE YOU OPEN THE AIR/GROUND CIRCUIT BREAKERS. IN THE AIR MODE, MANY OF THE AIRPLANE SYSTEMS CAN OPERATE AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(b) Prepare the safety-sensitive systems for air mode simulation (AMM 32-09-02/201).
(c) Open this circuit breaker on the P11 panel and attach a DO-NOT-CLOSE tag:
1) 11U15, AIR/GND SYS 1
(d) At the P5 panel, set the test switch to the on position.
(e) Make sure the lights you used to do the test up to this time come on.
(f) Make sure the EADI and EHSI for the captain and the first officer do not show the test pattern or the word TEST.
(g) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P11 panel:
1) 11U15, AIR/GND SYS 1
(h) Put the safety-sensitive systems back to their initial conditions (AMM 32-09-02/201).
(i) Do the activation procedure for the spoilers (AMM 27-61-00/201) if you did the deactivation procedure.
(j) Make sure the EADI and EHSI for the captain and the first officer show the test pattern and the word TEST.

NOTE: EFIS sets the bits that display the "ATT DISAGREE" and "COMPARATOR BITE" messages while in test mode. Display of these messages while in test mode is a standard output and is not related to attitude comparator function or any comparison of pitch or roll data.

(k) Set the test switch to the off position.
(l) Remove the tape from the EADI and EHSI autobright photocell sensors on the P1-2 and the P3-2 panels.

S 715-024
(4) Do a test of the landing gear annunciators on the first officer's instrument panel, P3-1.
(a) At the P5 panel, set the switch for the indicator lights to the bright position.
(b) At the P5 panel, set the test switch to the on position.

(c) At P3-1 panel, make sure these annunciators come on brightly:
1) NOSE
2) LEFT
3) RIGHT
4) GEAR
5) DOORS
(d) Open this circuit breaker on the P11 panel:
1) 11R28, RIGHT IND LTS 1
(e) Make sure the left side of the NOSE, LEFT and RIGHT annunciators goes off.
(f) Make sure the top half of the GEAR and DOORS annunciators goes off.
(g) Close this circuit breaker on the P11 panel:
1) 11R28, RIGHT IND LTS 1
(h) Open this circuit breaker on the P11 panel:
1) 11A33, IND LIGHTS 1
(i) Make sure the right half of the NOSE, LEFT and RIGHT annunciators goes off.
(j) Make sure the bottom half of the GEAR and DOORS annunciators goes off.
(k) Close this circuit breaker on the P11 panel:
1) 11A33, IND LIGHTS 1
(l) Make sure the two lights in the NOSE, LEFT, RIGHT, GEAR and DOORS annunciators come on.
(m) Set the test switch to the off position.

E. Put the Airplane Back to Its Usual Condition

S 865-044
(1) Remove the tape from the sensors.

S 865-025
(2) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-16-00-715-060

4. Master Dim and Test - Operational Test

A. General
(1) This test makes sure the master dim and test system operates.

B. References
(1) AMM 21-58-00/501, Equipment Cooling System
(2) AMM 24-22-00/201, Electrical Power - Control
(3) AMM 31-31-00/501, Flight Data Recorder - Adjustment/Test
(4) SSM 33-16-01
(5) WDM 33-16-11 thru 33-16-99

C. Equipment
(1) Cover - Windshield Backout Screen (commercially available), Optional

D. Access
(1) Location Zones
211/212 Flight Compartment

E. Prepare for the Test

S 865-061
(1) Supply electrical power (AMM 24-22-00/201).

S 865-062
(2) Make sure the equipment cooling system operates (AMM 21-58-00/501).

S 865-063
(3) Make sure the flight data recorder system operates (AMM 31-31-00/501).

S 945-073
(4) On a bright day, put a cover on the windshield to make it easier to do this test.

S 865-065
(5) At the overhead panel, P5, make sure the light override switch is in the off mode.

F. Procedure

S 715-066
(1) At the P5 panel, set the switch for the indicator lights to the bright mode.

S 715-067
(2) Put the adjacent test switch to the on mode.
(a) Make sure the annunciators (lights and switches) connected to the master dim and test system come on brightly.

NOTE: Use SSM 33-16-01 to identify the annunciators.

S 715-068
(3) Set the switch for the indicator lights to the dim mode.
(a) Make sure the annunciators (lights and switches) connected to the master dim and test system become dim.

S 715-069
(4) When the test is done, put the test switch in the off mode.

S 715-070

(5) Set the switch for the indicator lights to the usual mode.

G. Put the Airplane Back to Its Usual Condition

S 945-074

(1) If a cover was used on the windshield, remove it.

S 865-072

(2) Remove electrical power if it is not necessary (AMM 24-22-00/201).

MASTER DIM AND TEST PRINTED CIRCUIT CARDS - REMOVAL/INSTALLATION

1. General
   A. This procedure contains instructions for the removal and installation of the master dim and test printed circuit cards, as follows:
      (1) Remove the Master Dim and Test Printed Circuit Cards
      (2) Install the Master Dim and Test Printed Circuit Cards
   B. The master dim and test printed circuit cards consist of nine dimmer PC cards, YB3M1 thru YB3M9, and one blocking diode PC card, YB3M10. All ten items can be found on the lighting equipment panel, P29, in the main equipment center.
   C. This procedure uses the term "PC cards" which refers to the master dim and test printed circuit cards.

TASK 33-16-01-004-001

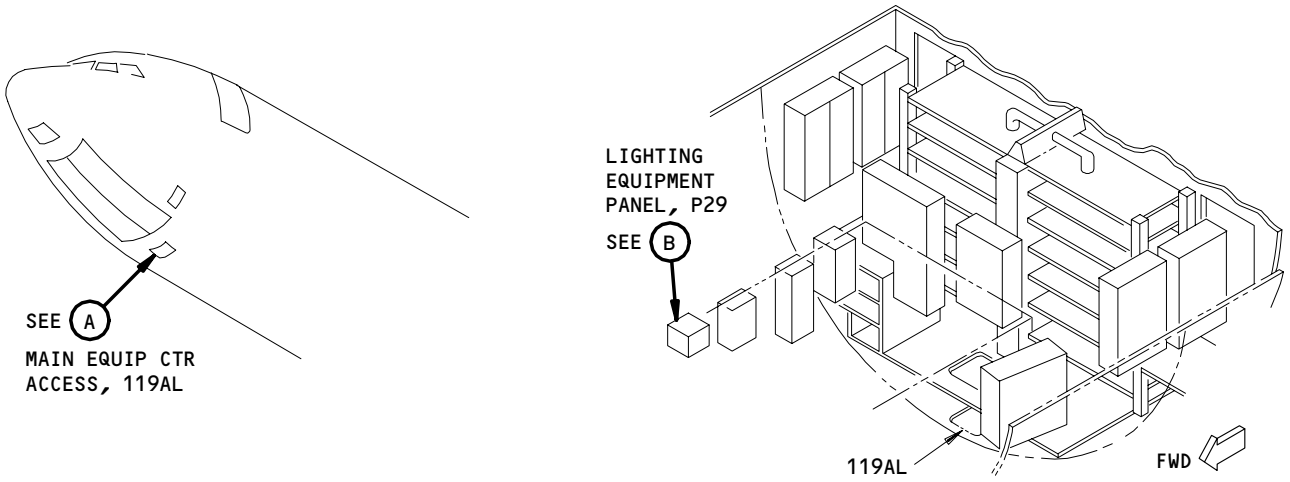
2. Remove the Master Dim and Test Printed Circuit Cards (Fig. 401)
   A. Access
      (1) Location Zones
          119/120 Main equipment center
   B. Procedure

      S 864-002
      (1) Refer to Table 401 below. Open the applicable circuit breaker(s) on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tag(s).

TABLE 401

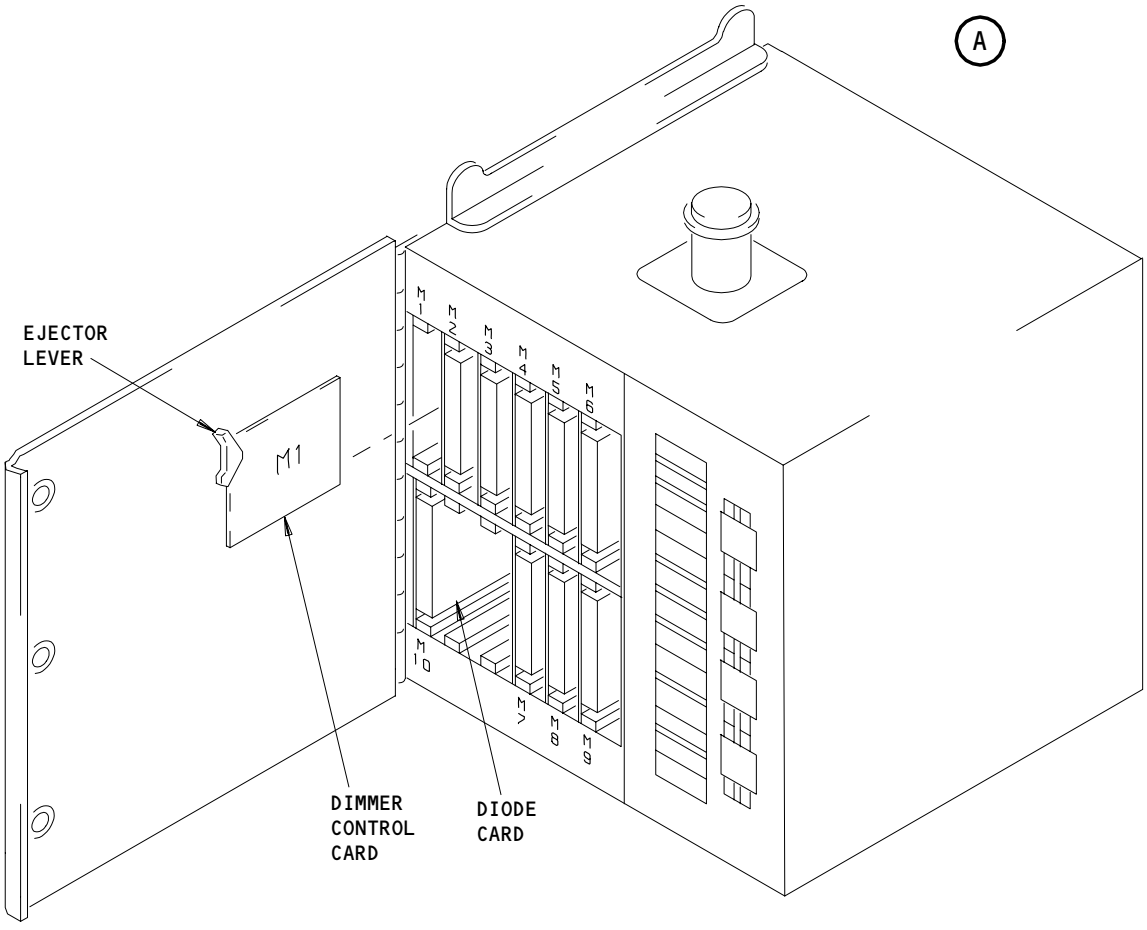
PC CARD	CIRCUIT BREAKER(S)
YB3M1	11R1, LEFT IND LIGHTS 1
YB3M2	11R2, LEFT IND LIGHTS 2
YB3M3	11R3, LEFT IND LIGHTS 3
YB3M4	11R28, RIGHT IND LTS 1
YB3M5	11R29, RIGHT IND LTS 2
YB3M6	11R30, RIGHT IND LTS 3
YB3M7	11A33, IND LIGHTS 1
YB3M8	11A34, IND LIGHTS 2
YB3M9	11A35, IND LIGHTS 3
YB3M10	Open circuit breakers for PC cards YB3M1 thru YB3M9

      S 024-003
      (2) Do these steps to remove the master dim and test printed circuit cards:
          (a) Open the door to the P29 panel.



MAIN EQUIP CTR

A



LIGHTING EQUIPMENT PANEL, P29

B

Master Dim and Test Printed Circuit Cards Removal/Installation
Figure 401

(b) Find the PC card to be removed.

NOTE: You will find that the slots for the master dim and test printed circuit card are identified with labels. These labels agree with the last letter and number of each PC card. For example, put PC card YB3M8 in the slot with the label M8.

(c) Pull up on the ejector lever.
(d) Remove the PC card from the slot.

TASK 33-16-01-404-004

3. Install the Master Dim and Test Printed Circuit Cards (Fig. 401)

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones
119/120 Main equipment center
211/212 Flight compartment

C. Procedure

S 424-005
(1) Do these steps to install the master dim and test printed circuit cards:
(a) Move the PC card into the slot.
(b) Push the ejector lever on the PC card down to lock the PC card in position.
(c) Do the test of the master dim and test printed circuit cards as given below.

D. Do the Test of the Master Dim and Test Printed Circuit Cards

S 864-006
(1) Refer to Table 401 again. Remove the DO-NOT-CLOSE tag(s) and close the circuit breaker(s) on the overhead circuit breaker panel, P11.

S 864-007
(2) At the overhead panel, P5, set the switch for the indicator lights to the dim position.

S 864-008
(3) At the P5 panel, make sure the light override switch-light is set to the off position.

S 864-009
(4) At the captain's instrument panel, P1-3, put tape over the two photocells of the master dim and test autobright sensor.

S 864-010
(5) Supply electrical power (AMM 24-22-00/201).

S 714-011
(6) Do these steps to do the test of the dimmer PC cards, YB3M1 thru YB3M9:
(a) Make sure the LED on dimmer PC card comes on.

NOTE: If the LED does not come on, the PC card is defective or the PC card receives no power.

S 714-012
(7) Do these steps to do the test of the blocking diode PC card, YB3M10:
(a) Make sure the LEDs on all the dimmer PC cards, YB3M1 thru YB3M9, come on.
(b) At the P5 panel, set the test switch to the on position.
(c) Make sure all annunciators come on dimly.
(d) Set the test switch to the off position.

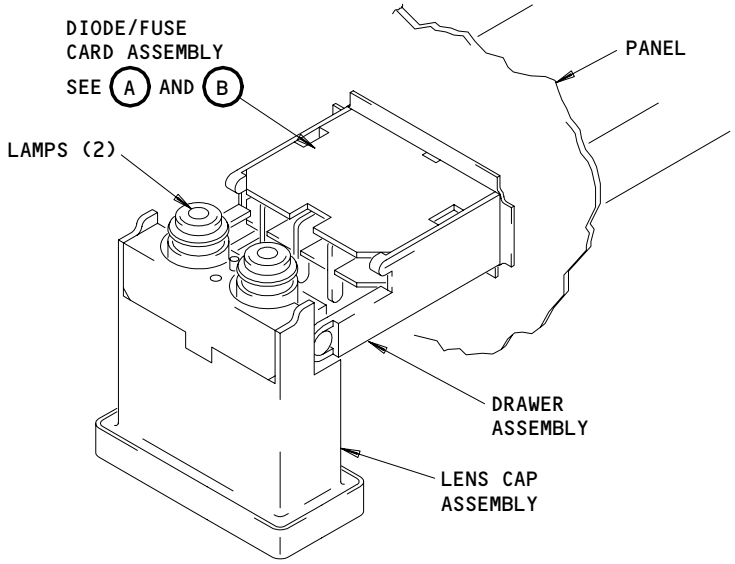
S 864-014
(8) Remove the tape from the sensors.

S 864-015
(9) Close the door to the P29 panel.

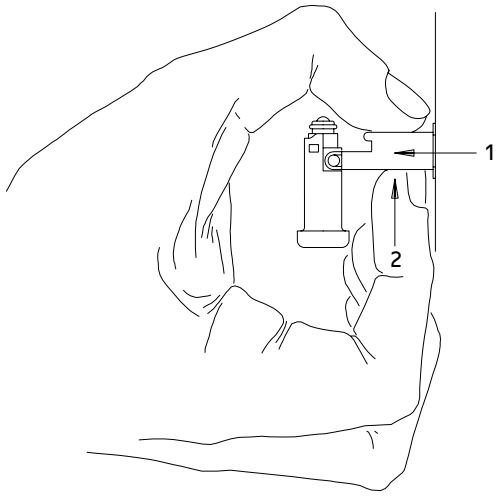
S 864-013
(10) Remove electrical power if it is not neccessary (AMM 24-22-00/201).

ANNUNCIATOR – MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks:
      (1) Annunciator – Lamp Replacement
      (2) Annunciator – Diode/Fuse Card Replacement
      (3) Annunciator – Removal
      (4) Annunciator – Installation
      (5) Discrete Warning Display Module – Removal
      (6) Discrete Warning Display Module – Installation
      (7) Annunciator – LED Annunciator Replacement
   B. Each annunciator contains two lamps. Make sure two lamps are installed in the lens cap at all times, although one lamp possibly does not operate.
   C. You will find four types of annunciators:
      (1) The Type I annunciators with one source of power
      (2) The Type I annunciators with two sources of power
      (3) The Type II annunciators.
      (4) The LED annunciators.
   D. Make sure you use the correct diode/fuse card; they are not interchangeable. Identify diode/fuse cards and drawer assemblies for Type I annunciators by their color:
      (1) Black for those in annunciators with one source of power
      (2) White for those in annunciators with two sources of power
   E. You will find only Type II annunciators in the Inertial Reference Mode Panel (M59). All other annunciators in the flight compartment are Type I.
   F. LED Annunciators:
      (1) The LED annunciators use a single LED cap module to replace the twin-lamp incandescent lens cap assembly, circuit module assembly and drawer assembly.
      (2) The bases and mounting sleeves for the LED and incandescent annunciators are the same for interchangeable annunciators.
      (3) The LED cap module combines the LEDs, electrical circuitry and power connections into a single line replaceable module.

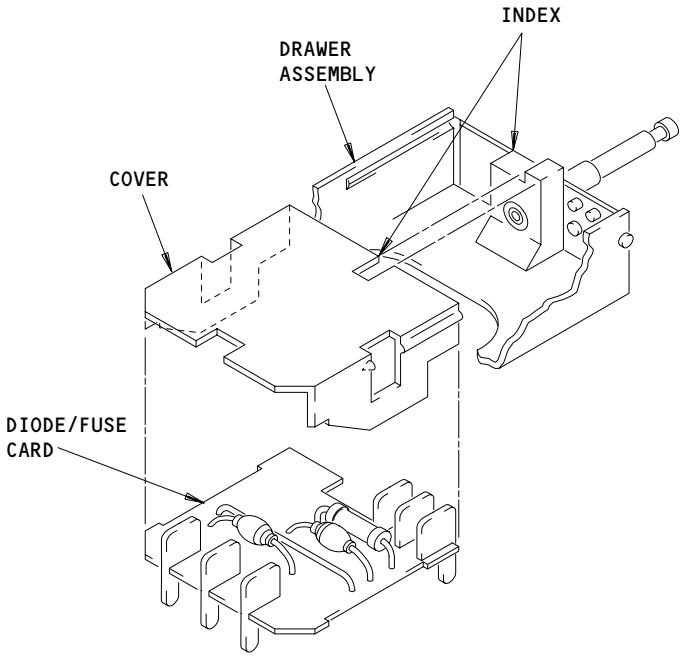


TYPICAL ANNUNCIATOR



DIODE/FUSE CARD ASSEMBLY REMOVAL

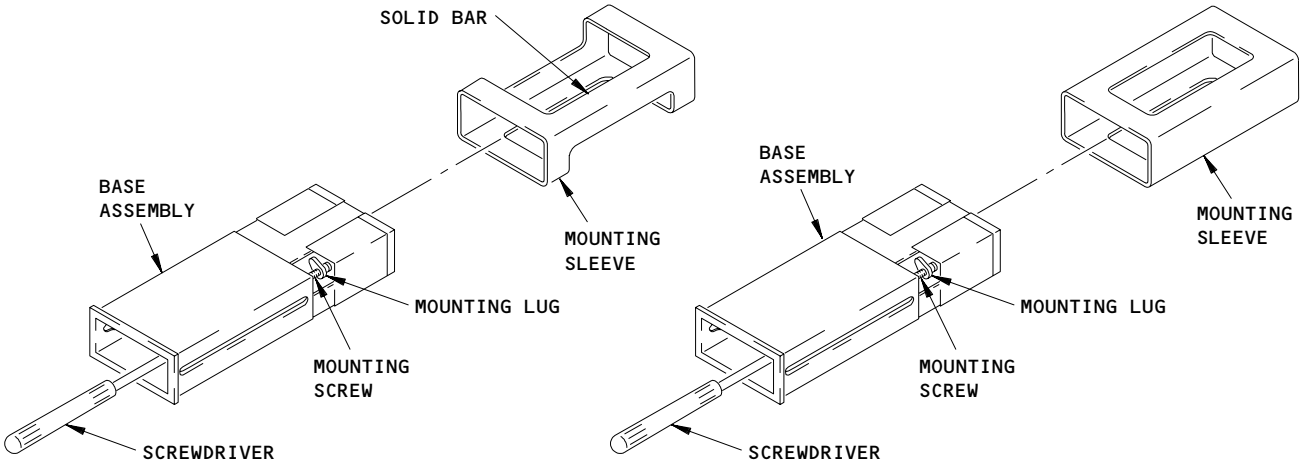
A



DIODE/FUSE CARD ASSEMBLY BREAKDOWN

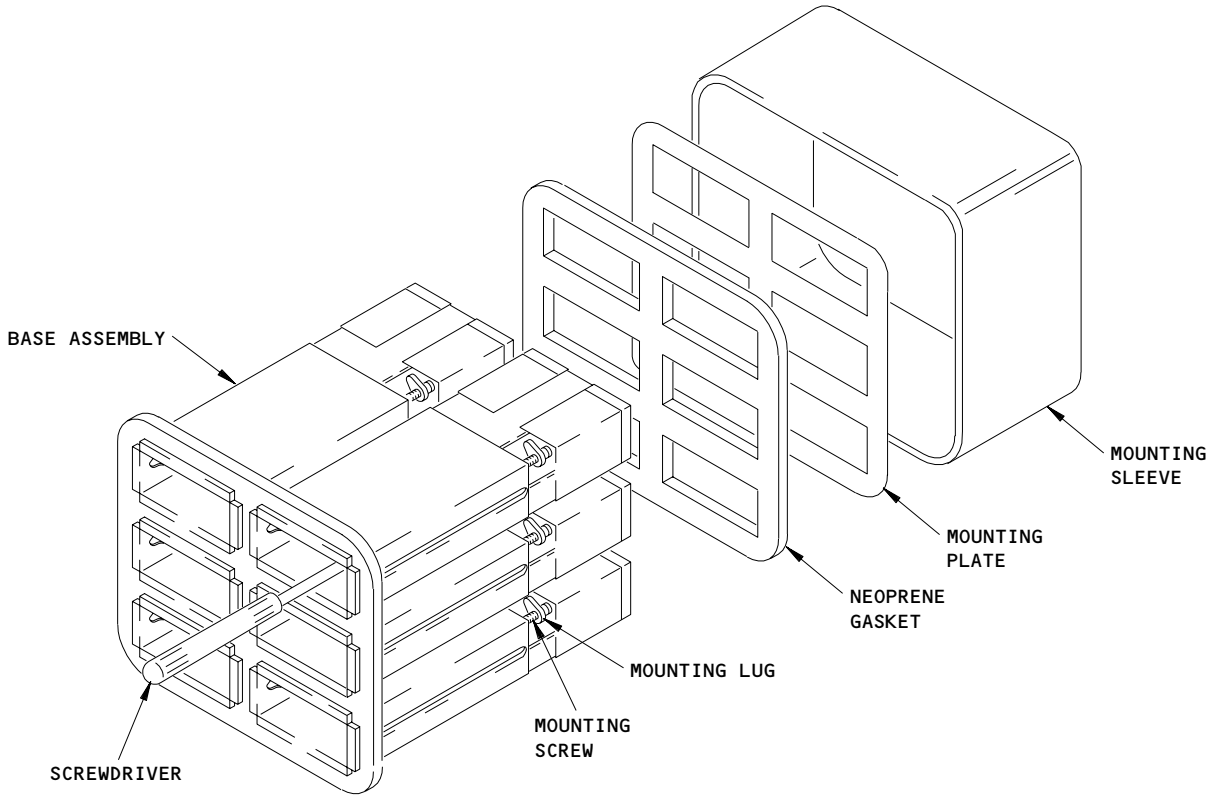
B

Annunciator Maintenance Practices
Figure 201 (Sheet 1)



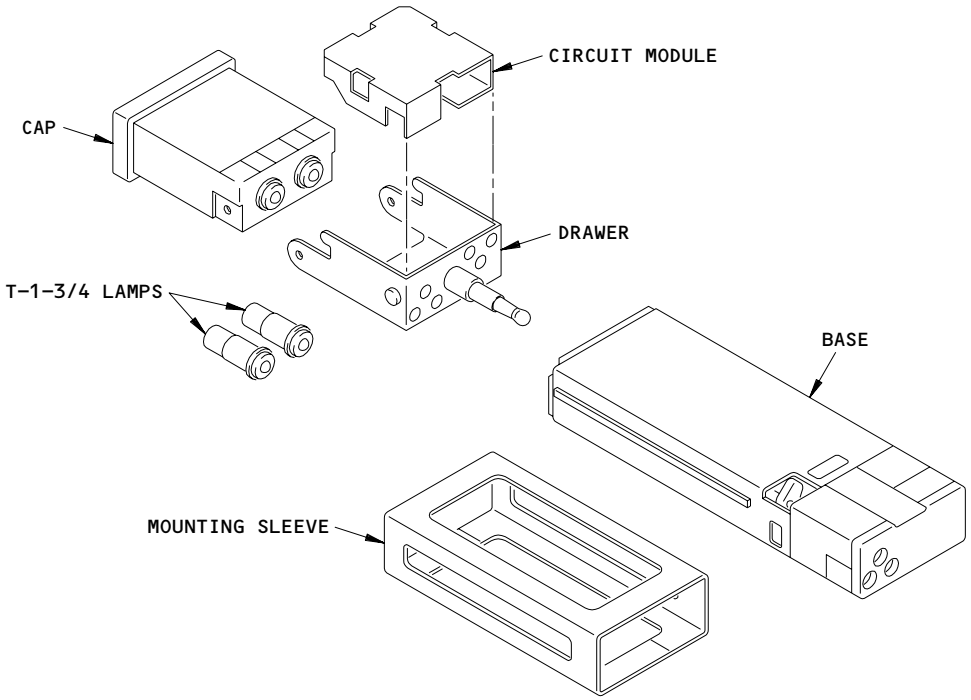
-1000 ANNUNCIATORS -2000/-3000 ANNUNCIATORS

ADJUSTING MOUNTING LUGS

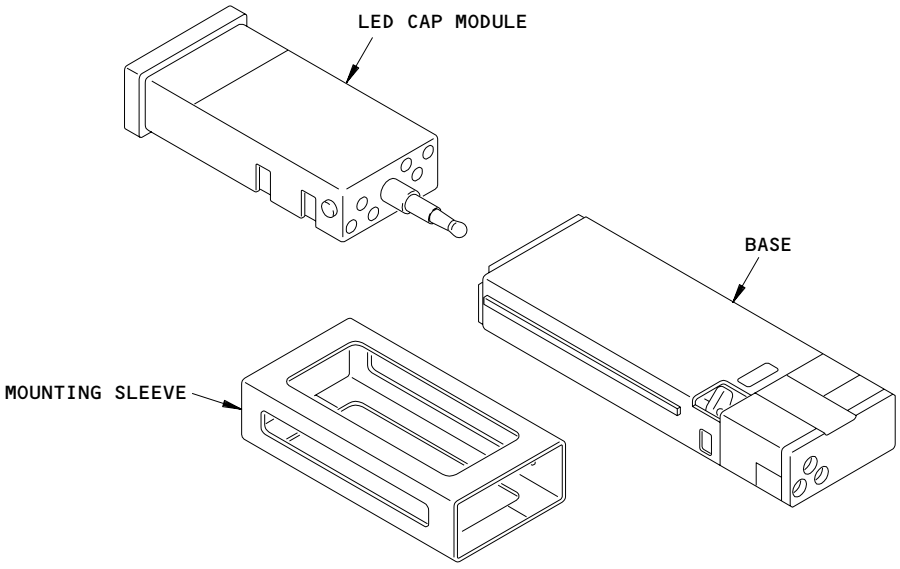


DISCRETE WARNING DISPLAY MODULE, M779

Annunciator Maintenance Practices
Figure 201 (Sheet 2)



INCANDESCENT VERSION OVERVIEW



LED VERSION OVERVIEW

Annunciator Maintenance Practices
Figure 201 (Sheet 3)

(4) A simple drop-in retrofit lets you change incandescent annunciators to LED annunciators.
(5) Power conditioning and dimming functions are integrated into the indicator modules.
(6) The LEDs provide greater life, lower maintenance, lower power consumption, lower temperature and more uniform color and brightness than the incandescent annunciators.

TASK 33-16-02-962-002

2. Annunciator - Lamp Replacement (Fig. 201)

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-16-01
(3) WDM 33-00-01, Lamp Usage Chart
(4) WDM 33-16-11 thru 33-16-99

B. Access
(1) Location Zones
211/212 Flight compartment

C. Procedure

S 962-004
(1) Replace the lamp.

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

(a) Carefully remove the lens cap assembly.
1) Hold the sides of the lens cap assembly between your fingers.
2) With a side-to-side movement, pull the lens cap assembly out until it releases.

NOTE: When the lens cap assembly is fully extended, it releases suddenly. Do not let it hit the slide-mechanism-stops.

(b) Turn the lens cap assembly down as shown in Fig. 201.
(c) Carefully replace the lamp.
(d) Turn the lens cap assembly up.
(e) Push the lens cap assembly straight back until it locks into position.

S 712-039

(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) At the overhead panel, P5, set the test switch to the on position.
1) Make sure the new lamp comes on correctly.
2) If the annunciator does not come on, then try each of the steps which follow:

NOTE: Do a test of the annunciator after each step.

a) With a wooden dowel, make sure the contacts of the base assembly move freely.
b) Clean the contacts of the diode/fuse card with an eraser.
c) Replace the diode/fuse card.

(c) Set the test switch to the off position.
(d) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-16-02-962-007

3. Annunciator - Diode/Fuse Card Replacement (Fig. 201)

A. General
(1) Replace the diode/fuse card, if the two lamps do not come on after you replace them. Also replace the diode/fuse card if the related system operates the annunciator, but the annunciator does not come on during a test of the lamp.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-16-01
(3) WDM 33-00-01, Lamp Usage Chart
(4) WDM 33-16-11 thru 33-16-99

C. Access
(1) Location Zones
211/212 Flight compartment

D. Procedure

S 962-010
(1) Replace the diode/fuse card.

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

(a) Carefully remove the lens cap assembly.
1) Hold the sides of the lens cap assembly between your fingers.
2) With a side-to-side movement, pull the lens cap assembly out until it releases.

NOTE: When the lens cap assembly is fully extended, it releases suddenly. Do not let it hit the slide-mechanism-stops.

(b) Turn the lens cap assembly down as shown in Fig. 201.
(c) Remove the diode/fuse card assembly.
1) Hold the top and bottom of the diode/fuse card assembly with your fingers as shown in Fig. 201.
2) Pull the diode/fuse card straight out until it is clear of the base assembly.
3) Push up on the diode/fuse card to remove it.
(d) Install the cover on the new diode/fuse card as shown in Fig. 201.
(e) Install the diode/fuse card in the drawer assembly.
1) With the index points aligned, put the diode/fuse card into the drawer assembly with the rear end first.

2) Carefully push the front end of the diode/fuse card down until you hear a click.

NOTE: Make sure the front end (with the three prongs) points to the lamps. Also, do not hold the sides of the drawer assembly too tightly while you push the diode/fuse card into position.

(f) Turn the lens cap assembly up.
(g) Push the lens cap assembly straight back until it locks into position.

S 712-011
(2) Do the test of the new diode/fuse card.
(a) Supply electrical power (AMM 24-22-00/201).
(b) At the overhead panel, P5, set the test switch to the on position.
1) Make sure the annunciator comes on correctly.
a) If the annunciator does not come on, clean the contacts of the diode/fuse card with an eraser.
(c) Set the test switch to the off position.
1) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-16-02-002-013
4. Annunciator - Removal (Fig. 201)
A. References
(1) SSM 33-16-01
(2) WDM 33-16-11 thru 33-16-99
B. Access
(1) Location Zones
211/212 Flight compartment
C. Procedure

S 862-014
(1) Remove electrical power from the light:
(a) Open each applicable circuit breaker for the annunciator and attach the DO-NOT-CLOSE tag:
1) On the main power distribution panel, P6.

2) On the overhead circuit breaker panel, P11.

S 022-017

(2) Remove the annunciator.

(a) Remove/lower the access panel to get access to the electrical wires behind the annunciator.

(b) With the correct tool from Table 201, remove the electrical wires from behind the annunciator.

CONTACT WIRE BARREL SIZE	TOOL PART NUMBER
22	M83723/31-20
20	M83723/31-20
16	M83723/31-16
12	M83723/31-12

Insertion/Removal Tools
Table 201

1) Identify the electrical wires to aid during the installation of the annunciator.

(c) Do these steps to remove the lens cap assembly, diode/fuse card assembly, and drawer assembly from the incandescent annunciator:

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

1) Carefully remove the lens cap assembly.

a) Hold the sides of the lens cap assembly between your fingers.

b) With a side-to-side movement, pull the lens cap assembly out until it releases.

NOTE: When the lens cap is fully extended, it releases suddenly. Do not let it hit the slide-mechanism-stops.

2) Turn the lens cap assembly down as shown in Fig. 201.
3) Remove the diode/fuse card assembly.
a) Hold the top and bottom of the diode/fuse card assembly with your fingers as shown in Fig. 201.
b) Pull the diode/fuse card straight out until it is clear of the base assembly.
c) Push up on the diode/fuse card to remove it.
4) Remove the drawer assembly. To do so, lightly apply pressure to its sides while you pull it out.

(d) Do these steps to remove the LED cap module in the LED annunciator:

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LED CAP MODULE. TOOLS CAN CAUSE DAMAGE TO THE MODULE.

1) Carefully remove the LED cap module.
a) Hold the sides of the LED cap module between your fingers
b) Using a side-to-side movement, pull the LED cap module out until it releases.
2) Remove the LED cap module.

(e) Remove the mounting sleeve from the base assembly.
1) Use a small screwdriver to loosen the mounting screws in the base assembly.

NOTE: This will turn the mounting lugs.

2) When it is free, remove the mounting sleeve from the end of the base assembly that is behind the panel.

(f) Remove the annunciator from the panel.

TASK 33-16-02-402-018

5. Annunciator - Installation (Fig. 201)

NOTE: Make sure you disassemble the annunciator before you install it. Refer to the steps that remove the annunciator.

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-16-01
(3) WDM 33-16-11 thru 33-16-99

B. Access
(1) Location Zones
211/212 Flight compartment

C. Procedure

S 422-019

(1) Install the annunciator.
(a) Put the base assembly into the panel with the label TOP pointed up.

CAUTION: FOR -1000 ANNUNCIATORS, MAKE SURE THE MOUNTING SLEEVE IS TURNED TO THE CORRECT POSITION. WHEN YOU TIGHTEN THE MOUNTING SCREWS, THE PINS CAN ALIGN INCORRECTLY AND PREVENT CORRECT INSTALLATION OF THE ANNUNCIATOR.

(b) Move the mounting sleeve around the rear of the base assembly.
    1) FOR -1000 ANNUNCIATORS; align the solid bars between the ends of the mounting sleeve with the mounting screws.
(c) With a small screwdriver, carefully turn the mounting screws to engage the mounting lugs in the mounting sleeve.
    1) Do not tighten the mounting screws at this time.
    2) Make sure the mounting lugs are engaged and the mounting sleeve attaches correctly on the panel.

CAUTION: DO NOT TIGHTEN THE SCREWS TOO MUCH. IF THE SCREWS ARE TOO TIGHT, DAMAGE TO THE ANNUNCIATOR CAN OCCUR.

(d) With a small screwdriver, tighten one then the other mounting screws with quarter turns.
(e) Do these steps to install the lens cap assembly, diode/fuse card assembly, and drawer assembly in the incandescent annunciator:
    1) Install the diode/fuse card.
        a) Put in the rear end first with the index points aligned correctly.
        b) Make sure the front end (with the three prongs) points to the lamps.
        c) Carefully push the front end of the diode/fuse card down until you hear a click.
        d) If you hold the sides of the drawer too tightly, you cannot install the diode/fuse card.
    2) Turn the lens cap assembly up.
    3) Push the lens cap assembly straight back until it locks into position.

(f) Do these steps to install the LED cap module in the LED annunciator:
1) Install the LED cap module into the annunciator base.
2) Push the LED cap module straight into the annunciator base until it locks into position.
(g) Connect the electrical wires.
1) With the tool from Table 201, install each electrical wire in its correct position.
2) Carefully pull on the wire to make sure the contact is in position.

NOTE: Be careful that you do not cause damage to the insulation around the wire with your fingernails.

(h) Close the panel.

S 712-040
(2) Do a test of the new annunciator.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag and close each circuit breaker that was opened when the annunciator was removed.
(c) At the overhead panel, P5, set the test switch to the on position.
1) Make sure the new annunciator comes on correctly.
(d) Set the test switch to the off position.
(e) Do the applicable system test to make sure the annunciator comes on correctly when it receives input from its related system.
(f) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-16-02-002-028
6. Discrete Warning Display Module - Removal (Fig. 201)
A. General
(1) This task refers to a discrete warning display module as a module.
B. References
(1) SSM 33-16-01
(2) WDM 33-16-11 thru 33-16-99
C. Access
(1) Location Zones
211/212 Flight compartment
D. Procedure

S 862-029
(1) Remove electrical power from the module:
(a) Open each applicable circuit breaker for the module and attach the DO-NOT-CLOSE tag:
1) On the overhead circuit breaker panel, P11.

S 012-030

(2) Lower the panel to get access to the electrical wires behind the module.

S 022-031

(3) Remove the discrete warning display module.

(a) With the correct tool in Table 201, remove the electrical wires from behind the module.

CONTACT WIRE BARREL SIZE	TOOL PART NUMBER
22	M83723/31-20
20	M83723/31-20
16	M83723/31-16
12	M83723/31-12

Insertion/Removal Tools
Table 201

1) Identify each electrical wire to aid during the installation of the module.

(b) Remove the top two and the bottom two annunciators from the module.

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LENS CAP. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

1) Remove the lens cap assembly.

a) Hold the sides of the lens cap assembly between your fingers.

b) With a side-to-side movement, pull the lens cap assembly out until it releases.

NOTE: When the lens cap assembly is fully extended, it releases suddenly. Do not let it hit the slide-mechanism-stops.

2) Remove the diode/fuse card.
a) Hold the top and the bottom of the diode/fuse card assembly as shown in Fig. 201.
b) Pull the diode/fuse card straight out until it is clear of the base assembly.
c) Push up on the diode/fuse card to remove it.

(c) Remove the drawer assembly. To do so, lightly apply pressure to its sides.

(d) Remove the mounting sleeve from the base assembly.
1) Use a small screwdriver to loosen the mounting screws.

NOTE: This will turn the mounting lugs.

2) When it is free, remove the mounting sleeve from the end of the base assembly that is behind the panel.

(e) Remove the mounting sleeve, mounting plate, and gasket from the module.

TASK 33-16-02-402-032

7. Discrete Warning Display Module - Installation (Fig. 201)

NOTE: Make sure the top two and the bottom two annunciators are removed from the discrete warning display module before you do this procedure. Refer to the steps that remove the discrete warning display module.

A. General
(1) This task refers to a discrete warning display module as a module.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-16-01
(3) WDM 33-16-11 thru 33-16-99

C. Access
(1) Location Zones
211/212 Flight compartment

D. Procedure

S 412-034
(1) Install the discrete warning display module.
(a) Put the base assembly into the panel with the label TOP pointed up.
(b) Move the gasket, mounting plate, and mounting sleeve around the rear of the base assembly.
(c) With a small screwdriver, carefully turn the mounting screws to engage the mounting lugs in the mounting sleeve.
1) Do not tighten the mounting screws at this time.
2) Make sure the mounting lugs are engaged and the mounting sleeve attaches correctly on the panel.

CAUTION: DO NOT TIGHTEN THE SCREWS TOO MUCH. IF THE SCREWS ARE TOO TIGHT, DAMAGE TO THE ANNUNCIATOR CAN OCCUR.

(d) With a small screwdriver, tighten one then the other mounting screws with quarter-turns.
(e) Install each annunciator in the module.
1) With the index points aligned, put the diode/fuse card into the drawer assembly with the rear end first.
2) Carefully push the front end of the diode/fuse card down until you hear a click.

NOTE: Make sure the front end (with the three prongs) points to the lamps. Also, do not hold the sides of the drawer assembly too tightly while you push the diode/fuse card into position.

(f) Turn the lens cap assembly up.
(g) Push the lens cap assembly straight back until it locks into position.
(h) With the tool from Table 201, install each electrical wire in its correct position.
1) Carefully pull on the wire to make sure the contact is in position.

NOTE: Be careful that you do not cause damage to the insulation around the wire with your fingernails.

(i) Close the panel.

S 712-041
(2) Do a test of the module.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag and close each circuit breaker that was opened when the module was removed.
(c) At the overhead panel, P5, set the test switch to the on position.
1) Make sure each annunciator in the module comes on correctly.
(d) Set the test switch to the off position.
(e) Do the applicable system test to make sure each annunciator comes on correctly when it receives input from its related system.
(f) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-16-02-962-043
8. Annunciator - LED Annunciator Replacement (Fig. 201)
A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 33-16-00/501, Master Dim and Test
B. Access
(1) Location Zones
(a) 211/212 Flight Compartment

C. Procedure

S 862-044
(1) Supply electrical power (AMM 24-22-00/201).

S 712-045
(2) Push the TEST switch on the right lighting control panel in the P5 panel and identify the annunciator(s) to be replaced.

S 712-046
(3) Push the TEST switch again.

S 962-047
(4) Do these steps to replace the LEDs in the annunciator:

CAUTION: USE ONLY YOUR HANDS TO REMOVE THE LED CAP MODULE. TOOLS CAN CAUSE DAMAGE TO THE MODULE.

(a) Replace the entire LED cap module.
(b) Carefully remove the LED cap module.
1) Hold the sides of the LED cap module between your fingers.
2) Use a side-to-side movement to pull the LED cap module out until it releases.
(c) Remove the LED cap module.
(d) Check the base assembly for damage.
(e) Do these steps to replace the used base assembly:
1) Do this task to remove the used base assembly: Annunciator - Removal.
2) Do this task to install the new base assembly: Annunciator - Installation.
(f) Install a new LED cap module into the annunciator base.
(g) Push the LED cap module straight into the annunciator base until it locks into position.

S 712-048
(5) Do a test of the annunciator (AMM 33-16-00/501).

S 862-049
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

PASSENGER COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. Passenger compartment lighting provides lighting to the entire passenger compartment. It also provides area lighting for entryways, attendants work areas, closets, lavatories, partitions, and galleys. Passenger information signs and attendant call lights are also installed.
   B. Call lights and reading lights installed on passenger service units (PSU) are part of a multiplexed passenger entertainment/service system (Ref Chapter 23, Communications).
   C. Passenger compartment lighting has these sections:
      (1) Passenger Compartment Illumination Lights (AMM 33-21-00/001).
         (a) General lighting for the passenger compartment is from fluorescent lights installed on or near the ceiling. Incandescent lights in the ceiling give dim lighting. Switches are found on the attendant's panels for the passenger compartment lights.
      (2) Passenger Loading Lights (AMM 33-22-00/001)
         (a) Lighting is given to door thresholds, attendant's stations, galley and lavatory areas with incandescent and fluorescent lights. These lights are installed in the ceiling.
      (3) Passenger Signs (AMM 33-24-00/001)
         (a) Passenger information signs are installed throughout the passenger compartment in the passenger service units (PSU), lavatories, and forward and aft lowered ceiling. Switches on overhead panel P5 in the flight compartment control the signs.
      (4) Passenger Call Lights (AMM 33-25-00/001)
         (a) Passenger call lights consist of attendant call switches in the lavatories and attendant call lights installed near each attendants' station. Additional call lights and passenger reading lights are in each PSU. They are part of a multiplexed passenger entertainment/service system described in Chapter 23, Communications.
      (5) Lavatory Lights (AMM 33-26-00/001)
         (a) Dome lights in the ceiling and fluorescent lights adjacent to the mirrors provides lighting for the lavatories. A switch on each lavatory door controls the mirror lights.
      (6) Galley Lights (AMM 33-27-00/001)
         (a) Fluorescent lights in the ceiling panels provides lighting for each galley area.

PASSENGER COMPARTMENT ILLUMINATION - DESCRIPTION AND OPERATION

1. General
   A. Passenger compartment illumination has these lighting systems:
      (1) Indirect Ceiling Lights
         (a) Indirect ceiling lights are fluorescent lights in four rows in the ceiling panels.
      (2) Night Lights
         (a) Night lights are incandescent lights in 2 rows on the ceiling frame.
      (3) Sidewall Lights
         (a) Sidewall lights are fluorescent lights in both sidewalls.
      (4) ON SOME AIRPLANES;
         Partition Washlights
         (a) Partition washlights are fluorescent lights on the ceiling above each partition.
   B. Lights are installed throughout the passenger compartment.
   C. For more data about this lighting system, refer to these sources:
      (1) SSM 33-21-01 thru 33-21-99
      (2) WDM 33-21-11 thru 33-21-99
2. Operation
   A. Functional Description
      (1) Indirect Ceiling Lights
         (a) Indirect ceiling lights are fluorescent tubes mounted in 2 rows (inboard and outboard) in the ceiling panels over each aisle. They provide indirect lighting throughout the length of the passenger cabin.
         (b) Power is supplied by the 115v ac ground service bus through circuit breakers on miscellaneous electrical equipment panel P33, to forward and aft lighting distribution panels P19 and P25.
         (c) A transformer in the P19 or P25 panel increases the voltage to the 115 volts ac to 350 volts ac which is connected to the ballasts through relays.
         (d) Lights are grouped into symmetrical inboard and outboard pairs, each pair with one ballast.
         (e) You control the indirect ceiling lights in each section of the passenger compartment with a switch on each attendant's panel.
            1) For dim lighting, only the outboard rows of lights come on.

2) For bright lighting, the outboard and inboard rows of lights come on.

(f) AIRPLANES WITH FLEXIBLE ZONE LIGHTING;
On some airplanes, flexibility switches, on P19, make it possible to change the attendant's panel location for control of the lights in a section of the passenger compartment. On other airplanes, you set a switch on an attendant's panel to change the attendant's panel which controls the lights.

(g) AIRPLANES WITH THE INDIRECT CEILING LIGHTS CONNECTED TO THE ALTITUDE PRESSURE SWITCH ON P19;
If the air pressure in the passenger compartment decreases to less than the air pressure at 14,000 feet, the indirect ceiling lights will come on automatically.

(2) Night Lights

(a) Night lights are incandescent lamps mounted on the ceiling frame directly above each main aisle. They provide soft low level illumination throughout the passenger cabin. Power is supplied from two buses.

(b) The 28v ac right transfer bus supplies power to forward lights through a circuit breaker on overhead panel P11 and to a relay in forward lighting distribution panel P19.

(c) The 115v ac right transfer bus supplies power to mid and aft night lights through a circuit breaker on right miscellaneous equipment panel P37 and to a relay in aft lighting distribution panel P25. A transformer in P25 steps-down 115v ac to 28v ac.

(d) You control the night lights in each section of the passenger compartment with a switch on each attendant's panel.

(e) AIRPLANES WITH FLEXIBLE ZONE LIGHTING;
On some airplanes, flexibility switches, on P19, make it possible to change the attendant's panel location for control of the lights in a section of the passenger compartment. On other airplanes, you set a switch on an attendant's panel to change the attendant's panel which controls the lights.

(f) The hydraulic motor-driven generator system automatically provides power for all aisle night lights when the airplane is airborne and there is a loss of AC power from both main generators.

(3) Sidewall Lights

(a) Sidewall lights are fluorescent tubes installed in the sidewall panels above the windows. They provide direct lighting of the sidewall panels throughout the length of the passenger cabin.

(b) Electrical power is from the 115v ac ground service bus through circuit breakers on miscellaneous electrical equipment panel P33. Electrical power is distributed to forward lighting distribution panel P19.
Two transformers on P19 step-up 115v ac to 280v ac which is connected to ballasts through relays.
You control the night lights in each section of the passenger compartment with a switch on each attendant's panel.

(c) AIRPLANES WITH FLEXIBLE ZONE LIGHTING;
On some airplanes, flexibility switches, on P19, make it possible to change the attendant's panel location for control of the lights in a section of the passenger compartment. On other airplanes, you set a switch on an attendant's panel to change the attendant's panel which controls the lights.

(4) AIRPLANES WITH PARTITION WASHLIGHTS;
Partition Washlights

(a) A partition washlight is a fluorescent light on the ceiling above a partition. It gives specific lighting to the partition.

(b) Electrical power and control for a partition washlight is supplied with a circuit connected to other fluorescent lights in the same area of the passenger compartment. Some partition lights are on the circuit with the indirect ceiling lights. Other partition lights are on the circuit with the sidewall washlights.

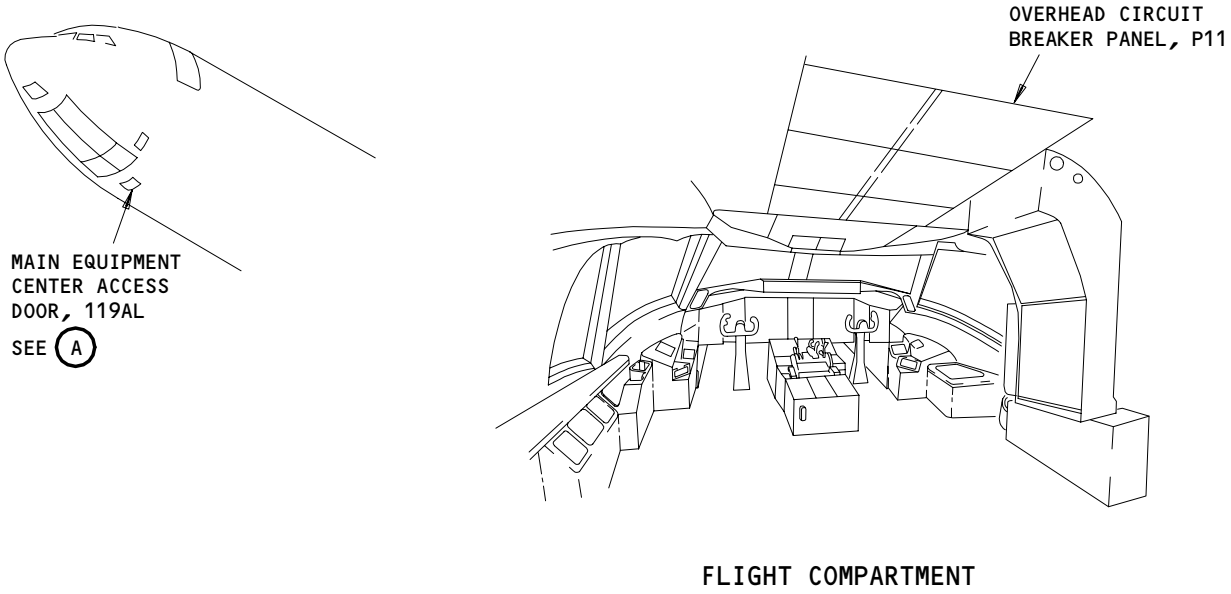
PASSENGER COMPARTMENT ILLUMINATION

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
BALLAST –	--		PASS. COMPT	33-21-00
CIRCUIT BREAKER –	1		FLT COMPT, P11	*
CIRCUIT BREAKER –	1		119AL, MAIN EQUIP CTR, P36,P37	*
LIGHT –				
INDIRECT CEILING	2		PASS. COMPT	33-21-00
NIGHT	2		PASS. COMPT	33-21-00
PARTITION WASH 1	2		PASS. COMPT	33-21-00
SIDEWALL	2		PASS. COMPT	33-21-00
RELAY –	2		PASS. COMPT, P19,P25	
SWITCH –				
LIGHT	2		PASS. COMPT	*
PASS. CABIN ALTITUDE 1	--		PASS. COMPT	*
TRANSFORMER –			PASS. COMPT	*

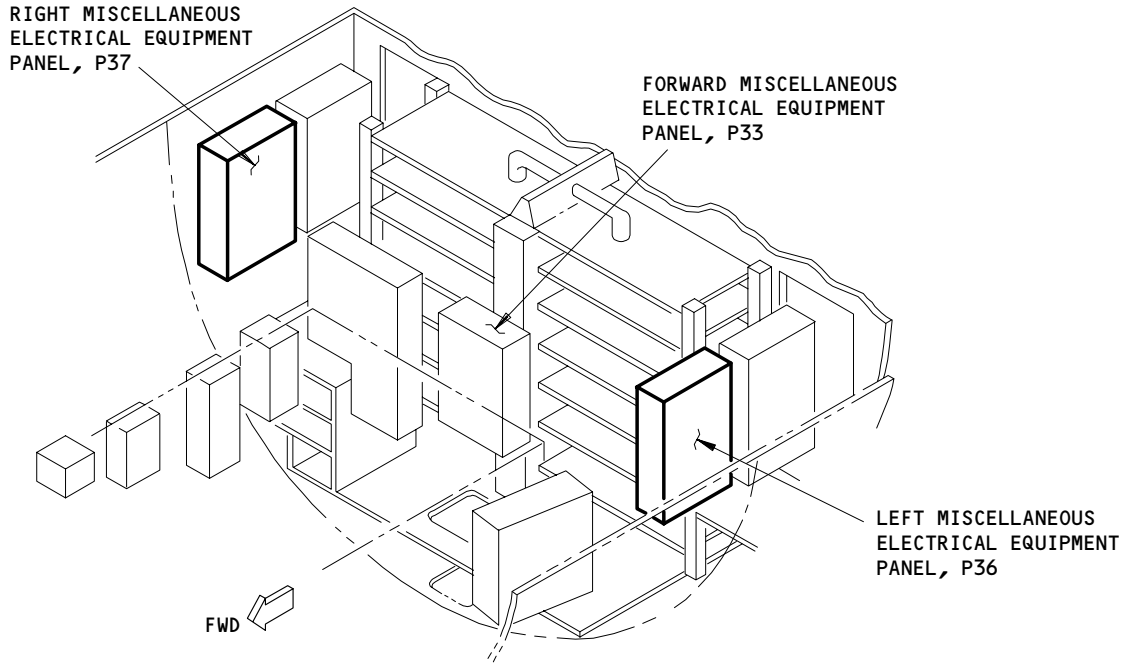
* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

1 NOT INSTALLED ON ALL AIRPLANES

Passenger Compartment Illumination – Component Index
Figure 101



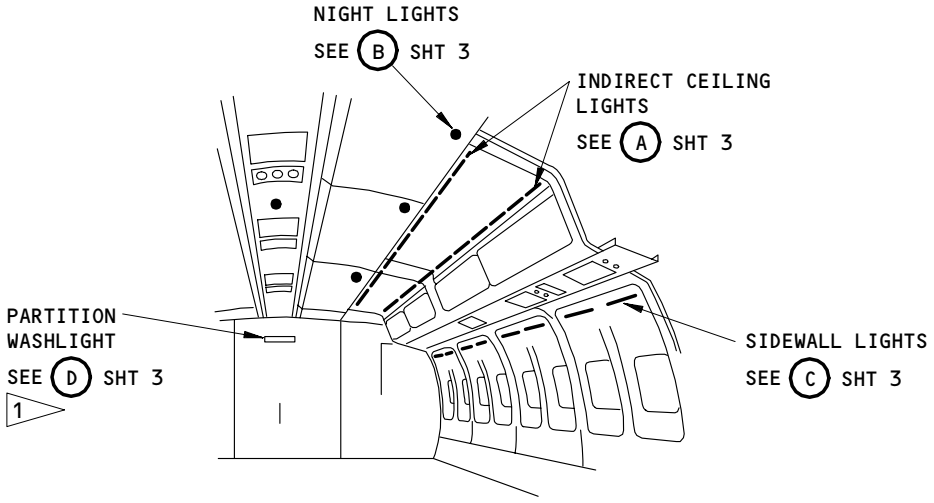
FLIGHT COMPARTMENT



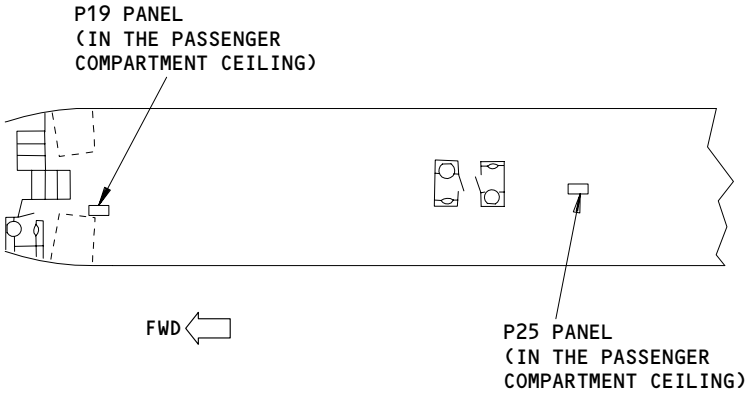
MAIN EQUIPMENT CENTER

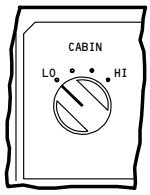
(A)

Passenger Compartment Illumination Lights - Component Location
Figure 102 (Sheet 1)



PASSENGER COMPARTMENT

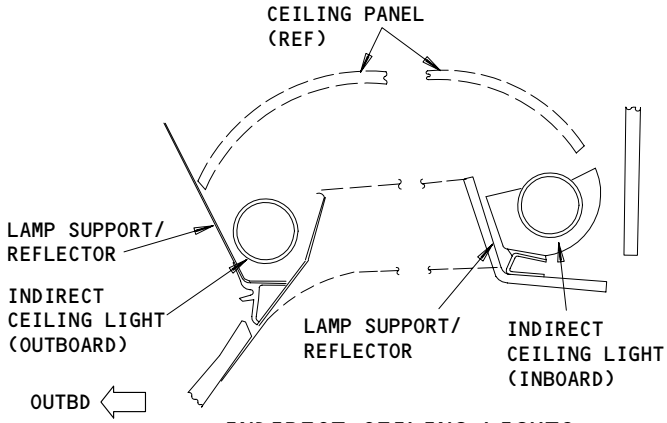




ATTENDANT LIGHTS
CONTROL SWITCH
(INSTALLED ON
ATTENDANT'S PANEL)

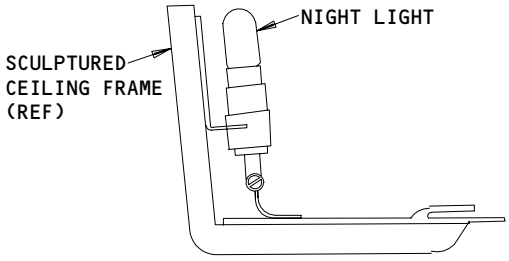
1 NOT INSTALLED ON ALL AIRPLANES

Passenger Compartment Illumination Lights - Component Location
Figure 102 (Sheet 2)



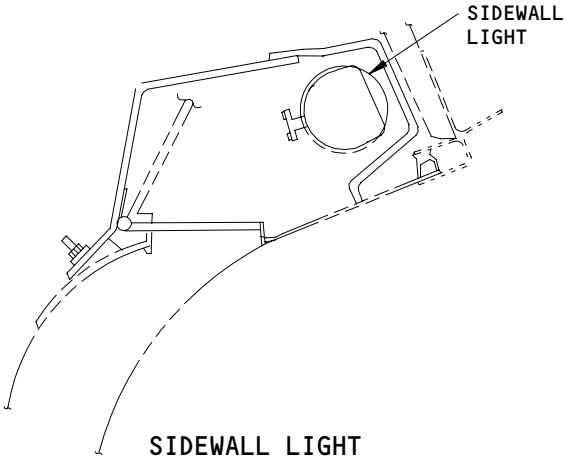
INDIRECT CEILING LIGHTS
(EXAMPLE)

A



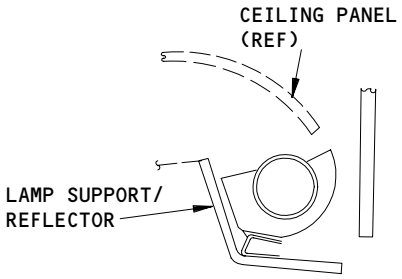
NIGHT LIGHT
(EXAMPLE)

B



SIDEWALL LIGHT
(EXAMPLE)

C



PARTITION
WASHLIGHT
(EXAMPLE)

D 1

1 NOT INSTALLED ON ALL AIRPLANES

Passenger Compartment Illumination Lights - Component Location
Figure 102 (Sheet 3)

E60931

PASSENGER COMPARTMENT ILLUMINATION - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Indirect Ceiling Light - Lamp Replacement
      (2) Indirect Ceiling Light - Ballast Replacement
      (3) Night Light - Lamp Replacement
      (4) Sidewall Light - Lamp Replacement
      (5) Sidewall Light - Ballast Replacement
      (6) AIRPLANES WITH PARTITION WASHLIGHTS;
          Partition Washlight - Lamp Replacement
      (7) Passenger Compartment Lighting - Operational Test
      (8) Passenger Compartment Lighting - Operational Test of the Night Lights Connected to the Hydraulic Motor-Driven Generator

   TASK 33-21-00-962-059
2. Indirect Ceiling Light - Lamp Replacement
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-21-01
      (3) WDM 33-00-11, Lamp Usage Chart
      (4) WDM 33-21-11 thru 33-21-19
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage
      (2) Access Panels
          119AL Main equipment access panel
   C. Procedure

      S 962-002
      (1) Replace the lamp in a indirect ceiling light:
          (a) Do one of these steps to remove electrical power from the indirect ceiling light:
              1) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.
              2) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
                 a) On the forward miscellaneous electrical equipment panel, P33.

S 962-053
(2) Carefully replace the lamp.
(a) If the lamp has a cover or end cap, remove these parts and install them on the new lamp.

D. Lamp Test

S 862-054
(1) Supply electrical power (AMM 24-22-00/201).

S 862-055
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-056
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-057
(4) Set the switch to the usual position.

S 862-058
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-962-124

3. Indirect Ceiling Light - Ballast Replacement

A. General
(1) The ballasts for the outboard indirect ceiling lights are located on the tops of the left outboard overhead stowage bins. The ballasts are to the left of the ceiling panels.
(2) The ballasts for the inboard indirect ceiling lights are located on the tops of the left center overhead stowage bins. The ballasts are to the right of the ceiling panels.
(3) Each ballast supplies electrical power to two indirect ceiling lights. When one ballast is defective, two indirect ceiling lights will not come on correctly.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-21-01
(3) WDM 33-21-11 thru 33-21-19

C. Access
(1) Location Zone
200 Upper Half of Fuselage

D. Procedure

S 862-125
(1) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
(a) On the forward miscellaneous electrical equipment panel, P33.

S 012-126
(2) Remove the ceiling panel that is next to the ballast.

S 022-127
(3) Remove the ballast:
(a) Disconnect the electrical cable from the ballast.
(b) Remove the fasteners from the base of the ballast.
(c) Remove the ballast from the top of the overhead stowage bin.

S 422-128
(4) Install the replacement ballast:
(a) Put the replacement ballast on the top of the overhead stowage bin.
(b) Install the fasteners into the base of the replacement ballast.
(c) Connect the electrical cable to the replacement ballast.

S 862-129
(5) Remove each DO-NOT-CLOSE tag and close the applicable circuit breakers:
(a) On the forward miscellaneous electrical equipment panel, P33.

S 862-130
(6) Supply electrical power (24-22-00/201).

S 712-131
(7) Do a test of the replacement ballast:
(a) At the attendant's panel, set the switch for the indirect ceiling lights to the on position.
1) Make sure that the indirect ceiling lights connected to the replacement ballast come on.
(b) Set the switch to the usual position.

S 412-132
(8) Install the ceiling panel next to the replacement ballast.

S 862-133
(9) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-962-062

4. Night Light - Lamp Replacement

A. References

(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-21-02
(3) WDM 33-00-11, Lamp Usage Chart
(4) WDM 33-21-21
(5) WDM 33-21-41

B. Access

(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-060

(1) Do one of these steps to remove electrical power from the night light:
(a) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.
(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the overhead circuit breaker panel, P11.
2) On the right miscellaneous electrical equipment panel, P37.
3) On the left miscellaneous electrical equipment panel, P36.

S 962-061

(2) Carefully replace the lamp.
(a) If the lamp has a cover or end cap, remove these parts and install them on the new lamp.

D. Lamp Test

S 862-063

(1) Supply electrical power (AMM 24-22-00/201).

S 862-064
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-065
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-066
(4) Set the switch to the usual position.

S 862-067
(5) Remove electrica power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-962-086

5. Sidewall Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 25-24-04/401, Partitions - Removal and Installation
(3) AMM 25-21-01/401, Sidewall Panels - Removal and Installation
(4) AMM 25-25-01/201, Passenger Seats - Maintenance Practices
(5) SSM 33-21-03
(6) WDM 33-00-11, Lamp Usage Chart
(7) WDM 33-21-31 thru 33-21-99

B. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-068
(1) Do one of these steps to remove electrical power from the sidewall light:
(a) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.

(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the forward miscellaneous electrical equipment panel, P33.
2) On left miscellaneous electrical equipment panel, P36.

S 012-069
(2) Open the lens and turn it upward into the retaining clip.
(a) To replace a lamp behind a panel with a slot too small for lamp access, do these steps:
1) If it is necessary, remove the adjacent class divider (AMM 25-24-04/401).
2) If it is necessary, remove the adjacent passenger seats (AMM 25-25-01/201).
3) Remove the sidewall panel (AMM 25-21-01/401).

S 962-070
(3) Carefully replace the lamp.
(a) If the lamp has a cover or end cap, remove these parts and install them on the new lamp.

S 412-071
(4) Release the lens from the retaining clip and close it.
(a) Install the sidewall panel, if it was removed (AMM 25-21-01/401).
(b) Install the class divider, if it was removed (AMM 25-24-04/401).
(c) Install each passenger seat that was removed (AMM 25-25-01/201).

D. Lamp Test

S 862-072
(1) Supply electrical power (AMM 24-22-00/201).

S 862-073
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-074
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-075
(4) Set the switch to the usual position.

S 862-011
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-962-108

6. Sidewall Light - Ballast Replacement

A. General
(1) The sidewall light ballasts are located on the tops of the outboard overhead stowage bins on the outboard side of the ceiling panels.
(2) Most ballasts operate two sidewall lights. When this type of ballast is defective, two sidewall lights will not come on correctly.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-21-03
(3) WDM 33-21-31 thru 33-21-99

C. Access
(1) Location Zone
200 Upper Half of Fuselage

D. Procedure

S 862-109
(1) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
(a) On the forward miscellaneous electrical equipment panel, P33.
(b) On the left miscellaneous electrical equipment panel, P36.

S 012-110
(2) Remove the ceiling panel that is inboard of the ballast.

S 022-117
(3) Remove the ballast:
(a) Disconnect the electrical cable from the ballast.
(b) Remove the fasteners from the base of the ballast.
(c) Remove the ballast from the top of the outboard overhead stowage bin.

S 422-118
(4) Install the replacement ballast:
(a) Put the replacement ballast on the top of outboard overhead stowage bin.
(b) Install the fasteners into the base of the replacement ballast.
(c) Connect the electrical cable to the replacement ballast.

S 862-119
(5) Remove each DO-NOT-CLOSE tag and close the applicable circuit breakers:
(a) On the forward miscellaneous electrical equipment panel, P33.
(b) On the left miscellaneous electrical equipment panel, P36.

S 862-120
(6) Supply electrical power (AMM 24-22-00/201).

S 712-121
(7) Do a test of the replacement ballast:
(a) At the attendant's panel, set the switch for the sidewall lights to the on position.
1) Make sure that the sidewall lights connected to the replacement ballast come on correctly.
(b) Set the switch to the usual position.

S 412-122
(8) Install the ceiling panel inboard of the replacement ballast.

S 862-123
(9) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-962-076

7. AIRPLANES WITH PARTITION WASHLIGHTS;
Partition Washlight - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-21-01
(3) SSM 33-21-03
(4) WDM 33-00-11, Lamp Usage Chart
(5) WDM 33-21-11 thru 33-21-99

B. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-077
(1) Do one of these steps to remove electrical power from the partition washlight:
(a) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.
(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the forward miscellaneous electrical equipment panel, P33.

S 012-078
(2) Open the lamp cover.
(a) Turn the quick-release fasteners one-quarter turn.
(b) Lower the lamp cover.

S 962-079
(3) Carefully replace the lamp.
(a) If the lamp has a cover or end cap, remove these parts and install them on the new lamp.

S 412-080
(4) Close the lamp cover and tighten each fastener.

D. Lamp Test

S 862-081
(1) Supply electrical power (AMM 24-22-00/201).

S 862-082
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-083
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-084
(4) Set the switch to the usual position.

S 862-085
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-732-017

8. Passenger Compartment Lighting - Operational Test

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Procedure

S 862-019
(1) Supply electrical power (AMM 24-22-00/201).

S 712-090
(2) At each attendant's panel, do a test of the indirect ceiling lights.
(a) Set the switch for the indirect ceiling lights to the on position.
1) Make sure the indirect ceiling lights come on.
(b) Set the switch to the off position.
1) Make sure the indirect ceiling lights go off.
(c) Set the switch to the usual position.

S 712-093
(3) At each attendant's panel, do a test of the night lights.
(a) At the attendant's panel, set the switch for the night lights to the on position.
1) Make sure each night light comes on correctly.

(b) Set the switch to the off position.
1) Make sure the night lights go off.
(c) Set the switch to the usual position.

S 712-092
(4) At each attendant's panel, do a test of the sidewall lights.
(a) At the attendant's panel, set the switch for the sidewall lights to the on position.
1) Make sure each sidewall light comes on correctly.
(b) Set the switch to the off position.
1) Make sure the sidewall lights go off.
(c) Set the switch to the usual position.

S 712-096
(5) AIRPLANES WITH PARTITION WASHLIGHTS;
At each applicable attendant's panel, do a test of the partition washlights.
(a) Set the switch for the partition washlights to the on position.
1) Make sure the partition washlights come on.
(b) Set the switch to the off position.
1) Make sure the partition washlights go off.
(c) Set the switch to the usual position.

S 712-097
(6) ATTENDANT'S PANELS WITH SWITCHES TO CONTROL ZONE LIGHTING;
As it is applicable, use the switches on each attendant's panel to do the test again for each zone.

S 712-098
(7) AIRPLANES WITH FLEXIBILITY SWITCHES;
As it is applicable, use the switches on the lighting distribution panel, P19, to do each test again for each zone.

S 712-105
(8) AIRPLANES WITH AN ALTITUDE SWITCH;
Do a test of the indirect ceiling lights that come on automatically.

NOTE: Use WDM 33-22-42, SHT 1, to verify the installation of the altitude switch.

(a) At each attendant's panel, set the switch for the indirect ceiling lights to the off position.
(b) Disconnect the electrical connector from the altitude switch, S527.
(c) Put a jumper wire between pins 1 and 2.
1) Make sure the indirect ceiling lights come on.
(d) Remove the jumper wire.
1) Make sure the indirect ceiling lights go off.
(e) Connect the electrical connector to the switch.
(f) At the attendant's panel, set the switch to the usual position.

S 862-104
(9) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-21-00-712-102

9. Passenger Compartment Lighting - Operational Test of the Night Lights Connected to the Hydraulic Motor-Driven Generator

A. References
(1) AMM 29-11-00/201, Pressurize/Depressurize Main Hydraulic System
(2) SSM 33-21-02
(3) WDM 33-21-21 thru 33-21-41

B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Procedure

S 862-020
(1) Use the hydraulic service cart or operate both ACMP C1 and C2 to pressurize the center hydraulic system (AMM 29-11-00/201).
(a) At each attendant's panel, set the switch for the passenger compartment lights to the bright position.
1) Make sure the night lights are off.
(b) Push and hold the EQUIP COOL/HYD GEN switch on the miscellaneous test panel (P61) in the HYD GEN position.

NOTE: The air driven hydraulic pump (ADP) will start when the HYD GEN test switch is set and air is supplied to the ADP and the ADP switch is in the AUTO position.

1) Make sure all the aisle night lights in the passenger compartment come on.
(c) Release the EQUIP COOL/HYD GEN switch.
1) Make sure the night lights go off.
(d) AIRPLANES WITH FLEXIBILITY SWITCHES FOR THE NIGHT LIGHTS; Use the switches on the lighting distribution panel, P19, to do the test again for each zone.

S 862-023
(2) Remove hydraulic power if it is not necessary (AMM 29-11-00/201).

PASSENGER LOADING LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. A passenger loading light is one of these types of lights:
      (1) Direct Ceiling Light
         (a) Direct ceiling lights are fluorescent tubes in the ceiling panels immediately outside lavatory doors and in nearby aisles. These lights are controlled with switches near the lights. The flight deck door also controls the forward light.
      (2) Threshold Entry Light
         (a) Threshold entry lights are both fluorescent and incandescent lights. The lights are installed on the inner side of the passenger and service doors.
      (3) AIRPLANES WITH CLOSET LIGHTS;
         Closet Light
         (a) Each closet light is an incandescent light on the ceiling of a closet.
      (4) Attendant Work Light
         (a) Attendant work lights are incandescent lights installed on the ceiling above the attendant work areas.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-22-01 thru 33-22-99
      (2) WDM 33-22-11 thru 33-22-99
2. Operation
   A. Functional Description
      (1) Direct Ceiling Lights
         (a) Direct ceiling lights are fluorescent and incandescent lights installed in the ceiling panels. They give direct lighting to the aisle below.
         (b) Each fluorescent light operates with 115 volts ac. Each incandescent light operates with 28 volts ac.
         (c) You operate a direct ceiling light with a switch near the light. Usually the switch is the one for the passenger compartment lights that is installed on the attendant's panel near the light.
            1) The lights near the flight compartment are also controlled with the position of the flight compartment door. A switch in the header of the door makes the lights go off when the door is open.
         (d) The hydraulic motor-driven generator provides electrical power to the forward ceiling lights when there is a loss of ac power.

(e) AIRPLANES WITH FLEXIBLE ZONE LIGHTING;
On some airplanes, flexibility switches, on P19, make it possible to change the attendant's panel location for control of the lights in a section of the passenger compartment. On other airplanes, you set a switch on an attendant's panel to change the attendant's panel which controls the lights.

(f) AIRPLANES WITH DIRECT CEILING LIGHTS CONNECTED TO THE ALTITUDE PRESSURE SWITCH ON P19;
If the air pressure in the passenger compartment decreases to less than the air pressure at 14,000 feet, the forward fluorescent lights will come on automatically.

(g) The ballast for each fluorescent light is on the top of the light.

(2) Threshold Entry Lights

(a) Threshold entry lights consist of both incandescent and fluorescent lights. The lights are installed on ceiling panels just inside passenger loading and service door areas. They provide lighting for passenger loading and service entry areas.

(b) Each fluorescent light operates with 115 volts ac. Each incandescent light operates with 28 volts ac.

(c) You operate a threshold entry light with a switch on the attendant's panel near the light.

1) The position of the passenger door near the incandescent entry light also controls it. When you set the switch to the armed position, a proximity switch electronic unit at the door makes the light come on when the door is opened (AMM 32-09-00/001).

(3) AIRPLANES WITH CLOSET LIGHTS;
Closet Lights

(a) A closet light is an incandescent light that gives lighting from above to a closet or video control center.

(b) Each light operates with 28 volts ac.

(c) CLOSET LIGHT WITH A SWITCH;
There is a switch installed in or near the closet for the operation of the light.

(4) Attendant Work Lights
  (a) There are incandescent lights installed to give lighting to the attendant's stations.
  (b) Each light operates with 28 volts ac.
  (c) You control these lights with a switch in or near the attendant's station. Usually the switch is installed in the attendant's panel at the station.

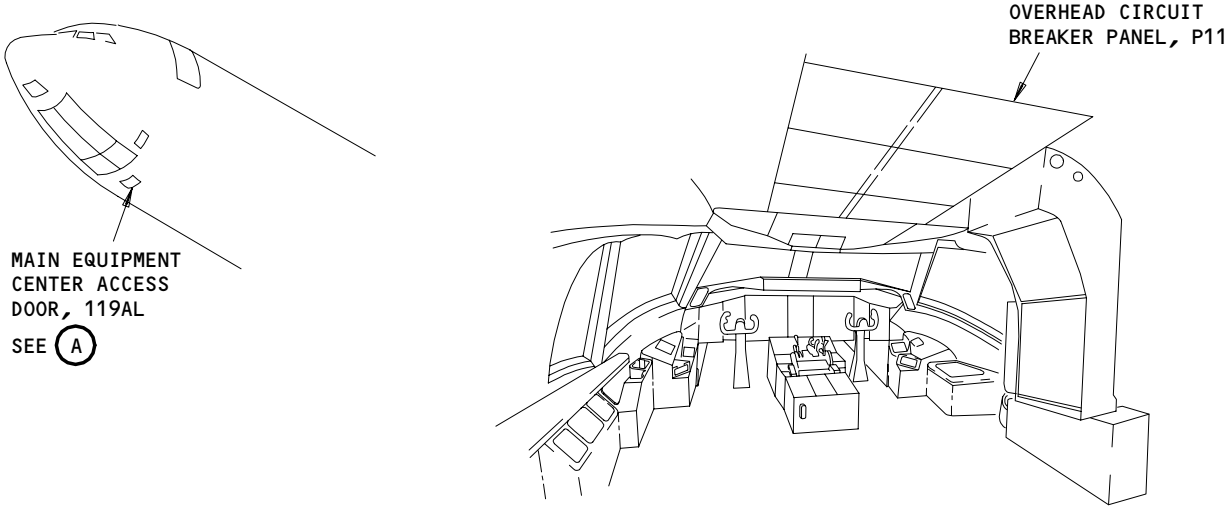
PASSENGER LOADING LIGHTS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
BALLAST –	--		PASS. COMPT, ADJACENT TO LIGHT	33-22-00
CIRCUIT BREAKER –	1		119AL, MAIN EQUIP CTR, P33	33-22-00
LIGHT –				
ATTENDANT WORK	2		PASS. COMPT	33-22-00
CLOSET	--		PASS. COMPT	33-22-00
DIRECT CEILING	--		PASS. COMPT	33-22-00
ENTRY	2		PASS. COMPT	33-22-00
PANEL –				
AFT ATTENDANT'S	--		PASS. COMPT	33-22-06
FWD ATTENDANT'S	--		PASS. COMPT	33-22-05
RELAY –	--		PASS. COMPT, P19,P25	*
SWITCH –				
ALTITUDE PRESSURE 1	--		PASS. COMPT, P19	*
DOOR	--		FLT COMPT DOOR	*
LIGHT	2		PASS. COMPT	*
PROX ELEC UNIT 1	1		119AL, MAIN EQUIP CTR, E1-SHELF	*
TRANSFORMER –	1		119AL, MAIN EQUIP CTR	*

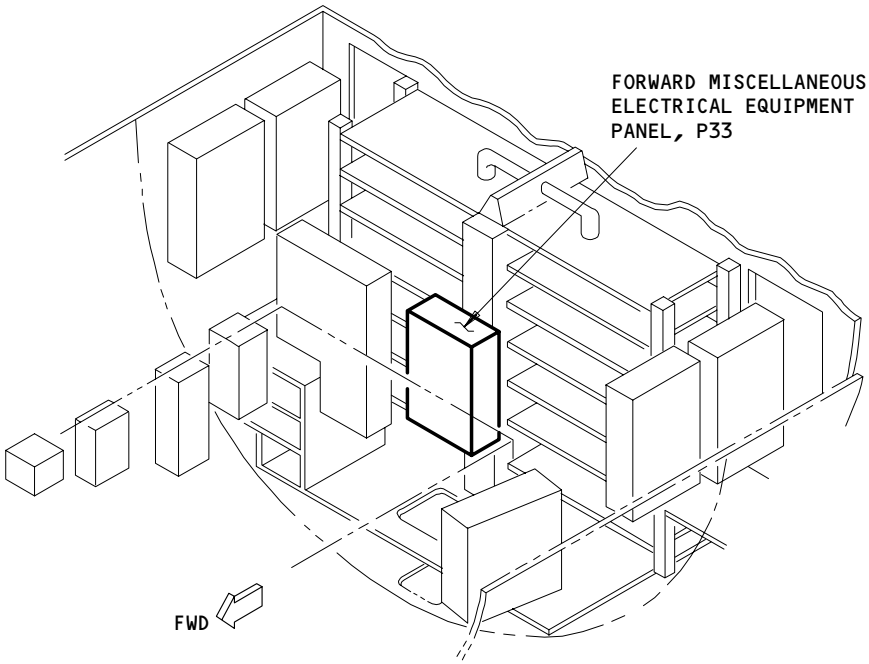
* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

1 NOT INSTALLED ON ALL AIRPLANES

Passenger Loading Lights – Component Index
Figure 101



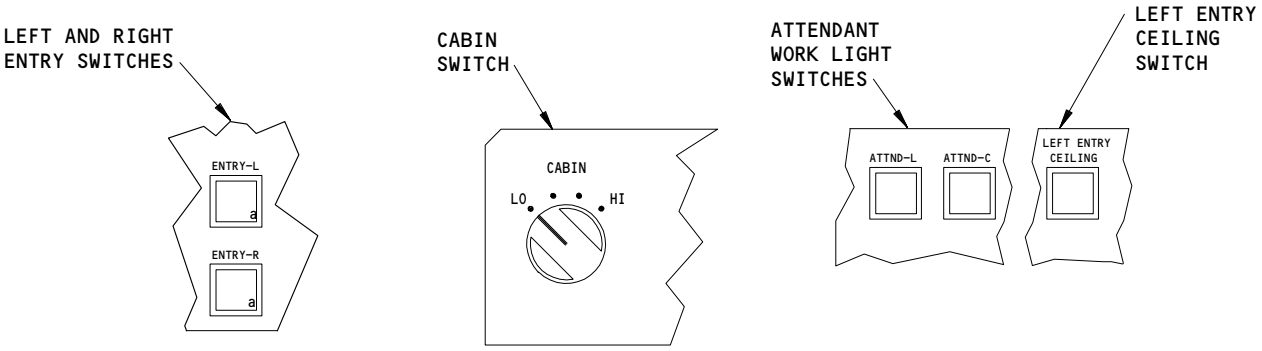
FLIGHT COMPARTMENT



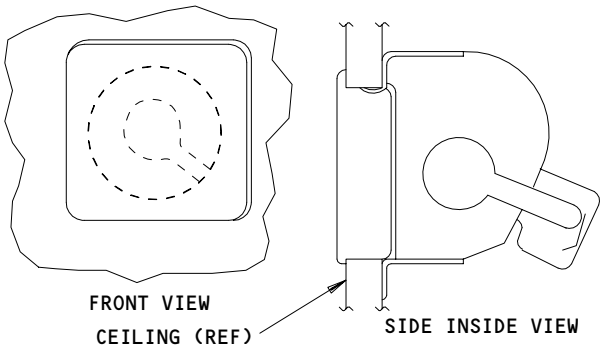
MAIN EQUIPMENT CENTER

(A)

Passenger Loading Lights - Component Location
Figure 102 (Sheet 1)



ATTENDANT'S PANEL LIGHTS
CONTROL SWITCHES
(EXAMPLE)



ATTENDANT'S WORK LIGHTS/ENTRY LIGHTS
(EXAMPLE)

Passenger Loading Lights - Component Location
Figure 102 (Sheet 2)

PASSENGER LOADING LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks:
      (1) Direct Ceiling Light - Lamp Replacement
      (2) Direct Ceiling Light - Ballast Replacement
      (3) AIRPLANES WITH A CLOSET LIGHT;
          Closet Light - Lamp Replacement
      (4) Attendant's Work Light - Lamp Replacement
      (5) Entry Ceiling Light - Lamp Replacement
      (6) Threshold Entry Light - Lamp Replacement

   TASK 33-22-00-962-036
2. Direct Ceiling Light - Lamp Replacement
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-22-02
      (3) WDM 33-22-41 thru 33-22-42
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage
      (2) Access Panels
          119AL Main equipment access panel

   C. Lamp Replacement

      S 862-059
      (1) Do one of these steps to remove electrical power from the direct ceiling light:
          (a) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.
          (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
              1) On the forward miscellaneous electrical equipment panel, P33.
              2) On the overhead circuit breaker panel, P11.

3) On the right miscellaneous electrical equipment panel, P37.

S 962-056

(2) For a light above the threshold of the flight compartment, do these steps:
(a) Put an allen wrench into the two holes near the forward edge of the ceiling panel and turn one-quarter turn.
(b) Lower the ceiling panel and let it hang on its hinges.
(c) Carefully replace the lamp.
(d) Lift the panel assembly and latch it with its fasteners.

S 962-005

(3) For a fluorescent light in the passenger compartment, do these steps:
(a) Turn the quick-release fasteners on the lens one-quarter turn.
(b) Lower the lens assembly and let it hang on its lanyard.
(c) Carefully replace the lamp.
(d) Lift the lens and latch it with its fasteners.

S 962-006

(4) For an incandescent light in the passenger compartment, do these steps:
(a) Pull the bezel of the light from the ceiling panel.
(b) Turn the bezel and remove the lens retainer.
(c) Carefully replace the lamp.
(d) Install the lens retainer and the bezel assembly.

D. Lamp Test

S 862-038

(1) Supply electrical power (AMM 24-22-00/201).

S 862-039

(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 862-074

(3) For a light above the threshold of the flight compartment, make sure the flight compartment door is closed.

S 712-040
(4) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-041
(5) Set the switch to the usual position.

S 862-060
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-22-00-962-087

3. Direct Ceiling Light - Ballast Replacement

A. General
(1) This procedure is only for the direct ceiling lights that are fluorescent.
(2) The ballast for the light above the threshold of the flight compartment is located next to the light assembly on the airplane structure. The ballasts for all the other lights are located on the tops of the light assemblies.
(3) Most ballasts supply electrical power to two direct ceiling lights. When this type of ballast is defective, two direct ceiling lights will not come on correctly.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-22-02
(3) WDM 33-22-41 thru 33-22-42

C. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main Equipment Access Panel

D. Procedure

S 862-088
(1) Open each applicable circuit breaker and attach th DO-NOT-CLOSE tag:
(a) On the overhead circuit breaker panel, P11.

(b) On the forward miscellaneous electrical equipment panel, P33.
(c) On the right miscellaneous electrical equipment panel, P37.

S 962-089
(2) For the light above the threshold of the flight compartment, do these steps to replace the ballast:
(a) Put an allen wrench into the two holes near the forward edge of the ceiling panel and turn one-quarter turn.
(b) Lower the ceiling panel and let it hang on its hinges.
(c) Remove the lamps from the light assembly.
(d) Remove the fasteners from the inside walls of the light assembly.
(e) Lower the light assembly to access the ballast.
(f) At the airplane structure next to the light assemblies normal position, disconnect the electrical cable from the ballast.
(g) Remove the fasteners from the base of the ballast.
(h) Remove the ballast from the airplane structure.
(i) Put the replacement ballast in its position on the airplane structure.
(j) Install the fasteners into the base of the replacement ballast.
(k) Connect the electrical cable to the replacement ballast.
(l) Raise the light assembly to its position in the ceiling cutout.
(m) Install the fasteners into the inside walls of the light assembly.
(n) Install the lamps into the light assembly.
(o) Lift the panel assembly and latch it with its fasteners.

S 962-090
(3) For a light in the passenger compartment, do these steps to replace the ballast:
(a) Turn the quick-release fasteners on the lens one-quarter turn.
(b) Lower the lens assembly and let it hang on its lanyard.
(c) Remove the lamps from the light assembly.
(d) Remove the fasteners from the inside walls of the light assembly.
(e) Lower the light assembly to access the ballast on top of the light assembly.
(f) Disconnect the electrical cable from the ballast.
(g) Remove the fasteners from the base of the ballast.
(h) Remove the ballast from the top of the light assembly.
(i) Put the replacement ballast on the top of the light assembly.
(j) Install the fasteners into the base of the replacement ballast.
(k) Connect the electrical cable to the replacement ballast.
(l) Raise the light assembly to its position in the ceiling cutout.
(m) Install the fasteners into the inside walls of the light assembly.
(n) Install the lamps into the light assembly.
(o) Lift the lens and latch it with its fasteners.

S 862-091
(4) Remove the DO-NOT-CLOSE tag and close each applicable circuit breaker:
(a) On the overhead circuit breaker panel, P11.
(b) On the forward miscellaneous electrical equipment panel, P33.
(c) On the right miscellaneous electrical equipment panel, P37.

S 862-092
(5) For the light above the threshold of the flight compartment, make sure the flight compartment door is closed.

S 862-093
(6) Supply electrical power (AMM 24-22-00/201).

S 712-094
(7) Do a test of the replacement ballast:
(a) At the attendant's panel, set the switch for the direct ceiling lights to the on position.
1) Make sure the direct ceiling light(s) connected to the replacement ballast come on correctly.
(b) Set the switch to the usual position.

S 862-095
(8) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-22-00-962-043

4. AIRPLANES WITH A CLOSET LIGHT;
Closet - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-22-01
(3) WDM 33-22-21

B. Access
(1) Location Zone
200 Upper Half of Fuselage

(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-044
(1) Do one of these steps to remove electrical power from the closet light:
(a) CLOSET WITH A SWITCH;
Set the switch to the off position and attach the DO-NOT-OPERATE tag.
(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the forward miscellaneous electrical equipment panel, P33.

S 962-045
(2) Carefully replace the lamp.
(a) Hold the lamp cover and pull down.
(b) Carefully replace the lamp.
(c) Push the cover back.

D. Lamp Test

S 862-061
(1) Supply electrical power (AMM 24-22-00/201).

S 862-047
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 862-077
(3) CLOSET WITH A SWITCH;
Set the switch to the on position.

S 212-059
(4) Make sure the new lamp comes on correctly.

S 862-078
(5) CLOSET WITH A SWITCH;
Set the switch to the off position.

S 862-064
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-22-00-962-051

5. Attendant's Work Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-22-01
(3) WDM 33-22-31

B. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-052
(1) Do one of these steps to remove electrical power from the attendant's work light:
(a) At the attendant's panel or attendant's work area, set the switch to the off position and attach the DO-NOT-OPERATE tag.
(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the forward miscellaneous electrical equipment panel, P33.

S 962-053
(2) Carefully replace the lamp.
(a) Pull the bezel of the light from the ceiling panel.
(b) Turn the bezel and remove the lens retainer.
(c) Carefully replace the lamp.
(d) Install the lens retainer and the bezel assembly.

D. Lamp Test

S 862-079
(1) Supply electrical power (AMM 24-22-00/201).

S 862-055
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-056
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-080
(4) Set the switch to the usual position.

S 862-067
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-22-00-962-060

6. Entry Ceiling Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-22-01
(3) WDM 33-22-11

B. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-068
(1) Do one of these steps to remove electrical power from the entry ceiling light:
(a) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.
(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
(c) On the forward miscellaneous electrical equipment panel, P33.

S 962-035
(2) Carefully replace the lamp.
(a) Open the forward left entry door.
(b) Remove seven bolts along the outboard edge that hold the bezel and the edge protector to the light housing.
(c) Pull down and remove the bezel assembly.
(d) Carefully replace the lamp.
(e) Install the bezel assembly with the bolts.

D. Lamp Test

S 862-081
(1) Supply electrical power (AMM 24-22-00/201).

S 862-082
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-064
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-083
(4) Set the switch to the usual position.

S 862-084
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-22-00-962-061

7. Threshold Entry Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-22-01
(3) WDM 33-22-11

B. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

C. Lamp Replacement

S 862-051
(1) Do one of these steps to remove electrical power from the threshold entry light:
(a) At the attendant's panel, set the switch to the off position and attach the DO-NOT-OPERATE tag.
(b) Make sure the passenger or service door is closed.
(c) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the forward miscellaneous electrical equipment panel, P33.

2) On the left miscellaneous electrical equipment panel, P36.

S 962-021

(2) Carefully replace the lamp.
   (a) Pull down the lens retainer and turn it to one side to get access to the lamp.
   (b) Carefully replace the lamp.
   (c) Install the lens retainer.

D. Lamp Test

S 862-036

(1) Supply electrical power (AMM 24-22-00/201).

S 862-069

(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
   (a) Close each circuit breaker that was opened.

S 712-038

(3) Set the switch to the on position.

S 712-039

(4) Open the passenger or service door.
   (a) Make sure the new lamp comes on correctly.

S 862-075

(5) Close the door.

S 862-040

(6) Set the switch to the usual position.

S 862-070

(7) Remove electrical power if it is not necessary (AMM 24-22-00/201).

PASSENGER LOADING LIGHTS - ADJUSTMENT/TEST

1. General
   A. This procedure has these tasks:
      (1) Passenger Loading Lights - Operational Test
      (2) AIRPLANES WITH AN ALTITUDE PRESSURE SWITCH;
          Direct Ceiling Lights - Operational Test with the Altitude Pressure Switch
   B. The first test makes sure all the passenger loading lights will operate correctly during their usual use.
   C. The second test makes sure the direct ceiling lights will come on automatically if the air pressure in the passenger compartment decreases.
   D. To do a test of the lights that operate with electrical power from the hydraulic motor-driven generator, refer to Emergency Lights (AMM 33-51-00/501).

TASK 33-22-00-735-052

2. Passenger Loading Lights - Operational Test
   A. General
      (1) This task is a test of the operation of these lights:
          (a) Entry ceiling lights
          (b) Threshold entry lights
          (c) AIRPLANES WITH CLOSET LIGHTS;
              Closet lights
          (d) Attendant's work lights
          (e) Direct ceiling lights
   B. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-22-01 thru 33-22-99
      (3) WDM 33-22-11 thru 33-22-99
   C. Access
      (1) Location Zones
          200 Upper Half of Fuselage
      (2) Access Panels
          119AL Main equipment access panel

   D. Procedure

      S 865-053
      (1) Supply electrical power (AMM 24-22-00/201).

      S 715-054
      (2) Do a test of the entry ceiling lights.
          (a) At the attendant's panel, set the switch for the entry ceiling light to the on position.
              1) Make sure the light in the switch comes on correctly.

2) Make sure the entry ceiling light comes on correctly.
(b) Set the switch to the off position.
1) Make sure the switch-light goes off.
2) Make sure the entry ceiling light goes off correctly.

S 715-061
(3) Do a test of the threshold entry lights.
(a) Open all the passenger and service doors.
(b) At each attendant's panel, set the each switch for the threshold entry lights to the on position.
1) Make sure the light in each switch comes on correctly.
2) Make sure that each threshold entry light comes on correctly.
(c) Close each door.
1) Make sure each threshold entry light goes off correctly.
(d) Set each switch to the off position.
1) Make sure each switch-light goes off.

S 715-055
(4) AIRPLANES WITH CLOSET LIGHTS;
Do a test of the closet lights.
(a) Set the switch for each closet light to the on position.
1) Make sure each closet light comes on correctly.
(b) Set the switch to the off position.
1) Make sure each closet light goes off correctly.

S 715-057
(5) Do a test of the attendant's work lights.
(a) At the attendant's panels or attendant's work areas, set each switch for the attendant's work lights to the on position.
1) Make sure the light in the switch comes on correctly.
2) Make sure each attendant's work light comes on correctly.
(b) Set each switch to the off position.
1) Make sure the switch-light goes off.
2) Make sure each attendant's work light goes off correctly.

S 715-058
(6) Do a test of the direct ceiling lights.
(a) Make sure the door of the flight compartment is closed.
(b) At each attendant's panel, slowly set each switch for the direct ceiling lights from the dim to bright position.
1) Make sure the lamps in each applicable light come on correctly to change the intensity of the passenger compartment lighting.
2) Make sure the light above the threshold of the flight compartment comes on correctly.

(c) Open the door of the flight compartment.
1) Make sure the light above the threshold of the flight compartment goes off correctly.
(d) Set each switch to the usual position.

TASK 33-22-00-715-063

3. AIRPLANES WITH THE ALTITUDE PRESSURE SWITCH;
Direct Ceiling Lights - Operational Test with the Altitude Pressure Switch

A. General
(1) The altitude pressure switch, S527, is also referred to as the air pressure switch.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-22-02
(3) WDM 33-22-41 thru 33-22-42

C. Access
(1) Location Zones
200 Upper Half of Fuselage
(2) Access Panels
119AL Main equipment access panel

D. Procedure

S 865-064
(1) Supply electrical power (AMM 24-22-00/201).

S 715-065
(2) Do the test of the direct ceiling lights.
(a) At each attendant's panel, set the switch for the direct ceiling lights to the dim position.
(b) Open these circuit breakers and attach the DO-NOT-CLOSE tags:
1) On the forward miscellaneous electrical equipment panel, P33:
a) 33L5, FORWARD DIRECT CEILING LIGHTS
b) 33L6, AFT DIRECT CEILING LIGHTS
(c) Disconnect the connector from the altitude pressure switch.
(d) Install an electrical wire as a jumper between pins 1 and 2 of the connector.
(e) Remove each DO-NOT-OPERATE tag and close each circuit breaker that was opened.
1) Make sure each applicable direct ceiling light comes on correctly.
(f) Open these circuit breakers and attach the DO-NOT-CLOSE tags:
1) 33L5, FORWARD DIRECT CEILING LIGHTS
2) 33L6, AFT DIRECT CEILING LIGHTS
(g) Remove the jumper wire from the connector.

(h) Connect the connector to the altitude pressure switch.
(i) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
1) Make sure the direct ceiling lights, that were on, are off again.
(j) Set the switch to the usual position.

S 865-060
(3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

ATTENDANT'S PANEL SWITCH/LIGHT - SERVICING

1. General
   A. The attendant's panel switch-lights are installed on the attendants panels. This procedure gives the steps to replace the lamps in the switch-lights.
   B. This procedure contains one task. This task replaces the lamps in the attendants' panel switch-lights.

   TASK 33-22-03-613-001

2. Attendants' Panel Switch/Light Servicing (Fig. 301)
   A. General
      (1) This task gives the instructions to identify and replace defective lamps in the attendants' panel switch-lights.
   B. References
      (1) AMM 24-22-00/201, Electrical Power Control
   C. Access
      (1) Location Zones
          200 Upper Half of the Fuselage
   D. Procedure

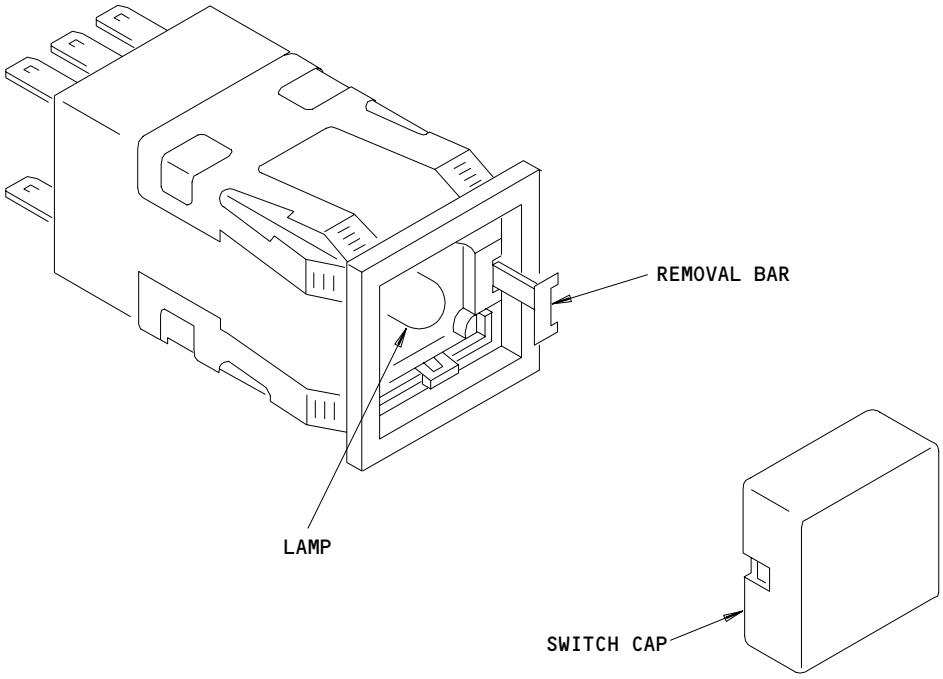
      S 963-002
      (1) Do the switch-lights' lamp replacement procedure as follows:

      S 863-003
      (2) Supply electrical power (Ref 24-22-00).
          (a) Push the switch/lights to ON to identify defective lamp.
          (b) Push the switch-lights to the OFF(extended) position.

      S 983-004

      CAUTION: DO NOT PRY OR HOLD THE SWITCH CAP WITH A TOOL OR CAP MAY BE DAMAGED. REMOVE WITH FINGERS ONLY.

      (3) Find the fingernail grooves on the opposite sides of the switch cap.
          (a) Pull the cap off of the switch.
          (b) Find the metal tab on the removal bar.



Attendant's Switch Light Relamping
Figure 301

(c) Pull the removal bar out until the lamp is out of the switch housing.
(d) Set the removal bar in the switch housing.
(e) Put the new lamp into the switch housing.
(f) Replace the switch cap.
(g) Push and make sure the cap is installed correctly in the switch base.
(h) Make sure the light in the switch comes on.
(i) Push the switch-light to OFF.

S 863-005

(4) Remove electrical power if it is not necessary (Ref 24-22-00).

FORWARD ATTENDANT'S PANEL - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Forward Attendant's Panel - Removal
      (2) Forward Attendant's Panel - Installation

   TASK 33-22-05-004-001

2. Forward Attendant's Panel - Removal
   A. References
      (1) AMM 25-25-03/401, Attendant Seat
      (2) SSM 23-31-01
      (3) SSM 23-34-01
      (4) SSM 33-21-01 thru 33-21-03
      (5) SSM 33-22-01 thru 33-22-02
      (6) SSM 33-51-01
      (7) WDM 23-31-12
      (8) WDM 33-21-11 thru 33-21-36
      (9) WDM 33-22-11 thru 33-22-42
      (10) WDM 33-51-11
   B. Access
      (1) Location Zones
          200 Upper Half of the Fuselage
      (2) Access Panel
          119AL Main equipment access panel

   C. Panel Removal

      S 864-027
      (1) Remove electrical power from the forward attendant's panel:
          (a) Open each applicable circuit breaker for the lights controlled with the attendant's panel and attach the DO-NOT-CLOSE tag:
              1) On the overhead circuit breaker panel, P11.
              2) On the forward miscellaneous electrical equipment panel, P33.

3) On the APU external power panel, P34.

(b) Open each applicable circuit breaker for the passenger address functions controlled with the attendant's panel and attach the DO-NOT-CLOSE tag:
1) On the overhead circuit breaker panel, P11.

(c) ATTENDANT'S PANEL WITH AN EVACUATION SIGNAL PANEL;
Open this circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the main power distribution panel, P6:
2) 6F2, EVACUATION SIGNAL

(d) To remove power from the bus power control unit, open these circuit breakers and attach the DO-NOT-CLOSE tags:

NOTE: Twenty-eight volts dc exists on pin 18 of disconnect D1646. The power from the bus power control unit is removed if this voltage is to be removed. Removal of power from the bus power control unit will stop the distribution of external power to the airplane buses.

1) On the main power distribution panel, P6:
a) 6B4, BUS PWR CONT UNIT
2) On the overhead circuit breaker panel, P11:
a) 11T32, BPCU SEC
3) On the APU external power panel, P34:
a) 34M6, EXT PWR BPCU

S 014-004

(2) Remove the attendant seat backrest and headrest (AMM 25-25-03/401).
(a) Disconnect each electrical connector between the attendant seat backrest and the lavatory.

S 024-028

(3) Remove the forward attendant's panel.
(a) Disconnect each electrical connector from the back of the panel assembly.
1) If the emergency lights come on, quickly install a jumper wire between pins 33 and 44 of the electrical connector.

NOTE: Make sure the emergency lights go off. Do this step in less than one minute to keep the batteries sufficiently charged to operate the emergency lights.

(b) Release each fastener under the bottom of the panel.

(c) Lift up the panel.
(d) Push both hinge levers together to disengage the hinge and release the panel.

TASK 33-22-05-404-014

3. Forward Attendant's Panel - Installation

A. References
(1) AMM 23-31-00/501, Passenger Address System
(2) AMM 24-22-00/201, Electrical Power - Control
(3) AMM 25-25-03/401, Attendant Seat
(4) AMM 33-21-00/201, Passenger Compartment Illumination
(5) AMM 33-22-00/501, Passenger Loading Lights
(6) SSM 23-31-01
(7) SSM 23-34-01
(8) SSM 33-21-01 thru 33-21-03
(9) SSM 33-22-01 thru 33-22-02
(10) SSM 33-51-01
(11) WDM 23-31-12
(12) WDM 33-21-11 thru 33-21-36
(13) WDM 33-22-11 thru 33-22-42
(14) WDM 33-51-11

B. Access
(1) Location Zones
200 Upper Half of the Fuselage
(2) Access Panel
119AL Main equipment access panel

C. Panel Installation

S 424-029
(1) Install the forward attendant's panel.
(a) Connect each electrical connector to the back of the panel assembly.
1) Remove the jumper wire from the electrical connector for the emergency lights.

NOTE: The emergency lights will come on.

2) Quickly connect the electrical connector to the back of the panel assembly.

NOTE: Do this step in less than one minute to keep the batteries sufficiently charged to operate the emergency lights.

(b) Push both hinge levers together and engage the panel to the hinge.
(c) Lower the panel.
(d) Tighten each fastener under the bottom of the panel.

S 424-034
(2) Install the attendant seat backrest and headrest (AMM 25-25-03/401).
(a) Make sure the wire bundles is correctly put down in the conduit in the seat headrest.
(b) Connect each electrical connector.
(c) Install the attendant seat backrest and headrest.

D. Panel Test

S 864-030
(1) Supply electrical power (AMM 24-22-00/201).

S 864-031
(2) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened when the forward attendant's panel was removed.

S 714-032
(3) Do the operational test of the lights controlled with the forward attendant's panel (AMM 33-21-00/201 and AMM 33-22-00/501).

S 714-036
(4) ATTENDANT'S PANEL WITH AN EVACUATION SIGNAL; Do the Emergency Evacuation Signal Panel Operational Test (AMM 25-63-01/201)

S 714-033
(5) Do an operational test of the passenger address functions controlled with the forward attendant's panel (AMM 23-31-00/501).

S 864-023
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

AFT ATTENDANT'S PANEL - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Aft Attendant's Panel - Removal
      (2) Aft Attendant's Panel - Installation

   TASK 33-22-06-004-009
2. Aft Attendant's Panel - Removal
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) AMM 25-25-03/401, Attendant Seat
      (3) SSM 33-21-01 thru 33-21-03
      (4) SSM 33-22-01 thru 33-22-02
      (5) WDM 33-21-11 thru 33-21-36
      (6) WDM 33-22-11 thru 33-22-42
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage
      (2) Access Panels
          119AL Main equipment access panel

   C. Panel Removal

      S 864-025
      (1) Remove electrical power from the aft attendant's panel:
          (a) Open each applicable circuit breaker for the lights controlled with the attendant's panel and attach the DO-NOT-CLOSE tag:
              1) On the overhead circuit breaker panel, P11.
              2) On the forward miscellaneous electrical equipment panel, P33.
              3) On the APU external power panel, P34.
          (b) Open these circuit breakers and attach the DO-NOT-CLOSE tag:
              1) ATTENDANT'S PANEL WITH AN EVACUATION SIGNAL PANEL;
                 On the main power distribution panel, P6:
                 a) 6F2, EVACUATION SIGNAL

2) On the overhead circuit breaker panel, P11:
   a) 11R8, for the lavatory flush system
   b) 11R35, for the lavatory flush system
   c) 11U28, for the potable water system
3) On the APU external power panel, P34:
   a) 34P11, for the water quantity

S 014-027

(2) Remove the attendant seat backrest and headrest (AMM 25-25-03/401).
   (a) Disconnect each electrical connector between the attendant seat backrest and the galley wall.

S 024-028

(3) Remove the aft attendant's panel.
   (a) Release each fastener under the bottom of the panel.
   (b) Lift up the panel.
   (c) Push both hinge levers together and disengage the hinge to release the panel.
   (d) Disconnect each electrical connector from the back of the panel.

TASK 33-22-06-404-016

3. Aft Attendant's Panel - Installation

A. References
   (1) AMM 24-22-00/201, Electrical Power - Control
   (2) AMM 25-25-03/401, Attendant Seat
   (3) AMM 33-21-00/201, Passenger Compartment Illumination
   (4) AMM 33-22-00/501, Passenger Loading Lights
   (5) SSM 33-21-01 thru 33-21-03
   (6) SSM 33-22-01 thru 33-22-02
   (7) WDM 33-21-11 thru 33-21-36
   (8) WDM 33-22-11 thru 33-22-42

B. Access
   (1) Location Zone
      200 Upper Half of the Fuselage

(2) Access Panels
119AL Main equipment access panel

C. Panel Installation

S 424-029
(1) Install the aft attendant's panel.
(a) Push both hinge levers together and engage the panel to the hinge.
(b) Lower the panel.
(c) Tighten each fastener at the bottom of the panel.

S 414-022
(2) Install the attendant seat backrest and headrest (AMM 25-25-03/401).
(a) Connect each electrical connector.

D. Panel Test

S 864-032
(1) Supply electrical power (AMM 24-22-00/201).

S 864-030
(2) Remove the DO-NOT-CLOSE tags and close each circuit breaker that was opened when the aft attendant's panel was removed.

S 714-031
(3) Make sure there is an indication for the potable water quantity.

S 714-033
(4) Do an operational test of the lights controlled with the aft attendant's panel (AMM 33-21-00/201 and AMM 33-22-00/501),

S 864-023
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

PURSER'S PANEL (P78) - REMOVAL/INSTALLATION

1. General
   A. The purser's panel is installed at the purser's station on the left side of the airplane.
   B. This procedure contains two tasks. The first task removes the purser's panel from the purser's station. The second task installs the purser's panel to the purser's station.

TASK 33-22-07-004-001

2. Remove Purser's Panel (Fig. 401)
   A. General
      (1) This task gives the instructions to remove the purser's panel from the purser's station.
   B. References
      (1) 24-22-00/201, Electrical Power - Control
   C. Access
      (1) Location Zones
          119/120 Main equipment center
          211/212 Flight compartment
          221/222 Passenger cabin - section 41

      (2) Access Panels
          119AL Main equipment access panel

   D. Prepare for Removal

      S 864-002
      (1) Supply electrical power (Ref 24-22-00).

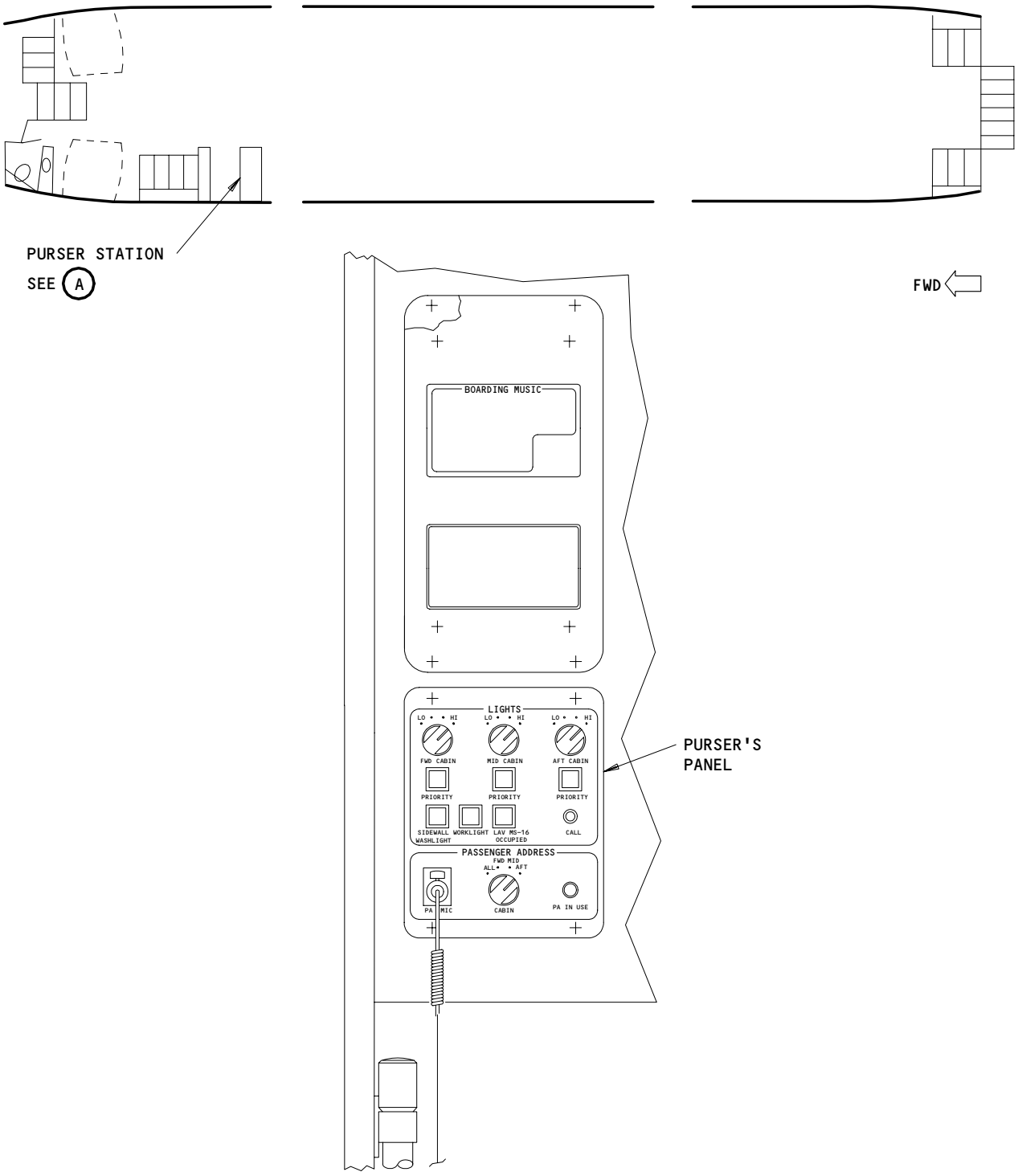
      S 864-003
      (2) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags :
      (a) 11C22, PASS ADRS
      (b) 11R3, ATTND LT CONT

      S 864-004
      (3) Open this circuit breaker on the miscellaneous equipment panel, P33 and attach DO-NOT-CLOSE tag :
      (a) 33L2, INDIR CLG WASH LT CONT

      S 034-005
      (4) Remove the four screws that attach the purser's panel to the wall.

      S 034-006
      (5) Pull the purser's panel out from the wall and disconnect the two electrical connectors at the back of the purser's panel.

      S 024-007
      (6) Remove the purser's panel.



PARTIAL VIEW OF PURSER'S STATION

(A)

Purser's Panel Installation
Figure 401

TASK 33-22-07-404-008

3. Install Purser's Panel (Fig. 401)

A. General

(1) This task installs the purser's panel to the purser's station.

B. References

(1) 24-22-00/201, Electrical Power - Control

C. Access

(1) Location Zones

119/120	Main equipment center
211/212	Flight compartment
221/222	Passenger cabin - section 41

(2) Access Panels

119AL	Main equipment access panel

D. Procedure

S 434-009

(1) Connect the two electrical connectors to the back of the purser's panel.

S 424-010

(2) Install the purser's panel to its' position on the wall with the four mounting screws.

E. Purser's Panel Installation Test.

S 714-011

(1) Do the operational test as follows:

(a) Remove DO-NOT-CLOSE tags and close these circuit breakers on the P11 panel :

1) 11C22, PASS ADRS

2) 11R3, ATTND LT CONT

(b) Remove DO-NOT-CLOSE tag and close this circuit breaker on the P33 panel :

1) 33L2, INDIR CLG WASH LT CONT

(c) Set any of the rotary CABIN switches on the purser's panel to HI position.

(d) Make sure the correct lights come on.
(e) Make a PA announcement from the purser's PA panel.
(f) Make sure you hear a clear announcement through the PA system at the cabin section set on the rotary CABIN switch.

S 864-014
(2) Remove electrical power if it is not necessary (Ref 24-22-00).

PASSENGER SIGNS - DESCRIPTION AND OPERATION

1. General
   A. Passenger signs are installed in the passenger service units (PSUs), lavatories, and the lowered ceiling. On airplanes with a crew rest, there can also be signs in the crew rest.
   B. The signs show the passenger and attendants when not to smoke, when to put on their seat belts, and when to go back to their seats.
   C. For more data about this lighting system, refer to these sources:
      (1) SSM 33-24-01 thru 33-24-99
      (2) WDM 33-24-11 thru 33-24-99
2. Operation
   A. Functional Description
      (1) No-Smoking and Fasten Seat Belt Signs
         (a) The NO SMOKING (NS) and FASTEN SEAT BELT (FSB) signs are located in each of the passenger service units (AMM 25-23-00/001) and are controlled by two three-position rotary switches on overhead panel P5.
         (b) When either switch is in the ON position, 28v dc power from the left bus energizes relays which complete 28v ac from the ground service bus to illuminate incandescent lamps in the signs. The OFF position removes a ground thereby de-energizing the relays and disconnecting electrical power from the signs.
         (c) With the PASS SIGNS - NO SMOKING switch in the AUTO position, 28v ac is applied to the no smoking signs when landing gear is down. A ground is provided from proximity switch electronic unit to the NS relay when any landing gear is not up or landing gear door is not closed (AMM 32-09-00/001). Additional contacts in the seat belts switch provide a ground path for the FSB relay when the switch is in the AUTO position. All signs are then illuminated.
         (d) When the PASS SIGNS - SEATBELTS switch is in the AUTO position, a ground path is provided to energize the FSB relay. The FSB relay completes 28v ac to illuminate FSB and RTS signs. If the flap proximity switch (AMM 27-58-00/001) detects a flaps not up condition, the FSB relay is energized regardless of the state of the NS relay, and both the FSB and RTS signs are illuminated.

(e) If cabin altitude is greater than 10,000 feet, the passenger cabin pressure switch provides a ground path to energize the return-to-seat relay. Contacts in this relay provide grounds. The grounds energize both NS and FSB relays, and illuminate NS and FSB signs. Return to seat signs are inhibited when cabin altitude is greater than 10,000 feet.

(f) When the NS or FSB relay is energized, 28v dc is applied to the passenger address amplifier.The amplifier emits a low tone chime indicating system activation (AMM 23-31-00/001).

(2) Return to Seat Signs

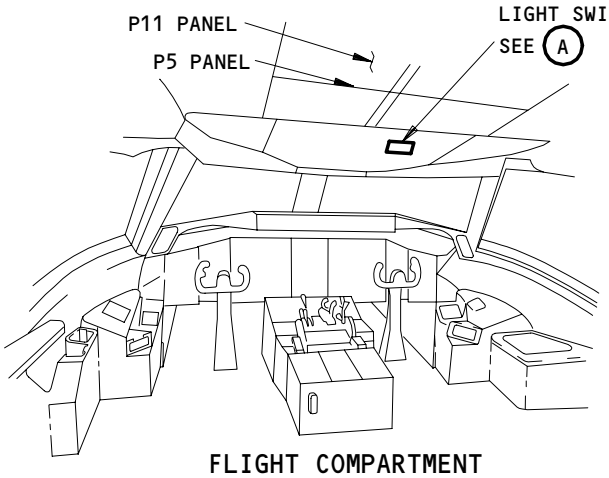
(a) The RETURN TO SEAT (RTS) signs, located in each lavatory module (AMM 25-40-00/001), illuminate whenever the FSB signs are on. They operate the same as the FSB signs except that they are inhibited when cabin altitude is above 10,000 feet. A cabin pressure switch provides a ground which energizes the RTS relay in the event of cabin depressurization. The energized RTS relay disconnects 28v ac from the RTS signs.

PASSENGER SIGNS

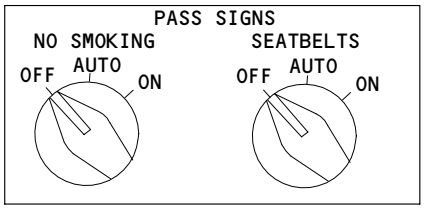
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLT COMPT, P11	*
CIRCUIT BREAKER –			119AL, MAIN EQUIP CTR, P33	*
LIGHT –				
NO SMOKING FASTEN SEAT BELT			EACH PASS. SERVICE UNIT	33-24-00
RETURN TO SEAT			EACH LAVATORY	33-24-00
RELAY –			PASS. COMPT, P19	*
SWITCH –				
ELEX UNIT PROXIMITY			119AL, MAIN EQUIP CTR, E1-2	*
LIGHT			FLT COMPT, P5	*
FLAPS/SLATS ELEC UNIT			119AL, MAIN EQUIP CTR, E2-4	*
PRESSURE			PASS. COMPT, P19	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Passenger Signs – Component Index
Figure 101

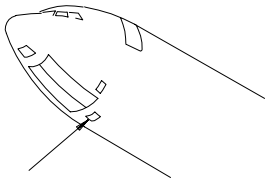


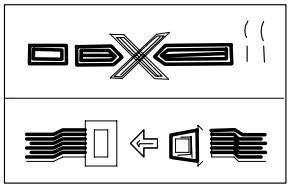
FLIGHT COMPARTMENT



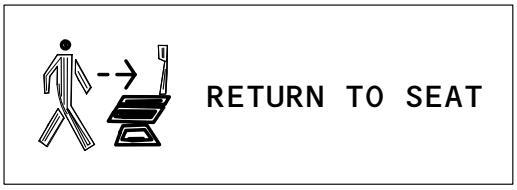
LIGHT SWITCHES

A



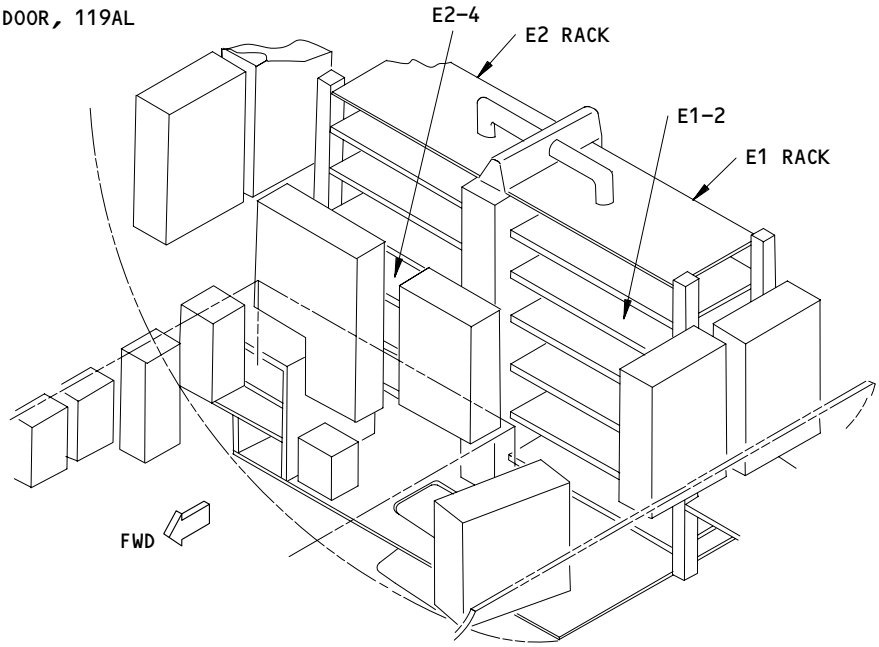


NO SMOKING AND FASTEN SEAT BELT SIGNS (EXAMPLE)



RETURN TO SEAT SIGN (EXAMPLE)

MAIN EQUIPMENT CENTER ACCESS DOOR, 119AL
SEE B



MAIN EQUIPMENT CENTER

B

Passenger Signs - Component Location
Figure 102

PASSENGER SIGNS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) RETURN TO SEAT Sign - Lamp Replacement
      (2) NO SMOKING/FASTEN SEAT BELT Sign - Lamp Replacement
      (3) Passenger Signs - Light Assembly Replacement
      (4) Passenger Signs - Operational Test

TASK 33-24-00-962-001

2. RETURN TO SEAT Sign - Lamp Replacement
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
   B. Access
      (1) Location Zones
          200 Upper Half of the Fuselage

   C. Lamp Replacement

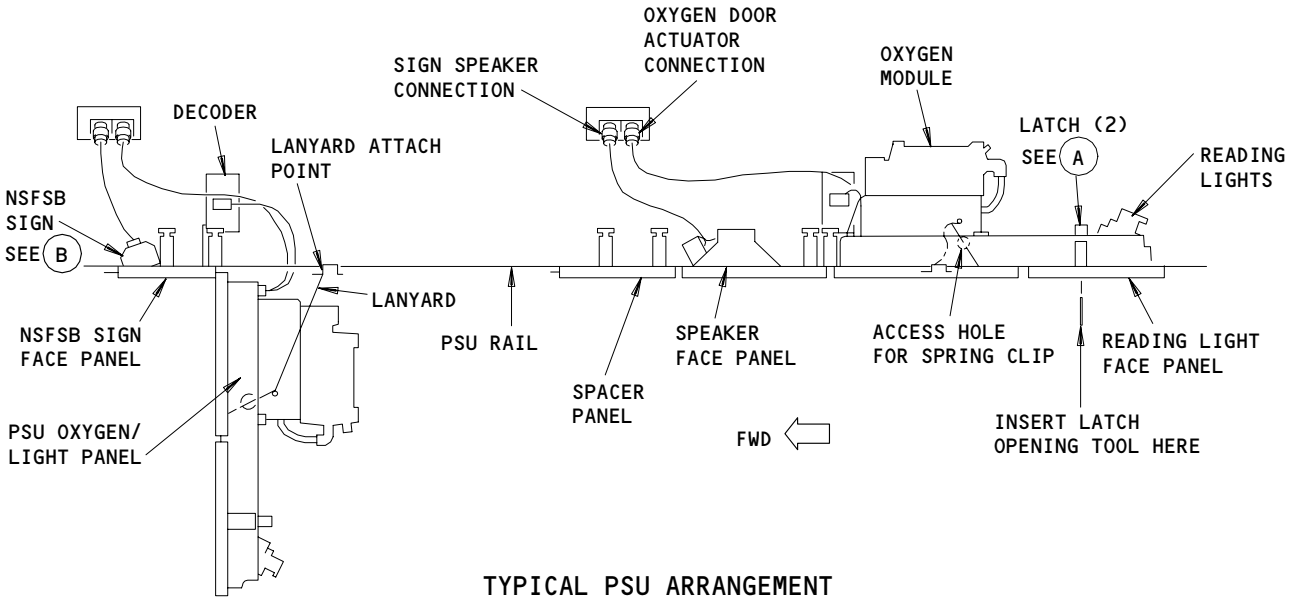
      S 862-006
      (1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
          (a) 11P9, PASS SIGN CONT

      S 012-007
      (2) Below the lavatory mirror, move the graphic strip to the left or right to unlock the assembly.

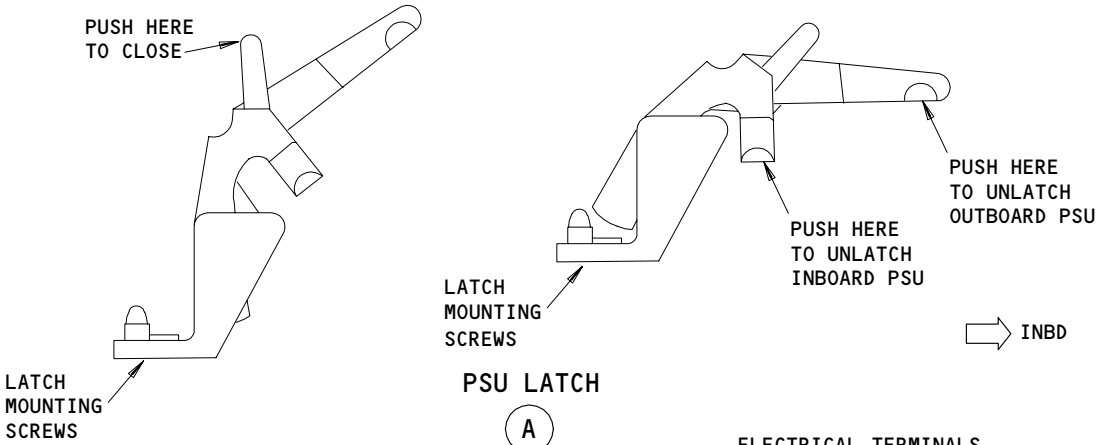
      S 962-008
      (3) Carefully replace the lamp.

      S 412-009
      (4) Move the graphic strip to the right or left and lock it in position.
   D. Lamp Test

      S 862-063
      (1) Supply electrical power (AMM 24-22-00/201).

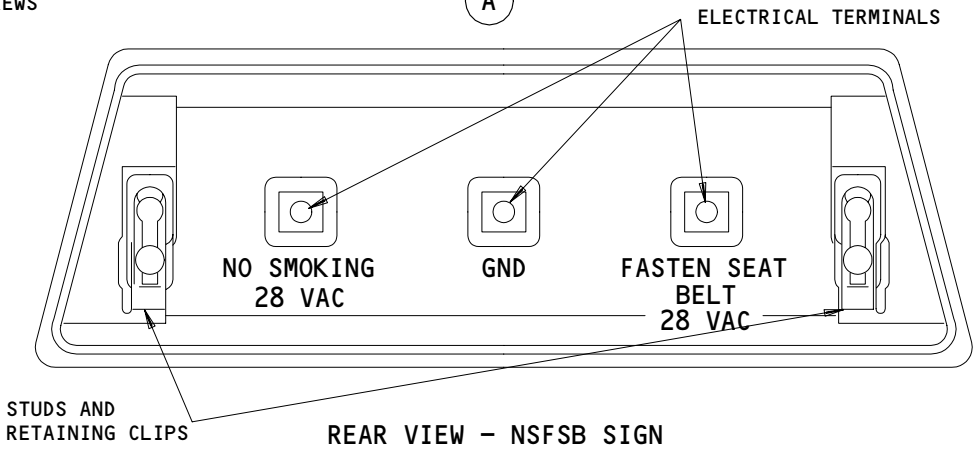


TYPICAL PSU ARRANGEMENT



PSU LATCH

A



REAR VIEW – NSFSB SIGN

B

PSU Installation
Figure 201

S 862-010
(2) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P11 panel:
(a) 11P9, PASS SIGN CONT

S 712-011
(3) At the overhead panel, P5, set the SEATBELTS switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-013
(4) Set the switch to the off position.

S 862-014
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-24-00-962-015

3. NO SMOKING/FASTEN SEAT BELT Sign - Lamp Replacement (Fig. 201)

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 25-23-01/401, Passenger Service Units

B. Access
(1) Location Zones
200 Upper Half of the Fuselage

C. Lamp Replacement

S 862-022
(1) Open this circuit breaker on the P11 panel and attach a DO-NOT-CLOSE tag:
(a) 11P9, PASS SIGN CONT

S 962-023
(2) For a sign in a passenger service unit (PSU), do these steps:
(a) Lower the oxygen module panel.

(b) Remove the spacer panel(s).
(c) Behind the sign assembly move the latches on each side to open the panel that contains the sign assembly.
(d) Disconnect the sign assembly electrical connector.
(e) Lower the panel that contains the sign assembly.
(f) Move the two stud clips on the rear housing to open the rear housing.
(g) Remove the rear housing.
(h) Hold the rear of the lamp with your fingers and pull the lamp through the rear of light assembly.
(i) Replace the lamp.
(j) Install the rear housing.
(k) Move the two stud clips on the rear housing to lock the assemblies together.
(l) Connect the electrical connector.
(m) Lift the panel that contains the sign assembly into position.
(n) Move the latches on each side to lock the panel into position.
(o) Install the oxygen module panel.

S 962-024
(3) For a sign on the ceiling, do these steps:
(a) Pull down the sign assembly.
(b) Remove the sign assembly from the ceiling panel.
(c) Move the two stud clips on the housing to open the light assembly.
(d) Move the light assembly and the housing assembly apart.
(e) Replace the lamp that did not come.
(f) Install the light assembly on the housing assembly.
(g) Move the two stud clips on the housing to lock assemblies together.
(h) Install the sign assembly on the ceiling panel.

S 962-025
(4) For a sign on a wall or class divider, do these steps:
(a) Pull out the lens from the front of the sign assembly.

(b) Replace the lamp that did not come on.
(c) Install the lens on the sign assembly.

D. Lamp Test

S 862-012
(1) Supply electrical power (AMM 24-22-00/201).

S 862-028
(2) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P11 panel:
(a) 11P9, PASS SIGN CONT

S 712-029
(3) At the overhead panel, P5, set the NO SMOKING switch to the on position.

S 712-030
(4) At the P5 panel, set the SEATBELTS switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-032
(5) Set each switch to the off position.

S 862-034
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-24-00-962-141

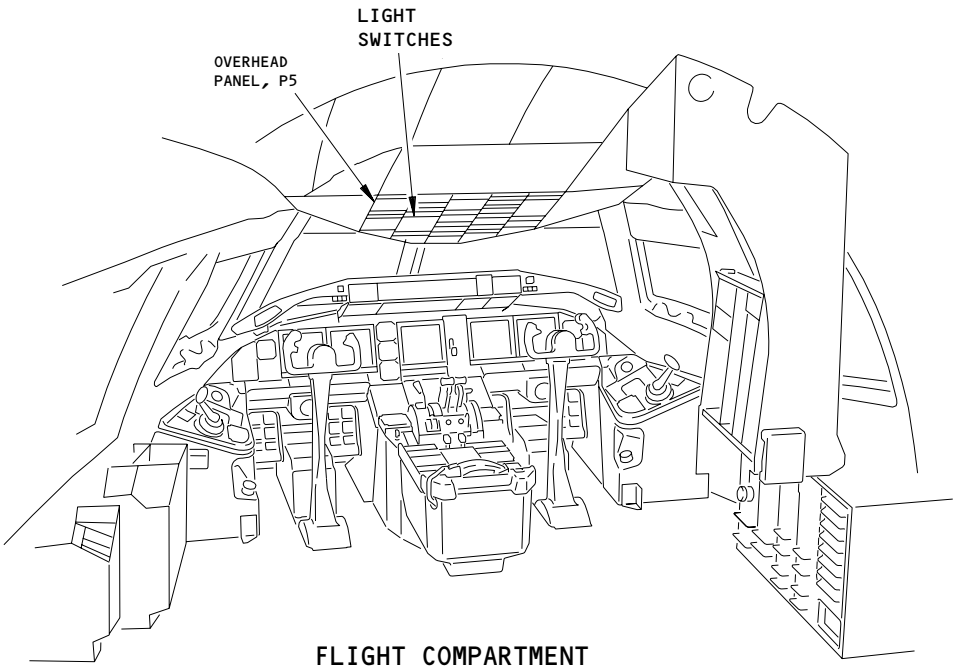
4. Passenger Signs - Light Assembly Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

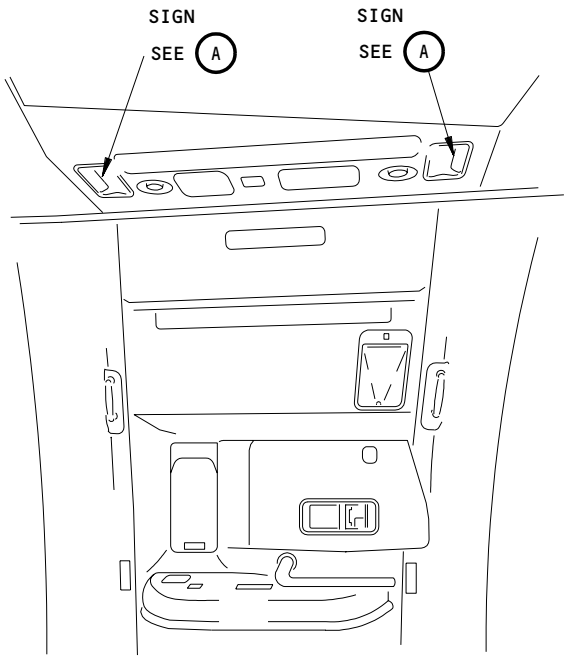
B. Access
(1) Location Zones
200 Upper Half of the Fuselage

C. Light Assembly Replacement

S 962-142
(1) Do these steps to replace the light assembly in a lavatory:
(a) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
1) 11P9, PASS SIGN CONT

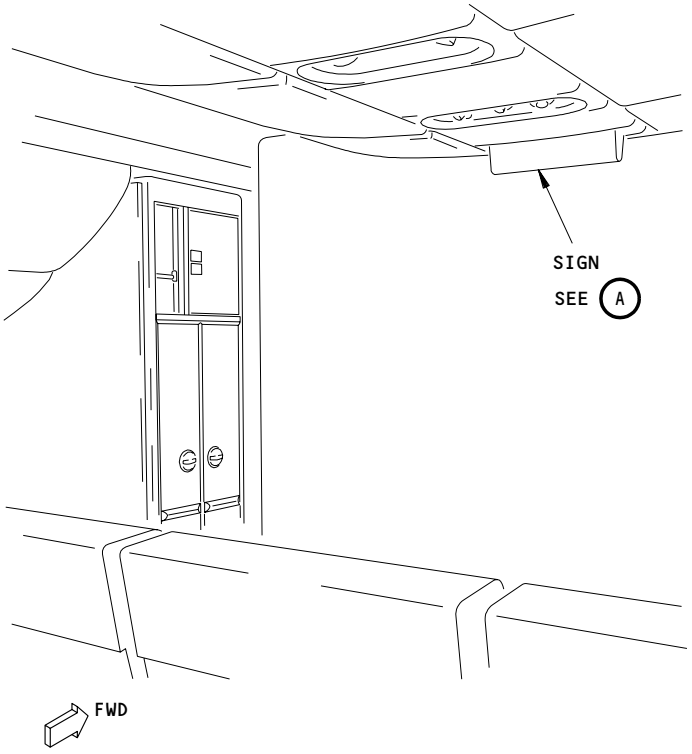


FLIGHT COMPARTMENT

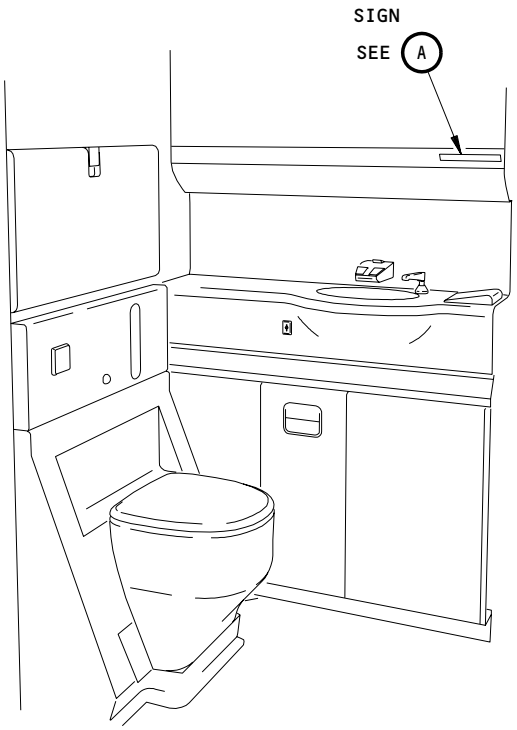


OVERDOOR PANEL
(EXAMPLE)

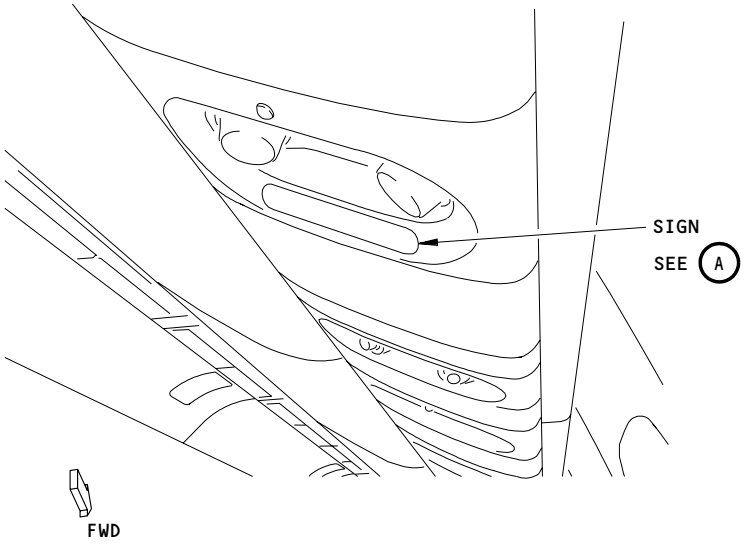
Passenger Sign - Light Assembly Replacement
Figure 202 (Sheet 1)



LAVATORY SIGN
(EXAMPLE)

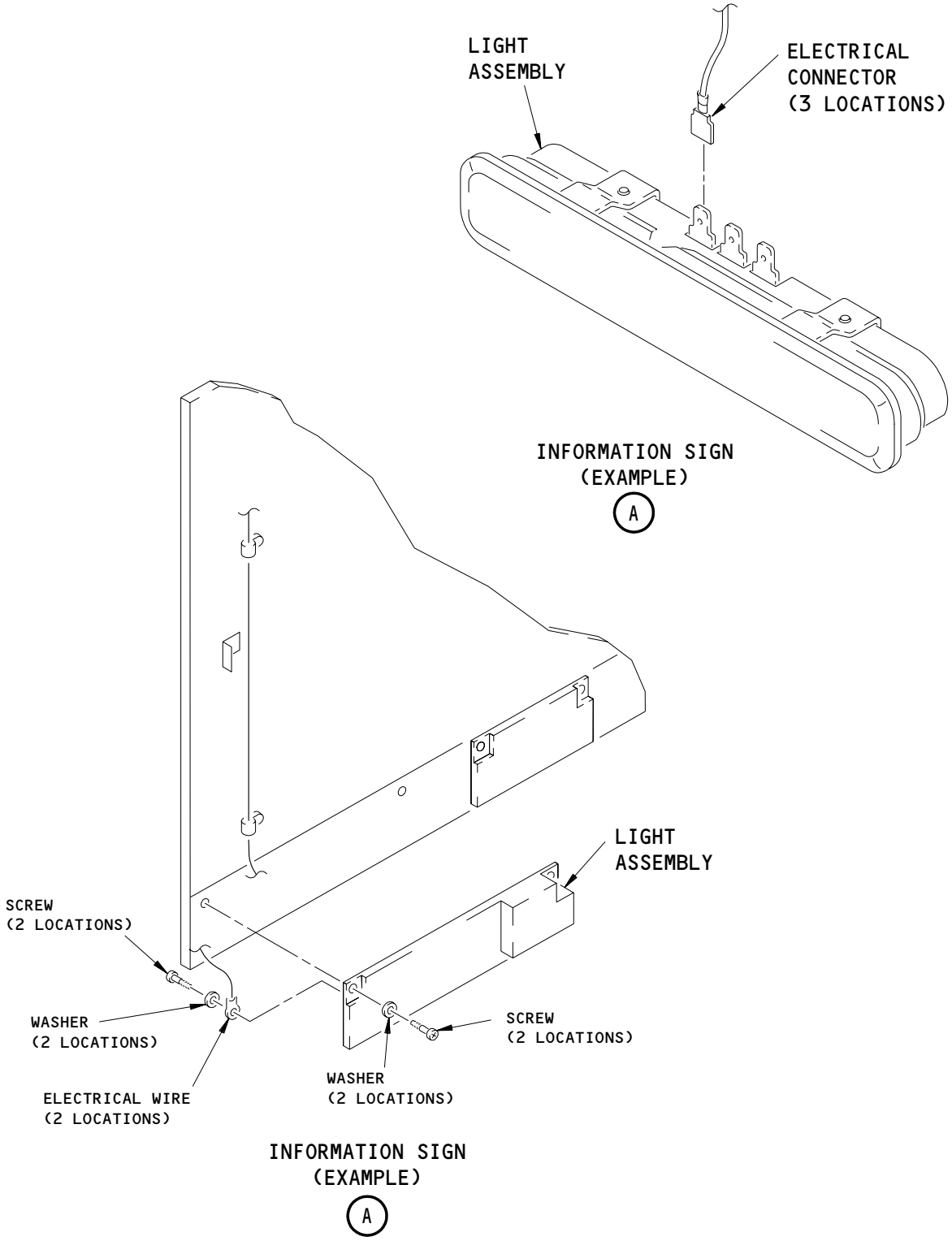


LAVATORY
(EXAMPLE)



PSU READING LIGHT PANEL
(EXAMPLE)

Passenger Sign - Light Assembly Replacement
Figure 202 (Sheet 2)



Passenger Sign – Light Assembly Replacement
Figure 202 (Sheet 3)

(b) Open the mirror.
(c) Remove the screws and washers that hold the light assembly in its position.
(d) Remove the sealant around the wiring that leads into the light assembly.
(e) Disconnect the electrical wires.
1) Remove the screws and washers.
(f) Replace the light assembly.

NOTE: Do not discard the light assembly. In a shop, use the vendor instructions for possible repairs.

(g) Connect the electrical wires.
1) Install the washers and screws.
(h) Install the washers and screws that hold the light assembly in itsposition.
(i) Fill the space around the wiring with a silicone rubber compound.
(j) Close the mirror.

NOTE: To make sure it closes, push along the length of the mirror on the side that latches.

S 962-143
(2) Do these steps to replace the light assembly for signs not in the lavatories:
(a) Remove the light assembly from the panel.
(b) AIRPLANES WITHOUT THE LED LIGHT ASSEMBLY;
It is not necessary to remove the lens assembly. With the lens assembly attached, move the bottom of the light assembly away from the panel.
(c) Disconnect the electrical wires.
(d) Replace the light assembly.
1) AIRPLANES WITHOUT THE LED LIGHT ASSEMBLY;
Make sure the lamps are installed in the new light assembly.

(e) Connect the electrical wires.
(f) Install the light assembly.

NOTE: Move the top of the light assembly into the panel first, then push on the face of the lens assembly.

S 712-144
(3) Do a test of the new light assembly:
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P11 panel:
1) 11P9, PASS SIGN CONT
(c) AIRPLANES WITH THE NO SMOKING SIGNS NOT HARDWIRED ON;
At the overhead panel, P5, set the NO SMOKING switch to the ON position.
(d) Make sure the new lamp comes on correctly.
(e) At the P5 panel, set the SEATBELTS switch to the on position.
1) Make sure the new lamp comes on correctly.
(f) Set each switch to the off position.
(g) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-24-00-712-035

5. Passenger Signs - Operational Test

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones
200 Upper Half of the Fuselage

(2) Access Panel
119AL Main Equipment Center

C. Procedure

S 862-115
(1) Supply electrical power (AMM 24-22-00/201).

S 712-038

(2) At the overhead panel, P5, set the NO SMOKING switch to the on position.
   (a) Make sure the NO SMOKING signs come on.
   (b) Make sure the FASTEN SEATBELT signs stay off.

S 712-118

(3) At the overhead panel, P5, set the NO SMOKING switch to the off position.
   (a) Make sure the no smoking signs go off.

S 712-050

(4) Set the NO SMOKING switch to the automatic position.
   (a) Make sure the NO SMOKING signs come on.

S 862-061

WARNING: PREPARE THE SAFETY-SENSITIVE SYSTEMS FOR THE AIR MODE BEFORE YOU OPEN THE AIR/GROUND CIRCUIT BREAKERS. IN THE AIR MODE, MANY OF THE AIRPLANE SYSTEMS CAN OPERATE AND CAUSE INJURIES TO PERSONS AND DAMAGE TO EQUIPMENT.

(5) Prepare the safety-sensitive systems for air mode simulation (AMM 32-09-02/201).

S 862-060

(6) Open these circuit breakers on the P11 panel and attach DO-NOT-CLOSE tags:
   (a) 11C29, LANDING GEAR POSITION AIR/GND SYS 2 ALT
   (b) 11U24, POSITION AIR/GND SYS2
   (c) Make sure the passenger signs go off.

S 712-140

(7) At the overhead panel, P5, set the SEATBELTS switch to the automatic position.

S 712-058
(8) Put the FLAP control lever on the control stand panel, P10 to the DOWN position.
  (a) Make sure the FASTEN SEAT BELT signs and the RETURN TO SEAT signs come on.

S 712-062
(9) Put the FLAP control lever to the UP position.
  (a) Make sure the passenger signs go off.

S 022-068
(10) Disconnect the electrical connector from the pressure switch, S467.
  (a) Put a jumper wire between pins 1 and 2 of the connector.
  (b) Make sure the FASTEN SEAT BELT and NO SMOKING signs come on.
  (c) AIRPLANES WITH OXYGEN DEPLOY IN THE AUTO LOGIC OF THE PASSENGER INFORMATION SIGNS SYSTEM; (SSM 33-24-01)
  Make sure that the RETURN TO SEAT signs come on.

S 862-066
(11) Remove the jumper wire and connect the electrical connector to the pressure switch.
  (a) Make sure the passenger signs go off.

S 862-059
(12) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  (a) 11C29, LANDING GEAR POSITION AIR/GND SYS 2 ALT
  (b) 11U24, POSITION AIR/GND SYS 2
  (c) Make sure all the passenger signs come on.

S 862-081
(13) Set all switches to the off position.

S 862-082
(14) Remove electrical power if it is not necessary (AMM 24-22-00/201).

CALL LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. A call light shows the location of the person who has set a call switch to the on position to make a call for an attendant's aid.
      (1) Each lavatory call light is a small amber light on or near the ceiling near a lavatory.
         (a) When the call switch in the lavatory is set to the on position to make a call, the call light comes on and there is a chime sound.
         (b) LAVATORY WITH A SMOKE DETECTOR;
         When smoke is detected, the detector causes the lavatory light and applicable call light to flash continuously. The detector also causes a high tone pulsating chime to sound.
      (2) The passenger call lights and switches are on the passenger service units (PSUs).
         (a) For data about the passenger call lights, refer to Passenger Entertainment/Passenger Service System, AMM 23-34-00/001.
   B. For more data about this lighting system, refer to these source:
      (1) SSM 23-34-30
      (2) SSM 33-25-01
      (3) WDM 23-34-21 thru 23-34-29
      (4) WDM 33-25-11
2. Operation
   A. Functional Description
      (1) Lavatory Call Lights
         (a) When the call switch in a lavatory is set to the on position, 28 volts dc is supplied to a relay. The contacts in the relay provide a latching circuit to hold the relay closed after the call switch is released. Other contacts provide 28 volts dc to the applicable call light, the call switch, and the reset switch. The reset switch is located above the corresponding lavatory door.
         (b) The call switch also supplies 28 volts dc to make a high tone chime sound.
            1) ON SOME AIRPLANES;
            The chime sound comes from the passenger address amplifier (AMM 23-31-00/001).

2) ON SOME AIRPLANES;
The chime sound comes from the passenger call chime (AMM 23-42-00/001).

(c) When the reset switch is pushed, electrical power is removed from the lavatory call relay. This causes the lights and chime sound go off.

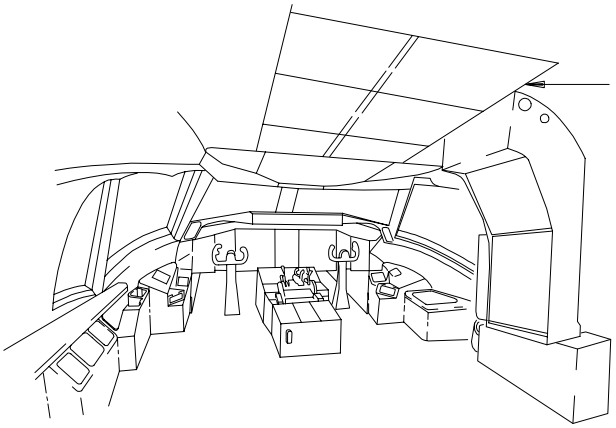
(d) LAVATORY WITH A SMOKE DETECTOR;
When smoke is detected in the lavatory, contacts in the lavatory call relay provide power to activate a high tone, pulsating chime. Power from the lavatory call relay causes the lavatory light and applicable call light to flash continuously.

PASSENGER CALL LIGHTS

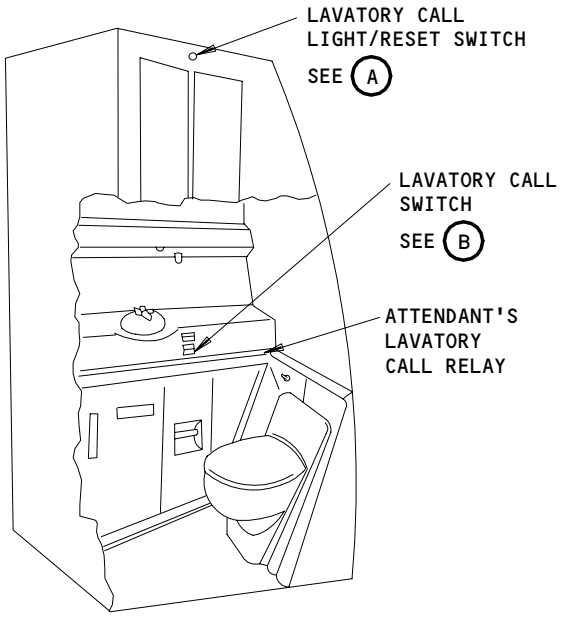
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLT COMPT, P11	*
LIGHT –				
CALL			PASS. COMPT	33-25-00
RELAY –			EACH LAVATORY	*
SWITCH –				
CALL			EACH LAVATORY	*
RESET			EACH LAVATORY	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

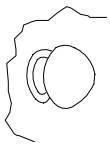
Passenger Call Lights – Component Index
Figure 101



FLIGHT COMPARTMENT

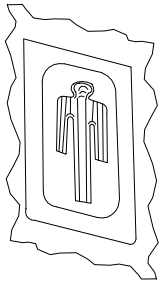


LAVATORY
(EXAMPLE)



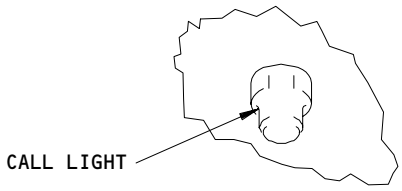
LAVATORY CALL LIGHT/RESET SWITCH
(EXAMPLE)

A



LAVATORY CALL SWITCH
(EXAMPLE)

B



CALL LIGHT
(EXAMPLE)

Passenger Call Lights - Component Location
Figure 102

CALL LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Lavatory Call Light - Lamp Replacement
      (2) Lavatory Call Lights - Operational Test

   TASK 33-25-00-962-001

2. Lavatory Call Light - Lamp Replacement
   A. Reference
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-25-01
      (3) WDM 33-00-11, Lamp Usage Chart
      (4) WDM 33-25-11
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage

   C. Lamp Replacement

      S 862-019
      (1) Do one of these steps to remove electrical power from the call light:
          (a) At the lavatory, set the reset switch to the off position and attach the DO-NOT-OPERATE tag.
          (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
              1) On the overhead circuit breaker panel, P11.

      S 032-007
      (2) Turn the lens counterclockwise and remove it.

      S 962-008
      (3) Carefully replace the lamp.

      S 432-009
      (4) Turn the lens clockwise to install it.

D. Lamp Test

S 862-020
(1) Supply electrical power (AMM 24-22-00/201).

S 862-021
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-010
(3) In the lavatory, set the call switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-022
(4) At the lavatory, set the reset switch to the off position.
(a) Make sure the call light goes off.

S 862-023
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-25-00-712-011

3. Lavatory Call Light - Operational Test

A. Reference
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-25-01
(3) WDM 33-25-11

B. Access
(1) Location Zone
200 Upper Half of the Fuselage

C. Procedure

S 862-012
(1) Supply electrical power (AMM 24-22-00/201).

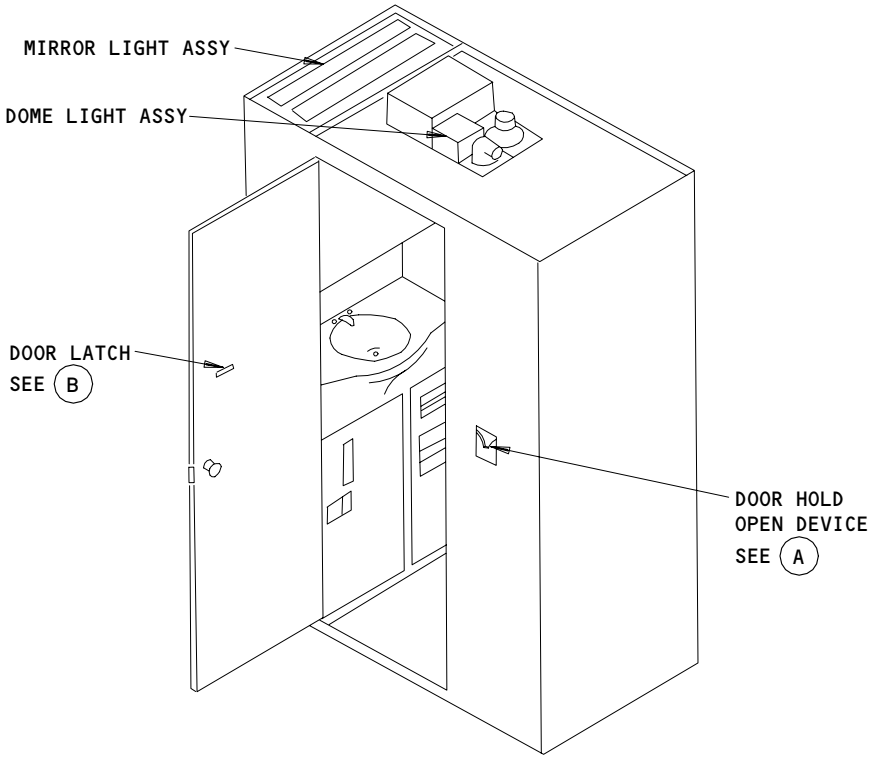
S 712-014
(2) In each lavatory, set the call switch to the on position.
(a) Make sure each reset switch and applicable call light comes on and a high tone chime is heard.

S 712-016
(3) At each lavatory, set the reset switch to the off position.
(a) Make sure each reset switch and call light goes off.

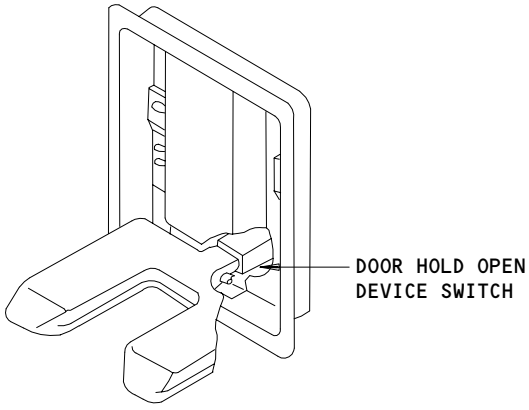
S 862-018
(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

LAVATORY LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. The lavatories are illuminated with incandescent lights in the ceiling, and fluorescent lights above the mirrors. The mirror lights illuminate automatically when ground power is applied to the airplane, or the lavatory door is latched.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-26-01 thru 33-26-99
      (2) WDM 33-26-11 thru 33-26-99
2. Component Details
   A. Dome Light
      (1) Dome lights are located in each lavatory. Power to the dome lights is continuous 28v ac.
   B. Door Latch Switch
      (1) The door latch switches are located on lavatory door latches. When the lavatory doors are latched, the switch provides 28v ac to the occupied side of the lavatory occupied sign.
   C. Lavatory Occupied Sign
      (1) The lavatory occupied signs are located in the passenger compartment near the lavatories that they serve. The lavatory section of the light is continuously powered by 28v ac. The occupied section receives power when the lavatories are in use with the doors latched.
      (2) ON SOME AIRPLANES;
      A forward lavatory occupied sign or light is located in the flight compartment. The sign or light comes on when the forward lavatory door is closed and locked.
   D. Lavatory Mirror Lights
      (1) The lavatory mirror lights are located next to the mirror in each lavatory. The mirror lights are fluorescent and are powered by a ballast which uses 115v ac to operate.
   E. LAVATORIES WITH AN EXTERNAL (HANDICAPPED) LIGHT SWITCH;
      External (Handicapped) Switch
      (1) This switch is on the outer side of the lavatory. This switch allows 115v ac power to be supplied to the fluorescent mirror lights and 28v power to the lavatory occupied signs with the lavatory door in the unlatched position.

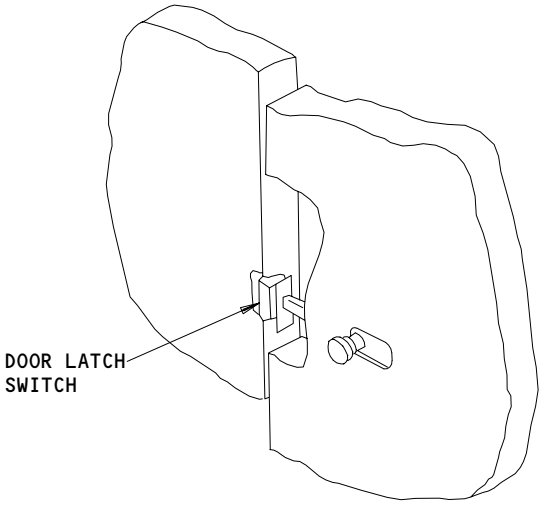


LAVATORY (TYPICAL)



DOOR HOLD OPEN DEVICE

A



B

Lavatory Lights Component Location
Figure 1

F. LAVATORIES WITH A HOLD-OPEN DEVICE;
Hold-Open Device Switch
(1) Hold-open device switches are located on lavatories with a hold-open device. Power to the switch is 28v ac.

3. Operation
A. Functional Description
(1) Lavatory Dome Lights
(a) Incandescent dome lights operate with 28 volts ac of electrical power. There are no switches associated with these lights. The lights are illuminated when electrical power is on the airplane.
(b) If there is a loss of ac power from both main generators, ac power from the hydraulic motor-driven generator is automatically switched to these lights.
(2) Lavatory Fluorescent Lights
(a) Fluorescent mirror lights operate when a lavatory door is closed and latched, or when the door is open and the handicapped light switch is on. Power from the 115v ac bus is applied, through the light relay contacts and the door latch or handicapped light switch, to the fluorescent light ballast units in the mirror light assembly. The ballast supplies electrical power to the fluorescent lamps.
(b) When ground power is connected to the airplane, 115 vac from the ground handling bus energizes the light relay and applies 115v ac from the same source to the mirror lights.
(3) Lavatory Occupied Signs
(a) When a lavatory door is closed and latched, the OCCUPIED portion of the occupied sign near the lavatory comes on. Power for the signs is 28 volts ac.
(b) ON SOME AIRPLANES;
In the mid or aft lavatories, the door latch switches are connected in series. The door of each lavatory in the circuit must be closed before the occupied sign will come on.
(4) LAVATORIES WITH A DOOR HOLD-OPEN DEVICE;
Door Hold-Open Device
(a) A switch in the hold-open device connects 115 vac to the fluorescent light ballast units in the mirror light assemblies. On some lavatories, the switch also connects 28 volts ac to the OCCUPIED section of the occupied sign.
(5) LAVATORIES WITH AN EXTERNAL (HANDICAPPED) SWITCH;
External (Handicapped) Switch
(a) The switch supplies 28 volts ac to the OCCUPIED portion of the occupied sign. This switch also provides 115v ac to the fluorescent mirror light ballasts.

LAVATORY LIGHTS

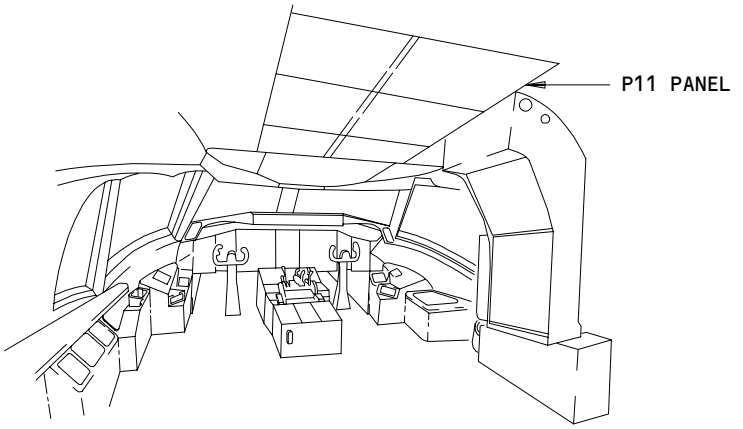
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
BALLAST –	2	*	EACH LAVATORY	33-26-02
CIRCUIT BREAKER –	1	*	FLT COMPT, P11	*
CIRCUIT BREAKER –	1	*	119AL, MAIN EQUIP CTR, P34	*
LIGHT –				
MIRROR	2	*	EACH LAVATORY	33-26-00
LAVATORY OCCUPIED 1	*	*	FLT COMPT	*
DOME	2	*	EACH LAVATORY	33-26-00
RELAY –	2	*	EACH LAVATORY	33-26-00
SIGN –				
LAVATORY OCCUPIED 1	2	*	PASS. COMPT/FLT COMPT	33-26-00
SWITCH –				
DOOR LATCH	2	*	EACH LAVATORY	*
EXTERNAL (HANDICAPPED) 2	2	*	EACH LAVATORY	*
HOLD-OPEN DEVICE 2	2	*	EACH LAVATORY	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

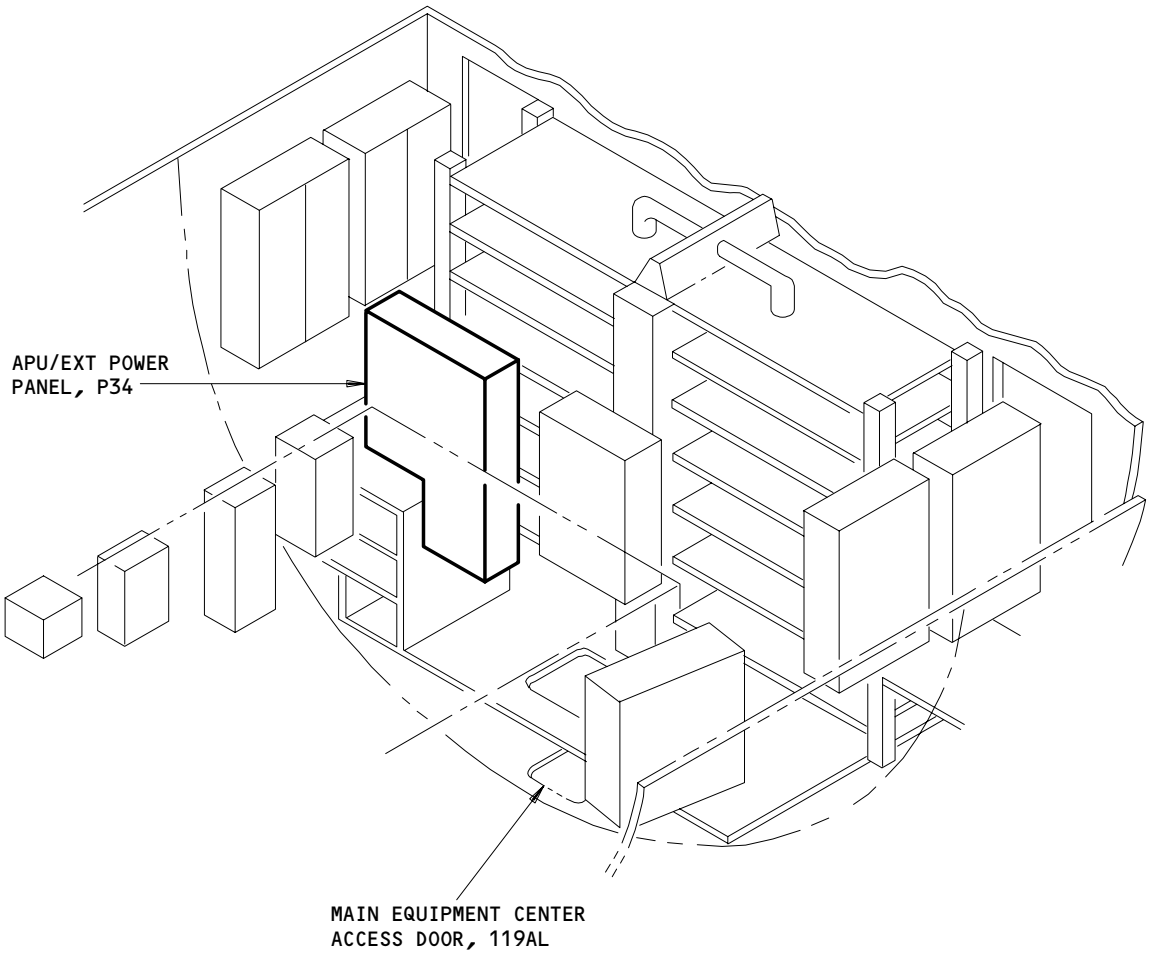
1 NOT INSTALLED IN EACH FLIGHT COMPARTMENT

2 NOT INSTALLED ON ALL LAVATORIES

Lavatory Lights – Component Index
Figure 101

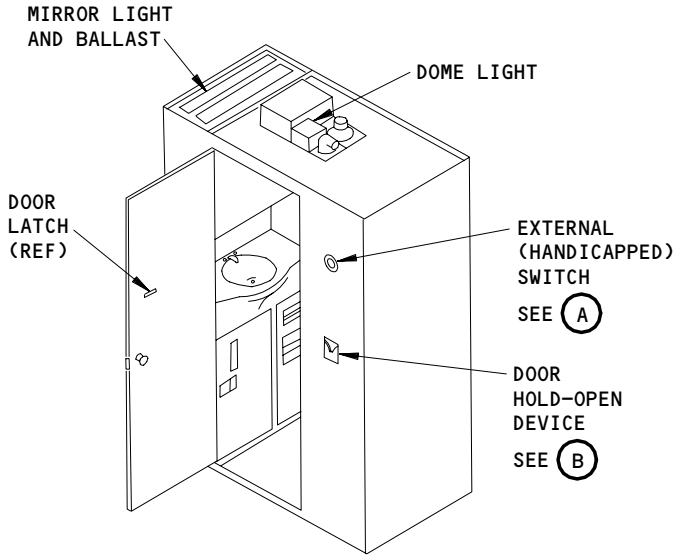


FLIGHT COMPARTMENT

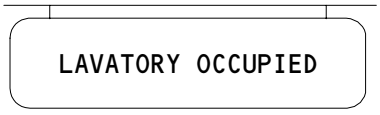


MAIN EQUIPMENT CENTER

Lavatory Lights - Component Location
Figure 102 (Sheet 1)

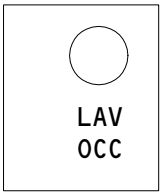


LAVATORY
(EXAMPLE)



LAVATORY OCCUPIED SIGN
(EXAMPLE, INSTALLED IN THE
PASSENGER COMPARTMENT)

A 1

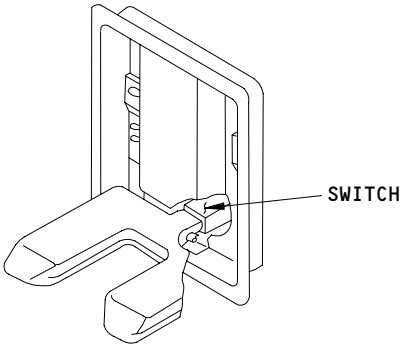


LAVATORY OCCUPIED LIGHT
(EXAMPLE)

A 1

EXTERNAL (HANDICAPPED) SWITCH

A 2



DOOR HOLD-OPEN DEVICE
(EXAMPLE)

B 2

1 INSTALLED IN THE FLIGHT COMPARTMENT OF SOME AIRPLANES

2 NOT INSTALLED ON ALL LAVATORIES

Lavatory Lights - Component Location
Figure 102 (Sheet 2)

LAVATORY LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks:
      (1) Mirror Light - Lamp Replacement
      (2) Dome Light - Lamp Replacement
      (3) Lavatory Occupied Sign - Lamp Replacement
      (4) Lavatory Lights - Operational Test

TASK 33-26-00-962-001

2. Mirror Light - Lamp Replacement
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-26-01
      (3) WDM 33-00-01, Lamp Usage Chart
      (4) WDM 33-26-11
   B. Access
      (1) Location Zones
          200 Upper Half of the Fuselage
   C. Procedure

      S 962-059
      (1) Replace the lamp.
          (a) Remove electrical power from the light:
              1) Open each applicable circuit breaker for the mirror light and attach the DO-NOT-CLOSE tag:
                 a) On the overhead circuit breaker panel, P11.
                 b) On the APU/EXT power panel, P34.
          (b) Remove the screws that attach the lens assembly.
          (c) Pull down the lens.
          (d) Carefully replace the lamp.

      S 712-052
      (2) Do a test of the new lamp.
          (a) Supply electrical power (AMM 24-22-00/201).
          (b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
              1) Make sure the new lamp comes on correctly.
                 a) If the lamp does not come on, then close and latch the lavatory door to make the lamp come on.

(c) Lift up the lens and install its screws.
(d) Remove electrical power if it is not necessary (AMM 24-22-00/201).
(e) Lift up the lens.

TASK 33-26-00-962-058

3. Dome Light - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-26-02
(3) WDM 33-00-01, Lamp Usage Chart
(4) WDM 33-26-11

B. Access
(1) Location Zones
200 Upper Half of the Fuselage

C. Procedure

S 962-057
(1) Replace the lamp.
(a) Remove electrical power from the light:
1) Open each applicable circuit breaker for the dome light and attach the DO-NOT-CLOSE tag:
a) On the overhead circuit breaker panel, P11.
(b) Pull down the lens.
(c) Carefully replace the lamp.

S 712-053
(2) Do a test of the new lamp.
(a) Supply electrical power (AMM 24-22-00/201).
(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
1) Make sure the new lamp comes on correctly.
(c) Install the lens.
(d) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-26-00-962-055

4. Lavatory Occupied Sign - Lamp Replacement

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-26-02
(3) WDM 33-00-01, Lamp Usage Chart
(4) WDM 33-26-21
(5) Location Zones
200 Upper Half of the Fuselage

B. Procedure

S 962-056

(1) Replace the lamp.

(a) Remove electrical power from the sign:

1) Open each applicable circuit breaker for the sign and attach the DO-NOT-CLOSE tag:

a) On the overhead circuit breaker panel, P11.

(b) Hold the aft side of the sign assembly and move the lens 3/16 inch to the left.

(c) Carefully pull the bottom of the lens out.

(d) Carefully replace the lamp.

S 712-060

(2) Do a test of the new lamp.

(a) Supply electrical power (AMM 24-22-00/201).

(b) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.

1) For the "lavatory" part of the sign, make sure the new lamp comes on correctly.

2) For the "occupied" part of the sign, close and latch the lavatory door.

a) Make sure the new lamp comes on correctly.

(c) Carefully install the lens.

(d) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-26-00-712-016

5. Lavatory Lights - Operational Test

A. References

(1) AMM 24-22-00/201, Electrical Power - Control

(2) SSM 33-26-01 thru 33-26-99

(3) WDM 33-26-11 thru 33-26-99

B. Access

(1) Location Zones

200 Upper Half of the Fuselage

C. Procedure

S 862-063

(1) Supply electrical power (AMM 24-22-00/201).

S 712-065
(2) Do a test of the dome lights.
(a) Make sure the dome light in each lavatory is on.

S 712-021
(3) Do a test of the mirror lights.
(a) Make sure the mirror lights in each lavatory are off.
(b) If the mirror lights are still on, open this circuit breaker and attach a DO-NOT-CLOSE tag:
1) APU/External power panel, P34
a) 34S4, LAV SERVICE LIGHTS
(c) Go into each lavatory
(d) Close and latch the door.
1) Make sure the mirror lights come on.
(e) Open the door.
1) Make sure the mirror lights go off.
(f) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
1) APU/External power panel, P34
a) 34S4, LAV SERVICE LIGHTS

S 712-064
(4) Do a test of the lavatory occupied signs.
(a) Make sure the "lavatory" part of each lavatory occupied sign is on.
(b) Close and latch each lavatory door.
1) Make sure the "occupied" part of each lavatory occupied sign comes on.
(c) Open each lavatory door.
1) Make sure the "occupied" part of each lavatory occupied sign goes off.
2) Make sure the "lavatory" part of each lavatory occupied sign stays on.

S 712-030
(5) LAVATORY WITH A HOLD OPEN DEVICE;
Do a test of the hold open device.
(a) Move the device into the position to hold the door open.
1) Make sure the mirror lights in the lavatory come on.
2) Make sure the "occupied" part of each lavatory occupied sign for the lavatory comes on.
(b) Move the device away from the door.
1) Make sure the mirror lights go off.

2) Make sure the "occupied" part of each sign for the lavatory goes off.

S 712-031

(6) LAVATORY WITH AN EXTERNAL LIGHT SWITCH;
Do a test of the light switch.
(a) Set the switch to the on position.
1) Make sure the mirror lights in the lavatory come on.
2) Make sure the "occupied" part of each lavatory occupied sign for the lavatory comes on.
(b) Set the switch to the off position.
1) Make sure the mirror lights go off.
2) Make sure the "occupied" part of each sign for the lavatory goes off.

S 862-042

(7) Remove electrical power if it is not necessary (AMM 24-22-00/201).

LAVATORY LIGHTS BALLAST - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Lavatory Lights Ballast - Removal
      (2) Lavatory Lights Ballast - Installation
   B. For the forward lavatories, the ballasts are on top of the mirror light assembly. To access the ballasts, lower the mirror light assembly.
   C. For the aft lavatories, the ballast is on the lavatory wall behind the mirror. To access the ballast, remove the airplane ceiling panel that is outside the lavatory and next to the mirror.

TASK 33-26-02-004-001

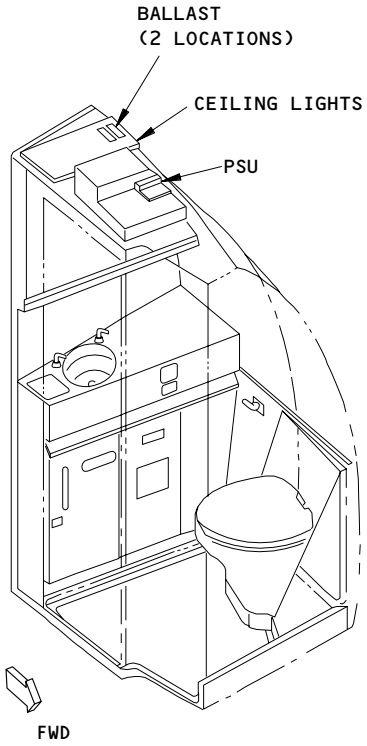
2. Lavatory Lights Ballast - Removal
   A. References
      (1) AMM 25-22-02/401, Lowered Ceiling Panels
      (2) SSM 33-26-01
      (3) WDM 33-26-11
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage

   C. Procedure

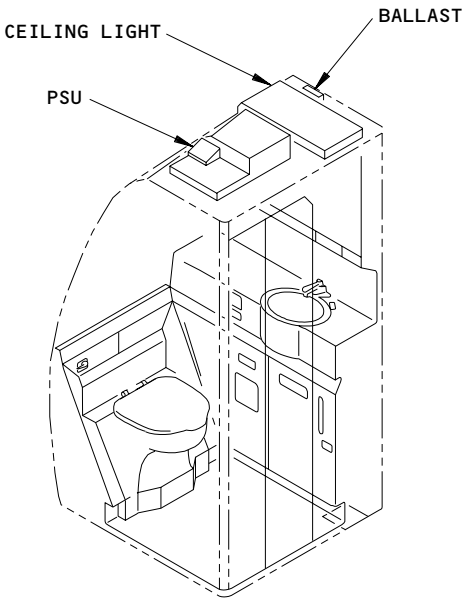
      S 864-002
      (1) Open the applicable circuit breakers and attach a DO-NOT-CLOSE tag:
          (a) On the Overhead Circuit Breaker Panel, P11:
              1) 11R9, MIRROR LTS LAV SYS 1
              2) 11R36, MIRROR LTS LAV SYS 2
          (b) On the APU/External Power Panel, P34:
              1) 34S4, LAV SERVICE LIGHTS

      S 014-003
      (2) For the forward lavatories, lower the mirror light assembly to access the ballasts:
          (a) Remove the screws that attach the lens assembly.
          (b) Remove the lens assembly.
          (c) Remove the lamps.
          (d) Remove the fasteners from the inside walls of the light assembly.
          (e) Lower the light assembly.

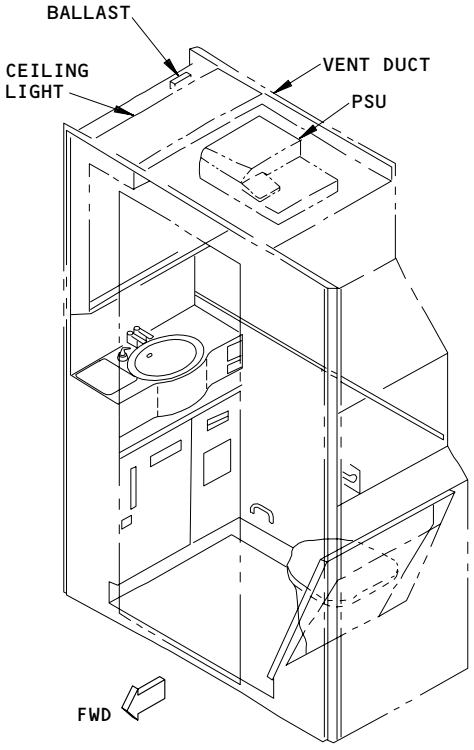
      S 014-004
      (3) For the aft lavatories, remove the airplane ceiling panel that is outside the lavatory and next to the mirror to access the ballast (AMM 25-22-02/401).



Forward Lavatories
Figure 401



SIDEWALL LAVATORY



AISLE LAVATORY

Aft Lavatories
Figure 402

H23815

S 024-005
(4) Remove the ballast:
(a) Disconnect the electrical cable from the ballast.
(b) Remove the fasteners from the base of the ballast.
(c) Remove the ballast.

TASK 33-26-02-404-006

3. Lavatory Lights Ballast - Installation

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 25-22-02/401, Lowered Ceiling Panels
(3) SSM 33-26-01
(4) WDM 33-26-11

B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Procedure

S 424-007
(1) Install the ballast:
(a) Set the ballast in its position.
(b) Install the fasteners in the base of the ballast.
(c) Connect the electrical cable to the ballast.

S 414-008
(2) For the forward lavatories, raise the mirror light assembly:
(a) Raise the light assembly to its normal position.
(b) Install the fasteners into the inside walls of the light assembly.
(c) Install the lamps.
(d) Install the lens assembly with its fasteners.

S 414-009
(3) For the aft lavatories, install the airplane ceiling panel that is outside the lavatory and next to the mirror (AMM 25-22-02/401).

S 864-010
(4) Remove the DO-NOT-CLOSE tags and close the applicable circuit breakers:
(a) On the Overhead Circuit Breaker Panel, P11:
1) 11R9, MIRROR LTS LAV SYS 1
2) 11R36, MIRROR LTS LAV SYS 2
(b) On the APU/External Power Panel, P34:
1) 34S4, LAV SERVICE LIGHTS

S 864-011
(5) Supply electrical power (AMM 24-22-00/201).

S 714-012
(6) Make sure that the lamps in the mirror light assembly come on.
    (a) If the lamps do not come on, then close and latch the lavatory door to make the lamps come on.

S 864-013
(7) Remove electrical power if it is not necessary (AMM 24-22-00/201).

GALLEY LIGHTS - DESCRIPTION AND OPERATION

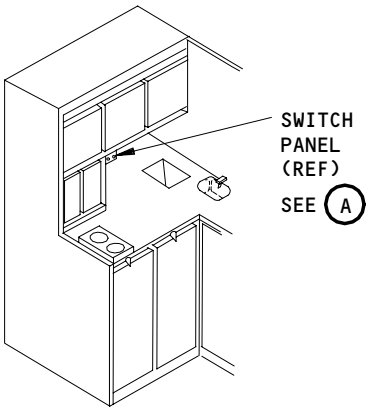
1. General
   A. Each galley area has fluorescent lights in the ceiling panels. Switches at each galley provide off, dim, and bright control of the lights.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-27-01 thru 33-27-99
      (2) WDM 33-27-11 thru 33-27-99
2. Operation
   A. Functional Description
      (1) Galley Lights
         (a) The fluorescent light in each galley area is controlled with a switch. The switch supplies a ground to operate control relays which connect 280 volts ac from the sidewall lights circuits to the ballasts of the light. The bright position of the switch connects electrical power to each ballast to make all the lamps come on. The dim position energizes only one relay. The relay provides power to only one ballast and lamp assembly.

GALLEY LIGHTS

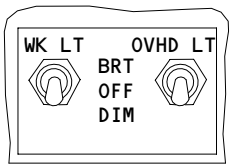
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
BALLAST –		*	EACH GALLEY	33-27-00
CIRCUIT BREAKER –		*	119AL, MAIN EQUIP CTR, P33	*
LIGHT –			PASS. COMPT	*
AFT DIRECT CEILING		*	MID GALLEY	*
GALLEY		*	AFT, FWD AND MID GALLEY	*
RELAY –		*	119AL, MAIN EQUIP CTR, P19,P25	*
SWITCH-LIGHT –		*	EACH GALLEY	*
TRANSFORMER –		*	119AL, MAIN EQUIP CTR, P19	*

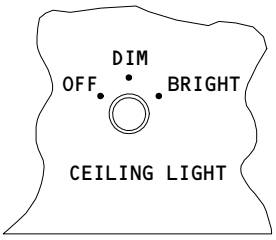
* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Galley Lights – Component Index
Figure 101



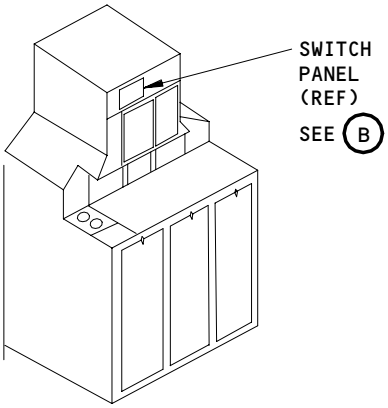
FORWARD GALLEY
(EXAMPLE)



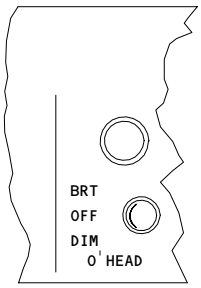


(EXAMPLES)

A

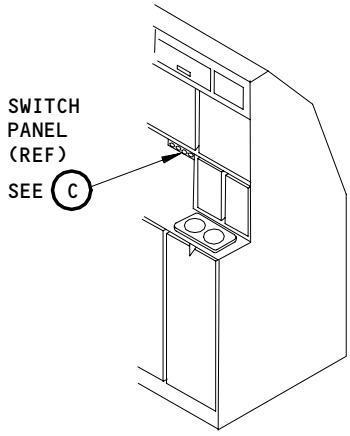


MID CABIN GALLEY 1
(EXAMPLE)

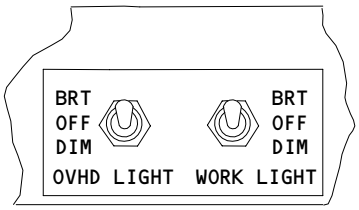


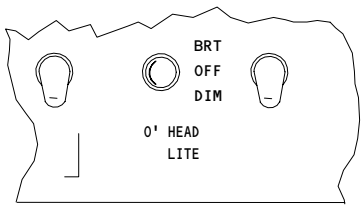
(EXAMPLES)

B 1



AFT GALLEY
(EXAMPLE)





(EXAMPLES)

C

1 NOT INSTALLED ON ALL AIRPLANES

Galley Lights - Component Location
Figure 102

GALLEY LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Galley Light - Lamp Replacement
      (2) Galley Light - Ballast Replacement
      (3) Galley Light - Operational Test

   TASK 33-27-00-962-001

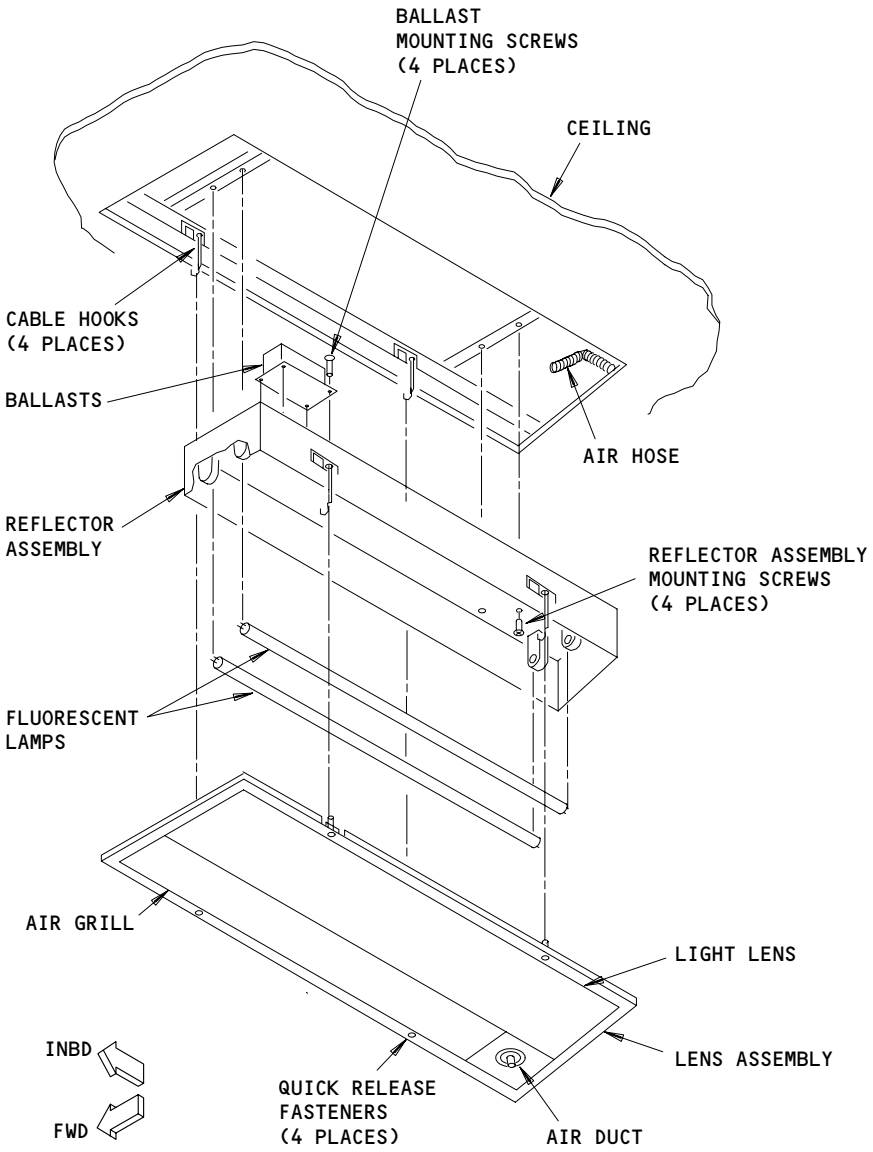
2. Galley Light - Lamp Replacement (Fig. 201)
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) AMM 25-22-02/401, Lowered Ceiling Panels
      (3) SSM 33-27-01
      (4) WDM 33-00-11, Lamp Usage Chart
      (5) WDM 33-27-11
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage

      (2) Access Panel
          119AL Main Equipment Center

   C. Lamp Replacement

      S 862-045
      (1) Do one of these steps to remove electrical power from the galley light:
          (a) At the galley, set the switch to the off position and attach the DO-NOT-OPERATE tag.
          (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
              1) On the forward miscellaneous electrical equipment panel, P33.

      S 032-012
      (2) Remove the quick release fasteners and lower the lens assembly.



Galley Light (Typical)
Figure 201

S 032-043

CAUTION: KEEP THE CABLE HOOKS ATTACHED TO THE AIR GRILL SIDE OF THE LENS ASSEMBLY. IF YOU DISCONNECT BOTH CABLES DAMAGE TO AIR HOSE CAN OCCUR.

(3) Disconnect the cable hooks on the lights side of the lens assembly.

S 962-014

(4) Carefully replace the lamp.

S 432-019

(5) Attach the cable hooks to the lens assembly.

S 412-020

(6) Lift the lens assembly into position and attach with the quick release fasteners.

S 862-044

CAUTION: ALIGN THE AIR GRILL SIDE OF THE LENS WITH THE AIR DUCT/HOSE. AIR FLOW BLOCKAGE CAN CAUSE DAMAGE TO EQUIPMENT.

(7) Align the air grill side of the lens assembly with the air duct/hose.

D. Lamp Test

S 862-046

(1) Supply electrical power (AMM 24-22-00/201).

S 862-047

(2) Remove each DO-NOT-CLOSE or DO-NOT-OPERATE tag.
(a) Close each circuit breaker that was opened.

S 712-048

(3) Set the switch to the bright position.
(a) Make sure the new lamp comes on correctly.

S 862-049
(4) Set the switch to the usual position.

S 862-050
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-27-00-002-022

3. Galley Light - Ballast Replacement (Fig. 201)

A. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 25-22-02/401, Lowered Ceiling Panels
(3) SSM 33-27-01
(4) WDM 33-27-11

B. Access
(1) Location Zone
200 Upper Half of Fuselage
(2) Access Panel
119AL Main Equipment Center

C. Ballast Removal

S 862-023
(1) Open this circuit breaker on the forward miscellaneous electrical equipment panel, P33, and attach a DO-NOT-CLOSE tag:
(a) 33L7, GALLEY LIGHTS

S 022-024
(2) For a forward or mid galley, do these steps to remove the ballast:
(a) Disconnect the quick release fasteners on the lens assembly.
(b) Lower the lens assembly and let it hang by the cables
(c) Disconnect the lens assembly from the cable hooks on the lights side of the lens assembly.
(d) Remove the fluorescent lamps.

(e) Remove the screws that attach the reflector assembly to the airplane structure.
(f) Remove the reflector assembly.
(g) Disconnect the electrical connector from the ballast.
(h) Remove the screws that attach the ballast to the reflector assembly.
(i) Remove the ballast.

S 022-028
(3) For an aft galley, do these steps to remove the ballast:
(a) Open the lowered ceiling panel to get access to the ballast (AMM 25-22-02/401).
(b) Disconnect the electrical connector from the ballast.
(c) Remove the screws that attach the ballast to the reflector assembly.
(d) Remove the ballast.

D. Ballast Installation

S 432-030
(1) Install the ballast to the reflector assembly with the screws.

S 432-027
(2) Connect the electrical connector to the ballast.

S 412-031
(3) For a forward or mid galley, do these steps to close the access:
(a) Attach the reflector assembly to the airplane structure with the screws.
(b) Install the fluorescent lamps.
(c) Attach the lens assembly to the cable hooks.
(d) Lift the lens assembly into position and attach with the quick release fasteners.

S 412-033
(4) For an aft galley, close the lowered ceiling panel.

E. Lamp Test

S 862-055
(1) Supply electrical power (AMM 24-22-00/201).

S 862-034
(2) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the P33 panel:
(a) 33L7, GALLEY LIGHTS

S 712-051
(3) At the galley, set the switch for the galley light to the dim position.
(a) Make sure the galley light comes on dimly.

S 712-052
(4) Set the switch to the bright position.
(a) Make sure the light comes on brightly.

S 862-053
(5) Set the switch to the usual position.

S 862-054
(6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-27-00-712-035

4. Galley Lights - Operational Test

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zone
200 Upper Half of the Fuselage

C. Procedure

S 862-036
(1) Supply electrical power (AMM 24-22-00/201).

S 712-056
(2) Do the test of the galley lights:
(a) At each galley, set the switch for the galley light to the dim position.
1) Make sure one or more lamps in the galley light come on for dim lighting.

NOTE: On planes with an F7 Galley, the worklight on the forward lowered ceiling will not turn on unless the Flight Compartment door is closed.

(b) Set the switch to the bright position.
1) Make sure each other lamp comes on for bright lighting.

(c) Set the switch to the off position.
1) Make sure all the lamps go off.
(d) Set the switch to the usual position.

S 862-039
(3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

CARGO AND SERVICE COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

1. General

A. Lighting is provided in the main gear and nose gear wheel wells; E/E equipment compartments; and air conditioning, APU, and tailcone compartments. Lighting is also provided for the interior and exterior areas of the forward and aft lower lobe cargo compartments.

B. The light for the servicing of the ground fueling station is part of the fueling control system (Chapter 28).

C. Cargo and service compartment lighting has these groups:

(1) Service Lights (AMM 33-31-00/001).

(a) Wheel well lights give lighting for maintenance and servicing in the nose gear and main gear wheel wells. The on/off switch for the nose wheel area lights is in the nose gear wheel well. For the main gear wheel well lights, switches in both main gear wheel wells control the main gear service lights.

(b) Air conditioning compartment lighting consists of a switch and lights in each (right and left) compartment. The forward and aft tailcone compartment lighting is controlled by switches near the respective access doors. The APU compartment lighting has one switch.

(c) The forward E/E equipment center lighting is controlled by a toggle switch adjacent to the forward access door. The main E/E compartment lighting has three control switches. They are adjacent to the cargo access door, the ground access door, and on the in-flight access hatch.

(d) AIRPLANES WITH CARGO LOADING LIGHTS;
Exterior area lights give lighting for cargo loading to the area in front of each cargo door. You operate these lights with switches on a control panel near each door. The lights come on only when the door is open.

(2) Lower Lobe Cargo Compartment Lights (AMM 33-37-00/001)

(a) Forward cargo compartment ceiling lights are controlled by two-way switches in the external forward cargo door control panel (P43) and in the forward cargo accessory panel (P35). A proximity switch in the cargo door enables the lighting circuit when the door is open. A switch in each ceiling lamp assembly disables the unit whenever the lens is open.

(b) Ceiling lights in the aft and bulk cargo compartments operate from a three-way switch circuit. Switches are in the aft cargo door control panel (P44), the aft cargo doorway and the bulk cargo doorway. Proximity switches enable the lighting circuit when either the aft or bulk cargo door is open.

SERVICE LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. There are service lights in the nose gear and main landing gear wheel wells, in the E/E compartments; and in the air conditioning, APU, and tailcone compartments.
   B. ON SOME AIRPLANES;
      There is also exterior lighting for each cargo door area.
   C. For more data about this lighting system, refer to these sources:
      (1) SSM 33-31-01 thru 33-31-99
      (2) WDM 33-31-11 thru 33-31-99
2. Component Details
   A. Wheel Well Lights
      (1) Lights are installed in the nose and main gear wheel wells to provide general maintenance illumination.
      (2) The nose gear wheel well lights switch is on the nose landing gear APU shutdown panel P40.
      (3) Main gear wheel well light switches are wired as a two-way circuit. Switches are located on the forward wall of the left and right main gear wheel wells.
      (4) The main gear wheel well light transformer is on the upper right forward wall of the right main gear wheel well.
   B. Electrical/Electronic Equipment Center Lights
      (1) Electrical equipment center lights are installed in the ceiling of the forward lower section of the airplane to provide general illumination for electrical equipment centers.
      (2) The forward electrical equipment center light switch is adjacent to the forward equipment center access door.
      (3) The main equipment center lights are controlled by three switches wired as a three-way circuit. Switches are located adjacent to the forward cargo compartment access door, the E/E bay access door and the inflight access hatch.
   C. Air Conditioning Compartment Lights
      (1) Lights are installed in the left and right air conditioning bays to provide general maintenance illumination.
      (2) Left and right air conditioning compartment lights are controlled by switches on the forward right wall of the air conditioning bays. Each switch controls the lights for that bay.
      (3) The air conditioning compartment lights transformer is mounted in the left bay adjacent to the air conditioning compartment lights switch.
   D. APU and Tailcone Compartment Lights
      (1) Lights are installed in the APU and tailcone compartment to provide general maintenance illumination.
      (2) Switches are located adjacent to the forward and aft tailcone compartment access doors to control the forward and aft tailcone compartment lights respectively.
      (3) APU compartment lights are controlled by a switch on the forward wall of the APU compartment.
      (4) The APU and tailcone lights transformer is located on the aft right wall of the tailcone compartment.

E. AIRPLANES WITH EXTERIOR CARGO LOADING LIGHTS;
Exterior Cargo Loading Lights
(1) There are area lights adjacent to and in the cargo door.
(2) Forward/aft cargo exterior lights transformers and enable relays are installed on the cargo handling access panels on the fwd/aft cargo compartment doorways.
(3) Forward/aft cargo exterior lights switches are installed on the fwd/aft exterior cargo door control panels.
(4) AIRPLANES WITH A BULK CARGO DOOR;
The bulk cargo exterior lights switch is located on the forward bulk cargo doorway.

3. Operation
A. Functional Description
(1) Wheel Well Lights
(a) The nose gear wheel well incandescent lights are powered by the 28 vac ground service bus. They are operated by a switch on the P40 panel on the nose landing gear.
(b) The main landing gear wheel well lights are powered by the 115 vac ground service bus which is converted to 28 vac by the wheel well lights transformer. Control is by toggle switches wired in a two-way circuit. The left switch is in the left wheel well on the keel beam, and the right switch is on the P56 panel.
(2) Electrical/Electronic Equipment Center Lights
(a) The forward equipment bay incandescent lamps are controlled by a toggle switch adjacent to the forward access door. Power is supplied by the 28 vac ground service bus.
(b) The main equipment bay incandescent lamps are controlled by toggle switches wired in a three-way circuit. The switches are adjacent to the forward cargo compartment access door, the E/E bay access door and the inflight access hatch. Power is from the 28 vac ground service bus.
(c) Some lights are controlled with the SYS NO. 2 Air/Grd relay. These lights are off when the airplane is in flight and are under toggle switch control on the ground.
(3) Air Conditioning Compartment Lights
(a) Incandescent lamps in each bay are powered by 28 vac from the air conditioning compartment lights transformer. The transformer receives 115 vac from the ground handling bus. One switch in each bay controls the lights for that bay.

(4) APU and Tailcone Compartment Lights
  (a) Incandescent lamps in the APU compartment are controlled by a toggle switch on the forward wall of the compartment. Power from the 115 vac ground handling bus is reduced to 28 vac by the APU and tailcone lights transformer.
  (b) The tailcone compartment is illuminated by two incandescent lamps, each controlled by its own switch. Power is from the same source as the APU lights.

(5) AIRPLANES WITH EXTERIOR CARGO LOADING LIGHTS;
Exterior Cargo Loading Lights
  (a) The forward cargo compartment loading area is illuminated by an exterior incandescent lamp aft of the door and incandescent lamps in the door. Power from the 115 vac ground handling bus is applied to a step down transformer through the forward cargo exterior light switch. The switch is on the external control panel below and forward of the door. The 28 vac from the transformer is applied to the exterior light.
  (b) A proximity switch in the forward cargo door provides a ground when the door is open. This energizes the door open enable relay. Contacts in this relay provide a ground to energize the cargo door lights enable relay. This relay provides 28 vac from the transformer to the door mounted area lights.
  (c) The aft cargo area exterior lighting is a separate and independent system identical in operation to the forward cargo exterior lighting system.
  (d) AIRPLANES WITH A BULK CARGO DOOR;
  The bulk cargo loading area has one external incandescent lamp on each side of the door. Power from the 115 vac ground handling bus is applied through a single toggle switch to a transformer in the lamp assembly. This transformer reduces the voltage to 28 vac.

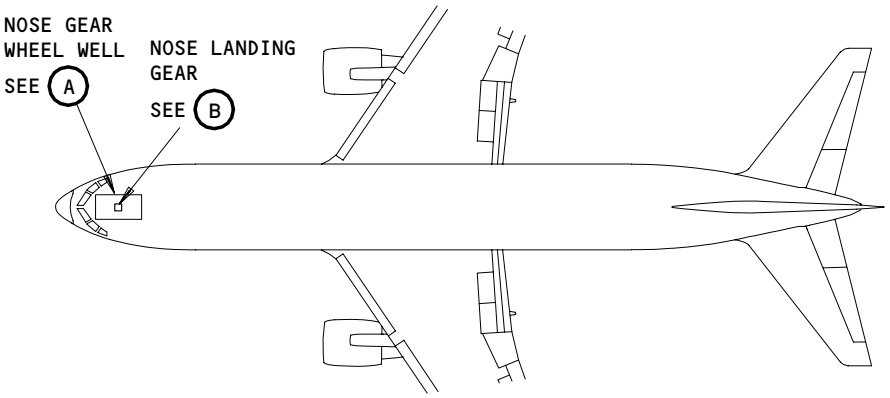
SERVICE LIGHTS

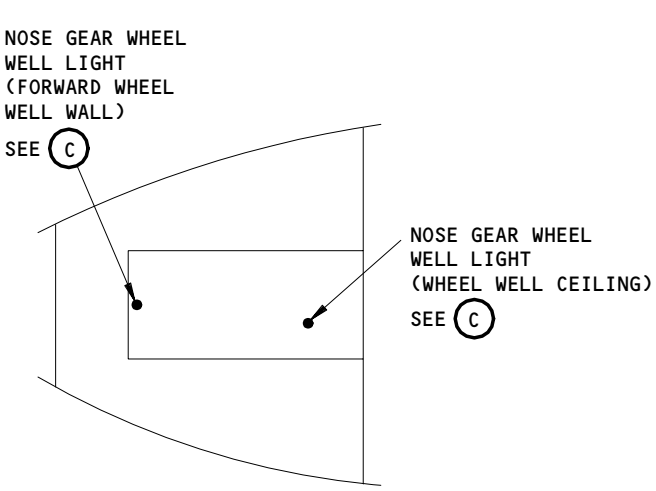
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	7	*	119AL, MAIN EQUIP CTR, P33,P34	*
CIRCUIT BREAKER 1 –	7	*	821 (822), FWD (AFT) CARGO COMPT, P35 (P39)	*
LIGHT –	--	--		
AIR COND COMPT	5	*	193GL,194FR, ECS BAY	*
APU COMP	3,4	*	315AL,316AR, APU COMPT	*
EXTERIOR CARGO LOADING 1	8	*	INSIDE/BESIDE CARGO DOOR	*
MAIN EQUIP CTR	6	*	119AL, MAIN EQUIP CTR	*
MAIN AND NOSE GEAR WHEEL WELL	2	*	MLG WHEEL WELL	*
TAILCONE COMPT	3,4	*	312AR,313AL	*
SWITCH –				
AIR COND COMPT LIGHTS	5	*	193GL,194FR, ECS BAY	*
APU COMPT LIGHTS	3	*	315AL,316AR, APU COMPT	*
EXTERIOR CARGO LOADING LIGHTS 1	8	*	EXT CARGO DOOR CONTROL PNL, P43, P44	*
IN-FLIGHT MAIN EQUIP CTR LIGHT	6	*	119AL, MAIN EQUIP CTR	*
MAIN EQUIP CTR LIGHTS	6	*	113AL, FWD OF NLG WHEEL WELL	*
MAIN WHEEL WELL LIGHTS	2	*	MLG WHEEL WELL, FWD WALL	*
NOSE GEAR WHEEL WELL LIGHTS	1	*	NLG WHEEL WELL, APU SHUTDOWN	*
TAILCONE COMPT LIGHTS	3,4	*	312AR,313AL, STABILIZER TORSION BOX	*
RELAY –	7	*	119AL, MAIN EQUIP CTR	*
TRANSFORMER –	--	*	NEAR THE LIGHT SWITCH	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

1 NOT INSTALLED ON ALL AIRPLANES

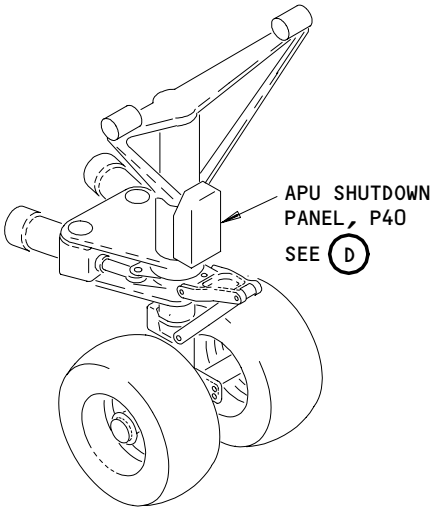
Service Lights – Component Index
Figure 101





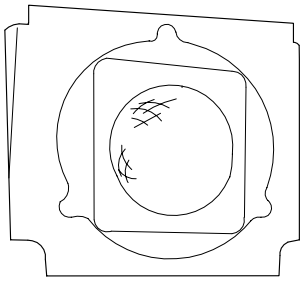
NOSE GEAR WHEEL WELL

A



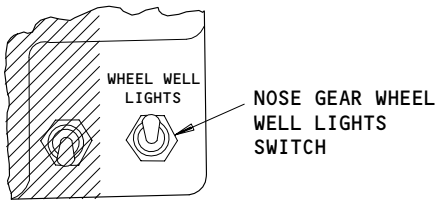
NOSE LANDING GEAR

B



NOSE GEAR WHEEL WELL LIGHT
(EXAMPLE)

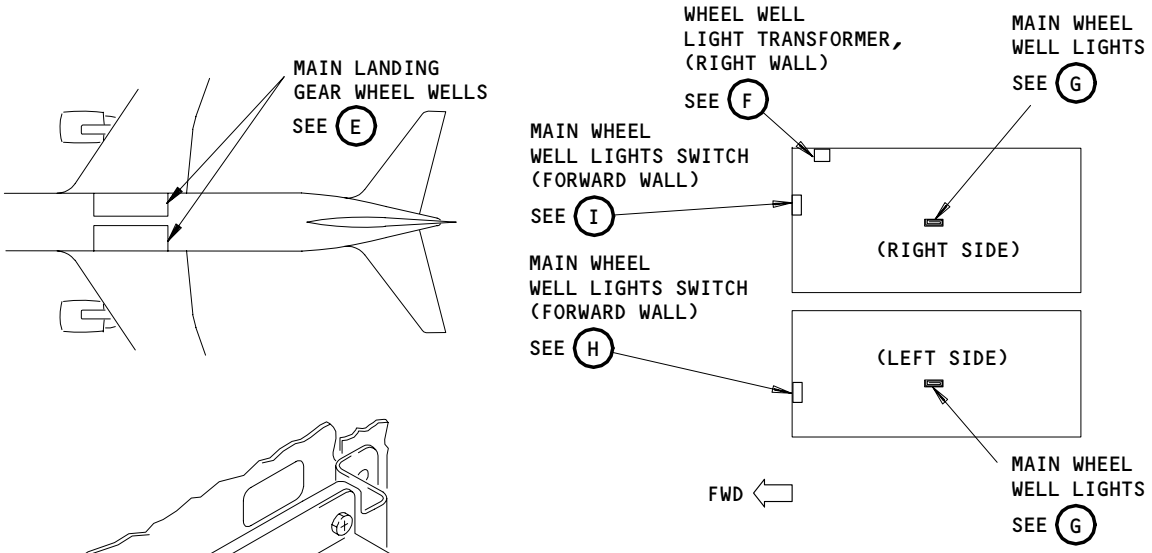
C



APU SHUTDOWN PANEL, P40 (REF)

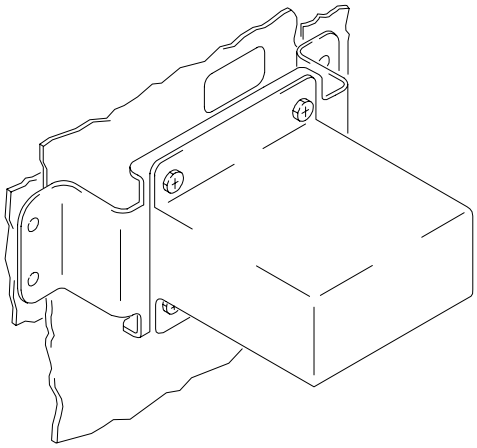
D

Service Lights - Component Location
Figure 102 (Sheet 1)



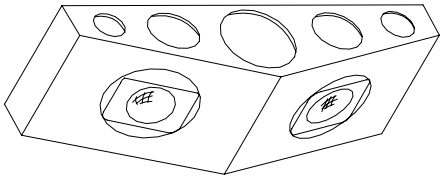
MAIN LANDING GEAR WHEEL WELLS
(TOP VIEW)

E



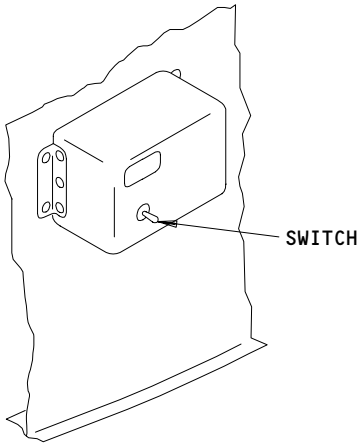
WHEEL WELL LIGHT
TRANSFORMER

F



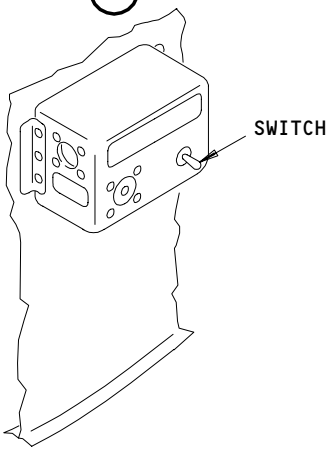
MAIN WHEEL WELL LIGHTS
(EXAMPLE)

G



MAIN WHEEL WELL
LIGHTS SWITCH

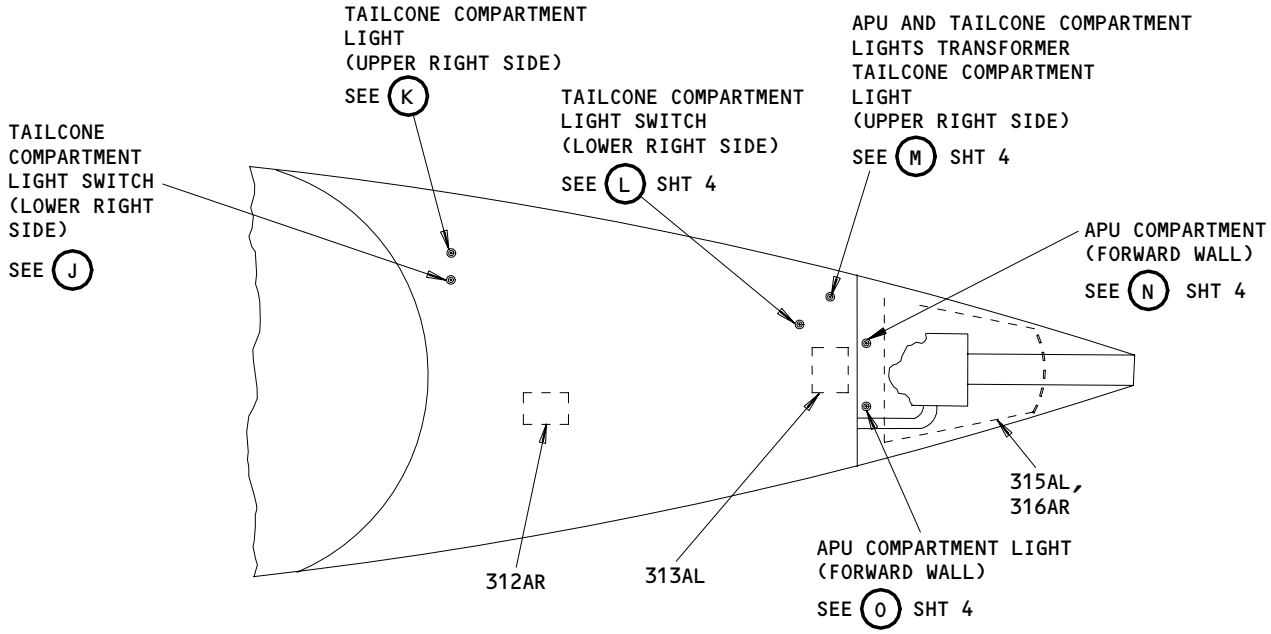
H



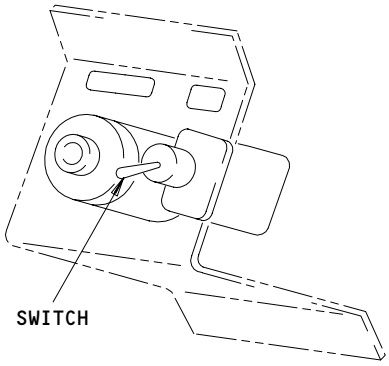
MAIN WHEEL WELL
LIGHTS SWITCH

I

Service Lights - Component Location
Figure 102 (Sheet 2)

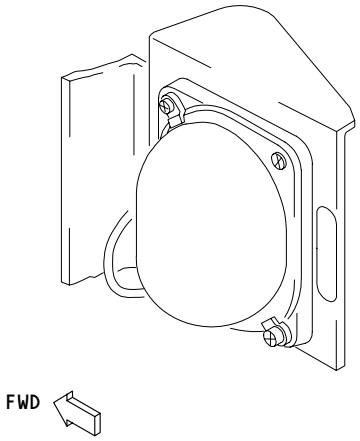


APU COMPARTMENT
(TOP VIEW)



TAILCONE COMPARTMENT
LIGHT SWITCH

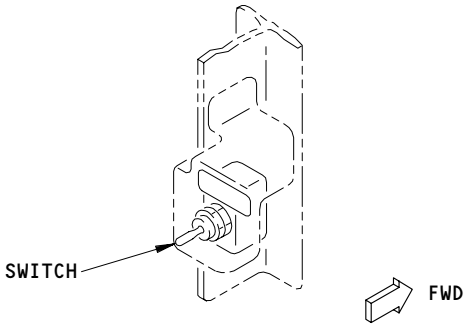
J



TAILCONE COMPARTMENT
LIGHT

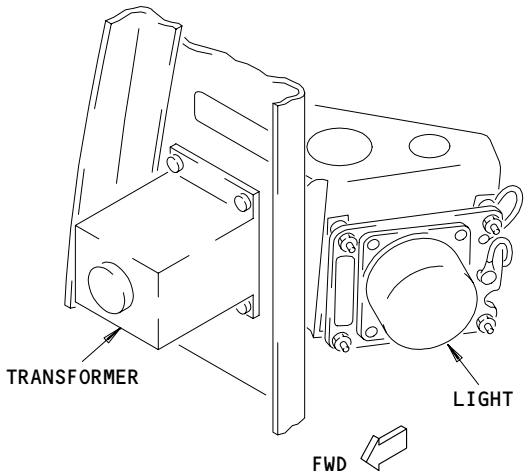
K

Service Lights - Component Location
Figure 102 (Sheet 3)



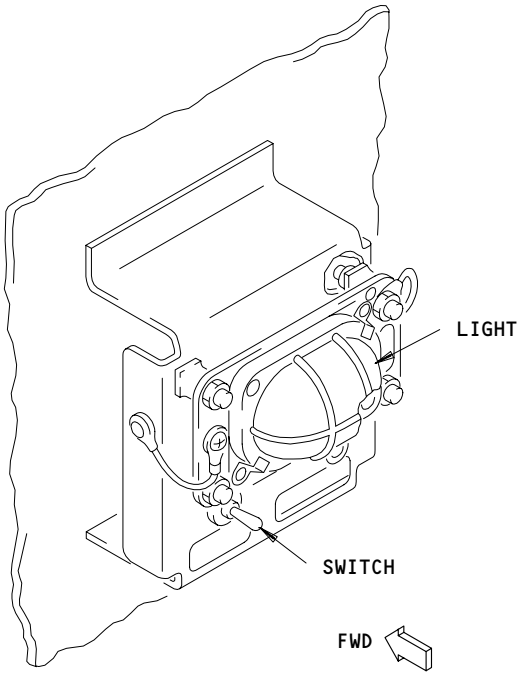
AFT TAILCONE COMPARTMENT

(L)



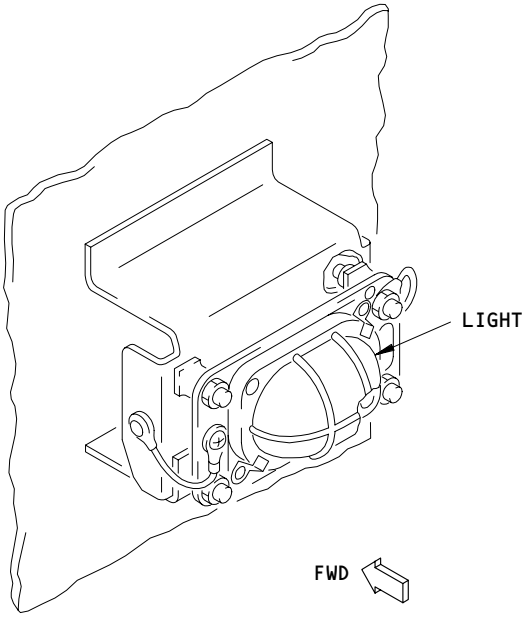
APU AND TAILCONE COMPARTMENT

(L)



APU COMPARTMENT

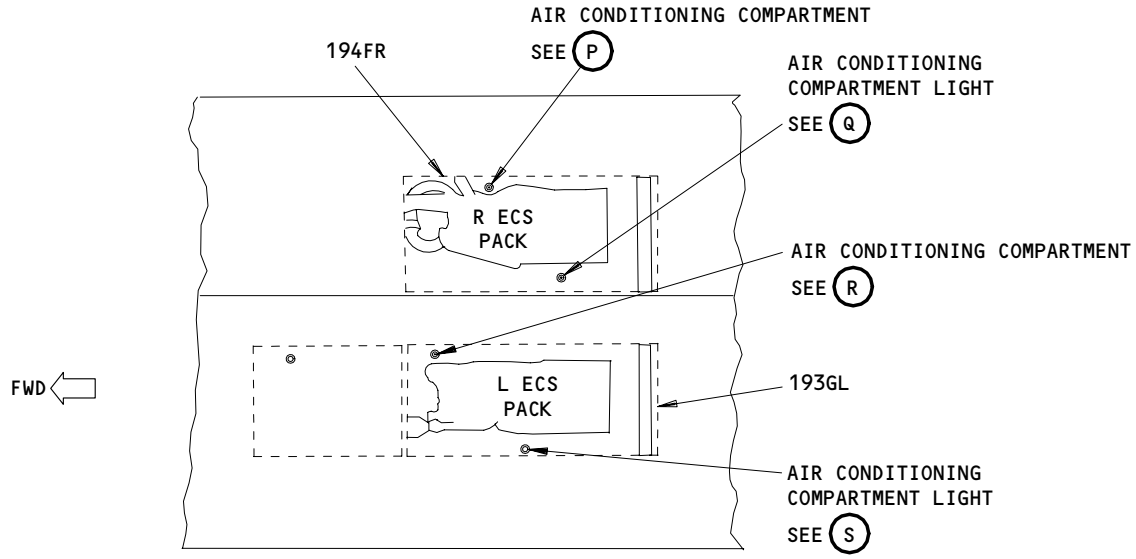
(N)



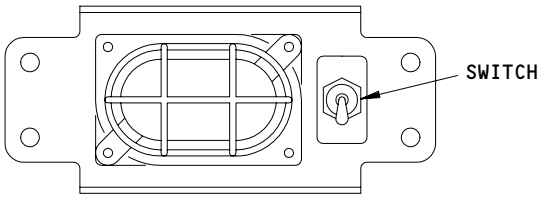
APU COMPARTMENT LIGHT

(O)

Service Lights - Component Location (Details from Sht 3)
Figure 102 (Sheet 4)

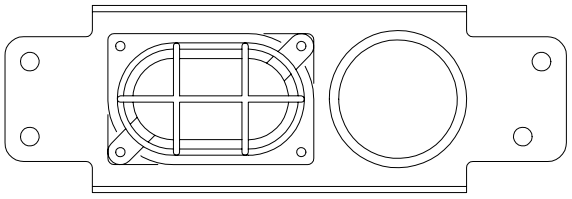


ECS BAY
(TOP VIEW)



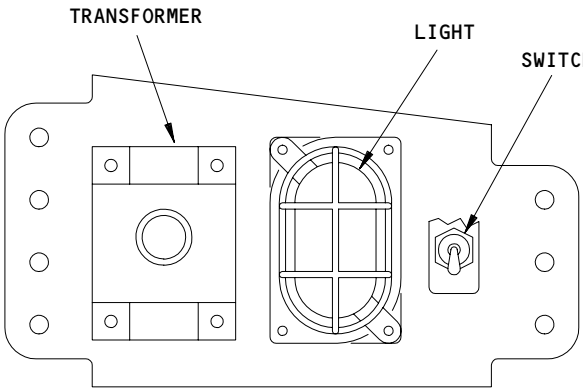
AIR CONDITIONING COMPARTMENT SWITCH

P



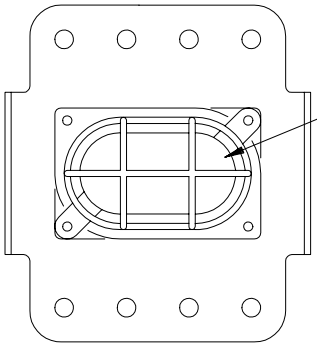
AIR CONDITIONING COMPARTMENT LIGHT

Q



AIR CONDITIONING COMPARTMENT

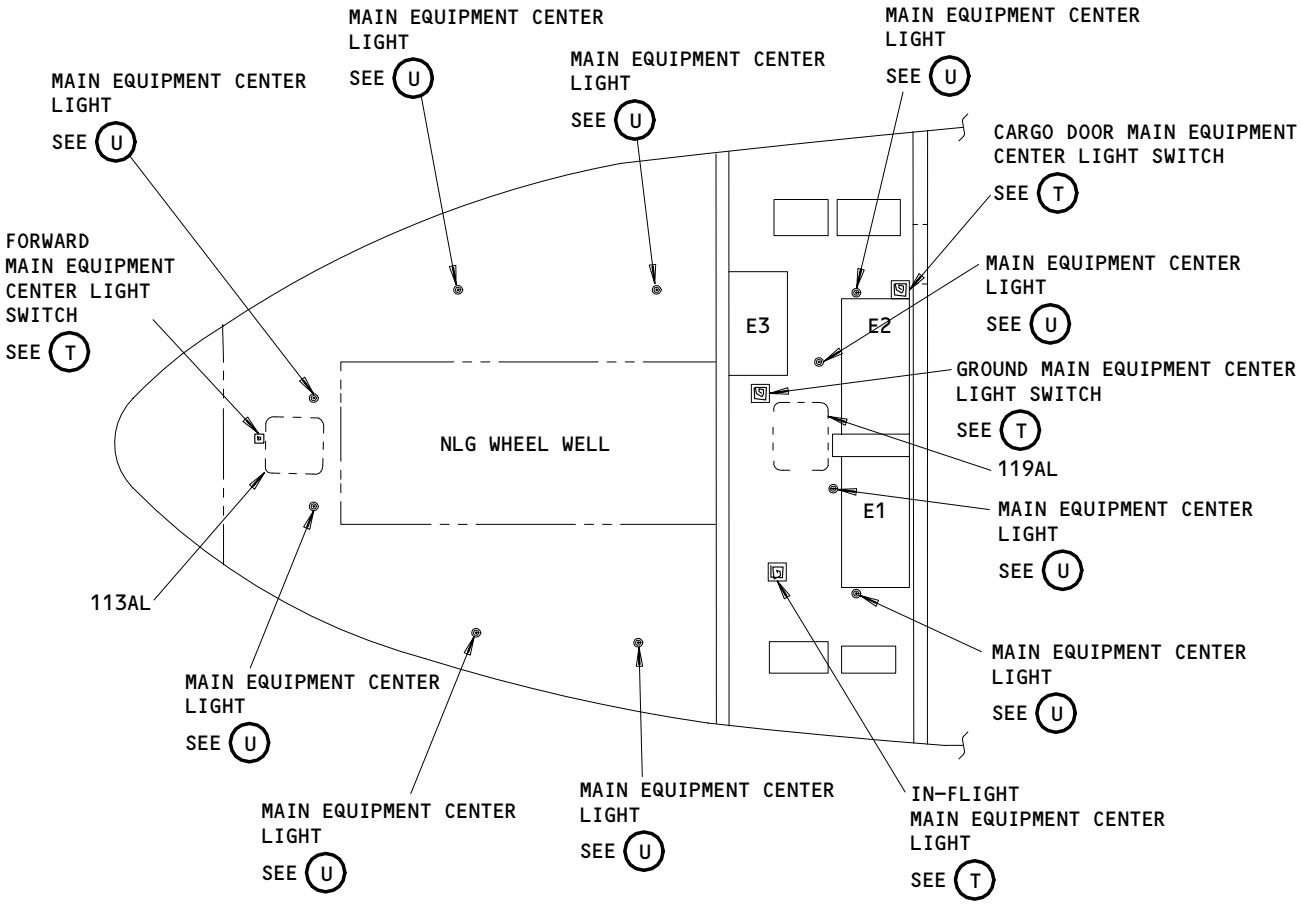
R



AIR CONDITIONING COMPARTMENT LIGHT

S

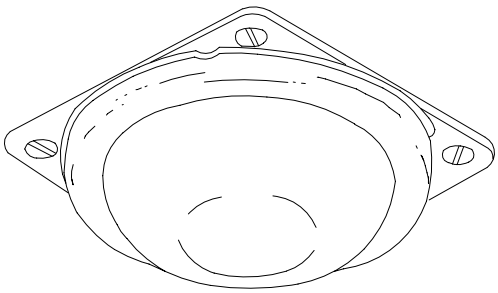
Service Lights - Component Location
Figure 102 (Sheet 5)



MAIN EQUIPMENT CENTER

MAIN EQUIPMENT CENTER LIGHTS SWITCH (EXAMPLE)

T

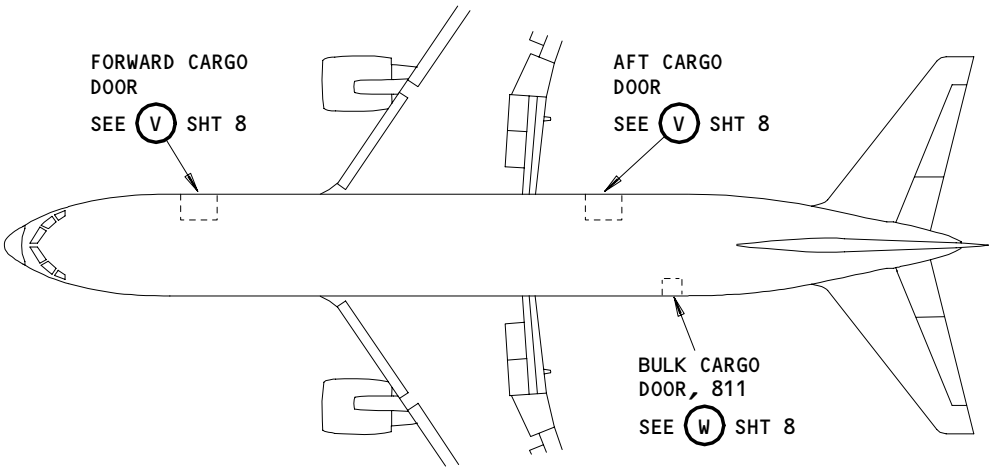


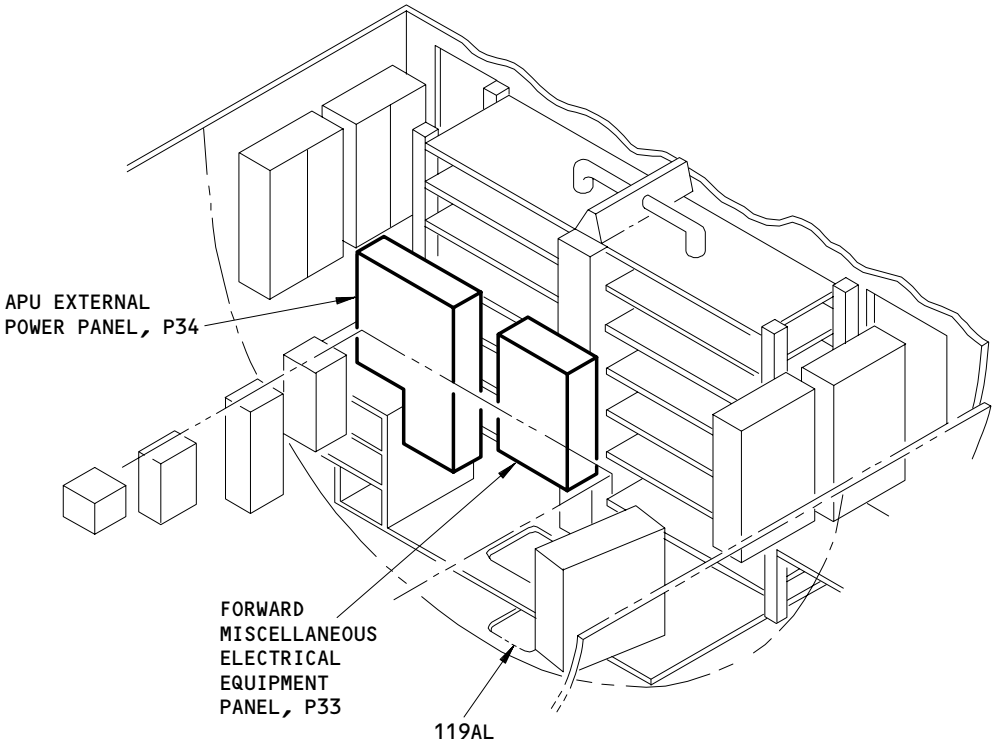
MAIN EQUIPMENT CENTER LIGHT (EXAMPLE)

U

Service Lights - Component Location
Figure 102 (Sheet 6)

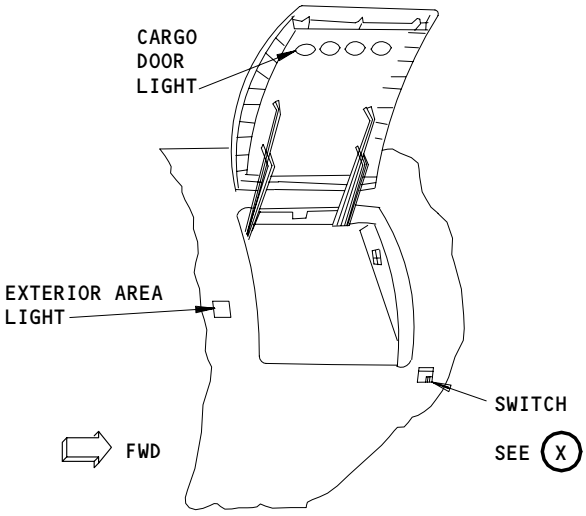
717430





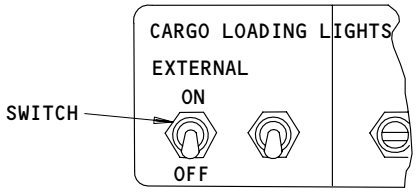
MAIN EQUIPMENT CENTER

Service Lights - Component Location
Figure 102 (Sheet 7)



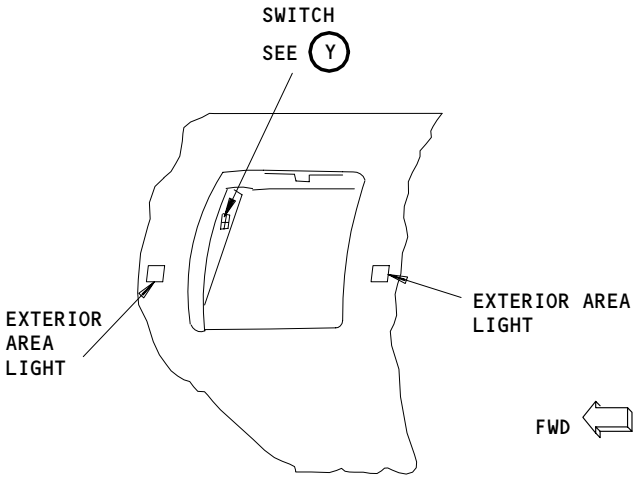
CARGO DOOR (EXAMPLE)

V FROM SHT 7



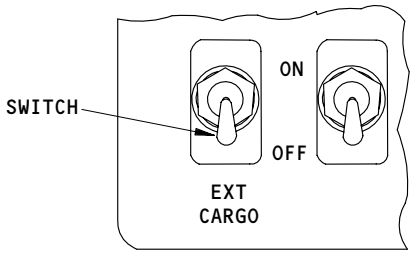
SWITCH (EXAMPLE)

X



BULK CARGO DOOR

W 1 FROM SHT 7



SWITCH (EXAMPLE)

Y

1 NOT INSTALLED ON ALL AIRPLANES

Service Lights - Component Location
Figure 102 (Sheet 8)

94831

SERVICE LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains two tasks:
      (1) Service Light - Lamp Replacement
      (2) Service Lights - Operational Test
   B. The service lights include these lights:
      - Wheel well lights
      - Air conditioning compartment lights
      - APU and tailcone compartment lights
      - Main equipment center lights
      - Exterior cargo loading lights.

TASK 33-31-00-962-001

2. Service Light - Lamp Replacement
   A. Equipment
      (1) Service Platform, Control Bay Access Door A51001-19
   B. Consumable Materials
      (1) G00034 Cheesecloth - new, clean, dry, has no lint
   C. References
      (1) AMM 06-42-00/201, Empennage (Major Zone 300) (Access Doors and Panels)
      (2) AMM 24-22-00/201, Electrical Power - Control
   D. Access
      (1) Location Zones

113/114	Area Forward of the NLG Wheel Well
115/116	NLG Wheel Well
117/118	Area Outboard and Above NLG Wheel Well
119/120	Main Equipment Center
135/136	Environmental Control System (ECS) Bay
143/144	MLG Wheel Well
311/312	Area Aft of Pressure Bulkhead to BS 1725
313/314	Stabilizer Torsion Box Compartment
315/316	APU Compartment
811	Bulk Cargo Compartment Door
821	Forward Cargo Compartment Door
822	Aft Cargo Compartment Door

E. Procedure

S 962-037

(1) For the tailcone compartment light, L178, do these steps:

WARNING: STAY OFF THE SERVICE ACCESS DOOR, 312AR, AND THE ACCESS DOOR FOR THE CONTROL BAY, 313AL. YOUR WEIGHT CAN CAUSE THE SPRING-LOADED LATCHES TO RELEASE. IF YOU FALL THROUGH THE DOOR, INJURY CAN OCCUR.

(a) Open the access door, 312AR (AMM 06-42-00/201).
(b) Loosen the screws that hold the lens in position.
(c) Lower the lens on the retainer cable.
(d) Set the switch for the forward tailcone compartment light to the off position.
(e) Replace the lamp.
(f) Clean the lens and the reflector with a clean, dry cloth.
(g) Attach the lens and secure it with the screws.

S 962-038

(2) For the tailcone compartment light, L179, do these steps:

WARNING: STAY OFF THE CONTROL BAY ACCESS DOOR, 313AL, AND THE SERVICE ACCESS DOOR, 312AR. YOUR WEIGHT CAN CAUSE THE SPRING-LOADED LATCHES TO RELEASE. IF YOU FALL THROUGH THE DOOR, INJURY CAN OCCUR.

(a) Open the controls bay access door, 313AL, (AMM 06-42-00/201).
(b) Install the service platform, A51001-19, over the controls bay access door.
(c) Set the switch for the aft tailcone compartment light to the off position.
(d) Loosen the screws that hold the lens in position.
(e) Lower the lens on the retainer cable.
(f) Replace the lamp.
(g) Clean the lens and the reflector with a clean, dry cloth.
(h) Attach the lens and secure it with the screws.
(i) Remove the service platform from the controls bay access door.

S 962-039

(3) For one of these service lights, do the steps that follow:
- Main gear wheel well lights
- Nose gear wheel well lights
- Air conditioning compartment lights
- APU compartment lights
- Main equipment center lights.

(a) Set the applicable light switch to the off position.

(b) Loosen the screws that hold the lens in position.
(c) Lower the lens assembly on the retainer cable.
(d) Replace the lamp.
(e) Clean the lens and the reflector with a clean, dry cloth.
(f) Attach the lens and secure it with the screws.

S 962-040
(4) For a cargo loading exterior area lights, do these steps:

WARNING: MAKE SURE THE CARGO HANDLING SYSTEM POWER SWITCHES ARE OFF. IF THE SYSTEM OPERATES WHILE YOU REPLACE THESE LIGHTS, INJURY CAN OCCUR.

(a) Make sure the cargo handling system power switches are in the off position.

NOTE: You will find the switches on these panels:
- P24, Forward compartment cargo handling controls panel
- P27, Aft compartment cargo handling controls panel.

(b) Set the applicable light switch to off position.
(c) Loosen the screws that hold the lamp retainer in position.
(d) Remove the lamp retainer.
(e) Disconnect the wires then remove the lamp.
(f) Attach the wires then install the replacement lamp.
(g) Attach the lamp retainer and secure it with the screws.

TASK 33-31-00-712-013
3. Service Lights - Operational Test
A. References
(1) 24-22-00/201, Electrical Power - Control
B. Access
(1) Location Zones

113/114	Area forward of the NLG wheel well
115/116	NLG wheel well
117/118	Area outboard and above NLG wheel well
119/120	Main equipment center
135/136	Environmental control system (ECS) bay
143/144	MLG wheel well
311/312	Area aft of pressure bulkhead to BS 1725
313/314	Stabilizer torsion box compartment
315/316	APU compartment
811	Bulk cargo compartment door
821	Forward cargo compartment door
822	Aft cargo compartment door

C. Prepare to Do the Test of the Service Lights

S 862-014

(1) Supply electrical power (Ref 24-22-00).

D. Procedure to Do the Test of the Nose Gear Wheel Well Lights (2)

S 862-016

(1) If the lights are on, put the nose gear wheel well light switch, S324, in the opposite position.
   (a) Make sure the lights go off.

S 712-018

(2) Do the steps that follow to do the test of the nose gear wheel well lights, L54 and L55.
   (a) Put the nose gear wheel well light switch, S324, in the opposite position.
   (b) Make sure the lights come on.
   (c) Put the nose gear wheel well light switch, S324, in the opposite position.
   (d) Make sure the lights go off.

E. Do the Test of the Main Gear Wheel Well Lights (4)

S 862-020

(1) If the lights are on, put the main gear wheel well light switch, S319, in the opposite position.

NOTE: You will find this light switch on the right side of the MLG wheel well on panel P56.

   (a) Make sure the lights go off.

S 712-022

(2) Do the steps that follow to do the test of the main gear wheel well lights, L56, L57, L117, and L118.
   (a) Refer to the table that follows. When an X is shown, put the light switch, S319 or S468, in the opposite position.

(b) Make sure you get the results given below:

STEP NO.	SWITCH S319	SWITCH S468	RESULT (WHL WL LTS)
1	X		Lights come on
2		X	Lights go off
3	X		Lights come on

(c) Put the main gear wheel well light switch, S319, in the opposite position.
(d) Make sure the lights go off.

F. Do the Test of the Air Conditioning Compartment Lights (4)

S 712-025

(1) Do the steps that follow to do the test of the air conditioning compartment lights, L131 - L134.
(a) Set the air conditioning compartment light switch, S362, to ON.
(b) Make sure the lights, L133 and L134, come on.
(c) Set the air conditioning compartment light switch, S361, to ON.
(d) Make sure the lights, L131 and L132, come on.
(e) Set both air conditioning compartment light switches to OFF.
(f) Make sure all four lights go off.

G. Do a Test of the APU and Tailcone Compartment Lights (4)

S 712-041

(1) Do the steps that follow to do a test of the APU and the tailcone compartment lights, L178-L181.
(a) Set the APU compartment lights switch, S428, to ON.
(b) Make sure the lights, L180 and L181, come on.
(c) Set the tailcone compartment light switch S427 to ON.
(d) Make sure the light, L178, comes on.
(e) Set the tailcone compartment light switch S443 to ON.
(f) Make sure the light, L179, comes on.
(g) Set the APU compartment lights switch S428 to OFF.

(h) Make sure both lights go off.
(i) Set the tailcone compartment light switch S427 to OFF.
(j) Make sure the light, L178, goes off.
(k) Set the tailcone compartment light switch S443 to OFF.
(l) Make sure the light, L179, goes off.

H. Do the Test of the Main Equipment Center Lights (10)

S 862-027

(1) If the main equipment center lights are on, put the cargo door main equipment center light switch, S354, in the opposite position.
(a) Make sure the lights go off.

S 712-029

(2) Do the steps that follow to do a test of the main equipment center lights, L72-L80 and L672.

NOTE: Use these lights switches to do the test:
S354, on the wall by the cargo compartment access door in the main equipment center.

S355, at the ground access hatch.

S356, below the in-flight access hatch.

S357, above the forward bay access door.

(a) Refer to the table that follows. When an X is shown, put the light switch, S354-S355, or S356, in the opposite position.
(b) Make sure you get the results shown for lights L72-L78 and L672.

STEP NO.	SWITCH S354	SWITCH S355	SWITCH S356	RESULT (MAIN EQUIP CTR LTS)
1	X			Lights come on
2		X		Lights go off
3	X			Lights come on
4			X	Lights go off
5	X			Lights come on
6		X		Lights go off
7	X			Lights come on

(c) Set the light switch, S357, to ON.
(d) Make sure the lights, L79 and L80, come on.
(e) Set the light switch, S357, to OFF.
(f) Make sure both lights, L79 and L80, go off.
(g) Set the light switch S354 to OFF.
(h) Make sure the light lights, L72-L78 and L672, go off.

I. Do the Test of the Exterior Cargo Loading Lights

S 862-042

WARNING: MAKE SURE THE CARGO HANDLING SYSTEM POWER SWITCHES ARE OFF. IF THE SYSTEM OPERATES WHILE YOU DO THIS TEST, INJURY CAN OCCUR.

(1) Make sure the cargo handling system power switches are in the OFF position.

NOTE: You will find the switches on these panels:
- P24, Forward compartment cargo handling controls panel
- P27, Aft compartment cargo handling controls panel.

S 712-034

(2) Do the steps that follow to do the test of the cargo loading exterior area lights.

NOTE: Use these switches to do this test:
- S515, on the exterior forward cargo door control panel, P43
- S516, on the exterior aft cargo door control panel, P44
- S379, on the side of the bulk cargo compatment door.

(a) Set the forward cargo exterior area lights switch, S515, to ON.
(b) Make sure the lights in and beside the door comes on.

NOTE: Open the door to see the lights in the door.

(c) Open this circuit breaker on the APU external power panel, P34, and attach DO-NOT-CLOSE tags:
1) 34J2, CONT FWD CARGO HDLG
(d) Make sure the lights in the door go off.
(e) Close this circuit breaker on the APU external power panel, P34, and remove the DO-NOT-CLOSE tag:
1) 34J2, CONT FWD CARGO HDLG
(f) Set the forward cargo exterior area lights switch, S515, to OFF.
(g) Make sure the lights in and beside the door go off.
(h) Set the aft cargo exterior area lights switch, S516, to ON.
(i) Make sure the lights in and beside the door come on.

NOTE: Open the door to see the lights in the door.

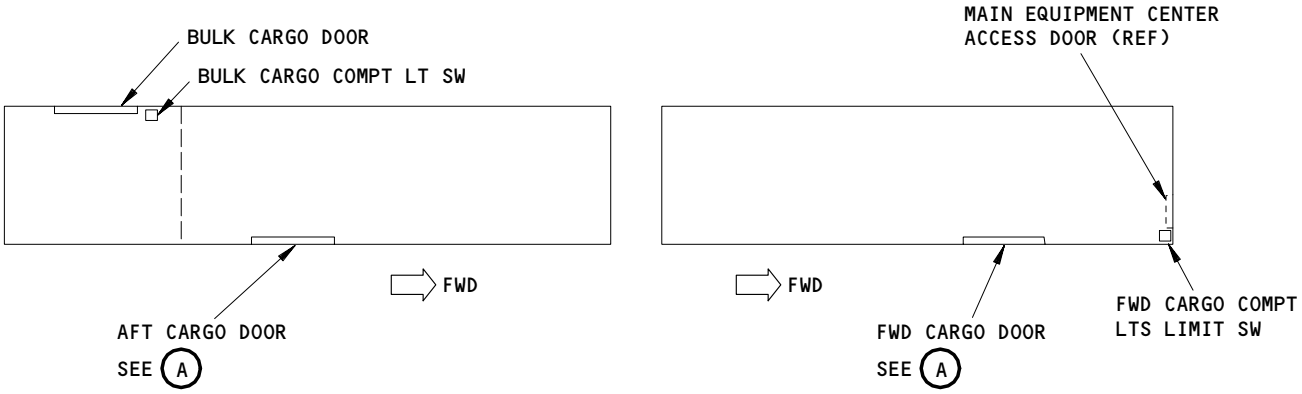
(j) Open this circuit breaker on the APU external power panel, P34, and attach a DO-NOT-CLOSE tag:
1) 34J3, CONT AFT CARGO HDLG
(k) Make sure the lights in the door go off.
(l) Close this circuit breaker on the APU external Power Panel, P34, and remove the DO-NOT-CLOSE tag:
1) 34J3, CONT AFT CARGO HDLG
(m) Set the aft cargo exterior area lights switch, S515, to OFF.
(n) Make sure the lights in and beside the door go off.
(o) AIRPLANES WITH A BULK CARGO DOOR WITH CARGO LOADING LIGHTS; set the bulk cargo exterior lights switch, S379, to ON.
(p) AIRPLANES WITH A BULK CARGO DOOR WITH CARGO LOADING LIGHTS; make sure the lights beside the door come on.
(q) AIRPLANES WITH A BULK CARGO DOOR WITH CARGO LOADING LIGHTS; set the bulk cargo exterior lights switch, S379, to OFF.
(r) AIRPLANES WITH A BULK CARGO DOOR WITH CARGO LOADING LIGHTS; make sure the lights beside the door go off.

J. Put the Airplane Back to Its Usual Condition.

S 862-035
(1) Remove electrical power if it is not necessary (Ref 24-22-00).

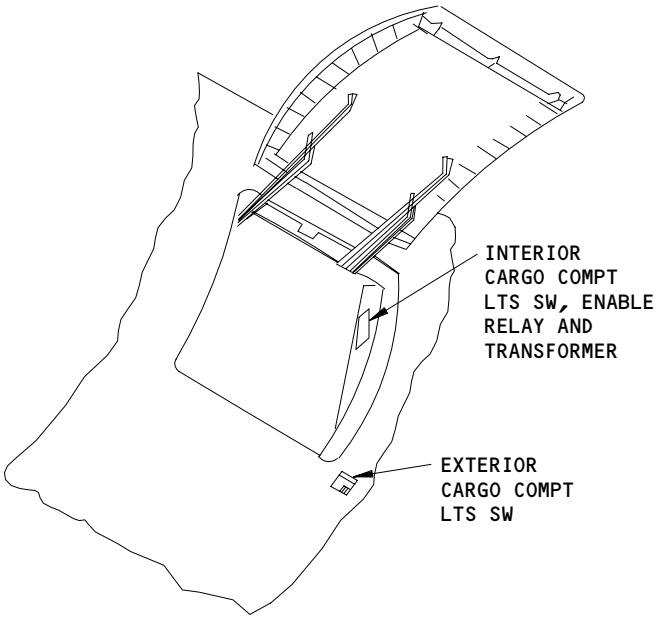
LOWER LOBE CARGO COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. Interior lighting is provided for the forward, aft and bulk cargo compartments. Lights are enabled when the cargo doors are open. They are controlled by toggle switches from different locations. Door sills are illuminated by separate lamps when the door is open.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-37-01 thru SSM 33-37-99
      (2) WDM 33-37-11 thru WDM 33-37-99
2. Component Details
   A. Forward Cargo Compartment Lights
      (1) Lights are installed in the forward cargo compartment to provide general illumination.
      (2) Two toggle switches wired in a two-way circuit provide manual control of the forward cargo compartment lights, when the cargo door is open, during ground operations. The interior switch is on the cargo handling panel (P35), on the forward cargo door sill. The exterior switch is on the cargo door control panel (P43), forward of the cargo door in the fuselage.
      (3) A limit switch mounted on the main E/E center access door frame turns on the forward cargo compartment lights when the main E/E center access door is opened with the airplane on the ground.
      (4) The forward cargo compartment lights transformer and enable relays are mounted in the cargo handling panel (P35), on the forward cargo door sill.
   B. Aft Cargo Compartment Lights
      (1) Lights are installed in the aft and bulk cargo compartments to provide general illumination.
      (2) Three toggle switches wired as a three-way circuit provide manual control of the aft cargo compartment lights, when the cargo door is open, during ground operations. The interior switches are on the cargo handling panel (P39) on the aft cargo door sill, and adjacent to the bulk cargo door. The exterior switch is on the cargo door control panel (P44), in the fuselage forward of the aft cargo door.
      (3) The aft cargo compartment lights transformer and enable relays are mounted in the cargo handling panel (P39), on the aft cargo door sill.
3. Operation
   A. Functional Description
      (1) Forward Cargo Compartment Lights
         (a) The forward cargo compartment lighting consists of incandescent ceiling lights and door sill lights.



AFT CARGO COMPARTMENT

FORWARD CARGO COMPARTMENT



CARGO DOOR
(EXAMPLE)
A

Cargo Compartment Lights - Component Location
Figure 1

(b) Power from the 115 vac ground handling bus is applied to a transformer which provides 28 vac to the lamps. Control of the lights is by a two-way circuit with toggle switches on external (P43) and internal (P35) control panels, and by one set of contacts on the cargo door not-closed relay. This relay is controlled by a proximity switch in the door which provides a ground to enable the relay and lights whenever the cargo door is open. The proximity switch is supplied with power from the 28 vdc right bus.

(c) Forward cargo compartment lights are also controlled by a separate switch activated by opening the E/E access door. This switch bypasses the two-way toggle switches and the door not closed relay circuit and turns on the lights.

(d) When the lens of the ceiling light fixture is open, a microswitch opens the light circuit. The lens is suspended from the light fixture with a lanyard, when the lens is removed for relamping.

(e) The door sill lights receive power from the same source as the ceiling lights. A set of contacts in the cargo door light enable relay turns on the sill lights when the door is open.

(2) Aft Cargo Compartment Lights

(a) The aft and bulk cargo compartment lighting consists of the ceiling mounted incandescent lamps, the aft cargo door mounted sill light, and the bulk cargo door sill light on the bulkhead adjacent to the door. Operation is similar to the forward cargo compartment lighting with exceptions as stated below.

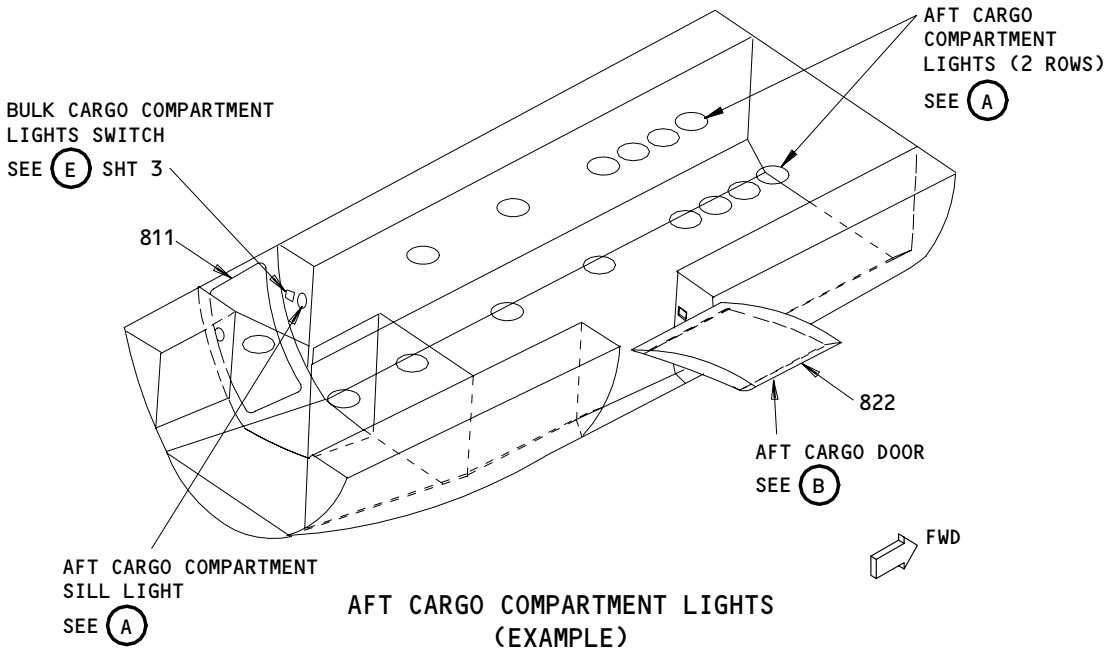
(b) The lights are controlled by three toggle switches instead of two. One switch is forward of the aft cargo door on the P44 panel and one is in each doorway. The cargo lights enable relay is controlled by two proximity switches. The proximity switches are supplied with power from the 28 vdc right bus. The lights are armed when either door is open. The aft and bulk cargo lighting system does not have a bypass switch.

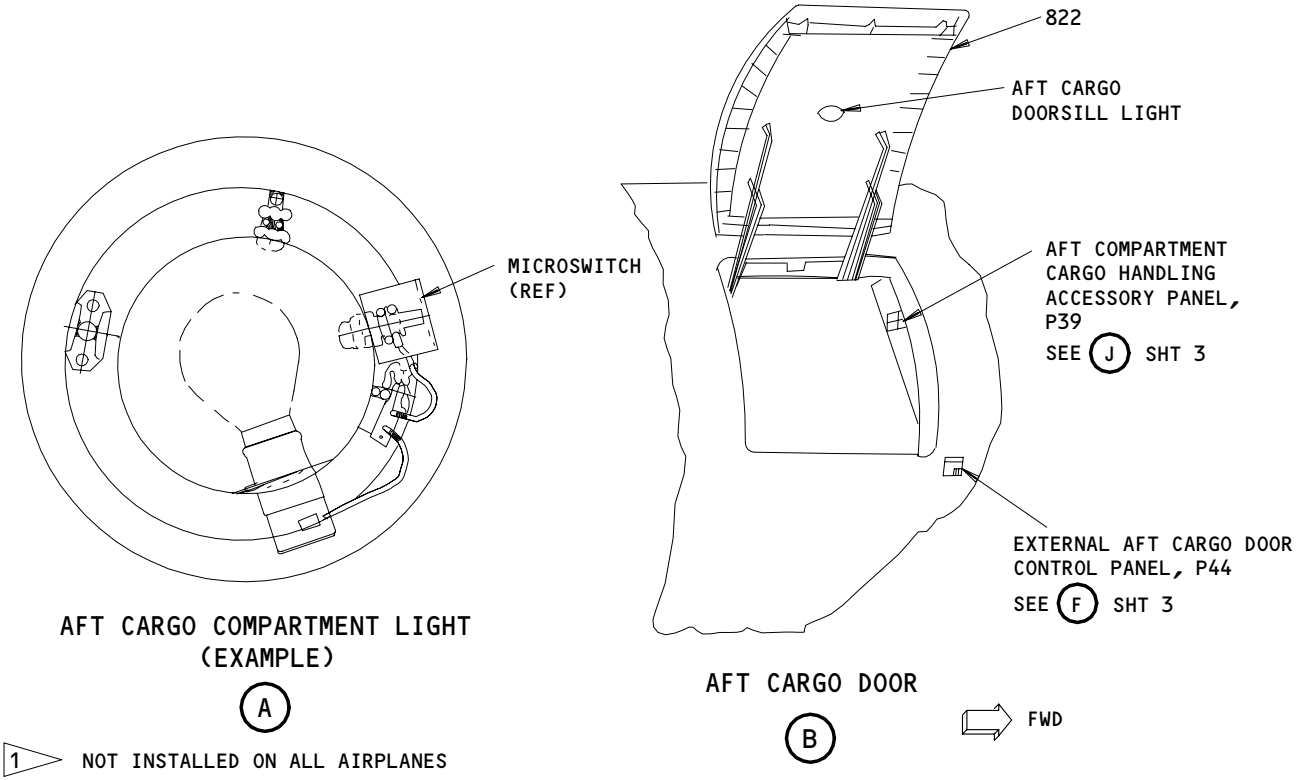
LOWER LOBE CARGO COMPARTMENT LIGHTS

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			119AL, MAIN EQUIP CTR, P34,P37, E1-2	*
CIRCUIT BREAKER –			821 (822), FWD (AFT) CARGO COMPT, P35 (P39)	*
LIGHT –				
AFT CARGO COMPT	4	*	822, AFT CARGO COMPT	*
FWD CARGO COMPT	1	*	821, FWD CARGO COMPT	*
SWITCH –				
BULK CARGO COMPT LIGHTS	1,3	*	811, BULK CARGO COMPT DOORWAY	*
EXT AFT AND FWD CARGO COMPT LIGHTS	3	1	BELOW AFT AND FWD CARGO DOOR P44, P43	*
INT AFT AND FWD CARGO COMPT LIGHTS	1,2	*	821 (822), FWD (AFT) CARGO COMPT, P35 (P39)	
RELAY –		*	821 (822), FWD (AFT) CARGO COMPT, P35 (P39)	*
TRANSFORMER –		*	821 (822), FWD (AFT) CARGO COMPT, P35 (P39)	*

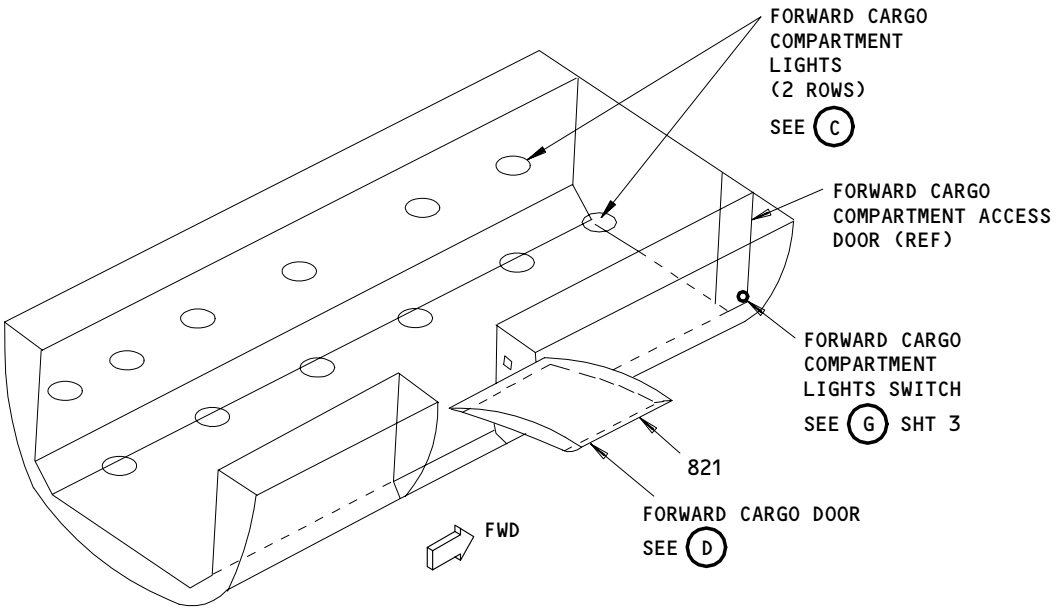
* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Lower Lobe Cargo Compartment Lights – Component Index
Figure 101

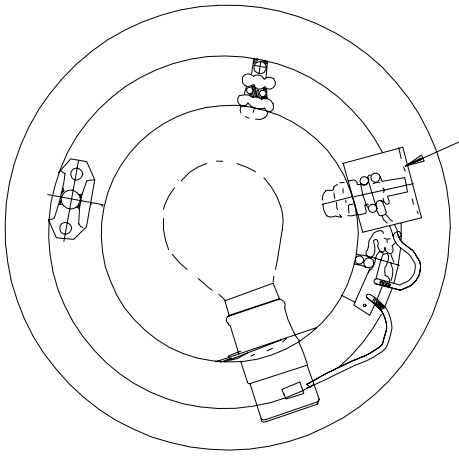




Lower Lobe Cargo Compartment Lights - Component Location
Figure 102 (Sheet 1)

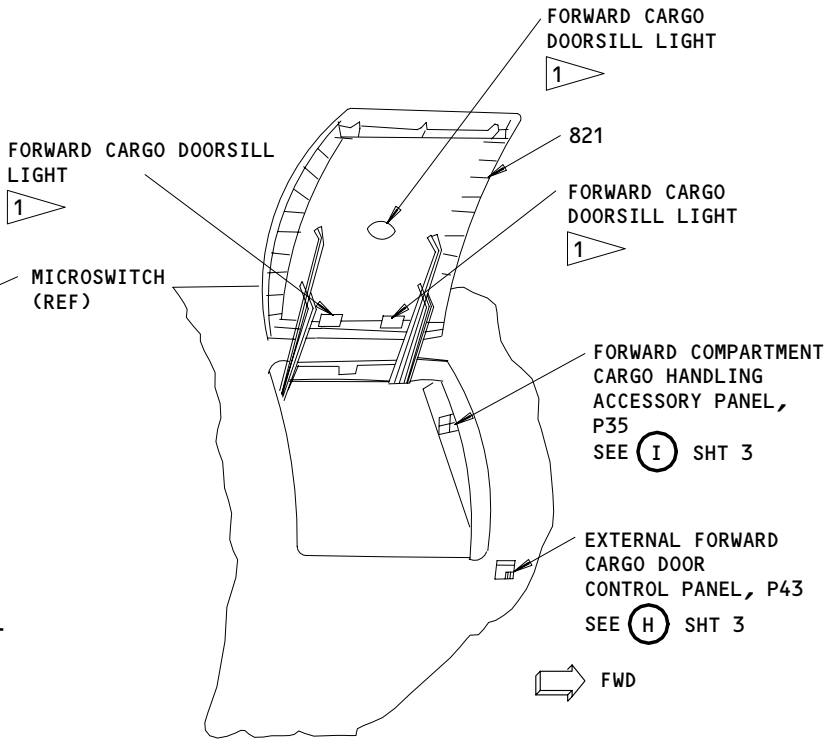


FORWARD CARGO COMPARTMENT LIGHTS
(EXAMPLE)



FORWARD CARGO COMPARTMENT LIGHT
(EXAMPLE)

C

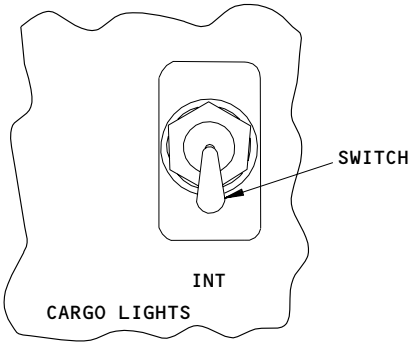


FORWARD CARGO DOOR

D

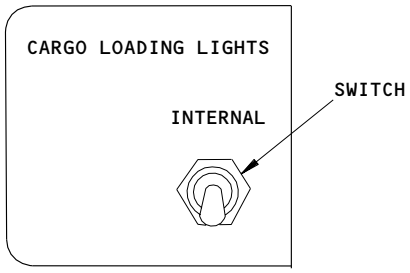
1 NOT INSTALLED ON ALL AIRPLANES

Lower Lobe Cargo Compartment Lights - Component Location
Figure 102 (Sheet 2)



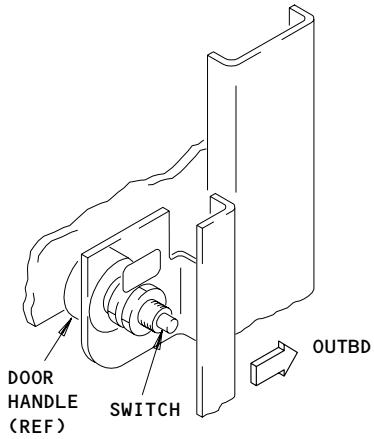
BULK CARGO COMPARTMENT LIGHTS SWITCH

(E) FROM SHT 1



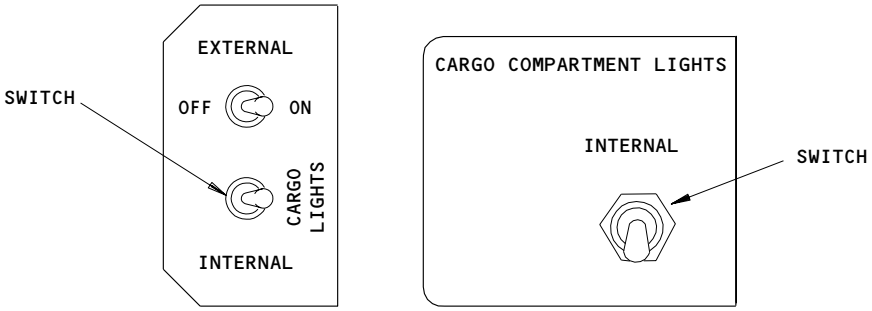
EXTERNAL AFT CARGO DOOR CONTROL PANEL, P44

(F) FROM SHT 1



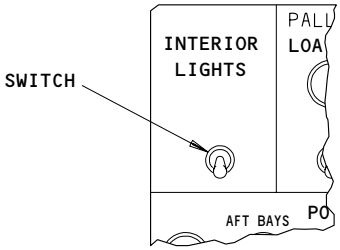
FORWARD CARGO COMPARTMENT LIGHTS SWITCH

(G) FROM SHT 2



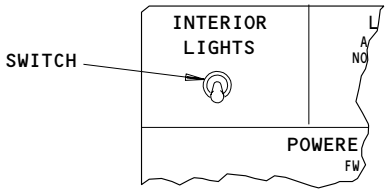
EXTERNAL FORWARD CARGO DOOR CONTROL PANEL, P43

(H) 1 FROM SHT 2



FORWARD COMPARTMENT CARGO HANDLING ACCESSORY PANEL, P35

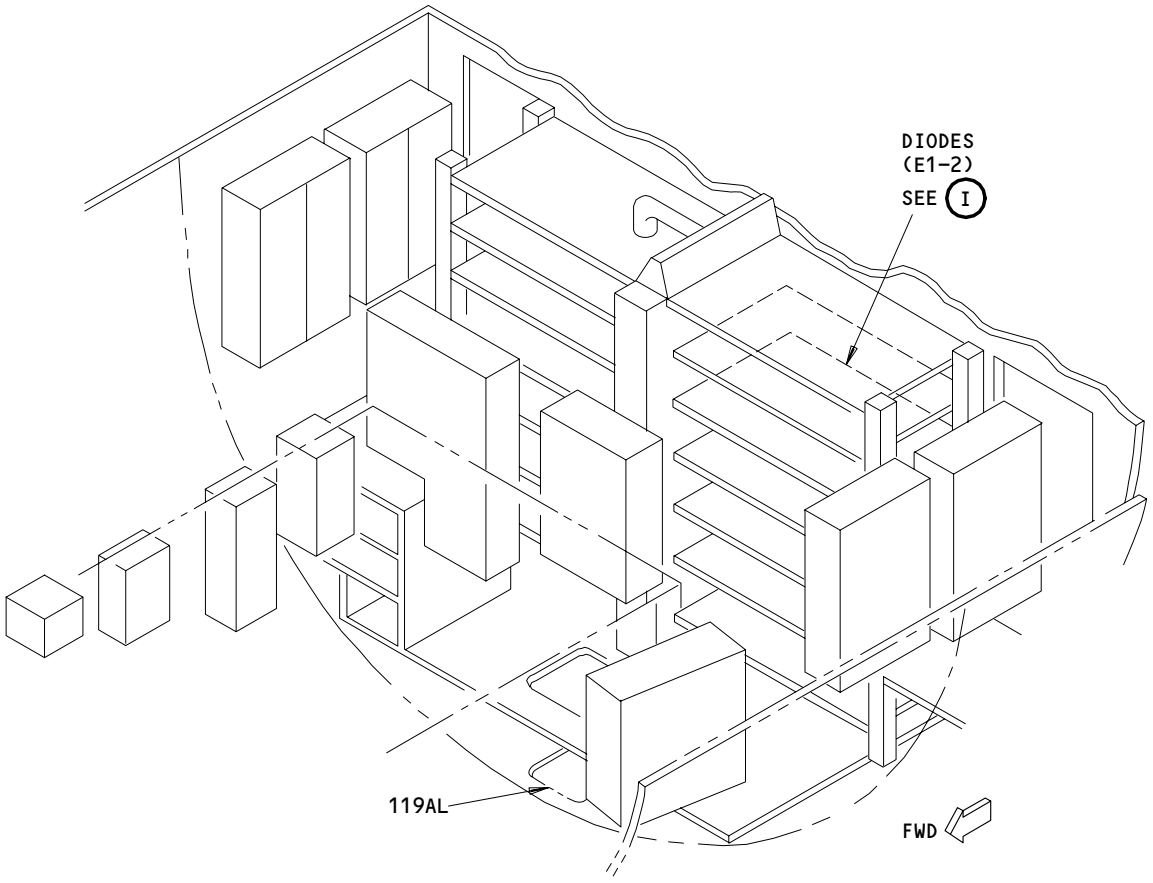
(I) FROM SHT 2



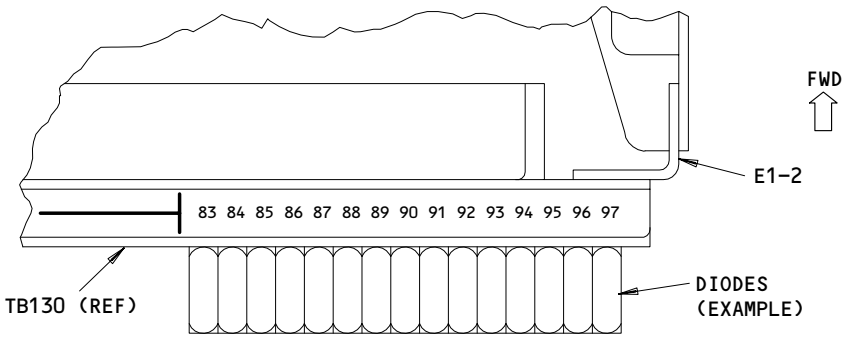
AFT COMPARTMENT CARGO HANDLING ACCESSORY PANEL, P39

(J) FROM SHT 1

Lower Lobe Cargo Compartment Lights - Component Location
Figure 102 (Sheet 3)



MAIN EQUIPMENT CENTER



DIODES
(TOP VIEW)
I

Lower Lobe Cargo Compartment Lights - Component Location
Figure 102 (Sheet 4)

LOWER LOBE CARGO COMPARTMENT LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure these tasks:
      (1) Cargo Compartment Light - Lamp Replacement
      (2) Cargo Compartment Light - Removal
      (3) Cargo Compartment Light - Installation
      (4) Cargo Compartment Lights - Operational Test
   B. For the lights in a cargo door that give external lighting when you open the door, refer to Service Lights, AMM 33-31-00/201. These lights are referred to as exterior cargo loading lights.

TASK 33-37-00-962-038

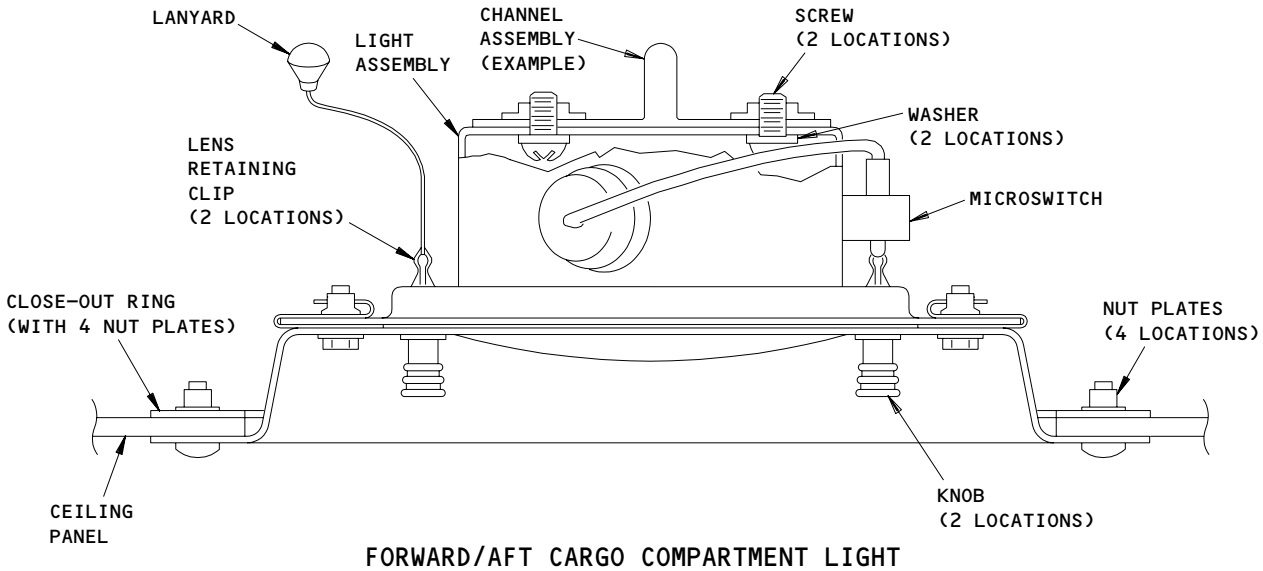
2. Cargo Compartment Light - Lamp Replacement (Fig. 201)
   A. Consumable Materials
      (1) Cheesecloth - new, clean, dry, has no lint (Ref 20-30-07)
   B. Access
      (1) Location Zones

121/122	Forward Cargo Compartment
153/154	Aft Cargo Compartment
161/162	Bulk Cargo Compartment
821	Forward Cargo Door
822	Aft Cargo Door

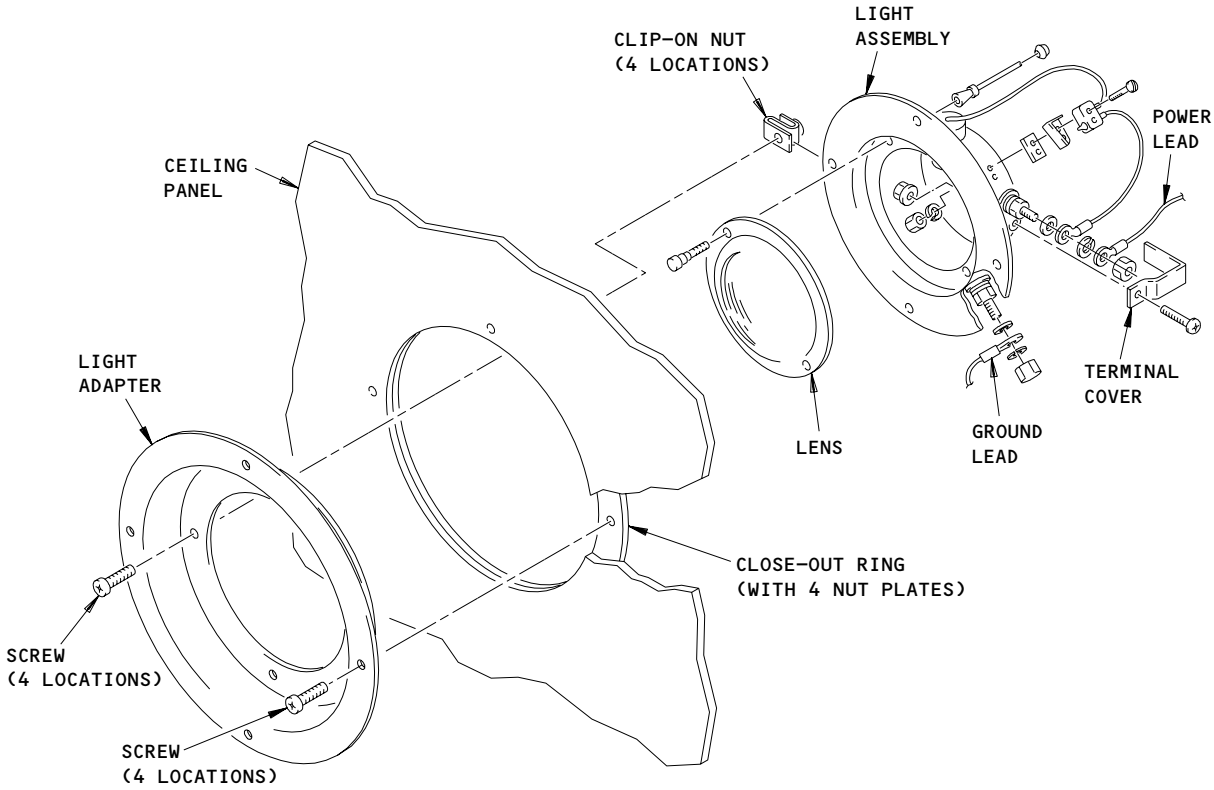
   C. Lamp Replacement

      S 862-004
      (1) Set the applicable switch to the off position.

      S 962-005
      (2) For a cargo compartment light, do these steps to replace the lamp:
         (a) Lower the lens assembly on the lanyard. To do this, pull down on the two knobs attached to the lens.
         (b) Replace the lamp.



FORWARD/AFT CARGO COMPARTMENT LIGHT
(EXAMPLE)



FORWARD/AFT CARGO COMPARTMENT LIGHT - EXPANDED VIEW
(EXAMPLE)

Forward/Aft Cargo Compartment Lights
Figure 201

(c) If it is necessary, clean the lens assembly and the reflector with a clean, dry cloth.
(d) Install the lens assembly.

S 962-006
(3) For a sill light in the forward or aft cargo door, do these steps to replace the lamp:

WARNING: PUT THE CARGO DOOR IN A SAFE POSITION. INJURY CAN OCCUR IF YOU FALL OUT THE DOOR.

(a) Put the cargo door in a safe position that permits access to the lamp.
(b) Remove the screws and the retaining ring.
(c) Replace the lamp.
(d) Install the retaining ring.

S 962-007
(4) For a sill light in the aft cargo compartment, do these steps to replace the lamp:

WARNING: PUT THE CARGO DOOR IN A SAFE POSITION. INJURY CAN OCCUR IF YOU FALL OUT THE DOOR.

(a) Put the bulk cargo door in a safe position that permits access to the lamp.
(b) Pull the lens assembly out on the retainer cable. To do so, pull on two knobs attached to the lens.
(c) Replace the lamp.
(d) If it is necessary, clean the lens assembly and the reflector with a clean, dry cloth.
(e) Install the lens assembly.

TASK 33-37-00-002-010
3. Cargo Compartment Light - Removal (Fig. 201)
A. Access
(1) Location Zones

121/122	Forward Cargo Comparment
153/154	Aft Cargo Compartment
161/162	Bulk Cargo Compartment

B. Procedure to Remove the Forward/Aft Cargo Compartment Lights

S 862-012

(1) Open these circuit breakers on the APU external power panel, P34, and attach DO-NOT-CLOSE tags:
(a) 34S10, LIGHTS FWD CARGO
(b) 34S11, LIGHTS AFT COMPT

S 022-013

(2) Remove the cargo compartment light.
(a) Lower the lens on the lanyard. To do this, pull down on the two knobs attached to the lens.
(b) Remove the screws and the washers (two locations), from the light assembly to the channel support.
(c) Remove the four outer screws attaching the light assembly (adapter) to the ceiling panel.
(d) Drop the assembly below the ceiling panel and remove the screw to the terminal cover.
(e) Disconnect the electrical wiring. To do this, remove the nuts and the washers from the light assembly terminals (two locations).
(f) Remove the four screws to disconnect the light assembly and clip-on nuts from the light adapter and remove the light.

TASK 33-37-00-402-014

4. Cargo Compartment Light - Installation (Fig. 201)

A. Access

(1) Location Zones

121/122	Forward Cargo Compartment
153/154	Aft Cargo Compartment
161/162	Bulk Cargo Compartment

B. Procedure to Install the Forward/Aft Cargo Compartment Lights

S 862-016

(1) Open these circuit breakers on the APU external power panel, P34, and attach DO-NOT-CLOSE tags:
(a) 34S10, LIGHTS FWD CARGO

(b) 34S11, LIGHTS AFT COMPT

S 422-017

(2) Install the cargo compartment light.
(a) Attach the light adapter to the light assembly with the screws and the clip-on nuts (four locations).
(b) Connect the wiring lugs to the light assembly terminals with the nuts and the washers (two locations).
(c) Attach the terminal cover to the light assembly with the screw.
(d) Insert the light and adapter assembly into the ceiling panel opening and attach it to the channel support using the screws and washers (two locations).
(e) Attach the lighting assembly adapter to the ceiling panel with the screws (four locations).
(f) Install the lens into the light by inserting the two pins (knobs) into the holes in the light (two locations).

S 712-033

(3) Do the test of the forward/aft cargo compartment lights as given in this procedure.

TASK 33-37-00-712-018

5. Cargo Compartment Lights - Operational Test

A. References
(1) 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones

121/122	Forward Cargo Compartment
153/154	Aft Cargo Compartment
161/162	Bulk Cargo Compartment
821	Forward Cargo Door
822	Aft Cargo Door

C. Do the Test of the Lights in the Forward Cargo Compartment

S 862-019

(1) Supply electrical power (Ref 24-22-00).

S 712-022

(2) Do these steps to do the test of the lights in the forward cargo compartment:
(a) Close the main equipment access door on the forward right side of cargo compartment.

(b) Fully open the forward cargo door with the DOOR ARM switch, S509, and the DOOR CONT switch, S511, on the external forward cargo door control panel, P43.
(c) At the P35 and P43 panels, set the switch for the forward cargo compartment lights to the on position.
(d) Make sure the lights on the ceiling and forward cargo door sill come on.
(e) Close the forward cargo door until each cargo door sill light goes off.
(f) Set the switch for the forward cargo compartment lights to the off position.
(g) Make sure all lights in the ceiling go off.
(h) Fully open the forward cargo door.
(i) Open the main equipment center access door.
(j) Make sure all lights come on.
(k) Close the forward cargo door.
(l) Make sure each cargo door sill light goes off.
(m) Close the main equipment center access door.
(n) Make sure all lights go off.

D. Do the test of the Lights in the Aft Cargo Compartment.

S 712-028

(1) Do these steps to do the test of the lights in the aft cargo compartment.
(a) Fully open the aft cargo door with the DOOR ARM switch, S510, and the DOOR CONT switch, S512, on the external aft cargo door control panel, P44.
(b) Put the INTERIOR LIGHTS switch for the aft cargo compartment lights, S429 on the P39 panel, up.
(c) Put the INTERNAL switch for the aft cargo compartment lights, S514 on the P44 panel, down.
(d) Put the bulk compartment lights switch, S430 in the bulk cargo compartment doorway, up.
(e) Make sure the lights in the ceiling and the aft cargo door sill light, L546, come on.

(f) Close the aft cargo door with switch S512 until the cargo door sill light goes off.
(g) Put the INTERNAL switch for the aft cargo compartment lights, S514 on the P44 panel, up.
(h) Make sure all the lights in the ceiling go off.
(i) Fully open the aft cargo door.
(j) Put the bulk compartment lights switch, S430, down.
(k) Make sure all lights come on.
(l) Open the bulk cargo door and close the aft cargo door.
(m) Make sure the lights in the ceiling stay on and the cargo door sill light goes off.
(n) Close the bulk cargo door.
(o) Make sure the lights go off.
(p) Fully open the aft cargo door.
(q) Make sure the lights come on.
(r) Put the INTERIOR LIGHTS switch for the aft cargo compartment lights, S429 on the P39 panel, down.
(s) Make sure all lights go off.
(t) Close the aft cargo door.

S 862-031

(2) Remove electrical power if it is not necessary (Ref 24-22-00).

EXTERIOR LIGHTS - DESCRIPTION AND OPERATION

1. General

A. Airplane exterior lighting provides high intensity light for identification of airplane position (navigation) and orientation. It also provides lighting for landing and taxi areas; and for wings, tail and engines. All lights are controlled from the flight compartment.

B. The exterior lights are these types of lights:

(1) Wing Illumination Lights (Ref 33-41-00)

(a) Wing illumination lights are high intensity quartz halogen light assemblies mounted on each side of the fuselage. A plano lens divides the light from a single lamp into two beams. One beam lights the engine; the other lights the wing. A single on/off switch-light on overhead panel P5 controls both light assemblies.

(2) Landing, Runway Turnoff, and Taxi Lights (Ref 33-42-00)

(a) Two high intensity landing lights are on the nose landing gear. One high intensity landing light is in each wing root strakelet. Each wing light and the nose gear lights are controlled by separate on/off switches on overhead panel P5. A landing gear lever position sensing switch changes the brightness of the wing landing lights from dim to bright when the landing gear is lowered. Another switch turns on the nose gear landing lights when the gear is down and locked.

(b) Runway turnoff lights are high intensity quartz halogen lights installed in each wing root strakelet. These lights give lighting to the ground in front of and to the side of the airplane. Control is with a switch on the overhead panel, P5.

(c) AIRPLANES WITH TAXI LIGHTS;
Taxi lights are installed on the nose gear. A taxi light is a high intensity quartz halogen light that gives lighting to the ground ahead of the airplane. Control is with a switch on the overhead panel, P5.

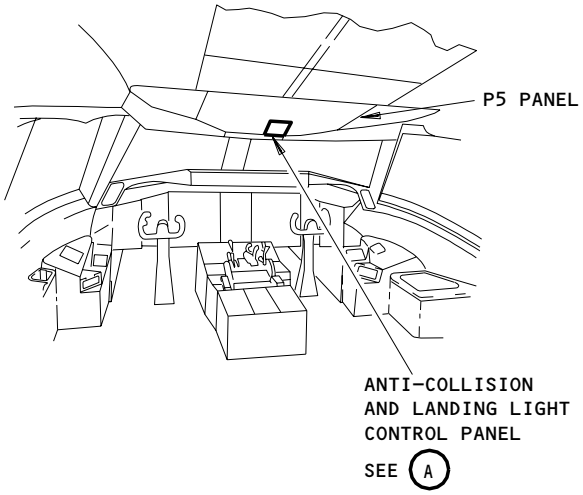
(3) Position Lights (Ref 33-43-00)

(a) Quartz halogen position (navigation) lights in the leading and trailing edges of the wingtips provide lighting for recognizing airplane position. Trailing edge lights are white. Left leading edge lights are red. Right leading edge lights are green. All lights are controlled by a single on/off switch-light on overhead panel P5.

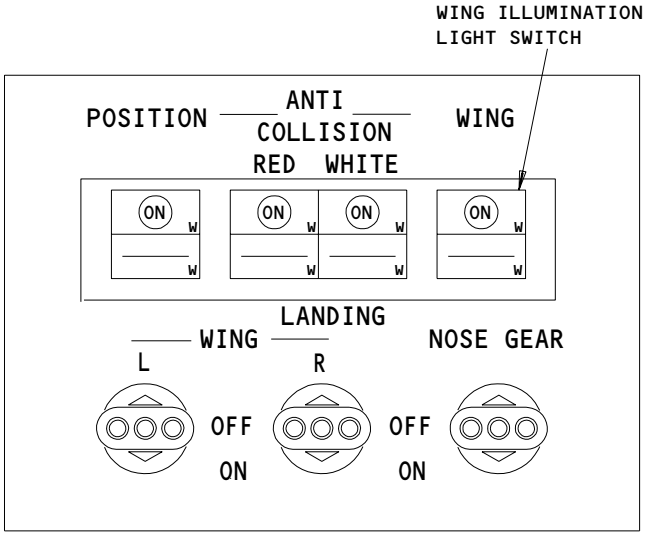
(4) Anti-Collision Lights (Ref 33-44-00)
    (a) High intensity Xenon strobe lights on the fuselage and wingtips flash 48 ±5% times per minute. The fuselage mounted lights are red; wingtip lights are white. The red and white lights are controlled by separate on/off switch-lights on overhead panel P5.
(5) Logo Lights (Ref 33-45-00)
    (a) Two logo lights installed in the upper surface of each horizontal stabilizer illuminate the airline insignia on the vertical fin. The lights are controlled by a single on/off switch-light on overhead panel P5.

WING ILLUMINATION LIGHTS - DESCRIPTION AND OPERATION

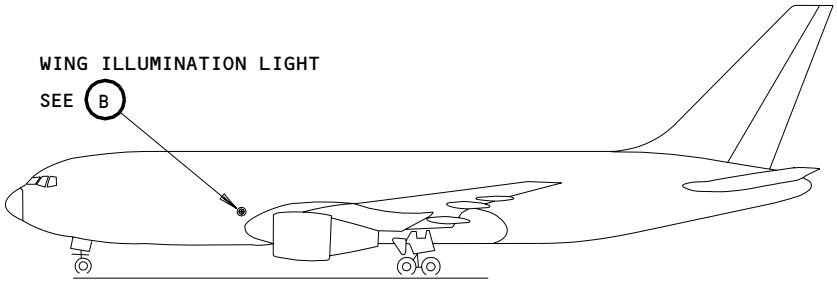
1. General
   A. One quartz halogen lamp is in each side of the fuselage forward of the wing root. A plano lens divides the light from a single lamp into two beams. One beam lights the wing. The other beam lights the engine. Both lights are controlled by a single alternate action switch-light.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-41-01 thru 33-41-99
      (2) WDM 33-41-11 thru 33-41-99
2. Component Details
   A. Wing illumination lights are installed on both sides of the forward body to provide illumination for the engine nacelles and wing leading edges for determining formation of ice on these areas.
   B. A switch-light on the anti-collision and landing light control panel, on the flight deck overhead panel (P5), controls these lights.
   C. Each light assembly includes a transformer, accessible from the passenger compartment.
3. Operation
   A. Functional Description
      (1) Wing Illumination Lights
         (a) One quartz halogen lamp is mounted in each side of the fuselage forward of the wing root. The lamp provides lighting for the wing and engine areas. A plano lens divides the light from a single lamp into the two beams. Power for the lights is from the 115v ac ground service bus on circuit breaker panel P11.
         (b) Pressing the alternate action switch-light on overhead panel P5 applies power to the right and left wing light assemblies. The switch-light then illuminates ON. A transformer in the light assembly reduces the voltage to 13 vac for the lamp. Pressing the switch-light again opens the circuits and shuts off the lights.

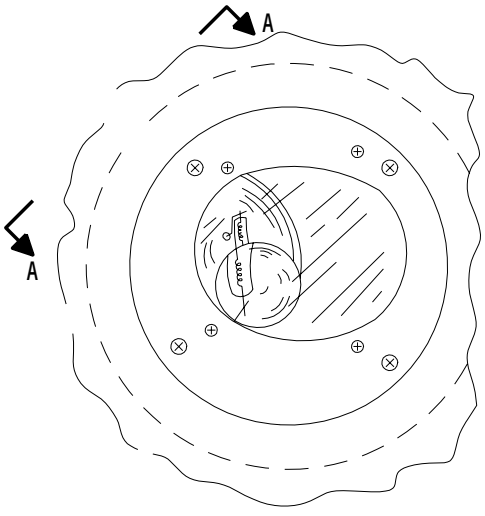


FLIGHT COMPARTMENT

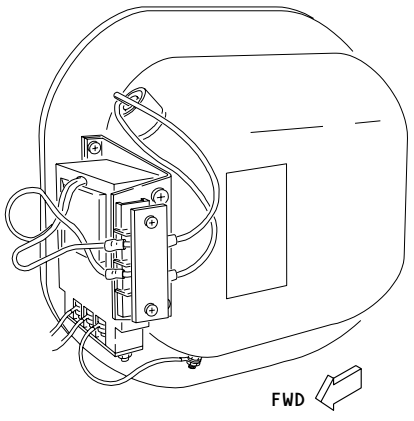


ANTI–COLLISION AND LANDING LIGHT
CONTROL PANEL
A





WING ILLUMINATION LIGHT
(EXAMPLE)
B



A–A

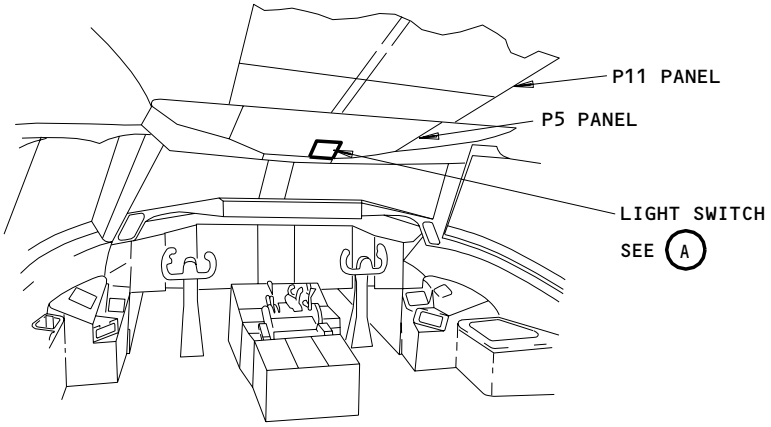
Wing Illumination Lights – Component Location
Figure 1

WING ILLUMINATION LIGHTS

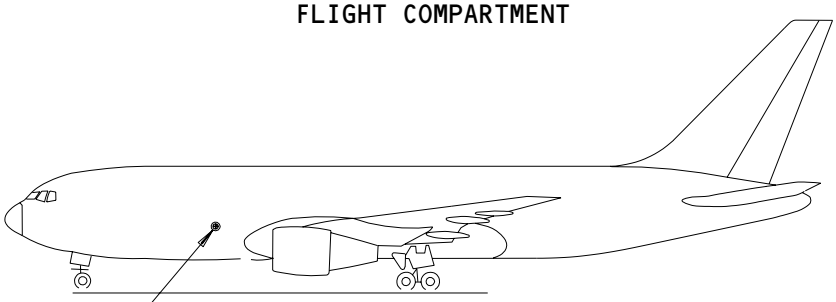
COMPONENT	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	--	*	FLT COMPT, P11	
LIGHT – WING ILLUMINATION	--	*	ON FUSELAGE, FWD, AND ABOVE THE WING	33-41-00
SWITCH – WING ILLUMINATION LIGHT	--	*	FLT COMPT, P5	*

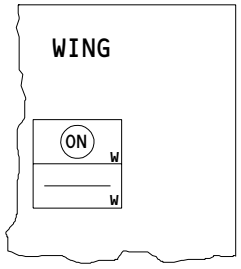
* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Wing Illumination Lights – Component Index
Figure 101



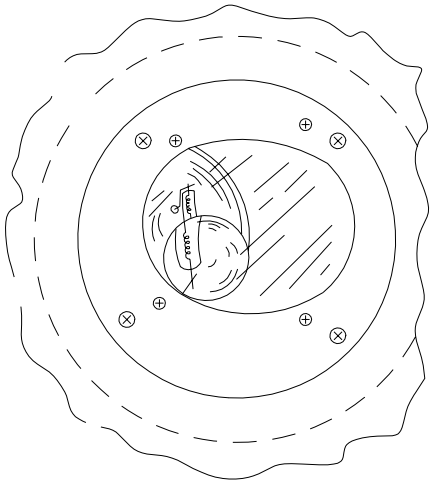
FLIGHT COMPARTMENT





WING ILLUMINATION
LIGHT SWITCH

(A)



WING ILLUMINATION LIGHT
(EXAMPLE)

(B)

Wing Illumination Lights - Component Location
Figure 102

WING ILLUMINATION LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Wing Illumination Light - Lamp Replacement
      (2) Wing Illumination Light - Transformer Replacement
      (3) Wing Illumination Lights - Operational Test
   B. Do the maintenance of the wing illumination lights while out of the airplane. For the transformers connected to the back of the wing illumination lights, do the maintenance from the passenger compartment.

TASK 33-41-00-002-001

2. Wing Illumination Light - Lamp Replacement (Fig. 201)
   A. Consumable Materials
      (1) A00247 Sealant -- BMS 5-95, Class B-1/2
      (2) G00287 Parting Agent -- Del Chem X-769 or
      (3) G00286 Parting Agent -- 4A-183
   B. References
      (1) AMM 51-31-01/201, Seals and Sealing
   C. Access
      (1) Location Zone
          200 Upper Half of Fuselage.
   D. Lamp Replacement

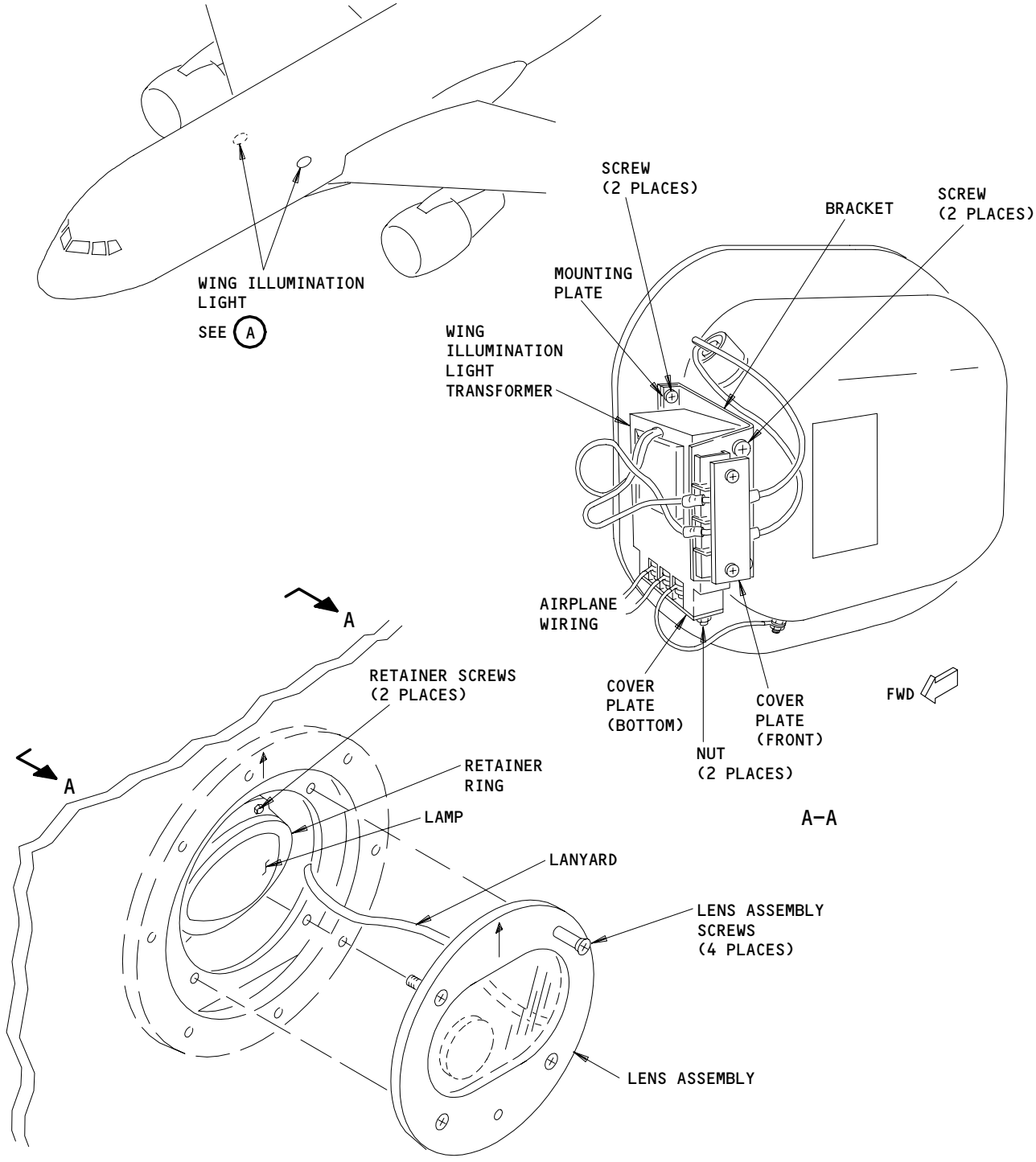
      S 862-002
      (1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
          (a) 11N35, LIGHTING WING ILLUM

      S 152-034

      CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

      (2) Do this task to remove the sealant between the lens assembly and the skin: Prepare for Sealing (AMM 51-31-01/201).

      S 032-009
      (3) Remove the lens.
          (a) Loosen the screws that hold the lens assembly in position.



WING ILLUMINATION LIGHT (EXAMPLE)

(A)

Wing Illumination Lights Installation
Figure 201

(b) Remove the lens assembly.

S 962-010

(4) Carefully replace the lamp.
(a) Remove the retainer screws that hold the retainer ring in position.
(b) Remove the retainer ring.
(c) Pull the lamp loose from the housing.
(d) Disconnect the attached electrical wires.
(e) Make sure the drain hole in the lamp housing is clear.
(f) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(g) Attach the electrical wires to the new lamp.
(h) Put the retainer ring on the new lamp.

CAUTION: MAKE SURE YOU ALIGN THE BOSS AND THE GROOVE. IF YOU DO NOT, THE NEW LAMP CAN BREAK WHEN YOU CONTINUE THIS PROCEDURE.

(i) Align the boss on the new lamp with the groove in the lamp housing.
(j) Put the new lamp in the lamp housing.
(k) Attach the retainer ring and the new lamp with the correct screws.
(l) Attach the lens assembly the correct screws.

S 392-033

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(5) With the sealant and the parting agent, do this task to seal around the outer edge of the lens assembly: Fillet Seal Application (AMM 51-31-01/201).

S 712-006

(6) Do the test of the wing illumination lights given in this procedure.

TASK 33-41-00-002-007

3. Wing Illuminataion Light - Transformer Replacement (Fig. 201)

A. References

(1) AMM 25-21-01/401, Sidewall Panels - Removal and Installation

(2) AMM 25-21-05/401, Sidewall Insulation - Removal and Installation
(3) AMM 25-25-01/201, Passenger Seats - Maintenance Practices
(4) AMM 25-41-03/401, Mid-Cabin Lavatories - Removal and Installation

B. Access
(1) Location Zones
200 Upper Half of the Fuselage

C. Tranformer Replacement

S 862-011
(1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
(a) 11N35, LIGHTING WING ILLUM

S 012-024
(2) Find the transformer below the 13th or 14th window from the front on the right and left side of the airplane.

S 012-015
(3) Remove each furnishing that is in front of the location of the transformer (AMM 25-25-01/201 and AMM 25-41-03/401).

S 012-016
(4) Remove the sidewall panel at the location of the transformer (AMM 25-21-01/401).

S 012-025
(5) Remove the sidewall insulation around the transformer (AMM 25-21-05/401).

S 022-018
(6) Replace the transformer.
(a) Remove the two screws that hold the front coverplate in position.
(b) Remove the front coverplate.
(c) Disconnect the wires from the front terminal block.

(d) Identify each wire to aid during the installation of the transformer.
(e) Remove the four screws that hold the transformer in position.
(f) Slide the transformer down to be clear of the bracket.
(g) Rotate the transformer for access to the bottom coverplate.
(h) Remove the two nuts that hold the bottom coverplate in position.
(i) Disconnect the wires from the bottom terminal block.
(j) Identify each wire to aid during the installation of the transformer.
(k) Remove the two screws that hold the mounting plate and transformer in position.
(l) Remove the transformer.

S 422-020
(7) Do these steps to install the transformer.
(a) Use two screws to attach the mounting plate to the transformer.
(b) Attach the correct wires to the bottom terminal block.
(c) Use two nuts to attach the bottom coverplate.
(d) Use four screws to attach the transformer to the bracket.
(e) Attach the wires to the front terminal block.
(f) Use two screws to attach the front coverplate.

S 412-021
(8) Replace the sidewall insulation (AMM 25-21-05/401).

S 412-026
(9) Replace the sidewall panel (AMM 25-21-01/401).

S 412-027
(10) If you removed a furnishing, install it (AMM 25-25-01/201 and AMM 25-41-03/401).

S 712-024
(11) Do the test of the wing illumination lights given in this procedure.

TASK 33-41-00-702-025

4. Wing Illumination Lights - Operational Test

A. References

(1) 24-22-00/201, Electrical Power - Control

B. Access

(1) Location Zones

211/212 Flight Compartment

C. Prepare to do the test of the Wing Illumination Lights

S 862-026

(1) Supply electrical power (Ref 24-22-00).

S 862-027

(2) Make sure this circuit breaker on the overhead circuit breaker panel, P11, is closed:

(a) 11P3, LIGHTING INSTRUMENT & PANEL OVHD

S 862-028

(3) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the overhead circuit breaker panel, P11:

(a) 11N35, LIGHTING WING ILLUM

D. Do the Test of the Wing Illumination Lights

S 712-029

(1) Do these steps to do the test of the wing illumination lights.

(a) Push the WING light switch on the pilots' overhead panel, P5.

(b) Make sure the wing illumination lights come on.

(c) Make sure the light behind the WING light switch comes on.

(d) Push the WING light switch again.

(e) Make sure the wing illumination lights go off.

(f) Make sure the light behind the WING light switch goes off.

S 862-030

(2) Remove electrical power if it is not necessary (Ref 24-22-00).

LANDING, RUNWAY TURNOFF, AND TAXI LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. The landing, runway turnoff, and taxi lights are quartz halogen lamps controlled with switches on the overhead panel, P5.
   B. There are two landing lights installed in each wing root strakelet. These lights are automatically changed from dim with the gear up, to bright with gear the down, with a switch on the landing gear lever. The two landing lights on the nose wheel come on when the nose gear is extended and go off when it is retracted.
   C. The runway turnoff lights are adjacent to the wing landing lights and are pointed ahead and to the side of the airplane.
   D. AIRPLANES WITH TAXI LIGHTS;
      One or two taxi lights are installed on the nose gear. This type of light comes on when the nose gear is extended and goes off when it is retracted.
   E. For more data about this lighting system, refer to these sources:
      (1) SSM 33-42-01 thru 33-42-99
      (2) WDM 33-42-11 thru 33-42-99
2. Component Details
   A. Landing Lights
      (1) Wing and nose gear landing lights are installed to provide illumination during landing and ground roll. A wing landing light is installed in each wing root strakelet. Two nose gear landing lights are installed on the fixed portion of the nose landing gear.
      (2) Landing light control switches are located on the anti-collision and landing light control panel, on the flight deck overhead panel (P5).
      (3) Nose gear landing lights are disabled when the nose gear is up, by the nose gear landing light relay located in the left miscellaneous electrical equipment panel (P36), in the main equipment center.
      (4) Wing landing lights are switched from dim, with the nose gear up, to bright with the nose gear down, by the left (right) landing light dimming relays, located in the left (right) miscellaneous electrical equipment panels (P36) and (P37) respectively, in the main equipment center.
   B. Runway Turnoff Lights
      (1) Runway turnoff lights are installed in the wing strakelets, adjacent to the landing lights, to provide general illumination during taxi.
      (2) Left (right) runway turnoff light switches are on the left lighting control panel on flight deck overhead panel (P5).
   C. AIRPLANES WITH TAXI LIGHTS;
      Taxi Lights
      (1) One or two taxi lights are installed on the nose landing gear to give general lighting during taxi.
      (2) When the nose gear is extended, a relay makes the taxi lights come on. This relay is in the left miscellaneous electrical equipment panel, P36.

3. Operation

A. Functional Description

(1) Landing Lights

(a) One quartz halogen landing light is mounted in each wing root strakelet and is aimed horizontally. Two quartz halogen landing lights are attached to the nose landing gear.

(b) The right and left mounted wing lights receive power from the 115v ac right and left buses respectively. All circuit breakers are on circuit breaker panel P11. Each light is controlled by a separate toggle switch on overhead panel P5. With the WING landing light switch in the ON position, power is applied to the fixed landing light transformer through contacts on the landing lights dim relay. The transformer is installed in the aft end of the forward cargo compartment outboard of recirculation fans. The transformer applies voltage to illuminate the lamp at maximum intensity. When the landing gear is in the UP position, a switch on the landing gear lever provides a ground to energize the landing lights dim relay. This position applies 115v ac to a different terminal on the transformer. The resulting change in turns ratio reduces the output voltage which dims the light.

(c) Two quartz halogen landing lights are mounted on the nose landing gear (NLG). They receive power from the 115v ac left bus and are controlled by a single toggle switch on overhead panel P5. When the NLG is down and locked, a proximity switch in the gear provides a ground to energize the NLG landing lights transformer which supplies voltage to the lights. Lights are inhibited when the NLG is retracted.

(2) Runway Turnoff Lights

(a) Right and left runway turnoff lights are mounted in each wing root adjacent to the fixed landing lights. They receive their power from the 115v ac right and left buses respectively. All circuit breakers are on circuit breaker panel P11. Each light is controlled by a separate switch on overhead panel P5. With the switch in the ON position, 115v ac is applied to the runway turnoff lights transformer which provides 28v ac to the quartz halogen lamps. The transformer is located in the aft end of the forward cargo compartment outboard of recirculation fans.

(3) AIRPLANES WITH TAXI LIGHTS;
Taxi Lights
(a) AIRPLANES WITH ONE TAXI LIGHT;
The quartz halogen taxi light is a single lamp installed between the wheels of the nose landing gear. Power comes from the 115v ac left bus on circuit breaker panel P11. The taxi light toggle switch on overhead panel P5 completes 115v ac to the taxi light transformer which provides 28v ac to the lamp.
(b) AIRPLANES WITH TWO TAXI LIGHTS;
Two quartz hologen taxi lights are mounted on the nose landing gear (NLG). They receive power from the 115v ac left bus and are controlled by a single toggle switch on overhead panel P5. When the NLG is down and locked, a proximity switch in the gear provides a ground to energize the NLG taxi lights transformer which supplies voltage to the lights. Lights are inhibited when the NLG is retracted.

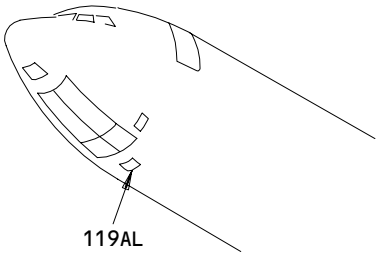
LANDING, RUNWAY TURNOFF, AND TAXI LIGHTS

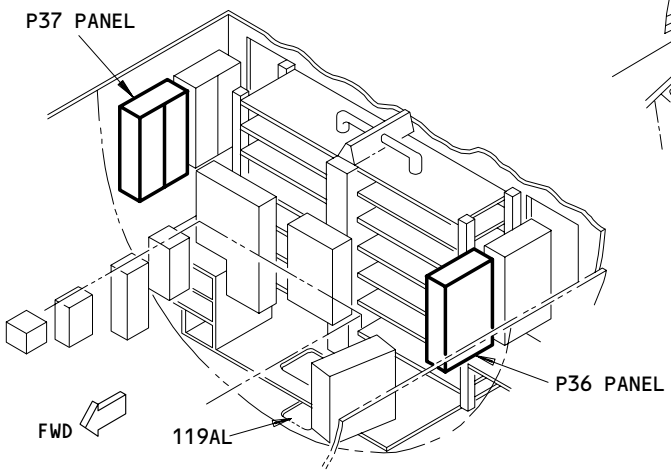
COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1		FLT COMPT, P11	*
LIGHT –	2	*	LEADING EDGE OF EACH WING ROOT	33-42-03
WING LANDING	2	*	NOSE LANDING GEAR, ABOVE WHEEL 3	33-42-01
NOSE GEAR LANDING	2	*	LEADING EDGE OF EACH WING ROOT	33-42-03
RUNWAY TURNOFF	2	*	NOSE LANDING GEAR, BETWEEN WHEELS	33-42-02
TAXI 1				
RELAY –			119AL, MAIN EQ CTR, P36,P37	
SWITCH –				
LANDING GEAR LEVER	1	*	FLT COMPT, P3	*
LANDING NOSE GEAR	1	*	FLT COMPT, P5	*
LANDING WING L AND R	1	*	FLT COMPT, P5	*
RUNWAY TURNOFF L AND R	1	*	FLT COMPT, P5	*
TAXI 1	1	*	FLT COMPT, P5	*
TRANSFORMER –	--	*		*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

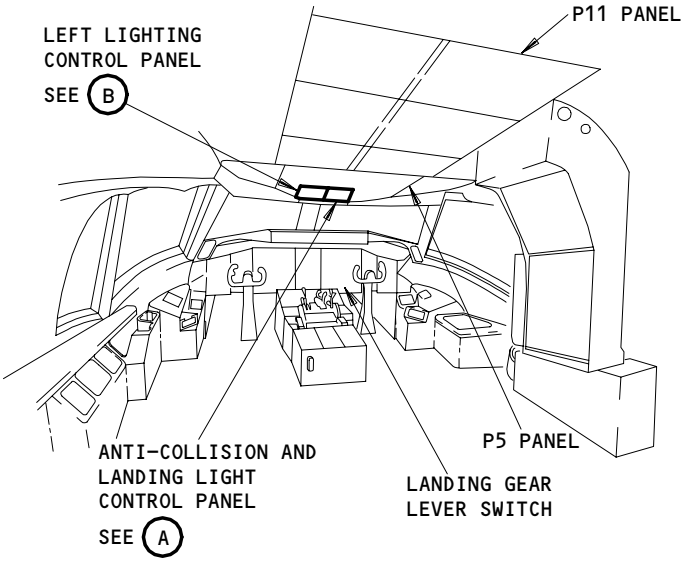
1 NOT INSTALLED ON ALL AIRPLANES

Landing, Runway Turnoff, and Taxi Lights – Component Index
Figure 101

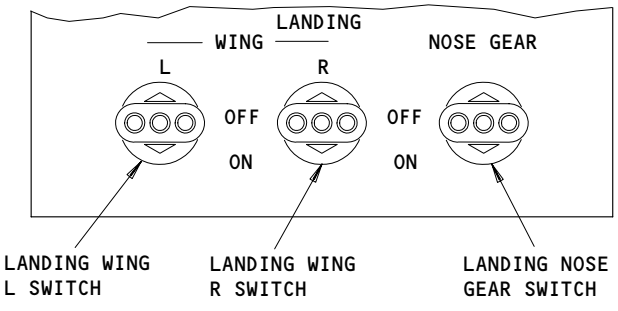




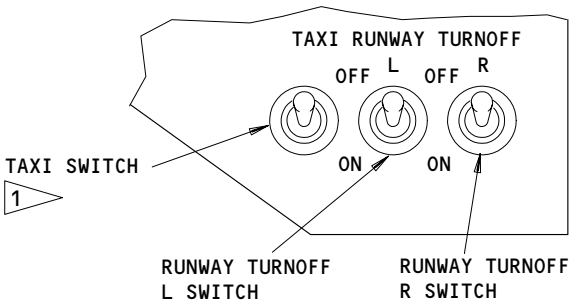
MAIN EQUIPMENT CENTER



FLIGHT COMPARTMENT



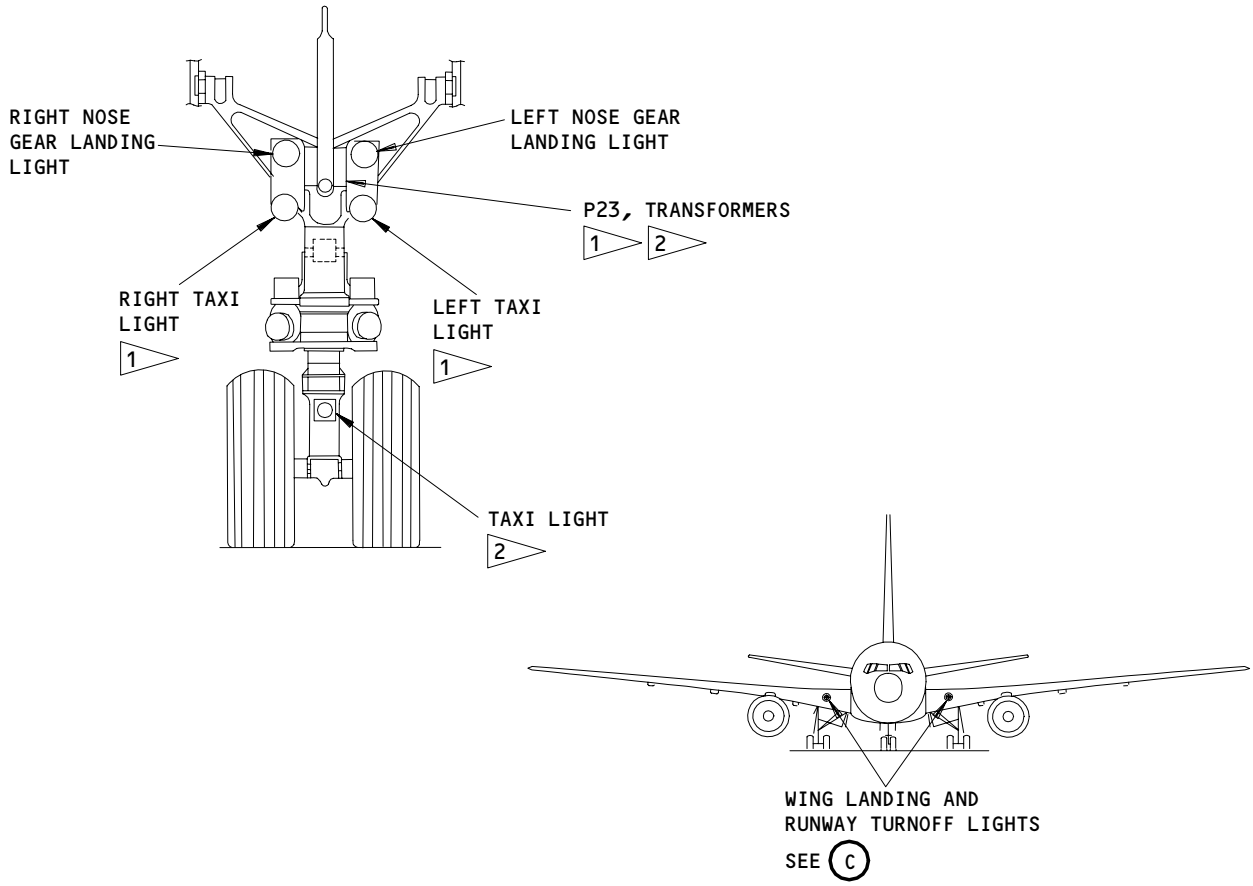
ANTI-COLLISION AND LANDING
LIGHT CONTROL PANEL
(A)



LEFT LIGHTING CONTROL PANEL
(B)

1 NOT INSTALLED ON ALL AIRPLANES

Landing, Runway Turnoff, and Taxi Lights - Component Location
Figure 102 (Sheet 1)



WING LANDING AND RUNWAY TURNOFF LIGHTS
(EXAMPLE)
C

1 AIRPLANES WITH TWO TAXI LIGHTS
2 AIRPLANES WITH ONE TAXI LIGHT
3 ON SOME AIRPLANES, THE TRANSFORMERS ARE INSTALLED IN THE MAIN EQUIPMENT CENTER, P36.

Landing, Runway Turnoff, and Taxi Lights - Component Location
Figure 102 (Sheet 2)

LANDING, RUNWAY TURNOFF AND TAXI LIGHTS - ADJUSTMENT/TEST

1. General
   A. This procedure contains the the operational test of the landing, runway turnoff, and taxi lights.
   B. You will find four landing lights:
      --one in each wing strakelet
      --two above the movable part of the nose landing gear.
   C. You will find two runway turnoff lights, one in each wing strakelet adjacent to a landing lights.
   D. SOME AIRPLANES;
      You will find two taxi lights installed above the moveable part of the nose landing gear.
   E. Use the switches on the pilots' overhead panel, P5, to do the test of all lights in this procedure.

TASK 33-42-00-715-030

2. Operational Test - Landing, Runway Turnoff and Taxi Lights
   A. References
      (1) 24-22-00/201, Electrical Power - Control
      (2) 27-61-00/201, Spoiler/Speedbrake Control System
      (3) 32-09-02/201, Air/Ground Relays
   B. Access
      (1) Location Zones
          211/212 Flight compartment
   C. Prepare to Do the Test

      S 865-002
      (1) Supply electrical power (Ref 24-22-00).
   D. Do the Test of the Landing Lights

      S 865-003
      (1) Make sure these circuit breakers on the overhead circuit breaker panel, P11, are closed:
          (a) 11C30, LANDING GEAR POSITION AIR/GND SYS 1
          (b) 11N1, LIGHTING NOSE GEAR CONT
          (c) 11N3, LIGHTING LANDING NOSE GEAR L
          (d) 11N4, LIGHTING LANDING NOSE GEAR R
          (e) 11N5, LIGHTING LANDING WING L
          (f) 11N31, LIGHTING LANDING WING DIM CONT
          (g) 11N32, LIGHTING LANDING WING R

      S 715-031

      CAUTION: DO THE TEST OF THE LANDING LIGHTS IN LESS THAN FIVE MINUTES. THE LANDING LIGHTS USE HIGH-INTENSITY, HIGH-WATTAGE LAMPS WHICH HAVE A SHORT LIFE. KEEP THE LIGHTS OFF WHEN THEIR USE IS NOT NECESSARY.

      (2) Do these steps to do the test of the landing lights:
          (a) Set the L WING LANDING LIGHT toggle switch to ON.

(b) Make sure the left wing landing light comes on.
(c) Set the L WING LANDING LIGHT toggle switch to OFF.
(d) Make sure the left wing landing light goes off.
(e) Set the R WING LANDING LIGHT toggle switch to ON.
(f) Make sure the right wing landing light comes on.
(g) Set the R WING LANDING LIGHT toggle switch to OFF.
(h) Make sure the right wing landing light goes off.
(i) Set the NOSE GEAR LANDING LIGHTS toggle switch to ON.
(j) Make sure the two nose gear landing lights come on.

S 865-005

WARNING: TO THE DEACTIVIATION PROCEDURE FOR THE SPOILERS OR MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE SPOILERS. THE SPOILERS CAN RETRACT QUICKLY AND CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do the deactiviation procedure for the spoilers (Ref 27-61-00) or move all persons and equipment away from the spoilers.

S 865-006

WARNING: MAKE SURE YOU DO THE FLIGHT MODE SIMULATION CORRECTLY. IF THE PROCEDURE IS NOT DONE CORRECTLY, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

(4) Do the flight mode simulation procedure for the No. 1 air/ground system (Ref 32-09-02).

S 715-006
(5) Continue to do the test of the landing lights.
(a) Open this circuit breaker on the overhead circuit breaker panel, P11:
1) 11C30, LANDING GEAR POSITION AIR/GND SYS 1
(b) Make sure the two nose gear landing lights go off.

(c) Close this circuit breaker on the overhead circuit breaker panel, P11:
1) 11C30, LANDING GEAR POSITION AIR/GND SYS 1
(d) Make sure the two nose gear landing lights come on.
(e) Set the NOSE GEAR LANDING LIGHTS toggle switch to OFF.
(f) Make sure the two nose gear landing lights go off.
(g) Set the L WING LANDING LIGHT and R WING LANDING LIGHT toggle switches to ON.
(h) Make sure the left wing and right wing landing lights come on.
(i) Move and hold the LANDING GEAR LEVER on the pilot's center instrument panel, P2, between the OFF position and the DN position.
1) Make sure the left and right wing landing lights are dim when the LANDING GEAR LEVER is set to OFF.

NOTE: You must see a difference in the quantity of light to satisfy the dim/bright condition.

2) Make sure the lights go bright when you move the lever to the DN position.
(j) Move the LANDING GEAR LEVER to the DN position.
(k) Set the L WING LANDING LIGHT and R WING LANDING LIGHT toggle switches to OFF.

E. Do the Test of the Runway Turnoff Lights

S 865-009
(1) Make sure these circuit breakers on the overhead circuit breaker panel, P11, are closed:
(a) 11N6, LIGHTING RUNWAY TURNOFF L
(b) 11N33, LIGHTING RUNWAY TURNOFF R

S 715-010
(2) Do these steps to do the test of the runway turnoff lights:
(a) Set the L RUNWAY TURNOFF LIGHT toggle switch to ON.
(b) Make sure the left runway turnoff light comes on.
(c) Set the L RUNWAY TURNOFF LIGHT toggle switch to OFF.
(d) Make sure the left runway turnoff light goes off.
(e) Set the R RUNWAY TURNOFF LIGHT toggle switch to ON.
(f) Make sure the right runway turnoff light comes on.
(g) Set the R RUNWAY TURNOFF LIGHT toggle switch to OFF.
(h) Make sure the right runway turnoff light goes off.

F. AIRPLANES WITH TAXI LIGHTS;
Do the Test of the Taxi Lights

S 865-011
(1) Make sure these circuit breakers on the overhead circuit breaker panel, P11, are closed:
(a) 11C30, LANDING GEAR POSITION AIR/GND SYS 1
(b) 11N1, LIGHTING NOSE GEAR CONT
(c) 11N8, LIGHTING TAXI L
(d) 11N9, LIGHTING TAXI R

S 715-013
(2) Do these steps to do the test of the taxi lights:
(a) Set the TAXI LIGHT toggle switch to ON.
(b) Make sure the two taxi lights come on.

S 045-014

WARNING: DO THE DEACTIVATION PROCEDURE FOR THE SPOILERS OR MOVE ALL PERSONS AND EQUIPMENT AWAY FROM THE SPOILERS. THE SPOILERS CAN RETRACT QUICKLY AND CAUSE INJURY TO PERSON OR DAMAGE TO EQUIPMENT.

(3) Do the deactivation procedure for the spoilers (Ref 27-61-00) or move all persons and equipment away from the spoilers.

S 865-015

WARNING: MAKE SURE YOU DO THE FLIGHT MODE SIMULATION CORRECTLY. IF PROCEDURE IS NOT DONE CORRECTLY, INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

(4) Do the flight mode simulation procedure for the No. 1 air/ground system (Ref 32-09-02).

S 865-016
(5) Open this circuit breaker on the overhead circuit breaker panel, P11:
(a) 11C30, LANDING GEAR POSITION AIR/GND SYS 1

S 715-018
(6) Continue to do the test of the taxi lights:
(a) Make sure the two taxi lights go off.

S 715-021

(7) Continue to do the test of the taxi lights:

(a) Close this circuit breaker on the overhead circuit breaker panel, P11:

1) 11C30, LANDING GEAR POSITION AIR/GND SYS 1

(b) Make sure the two taxi lights come on.

(c) Set the TAXI LIGHT toggle switch to OFF.

(d) Make sure the taxi lights go off.

G. Put the Airplane Back to Its Initial Condition

S 445-033

(1) Put the safety-sensitive systems back to their initial conditions (AMM 32-09-02/201).

NOSE GEAR LANDING LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Nose Gear Landing Light - Lamp Replacement
      (2) Nose Gear Landing Light - Operational Test
      (3) Nose Gear Landing Light - Light Beam Adjustment

   TASK 33-42-01-962-021

2. Nose Gear Landing Light - Lamp Replacment
   A. References
      (1) AMM 20-10-31/201, Seals on Open Electrical Terminals in Fuel Vapor Areas
      (2) AMM 32-00-20/201, Landing Gear Downlocks
   B. Access
      (1) Location Zone
          711 Nose Landing Gear

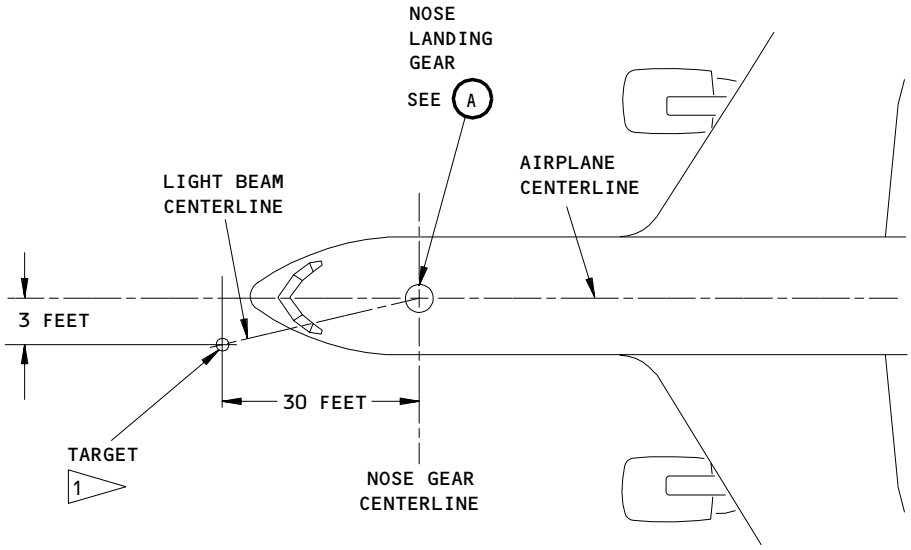
   C. Procedure (Fig. 201)

      S 862-001
      (1) Make sure the downlocks are installed on the nose and main landing gear (AMM 32-00-20/201).

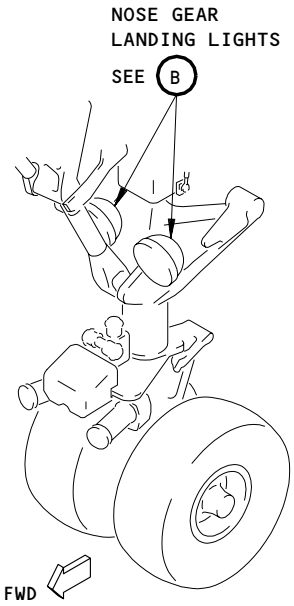
      S 862-002
      (2) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
          (a) 11N1, LIGHTING NOSE GEAR CONT
          (b) 11N3, LIGHTING L NOSE GEAR LANDING
          (c) 11N4, LIGHTING R NOSE GEAR LANDING

      S 962-022
      (3) Replace the lamp.
          (a) Remove the retainer screws (1).
          (b) Remove the retainer ring (2).

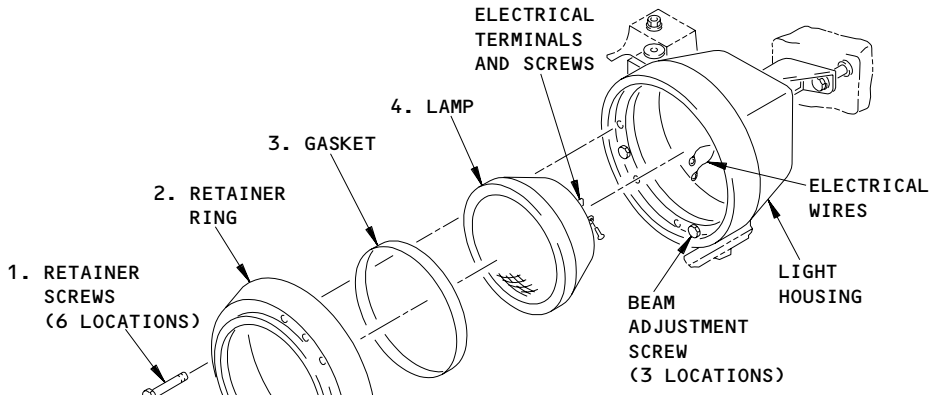
              NOTE: Do not turn the adjustment screws.



LOCATION OF THE TARGET FOR THE LEFT NOSE GEAR LANDING LIGHT
(RIGHT LIGHT IS SYMMETRICAL)



NOSE LANDING GEAR
A



NOSE GEAR LANDING LIGHT
(EXAMPLE)
B

1 A TARGET IS A MARK OR AN OBJECT THAT IDENTIFIES A LOCATION ON THE GROUND.

Nose Gear Landing Lights
Figure 201

(c) Pull the lamp (4) loose from the housing.
1) Disconnect the electrical wires from the electrical terminals on the lamp.
2) Remove the lamp.
(d) Remove the gasket (3) from the lamp (4).
1) Examine the gasket.
2) Replace the gasket if it is necessary.

CAUTION: MAKE SURE YOU INSTALL THE GASKET. FAILURE TO INSTALL THE GASKET CAN CAUSE THE LAMP TO FAIL BEFORE THE USUAL TIME.

(e) Install the gasket (3) on the new lamp (4).
(f) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(g) Connect the electrical wires to the terminals behind the new lamp.
(h) Seal the electrical terminals (AMM 20-10-31/201).

NOTE: It is optional to seal the electrical connection.

NOTE: The sealant does not have to become tack-free prior to the completion of this procedure and dispatch of the airplane.

CAUTION: MAKE SURE YOU ALIGN THE BOSS ON THE LAMP WITH THE GROOVE IN THE LIGHT HOUSING. IF THEY ARE NOT ALIGNED AND YOU CONTINUE TO DO THIS PROCEDURE, THE LAMP CAN BREAK.

(i) Align the boss on the lamp (4) with the groove in the light housing.
(j) Install the new lamp (4) in the light housing.
(k) Put the retainer ring (2) on the lamp.
(l) Use the retainer screws (1) to install the retainer ring.

S 712-027
(4) For a test of the new lamp, do the Nose Gear Landing Light - Operational Test, as given below.

TASK 33-42-01-712-003
3. Nose Gear Landing Light - Operational Test
A. References
(1) AMM 24-22-00/201, Electrical Power - Control
B. Access
(1) Location Zones
211/212 Flight Compartment

C. Procedure

S 862-004
(1) Supply electrical power (AMM 24-22-00/201).

S 862-005
(2) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the overhead circuit breaker panel, P11:
(a) 11N1, LIGHTING NOSE GEAR CONT
(b) 11N3, LIGHTING L NOSE GEAR LANDING
(c) 11N4, LIGHTING R NOSE GEAR LANDING

S 712-023
(3) Do these steps to do the test of the nose gear landing lights:
(a) Put the LANDING NOSE GEAR light switch on the pilot's overhead panel, P5, to the ON position.
(b) Make sure both nose gear landing lights come on.
(c) Put the LANDING NOSE GEAR light switch on the pilot's overhead panel, P5, to the OFF position.
(d) Make sure both nose gear landing lights go off.

S 862-006
(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-42-01-822-007

4. Nose Gear Landing Light - Light Beam Adjustment

A. References
(1) AMM 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones

711	Nose Landing Gear
211/212	Flight Compartment

C. Procedure

S 862-008
(1) Make sure the airplane and the test area are on level ground.

S 862-025
(2) Make sure the airplane is approximately level.

S 862-009
(3) Make sure the nose landing gear downlocks are installed on the nose and main landing gear (AMM 32-00-20/201).

S 942-016
(4) Put the target in its position on the ground (Fig. 201).

NOTE: The target must be sufficiently large to see when you adjust the light. For the target, you can make a mark on the ground or set an object on the ground.

S 862-017
(5) Supply electrical power (AMM 24-22-00/201).

S 822-020
(6) Adjust the light.

CAUTION: OPERATE THE LIGHTS FOR THE MINIMUM TIME NECESSARY, EXTENDED OPERATION CAN CAUSE THESE HIGH-INTENSITY, HIGH-WATTAGE LIGHTS TO FAIL BEFORE THE USUAL TIME.

(a) At the overhead panel, P5, set the switch for the nose gear landing light to the on position.

WARNING: DO NOT TOUCH THE LIGHT WITH YOUR BARE HANDS, USE GLOVES. THE LIGHT IS HOT AND CAN BURN YOUR HANDS.

(b) Remove the lockwire.
(c) Turn the beam adjustment screws until the center of the light beam is on the target.
(d) Install the lockwire.
(e) Set the switch to the off position.

S 862-018
(7) Remove electrical power if it is not necessary (AMM 24-22-00/201).

S 942-019
(8) Remove the target.

NOSE GEAR TAXI LIGHT - MAINTENANCE PRACTICES

1. General
   A. This procedure contains three tasks:
      (1) Replace the Nose Gear Taxi Lights
      (2) Do the test of the Nose Gear Taxi Lights
      (3) Do the Adjustment of the Nose Gear Taxi Lights

   TASK 33-42-02-962-001

2. Replace the Nose Gear Taxi Lights (Fig. 201)

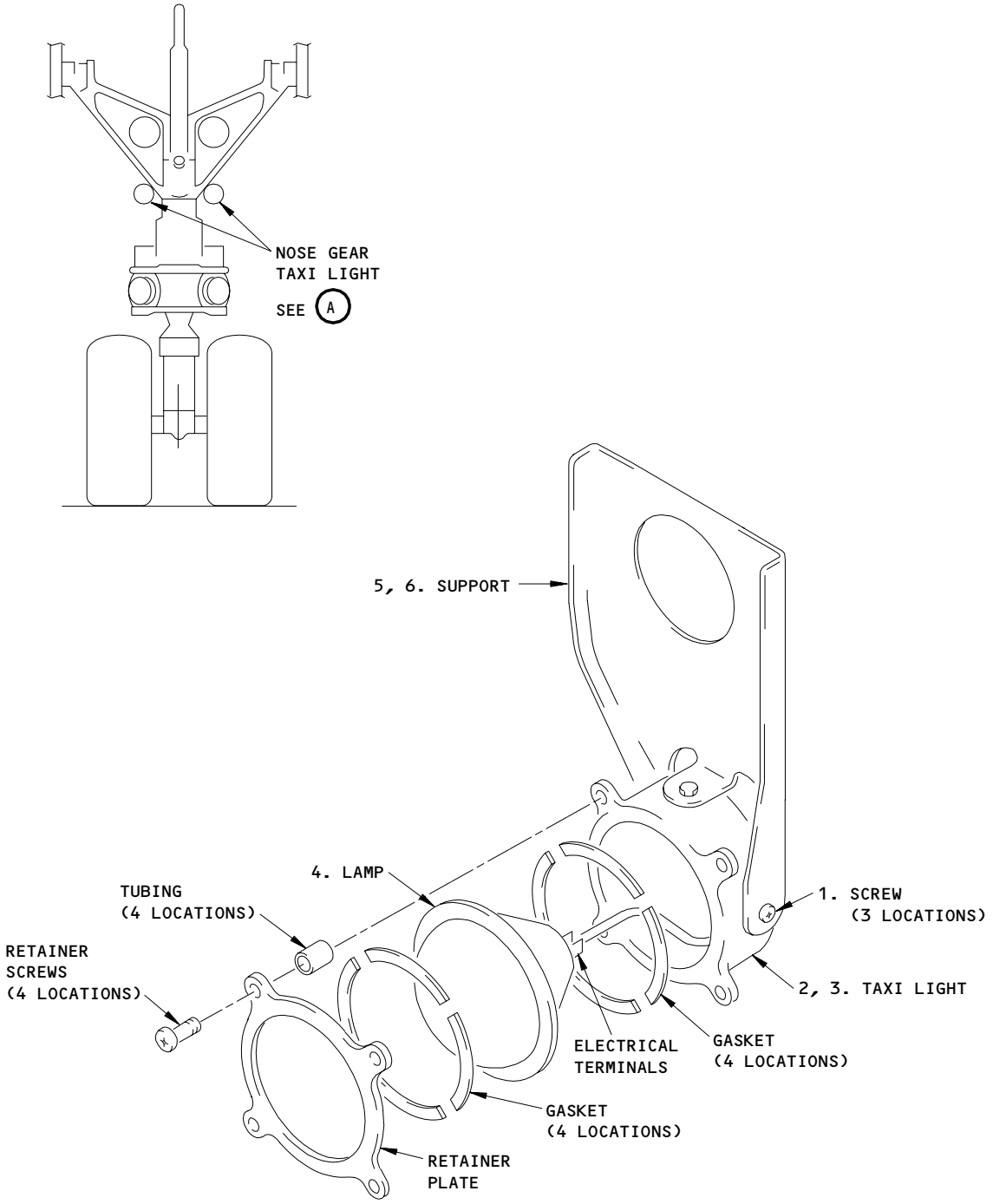
   A. References
      (1) AMM 20-10-31/201, Seals on Open Electrical Terminals in Fuel Vapor Areas
      (2) AMM 32-00-20/201, Landing Gear Downlocks
   B. Access
      (1) Location Zone
          711 Nose Landing Gear

   C. Procedure

      S 862-002
      (1) Make sure the downlocks are installed on the nose and main landing gear (Ref 32-00-20).

      S 862-003
      (2) Open these circuit breakers on the overhead circuit breaker panel, P11, and attach DO-NOT-CLOSE tags:
          (a) 11N8, LIGHTING TAXI L
          (b) 11N9, LIGHTING TAXI R

      S 962-004
      (3) Do these steps to replace the nose gear taxi lights:
          (a) Remove the retainer screws on the front of the lamp housing.



NOSE GEAR TAXI LIGHT (EXAMPLE)

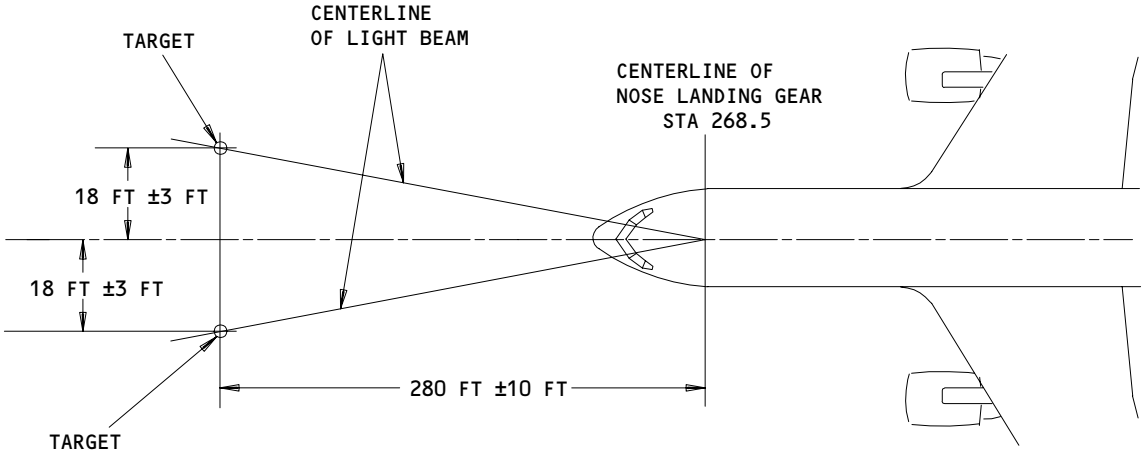
A

Nose Gear Taxi Light Installation
Figure 201

(b) Remove the retainer plate.
(c) Pull the lamp loose from the housing.
(d) Disconnect the wires from the electrical terminals behind the lamp.
(e) Remove the lamp.
(f) Connect the wires to the electrical terminals behind the new lamp.
(g) Seal the electrical terminals (AMM 20-10-31/201).

NOTE: It is optional to seal the electrical connection.

NOTE: The sealant does not have to become tack-free prior to the completion of this proceedure and dispatch of the airplane.



Nose Gear Taxi Light Adjustment
Figure 202

(h) Make sure the gaskets are installed on the housing and retainer plate.
(i) Put the lamp in the housing.
(j) Put the retainer plate on the lamp.
(k) Attach the retainer plate with the retainer screws.

TASK 33-42-02-712-005

3. Do the Test of the Nose Gear Taxi Lights

A. References
(1) 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones
211/212 Flight Compartment

C. Procedure

S 862-006
(1) Supply electrical power (Ref 24-22-00).

S 862-007
(2) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the overhead circuit breaker panel, P11:
(a) 11N8, LIGHTING TAXI L
(b) 11N9, LIGHTING TAXI R

S 712-008
(3) Do these steps to do the test of the nose gear taxi lights:
(a) Set the TAXI light switch on the pilot's overhead panel, P5, to ON.
(b) Make sure both nose gear taxi lights come on.
(c) Set the TAXI light switch back to OFF.
(d) Make sure both nose gear taxi lights go off.

TASK 33-42-02-822-009

4. Do the Adjustment of the Nose Gear Taxi Lights (Fig. 201 and 202)

A. Equipment
(1) Targets (for the adjustment of light beams)

B. Consumable Materials
(1) A00247 Sealant - BMS 5-95, Type I, Class B

C. References
(1) 24-22-00/201, Electrical Power - Control
(2) 32-00-20, Landing Gear Downlocks
(3) 51-31-01/201, Seal and Sealing

D. Access
(1) Location Zone
711 Nose Landing Gear

E. Procedure

S 862-010
(1) Make sure the airplane and the test area are on level ground.

S 862-011
(2) Make sure the downlocks are installed on the nose and main landing gear (Ref 32-00-20).

S 942-012
(3) Set the targets on the ground in the positions as shown on Fig. 202.

S 822-013
(4) Do these steps to do the adjustment of the nose gear taxi lights:
(a) Loosen the three screws (1) on the lamp housing (Fig. 201).
(b) Adjust the lights.
1) Point the light beam at the targets as shown on Fig. 202.

(c) Tighten the three screws (1) on the lamp housing.
(d) Safety the screws with wire.
(e) Apply the sealant, BMS 5-95 Class B (Ref 51-31-01) to the three screws (1).

S 862-014
(5) Remove electrical power if it is not necessary (Ref 24-22-00).

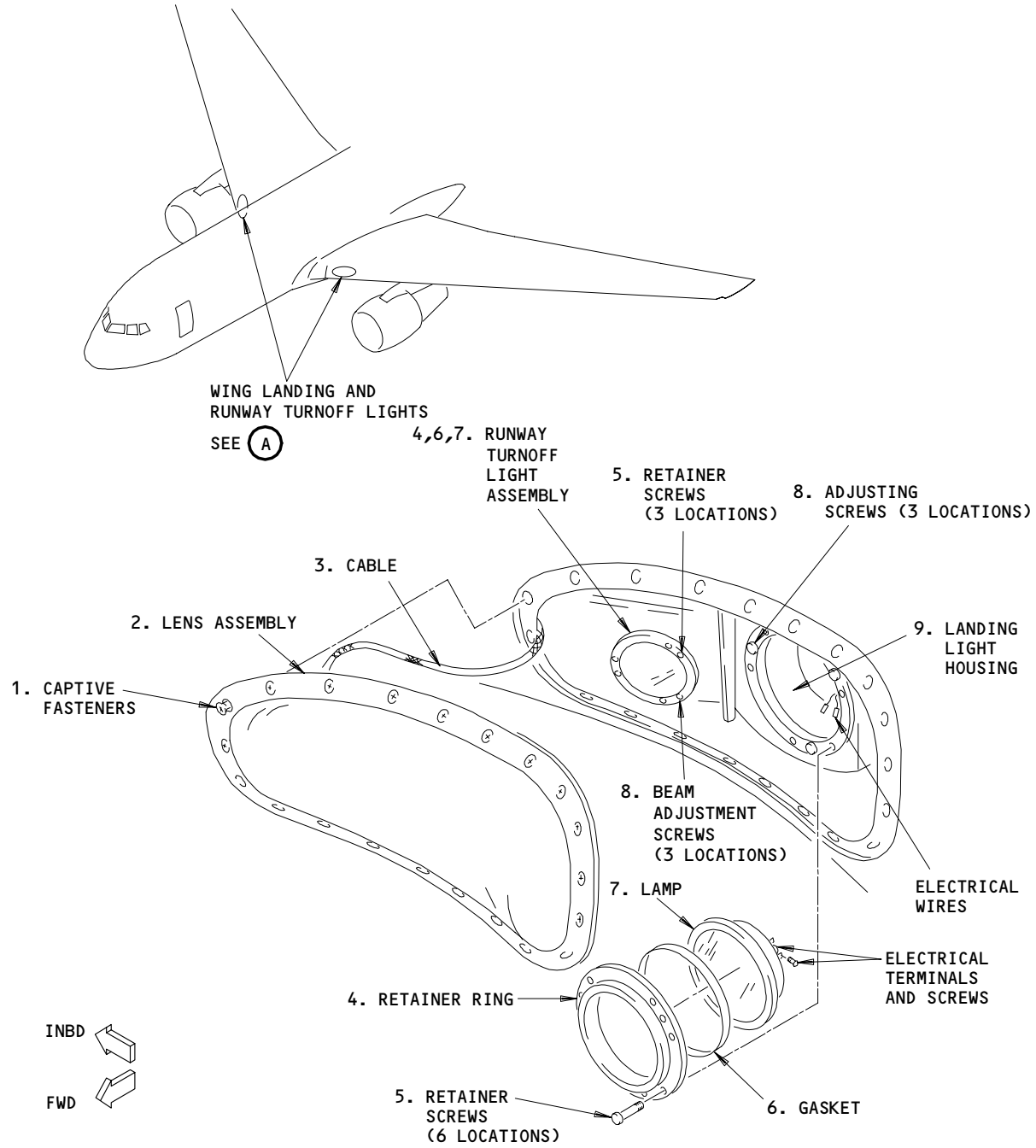
WING LANDING AND RUNWAY TURNOFF LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Wing Landing and Runway Turnoff Light - Lamp Replacement
      (2) Wing Landing and Runway Turnoff Light - Adjustment
      (3) Landing Light Lens - Temporary Repair
   B. If necessary, you can install a temporary metal plate. Because the temporary lens is not clear, the light behind it will not give lighting.
   C. When instructions are applicable to both the wing landing and runway turnoff lights, this procedure refers to them as "the lights".

TASK 33-42-03-962-023

2. Wing Landing and Runway Turnoff Light - Lamp Replacement (Fig. 201)
   A. Consumable Materials
      (1) A00027 Adhesive - BAC 5010, Type 60
      (2) A00247 Compound - Sealing - BMS 5-95, Class B
      (3) B00083 Solvent - Spec - TT-N-95 Aliphatic Naptha
      (4) G50068 Tape - Scotch 70
   B. Parts

AMM			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	6	Gasket, Runway Turnoff Light	33-42-01	01	45
					50
		Gasket, Landing Light			52
		Gasket, Runway Turnoff Light	33-42-01	01B	170
					190
		Gasket, Landing Light	33-42-01	01B	50
					70
	7	Light, Runway Turnoff	33-42-01	01	55
		Light, Landing			60
		Light, Runway Turnoff	33-42-01	01B	160
		Light, Landing			180



WING LANDING AND RUNWAY
TURNOFF LIGHTS (EXAMPLE)

(A)

Wing Landing and Runway Turnoff Lights Installation
Figure 201

715954

C. References
(1) AMM 20-10-31/201, Seals on Open Electrical Terminals in Fuel Vapor Areas
(2) AMM 24-22-00/201, Electrical Power - Control
(3) AMM 51-31-01/201, Seals and Sealing
(4) SSM 33-42-01 thru SSM 33-42-02
(5) WDM 33-42-11 thru WDM 33-42-21

D. Access
(1) Location Zones
511/611 Leading Edge to Front Spar

E. Lamp Replacement

S 862-004
(1) Do one of these steps to remove electrical power from the light:
(a) At the overhead panel, P5, set the switch for the light to the off position and attach the DO-NOT-OPERATE tag.
(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the overhead circuit breaker panel, P11.

S 032-002
(2) Remove the lens.

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(a) Use the solvent to do this task to remove the sealant from the lens assembly and airplane skin: Prepare for Sealing (AMM 51-31-01/201).
(b) Remove the captive fasteners that hold the lens assembly in position.
(c) Remove the lens assembly.
(d) Remove retainer screws.

NOTE: Do not turn the beam adjustment screws.

(e) Remove the retainer ring.

S 962-003
(3) Carefully replace the lamp.
(a) Pull the lamp loose from the housing.

(b) Disconnect the wires from the electrical terminals behind the lamp.
(c) If a gasket is installed on the lamp, remove and retain it.

CAUTION: MAKE SURE YOU INSTALL THE GASKET OR SILICON TAPE TO PROTECT THE LAMP. FAILURE TO INSTALL THE PROTECTIVE MATERIAL CAN CAUSE THE LAMP TO FAIL BEFORE THE USUAL TIME.

(d) Install the protective material on the new lamp:
(e) If a gasket is used, do these steps:
1) Examine the gasket for damage.
2) If the gasket is damaged, do these steps to replace it:
a) Overlap the ends of the gasket material 0.40 to 0.50 inch (1.02 to 1.27 cm).
b) Use the adhesive to bond the gasket.
c) Make sure the adhesive does not touch the retainer ring.
d) Stretch the gasket into its position over the lamp.
(f) If silicon tape is used, wrap the edge of the new lamp with three layers of the silicone tape.
(g) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(h) Connect the wires to the new lamp.
(i) Seal the electrical terminals (AMM 20-10-31/201).

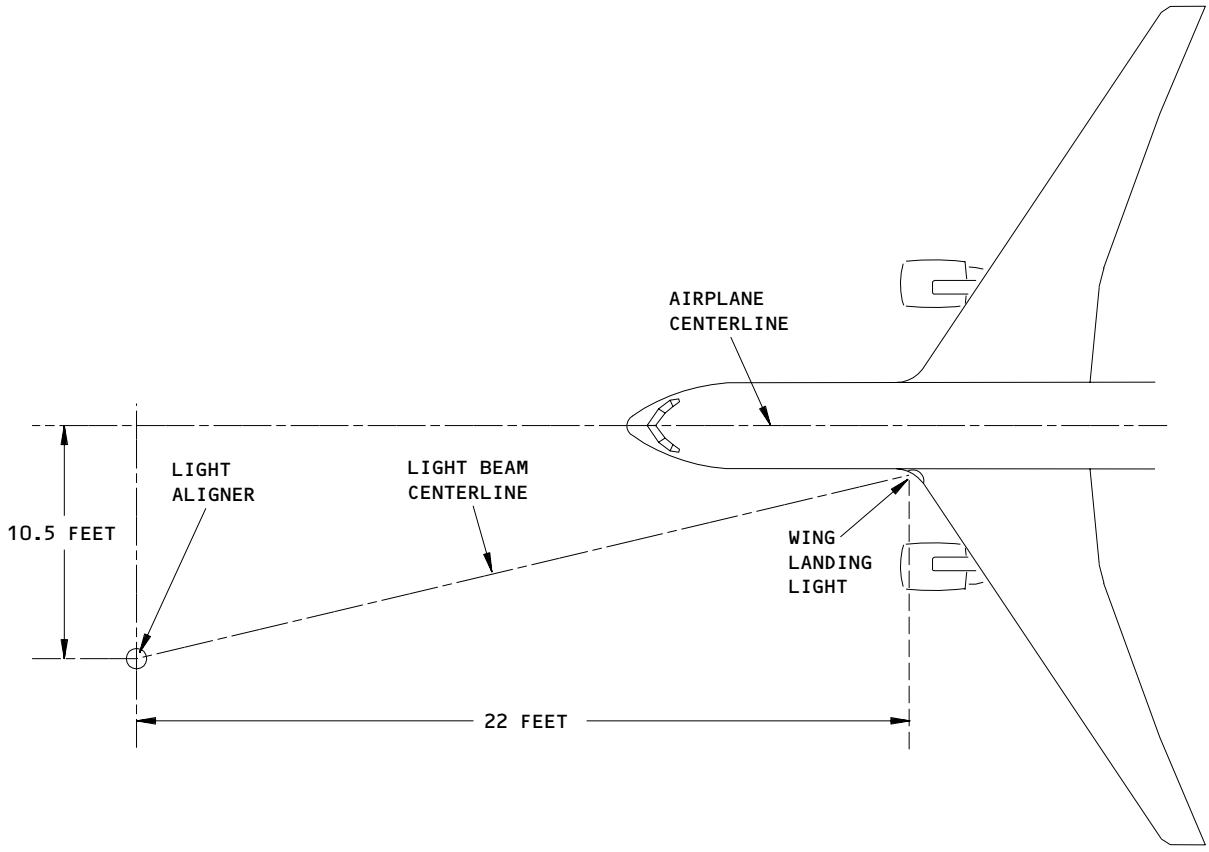
NOTE: It is optional to seal the electrical connection.

NOTE: The sealant does not have to become tack-free prior to the completion of this procedure and dispatch of the airplane.

CAUTION: MAKE SURE YOU ALIGN THE BOSS ON THE LAMP WITH THE GROOVE IN THE LIGHT HOUSING. IF THEY ARE NOT ALIGNED, THE LAMP CAN BREAK.

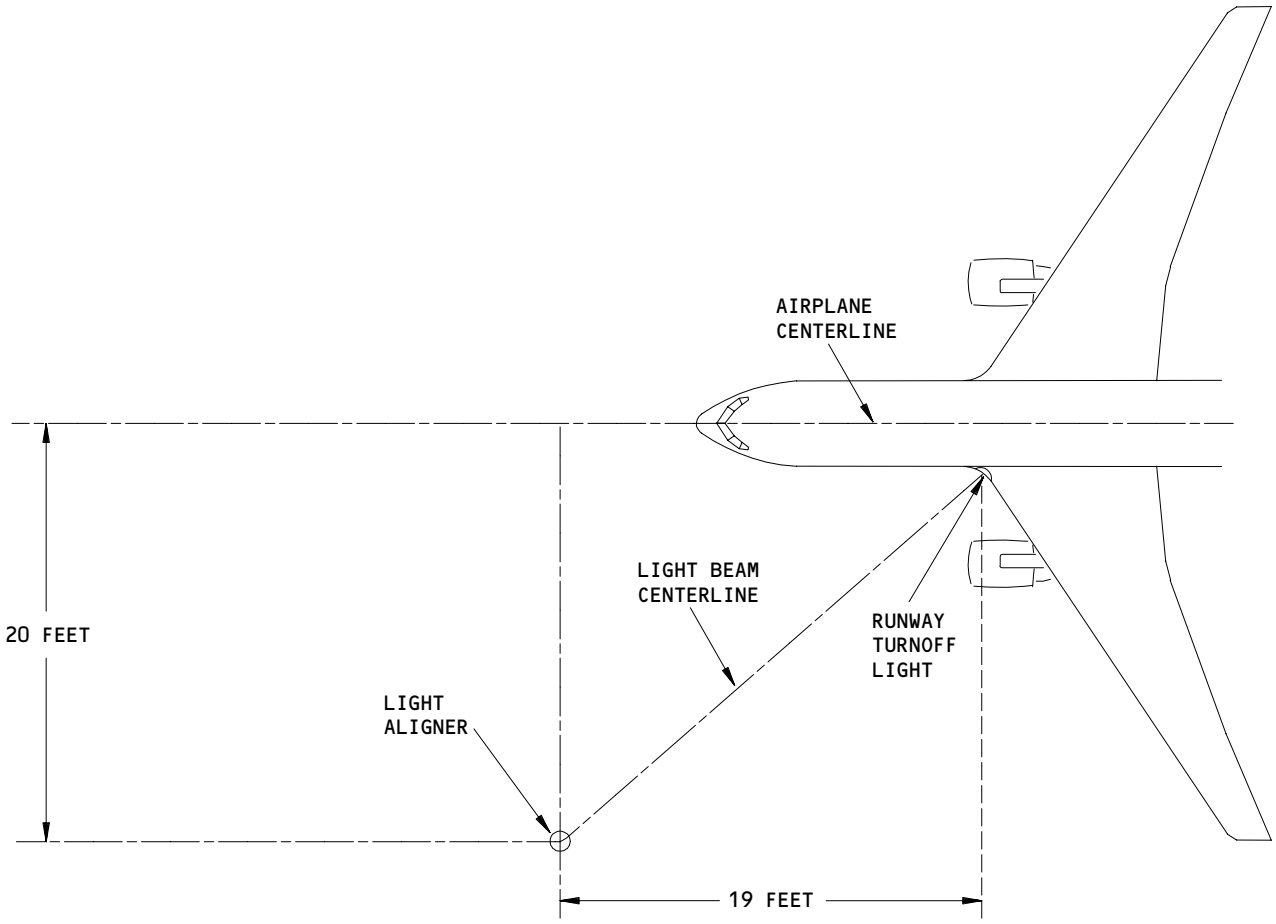
(j) Align the boss on the lamp with the groove in the light housing.
1) Make sure the lamp filament is horizontal.
(k) Put the retainer ring on the lamp.
(l) Use the retainer screws to install the retainer ring.

S 822-004
(4) If it is necessary, do this task: Wing Landing and Runway Turnoff Light - Adjustment.



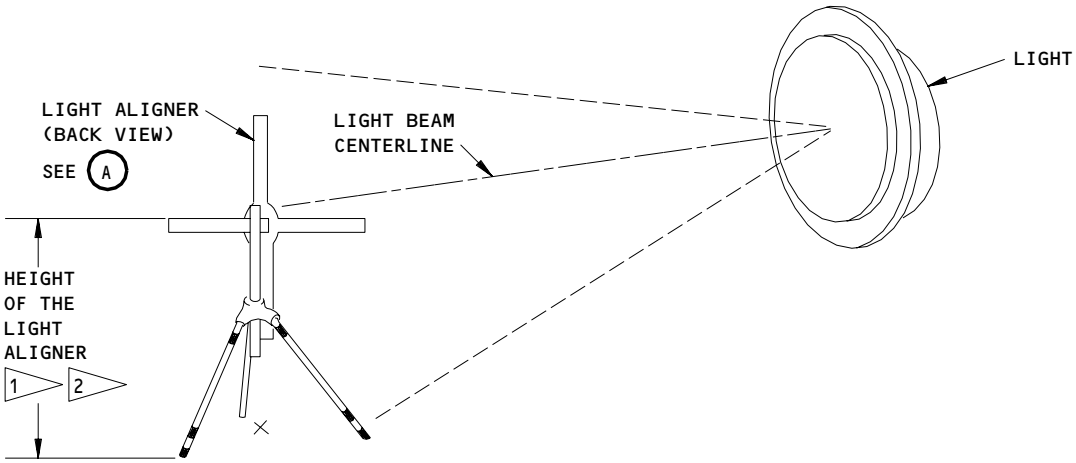
LOCATION OF THE LIGHT ALIGNER FOR THE LEFT WING LANDING LIGHT
(RIGHT LIGHT IS SYMMETRICAL)

Wing Landing Light–Adjustment with a Light Aligner
Figure 202

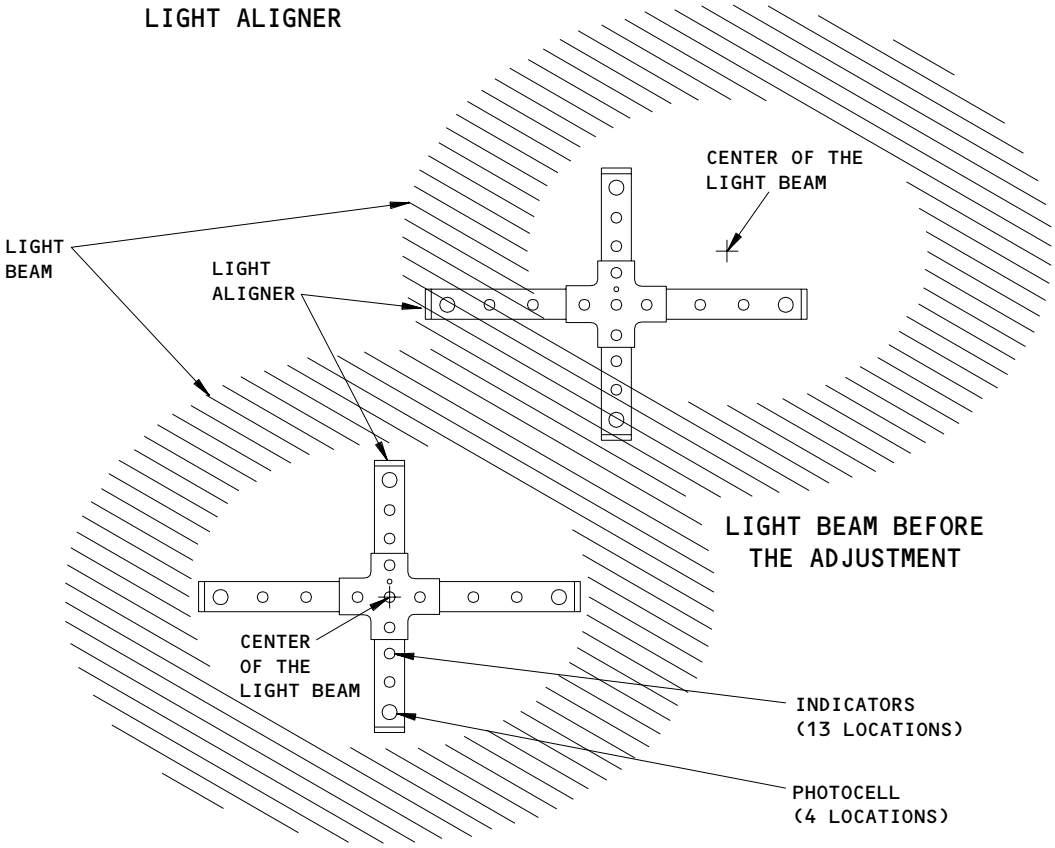


LOCATION OF THE LIGHT ALIGNER FOR THE LEFT RUNWAY TURNOFF LIGHT
(RIGHT LIGHT IS SYMMETRICAL)

Runway Turnoff Light-Adjustment with a Light Aligner
Figure 203



LIGHT ALIGNER



LIGHT BEAM AFTER
THE ADJUSTMENT

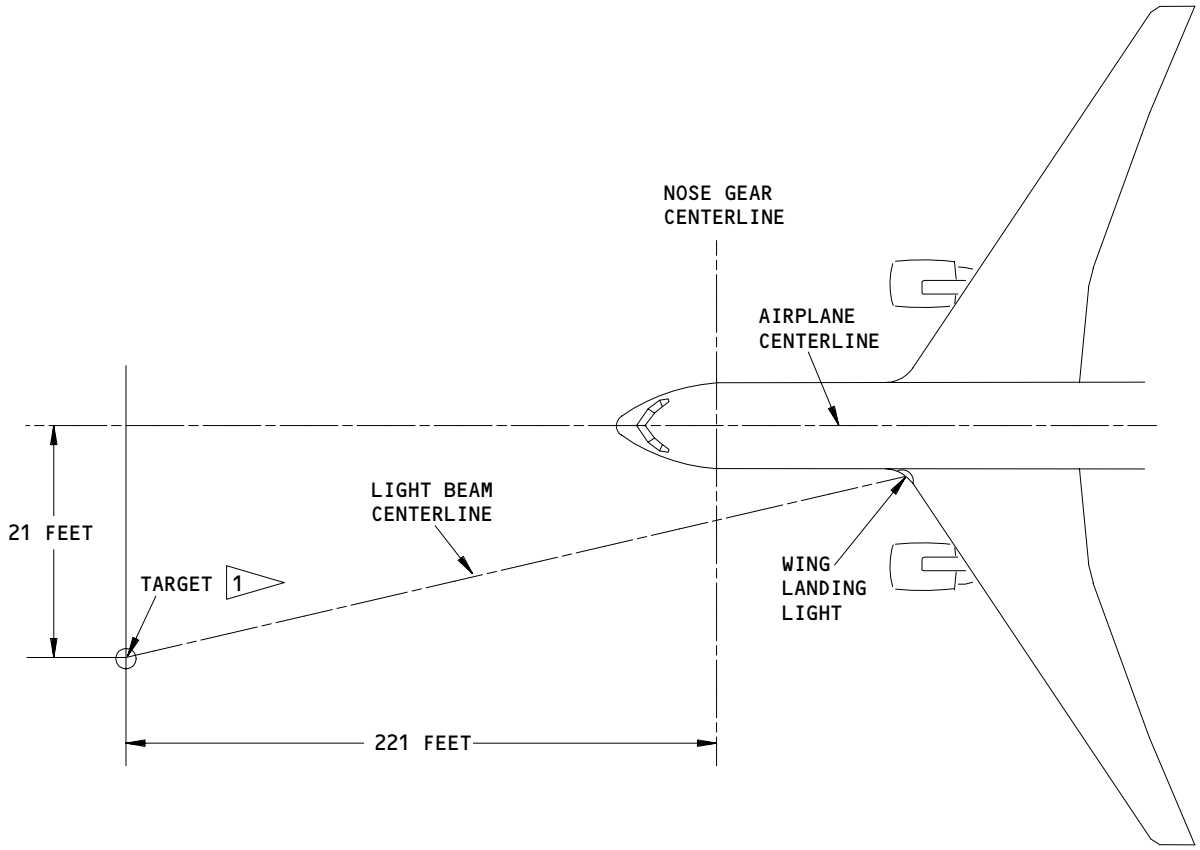
LIGHT ALIGNER
(FRONT VIEW)

A

1 FOR THE WING LANDING LIGHT, 11 INCHES LESS THAN THE HEIGHT OF THE LIGHT

2 FOR THE RUNWAY TURNOFF LIGHT, 25 INCHES LESS THAN THE HEIGHT OF THE LIGHT

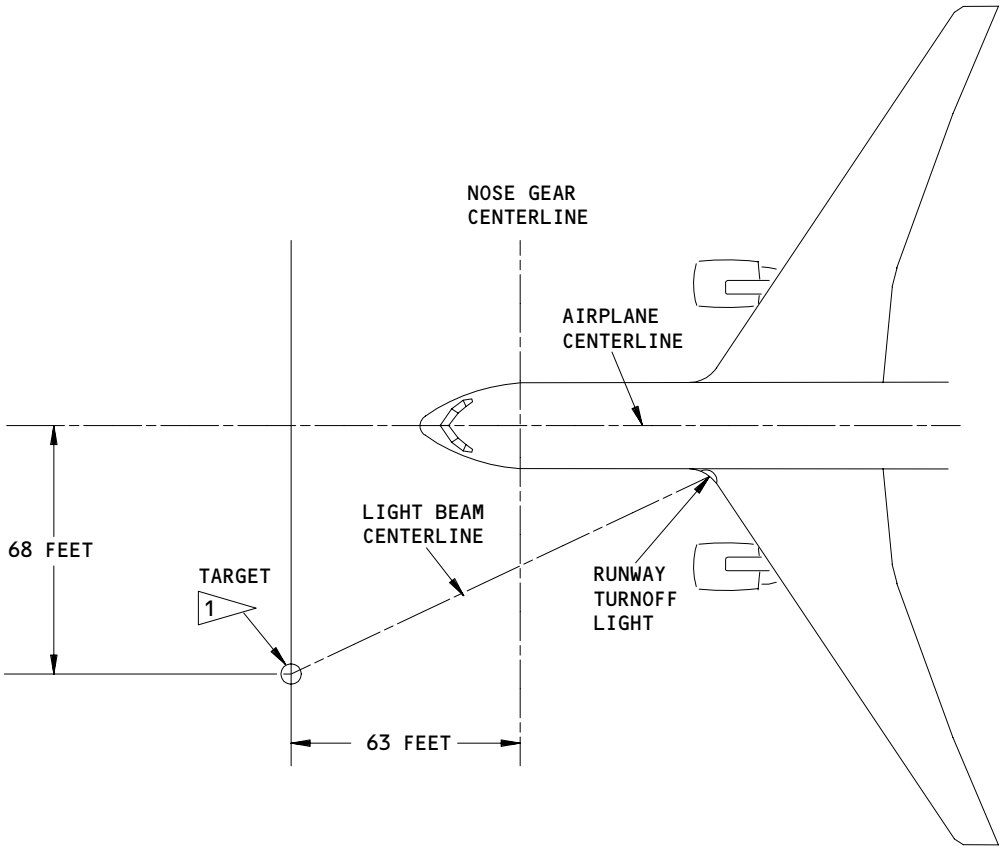
Wing Landing and Runway Turnoff Light–Adjustment with a Light Aligner
Figure 204



LOCATION OF THE TARGET FOR THE LEFT WING LANDING LIGHT
(RIGHT LIGHT IS SYMMETRICAL)

1 A TARGET IS A MARK OR AN OBJECT THAT IDENTIFIES A LOCATION ON THE GROUND.

Wing Landing Light–Adjustment with a Target
Figure 205



LOCATION OF THE TARGET FOR THE LEFT RUNWAY TURNOFF LIGHT
(RIGHT LIGHT IS SYMMETRICAL)

1 A TARGET IS A MARK OR AN OBJECT THAT IDENTIFIES A LOCATION ON THE GROUND.

Runway Turnoff Light-Adjustment with a Target
Figure 206

S 412-005
(5) Install the lens.
(a) Install the lens assembly with the captive fasteners.

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(b) Use the sealing compound to do this task to apply a seal around the outer edge of the lens assembly: Aerodynamic Smoother Application (AMM 51-31-01/201).

F. Lamp Test

S 862-011
(1) Supply electrical power (AMM 24-22-00/201).

S 862-005
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-006
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-013
(4) Set the switch to the usual position.

S 862-008
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-42-03-822-006

3. Wing Landing and Runway Turnoff Light - Adjustment (Fig. 202 thru Fig. 206)
A. General
(1) Use one of the two different methods in this procedure to do the light beam adjustment:
(a) Light Beam Adjustment with a Light Aligner
(b) Light Beam Ajustment with a Target
B. Equipment
(1) Light Aligner (If a light aligner is used.)
LA-87,
J. C. Air, 400 Industrial Parkway,
Industrial Airport, Kansas 66031 USA
C. Consumable Materials
(1) A00027 Adhesive - BAC 5010, Type 60
(2) A00247 Compound - Sealing - BMS 5-95, Class B
(3) B00083 Solvent - Spec - TT-N-95 Aliphatic Naptha
D. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) AMM 51-31-01/201, Seals and Sealing

E. Access
(1) Location Zones
211/212 Flight Compartment
511/611 Leading Edge to Front Spar

F. Prepare for the Light Beam Adjustment

S 862-015
(1) Make sure the airplane and the test area are on level ground.

S 862-009
(2) Make sure the airplane is approximately level.

S 012-008
(3) Remove the lens assembly.

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(a) Use the solvent to do this task to remove the sealant from the lens assembly and airplane skin: Prepare for Sealing (AMM 51-31-01/201).
(b) Remove the captive fasteners that hold the lens assembly in position.
(c) Remove the lens assembly.

G. Light Beam Adjustment with a Light Aligner

S 942-009
(1) Set the light aligner in its position (Fig. 202 or 203).
(a) Measure the height of the light from the ground.
(b) Use the height of the light to adjust the height of the light aligner (Fig. 204).

S 862-010
(2) Supply electrical power (AMM 24-22-00/201).

S 822-011
(3) Adjust the light beam.

CAUTION: OPERATE THE LIGHTS FOR THE MINIMUM TIME NECESSARY. EXTENDED OPERATION CAN CAUSE THESE HIGH-INTENSITY, HIGH-WATTAGE LIGHTS TO FAIL BEFORE THE USUAL TIME.

(a) At the overhead panel, P5, set the switch for the light to the on position.

WARNING: DO NOT TOUCH THE LIGHT WITH YOUR BARE HANDS, USE GLOVES. THE LIGHT IS HOT AND CAN BURN YOUR HANDS.

(b) Turn the beam adjustment screws of the light until only the center indicator on the light aligner is yellow.

NOTE: All the other indicators must be black.

(c) Set the switch to the off position.

S 862-014

(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

S 942-013

(5) Remove the light aligner.

H. Light Beam Adjustment with a Target (Fig. 205 or 206)

S 942-017

(1) Set the target in its position on the ground (Fig. 205 or 206).

NOTE: The target is a mark or an object sufficiently large to be clearly seen when you point a light at it.

S 862-018

(2) Supply electrical power (AMM 24-22-00/201).

S 822-019

(3) Adjust the light beam.

CAUTION: OPERATE THE LIGHTS FOR THE MINIMUM TIME NECESSARY. EXTENDED OPERATION CAN CAUSE THESE HIGH-INTENSITY, HIGH-WATTAGE LIGHTS TO FAIL BEFORE THE USUAL TIME.

(a) At the overhead panel, P5, set the switch for the light to the on position.

WARNING: DO NOT TOUCH THE LIGHT WITH YOUR BARE HANDS, USE GLOVES. THE LIGHT IS HOT AND CAN BURN YOUR HANDS.

(b) At the light, turn the beam adjustment screws until the light beam shows on the center of the target.

(c) Set the switch to the off position.

S 862-020

(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

S 942-021

(5) Remove the target.

I. Put the Airplane Back to Its Usual Condition

S 412-022

(1) Install the lens assembly.

(a) Install the lens assembly with the captive fasteners.

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(b) Use the sealing compound to do this task to apply a seal around the outer edge of the lens assembly: Aerodynamic Smoother Application (AMM 51-31-01/201).

TASK 33-42-03-302-025

4. Landing Light Lens - Temporary Repair (Fig. 201)

A. Equipment

(1) A Small Sheet of Mylar

B. Consumable Materials

(1) A00247 Sealant - BMS 5-95, Class B

(2) B00083 Solvent - TT-N-95 Aliphatic Naptha

C. References

(1) AMM 51-31-01/201, Seals and Sealing

D. Access

(1) Location Zones

511/611 Leading Edge to Front Spar

E. Procedure

S 862-036

(1) On the overhead panel P5,
make sure that the applicable switches are in the OFF position with DO-NOT-OPERATE tags attached:

(a) L RUNWAY TURNOFF LIGHT
L WING LANDING LIGHT

(b) R RUNWAY TURNOFF LIGHT
R WING LANDING LIGHT

S 022-040

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(2) Use the solvent to do this task to remove the sealant from the damaged lens assembly (2) and the airplane skin:
Prepare For Sealing (AMM 51-31-01/201).

S 032-026

(3) Loosen the captive fasteners (1) that hold the damaged lens assembly (2) in position.

S 032-039

(4) Disconnect the cable (3) from the damaged lens assembly (2).

S 022-028

(5) Remove the damaged lens assembly (2).

S 352-029

(6) Do these steps to make a temporary lens:

(a) See Table 203 for the material and the minimum thickness of the temporary lens.

TABLE 203

MATERIAL	THICKNESS (INCHES)
2024-T3 ALUMINUM	0.090
7075-T6 ALUMINUM	0.080
17-7PH STEEL	0.056

(b) Use the damaged lens assembly (2) and a sheet of mylar to create a template to form the material, trim the material, and determine the fastener locations.

(c) If the minimum thickness of the temporary lens is less than 0.080 inches, make a shim out of the material in the shape of the rim to bring the temporary lens up to contour, 0.113 +/- 0.040 inches.

(d) Drill countersunk holes in the temporary lens and shim (if necessary), 100 degree head, .406 diameter.

S 142-042

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(7) Use the solvent to do this task to remove the sealant from the edge of the wing: Prepare For Sealing (AMM 51-31-01/201).

S 432-031

(8) Put the shim (if necessary) and the temporary lens in position on the edge of the wing.

NOTE: If the temporary lens and the shim (if necessary) do not bring the temporary lens up to contour with the edge of the wing, then attach a washer to each stud hole on the inside of the shim (if necessary) or the inside of the temporary lens.

S 432-032

(9) Install the 14 studs, part number CA1820-1, to attach the temporary lens, shim (if necessary) and washers (if necessary) to the wing.

S 392-043

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(10) Use the sealant to do this task to apply a seal around the outer edge of the temporary lens:
Aerodynamic Smoother Application (AMM 51-31-01/201).

S 862-037

(11) On the overhead panel P5,
remove the DO-NOT-OPERATE tags from the applicable switches:
(a) L RUNWAY TURNOFF LIGHT
L WING LANDING LIGHT
(b) R RUNWAY TURNOFF LIGHT
R WING LANDING LIGHT

WING LANDING AND RUNWAY TURNOFF LIGHT TRANSFORMER - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Wing Landing and Runway Turnoff Light Transformer - Removal
      (2) Wing Landing and Runway Turnoff Light Transformer - Installation

TASK 33-42-03-004-001

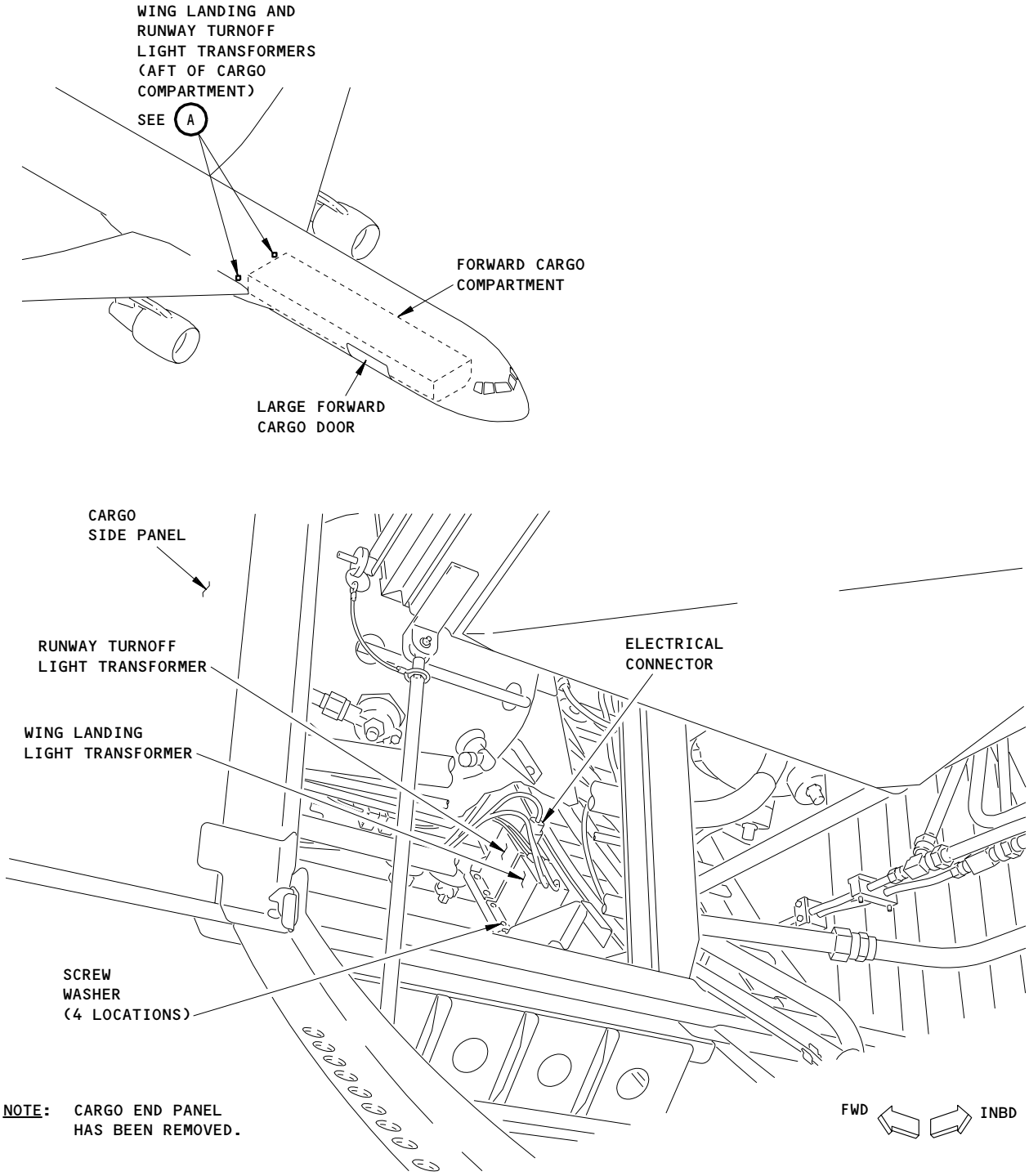
2. Wing Landing and Runway Turnoff Light Transformer - Removal (Fig. 401)
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-42-21
      (3) WDM 33-42-21
   B. Access
      (1) Location Zones
          125/126 Area aft of the forward cargo compartment
   C. Transformer Removal

      S 864-002
      (1) Do one of these steps to remove electrical power from the light transformer:
          (a) At the overhead panel, P5, set the switch for the light to the off position and attach the DO-NOT-OPERATE tag.
          (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
              1) On the overhead circuit breaker panel, P11.

      S 024-004
      (2) Do these steps to remove the transformer:
          (a) Disconnect the electrical connector from the transformer.
          (b) Remove the four screws and washers that hold the transformer in position.
          (c) Remove the transformer.

TASK 33-42-03-404-005

3. Wing Landing and Runway Turnoff Light Transformer - Installation (Fig. 401)
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-42-21
      (3) WDM 33-42-21
   B. Access
      (1) Location Zones
          125/126 Area aft of the forward cargo compartment



WING LANDING AND RUNWAY TURNOFF LIGHT TRANSFORMER
(RIGHT SIDE IS SHOWN, LEFT SIDE IS EQUIVALENT)

A

Wing Landing and Runway Turnoff Light Transformer Installation
Figure 401

C. Transformer Installation

S 424-006

(1) Do these steps to install the transformer:
  (a) Clean the bracket where the new transformer will be installed so it is free from corrosion and unwanted materials.
  (b) Put the new transformer in position against the bracket and install it with the four screws and washers.
  (c) Connect the electrical connector.

D. Transformer Test

S 864-009

(1) Supply electrical power (AMM 24-22-00/201).

S 864-010

(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
  (a) Close each circuit breaker that was opened when the transformer was removed.

S 714-011

(3) At the overhead panel, P5, set the switch for the light to the on position.
  (a) Make sure each light connected to the transformer come on correctly.

S 864-012

(4) Set the switch to the off position.
  (a) Make sure each light connected to the transformer goes off.

S 864-013

(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

POSITION LIGHTS - DESCRIPTION AND OPERATION

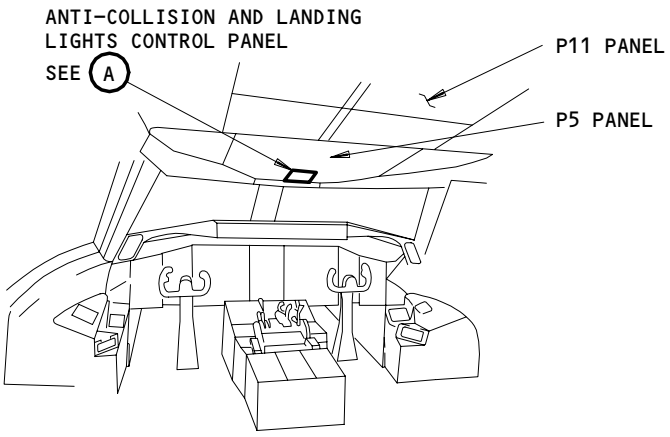
1. General
   A. Position lights are mounted on the leading and trailing edges of each wingtip. Trailing edge lights are white. The left leading edge lights are red and the right leading edge lights are green. Each light assembly has two bulbs operating off different circuits to reduce the possibility of complete light failure. All lights are controlled by one alternate action switch-light located on overhead panel P5.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-43-01 thru 33-43-99
      (2) WDM 33-43-11 thru 33-43-99
2. Component Details
   A. Position lights are installed on the leading and trailing edge of each wingtip to give airplane position to other airplanes.
   B. The switch for these lights is on the overhead panel, P5.
3. Operation
   A. Functional Description
      (1) Electrical power for each position light comes from the 115 volts ac ground service bus through the switch on P5 to a transformer in the wingtip. The transformer changes the electrical power to 10 volts ac which is used to operate the light.

POSITION LIGHTS

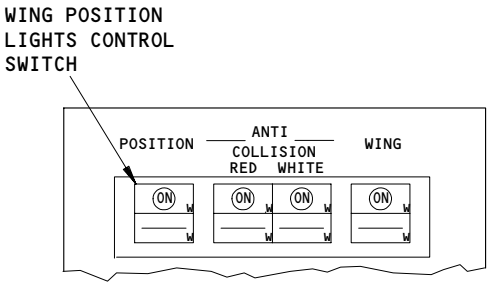
COMPONENT*	FIG. 102	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	1	*	FLT COMPT, P11	*
LIGHT –				
FWD POSITION	1	*	LEADING EDGE OF THE WINGTIP	33-43-01
REAR POSIITON	2	*	TRAILING EDGE OF THE WINGTIP	33-43-02
SWITCH –	1	*	FLT COMPT, P5	*
TRANSFORMER –	2	*	542B,642B UNDER L AND R WINGTIP	33-43-03

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

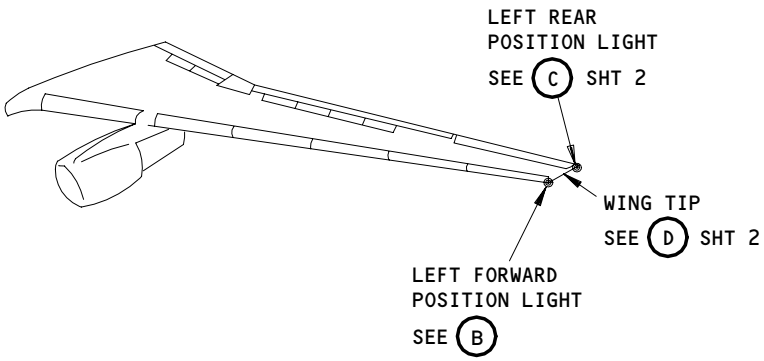
Position Lights – Component Index
Figure 101

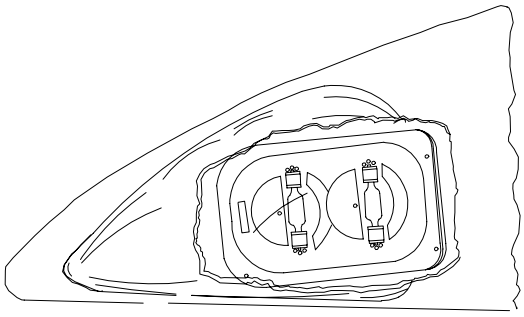


FLIGHT COMPARTMENT



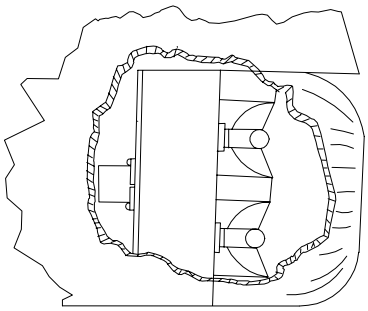
ANTI–COLLISION AND LANDING
LIGHTS CONTROL PANEL
A





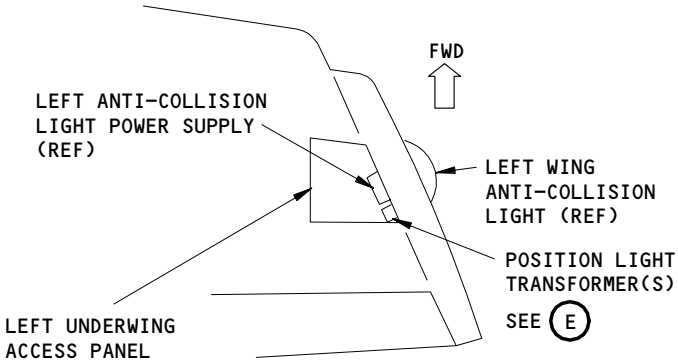
FORWARD POSITION LIGHT
(EXAMPLE)
B

Position Lights – Component Location
Figure 102 (Sheet 1)



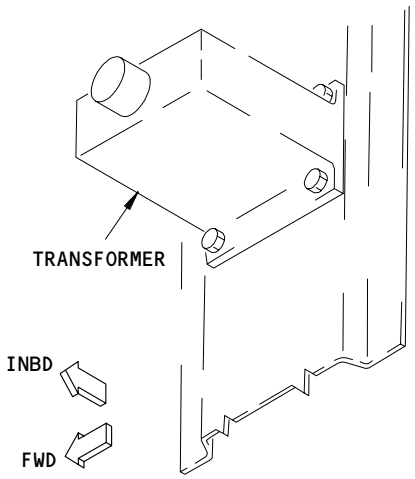
REAR POSITION LIGHT
(EXAMPLE)

C



WINGTIP
(EXAMPLE)

D FROM SHT 1



POSITION LIGHT TRANSFORMER
(EXAMPLE)

E

Position Lights - Component Location
Figure 102 (Sheet 2)

223243

POSITION LIGHTS - ADJUSTMENT/TEST

1. General
   A. This procedure contains the necessary steps to do the operational test of the position lights.
   B. You will find four position lights:
      (1) One red light on the leading edge of the left wing tip.
      (2) One green light on the leading edge of the right wing tip.
      (3) One white light on the trailing edge of the left wing tip
      (4) One white light on the trailing edge of the right wing tip.
   C. When you do this procedure, keep all lights off unless the light is specified for this test.

TASK 33-43-00-715-001

2. Operational Test - Position Lights
   A. References
      (1) 24-22-00/201, Electrical Power - Control
   B. Access
      (1) Location Zone
          211 Flight Compartment (Left)
          212 Flight Compartment (Right)
          544 Wing Tip (Left)
          644 Wing Tip (Right)

   C. Prepare to do the Test

      S 865-002
      (1) Supply electrical power (Ref 24-22-00).

      S 865-003
      (2) Energize the 115v ac Ground Service Bus.

      S 715-020
      (3) Do these steps to do the test of the position lights.
          (a) Push the POSITION light switch on the pilot's overhead panel, P5, to ON.
          (b) Make sure all four position lights come on. Make sure the light behind the POSITION light switch comes on.

              NOTE: You will find two lamps in each position light. Make sure all eight lamps come on.

(c) Push the POSITION light switch to OFF.
(d) Make sure all four position lights go off. Make sure the light behind the POSITION light switch goes off.

S 865-011
(4) Remove electrical power if it is no longer necessary (Ref 24-22-00).

WING FORWARD POSITION (NAVIGATION) LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure these tasks:
      (1) Wing Forward Position Light - Lamp Replacement
      (2) Wing Forward Position Light - Removal
      (3) Wing Forward Position Light - Installation

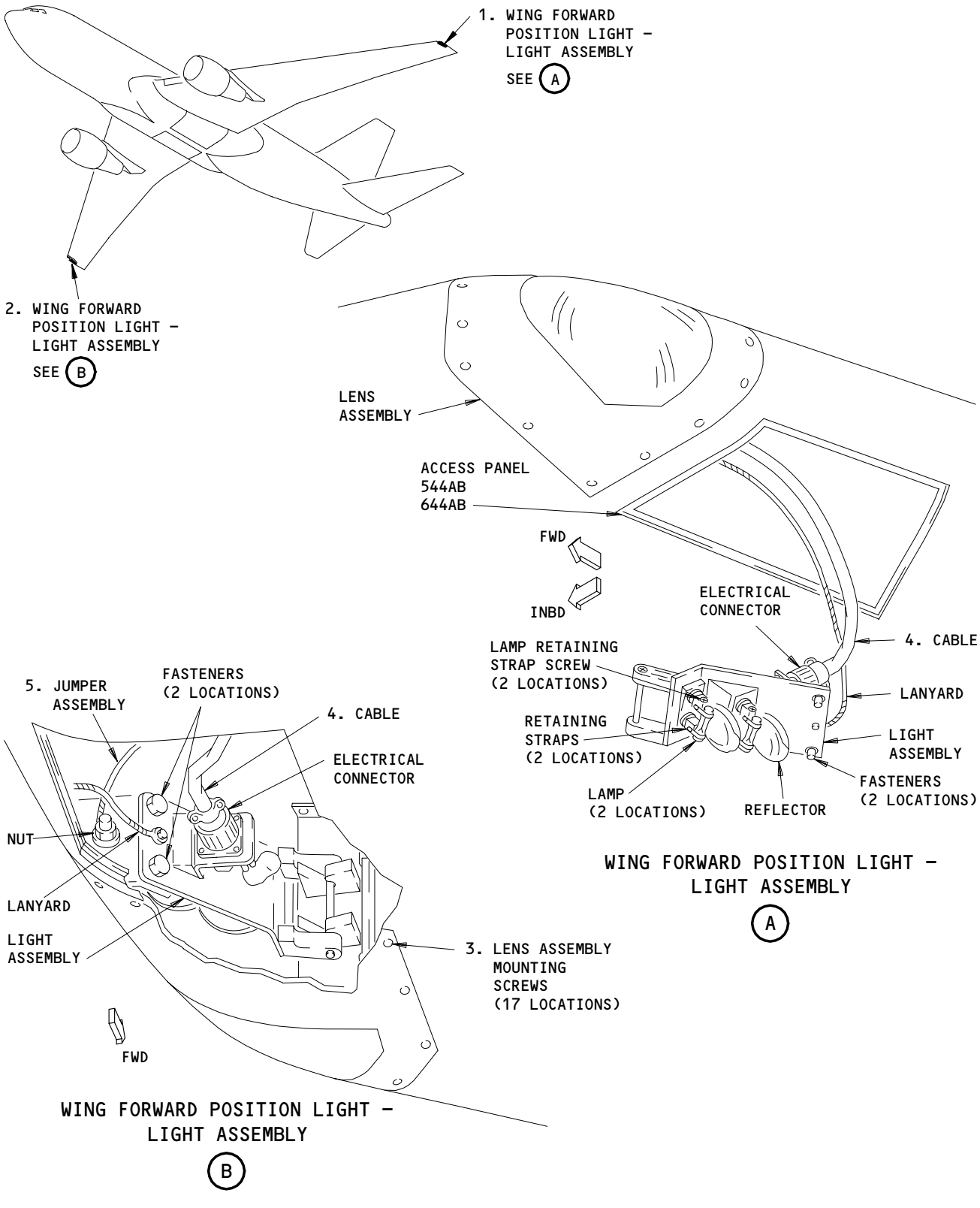
TASK 33-43-01-962-091

2. Wing Forward Position Light - Lamp Replacement (Fig. 201)
   A. Equipment
      (1) Bonding Meter - AVTRON T477W
   B. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-43-01
      (3) WDM 33-00-11, Lamp Usage Chart
      (4) WDM 33-43-11
   C. Access
      (1) Location Zones
          544/644 Wing tip
   D. Lamp Replacement

S 862-002

WARNING: REMOVE POWER AND ALLOW THE LAMPS TO COOL BEFORE YOU REPLACE THE THEM. IF YOU TOUCH THE LAMPS WHEN THEY ARE HOT, THEY CAN BREAK AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do one of these steps to remove electrical power from the position light:
   (a) At the overhead panel, P5, set the switch to the off position and attach the DO-NOT-OPERATE tag.
   (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
      1) On the overhead circuit breaker panel, P11.



Wing Forward Position (Navigation) Lights Installation
Figure 201

S 842-004

(2) Remove the access panel: 544AB (left wingtip) or 644AB (right wingtip).

S 962-106

(3) Replace the lamp.

(a) Disconnect the electrical connector.

(b) Loosen the fasteners that hold the light assembly in position.

NOTE: The jumper assembly connects to the light assembly so the light assembly will not fall.

1) Turn the light assembly back.

2) Pull the light assembly through the access panel opening.

(c) Loosen the lamp retaining strap screws.

(d) Turn the retaining straps to release the lamp.

(e) Clean the contacts (for the lamp) and the reflector with a soft, clean, dry cloth.

CAUTION: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(f) Carefully replace the lamp.

1) If it is necessary to clean the lamp, refer to the vendor's instructions.

CAUTION: TIGHTEN THE LAMP RETAINING STRAP SCREWS EQUALLY. IF YOU DO NOT, THE LAMP CAN BE DAMAGED BY PRESSURE THAT IS NOT EQUAL.

(g) Install the retaining straps.

1) Turn the retaining straps over the lamp.

2) Tighten the lamp retaining strap screws.

(h) Put the light assembly back.

1) Put it through the access panel opening.

2) Turn the light assembly back, to its original position.
(i) Tighten the fasteners to hold the light assembly in position.
(j) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(k) Connect the electrical connector.

S 842-006
(4) Install the access panel.

E. Lamp Test

S 862-093
(1) Supply electrical power (AMM 24-22-00/201).

S 862-094
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 862-095
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-096
(4) Set the switch to the off position.

S 862-097
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-43-01-002-013

3. Wing Forward Position Light - Removal (Fig. 201)

A. References
(1) SSM 33-43-01
(2) WDM 33-43-11

B. Access
(1) Location Zones
544/644 Wing tip

C. Light Removal

S 862-100

WARNING: REMOVE POWER AND ALLOW THE LAMPS TO COOL BEFORE YOU REMOVE THEM. IF YOU TOUCH THE LAMPS WHEN THEY ARE HOT, THEY CAN BREAK AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do one of these steps to remove electrical power from the position light:
(a) At the overhead panel, P5, set the switch to the off position and attach the DO-NOT-OPERATE tag.

(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the overhead circuit breaker panel, P11.

S 842-018
(2) Remove the access panel: 544AB (left wingtip) or 644AB (right wingtip).

S 022-019
(3) Do these steps to remove the light assembly:
(a) Disconnect the electrical connector.
(b) Remove the nut and the jumper assembly.
(c) Remove the fasteners on the light assembly.
(d) Remove the light assembly.

TASK 33-43-01-402-020

4. Wing Forward Position Light - Installation (Fig. 201)

A. Equipment
(1) Bonding Meter - AVTRON T477W

B. References
(1) AMM 20-10-21/601, Electrical Bonding
(2) AMM 24-22-00/201, Electrical Power - Control
(3) SSM 33-43-01
(4) WDM 33-43-11

C. Access
(1) Location Zones
544/644 Wing tip

D. Light Installation

S 422-021
(1) Do these steps to install the light assembly:

CAUTION: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(a) Install the light assembly with the fasteners.
1) If it is necessary to clean the lamp, refer to the vendor's instructions.

(b) Connect the electrical connector.
(c) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(d) Attach the bonding wire with the nut and washer (Ref 20-10-21).
(e) Use the bonding meter to measure the resistance from the jumper assembly terminal to a ground point on the airplane.
(f) If resistance measures more than 0.0025 ohm, clean the connection and measure the resistance again.

S 842-022
(2) Install the access panel.

E. Light Test

S 862-101
(1) Supply electrical power (AMM 24-22-00/201).

S 862-102
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened when the position light was removed.

S 712-103
(3) At the overhead panel, P5, set the switch for the position lights to the on position.
(a) Make sure the light comes on correctly.

S 862-104
(4) Set the switch to the off position.

S 862-105
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

WING REAR POSITION (NAVIGATION) LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains has these tasks:
      (1) Wing Rear Position Light - Lamp Replacement
      (2) Wing Rear Position Light - Removal
      (3) Wing Rear Position Light - Installation

   TASK 33-43-02-962-002

2. Wing Rear Position Light - Lamp Replacement (Fig. 201)
   A. Equipment
      (1) Bonding Meter - AVTRON T477W
   B. Parts

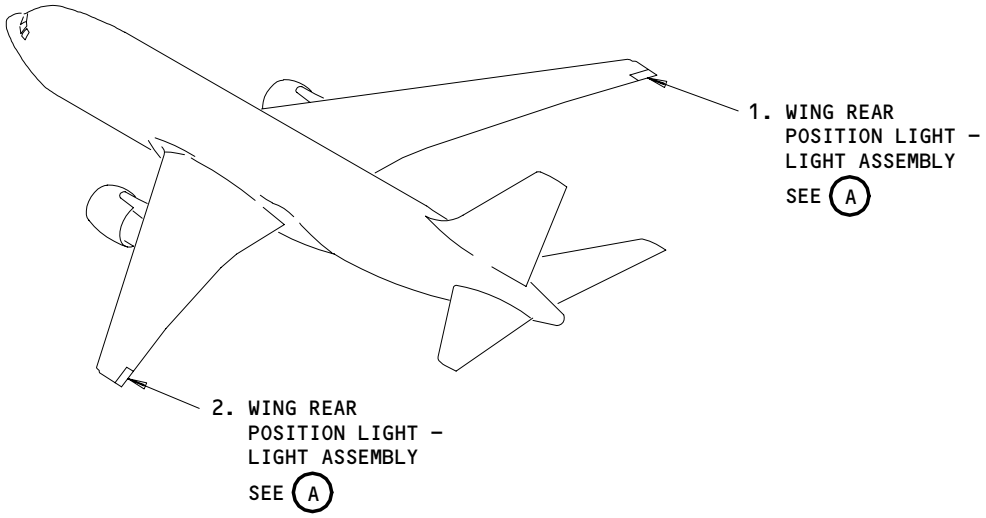
AMM			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1	Light Assembly - Wing Tip Position, Rear Left	33-44-01	01	280
			33-44-01	01B	295
	2	Light Assembly - Wing Tip Position, Rear Right	33-44-01	01	285
			33-44-01	01B	297

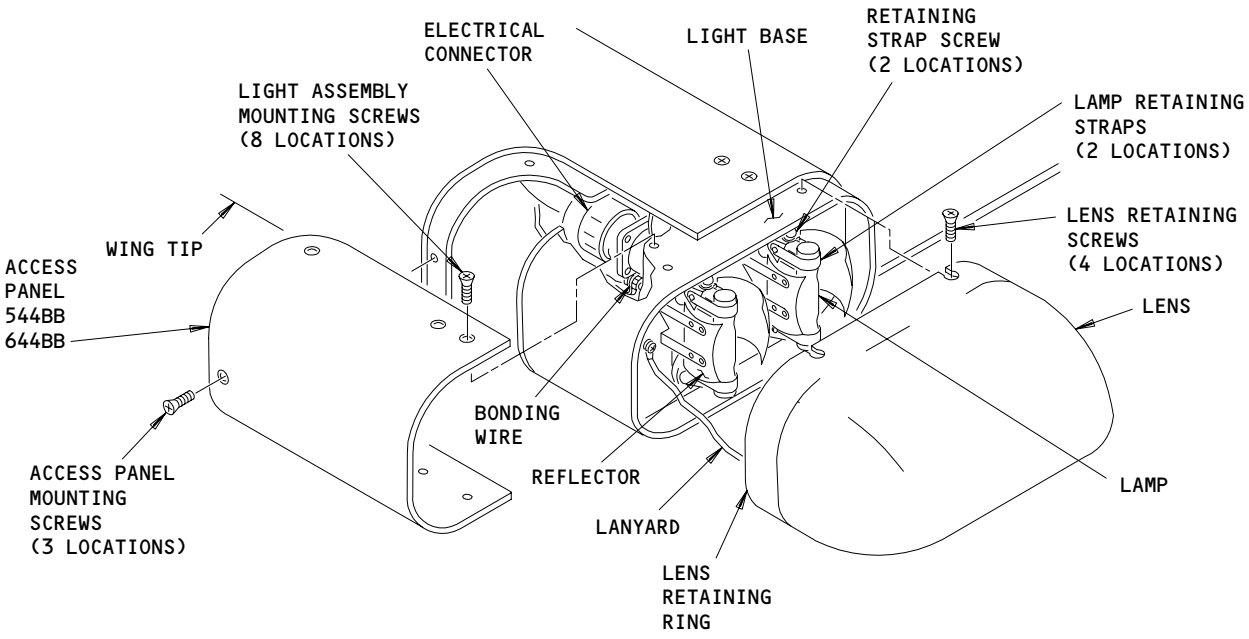
   C. References
      (1) AMM 24-22-00/201, Electrical Power - Control
      (2) SSM 33-43-01
      (3) WDM 33-00-11, Lamp Usage Chart
      (4) WDM 33-43-11
   D. Access
      (1) Location Zones
          544/644 Wing tip
   E. Lamp Replacement

      S 862-072

      WARNING: REMOVE POWER AND ALLOW THE LAMPS TO COOL BEFORE YOU REPLACE THEM. IF YOU TOUCH THE LAMPS WHEN THEY ARE HOT, THEY CAN BREAK AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

      (1) Do one of these steps to remove electrical power from the position light:
          (a) At the overhead panel, P5, set the switch to the off position and attach the DO-NOT-OPERATE tag.





WING REAR POSITION LIGHT - LIGHT ASSEMBLY
(EXAMPLE)
(A)

Wing Rear Position (Navigation) Lights Installation
Figure 201

(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
1) On the overhead circuit breaker panel, P11.

S 962-013
(2) Replace the lamp.

CAUTION: DO NOT LOOSEN THE SCREWS TOO MUCH. DAMAGE TO EQUIPMENT CAN OCCUR.

(a) Carefully loosen the screws on the lens retaining ring.
(b) Loosen the lens from the light base and let it hang from its lanyard.
(c) Loosen the retaining strap screws.
(d) Turn the each retaining strap from around the lamp.
(e) Remove the lamp.
(f) Clean the contact (for the lamps) and the reflector with a soft, clean, dry cloth.

CAUTION: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(g) Carefully replace the lamp.
1) If it is necessary to clean the lamp, refer to the vendor's instructions.

CAUTION: TIGHTEN THE LAMP RETAINING STRAP SCREWS EQUALLY. PRESSURE THAT IS NOT EQUAL CAN DAMAGE THE LAMPS.

(h) Install the retaining straps.
1) Turn the retaining straps back over the lamps.
2) Tighten the retaining strap screws.
(i) Put the lens back.
1) Put the lens retaining ring on the light base.
2) Tighten the lens retaining screws.

F. Lamp Test

S 862-073
(1) Supply electrical power (AMM 24-22-00/201).

S 862-074
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened.

S 712-075
(3) Set the switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 862-076
(4) Set the switch to the off position.

S 862-077

(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-43-02-002-015

3. Wing Rear Position Light - Removal (Fig. 201)

A. References

(1) SSM 33-43-01

(2) WDM 33-43-11

B. Access

(1) Location Zones

544/644 Wing tip

C. Light Removal

S 862-078

WARNING: REMOVE POWER AND ALLOW THE LAMPS TO COOL BEFORE YOU REPLACE THEM. IF YOU TOUCH THE LAMPS WHEN THEY ARE HOT, THEY CAN BREAK AND CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do one of these steps to remove electrical power from the position light:

(a) At the overhead panel, P5, set the switch to the off position and attach the DO-NOT-OPERATE tag.

(b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:

1) On the overhead circuit breaker panel, P11.

S 022-027

(2) Do these steps to remove the light assembly:

(a) Remove the light assembly mounting screws.

(b) Remove the access panel mounting screws.

(c) Disconnect the electrical connector.

(d) Disconnect the bonding wire.

(e) Remove the light assembly.

TASK 33-43-02-402-028

4. Wing Rear Position Light - Installation (Fig. 201)

A. Equipment

(1) Bonding Meter - AVTRON T477W

B. Parts

AMM			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1	Light Assembly - Wing Tip Position, Rear Left	33-44-01	01	280
			33-44-01	01B	295
	2	Light Assembly - Wing Tip Position, Rear Right	33-44-01	01	285
			33-44-01	01B	297

C. References
(1) AMM 20-10-21/601, Electrical Bonding
(2) AMM 24-22-00/201, Electrical Power - Control
(3) SSM 33-43-01
(4) WDM 33-43-11

D. Access
(1) Location Zones
544/644 Wing tip

E. Light Installation

S 422-040
(1) Do these steps to install the light assembly:

CAUTION: DO NOT TOUCH THE LAMPS WITH YOUR HANDS. FINGERPRINTS DECREASE LIGHT OUTPUT AND CAN CAUSE FAILURE OF THE LAMPS BEFORE THE USUAL TIME.

(a) Make sure the new lamps are free from grease or fingerprints.

NOTE: If the lamps are dirty, clean them with a solvent that has no grease, such as acetone. Carefully apply the solvent with a cloth that has no lint. If available, wear soft, clean gloves to keep the lamps clean.

(b) Put the light assembly on the wing tip.
(c) Attach the bonding wire with the nut and washer (AMM 20-10-21/601).
(d) Measure the resistance from the bonding wire terminal to a ground point on the airplane with the bonding meter (AMM 20-10-21/601).
(e) If resistance measures more than 0.0025 ohm, clean the connection and measure the resistance again.

(f) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(g) Connect the electrical connector.
(h) Install the access panel.
1) Loosely install the access panel mounting screws but do not tighten the screws.
2) Install the light assembly mounting screws.
3) Tighten all screws now.

F. Light Test

S 862-043
(1) Supply electrical power (AMM 24-22-00/201).

S 862-044
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
(a) Close each circuit breaker that was opened when the position light was removed.

S 862-079
(3) At the overhead panel, P5, set the switch for the position lights to the on position.
(a) Make sure the light comes on correctly.

S 862-080
(4) Set the switch to the off position.

S 862-056
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

WING POSITION LIGHTS TRANSFORMER - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Wing Position Lights Transformer - Removal
      (2) Wing Position Lights Transformer - Installation

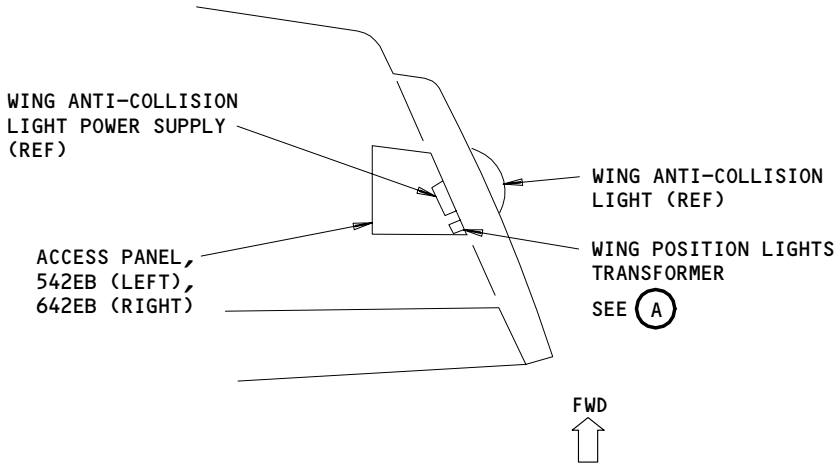
   TASK 33-43-03-004-001

2. Wing Position Lights Transformer - Removal (Fig. 401)
   A. References
      (1) SSM 33-43-01
      (2) WDM 33-43-11
   B. Access
      (1) Location Zones
          544/644 Wing tip
      (2) Access Panels
          542EB Left wing tip
          642EB Right wing tip
   C. Transformer Removal

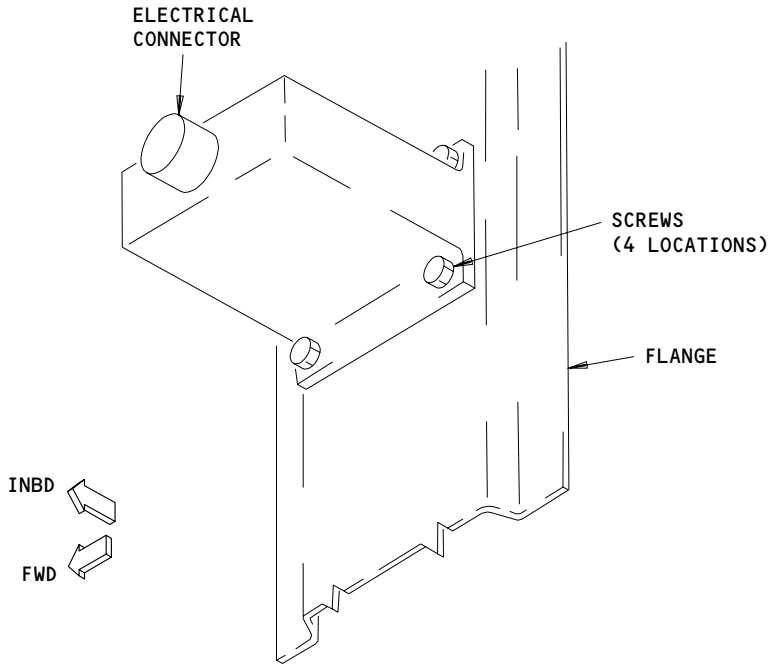
      S 864-044
      (1) Do one of these steps to remove electrical power from the position light transformer:
          (a) At the overhead panel, P5, set the switch for the position lights to the off position and attach the DO-NOT-OPERATE tag.
          (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
              1) On the overhead circuit breaker panel, P11.

      S 014-013
      (2) Remove the access panel: 542EB (left wingtip) or 642EB (right wingtip).

      S 024-014
      (3) Do these steps to remove the transformer:
          (a) Through the access panel opening, disconnect the electrical connector.
          (b) Remove the four screws that hold the transformer in position.
          (c) Remove the transformer.



WINGTIP
(EXAMPLE)



WING POSITION LIGHTS TRANSFORMER
(EXAMPLE)
A

Wing Position Lights Transformer Installation
Figure 401

TASK 33-43-03-404-015

3. Wing Position Lights Transformer - Installation (Fig. 401)

A. Equipment

(1) Resistance measuring bridge or ohmmeter capable of measuring 0.0025 ohm.

B. References

(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-43-01
(3) WDM 33-43-11

C. Access

(1) Location Zones

211/212	Flight compartment
544/644	Wing tip

(2) Access Panels

542EB	Left wing tip
642EB	Right wing tip

D. Transformer Installation

S 424-016

(1) Do these steps to install the transformer:
   (a) Clean the bracket where the new transformer will be installed so it is free from corrosion and unwanted materials.
   (b) Put the new transformer in position against the bracket and install it with the four screws.
   (c) Connect the electrical connector.

S 764-017

(2) Make sure the resistance from the transformer to the bracket measures no more than 0.0025 ohm.

S 414-018

(3) Install the access panel.

E. Transformer Test

S 864-021

(1) Supply electrical power (AMM 24-22-00/201).

S 864-045
(2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
  (a) Close each circuit breaker that was opened when the transformer was removed.

S 714-046
(3) At the overhead panel, P5, set the switch for the position lights to the on position.
  (a) Make sure each position light connected to the transformer come on correctly.

S 864-047
(4) Set the switch to the off position.

S 864-034
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

ANTI-COLLISION LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. Anti-collision lighting consists of two fuselage mounted lights and two wingtip mounted lights. Fuselage lights are red; wingtip lights are white. All lights are high intensity Xenon strobe units which flash approximately 48 times per minute. White and red lights are controlled by separate alternate action switch-lights on overhead panel P5.
   B. For more data about this lighting system, refer to these sources:
      (1) SSM 33-44-01 thru 33-44-99
      (2) WDM 33-44-11 thru 33-44-99
2. Component Details
   A. The lower anti-collision light power supply is located on the forward wall of the right wheel well. The upper anti-collision light power supply is located adjacent to the light.
   B. The purpose of the anti-collision light system is to provide flashing lights to show the location of the airplane, thus reducing the chance of collision with other aircraft.
   C. The anti-collision light system consists of the following components:
      (1) Red quartz xenon strobe lights installed in the upper and lower fuselage.
      (2) White quartz xenon strobe lights installed in the left and right wingtips.
      (3) One high voltage power supply for each of the four light assemblies.
      (4) Cable assembly connecting each power supply to its light.
      (5) Red anti-collision switch-light and white anti-collision switch-light on anti-collision and landing lights control panel, on flight deck overhead panel (P5).
3. Operation
   A. Functional Description
      (1) Anti-Collision Lights
         (a) Two anti-collision lights are mounted on the upper and lower fuselage and one is mounted in each wingtip. The body mounted lights have red lenses and the wingtip lights have white lenses. All lights are high intensity Xenon strobe units and are controlled by switches on overhead panel P5.
         (b) Power for the fuselage mounted lights comes from the 115v ac ground service bus and is controlled by the RED anti-collision lights alternate action switch-light. Wingtip mounted lights receive power from the 115v ac left bus and are controlled by the WHITE anti-collision lights alternate action switch-light. Both circuit breakers are located on circuit breaker panel P11.

(c) The power supply uses 115v ac applied through an internal fuse. Each power supply assembly contains transistorized power and timing circuits for flash tube operation. A low-voltage power supply provides unregulated 20v dc and regulated 12v dc. The power converter charges two sets of storage capacitors to a positive and negative 300v dc, producing a 600 volt potential across the Xenon tube. The trigger circuit applies a pulse to the trigger coil in the strobe light unit. A high voltage pulse from the coil's secondary fires the Xenon lamp which creates a conductive path for discharging the capacitors. This causes a bright flash of light. A safety relay stops the charging of the storage capacitors and discharges them through bleeder resistors. This provides protection in the event that the Xenon flash tube assembly is open or the power supply ground circuit is open. Two EMI filters are used in each power supply to eliminate the electromagnetic interference generated by the units.

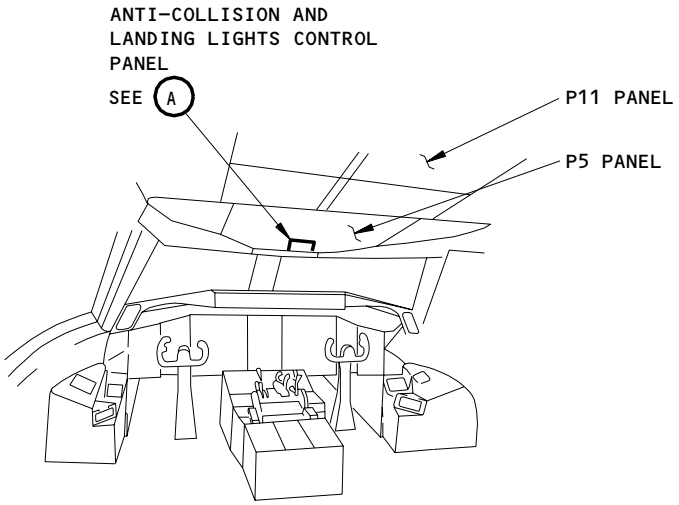
(d) Since the power supply unit contains high voltage circuits, wait ten minutes after turning off power before disconnecting cables or opening units. Do not allow fingers to touch lamps. Skin oils may cause the lamp to discolor and crack when current is applied.

ANTI-COLLISION LIGHTS

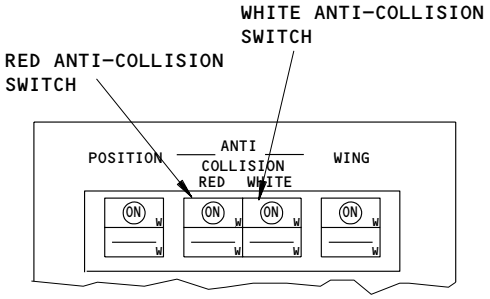
COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -	1	*	FLT COMPT, P11	*
LIGHT -				
L AND R WING ANTI-COLLISION	2	*	LEFT AND RIGHT WINGTIP	33-44-01
LOWER AND UPPER BODY ANTI-COLLISION	2	*	LOWER AND UPPER FUSELAGE	33-44-02
POWER SUPPLY -				
L AND R ANTI-COLLISION LIGHT	2	*	LEFT AND RIGHT WINGTIP	33-44-03
LOWER AND UPPER ANTI-COLLISION LIGHT	2	*	LOWER R WHEEL WELL COMPT AND UPPER FUSELAGE	33-44-04
SWITCH -	1	*	FLT COMPT, P5	*

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

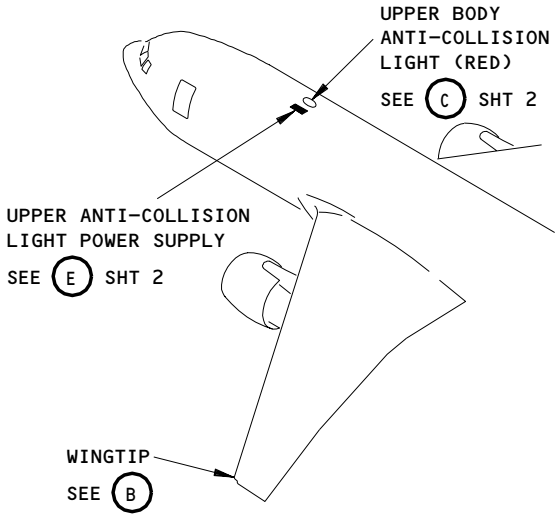
Anti-Collision Lights - Component Location
Figure 101

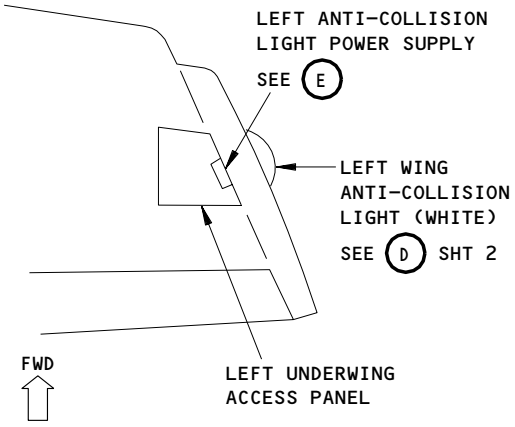


FLIGHT COMPARTMENT



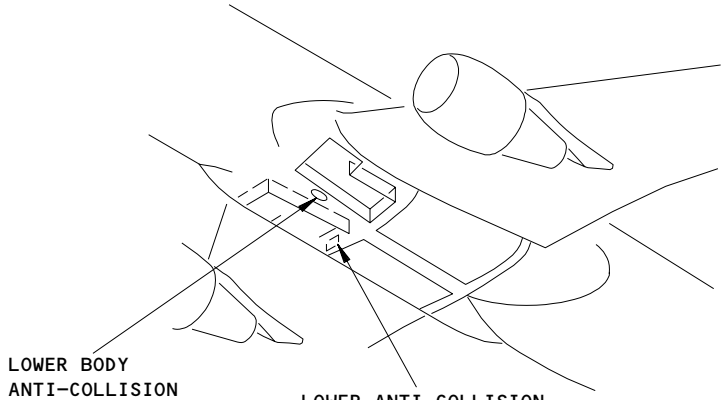
ANTI–COLLISION AND LANDING LIGHTS
CONTROL PANEL
A

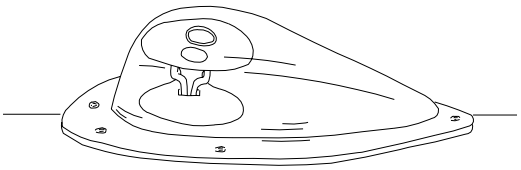




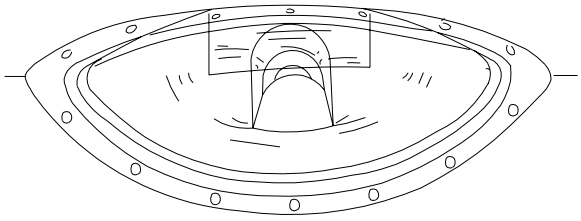
WINGTIP
B

Anti–Collision Lights – Component Location
Figure 102 (Sheet 1)

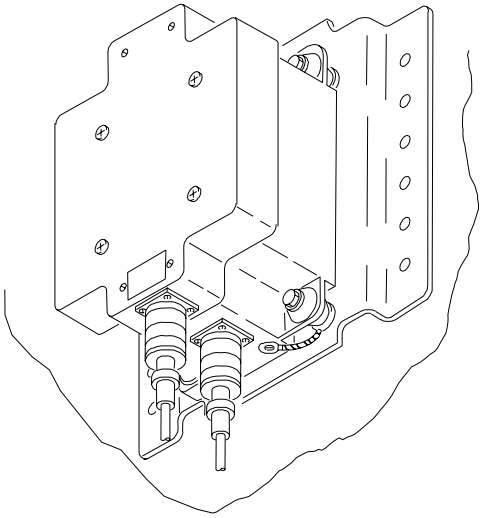




BODY ANTI-COLLISION LIGHT
(RED)
C



WING ANTI-COLLISION LIGHT
(WHITE)
D FROM SHT 1



ANTI-COLLISION LIGHT POWER SUPPLY
E

Anti-Collision Lights - Component Location
Figure 102 (Sheet 2)

ANTI-COLLISION LIGHTS - ADJUSTMENT/TEST

1. General
   A. This procedure contains the necessary steps to do the operational test of the anti-collision lights.
   B. You will find two body anti-collision lights and two wing anti-collision lights, as identified below:
      (1) A red strobe light on the top of the fuselage
      (2) A red strobe light on the bottom of the fuselage
      (3) A white strobe light on the left wing tip
      (4) A white strobe light on the right wing tip.
   C. When you do this procedure, keep all lights off unless the light is specified for this test.

TASK 33-44-00-715-001

2. Operational Test - Anti-Collision Lights
   A. References
      (1) AMM 24-22-00/201, Electrical Power - Control
   B. Access
      (1) Location Zone
          211 Flight Compartment (Left)
          212 Flight Compartment (Right)
          544 Wing Tip (Left)
          644 Wing Tip (Right)

   C. Prepare to do the Test

      S 865-003
      (1) Supply electrical power (AMM 24-22-00/201).

      S 865-002
      (2) Energize these buses:
          (a) 115V AC Ground Service Bus
          (b) 115V AC Left Bus
   D. Do the Test of the Body Anti-Collision Lights.

      S 865-004
      (1) Make sure these circuit breakers on the overhead circuit breaker panel, P11, are closed:
          (a) 11N34, LIGHTING ANTI COLL RED
          (b) 11P3, LIGHTING INSTRUMENT & PANEL OVHD

S 715-005

(2) Do these steps to do the test of the body anti-collision lights.
  (a) Push the RED ANTI-COLLISION light switch on the pilot's overhead panel, P5, to ON.
  (b) Make sure the light behind the RED ANTI-COLLISON light switch comes on.
  (c) Make sure the body anti-collision lights on the top and bottom of the fuselage come on. Make sure these lights flash red approximately 48 times per minute.
  (d) Push the RED ANTI-COLLISION light switch to OFF.
  (e) Make sure the body anti-collision lights on the top and bottom of the fuselage go off. Make sure the light behind the RED ANTI-COLLISION light switch goes off.

E. Do the Test of the Wing Anti-Collision Lights.

S 865-006

(1) Make sure these circuit breakers on the overhead circuit breaker panel, P11, are closed:
  (a) 11N7, LIGHTING ANTI COLL WHITE
  (b) 11P3, LIGHTING INSTRUMENT & PANEL OVHD

S 715-007

(2) Do these steps to do the test of the wing anti-collision lights.
  (a) Push the WHITE ANTI-COLLISION light switch on the pilot's overhead panel, P5, to ON.
  (b) Make sure the light behind the WHITE ANTI-COLLISON light switch comes on.
  (c) Make sure the wing anti-collision lights on the right and left wing tips come on. Make sure each light flashes white approximately 48 times per minute.
  (d) Push the WHITE ANTI-COLLISION light switch to OFF.
  (e) Make sure the wing anti-collision lights on the left and right wing tips go off. Make sure the light behind the WHITE ANTI-COLLISION light switch goes off.

S 865-008

(3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

WING ANTI-COLLISION (STROBE) LIGHT - MAINTENANCE PRACTICES

1. General
   A. This procedure contains two tasks:
      (1) Remove the Lamp Subassembly in the Wing Anti-Collision Lights
      (2) Install the Lamp Subassembly in the Wing Anti-Collision Lights

TASK 33-44-01-002-001

2. Remove the Lamp Subassembly in the Wing Anti-Collision Lights (Fig. 201)
   A. Access
      (1) Location Zones
          544/644 Wing tip
   B. Procedure

      S 862-003

      (1) Open this circuit breakers on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
          (a) 11N7, LIGHTING ANTI COLL WHITE

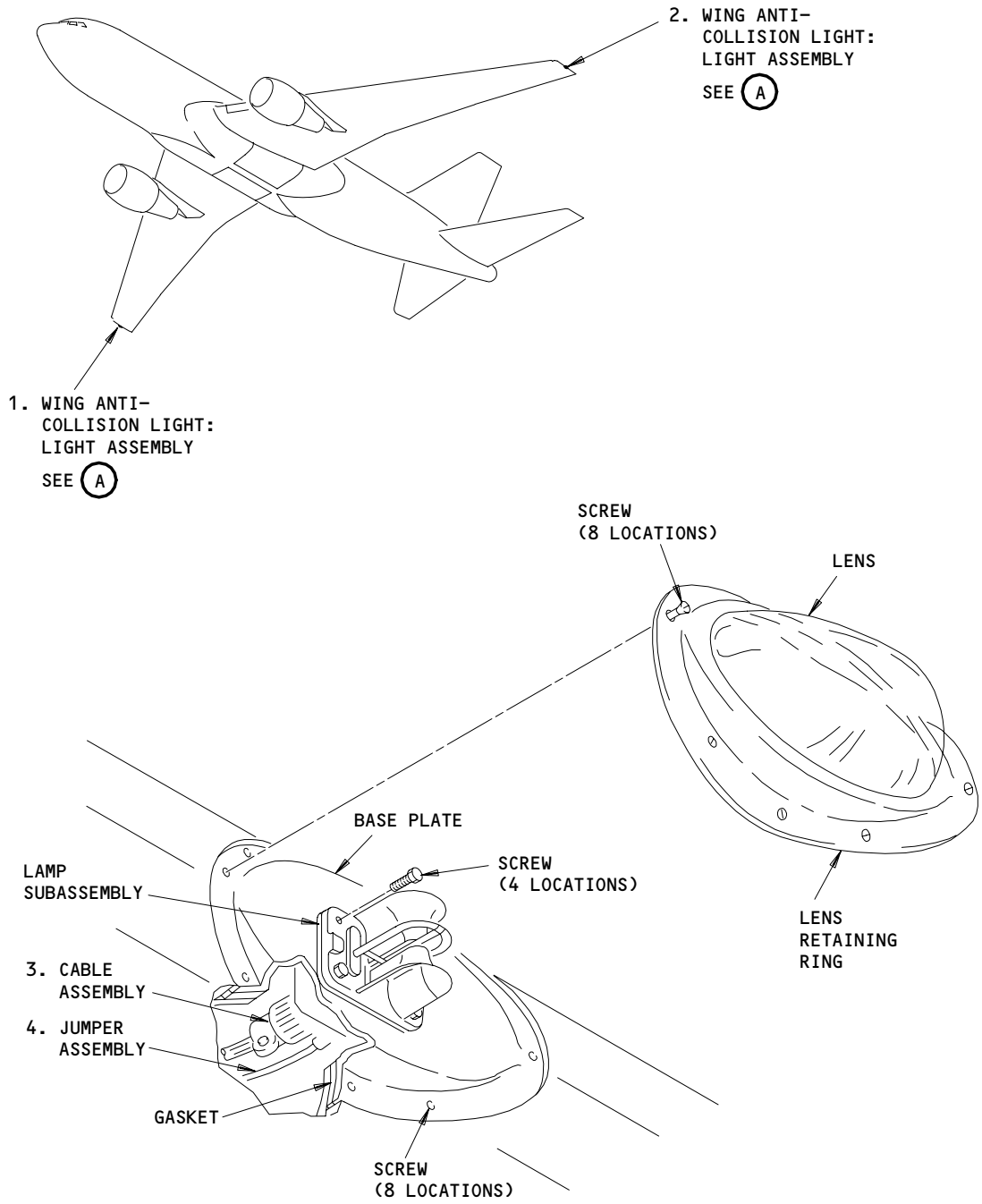
      S 862-004

      WARNING: WAIT 10 MINUTES BEFORE YOU REMOVE THE LIGHT. IF YOU TOUCH THE LIGHT WHEN IT IS HOT, INJURY TO PERSONS CAN OCCUR.

      (2) Do these steps to remove the lamp subassembly:
          (a) Loosen the screws that hold the lens retaining ring in position.
          (b) Remove the lens retaining ring and the lens.
          (c) Remove the screws that hold the lamp subassembly in position.
          (d) Pull the lamp subassembly out so there is sufficient space to disconnect the electrical connector (3).
          (e) Disconnect the electrical connector (3).
          (f) Disconnect the jumper assembly (4).
          (g) Remove the lamp subassembly.

TASK 33-44-01-402-005

3. Install the Lamp Subassembly in the Wing Anti-Collision Lights (Fig. 201)
   A. Equipment
      (1) Bonding Meter - AVTRON T477W



WING ANTI-COLLISION LIGHT:
LIGHT ASSEMBLY (EXAMPLE)
A

Wing Anti-Collision (Strobe) Lights Installation
Figure 201

B. References
(1) 20-10-21/401, Electrical Bonding
(2) 20-10-21/601, Electrical Bonding
(3) 20-10-22/701, Metal Surfaces
(4) 24-22-00/201, Electrical Power - Control

C. Access
(1) Location Zones
211/212 Flight compartment
544/644 Wing tip

D. Procedure

S 422-006

WARNING: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(1) Do these steps to install the lamp subassembly:
(a) Attach the jumper assembly (4) to the lamp subassembly with a nut and washer (Ref 20-10-21).
1) Measure the resistance from the jumper assembly (4) to a ground point on the airplane with the bonding meter (Ref 20-10-21).
2) If the resistance measures more than 0.0025 ohm, clean the bonding connection and measure the resistance again (Ref 20-10-22).
(b) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(c) Connect the electrical connector (3).
(d) Put the lamp subassembly in position.
(e) Install the lamp subassembly with the correct screws.
1) If it is necessary to clean the lamp, refer to the vendor's instructions.
(f) Clean the lens retaining ring and the lens with a soft, clean cloth.
(g) Install the lens and lens retaining ring with the correct screws.

S 712-007
(2) Do the test of the wing anti-collision lights as given below.

E. Do the Test of the Wing Anti-Collision Lights

S 862-009
(1) Supply electrical power (Ref 24-22-00).

S 942-010

WARNING: AT NEAR RANGE, DO NOT LOOK DIRECTLY AT THE LIGHTS WHEN THEY FLASH. DAMAGE TO VISION CAN OCCUR.

(2) Before you operate wing anti-collision lights, make sure all personnel in the area do not look directly at the lights when they flash.

S 862-012
(3) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the overhead circuit breaker panel, P11:
(a) 11N7, LIGHTING ANTI COLL WHITE

S 712-014
(4) Do these steps to do the test of the wing anti-collision lights:
(a) Push the ANTI-COLLISION WHITE light switch on pilot's overhead panel, P11, to the ON position.
(b) Make sure the wing anti-collision lights come on and that they flash.
(c) Push the ANTI-COLLISION WHITE light switch again, to the OFF position.
(d) Make sure the wing anti-collision lights go off.

S 862-015
(5) Remove electrical power if it is not necessary (Ref 24-22-00).

BODY ANTI-COLLISION (STROBE) LIGHTS - MAINTENANCE PRACTICES

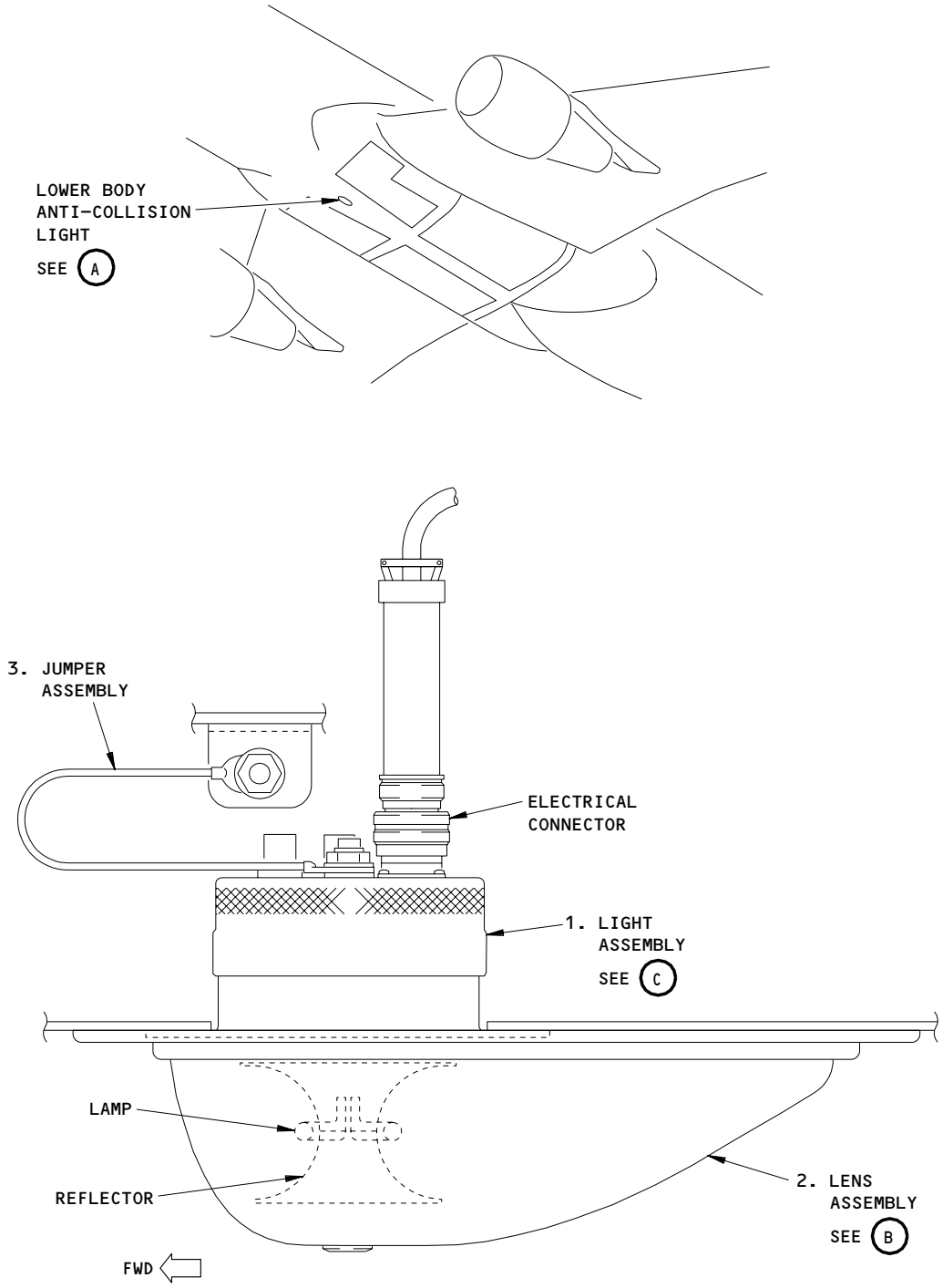
1. General
   A. This procedure contains these tasks:
      (1) Body Anti-Collision Lights Lamp Replacement
      (2) Body Anti-Collision Lights Removal
      (3) Body Anti-Collision Lights Installation
      (4) Body Anti-Collision Lights Test
   B. The body anti-collision lights include one lower body anti-collision light and one upper body anti-collision light.
   C. You can get access to the lower body anti-collision light from out of the airplane. You can get access to the upper body anti-collision light from in the airplane. To replace the lens or remove the housing of the upper light, you must get access from out of the airplane.

TASK 33-44-02-962-001

2. Body Anti-Collision Lights Lamp Replacement (Fig. 201-202)
   A. Equipment
      (1) Bonding Meter - AVTRON T477W
   B. References
      (1) 20-10-21/401, Electrical Bonding
      (2) 20-10-22/701, Metal Surfaces
   C. Access
      (1) Location Zones
          135/136 Environmental control system (ECS) bay
          233/234 Area above passenger cabin, ceiling
   D. Procedure

      S 862-002
      (1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
          (a) 11N34, LIGHTING ANTI COLL RED

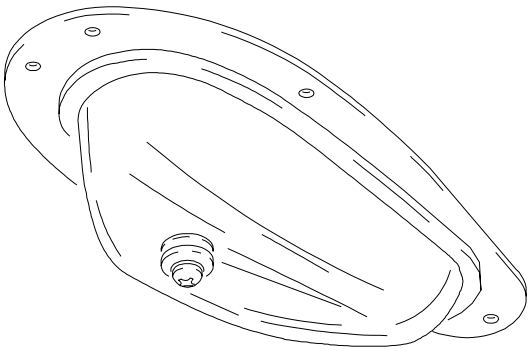
      S 862-003
      (2) Do these steps to replace the lamp in the lower body anti-collision light (Fig. 201):

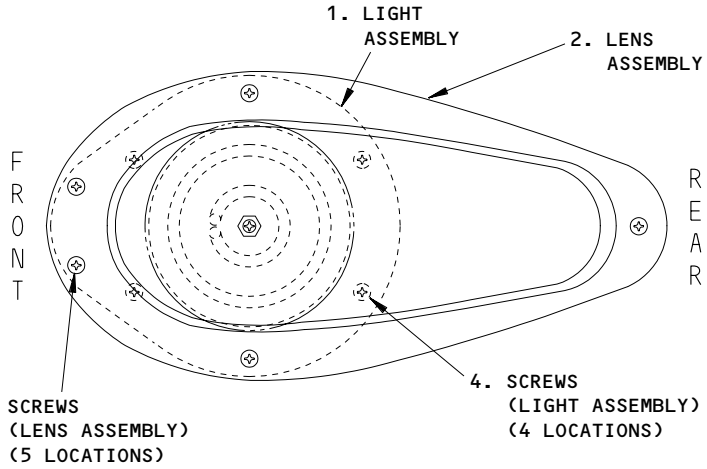


LOWER BODY ANTI-COLLISION LIGHT

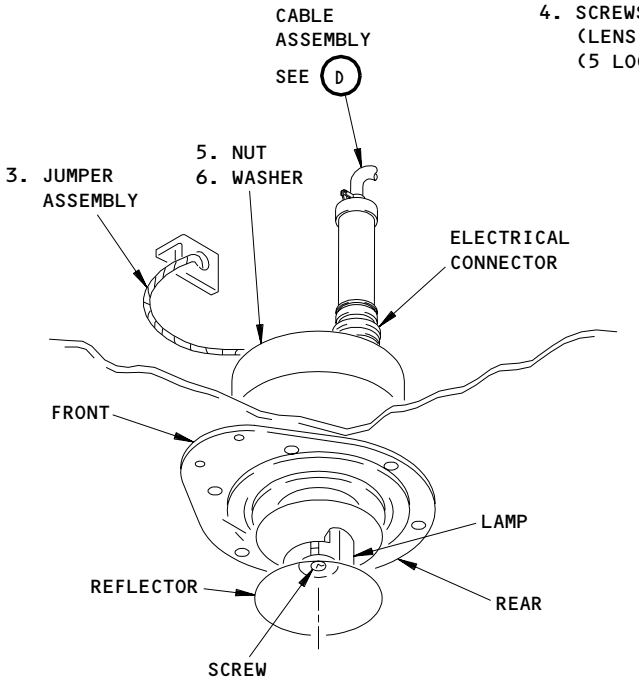
A

Lower Body Anti-Collision (Strobe) Light Installation
Figure 201 (Sheet 1)



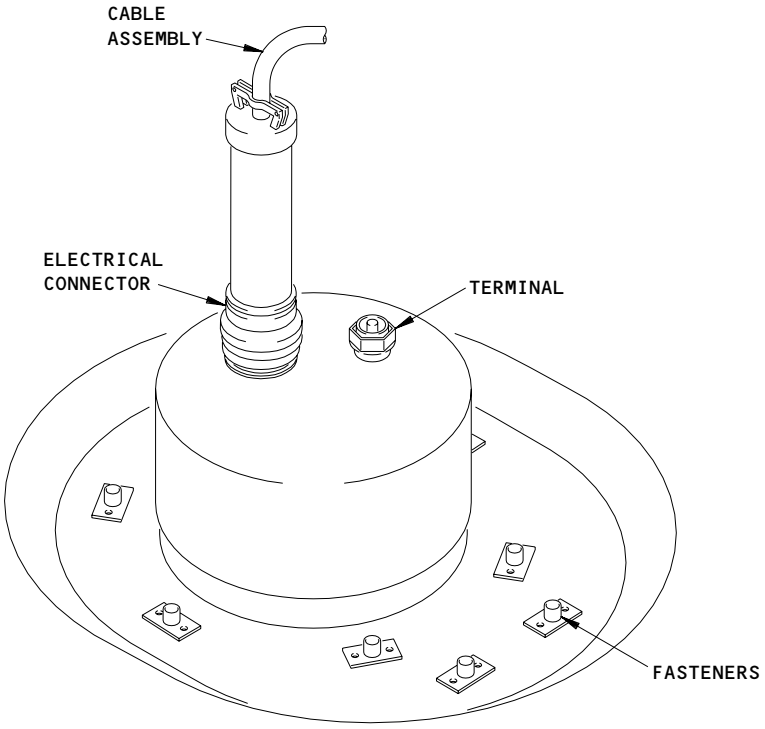


LENS ASSEMBLY
B



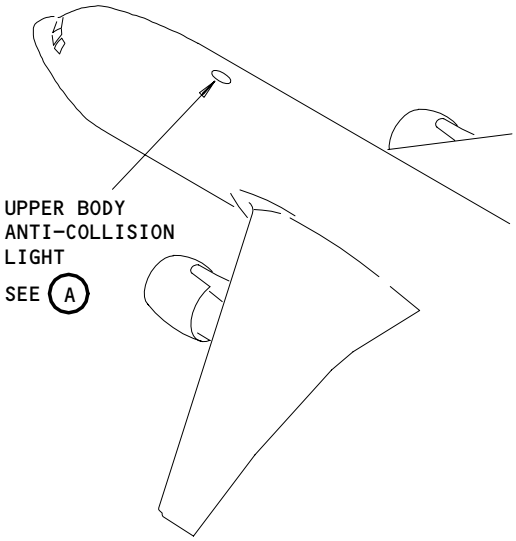
LIGHT ASSEMBLY
C

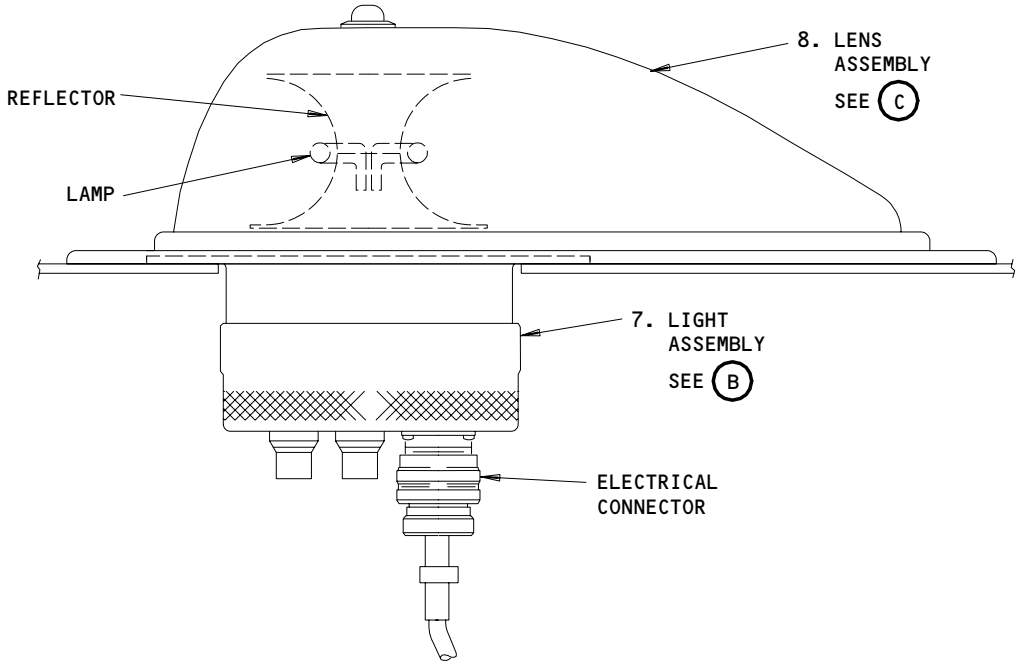
Lower Body Anti-Collision (Strobe) Light Installation
Figure 201 (Sheet 2)



CABLE ASSEMBLY
D

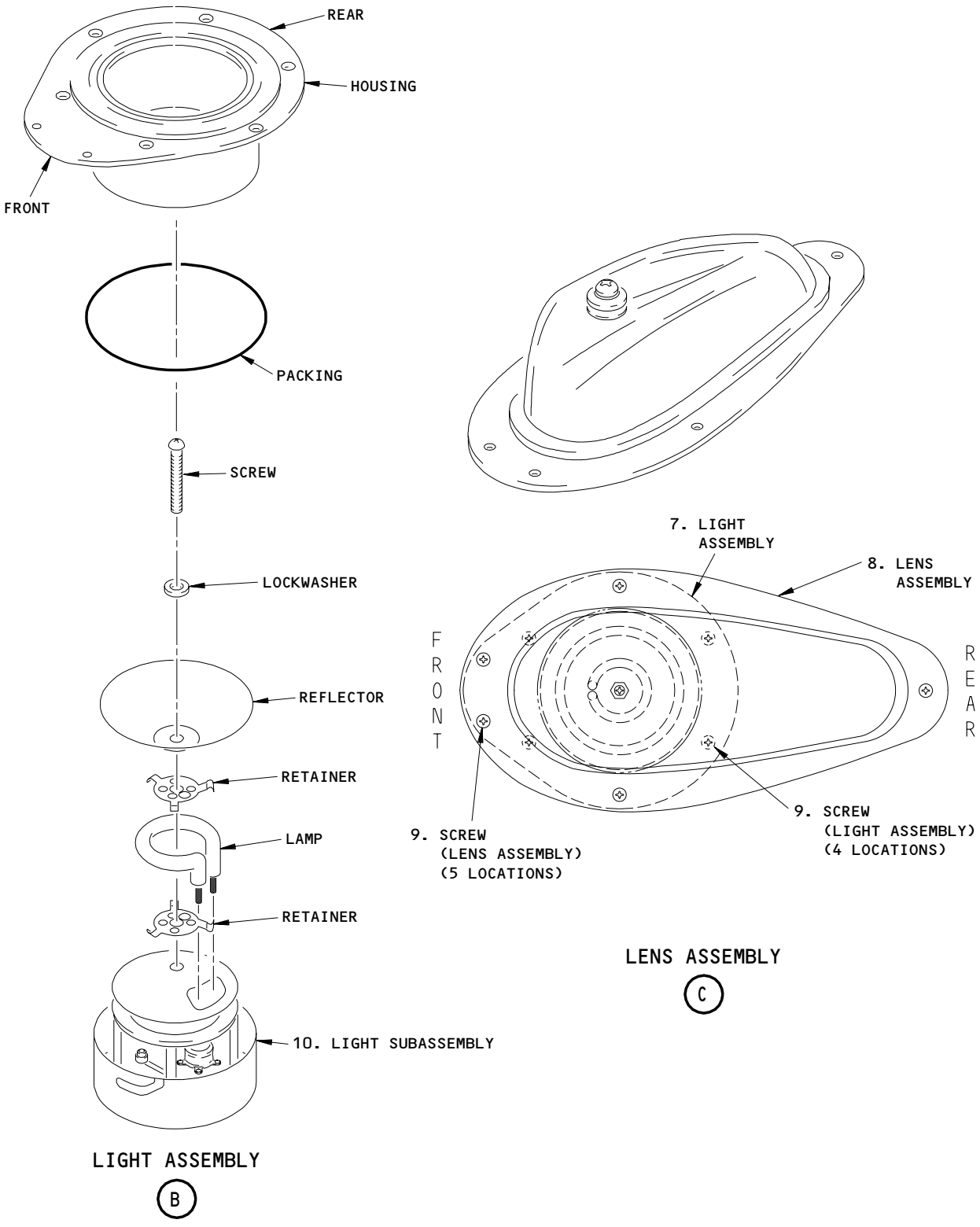
Lower Body Anti-Collision (Strobe) Light Installation
Figure 201 (Sheet 3)





UPPER BODY ANTI-COLLISION LIGHT
A

Upper Body Anti-Collision (Strobe) Light Installation
Figure 202 (Sheet 1)



Upper Body Anti-Collision (Strobe) Light Installation
Figure 202 (Sheet 2)

WARNING: DO NOT TOUCH THE LIGHT FOR 10 MINUTES AFTER YOU REMOVE THE POWER. INJURY TO PERSONS CAN OCCUR IF YOU TRY TO REPLACE OR REMOVE THE LIGHT BEFORE THE SPECIFIED TIME.

(a) Remove the screws that hold the lens assembly in its position.
(b) Remove the lens assembly.
(c) Remove the screw and washer in the center of the reflector.
(d) Remove the top of the reflector and the retainer.
(e) Remove the lamp.

CAUTION: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(f) Install the new lamp.
    1) If it is necessary clean the lamp, refer to the vendor's instructions.
(g) Install the retainer and the top of the reflector.
(h) Install the washer and screw in the center of the reflector.
(i) Install the lens assembly with the correct screws.

S 962-007

(3) Do these steps to replace the lamp in the upper body anti-collision light (Fig. 202):

WARNING: DO NOT TOUCH THE LIGHT FOR 10 MINUTES AFTER YOU REMOVE THE POWER. INJURY TO PERSONS CAN OCCUR IF YOU TRY TO REPLACE OR REMOVE THE LIGHT BEFORE THE SPECIFIED TIME.

(a) Remove the ceiling panel below the upper body anti-collision light.
(b) Disconnect the electrical connector.
(c) Turn the light assembly counterclockwise to disengage it.
(d) Remove the light subassembly.
(e) Remove the screw and washer in the center of the reflector.
(f) Remove the top of the reflector and the retainer.
(g) Pull the lamp from the socket.

CAUTION: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(h) Install the new lamp.
    1) If it is necessary to clean the lamp, refer to the vendor's instructions.
(i) Install the retainer and the top of the reflector.
(j) Install the washer and screw.
(k) Install the light subassembly.
    1) Push the light subassembly into its position and turn it clockwise until it locks.

(l) Connect the electrical connector.
(m) Install the ceiling panel.

S 862-008
(4) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the overhead circuit breaker panel, P11:
(a) 11N34, LIGHTING ANTI COLL RED

S 712-035
(5) Do a test of the new lamp as given in this procedure.

TASK 33-44-02-002-011
3. Body Anti-Collision Lights Removal (Fig. 201 and 202)
A. Access
(1) Location Zones
135/136 Environmental control system (ECS) bay
233/234 Area above passenger cabin, ceiling
B. Procedure

S 862-012

WARNING: DO NOT TOUCH THE LIGHT FOR 10 MINUTES AFTER YOU REMOVE THE POWER. INJURY TO PERSONS CAN OCCUR IF YOU TRY TO REPLACE OR REMOVE THE LIGHT BEFORE THE SPECIFIED TIME.

(1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
(a) 11N34, LIGHTING ANTI COLL RED

S 022-013
(2) Do these steps to remove the lower body anti-collision light (Fig. 201):
(a) Remove the screws that hold the lens assembly in its position.
(b) Remove the lens assembly.
(c) Remove the screws that hold the light assembly in its position.
(d) With your hands around the light assembly, pull it down to get access to the electrical connector and jumper assembly.
(e) Disconnect the electrical connector.
(f) Remove the nut and washer from the bonding stud.
(g) Disconnect the jumper assembly.
(h) Remove the light assembly.

S 022-039

WARNING: DO NOT TOUCH THE LIGHT FOR 10 MINUTES AFTER YOU REMOVE THE POWER. INJURY TO PERSONS CAN OCCUR IF YOU TRY TO REPLACE OR REMOVE THE LIGHT BEFORE THE SPECIFIED TIME.

(3) Do the applicable steps below to remove the upper body anti-collision light (Fig. 202).
   (a) If it is necessary to remove the light subassembly but not the housing, do these steps:
      1) Remove the ceiling panel at station 555 on the left side of the airplane.
      2) Disconnect the electrical connector.
      3) Turn the light subassembly counterclockwise to disengage it.
      4) Remove the light subassembly.
   (b) If it is necessary to remove the lens, do these steps:
      1) Get access to the lens from out of the airplane, above the fuselage.
      2) Remove the screws that hold the lens assembly in its position.
      3) Remove the lens assembly.
   (c) If it is necesary to remove the light assembly (the housing with the light subassembly attached), do these steps:
      1) Get access to the light assembly from out of the airplane, above the fuselage.
      2) Remove the lens as given above.
      3) Remove the screws on the housing of the light assembly.
      4) Pull up on the housing to get access to the electrical connector below the subassembly.
      5) Disconnect the electrical connector.
      6) Remove the light assembly.

TASK 33-44-02-402-016

4. Body Anti-Collision Lights Installation (Fig. 201 and 202)
   A. Equipment
      (1) Bonding Meter - AVTRON T477W

B. References
(1) 20-10-21/401, Electrical Bonding
(2) 20-10-22/701, Metal Surfaces
(3) SWPM 20-10-13, Repair of Electrical Wire and Coax Cable

C. Access
(1) Location Zones
135/136 Environmental control system (ECS) bay
233/234 Area above passenger cabin, ceiling

D. Procedure

S 862-040
(1) Open this circuit breaker and attach the DO-NOT-CLOSE tag:
(a) On the overhead circuit breaker panel, P11:
1) 11N34, LIGHTING ANTI COLL RED

S 422-019
(2) Do these steps to install the lower body anti-collision light (Fig. 201):
(a) Do an inspection of the cable assembly:
1) Examine the cable assembly for any chafing or damage to the insulation or wires.

NOTE: Examine the section of cable assembly from the termination at the light assembly to the point of the cable that routes through the hole in the web above the light.

WARNING: DAMAGE MUST BE REPAIRED. THE CABLE ASSEMBLY IS IN A FLAMMABLE LEAKAGE ZONE. UNREPAIRED DAMAGE CAN BECOME AN IGNITION SOURCE AND CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPEMENT.

2) If damage is found, repair it (SWPM 20-10-13).
(b) Attach the jumper assembly to the light assembly with the nut and washer.

(c) Measure the resistance from the terminal on the jumper assembly to a ground point on the airplane with the bonding meter (Ref 20-10-21).
(d) If resistance measures more than 0.0025 ohm, clean the bonding connection and measure the resistance again (Ref 20-10-22).
(e) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(f) Connect the electrical connector.
(g) Hold the light assembly in its position while you install its screws.

NOTE: Make sure that the front of the light assembly is aligned with the front of the lens assembly.

(h) Install the lens assembly with its screws.

NOTE: If the lens assembly is new, remove the screw (drain plug) from the lens before installation.

S 422-023

(3) Do the applicable steps below to install the upper body anti-collision light (Fig. 202).
(a) If it is necessary to install the light subassembly but not the housing, do these steps:
1) Push the light subassembly into its position and turn it clockwise until it engages.
2) Connect the electrical connector.
3) Install the ceiling panel.
(b) If it is necessary to install the lens, do these steps:
1) Hold the lens assembly in its position.
2) Install it with the correct screws.
a) Make sure you tighten all the screws the same amount.
(c) If it is necessary to install the light assembly (the housing with the light subassembly attached), do these steps:
1) Connect the electrical connector to the bottom of the light subassembly.

2) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
3) Measure the resistance from the flange of the light assembly to the airplane skin with the bonding meter (Ref 20-10-21).
4) If resistance measures more than 0.010 ohm, clean the bonding surface and measure the resistance again (Ref 20-10-22).
5) Hold the light assembly in its position while you replace its screws.

NOTE: Make sure that the front of the light assembly is aligned with the front of the lens assembly.

6) Install the lens as given above.

S 862-024
(4) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the overhead circuit breaker panel, P11:
(a) 11N34, LIGHTING ANTI COLL RED

S 712-036
(5) Do a test of the body anti-collision light as given in this procedure.

TASK 33-44-02-712-027

5. Body Anti-Collision Lights Test

A. References
(1) 24-22-00/201, Electrical Power - Control

B. Access
(1) Location Zones
211/212 Flight compartment

C. Procedure

S 862-028
(1) Supply electrical power (Ref 24-22-00).

S 712-037

WARNING: AT NEAR RANGE, DO NOT LOOK DIRECTLY AT THE LIGHTS WHEN THEY FLASH. DAMAGE TO VISION CAN OCCUR.

(2) Before you operate body anti-collision lights, make sure persons in the area do not look directly at the lights when they flash.

S 862-030
(3) Make sure this circuit breaker on the overhead circuit breaker panel, P11, is closed:
(a) 11N34, LIGHTING ANTI COLL RED

S 712-031

(4) Do these steps to do the test of the body anti-collision lights:
   (a) Push the ANTI-COLL RED light switch on the pilots' overhead panel, P5, to ON.
   (b) Make sure the lower and upper anti-collision lights come on and that they flash.
   (c) Push the ANTI-COLL RED light switch again, to OFF.
   (d) Make sure the lower and upper anti-collision lights go off.

S 862-032

(5) Remove electrical power if it is not necessary (Ref 24-22-00).

WING ANTI-COLLISION (STROBE) LIGHTS POWER SUPPLIES - REMOVAL/INSTALLATION

1. General
   A. This procedure contains two tasks:
      (1) Remove the Wing Anti-Collision Lights Power Supplies
      (2) Install the Wing Anti-Collision Lights Power Supplies
   B. This procedure also refers to the wing anti-collision lights power supplies as the power supplies.

TASK 33-44-03-004-012

2. Remove the Wing Anti-Collision Lights Power Supplies
   A. Access
      (1) Location Zones
          544/644 Wing tip
   B. Procedure

      S 864-001
      (1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
          (a) 11N7, LIGHTING ANTI COLL WHITE

      S 944-002
      (2) Remove the access panel: 543BB (left power supply) or 643BB (right power supply).

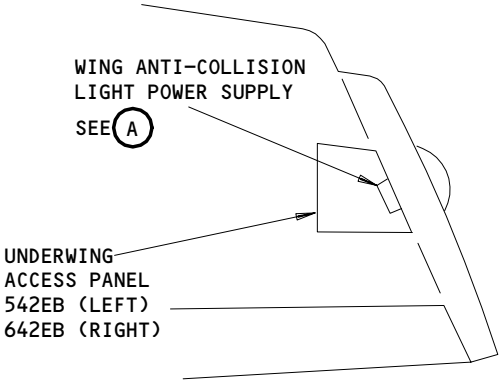
      S 024-013

      WARNING: WAIT 10 MINUTES BEFORE YOU REMOVE THE POWER SUPPLY. INJURY TO PERSONS CAN OCCUR IF YOU TOUCH THE HOT POWER SUPPLY OR TRY TO REMOVE THE HIGH VOLTAGE LEAD BEFORE THE SPECIFIED TIME.

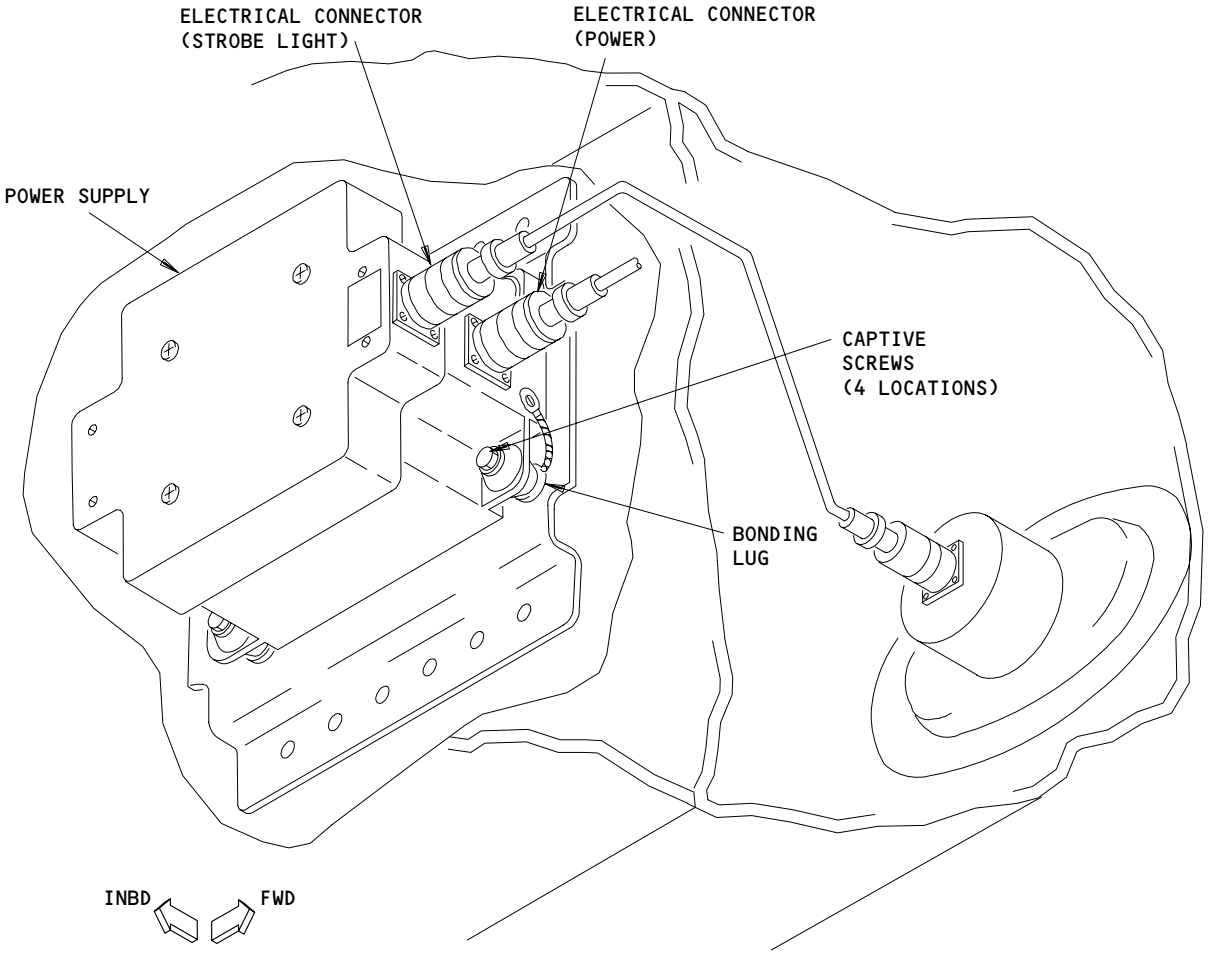
      (3) Do these steps to remove each power supply:
          (a) Reach through panel opening and disconnect the electrical connectors.
          (b) Loosen the captive screws.
          (c) Disconnect the bonding wire.
          (d) Remove the power supply.

TASK 33-44-03-404-005

3. Install the Wing Anti-Collision Lights Power Supplies
   A. Equipment
      (1) Bonding Meter - AVTRON T477 W
   B. References
      (1) 20-10-21/601, Electrical Bonding



WINGTIP
(EXAMPLE)



WING ANTI-COLLISION LIGHT POWER SUPPLY
(EXAMPLE)

A

Wing Anti-Collision (Strobe) Lights Power Supply Installation
Figure 401

(2) 24-22-00/201, Electrical Power - Control

C. Access

(1) Location Zones

211/212 Flight compartment
544/644 Wing tip

D. Procedure

S 424-004

(1) Do these steps to install each power supply:

(a) While you hold the power supply in position on the flanges, install the captive screws

(b) Connect the bonding wire (Ref 20-10-21).

(c) Measure the resistance from the bonding terminal to a ground point on the airplane with the bonding meter (Ref 20-10-21).

(d) If resistance measures more than 0.0025 ohm, clean the bonding connection and measure the resistance again.

(e) Connect the two electrical connectors.

S 944-008

(2) Install the access panel: 543BB (left power supply) or 643BB (right power supply).

S 714-006

(3) Do the test of the wing anti-collision lights power supplies as given below:

E. Do the Test of the Power Supplies

S 864-009

(1) Supply electrical power (Ref 24-22-00).

S 944-010

WARNING: AT NEAR RANGE, DO NOT LOOK DIRECTLY AT THE LIGHTS WHEN THEY FLASH. DAMAGE TO VISION CAN OCCUR.

(2) Before operating the wing anti-collision lights, make sure all personnel in the area do not look directly at the lights when they flash.

S 864-011

(3) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the overhead circuit breaker panel, P11:
    (a) 11N7, LIGHTING ANTI COLL WHITE

S 714-015

(4) Do these steps to do the test of the power supplies:
    (a) Push the ANTI COLLISION WHITE light switch on the pilot's overhead panel, P5, to ON.
    (b) Make sure the wing anti-collision lights come on and that they flash.
    (c) Push the ANTI COLLISION WHITE light switch again, to OFF.

S 864-014

(5) Remove electrical power if it is not necessary (Ref 24-22-00).

BODY ANTI-COLLISION (STROBE) LIGHT POWER SUPPLY - REMOVAL/INSTALLATION

1. General
   A. This procedure contains two tasks:
      (1) Remove the Body Anti-Collision Light Power Supply
      (2) Install the Body Anti-Collision Light Power Supply.
   B. The body anti-collision light power supply consists of one lower anti-collision light power supply and one upper anti-collision light power supply. When instructions are the same for the two, this procedure refers to them as the power supplies.
   C. You can get access to the lower anti-collision light power supply from out of the airplane. You can get access to the upper anti-collision light power supply from in the airplane.

TASK 33-44-04-004-001

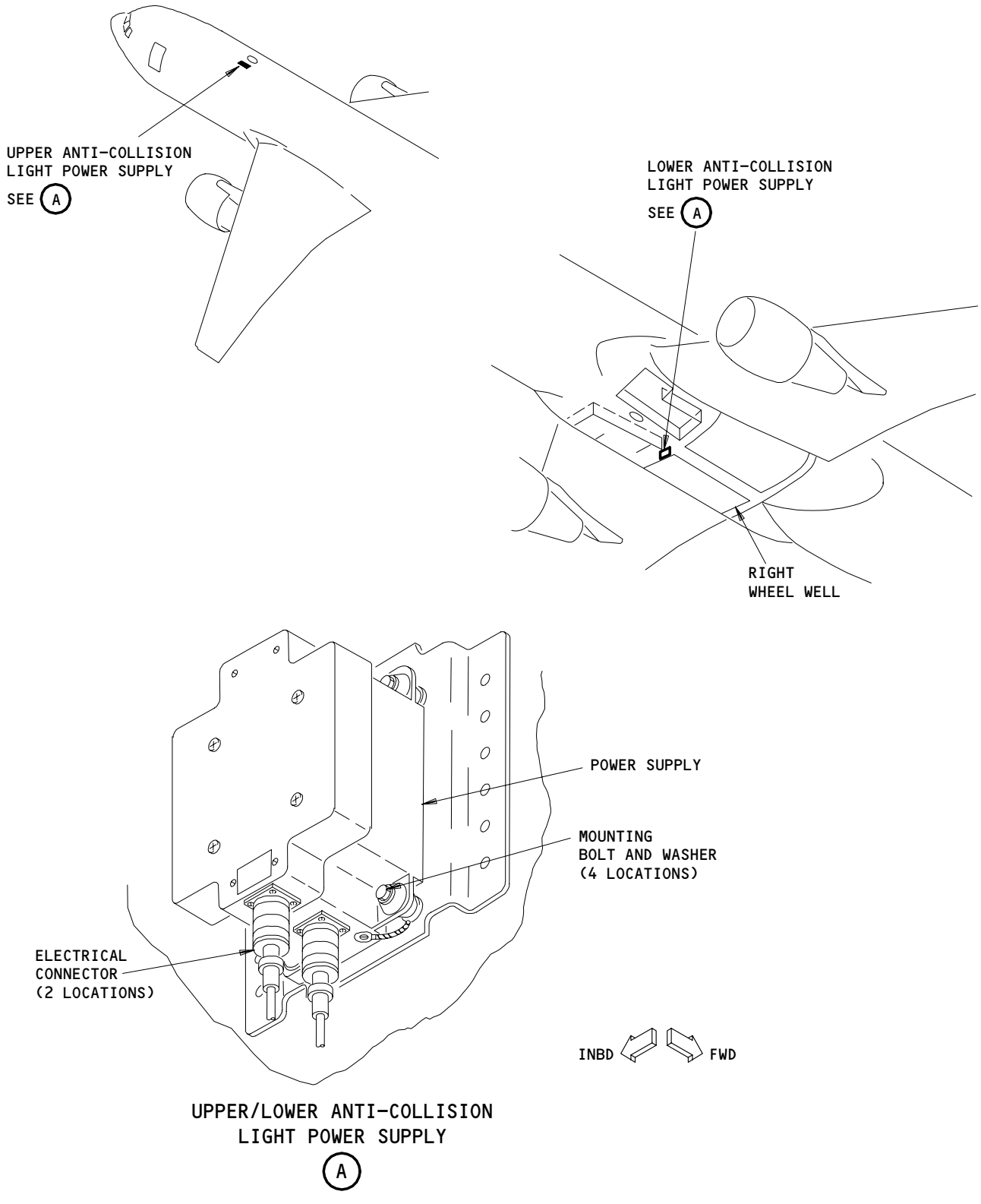
2. Remove the Body Anti-Collision Light Power Supply (Fig. 401)
   A. References
      (1) 32-00-15/201, Landing Gear Door Locks
      (2) 32-00-20/201, Landing Gear Downlocks
   B. Access
      (1) Location Zones
          144 MLG wheel well, right side
          233/234 Area above passenger cabin ceiling - section 43
   C. Procedure

      S 864-002
      (1) Open this circuit breaker on the overhead circuit breaker panel, P11, and attach a DO-NOT-CLOSE tag:
          (a) 11N34, LIGHTING ANTI COLL RED

      S 864-004
      (2) For access to the lower anti-collision light power supply installed in the right wheel well, do these steps:
          (a) Make sure the downlocks are installed on the nose and main landing gear (Ref 32-00-20).

          WARNING: USE THE PROCEDURE IN AMM 32-00-15/201 TO INSTALL THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

          (b) Open the doors for the landing gear and install the door locks (AMM 32-00-15/201).



UPPER/LOWER ANTI-COLLISION
LIGHT POWER SUPPLY
(A)

Body Anti-Collision (Strobe) Light Power Supply Installation
Figure 401

S 014-020

(3) For access to the upper anti-collision light power supply, do these steps:

(a) Remove the ceiling panel on the left side, below the power supply.

S 024-019

WARNING: WAIT 10 MINUTES BEFORE YOU REMOVE THE POWER SUPPLY. INJURY TO PERSONS CAN OCCUR IF YOU TOUCH THE HOT POWER SUPPLY OR TRY TO REMOVE THE HIGH VOLTAGE LEAD BEFORE THE SPECIFIED TIME.

(4) Do these steps to remove the power supply:

(a) Disconnect the electrical connectors.

(b) Disconnect the bonding wire.

(c) Unscrew the mounting bolts.

(d) Remove the power supply.

TASK 33-44-04-404-008

3. Install the Body Anti-Collision Light Power Supply (Fig. 401)

A. Equipment

(1) Bonding Meter - AVTRON T477 W

B. References

(1) 20-10-21/601, Electrical Bonding

(2) 24-22-00/201, Electrical Power - Control

(3) 32-00-15/201, Landing Gear Door Locks

C. Access

(1) Location Zones

144	MLG wheel well, right side
211/212	Flight compartment
233/234	Area above passenger cabin ceiling - section 43

D. Procedure

S 424-009

(1) Do these steps to install the power supply:

(a) Hold the power supply in position and install the mounting bolts.

(b) Connect the bonding wire (AMM 20-10-21/601).

(c) On the lower power supply, do these steps:
1) Measure the resistance from the bonding terminal to a ground point on the airplane with the bonding meter (AMM 20-10-21/601).
2) If the resistance measures more than 0.0025 ohms, clean the bonding connection and measure the resistance again.
(d) Attach the electrical connectors.

S 414-010
(2) When the lower anti-collision light power supply is in the right wheel well, do this step:

WARNING: USE THE PROCEDURE IN AMM 32-00-15/201 TO REMOVE THE DOOR LOCKS. THE DOORS OPEN AND CLOSE QUICKLY AND CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Remove the door locks from the landing gear doors and close the doors (AMM 32-00-15/201).

S 414-017
(3) For the upper anti-collision light power supply, do these steps:
(a) Install the ceiling panel.

S 864-013
(4) Remove the DO-NOT-CLOSE tag and close this circuit breaker on the overhead circuit breaker panel, P11:
(a) 11N34, LIGHTING ANTI COLL RED

S 714-012
(5) Do the test of the body anti-collision lights as given below.

E. Do the Test of the Body Anti-Collision Lights

S 864-014
(1) Supply electrical power (Ref 24-22-00).

S 714-015

WARNING: AT CLOSE RANGE, DO NOT LOOK DIRECTLY AT THE LIGHTS WHEN THEY FLASH. DAMAGE TO VISION CAN OCCUR.

(2) Do these steps to do the test of the body anti-collision lights:
(a) Push the ANTI COLLISION RED light switch to ON.
(b) Make sure the two body anti-collision lights come on and that they flash.
(c) Push the ANTI COLLISION RED light switch again, to OFF.

S 864-017
(3) Remove electrical power if it is not necessary (Ref 24-22-00).

LOGO LIGHTS - DESCRIPTION AND OPERATION

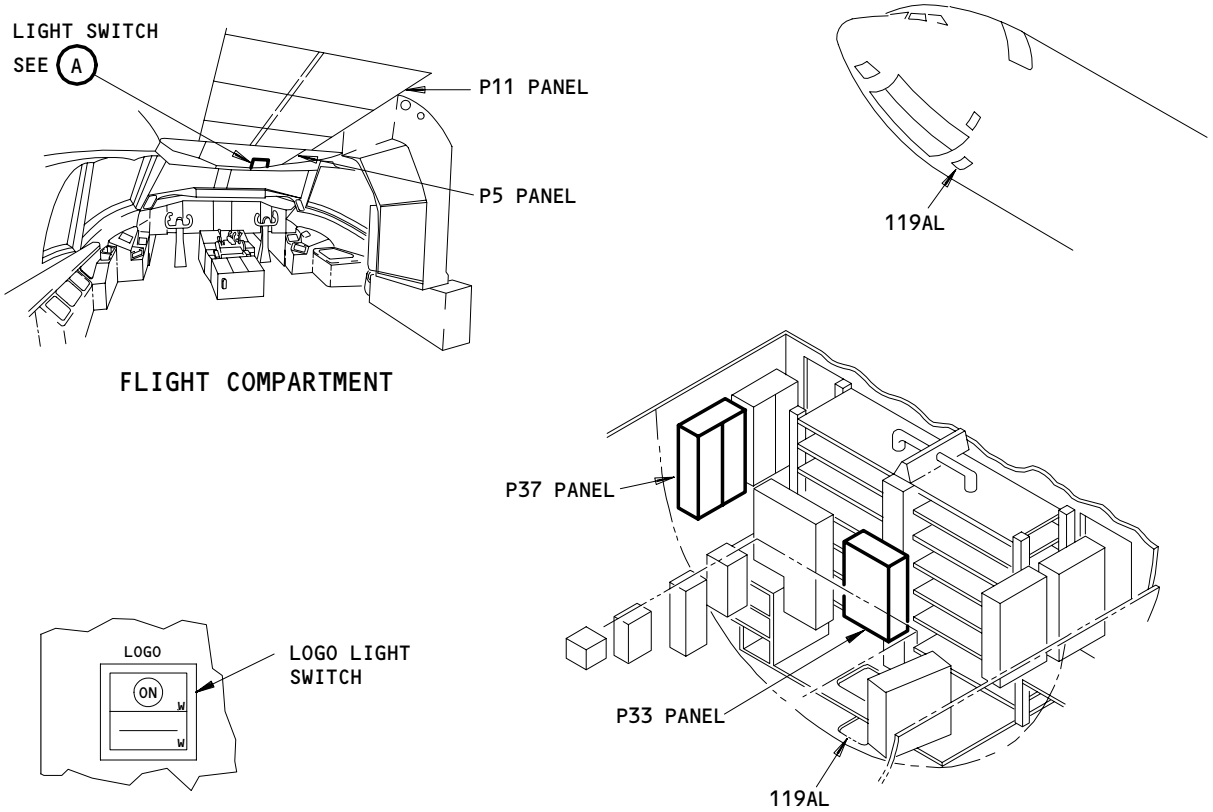
1. General
   A. Two logo lights installed in the upper surface of each horizontal stabilizer illuminate the airplane insignia on the vertical fin. The installation is weather sealed and aerodynamically flush.
   B. for more data about this lighting system, refer to these sources:
      (1) SSM 33-45-01 thru 33-45-99
      (2) WDM 33-45-11 thru 33-45-99
2. Component Details
   A. The logo light system consists of the following components:
      (1) Two logo lights installed on each side of the horizontal stabilizer.
      (2) Logo light transformer included as part of the inboard left and right logo light assemblies.
      (3) Logo light control and power transfer relays installed in the right miscellaneous electrical equipment panel (P37), in the main equipment center.
      (4) Logo lights switch-light on pilots overhead panel (P5).
3. Operation
   A. Functional Description
      (1) All four logo lights are controlled by a single switch-light on overhead panel P5. With the logo lights switch-light in the ON position, power is applied through the logo light control relay to the left and right logo lights transformers. The transformers are on the inboard logo light housing on each side of the airplane. Each transformer applies power to an inboard logo light and an outboard logo light.
      (2) Power source for logo lights is controlled by the logo light power transfer relay. When the air/ground relay is in the ground position, power is from the ground service bus. When the air/ground relay is in the air position, power is from the utility bus. Left and right utility bus LOGO LT circuit breakers are on right miscellaneous equipment panel P37. Left and right ground service bus LOGO LT circuit breakers are on foward miscellaneous electrical equipment panel P33. Power for both the logo light power transfer relay and the logo light control relay is through the ground service bus R LOGO LT circuit breaker.

LOGO LIGHTS

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –	--	*	119AL, MAIN EQUIP CTR, P33,P37	
LIGHT –	--	2	UPPER SURFACE OF INBOARD AND	*
LOGO			OUTBOARD HORIZONTAL STABILIZER	33-45-00
RELAY –			119AL, MAIN EQ CTR, P37	*
SWITCH –	--	1	FLT COMPT, P5	

* SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT.

Logo Lights – Component Index
Figure 101



Logo Lights - Component Location
Figure 102

LOGO LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure contains these tasks:
      (1) Logo Light - Lamp Replacement
      (2) Logo Light - Removal
      (3) Logo Light - Installation
      (4) Logo Lights - Operational Test
      (5) Logo Lights - Adjustment

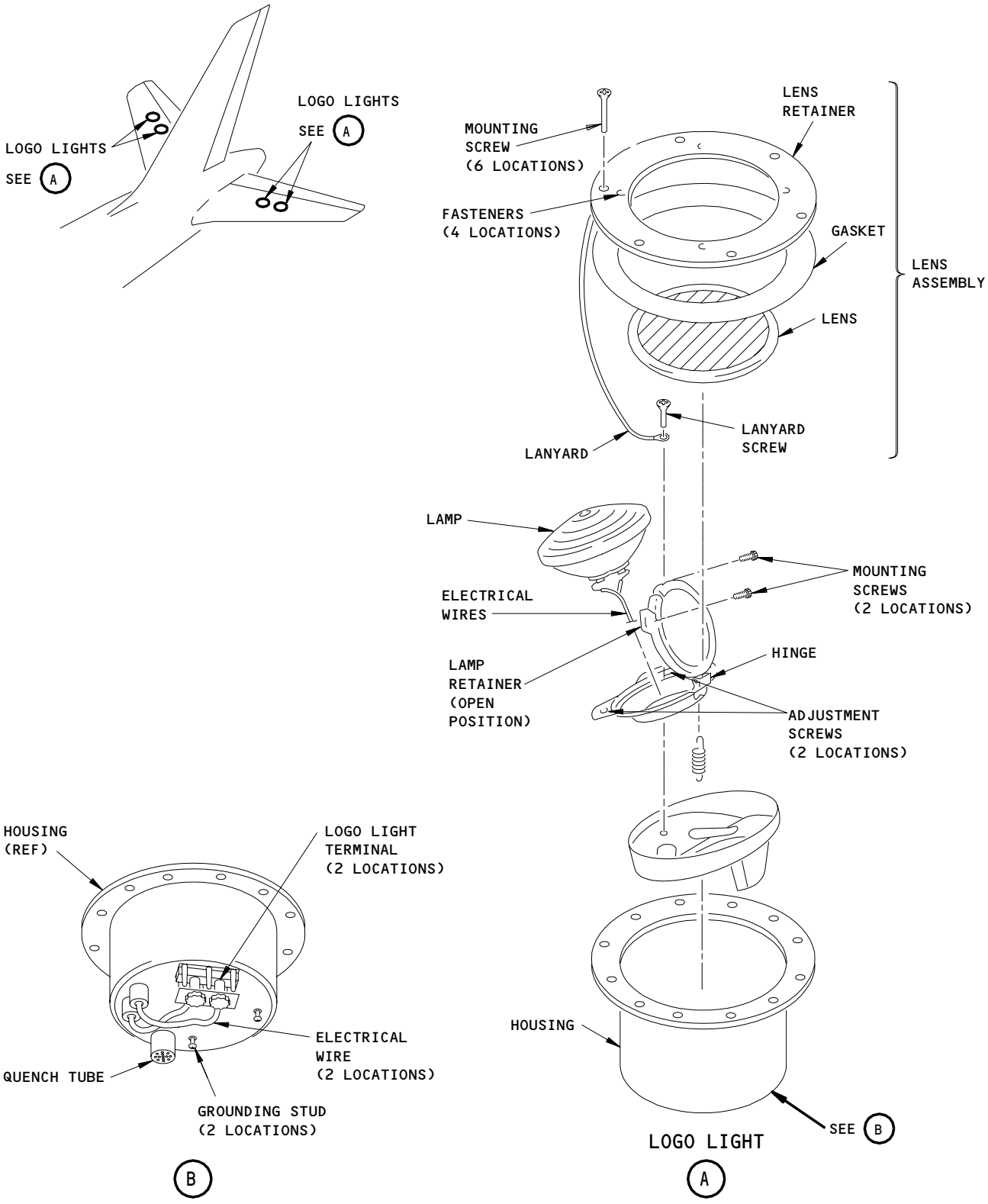
   TASK 33-45-00-962-019

2. Logo Light - Lamp Replacement (Fig. 201)
   A. Equipment
      (1) Full-Body Safety Harness
      (2) Attach Fitting Set - Wing/Horizontal Stabilizer Safety Harness - A20002-4
   B. Consumable Materials
      (1) A00247 Sealant - BMS 5-95, Class B-1/2
      (2) B00184 Solvent - BMS 11-7
      (3) G00287 Parting Agent - Del Chem X-769 or
      (4) G00286 Parting Agent - 4A-183
   C. References
      (1) AMM 20-10-27/201, Flight Control Surfaces Safety Harness Receptacle
      (2) AMM 24-22-00/201, Control
      (3) AMM 51-31-01/201, Seals and Sealing
      (4) SSM 33-45-01, Logo Lights
      (5) WDM 33-00-11, Lamp Usage Chart
      (6) WDM 33-45-11, Logo Lights
   D. Access
      (1) Location Zones
          212 Control Cabin, Right
          333 Left Horizontal Stabilizer - Auxiliary Spar To Front Spar
          343 Right Horizontal Stabilizer - Auxiliary Spar To Front Spar

   E. Lamp Replacement

      S 862-079
      (1) Supply electrical power (AMM 24-22-00/201).

      S 862-095
      (2) On the control stand panel, P10,
      set the L and the C STAB TRIM switches to the CUTOUT position.



Logo Light Installation
Figure 201

S 862-080

(3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  (a) Circuit Breaker Panel Assembly, P11
    1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
    2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE
  (b) Forward Miscellaneous Electrical Equipment Panel, P33
    1) 33J6, L LOGO LTS
    2) 33J7, R LOGO LTS

S 942-027

(4) Put on the body harness and connect the attach fitting set to the attach point on the horizontal stabilizer (AMM 20-10-27/201).

S 012-006

WARNING: MAKE SURE THE LIGHTS ARE COOL BEFORE YOU TOUCH THEM. THE HEAT FROM THE LIGHTS CAN BURN YOUR HANDS.

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(5) Remove the sealant between the lens retainer and the airplane skin (AMM 51-31-01/201).

S 032-020

(6) Carefully remove the lens assembly.
  (a) Remove the six mounting screws from the lens retainer.

    NOTE: Do not remove the four fasteners on the lens retainer.

  (b) Pull out the lens assembly and put it to the side.

    NOTE: Do not remove the lanyard.

S 962-021

(7) Carefully replace the lamp.
  (a) Remove the two mounting screws from the lamp retainer.

    NOTE: Do not turn the two adjustment screws.

(b) Open the lamp retainer.
(c) Remove the lamp and disconnect the electrical wires.

CAUTION: DO NOT TOUCH THE NEW LAMP WITH BARE HANDS OR DIRTY OBJECTS. CONTAMINATION, SUCH AS OIL FROM YOUR SKIN, CAN DECREASE THE LIFE OF THE LAMP.

(d) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(e) Connect the electrical wires to the new lamp.
(f) Put the lamp into the housing.
(g) Close the lamp retainer and install the two mounting screws.
(h) Install the lens assembly with the six mounting screws. Tighten the six mounting screws to 30-35 pound-inches in opposite sequence.

S 862-081
(8) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Forward Miscellaneous Electrical Equipment Panel, P33
1) 33J6, L LOGO LTS
2) 33J7, R LOGO LTS

F. Lamp Test

S 712-022
(1) On the overhead panel, P5, push the LOGO switch to the ON position.
(a) Make sure the new lamp comes on.

S 862-023
(2) On the overhead panel, P5, push the LOGO switch to the OFF position.

S 862-045
(3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

G. Restore the Airplane to Its Usual Condition

S 942-110

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(1) Apply sealant around the outer edge of the lens assembly (AMM 51-31-01/201).

S 862-009
(2) Remove the attach fitting set from the horizontal stabilizer (AMM 20-10-27/201).

S 862-082
(3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Circuit Breaker Panel Assembly, P11
1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE

S 862-096
(4) On the control stand panel, P10,
set the L and the C STAB TRIM switches to the NORM position.

TASK 33-45-00-002-046
3. Logo Light - Removal (Fig. 201)
A. Equipment
(1) Full-Body Safety Harness
(2) Attach Lanyard - Wing/Horizontal Stabilizer
Safety Harness - A20002-4
B. References
(1) AMM 20-10-27/201, Flight Control Surfaces Safety Harness Receptacle
(2) AMM 24-22-00/201, Control
(3) SSM 33-45-01, Logo Lights
(4) WDM 33-00-11, Lamp Usage Chart
(5) WDM 33-45-11, Logo Lights
C. Access
(1) Location Zones
333 Left Horizontal Stabilizer - Auxiliary Spar To Front Spar
343 Right Horizontal Stabilizer - Auxiliary Spar To Front Spar

D. Procedure

S 862-083
(1) Supply electrical power (AMM 24-22-00/201).

S 862-074
(2) On the control stand panel, P10,
set the L and the C STAB TRIM switches to the CUTOUT position.

S 862-084
(3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
(a) Circuit Breaker Panel Assembly, P11
1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE
(b) Forward Miscellaneous Electronic Equipment Panel, P33
1) 33J6, L LOGO LTS
2) 33J7, R LOGO LTS

S 022-049

(4) Do these steps to remove a logo light assembly:
   (a) Put on the body harness and attach it to the attach point on the horizontal stabilizer with the attach lanyard (AMM 20-10-27/201).
   (b) Remove the screws that hold the housing in position.
   (c) Lift out the housing (with its lamp) from the airplane skin.
   (d) Disconnect the electrical connector and the two grounding wires from the bottom of the housing.
   (e) Remove the logo light assembly.

S 862-085

(5) Remove the attach fitting set from the horizontal stabilizer if it is not necessary for other tasks (AMM 20-10-27/201).

S 862-086

(6) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

TASK 33-45-00-402-052

4. Logo Light - Installation (Fig. 201)
   A. Equipment
      (1) Full-Body Safety Harness
      (2) Attach Lanyard - Wing/Horizontal Stabilizer Safety Harness - A20002-4
      (3) Resistance measuring bridge or ohmmeter capable of measuring .001 ohm
      (4) Sealing Gun
      (5) Spatula
      (6) Stainless Steel Brush
   B. Consumable Materials
      (1) A00247 Sealant - BMS 5-95, Class B-1/2
      (2) B00184 Solvent - BMS 11-7
      (3) G00009 Compound, Corrosion Inhibiting - BMS 3-23

C. References
(1) AMM 20-10-27/201, Flight Control Surfaces Safety Harness Receptacle
(2) AMM 24-22-00/201, Control
(3) AMM 51-24-03/701, Corrosion Inhibiting Coating
(4) AMM 51-31-01/201, Seals and Sealing
(5) SSM 33-45-01, Logo Lights
(6) WDM 33-00-11, Lamp Usage Chart
(7) WDM 33-45-11, Logo Lights

D. Access
(1) Location Zones
212 Control Cabin, Right
333 Left Horizontal Stabilizer - Auxiliary Spar To Front Spar
343 Right Horizontal Stabilizer - Auxiliary Spar To Front Spar

E. Procedure

S 862-087
(1) Supply electrical power (AMM 24-22-00/201).

S 862-088
(2) On the control stand panel, P10,
make sure that the L and the C STAB TRIM switches are in the CUTOUT position.

S 862-089
(3) Make sure that these circuit breakers are open with DO-NOT-CLOSE tags attached:
(a) Circuit Breaker Panel Assembly, P11
1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE
(b) Forward Miscellaneous Electronic Equipment Panel, P33
1) 33J6, L LOGO LTS
2) 33J7, R LOGO LTS

S 942-090
(4) Put on the body harness and connect the attach fitting set to the attach point on the horizontal stabilizer (AMM 20-10-27/201).

S 212-053
(5) Do a visual check of the faying surfaces on the logo light assembly and the airplane for corrosion and dirt.

S 142-054

CAUTION: MAKE SURE THAT THE FAYING SURFACES ARE CLEAN. IF THEY ARE NOT CLEAN, AN UNSATISFACTORY GROUND CAN OCCUR AND CAUSE THE SYSTEM TO OPERATE INCORRECTLY.

(6) Clean the faying surfaces with a stainless steel brush until the surface is free from corrosion and dirt (AMM 51-24-03/701).

NOTE: The use of materials other that stainless steel can increase the risk of subsequent corrosion.

S 112-055
(7) With a cloth, apply large quantities of the solvent, BMS 11-7, to the faying surfaces; then rub clean.

S 342-056
(8) Apply the compound, BMS 3-23, to prevent corrosion of the faying surfaces (AMM 51-24-03/701).

S 422-057
(9) Do these steps to install a logo light assembly:
(a) On the new logo light assembly, remove the screws that hold the lens assembly in position.
(b) Make sure that the electrical connections and lamp terminals are clean for good electrical contact.
(c) Connect the grounding wires and the electrical connector to the bottom of the housing on the new assembly.
(d) Put the new assembly in the airplane skin.
(e) With BMS 5-95, wet install the screws that hold the housing in position.

(f) Make sure that the resistance from the screws in the housing to the airplane skin is not more than .001 ohm.
(g) Install the lens assembly.

S 862-091
(10) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Forward Miscellaneous Electronic Equipment Panel, P33
1) 33J6, L LOGO LTS
2) 33J7, R LOGO LTS

S 712-058
(11) On the overhead panel, P5,
push the LOGO switch to the ON position.
(a) Make sure that the logo light comes on.

S 862-059
(12) On the overhead panel, P5,
push the LOGO switch to the OFF position.

S 392-112

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(13) Apply sealant around the outer edge of the lens assembly (AMM 51-31-01/201).

S 942-069
(14) Remove the attach fitting set from the horizontal stabilizer (AMM 20-10-27/201).

S 862-092
(15) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Circuit Breaker Panel Assembly, P11
1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE

S 862-075
(16) On the control stand panel, P10,
set the L and the C STAB TRIM switches to the NORM position.

S 862-093
(17) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

TASK 33-45-00-712-013

5. Logo Lights - Operational Test

A. References
(1) AMM 24-22-00/201, Control
(2) SSM 33-45-01, Logo Lights
(3) WDM 33-45-11, Logo Lights

B. Access
(1) Location Zones
212 Control Cabin, Right

C. Procedure

S 862-014
(1) Supply electrical power (AMM 24-22-00/201).

S 712-062
(2) Do these steps to test the logo lights:
(a) On the overhead panel, P5, push the LOGO switch to the ON position.
(b) Make sure that all four logo lights come on.
(c) On the overhead panel, P5, push the LOGO switch to the OFF position.
(d) Make sure that all four logo lights go off.

S 862-018
(3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-45-00-822-025

6. Logo Light - Adjustment (Fig. 201)

A. Equipment
(1) Full-Body Safety Harness

(2) Attach Fitting Set - Wing/Horizontal Stabilizer Safety Harness - A20002-4

B. Consumable Materials
(1) A00247 Sealant -- BMS 5-95, Class B-1/2
(2) B00184 Solvent - BMS 11-7
(3) G00287 Parting Agent - Del Chem X-769 or
(4) G00286 Parting Agent - 4A-183

C. References
(1) AMM 20-10-27/201, Flight Control Surfaces Safety Harness Receptacle
(2) AMM 24-22-00/201, Control
(3) AMM 51-31-01/201, Seals and Sealing
(4) SSM 33-45-01, Logo Lights
(5) WDM 33-45-11, Logo Lights

D. Access
(1) Location Zones
212 Control Cabin, Right
333 Left Horizontal Stabilizer - Auxiliary Spar To Front Spar
343 Right Horizontal Stabilizer - Auxiliary Spar To Front Spar

E. Procedure

S 862-070
(1) Supply electrical power (AMM 24-22-00/201).

S 862-077
(2) On the control stand panel, P10,
set the L and the C STAB TRIM switches to the CUTOUT position.

S 862-097
(3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
(a) Circuit Breaker Panel Assembly, P11
1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE

S 822-066
(4) Do these steps to adjust a logo light:
(a) Put on the body harness and attach it to the attach point on the horizontal stabilizer with the attach lanyard (AMM 20-10-27/201).

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(b) Remove the sealant between the lens assembly and the airplane skin with a sealant cutting tool (AMM 51-31-01/201).
(c) Remove the six mounting screws and remove the lens assembly.
(d) On the overhead panel, P5,
push the LOGO switch to the ON position.
(e) Turn the two adjustment screws so that the light beam is on the logo.
(f) On the overhead panel, P5,
push the LOGO switch to the OFF position.
(g) Install the lens assembly with the six mounting screws.

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(h) Apply sealant around the outer edge of the lens assembly (AMM 51-31-01/201).
(i) Remove the attach lanyard from the horizontal stabilizer (AMM 20-10-27/201).

S 862-098
(5) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Circuit Breaker Panel Assembly, P11
1) 11C12, LEFT STAB TRIM SHUTOFF VALVE
2) 11C13, RIGHT STAB TRIM SHUTOFF VALVE

S 862-078
(6) On the control stand panel, P10,
set the LEFT and the CENTER STAB TRIM SHUTOFF switches to the NORM position.

S 862-068
(7) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

EMERGENCY LIGHTING - DESCRIPTION AND OPERATION

1. General
   A. Emergency lights give sufficient lighting for all people to guickly get out of the airplane. The lights will come on automatically if there is an electrical power failure. You can make the lights come on manually with a switch. There are interior lights and exterior lights (AMM 33-51-00/001).
   B. Each group of lights gets electrical power from a pack of batteries installed in a power supply. The power supply keeps the batteries charged when usual electrical power is available.

EMERGENCY LIGHTS - DESCRIPTION AND OPERATION

1. General
   A. The emergency lights automatically give lighting and identify the exits, if the airplane has an electrical power failure. In this condition, the emergency lighting replaces the usual lighting.
   B. On some airplanes, the flight crew and passenger compartment attendants can also control the emergency lights manually with a switch.
   C. Electrical power is supplied to the emergency lighting system with 6 volt battery operated power supplies, independently from airplane generator and battery buses.
   D. For more data about this lighting system, refer to these sources:
      (1) SSM 33-51-01 thru 33-51-99
      (2) WDM 33-51-11 thru 33-51-99
2. Component Details
   A. Pilot's Switch
      (1) Primary control of the emergency lights is with a switch on the pilot's overhead panel, P5. There is an UNARMED indicator adjacent to this switch.
         (a) In the on position, the emergency lights are on.
            1) The UNARMED indicator light is on.
            2) The EICAS message EMER LIGHTS shows on the EICAS display.
         (b) In the armed position, the emergency lights come on automatically if there is an electrical power failure.
            1) On passenger airplanes, the emergency lights can be operated manually with the attendant's switch.
         (c) In the off position, the emergency lights are off.
            1) The UNARMED indicator light is on.
            2) The EICAS message EMER LIGHTS shows on the EICAS display.
            3) On passenger airplanes, the emergency lights will come on if the attendant's switch is set to the on position.
   B. PASSENGER AIRPLANES;
      Attendant's Switch
      (1) Secondary control of the emergency lights is with a switch on the attendant's panel in the passenger compartment.
         (a) In the on position, the emergency lights are on.
            1) You cannot make the emergency lights go off with the pilot's switch. You must first set the attendant's switch back to the off position.

(b) In the normal position, the emergency lights come on automatically if there is an electrical power failure.
1) The pilot's switch must be set to the armed position.

C. PASSENGER AIRPLANES;
Test Switches
(1) After a test switch is set to the on position, the emergency lights go off automatically after approximately one minute.
(a) There is a test switch on the attendant's panel to do a test of the interior emergency lights.
(b) There is test switch on the APU shutdown panel, P40, to do a test of the exterior lights. The P40 panel is on the nose landing gear.

D. Power Supplies
(1) Each power supply contains a pack of batteries and a logic circuit. The power supply uses 28 volts dc to slowly charge its batteries. The batteries then supply 6 volts dc to operate the emergency lights.
(2) The 28 volts also sets the logic circuit in the power supply to keep the lights off. If there is an electrical power failure that removes the 28 volts, the logic circuit sets to make the lights come on.
(3) On passenger airplanes, each power supply is installed behind an air grill in the passenger compartment.
(4) A power supply can operate eight lights.
(5) The battery pack is installed in its power supply with quick release fasteners. The battery pack can be removed without the removal of the power supply.

E. Hydraulic Motor-Driven Generator
(1) Some airplanes are equipped with a Hydraulic Motor-Driven Generator.
(2) The hydraulic motor-driven generator system (AMM 24-25-00) automatically provides power to the interior emergency lights when the airplane is airborne and there is a loss of ac power from all main generators.

3. Operation

A. Functional Description
(1) Interior Emergency Lights on Passenger airplanes:
(a) Floor proximity emergency lights may be mounted on the floor or on the seats on some planes. They identify the aisle and the exits of the passenger compartment.
1) Floor mounted floor proximity lights are mounted on the floor along the aisle.

2) Seat mounted floor proximity lights are mounted on the aisle side of seats along the aisle.
   a) The passengers can continue to see these lights if the top of the passenger compartment fills with smoke.

(b) Exit signs show the passengers and crew where the doors and emergency exits are. Each exit sign has a lens on the bottom surface to give lighting to the area below the sign.
1) There is an exit sign, that is also a portable light, on the flight compartment door.
2) An exit sign is installed near the floor on the wall adjacent to each door and emergency exit.
3) In the Emergency Lights section, the exit signs are also referred to as the exit identifier signs.
4) There is an exit sign above each passenger door, service door, and overwing escape hatch.
5) There are also exit signs which point to the doors and hatches. These signs are installed above the aisle near the ceiling.

(2) Airplanes With Self-Illuminated Exit Signs:
The lighting for each self-illuminated exit sign comes from a radioactive material.
(a) These signs are always on. You cannot make these signs go off with the emergency lights switch.
(b) Each sign is a plastic container that holds capsules filled with radioactive tritium gas.
(c) The sign is safe, unless it is broken. If the sign has a hole or a crack in it, the radioactive gas can come out and cause injury to persons. It is dangerous to breath the gas or to absorb the gas through your skin. There are special procedures to replace and discard these signs (AMM 33-51-02/201).

(3) Exterior Emergency Lights
(a) Exterior emergency lights on passenger planes are flush mounted on the fuselage. Lights are near each door and emergency exit. The lights give lighting to the escape slides.
(b) If a door (or hatch, on some airplanes) is opened and the girt bar is engaged, a proximity switch is closed. This condition energizes the exterior emergency lights relay for that side of the airplane. The relay removes electrical power from the emergency light power supplies. This causes the emergency lights to come on, if the emergency lights system is armed.

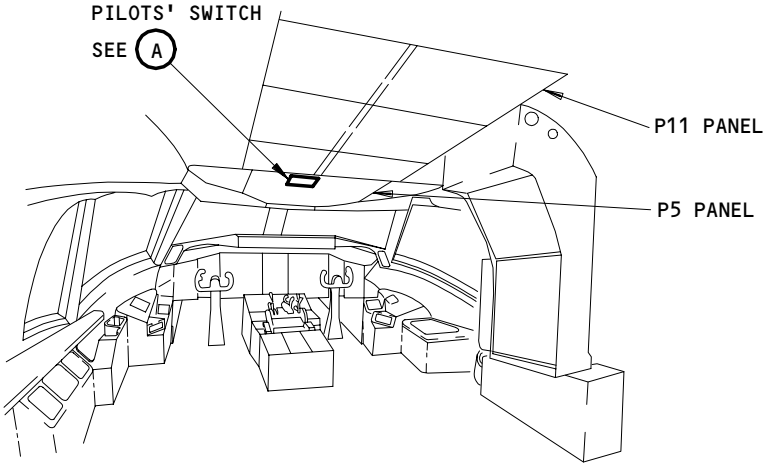
EMERGENCY LIGHTS

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER –			FLT COMPT, P11	*
COMPUTER – EICAS (FIM 31-41-00/101)			MAIN EQUIP CTR	*
LIGHT –				
AISLE	4		PASS. COMPT	33-51-05
DOOR	4		PASS. COMPT	33-51-03
FLOOR PROXIMITY				
EMERGENCY ESCAPE PATH	5		PASS. COMPT	33-51-10
EXIT IDENTIFIER SIGN	5		PASS. COMPT	33-51-09
INDICATOR	1		FLT COMPT, P5	*
LOWERED CEILING	4		PASS. COMPT	33-51-04
SLIDE	3		FUSELAGE	33-51-06
RELAY –			MAIN EQUIP CTR	*
SIGN – EXIT				
ELECTRICALLY ILLUMINATED	4		PASS. COMPT	33-51-01
SELF-ILLUMINATED 1	4		PASS. COMPT	33-51-02
SUPPLY – POWER	3		PASS. COMPT	33-51-07
SWITCH –				
ATTENDANT'S	2		PASS. COMPT	*
PILOTS'	1		FLT COMPT	33-51-08
PROXIMITY	--		WING DOOR	*
TEST	2		NOSE LANDING GEAR, P40	*
TEST	2		PASS. COMPT	*

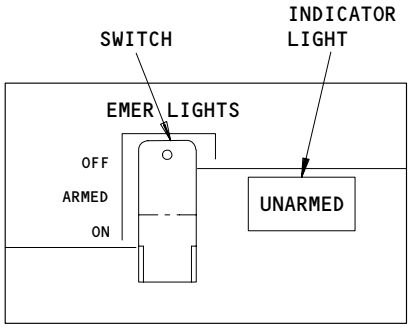
* SEE THE WDM OR SSM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT

1 NOT INSTALLED ON ALL AIRPLANES

Emergency Lights – Component Index
Figure 101



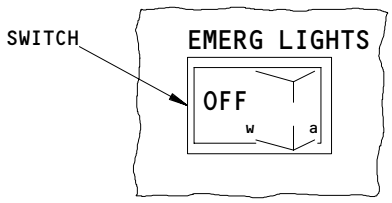
FLIGHT COMPARTMENT



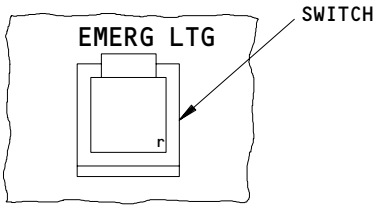
PILOTS' SWITCH (EXAMPLE)

A

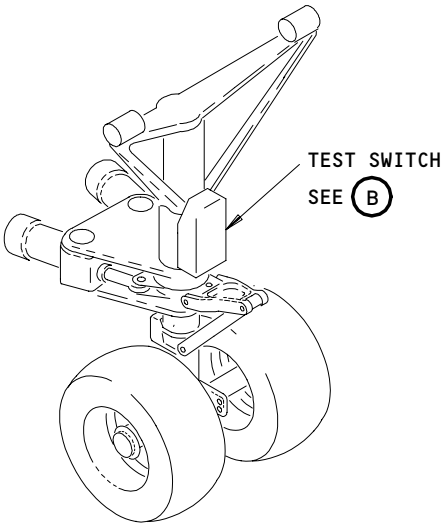
Emergency Lights - Component Location
Figure 102 (Sheet 1)



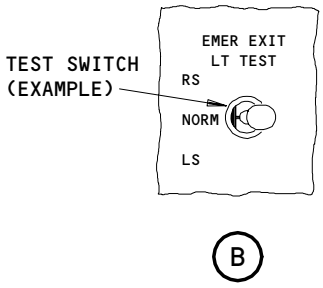
TEST SWITCH IN THE
PASSENGER COMPARTMENT (EXAMPLE)



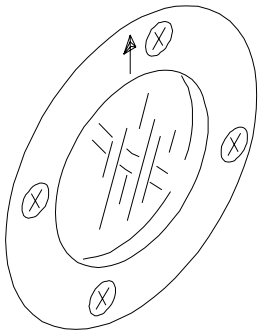
ATTENDANT'S SWITCH IN THE
PASSENGER COMPARTMENT (EXAMPLE)



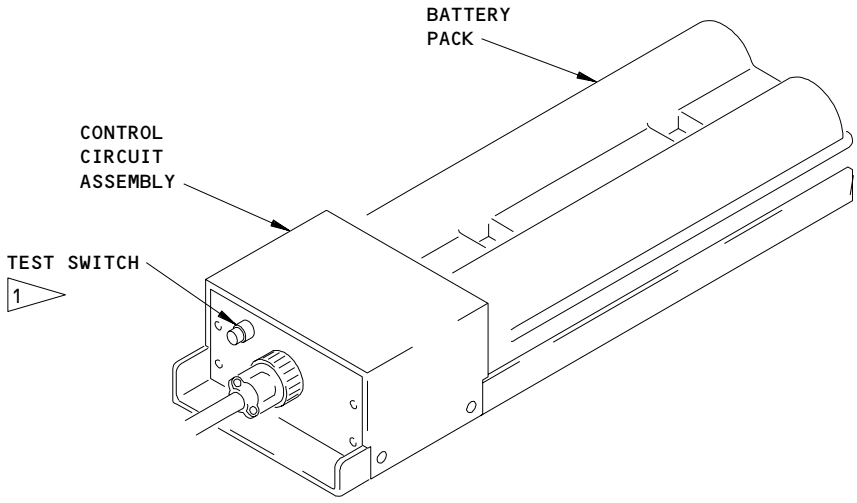
NOSE LANDING GEAR



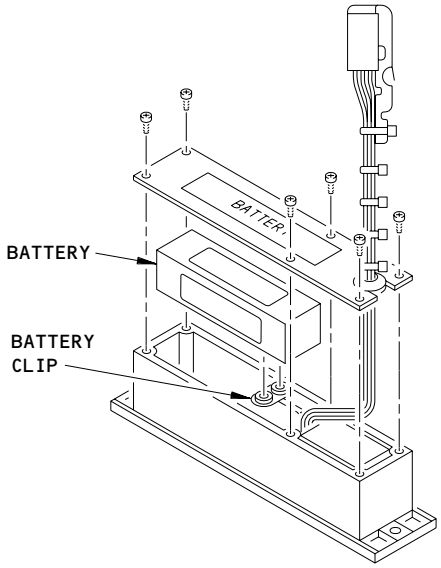
Emergency Lights - Component Location
Figure 102 (Sheet 2)



SLIDE LIGHT ON THE FUSELAGE
(EXAMPLE)



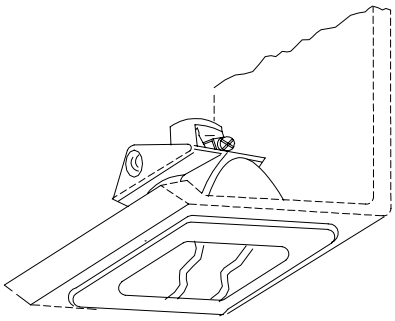
POWER SUPPLY 2
(EXAMPLE)



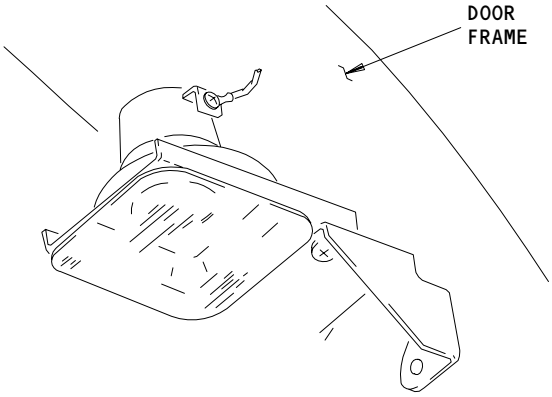
POWER SUPPLY 3
(EXAMPLE)

1 POWER SUPPLIES WITH A TEST SWITCH
2 ALL POWER SUPPLIES EXCEPT LSI
3 LSI POWER SUPPLIES

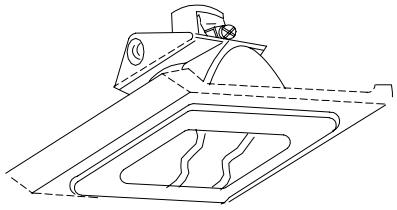
Emergency Lights - Component Location
Figure 102 (Sheet 3)



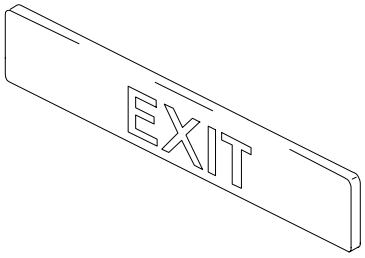
AISLE LIGHT
(EXAMPLE)



DOOR LIGHT
(EXAMPLE)



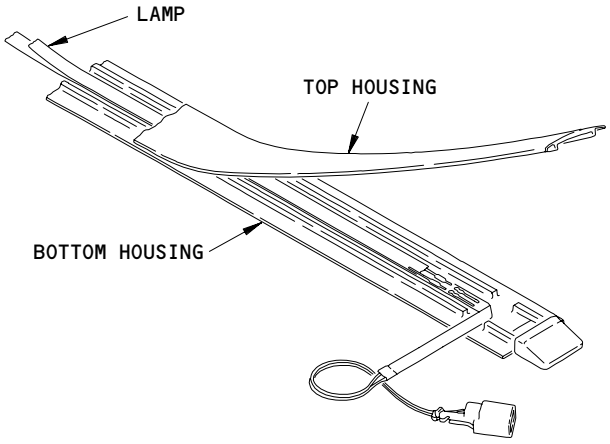
LOWERED CEILING LIGHT
(EXAMPLE)



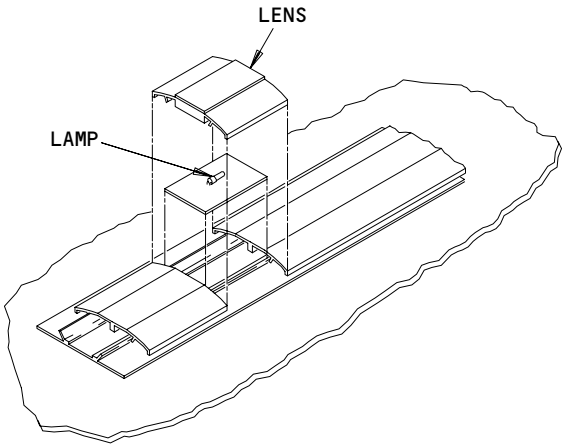
EXIT SIGN
(EXAMPLE)

EMERGENCY LIGHTS IN THE
PASSENGER COMPARTMENT

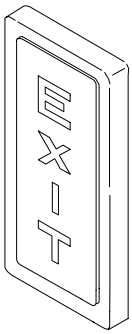
Emergency Lights - Component Location
Figure 102 (Sheet 4)



EMERGENCY ESCAPE PATH LIGHT
(EXAMPLE OF THE ELECTROLUMINESCENT TYPE)



EMERGENCY ESCAPE PATH LIGHT
(EXAMPLE OF THE INCANDESCENT TYPE)



EXIT IDENTIFIER SIGN
(EXAMPLE)

EMERGENCY LIGHTS IN THE
PASSENGER COMPARTMENT

Emergency Lights - Component Location
Figure 102 (Sheet 5)

EMERGENCY LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has two tasks. The first task tells how to disconnect the electrical connectors in the emergency light system. The second tells how to connect the electrical connectors in the emergency light system.
   B. You can disconnect the electrical connectors in the emergency light system if a ground is supplied at pins 3 and 4 or K and L, as applicable, of the emergency lights power supplies. The emergency lights will not come on and remove the charge on the power supply batteries if a ground is kept at the power supplies.
   C. The electrical connectors would not usually be disconnected during regular emergency light system maintenance. But you can disconnect them for maintenance of electrical panels. You can disconnect the electrical wires to any emergency light or power supply without removal of the charge on the batteries.

TASK 33-51-00-032-001

2. Disconnect Electrical Connector
   A. References
      (1) WDM 33-51-11
   B. Access
      (1) Location Zone
          200 Upper Half of the Fuselage
   C. Procedure

      S 862-009

      (1) Identify the pins for the electrical connectors that lead to the emergency light power supplies (WDM 33-51-11).
          (a) Follow the circuits from pins 3 and 4 on connected emergency light power supplies to the connectors on the electrical panel.
          (b) Make a note of the pins on the electrical panel that require a ground.

      S 032-010

      CAUTION: DO NOT LEAVE EMERGENCY LIGHTS ON FOR LONGER THAN ONE MINUTE. EXCESSIVE OPERATION MAY DISCHARGE BATTERIES.

      (2) Disconnect the electrical connector.

S 862-005
(3) Ground the applicable pin(s).

TASK 33-51-00-432-006

3. Connect Electrical Connector

A. Access

(1) Location Zone

200 Upper Half of the Fuselage

B. Procedure

S 042-007

CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN ONE MINUTE. TOO MUCH OPERATION CAN REMOVE THE CHARGE ON THE BATTERIES.

(1) Remove the ground from the applicable pin(s).

S 432-008
(2) Connect the electrical connector.

EMERGENCY LIGHTS - ADJUSTMENT/TEST

1. General
   A. This procedure contains these tasks:
      (1) Emergency Lights - Daily Operational Test
      (2) Emergency Lights - Operational Test with the Test Switches
      (3) Emergency Lights - Operational Test with the Control Switches
      (4) Emergency Lights - Operational Test of the Lights Connected to the Exit Doors and Hatches
      (5) Emergency Lights - Operational Test of the Lights Connected to the Hydraulic Motor-Driven Generator
      (6) Emergency Lights - Functional Test

TASK 33-51-00-715-001

2. Emergency Lights - Daily Operational Test
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-51-11 thru WDM 33-51-55
   B. Access
      (1) Location Zones
          200 Upper Half of Fuselage

   C. Procedure for Passenger Airplanes

      S 715-289

      CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN REMOVE THE CHARGE FROM THE BATTERIES.

      (1) At the overhead panel, P5, set the switch for the emergency lights to the on position.
          (a) Quickly make sure emergency lights on each side of the airplane come on.

              NOTE: This test is to make sure the system operates. It is not necessary to examine each emergency light.

              1) AIRPLANES WITH FLOOR PROXIMITY LIGHTS;
                 Quickly make sure each emergency escape path light comes on.

S 865-290
(2) Set the switch to the off position.
(a) Make sure the emergency lights go off.

TASK 33-51-00-715-200
3. ON PASSENGER AIRPLANES;
Emergency Lights - Operational Test with the Test Switches
A. References
(1) SSM 33-50-00 thru SSM 33-51-01
(2) WDM 33-51-11 thru WDM 33-51-51
B. Access
(1) Location Zones
200 Upper Half of Fuselage

C. Procedure

S 715-291
(1) Do a test of the interior emergency lights.
(a) Do the steps which follow for each attendant's test switch:
1) At the attendant's panel, set the test switch for the emergency lights to the on position.
a) Make sure the emergency lights in the passenger compartment come on, and then go off automatically after approximately one minute.

NOTE: AIRPLANES WITH AN ELECTROLUMINESCENT FLOOR PROXIMITY LIGHTING SYSTEM;
The floor proximity lighting system will stay off in this test.

S 715-292
(2) Do a test of the exterior emergency lights.
(a) At the APU shutdown panel, P40, on the nose gear, set the test switch to the on position for the right side lights.
1) Make sure the exterior emergency lights on the right side of the airplane come on and go off correctly.

NOTE: The emergency lights will automatically go off after approximately one minute.

(b) At the P40 panel, set the test switch to the on position for the left side lights.
1) Make sure the exterior emergency lights on the left side of the airplane come on and go off correctly.

NOTE: The emergency lights will automatically go off after approximately one minute.

TASK 33-51-00-715-227

4. Emergency Lights - Operational Test with the Control Switches

A. General
(1) The control switches for the emergency lights are in the flight compartment and the passenger compartment. These switches are referred to as the pilot's switch and the attendant's switch.

B. References
(1) AMM 24-22-00/201, Electrical Power - Control
(2) SSM 33-51-00 thru SSM 33-51-01
(3) WDM 33-51-11 thru WDM 33-51-51
(4) WDM 91-01-27

C. Access
(1) Location Zones
200 Upper Half of Fuselage

D. Procedure for Passenger Airplanes

S 865-241
(1) Supply electrical power (AMM 24-22-00/201).

S 715-293
(2) Do a test of the emergency lights.
(a) At the overhead panel, P5, make sure the pilot's switch for the emergency lights is set to the off position.

CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN REMOVE THE CHARGE FROM THE BATTERIES.

(b) On the emergency exit light in the flight compartment, set the switch to the on position.
1) Quickly make sure the emergency exit light comes on.

(c) On the emergency exit light, set the switch to the armed position.
    1) Make sure the emergency exit light goes off.
(d) Do the steps which follow for each attendant's switch:

    CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN REMOVE THE CHARGE FROM THE BATTERIES.

    1) At the attendant's panel, set the attendant's switch for the emergency lights to the on position.
        a) Quickly make sure the emergency lights come on.
    2) Set the attendant's switch to the off position.
        a) Make sure the emergency lights go off.
(e) Set the pilot's switch to the armed position.
(f) Do the steps which follow for each attendant's switch:

    CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN REMOVE THE CHARGE FROM THE BATTERIES.

    1) Set the attendant's switch to the on position.
        a) Quickly make sure the emergency lights come on.
    2) Set the attendant's switch to the off position.
        a) Make sure the emergency lights go off.

CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN REMOVE THE CHARGE FROM THE BATTERIES.

(g) Set the pilot's switch to the on position.
    1) Quickly make sure the UNARMED warning light adjacent to the switch comes on.
    2) Quickly make sure the EICAS message EMER LIGHTS shows on the EICAS display.

3) Quickly make sure each emergency light is on.

(h) Set the pilot's switch to the armed position.
1) Make sure the UNARMED warning light goes off.
2) Make sure the EICAS message EMER LIGHTS does not show on the EICAS display.
3) Make sure each emergency light goes off.

(i) Set the pilot's switch to the off position.
1) Make sure the UNARMED warning light comes on.
2) Make sure the EICAS message EMER LIGHTS shows on the EICAS display.
3) Make sure the emergency lights stay off.

S 865-242

(3) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-51-00-715-256

5. Emergency Lights - Operational Test of the Lights Connected to the Exit Doors and Hatches

A. References
(1) SSM 33-50-00 thru SSM 33-51-01
(2) WDM 33-51-11 thru WDM 33-51-51
(3) WDM 91-01-27

B. Access
(1) Location Zones
200 Upper Half of Fuselage

C. Procedure

S 865-255

(1) At the overhead panel, P5, set the pilot's switch for the emergency lights to the armed position.

S 735-284

(2) Do these steps to make sure the entry and service doors will activate the exterior emergency lights during an emergency:

NOTE: Do not use the emergency exit doors immediately aft of the wings to do this test. They do not activate the exterior emergency lights.

S 715-264

(3) Do these steps to make sure the entry door will activate the exterior emergency lights during an emergency.

WARNING: YOU MUST DISARM THE DOORS BEFORE YOU OPEN THEM. IF YOU DO NOT, ACCIDENTAL SLIDE OPERATION CAN CAUSE INJURY TO PERSON AND DAMAGE TO EQUIPMENT.

(a) Disarm and open one entry or service door.
    1) Set the green mode selector lever to SLIDE DISARMED.
    2) Make sure the yellow girt bar indicators are not visible in the viewing windows at the bottom of the bustle.
    3) Make sure the EMERGENCY ONLY indicator tab retracts.
    4) Hold the internal operating handle and lift the handle up to release the door.
(b) Manually push the green arming lever release button adjacent to the green mode selector while you put the mode selector in the SLIDE ARMED position.
(c) Make sure the exterior emergency lights on the same side as the opened door come on.
(d) Set the mode selector to the SLIDE DISARMED position.
(e) Make sure the lights go off.
(f) Close and arm the door.
(g) Do these steps again for each entry and service door.

S 865-285

(4) Set the pilot's switch to the off position.

TASK 33-51-00-715-257

6. Emergency Lights - Operational Test of the Lights Connected to the Hydraulic Motor-Driven Generator

A. References
(1) AMM 24-25-00/501, Hydraulic Motor-Driven Generator System
(2) AMM 29-11-00/201, Pressurize/Depressurize Main Hydraulic System
(3) SSM 33-21-01 thru SSM 33-21-02
(4) SSM 33-22-01
(5) SSM 33-26-01
(6) WDM 33-21-51
(7) WDM 33-22-11 thru WDM 33-22-14
(8) WDM 33-26-11 thru WDM 33-26-21

B. Access
(1) Location Zones
    200 Upper Half of Fuselage

C. Procedure

S 715-261

(1) Do a test of the night lights.
  (a) Use the hydraulic service cart or operate both ACPM C1 and C2 to pressurize the center hydraulic system (AMM 29-11-00/201).
  (b) At the attendant's panel, set the switch for the ceiling lights to the bright position.
    1) Make sure all the ceiling night lights are off.
  (c) At the miscellaneous test panel, P61, set and hold the test switch for the hydraulic motor-driven generator to the HYDRAULIC GENERATOR position.
    1) Make sure the night lights connected to the hydraulic motor-driven generator come on correctly.
  (d) Release the test switch.

S 715-262

(2) Do the test of the emergency lights.
  (a) At the overhead panel, P5, set the pilot's switch for the emergency lights to the armed position.
  (b) At the P61 panel, set the test switch to the HYDRAULIC GENERATOR position.
    1) Make sure the emergency lights are off.
  (c) At the overhead circuit breaker panel, P11, open each circuit breaker for alternate electrical power to the emergency lights.
    1) Quickly make sure all the emergency lights come on.
  (d) Close each circuit breaker that was opened.
    1) Make sure the emergency lights go off.
  (e) Release the test switch.
  (f) Set the pilot's switch for the emergency lights to the off position.

S 865-263

(3) Remove the hydraulic power if it is not necessary (AMM 29-11-00/201).

TASK 33-51-00-725-247

7. Emergency Lights - Functional Test

A. References
  (1) AMM 24-22-00/201, Electrical Power - Control
  (2) AMM 33-51-07/201, Power Supply
  (3) SSM 33-50-00 thru SSM 33-51-01
  (4) WDM 33-51-11 thru WDM 33-51-51
  (5) WDM 91-01-27

B. Access
  (1) Location Zones
    200 Upper Half of Fuselage

C. Procedure for Passenger Airplanes

S 715-248
(1) Do a test of the emergency lights with the test switches.
(a) Do this Task: Emergency Lights - Operational Test with the Test Switches.

S 715-249
(2) Do a test of the emergency lights with the pilot's and attendant's switches.
(a) Do this Task: Emergency Lights - Operational Test with the Control Switches.

S 715-250
(3) Do a test of the emergency lights connected to batteries with an electrical power failure.
(a) Supply electrical power (AMM 24-22-00/201).
(b) At the overhead panel, P5, set the pilot's switch for the emergency lights to the armed position.

CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN ONE MINUTE FOR EACH TEST. TOO MUCH OPERATION CAN REMOVE THE CHARGE FROM THE BATTERIES.

(c) At the overhead panel, P11, open each circuit breaker for the emergency lights.
1) Quickly make sure all the emergency lights come on.
(d) Close each circuit breaker that was opened.
(e) Set the pilot's switch to the off position.
(f) Remove electrical power if it is not necessary (AMM 24-22-00/201).

S 715-259
(4) Do a test of the emergency lights that come on when you open the exit doors and hatches.
(a) Do this Task: Emergency Lights - Operational Test of the Lights Connected to the Exit Doors and Hatches.

S 715-251
(5) Do a test of the emergency lights connected to the hydraulic motor-driven generator.
(a) Do this Task: Emergency Lights - Operational Test of the Lights Connected to the Hydraulic Motor-Driven Generator.

S 725-254
(6) Do a test of the power supplies and their batteries.
(a) Do this Task: Battery Pack Capacity Test (AMM 33-51-07/201).

EMERGENCY EXIT SIGNS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks for the emergency exit signs that are electrically illuminated:
      (1) Exit Sign - Lamp Replacement
      (2) Exit Sign - Removal
      (3) Exit Sign - Installation

TASK 33-51-01-962-001

2. Exit Sign - Lamp Replacement (Fig. 201)
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-00-11, Lamp Usage Chart
      (3) WDM 33-51-11 thru WDM 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage
   C. Lamp Replacement

      S 032-008
      (1) Carefully pull off the lens.
          (a) For a lens with release holes, push a wire or tool in each release hole and then pull off the lens.

      S 962-009
      (2) Carefully replace the lamp.
   D. Lamp Test

      S 712-010
      (1) At the attendant's panel, set the test switch to the on position, or on the pilot's control panel, P5, set the EMERG LIGHTS switch to the on position.

          NOTE: If you are testing the Portable Exit Sign, Standby Power must be on, and you must use the pilots control panel, P5, EMERG LIGHTS switch. Ref (AMM 24-22-00/201)

          (a) Make sure the new lamp comes on correctly.

      S 432-018
      (2) Carefully push the lens into its position.

TASK 33-51-01-022-012

3. Exit Sign - Removal (Fig. 201)

A. References

(1) AMM 25-22-02/401, Lowered Ceiling Panels
(2) SSM 33-51-01
(3) WDM 33-51-11 thru WDM 33-51-99

B. Access

(1) Location Zone
200 Upper Half of Fuselage

C. Light Removal

S 012-013

(1) Get access to the mounting screws that hold the light assembly.
(a) For a portable exit sign, remove the portable part of the exit sign assembly.
(b) For a exit sign on a wall, door, escape hatch, or theshold, carefully pull off the lens.
1) For an exit sign with release holes, push a wire or tool in each release hole and then pull off the lens.
(c) For an exit sign on a ceiling, remove the adjacent ceiling panel (AMM 25-22-02/401).

S 032-015

(2) Remove each mounting fastener.

S 032-016

(3) Disconnect the electrical wires or electrical connector from the light assembly.

S 022-017

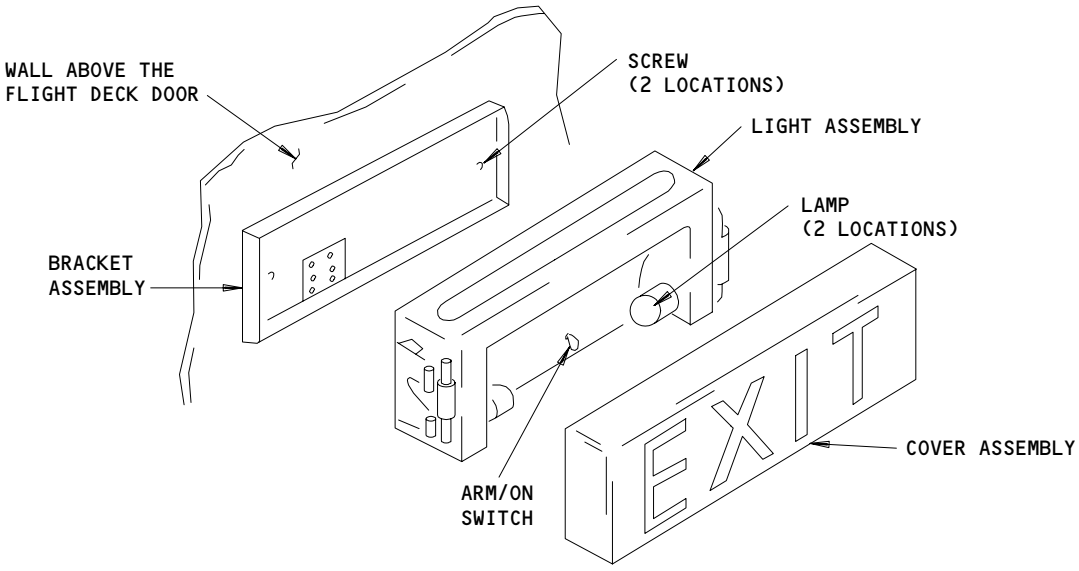
(4) Remove the light assembly.

TASK 33-51-01-402-026

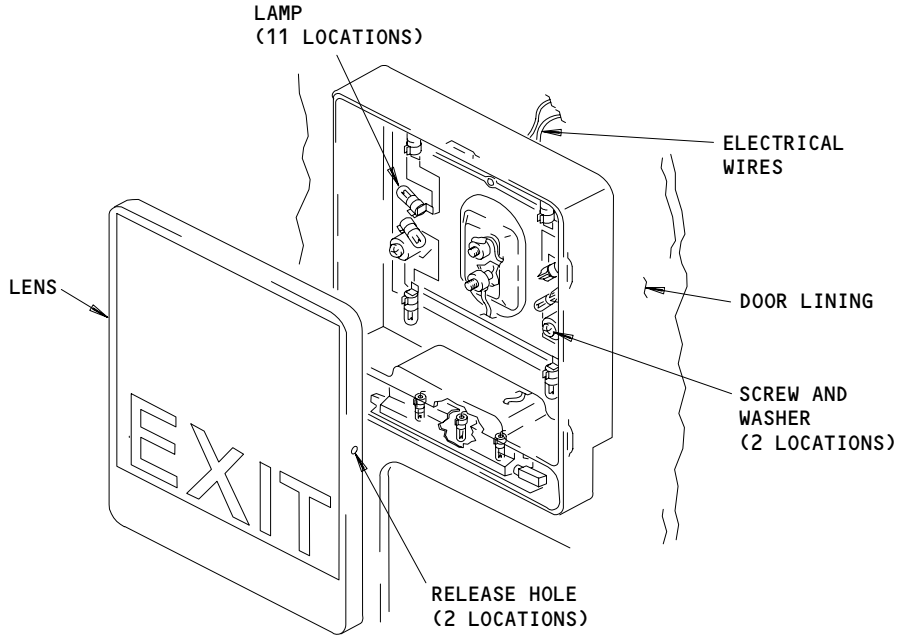
4. Exit Sign - Installation (Fig. 201)

A. References

(1) AMM 25-22-02/401, Lowered Ceiling Panels

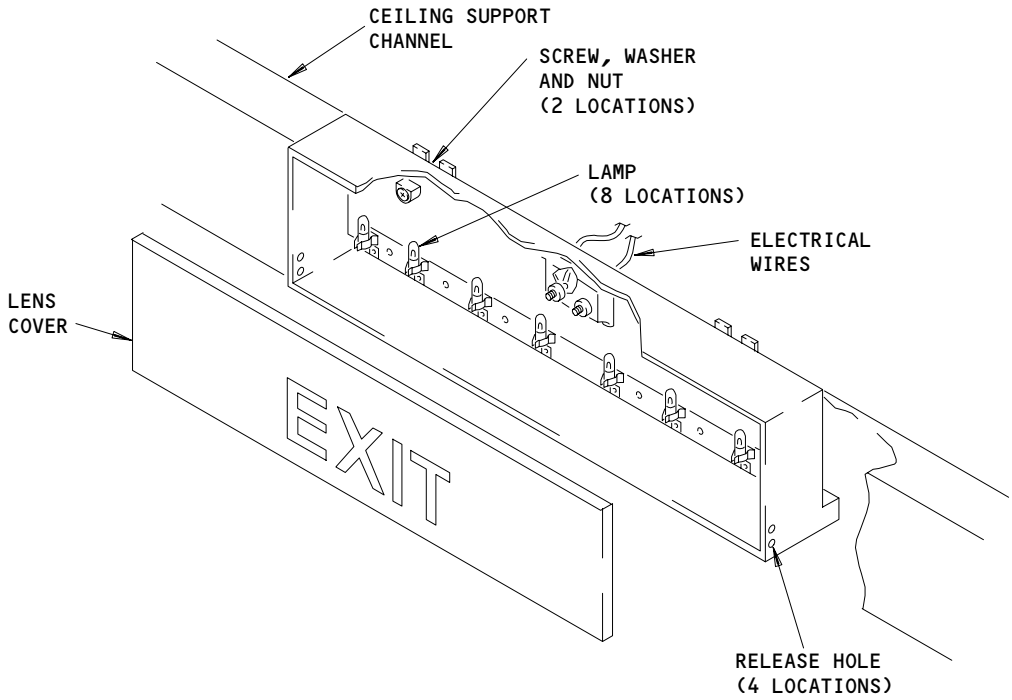


FLIGHT DECK EMERGENCY EXIT LIGHT

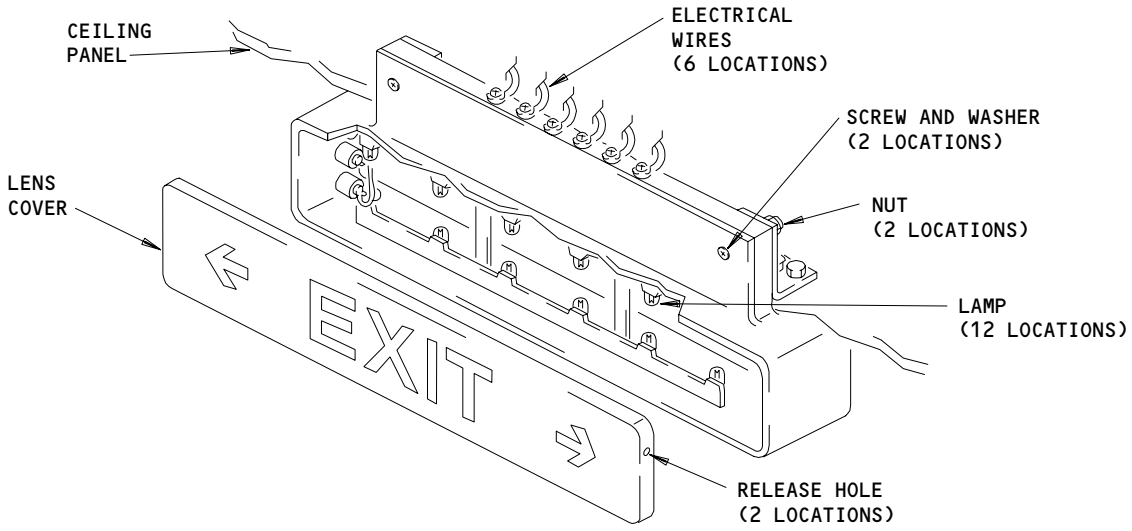


EXIT/THRESHOLD SIGN LIGHT - TYPE A
(EXAMPLE)

Emergencey Exit Signs
Figure 201 (Sheet 1)

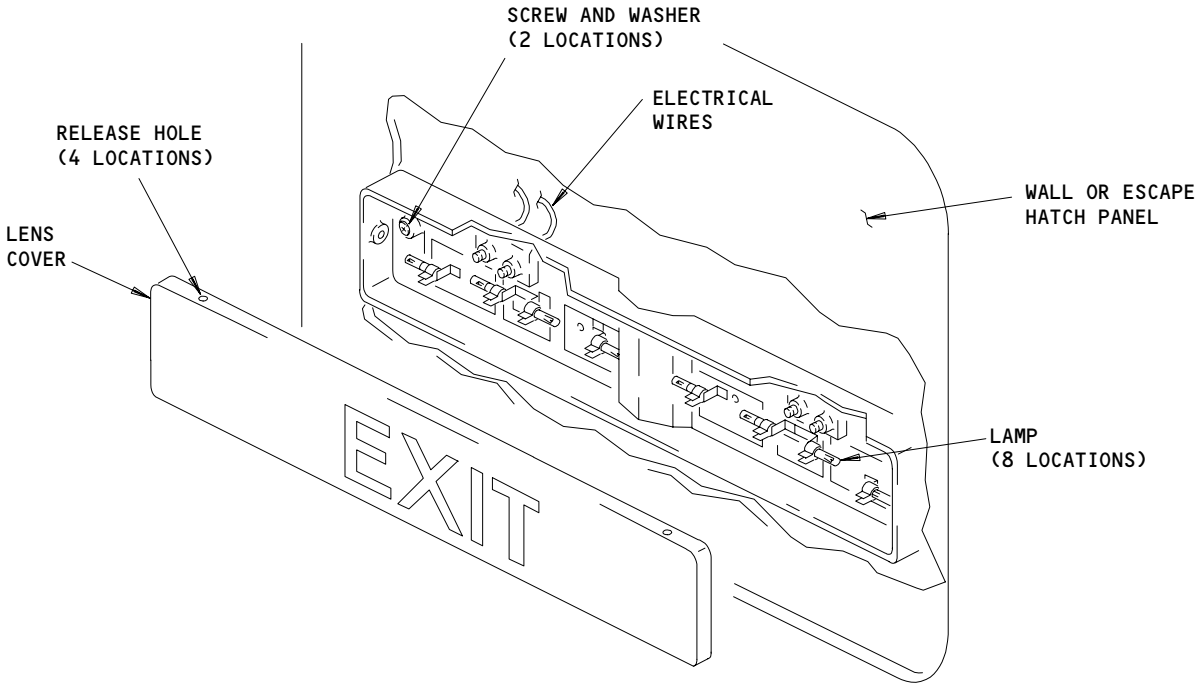


EXIT SIGN LIGHT – TYPE B
(EXAMPLE)



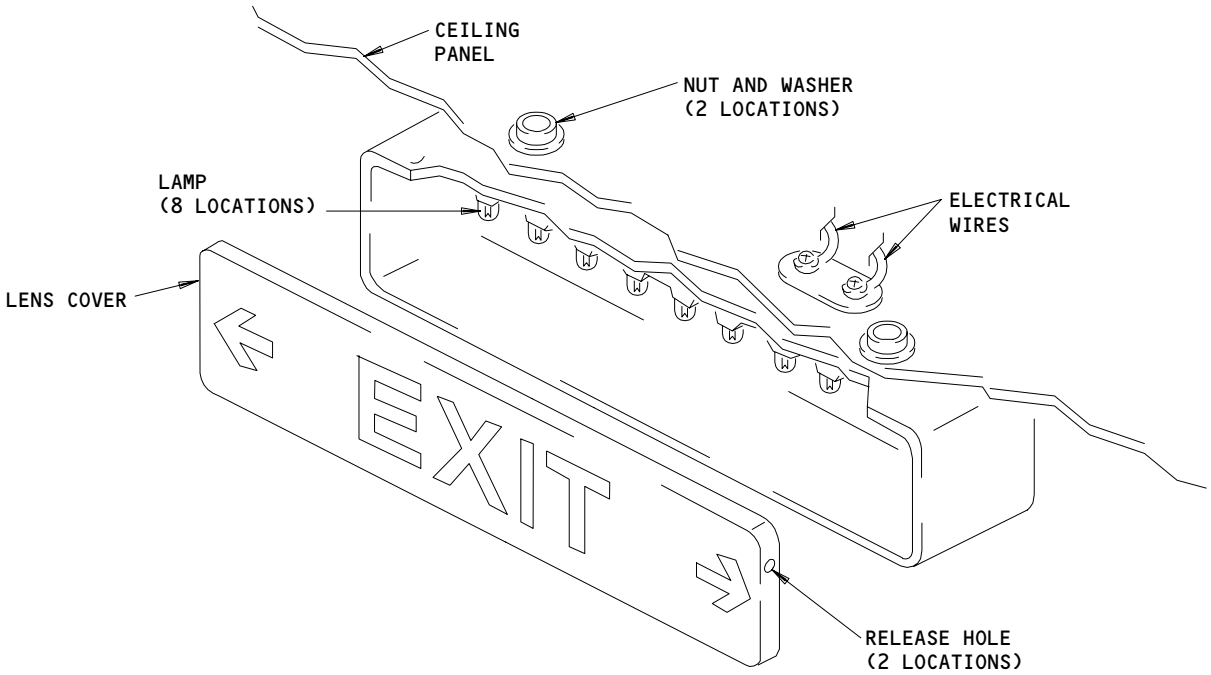
EXIT SIGN LIGHT – TYPE C
(EXAMPLE)

Emergency Exit Signs
Figure 201 (Sheet 2)



EXIT SIGN LIGHT – TYPE D
(EXAMPLE)

Emergency Exit Signs
Figure 201 (Sheet 3)



EXIT SIGN LIGHT – TYPE E
(EXAMPLE)

Emergency Exit Signs
Figure 201 (Sheet 4)

(2) SSM 33-51-01
(3) WDM 33-51-11 thru WDM 33-51-99

B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Light Installation

S 862-014

CAUTION: THE SWITCH ON A PORTABLE EXIT SIGN MUST BE SET TO THE ARMED POSITION BEFORE YOU INSTALL THE SIGN. IF THE SWITCH IS NOT IN THE ARMED POSITION, THE BATTERY PACK WILL NOT CHARGE.

(1) For a portable exit sign, set the switch on the sign to the armed position.

S 432-019
(2) Connect the electrical wires or the electrical connector to the light assembly.

S 422-020
(3) Install the light assembly with the mounting fasteners.

S 412-021
(4) Install each ceiling panel that was removed (AMM 25-22-02/401) or carefully push the lens into its position.

D. Lamp Test

S 712-016
(1) At the attendant's panel, set the test switch to the on position, or on the pilot's control panel, P5, set the EMERG LIGHTS switch to the on position.

NOTE: If you are testing the Portable Exit Sign, Standby Power must be on, and you must use the pilot's control panel, P5, EMERG LIGHTS switch. Ref (AMM 24-22-00/201)

(a) Make sure the exit sign comes on correctly.

SELF-ILLUMINATED EXIT SIGNS - MAINTENANCE PRACTICES

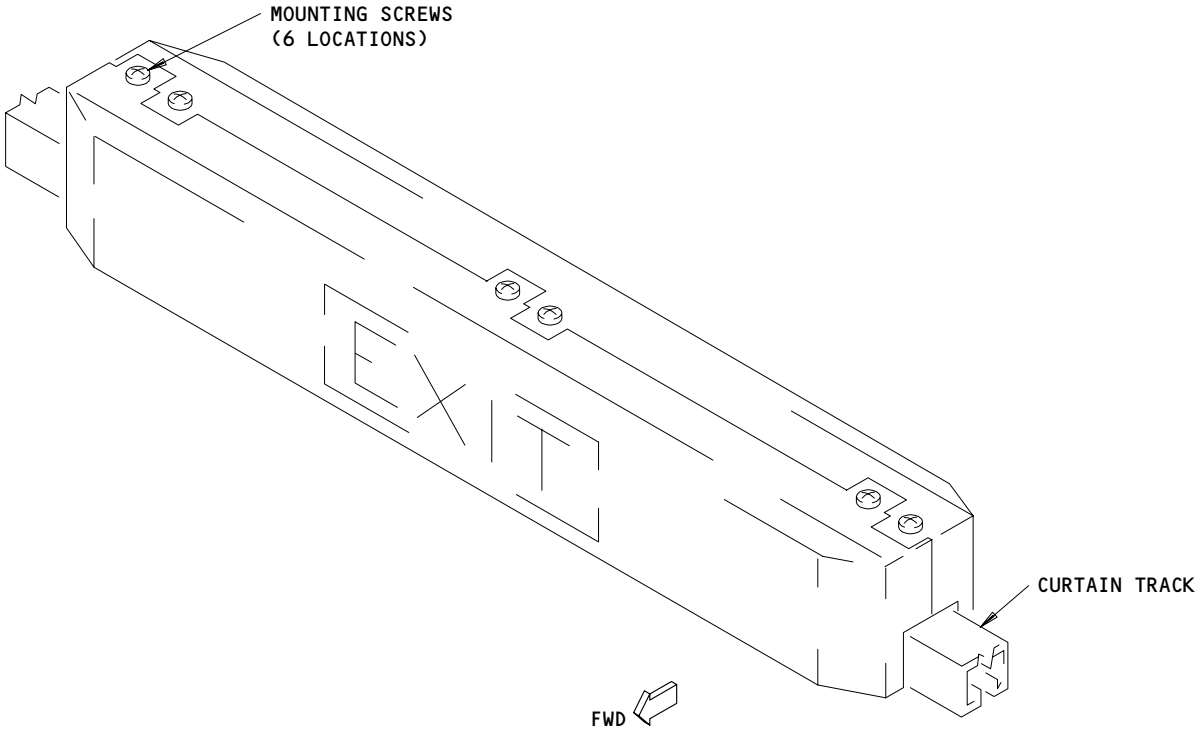
1. General (Fig. 201)
   A. Self-illuminated exit signs are installed on each class divider curtain track. The signs contain capsules filled with radioactive tritium gas. The capsules are in the plastic rectangle that makes up the sign.
   B. The radioactive tritium gas gives no radiological health hazard when the signs are in one piece. If the signs have a crack or break, radioactive gas can be released. The radioactive gas is a health hazard if you breathe or absorb it into the body. A sign with small scratches is not dangerous.
   C. Do the special procedures for a sign when you move a sign (AMM 20-10-18/201).
      (1) The airplane or a portable air distribution system must operate when you move a self-illuminating sign to remove the radioactive gas if the sign breaks.
      (2) Discarded signs are subject to control by radiation protection persons who must obey governmental control.
      (3) You must put signs in protective containers in a location open to the air such as an open shelf.
      (4) The initial manufacturer is the only company approved to repair these signs.

TASK 33-51-02-702-001

2. AIRPLANES WITH A SELF-ILLUMINATED EXIT SIGN;
   Self-Illuminated Exit Sign - Operational Test
   A. Equipment
      (1) CAN-DB-45-3 or DB-45-B3 - Comparator
      Self-Powered Lighting, Inc.
      8 Westchester Plaza
      Elmsford, New York 10523-1604
      U.S.A.

      Telephone: (914) 592-8230
      FAX: (914) 592-8435

      NOTE: For an accurate test of the sign, the light in the comparator must be a minimum of 250 microlamberts. The intensity of the light in the comparator slowly decreases. Replace the light in the comparator when its intensity is not sufficient for an accurate test.



SELF ILLUMINATED EXIT SIGN
(EXAMPLE)

Self-Illuminated Exit Signs
Figure 201

B. Access
(1) Location Zones
200 Upper Half of the Fuselage
C. Procedure

S 752-004

WARNING: SELF-ILLUMINATED EXIT SIGNS CONTAIN A RADIOACTIVE GAS. IF A SIGN BREAKS, THE GAS CAN COME OUT. DO NOT BREATHE THE GAS. DO NOT LET THE GAS TOUCH YOUR SKIN. GO AWAY FROM THE SIGN UNTIL IT IS SAFE TO REPLACE IT. RADIOACTIVE GAS IS DANGEROUS AND CAN CAUSE INJURY.

(1) Examine the sign for cracks and holes.
(a) If the sign is damaged, replace it.
1) Do this task to replace the sign: " Self-Illuminated Exit Sign - Replacement".

S 722-002
(2) Do a lighting intensity test.
(a) Use the comparator to compare the intensity of the sign with the intensity of the light in the comparator.
(b) If the lighting in the comparator is brighter than the lighting from the sign, replace the sign.
1) Do this task to replace the sign: "Self-Illuminated Exit Sign - Replacement".

TASK 33-51-02-412-003
3. AIRPLANES WITH A SELF-ILLUMINATED EXIT SIGN;
Self-Illuminated Exit Sign - Replacement
A. Equipment
(1) Rubber gloves
(2) Plastic bag to hold the sign
(3) Metal container for the discarded sign
(4) Soft material to pack the sign in the container
B. References
(1) AMM 20-10-18/201, Radioluminous Materials
(2) AMM 21-00-00/201, Air Conditioning - General
C. Access
(1) Location Zones
200 Upper Half of the Fuselage
D. Replace the Signs not Damaged

S 492-007
(1) Supply conditioned air to airplane (AMM 21-00-00/201).

S 862-010
(2) Make sure that the passenger cabin recirculated air is off (AMM 21-25-00/101).

S 432-004
(3) Replace the signs not damaged as follows:

WARNING: LEAVE THE LOCATION IMMEDIATELY IF A SIGN IS CRACKED OR BROKEN. EXPOSURE TO RADIOACTIVE GAS MAY CAUSE INJURY TO PERSONS. MAKE SURE THE AIR DISTRIBUTION SYSTEM OPERATES CONTINUOUSLY. AFTER APPROXIMATELY 20 MINUTES, REMOVE THE SIGN AS TOLD.

(a) Remove the mounting screws and the sign.
(b) Seal the sign in soft material.
(c) Put the sign in a solid container.
(d) Close and seal the container.

NOTE: Until you can discard the container, keep the container where there is good airflow. Keep persons away from the container.

1) Make sure the container has a label on the outer side to identify its dangerous radioactive contents.

(e) Discard the container (AMM 20-10-18/201).

NOTE: Make sure you obey all local government regulations about radioactive materials.

(f) Install a new sign with mounting screws.
1) Make sure the sign is not damaged.

S 422-003
(4) Remove the conditioned air from the airplane if it is no longer necessary (AMM 21-00-00/201).

E. Replace a Cracked or Broken Sign

S 492-008
(1) Supply conditioned air to the airplane (AMM 21-00-00/201).

S 432-005
(2) Replace the damaged signs as follows:

WARNING: DO NOT TOUCH THE SIGNS MORE THAN NECESSARY. TOO MUCH EXPOSURE TO RADIOACTIVE GAS MAY CAUSE INJURY TO PERSONS.

(a) Put the rubber gloves on.
(b) Remove the sign.
(c) Put it in a plastic bag.
(d) Keep the bag open.

(e) Immediately put the sign, the plastic bag, and the rubber gloves in a location open to the air away from persons.
(f) Keep the sign, the plastic bag, and the rubber gloves open to the air for approximately 2 hours.
(g) After 2 hours, seal the bag.
(h) Seal the sign, the bag, and the rubber gloves in a sealed metal container.

NOTE: Until you can discard the container, keep the container where there is good airflow. Keep persons away from the container.

1) Make sure the container has a label on the outer side to identify its dangerous radioactive contents.

(i) Discard the container (AMM 20-10-18/201).

NOTE: Make sure you obey all local government regulations about radioactive materials.

(j) Install a new sign.
1) Make sure the sign is not damaged.

S 862-006

(3) Remove the conditioned air from the airplane if it is no longer necessary (AMM 21-00-00/201).

DOOR LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Door Light - Lamp Replacement
      (2) Door Light - Removal
      (3) Door Light - Installation

   TASK 33-51-03-002-009

2. Door Light - Lamp Replacement (Fig. 201)
   A. References
      (1) SSM 33-51-10
      (2) WDM 33-00-11, Lamp Usage Chart
      (3) WDM 33-51-11 thru 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of the Fuselage

   C. Lamp Replacement

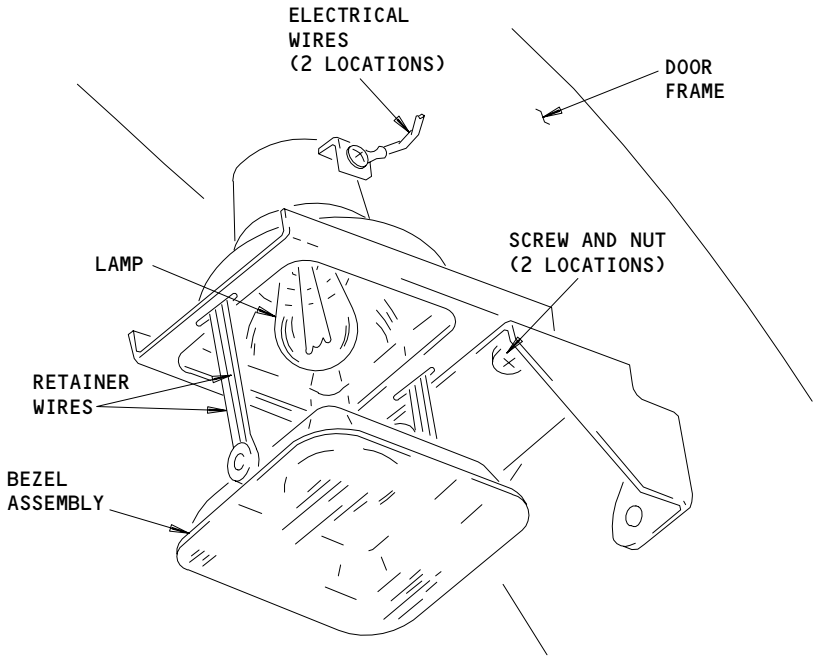
      S 012-058

      WARNING: MAKE SURE THE GROUND ACCESS EQUIPMENT OR A PERSONNEL SAFETY BARRIER IS INSTALLED ACROSS THE DOOR BEFORE YOU OPEN THE DOOR. IF ONE OF THE TWO IS NOT INSTALLED, INJURY TO A PERSON COULD OCCUR.

      (1) Open the door to get access to the light.

          WARNING: MAKE SURE THE DOOR MODE SELECTOR LEVER IS IN THE SLIDE DISARMED POSITION WHEN YOU OPEN THE DOOR. IF THE LEVER IS NOT IN THE SLIDE DISARMED POSITION, THE EMERGENCY SLIDE WILL OPEN. POSSIBLE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

          (a) Put the green mode selector lever in the SLIDE DISARMED position.



DOOR LIGHT
(EXAMPLE)

Door Lights
Figure 201

(b) Make sure the yellow girt bar indicators are not in the viewing windows.
(c) Make sure the EMERGENCY ONLY indicator retracts.
(d) Lift the internal door handle up to open the door.
(e) Latch the door open.
(f) Install a personnel safety barrier in the door if the ground access equipment is not installed.

S 012-024
(2) Pull down the bezel assembly.

S 402-025
(3) Carefully replace the lamp.

S 412-027
(4) Push up the bezel assembly.

D. Lamp Test

S 712-063
(1) At the attendant's panel, set the test switch to the on position.
(a) Make sure the new lamp comes on correctly.

S 412-066
(2) Close the door.

TASK 33-51-03-002-029

3. Door Light - Removal

A. References
(1) SSM 33-51-01
(2) WDM 33-51-11 thru 33-51-99

B. Access
(1) Location Zone
200 Upper Half of the Fuselage

C. Light Removal

S 012-062

WARNING: MAKE SURE THE GROUND ACCESS EQUIPMENT OR A PERSONNEL SAFETY BARRIER IS INSTALLED ACROSS THE DOOR BEFORE YOU OPEN THE DOOR. IF ONE OF THE TWO IS NOT INSTALLED, INJURY TO A PERSON COULD OCCUR.

(1) Open the door to get access to the light.

WARNING: MAKE SURE THE DOOR MODE SELECTOR LEVER IS IN THE SLIDE DISARMED POSITION WHEN YOU OPEN THE DOOR. IF THE LEVER IS NOT IN THE SLIDE DISARMED POSITION, THE EMERGENCY SLIDE WILL OPEN. POSSIBLE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT CAN OCCUR.

(a) Put the green mode selector lever in the SLIDE DISARMED position.
(b) Make sure the yellow girt bar indicators are not in the viewing windows.
(c) Make sure the EMERGENCY ONLY indicator retracts.
(d) Lift the internal door handle up to open the door.
(e) Latch the door open.
(f) Install a personnel safety barrier in the door if the ground access equipment is not installed.

S 022-067

(2) Remove the light assembly.
(a) Remove each mounting screw and nut.
(b) Pull the light assembly down.
(c) Disconnect each electrical wire.

TASK 33-51-03-402-034

4. Door Light - Installation

A. References
(1) SSM 33-51-01

(2) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone

200 Upper Half of the Fuselage

C. Light Installation

S 432-038

(1) Connect each electrical wire to the light assembly.

S 422-039

(2) Install the light assembly its screws.

D. Light Test

S 712-041

(1) At the attendant's panel, set the test switch to the on position.

(a) Make sure the light comes on correctly.

S 412-051

(2) Close the door.

LOWERED CEILING LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Lowered Ceiling Light - Lamp Replacement
      (2) Lowered Ceiling Light - Removal
      (3) Lowered Ceiling Light - Installation
   B. A crossaisle emergency light is the same type of light as a lowered ceiling light. Use this procedure for a crossaisle emergency light.

TASK 33-51-04-002-001

2. Lowered Ceiling Light - Lamp Replacement
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-00-11, Lamp Usage Chart
      (3) WDM 33-51-11 thru 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of the Fuselage

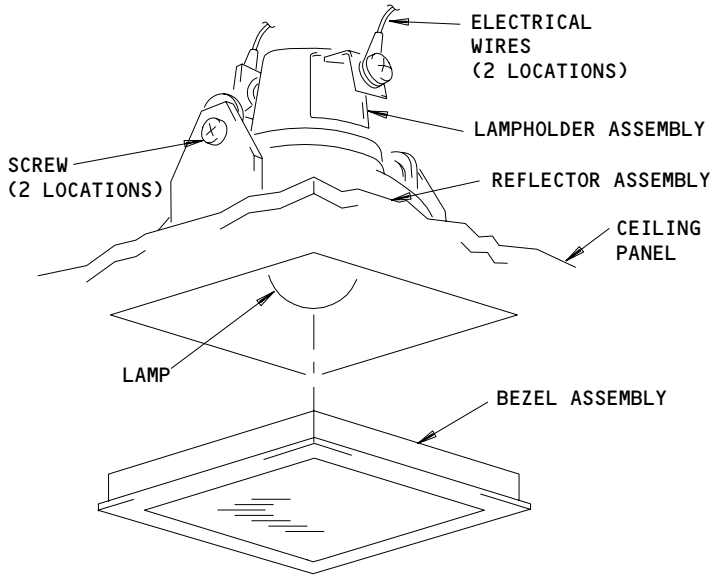
   C. Lamp Replacement

      S 012-013
      (1) Pull down the bezel assembly.

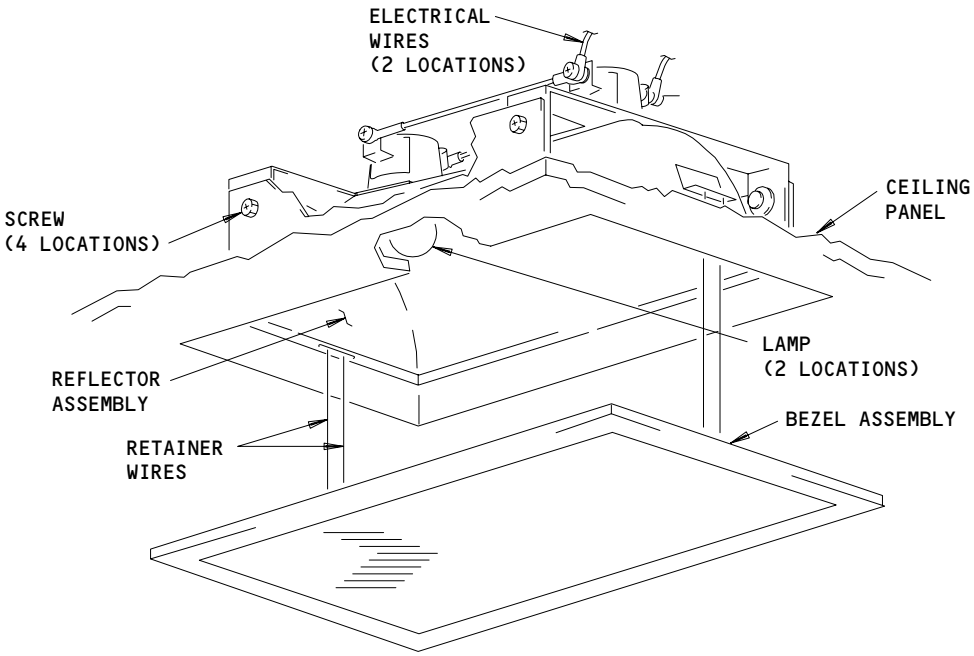
      S 432-014
      (2) Carefully replace the lamp.

      S 412-016
      (3) Push the bezel assembly into its position.
   D. Lamp Test

      S 712-053
      (1) At the attendant's panel, set the test switch to the on position.
          (a) Make sure the new lamp comes on correctly.



LOWERED CEILING LIGHT
(EXAMPLE)



LOWERED CEILING LIGHT
(EXAMPLE)

Lowered Ceiling Lights
Figure 201

TASK 33-51-04-002-017

3. Lowered Ceiling Light - Removal

A. References

(1) AMM 25-22-02/401, Lowered Ceiling Panels
(2) SSM 33-51-01
(3) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone
200 Upper Half of the Fuselage

C. Light Removal

S 032-044
(1) Pull down the bezel assembly.

S 032-045
(2) Push the retainer wires together and remove the bezel assembly.

S 012-047
(3) Open the lowered ceiling panel to get access to the light assembly (AMM 25-22-02/401).

S 032-048
(4) Disconnect each electrical wire.

S 022-049
(5) Remove the each mounting screw and remove the light assembly.

TASK 33-51-04-402-051

4. Lowered Ceiling Light - Installation

A. References

(1) AMM 25-22-02/401, Lowered Ceiling Panels
(2) SSM 33-51-01
(3) WDM 33-51-11 thru 33-51-99

B. Access
(1) Location Zone
200 Upper Half of the Fuselage

C. Light Installation

S 422-041
(1) Attach the light assembly to the ceiling panel with the mounting screws.

S 432-030
(2) Connect each electrical wire to the light assembly.

S 412-032
(3) Close the lowered ceiling panel (AMM 25-22-02/401).

S 432-052
(4) Push the retainer wires together and install the bezel assembly.

S 432-054
(5) Push up the bezel assembly into its position.

D. Light Test

S 862-034
(1) At the attendant's panel, set the test switch to the on position.
(a) Make sure the light comes on correctly.

AISLE LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Aisle Light - Lamp Replacement
      (2) Aisle Light - Removal
      (3) Aisle Light - Installation

   TASK 33-51-05-002-039

2. Aisle Light - Lamp Replacement (Fig. 201)
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-00-11, Lamp Usage Chart
      (3) WDM 33-51-11 thru 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of the Fuselage

   C. Lamp Replacement

      S 032-010
      (1) Pull down the bezel assembly.

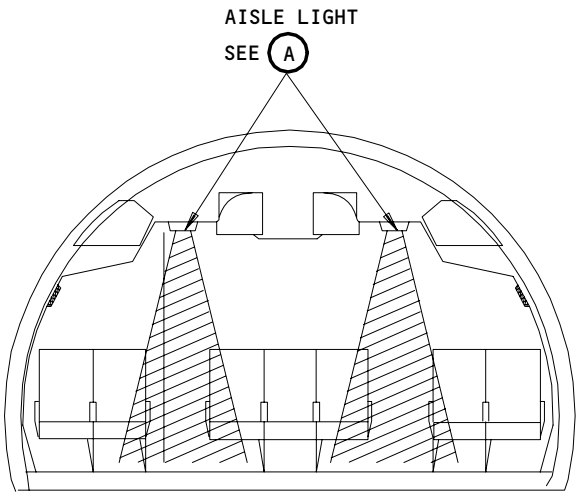
      S 422-011
      (2) Carefully replace the lamp.

      S 432-048
      (3) Push up the bezel assembly.
   D. Lamp Test

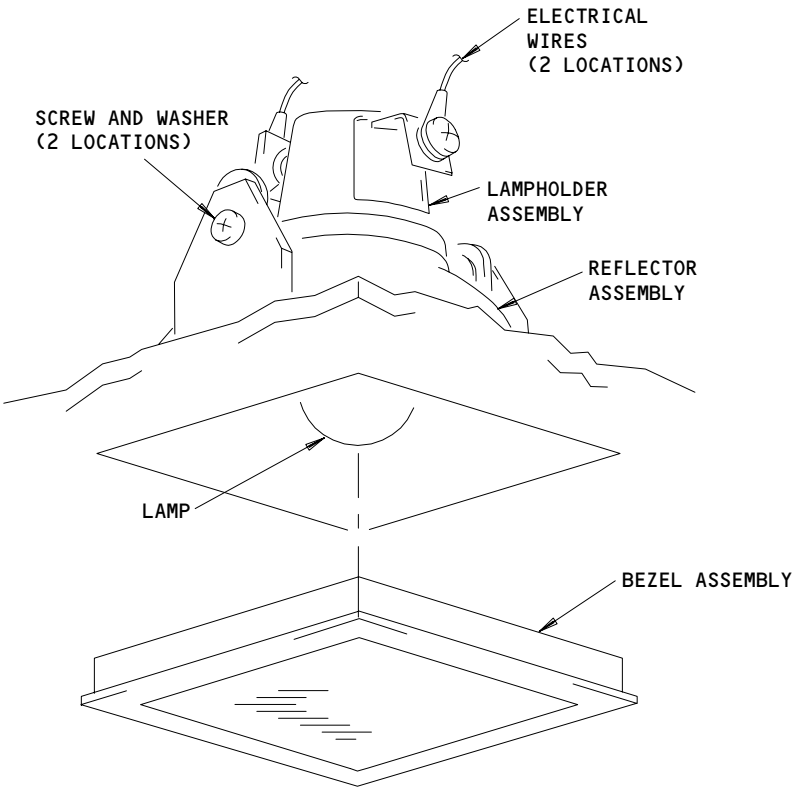
      S 712-014
      (1) At the attendant's panel, set the test switch to the on position.
          (a) Make sure the new lamp comes on correctly.

   TASK 33-51-05-002-016

3. Aisle Light - Removal (Fig. 201)
   A. References
      (1) SSM 33-51-01



AISLE LIGHT LOCATION



AISLE LIGHT (EXAMPLE)

A

Aisle Lights
Figure 201

(2) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone

200 Upper Half of the Fuselage

C. Light Removal

S 862-019

(1) Pull down the bezel assembly.

S 862-020

(2) Push the latches open in the ceiling panel to get to the light assembly.

S 022-021

(3) Disconnect each electrical wire from the light assembly.

S 022-022

(4) Remove each mounting screw and remove the light assembly.

TASK 33-51-05-402-024

4. Aisle Light - Installation (Fig. 201)

A. References

(1) SSM 33-51-01

(2) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone

200 Upper Half of the Fuselage

C. Light Installation

S 422-029

(1) Install the light assembly in the ceiling frame with its screws.

S 432-030

(2) Connect each electrical wire to the light assembly.

S 412-032
(3) Close the ceiling panel.

S 412-033
(4) Push up the bezel assembly into its position.

D. Light Test

S 712-015
(1) At the attendant's panel, set the test switch to the on position.
(a) Make sure the light comes on correctly.

SLIDE AND OVERWING ESCAPE LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This section includes these tasks:
      (1) Slide light or Overwing Escape light, lamp replacement
      (2) Slide Light Lampholder Assembly replacement

TASK 33-51-06-902-082

2. Slide and Overwing Escape Light Lamp Replacement (Fig. 201)
   A. General
      (1) You must be outside the airplane to replace these lights.
      (2) Overwing Escape lights are not installed on all airplanes.
   B. Consumable Materials
      (1) Compound - Sealing; BMS 5-95 Class B-1/2
      (2) Solvent - Spec-TT-N-95 Aliphatic Naphtha
   C. References
      (1) AMM 51-31-01/201, Seals and Sealing
   D. Access
      (1) Location Zone
          200 Upper Half of Fuselage

   E. Lamp Replacement

      S 022-102

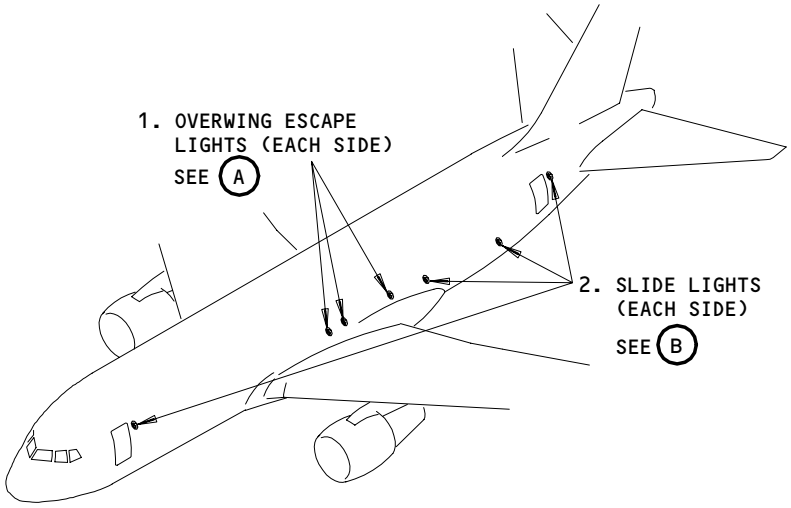
      CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

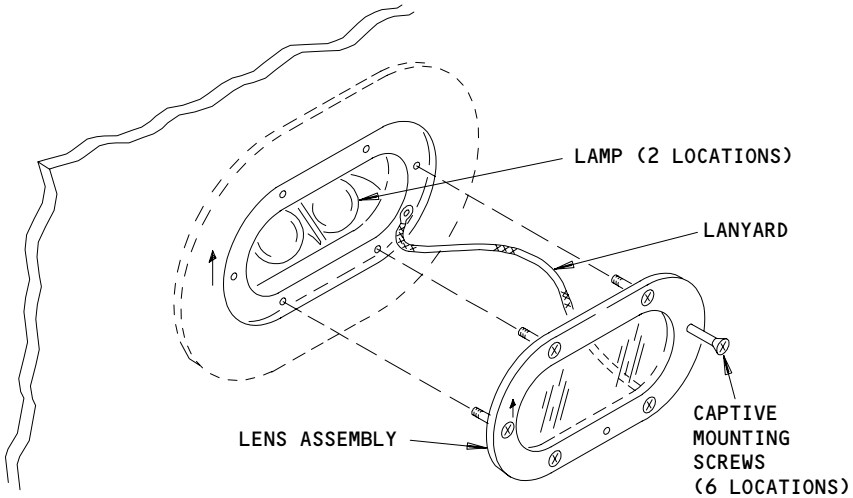
      (1) Use the solvent to do this task to remove the sealant from the airplane skin and the lens: Prepare for Sealing (AMM 51-31-01/201).

      S 032-003
      (2) Loosen the captive mounting screws.

      S 022-004
      (3) Remove the lens.

      S 432-005
      (4) Replace the lamp.

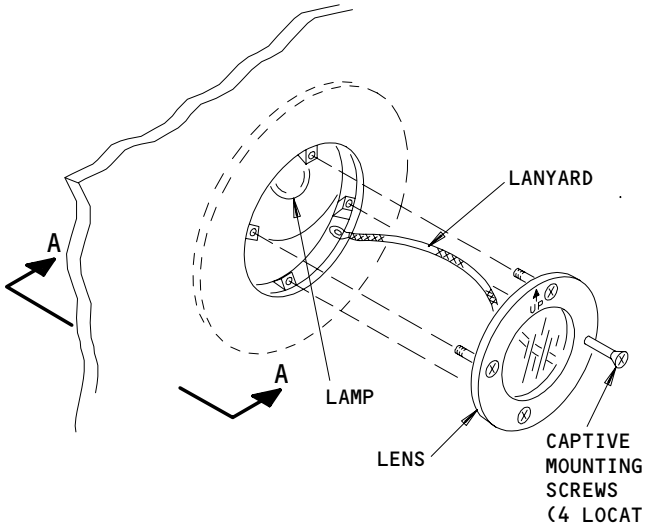




EXAMPLE OF OVERWING ESCAPE LIGHT

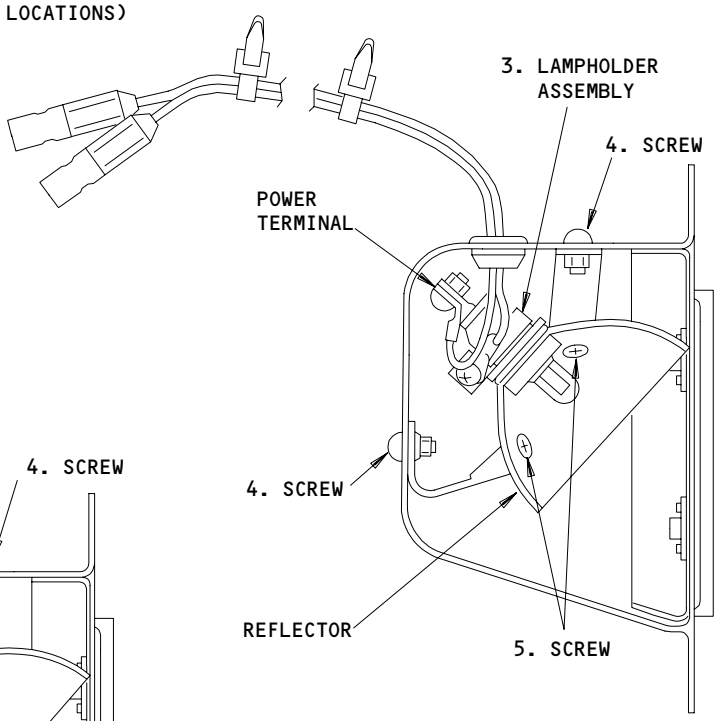
A

Slide and Overwing Lights
Figure 201 (Sheet 1)

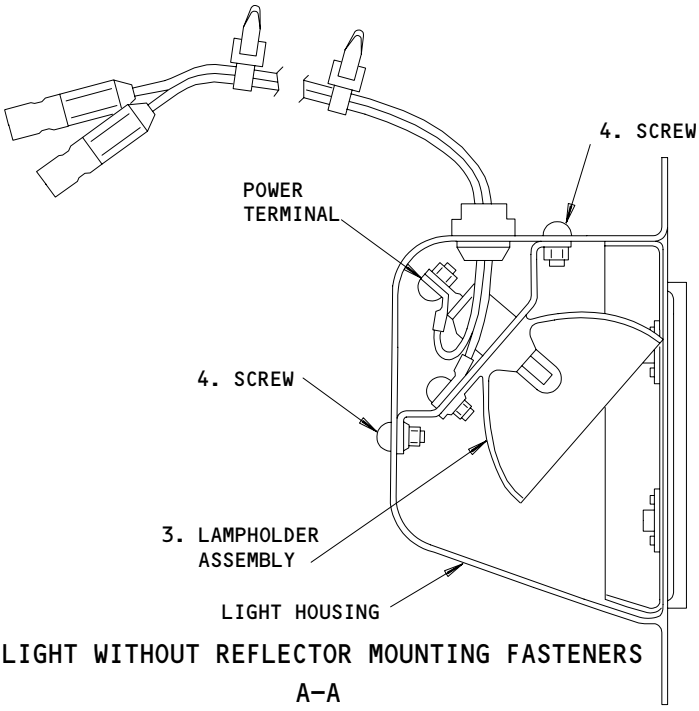


EXAMPLE OF SLIDE LIGHT

(B)



LIGHT WITH REFLECTOR MOUNTING FASTENERS
A–A



LIGHT WITHOUT REFLECTOR MOUNTING FASTENERS
A–A

Slide Lights
Figure 201 (Sheet 2)

316346

S 162-006
(5) Clean the lens.

S 862-007
(6) Make sure the drain hole is clear.

S 412-009
(7) Set the lens with the UP arrow parallel to the arrow on the light housing.

S 412-010
(8) Install the lens with the mounting screws.

S 422-103

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(9) Use the sealing compound to do this task to seal the edge of the lens: Aerodynamic Smoother Application (AMM 51-31-01/201).

F. Do a Test of the Lights.

S 862-083

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN 1 MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(1) Set the EMER EXIT LT TEST switch, on APU shutdown panel, P40, to the RS and LS positions.

S 212-011
(2) Make sure the lights come on for 1 minute.

S 862-012
(3) Set the EMER EXIT LT TEST switch to the OFF position.

S 212-013
(4) Make sure the lights are off.

TASK 33-51-06-962-100

3. Slide Light Lampholder Assembly Replacement (Fig. 201)

A. General

(1) To replace the lampholder you must have access to the front of the light through the outer part of the airplane.

(2) On some airplanes, you must have access to the rear of the light through the inner part of the airplane.

B. Consumable Materials

(1) Compound - Sealing - BMS 5-95, Class B 1-2

C. References

(1) AMM 25-21-01/401, Sidewall Panels
(2) AMM 25-21-05/401, Sidewall Insulation
(3) AMM 25-24-02/401, Closets
(4) AMM 25-31-01/401, Fwd Galley
(5) AMM 25-31-02/401, Mid Galley
(6) AMM 25-31-04/401, Aft Galley
(7) AMM 51-31-01/201, Seals and Sealing

D. Access

(1) Location Zone
200 Upper Half of Fuselage

E. Remove the Lampholder Assembly

S 032-034

(1) Loosen the lens captive mounting screws (two turns maximum each time) until the lens is loose.

S 022-035

(2) Remove the lens.

NOTE: Do not disconnect or remove lanyard.

S 002-036

(3) If you need to get access to the rear of the light, do these steps:

(a) If the light is behind a galley or a closet, do the applicable removal-installation procedure for these assemblies:

(b) The Fwd Galley (AMM 25-31-01/401)
(c) The Mid Galley (AMM 25-31-02/401)
(d) The Aft Galley (AMM 25-31-04/401)
(e) The Closets (AMM 25-24-02/401)

S 012-037
(4) For the lights behind a sidewall panel, remove the panels (AMM 25-21-01/401).

S 012-038
(5) Remove the insulation (AMM 25-21-05/401).

S 012-040
(6) Remove the sealing compound from the two screws on the rear of the light housing.

S 022-104

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO REMOVE THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(7) Do this task to remove the sealing compound from the screw on the top of the light housing: Prepare for Sealing (AMM 51-31-01/201).

S 012-039
(8) Remove the screws that connect the lampholder assembly to the light housing.

S 032-041
(9) Disconnect the lampholder assembly terminals from the lampholder assembly.

F. Install the Lampholder Assembly

S 432-042
(1) Attach the terminals to the lampholder assembly.

S 422-043
(2) Attach the lampholder assembly to the light housing with the 3 screws.

S 422-105

CAUTION: OBEY THE INSTRUCTIONS IN THE PROCEDURE TO APPLY THE SEALANT. IF YOU DO NOT OBEY THE INSTRUCTIONS, DAMAGE TO THE AIRPLANE SURFACE CAN OCCUR.

(3) Do this task to apply the sealing compound to the screws on the rear of the light housing: Fastener Seal Application (AMM 51-31-01/201).

S 412-045

(4) Turn the lens until the VP arrow is parallel to the arrow on the light housing.

S 412-046

(5) Install the lens with the mounting screws.

S 422-047

(6) Install the sidewall insulation (AMM 25-21-05/401).

S 422-048

(7) If removed, install these assemblies:
(a) The Fwd Galley (AMM 25-31-01/401)
(b) The Mid Galley (AMM 25-31-02/401)
(c) The Aft Galley (AMM 25-31-04/401)
(d) The Closet (AMM 25-24-02/401)

G. Do a test of the Slide Light Installation.

S 862-085

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN 1 MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(1) Set the EMER LT TEST switch on APU shutdown panel, P40, to the RS and LS position.

S 212-049

(2) Make sure the lights come on and then go off after 1 minute.

S 862-052

(3) Set the EMER LT TEST switch to the OFF position.

S 212-051

(4) Make sure the lights are off.

POWER SUPPLY - MAINTENANCE PRACTICES

1. General (Fig. 201)
   A. This procedure has these tasks:
      (1) Battery Pack - Charge the batteries
      (2) Battery Pack - Capacity Test (Deep Cycle)
      (3) Battery Pack - Removal
      (4) Battery Pack - Installation
      (5) Power Supply - Removal
      (6) Power Supply - Installation
   B. This procedure is for all the power supplies except LSI (Luminescent System Inc) power supplies.

TASK 33-51-07-612-024-001

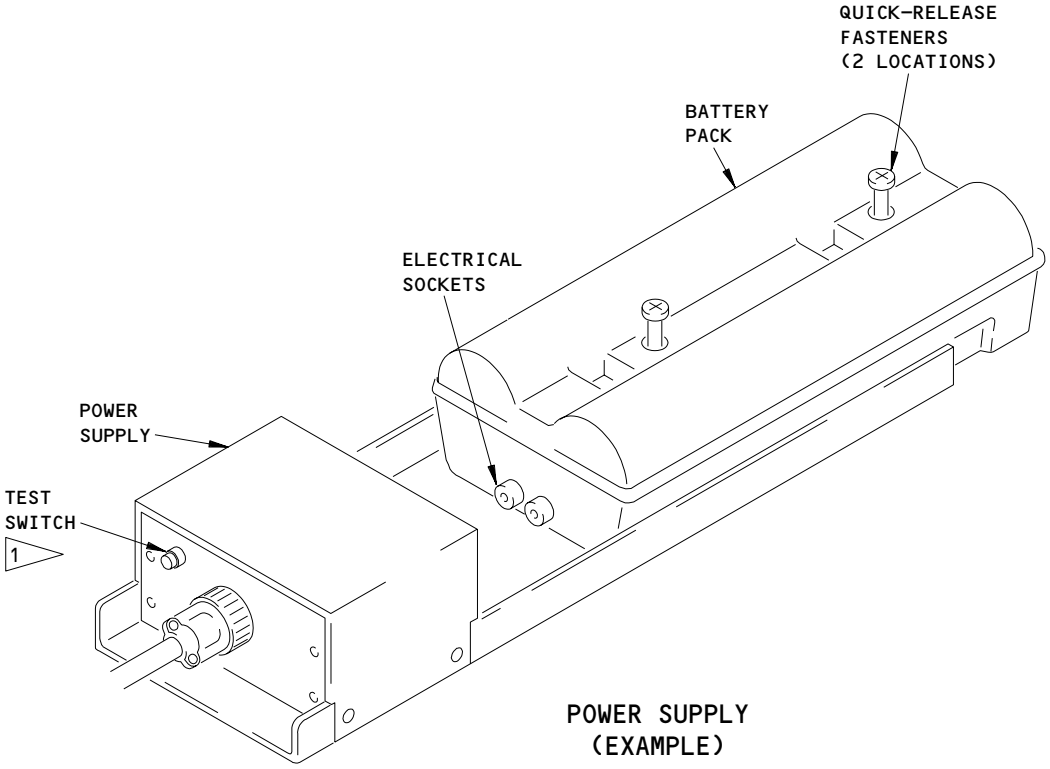
2. Battery Pack - Charge the Batteries
   A. References
      (1) AMM 24-22-00/201, Electrical Power-Control
   B. Access
      (1) Location Zone
          200 Upper Half Of The Fuselage
   C. Procedure

      NOTE: This task prepares the emergency lighting battery of the airplane back to its usual condition after discharge.

      S 862-025-001
      (1) Make sure the pilot's emergency light switch on the overhead panel, P5, is set to the off mode.

      S 862-026-001
      (2) Make sure the attendants emergency light switch in the passenger compartment is set to the off mode.

      S 612-027-001
      (3) Calculate the total time that the emergency lights were on since the last flight or in the operational test of the airplane.



POWER SUPPLY
(EXAMPLE)

1 NOT INSTALLED ON ALL POWER SUPPLIES

Emergency Light Power Supply Installation
Figure 201

EFFECTIVITY
ALL POWER SUPPLIES EXCEPT LSI

H50662

S 612-028-001

(4) Continue this task only if the emergency lights were on for a total of 2 or more minutes.

(a) Supply electrical power (AMM 24-22-00/201).

NOTE: The batteries charge automatically when electrical is supplied to the airplane. It is not necessary to supply electrical power continuously, but the total time must be sufficient to fully charge the batteries.

(b) Use this table to calculate the time necessary to charge the batteries:

TIME THAT THE EMERGENCY LIGHTS WERE ON	MINIMUM TIME TO SUPPLY ELECTRICAL POWER
2 Minutes	2 Hours
3 Minutes	3 Hours
4 Minutes	4 Hours
5 Minutes	5 Hours
6 Minutes	6 Hours
7 Minutes	7 Hours
8 Minutes	8 Hours
9 Minutes	9 Hours
10 or More Minutes	16 Hours

(c) Remove electrical power if it is not necessary (AMM 24-22-00/201).

TASK 33-51-07-612-001-001

3. Battery Pack Capacity Test (Deep Cycle)

A. References

(1) AMM 24-22-00/201, Electrical Power-Control

B. Access

(1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

S 612-002-001

(1) Do these steps to do the battery pack capacity test:

(a) Set the emergency light switch on the pilots' overhead panel, P5, to the ON position.

1) Make sure each emergency light comes on for 15 minutes or more before it goes off.

NOTE: Each power supply causes its group of emergency lights to go off automatically when its battery pack cannot supply sufficient electrical power.

(b) Set the switch to the OFF position.

(c) If there are emergency lights that did not stay on for 15 minutes or more, then either do the task to replace the faulty battery pack or do the following steps:

1) Supply electrical power for 16 hours to fully charge the batteries (AMM 24-22-00/201).

2) Set the emergency light switch on the pilots' overhead panel, P5, to the ON position.

a) Make sure each emergency light comes on for 15 minutes or more before it goes off.

3) If there are emergency lights that did not stay on for 15 minutes or more, then do the task to replace the faulty battery pack.

(d) To prepare the airplane for flight, supply electrical power for 16 hours to fully charge the batteries (AMM 24-22-00/201).

TASK 33-51-07-022-003-001

4. Battery Pack - Removal (Fig. 201)

A. References

(1) AMM 25-25-01/201, Passenger Seats
(2) AMM 25-21-01/401, Sidewall Panels
(3) SSM 33-51-01
(4) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone
200 Upper Half of Fuselage

C. Battery Pack Removal

S 862-004-001

(1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
(a) Circuit Breaker Panel Assembly, P11
1) 11B06, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 012-005-001

(2) Get access to the power supply (SSM 33-51-01).

NOTE: There is usually a placard to identify the location of the power supply.

(a) For a power supply behind an air grille below the sidewall, do these steps:
1) Release each fastener on the air grille.
2) Remove the air grille.
(b) For a power supply behind a sidewall, do these steps:
1) Remove the passenger seats to get access to the sidewall panel (AMM 25-25-01/201).
2) Remove the sidewall panel over the power supply (AMM 25-21-01/401).
(c) For a power supply below an attendant seat, do these steps:
1) Open the access panel at the bottom of the attendant seat installation.
(d) For a power supply below a floor board, do these steps:
1) Pull back the carpet to get to the access panel.
2) Open the access panel to get to the power supply.

S 022-006-001

CAUTION: BEFORE YOU LIFT THE BACK END OF THE BATTERY PACK, MAKE SURE THE SOCKETS ARE CLEAR OF THE ELECTRONIC ASSEMBLY MATING PINS. FAILURE TO DO THIS MAY CAUSE DAMAGE TO THE MATING PINS AND/OR THE BATTERY PACK.

(3) Carefully remove the battery pack from the power supply.
(a) Turn the quarter turn fasteners on the battery pack counterclockwise until they stop.

(b) Carefully slide the battery pack away until the electrical sockets disconnect the electrical pins.

TASK 33-51-07-422-007-001

5. Battery Pack - Installation (Fig. 201)

A. General
(1) Before you install a new battery pack, you can do a test of the power supply with a voltmeter. This is to make sure the power supply will charge the new battery pack.

B. References
(1) AMM 25-21-01/401, Sidewall Panels
(2) AMM 25-25-01/201, Passenger Seats
(3) SSM 33-51-01
(4) WDM 33-51-11 thru 33-51-99

C. Access
(1) Location Zone
200 Upper Half of Fuselage

D. Battery Pack Installation

S 862-008-001
(1) Make sure that these circuit breakers are open with DO-NOT-CLOSE tags attached:
(a) Circuit Breaker Panel Assembly, P11
1) 11B06, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 712-009-001

(2) If it is necessary to know if the power supply can charge the new batteries, then do this test of the power supply:
   (a) Connect a resistor between the probes of a voltmeter.

      NOTE: Use a 22 ohm, 10 watt resistor.

   (b) With the voltmeter, make sure there is 8 volts dc between the battery connector pins of the power supply.

S 422-010-001

(3) Carefully install the battery pack.
   (a) Make sure the date on the tag of the new battery pack has not expired.
   (b) Do not remove the tag from the battery pack.
   (c) Carefully slide the battery pack into the power supply until the electrical sockets connect to the electrical pins.
   (d) Turn each fastener to the detent position.

      NOTE: You will hear a click when you reach the detent position.

S 862-011-001

(4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
   (a) Circuit Breaker Panel Assembly, P11
      1) 11BO6, PORT EMER LT CHGR
      2) 11P35, EMER LTS/OFF-WG ESC L
      3) 11P36, EMER LTS/OFF-WG ESC R

E. Battery Pack Test

S 712-012-001

CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN ONE MINUTE. TOO MUCH OPERATION MAY DISCHARGE THE BATTERIES.

(1) At the power supply, set the test switch to the on position.
   (a) Make sure the emergency lights connected to the power supply come on correctly (SSM 33-51-01).
   (b) Make sure the lights go off automatically after approximately one minute.

S 412-013-001
(2) Do one of these steps to install each part that was removed to get access to the power supply:
(a) Install the air grille.
(b) Install the sidewall panel (AMM 25-21-01/401) and the passenger seats (AMM 25-25-01/201).
(c) Close the access panel.

TASK 33-51-07-002-014-001
6. Power Supply - Removal (Fig. 201)
A. References
(1) AMM 20-41-01/201, Electrostatic Sensitive Devices
(2) SSM 33-51-01
(3) WDM 33-51-11 thru 33-51-99
B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Power Supply Removal

S 862-015-001
(1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
(a) Circuit Breaker Panel Assembly, P11
1) 11B06, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 012-016-001
(2) Get access to the power supply (SSM 33-51-01).

NOTE: There is usually a placard to identify the location of the power supply.

(a) For a power supply behind an air grille below the sidewall, do these steps:
1) Release each fastener on the air grille.
2) Remove the air grille.
(b) For a power supply behind a sidewall, do these steps:
1) Remove the passenger seats to get access to the sidewall panel (AMM 25-25-01/201).
2) Remove the sidewall panel over the power supply (AMM 25-21-01/401).
(c) For a power supply below an attendant seat, do these steps:
1) Open the access panel at the bottom of the attendant seat installation.

(d) For a power supply below a floor board, do these steps:
1) Pull back the carpet to get to the access panel.
2) Open the access panel to get to the power supply.

S 022-017-001

(3) Remove the power supply.

CAUTION: THE POWER SUPPLY IS STATIC SENSITIVE. DO NOT TOUCH THE POWER SUPPLY BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE (20-41-01). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE POWER SUPPLY.

(a) Disconnect the electrical connector.
(b) Remove each mounting screw and remove the power supply.

TASK 33-51-07-402-018-001

7. Power Supply - Installation (Fig. 201)

A. References
(1) AMM 20-41-01/201, Electrostatic Sensitive Devices
(2) SSM 33-51-01
(3) WDM 33-51-11 thru 33-51-99

B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Power Supply Installation

S 862-019-001

(1) Make sure that these circuit breakers are open with DO-NOT-CLOSE tags attached:
(a) Circuit Breaker Panel Assembly, P11
1) 11B06, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 422-020-001

(2) Install the power supply.

CAUTION: DO NOT TOUCH THE POWER SUPPLY BEFORE YOU DO THE PROCEDURE FOR ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (20-41-01). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE POWER SUPPLY.

(a) Install the power supply with its screws.
(b) Connect the electrical connector.

S 862-021-001

(3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
   (a) Circuit Breaker Panel Assembly, P11
      1) 11BO6, PORT EMER LT CHGR
      2) 11P35, EMER LTS/OFF-WG ESC L
      3) 11P36, EMER LTS/OFF-WG ESC R

D. Power Supply Test

S 712-022-001

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN DISCHARGE THE BATTERIES.

(1) At the power supply, set the test switch to the on position.
   (a) Make sure the emergency lights connected to the power supply come on correctly (SSM 33-51-01).
   (b) Make sure the lights go off automatically after approximately one minute.

S 412-023-001

(2) Do one of these steps to install each part that was removed to get access to the power supply:
   (a) Install the air grille.
   (b) Install the sidewall panel (AMM 25-21-01/401) and the passenger seats (AMM 25-25-01/201).
   (c) Close the access panel.

POWER SUPPLY - MAINTENANCE PRACTICES

1. General (Fig. 201)
   A. This procedure has these tasks:
      (1) Battery - Capacity Test (Deep Cycle)
      (2) Battery - Removal
      (3) Battery - Installation
      (4) Power Supply - Removal
      (5) Power Supply - Installation
   B. This procedure is only for LSI (Luminescent System Inc) power supplies.

TASK 33-51-07-612-001-002

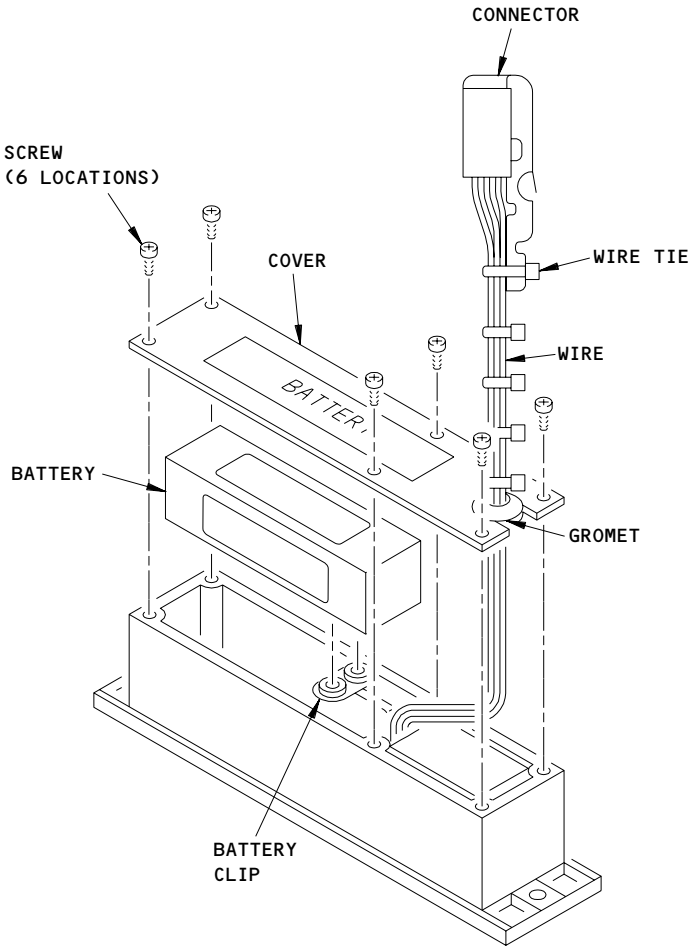
2. Battery Capacity Test (Deep Cycle)
   A. References
      (1) AMM 24-22-00/201, Electrical Power-Control
   B. Access
      (1) Location Zone
          200 Upper Half of the Fuselage

   C. Procedure

      S 612-002-002
      (1) Do these steps to do the battery capacity test:
          (a) Set the emergency light switch on the pilots' overhead panel, P5, to the ON position.
              1) Make sure each emergency light comes on for 15 minutes or more before it goes off.

                 NOTE: Each power supply causes its group of emergency lights to go off automatically when its battery cannot supply sufficient electrical power.

          (b) Set the switch to the OFF position.
          (c) If there are emergency lights that did not stay on for 15 minutes or more, then either do the task to replace the faulty battery or do the following steps:
              1) Supply electrical power for 16 hours to fully charge the batteries (AMM 24-22-00/201).
              2) Set the emergency light switch on the pilots' overhead panel, P5, to the ON position.
                 a) Make sure each emergency light comes on for 15 minutes or more before it goes off.
              3) If there are emergency lights that did not stay on for 15 minutes or more, then do the task to replace the faulty battery.
          (d) To prepare the airplane for flight, supply electrical power for 16 hours to fully charge the batteries (AMM 24-22-00/201).



POWER SUPPLY
(EXAMPLE)

Emergency Light Power Supply Installation
Figure 201

TASK 33-51-07-022-003-002

3. Battery - Removal (Fig. 201)

A. References

(1) AMM 25-25-01/201, Passenger Seats
(2) AMM 25-21-01/401, Sidewall Panels
(3) SSM 33-51-01
(4) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone
200 Upper Half of Fuselage

C. Battery Removal

S 862-004-002

(1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
(a) Circuit Breaker Panel Assembly, P11
1) 11B06, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 012-005-002

(2) Get access to the power supply (SSM 33-51-01).

NOTE: There is usually a placard to identify the location of the power supply.

(a) For a power supply behind an air grille below the sidewall, do these steps:
1) Release each fastener on the air grille.
2) Remove the air grille.
(b) For a power supply behind a sidewall, do these steps:
1) Remove the passenger seats to get access to the sidewall panel (AMM 25-25-01/201).
2) Remove the sidewall panel over the power supply (AMM 25-21-01/401).
(c) For a power supply below an attendant seat, do these steps:
1) Open the access panel at the bottom of the attendant seat installation.
(d) For a power supply below a floor board, do these steps:
1) Pull back the carpet to get to the access panel.
2) Open the access panel to get to the power supply.

S 022-006-002

CAUTION: DO NOT OPERATE THE POWER SUPPLY WITH THE BATTERY DISCONNECTED. DAMAGE TO THE INTERNAL LOGIC MAY RESULT.

(3) Carefully remove the battery from the power supply.
(a) Remove the six screws from the top of the cover.
(b) Remove the cover.
(c) Remove the battery to access the battery clip.

CAUTION: DO NOT SHORT CIRCUIT THE BATTERY TERMINALS. BURNS MAY OCCUR.

(d) Disconnect the battery clip from the battery terminals.
(e) Remove the battery.

TASK 33-51-07-422-007-002

4. Battery - Installation (Fig. 201)

A. References
(1) AMM 25-21-01/401, Sidewall Panels
(2) AMM 25-25-01/201, Passenger Seats
(3) SSM 33-51-01
(4) WDM 33-51-11 thru 33-51-99

B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Battery Installation

S 862-008-002

(1) Make sure that these circuit breakers are open with DO-NOT-CLOSE tags attached:
(a) Circuit Breaker Panel Assembly, P11
1) 11B06, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 422-010-002

(2) Carefully install the new battery.
(a) Make sure the date on the tag of the new battery has not expired.
(b) Do not remove the tag from the battery.
(c) Connect the battery clip to the battery terminals.
(d) Install the battery into the power supply.
(e) Put the cover on the top of the power supply.

(f) Install the six screws into the cover of the power supply.

S 862-011-002

(3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Circuit Breaker Panel Assembly, P11
1) 11BO6, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

D. Battery Test

S 712-012-002

CAUTION: DO NOT LEAVE THE EMERGENCY LIGHTS ON FOR MORE THAN ONE MINUTE. TOO MUCH OPERATION MAY DISCHARGE THE BATTERIES.

(1) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.

NOTE: The test switches on the attendant's panels will not operate the escape path lights.

(a) Make sure the emergency lights connected to the power supply come on correctly (SSM 33-51-01).

S 862-024-002

(2) Set the switch to the off position.
(a) Make sure the emergency lights go off.

S 412-013-002

(3) Do one of these steps to install each part that was removed to get access to the power supply:
(a) Install the air grille.
(b) Install the sidewall panel (AMM 25-21-01/401) and the passenger seats (AMM 25-25-01/201).
(c) Close the access panel.

TASK 33-51-07-002-014-002

5. Power Supply - Removal (Fig. 201)
A. References
(1) AMM 20-41-01/201, Electrostatic Sensitive Devices
(2) SSM 33-51-01
(3) WDM 33-51-11 thru 33-51-99
B. Access
(1) Location Zone
200 Upper Half of Fuselage

C. Power Supply Removal

S 862-015-002

(1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  (a) Circuit Breaker Panel Assembly, P11
    1) 11B06, PORT EMER LT CHGR
    2) 11P35, EMER LTS/OFF-WG ESC L
    3) 11P36, EMER LTS/OFF-WG ESC R

S 012-016-002

(2) Get access to the power supply (SSM 33-51-01).

NOTE: There is usually a placard to identify the location of the power supply.

  (a) For a power supply behind an air grille below the sidewall, do these steps:
    1) Release each fastener on the air grille.
    2) Remove the air grille.
  (b) For a power supply behind a sidewall, do these steps:
    1) Remove the passenger seats to get access to the sidewall panel (AMM 25-25-01/201).
    2) Remove the sidewall panel over the power supply (AMM 25-21-01/401).
  (c) For a power supply below an attendant seat, do these steps:
    1) Open the access panel at the bottom of the attendant seat installation.
  (d) For a power supply below a floor board, do these steps:
    1) Pull back the carpet to get to the access panel.
    2) Open the access panel to get to the power supply.

S 022-017-002

(3) Remove the power supply.

CAUTION: THE POWER SUPPLY IS STATIC SENSITIVE. DO NOT TOUCH THE POWER SUPPLY BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE (20-41-01). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE POWER SUPPLY.

  (a) Disconnect the electrical connector.
  (b) Remove each mounting screw and remove the power supply.

TASK 33-51-07-402-018-002

6. Power Supply - Installation (Fig. 201)

A. References

(1) AMM 20-41-01/201, Electrostatic Sensitive Devices
(2) SSM 33-51-01
(3) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone
200 Upper Half of Fuselage

C. Power Supply Installation

S 862-019-002

(1) Make sure that these circuit breakers are open with DO-NOT-CLOSE tags attached:
(a) Circuit Breaker Panel Assembly, P11
1) 11BO6, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

S 422-020-002

(2) Install the power supply.

CAUTION: DO NOT TOUCH THE POWER SUPPLY BEFORE YOU DO THE PROCEDURE FOR ELECTROSTATIC DISCHARGE SENSITIVE DEVICES (20-41-01). ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE POWER SUPPLY.

(a) Install the power supply with its screws.
(b) Connect the electrical connector.

S 862-021-002

(3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
(a) Circuit Breaker Panel Assembly, P11
1) 11BO6, PORT EMER LT CHGR
2) 11P35, EMER LTS/OFF-WG ESC L
3) 11P36, EMER LTS/OFF-WG ESC R

D. Power Supply Test

S 712-022-002

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR MORE THAN 1 MINUTE. TOO MUCH OPERATION CAN DISCHARGE THE BATTERIES.

(1) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.

NOTE: The test switches on the attendant's panels will not operate the escape path lights.

(a) Make sure the emergency lights connected to the power supply come on correctly (SSM 33-51-01).

S 862-025-002

(2) Set the switch to the off position.
(a) Make sure the emergency lights go off.

S 412-023-002

(3) Do one of these steps to install each part that was removed to get access to the power supply:
(a) Install the air grille.
(b) Install the sidewall panel (AMM 25-21-01/401) and the passenger seats (AMM 25-25-01/201).
(c) Close the access panel.

PILOTS' EMERGENCY LIGHTS CONTROL PANEL - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Emergency Lights Control Panel - Removal
      (2) Emergency Lights Control Panel - Installation

TASK 33-51-08-004-002

2. Emergency Lights Control Panel - Removal
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-51-11
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage

   C. Control Panel Removal

      S 864-043
      (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
          (a) On The Overhead Circuit Breaker Panel, P11:
              1) 11A25, MANUAL DEPLOY PASS OXY

      S 864-044
      (2) At the pilot's overhead panel P5, make sure that the amber switch-light PASS OXY is not on.

      S 864-040
      (3) At the pilot's overhead panel P5, make sure that the switch for the emergency lights is in the off position.

      S 864-041
      (4) At the attendant's panel, make sure that the switch for the emergency lights is in the off position.

      S 024-007
      (5) Remove the control panel from the overhead panel, P5.

S 034-045

(6) Disconnect and tag the electrical connector D838 from the back of the control panel.

S 034-009

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN 1 MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(7) Disconnect and tag the electrical connector D868 from the back of the control panel.

NOTE: The emergency lights will come on automatically.

(a) Quickly ground pins 3, 5, 6, 14, 15, and 16 of the electrical connector with jumper wires (SSM 33-51-01 or WDM 33-51-11).

NOTE: This temporary change to the circuit will keep the emergency lights off.

(b) Make sure all the emergency lights go off.

TASK 33-51-08-404-010

3. Emergency Lights Control Panel - Installation

A. References

(1) AMM 35-21-00/501, Passenger Oxygen System
(2) SSM 33-51-01
(3) WDM 33-51-11

B. Access

(1) Location Zone
200 Upper Half of the Fuselage

C. Control Panel Installation

S 434-046

(1) Connect the electrical connector D838 to the back of the control panel.

S 434-010

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN 1 MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(2) Remove the jumper wires and connect the electrical connector D868 to the back of the control panel.

S 414-012

(3) Install the control panel in the overhead panel, P5.

D. Control Panel Test

S 864-047
(1) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
(a) On The Overhead Circuit Breaker Panel, P11:
1) 11A25, MANUAL DEPLOY PASS OXY

S 864-048
(2) At the P5 panel, make sure that the amber switch-light PASS OXY is not on.

S 864-019
(3) At the P5 panel, set the switch for the emergency lights to the off position.
(a) Make sure the UNARMED indicator light adjacent to the switch is on.
(b) Make sure the emergency lights are off.

S 714-038

CAUTION: DO NOT LEAVE EMERGENCY LIGHTS ON FOR LONGER THAN 1 MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(4) At the P5 panel, set the switch for the emergency lights to the on position.
(a) Quickly make sure the UNARMED light comes on.
(b) Quickly make sure the emergency lights come on.

S 714-028
(5) Set the switch to the armed position.
(a) Make sure the UNARMED light goes off.
(b) Make sure the emergency lights go off.

S 864-029
(6) Set the switch to the off position.
(a) Make sure the UNARMED light come on.
(b) Make sure the emergency lights go off.

S 714-049

(7) Do the manual deployment test of the passenger oxygen masks to test the PASS OXY switch and connector D838 (AMM 35-21-00/501).

EXIT IDENTIFIER SIGNS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) Exit Identifier Sign - Lamp Replacement
      (2) Exit Identifier Sign - Removal
      (3) Exit Identifier Sign - Installation

   TASK 33-51-09-962-030

2. Exit Identifier Sign - Lamp Replacement (Fig. 201)
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-00-11, Lamp Usage Chart
      (3) WDM 33-51-11 thru 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage

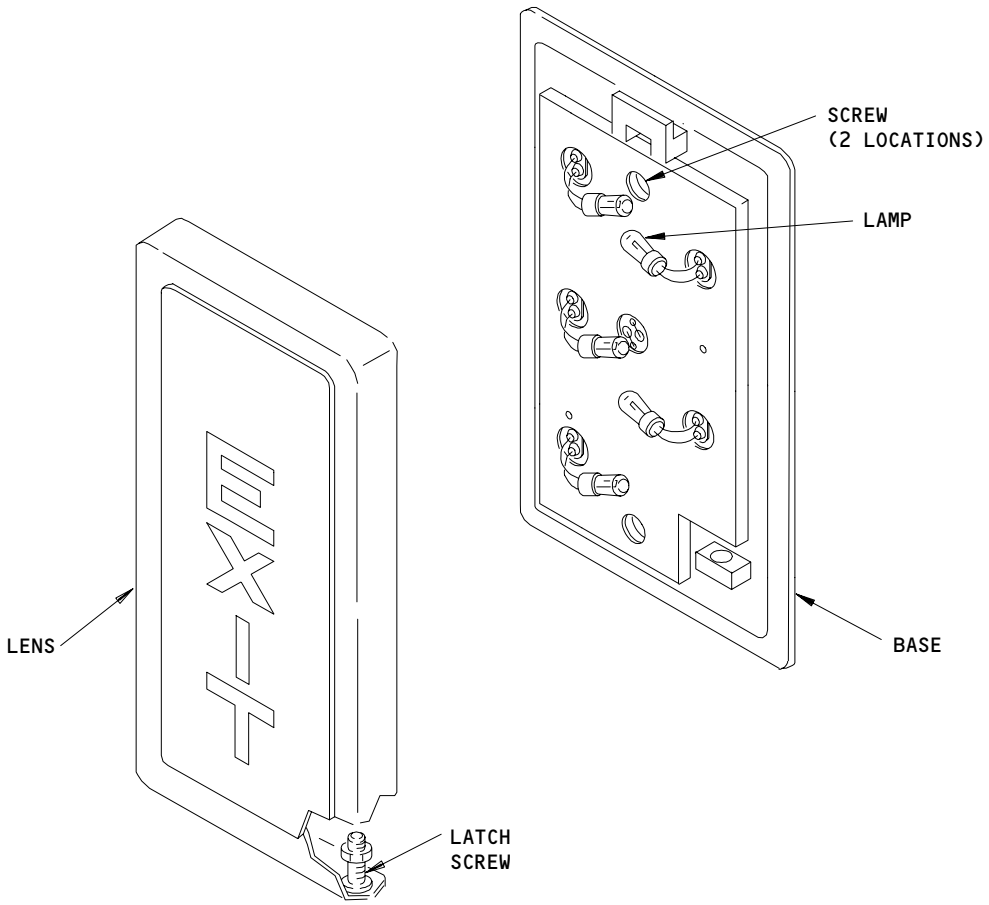
   C. Lamp Replacement

      S 002-010
      (1) Remove the lens.
          (a) Turn the latch mechanism counterclockwise to release the lens from the base of the exit identifier sign.
          (b) Remove the lens from the latch at the opposite end.

      S 962-031
      (2) Carefully replace the lamp.

      S 402-012
      (3) Install the lens.
   D. Lamp Test

      S 712-035
      (1) At the attendant's panel, set the test switch to the on position.
          (a) Make sure the new lamp comes on correctly.



EXIT IDENTIFIER SIGN (EXAMPLE)

Exit Identifier Sign
Figure 201

A36636

TASK 33-51-09-002-015

3. Exit Identifier Sign - Removal (Fig. 201)

A. References

(1) SSM 33-51-01

(2) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone

200 Upper Half of Fuselage

C. Sign Removal

S 002-016

(1) Remove the lens.

(a) Turn the latch mechanism counterclockwise to release the lens from the base of the exit identifier sign.

(b) Remove the lens from the latch at the opposite end.

S 022-025

(2) Remove the screws from the base of the exit identifier sign.

S 022-026

(3) Pull the base away from the panel to get access to the wires.

(a) Disconnect the electrical connector.

S 022-033

(4) Remove the exit identifier sign.

TASK 33-51-09-402-034

4. Exit Identifier Sign - Installation (Fig. 201)

A. References

(1) SSM 33-51-01

(2) WDM 33-51-11 thru 33-51-99

B. Access

(1) Location Zone

200 Upper Half of Fuselage

C. Sign Installation

S 402-018
(1) Connect the electrical connector to the exit identifier sign.

S 422-019
(2) Install the panel with the screws.

S 412-020
(3) Install the lens on the base.

D. Sign Test

S 712-038

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN 1 MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(1) At the attendant's panel, set the test switch to the on position.
  (a) Make sure the exit identifier sign comes on correctly.

EXIT IDENTIFIER SIGNS - REMOVAL/INSTALLATION

1. General
   A. This procedure has these tasks:
      (1) Exit Identifier Sign - Removal
      (2) Exit Identifier Sign - Installation

   TASK 33-51-09-004-011
2. Exit Identifier Sign - Removal
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-51-11 thru 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage

   C. Sign Removal

      S 034-005
      (1) Remove the two screws on the front of the exit identifier sign.

      S 034-006
      (2) Remove the exit identifier sign to get access to the electrical connector behind the sign.

      S 034-012
      (3) Disconnect the electrical connector.

   TASK 33-51-09-404-007
3. Exit Identifier Sign - Installation
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-51-11 thru 33-51-99
   B. Access
      (1) Location Zone
          200 Upper Half of the Fuselage

C. Sign Installation

S 434-008

(1) Connect the electrical connector to the sign.

S 424-009

(2) Install the exit identifier sign in the wall with the two screws.

D. Sign Test

S 714-010

(1) At the attendant's panel, set the test switch to the on position.
    (a) Make sure the exit identifier sign comes on correctly.

FLOOR PROXIMITY LIGHTS - MAINTENANCE PRACTICES

1. General
   A. This procedure has these tasks:
      (1) INCANDESCENT ESCAPE PATH LIGHTS ON THE FLOOR;
          Escape Path Light - Lamp Replacement
      (2) INCANDESCENT ESCAPE PATH LIGHTS ON THE FLOOR;
          Escape Path Light - Light Assembly Replacement
      (3) ELECTROLUMINESCENT ESCAPE PATH LIGHTS ON THE FLOOR;
          Escape Path Light - Lamp Replacement
      (4) Escape Path Light - Strip Removal
      (5) Escape Path Light - Strip Installation
      (6) Electroluminescent Crossaisle Light - Replacement
      (7) SAS ALL EXCEPT 150-157,162-167;
          Inverter - Fuse Replacement
      (8) SAS ALL EXCEPT 150-157,162-167;
          Inverter - Assembly Replacement
   B. Each electroluminescent light operates with 115 volts ac. An inverter changes the 28 volts dc from the power supply.

TASK 33-51-10-962-064

2. INCANDESCENT ESCAPE PATH LIGHTS ON THE FLOOR;
   Escape Path Light - Lamp Replacement (Fig. 201)
   A. References
      (1) SSM 33-51-01
      (2) WDM 33-00-11, Lamp Usage Chart
      (3) WDM 33-51-16 thru 33-51-17
   B. Access
      (1) Location Zone
          200 Upper Half of Fuselage
   C. Lamp Replacement

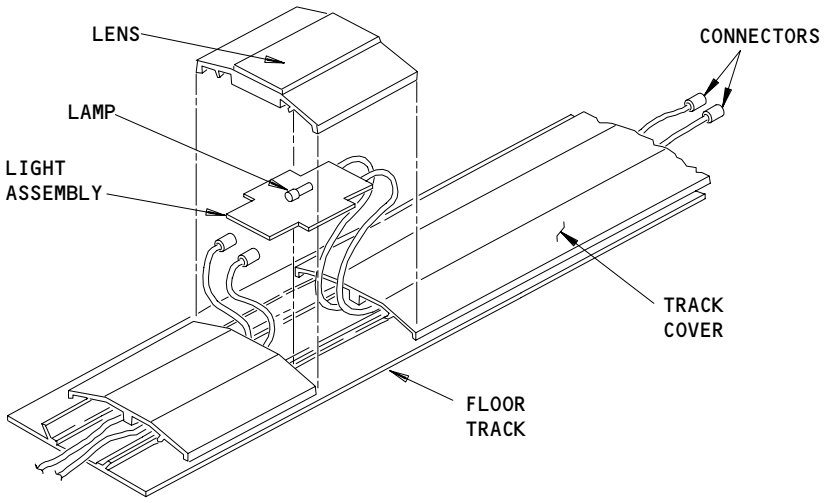
      S 022-117
      (1) Carefully lift up the edge of the lens and remove it from the floor track.

          NOTE: Each lens with an arrow must be installed again with the arrow pointed in the correct direction. Before you remove a lens with an arrow, identify the direction of the arrow.

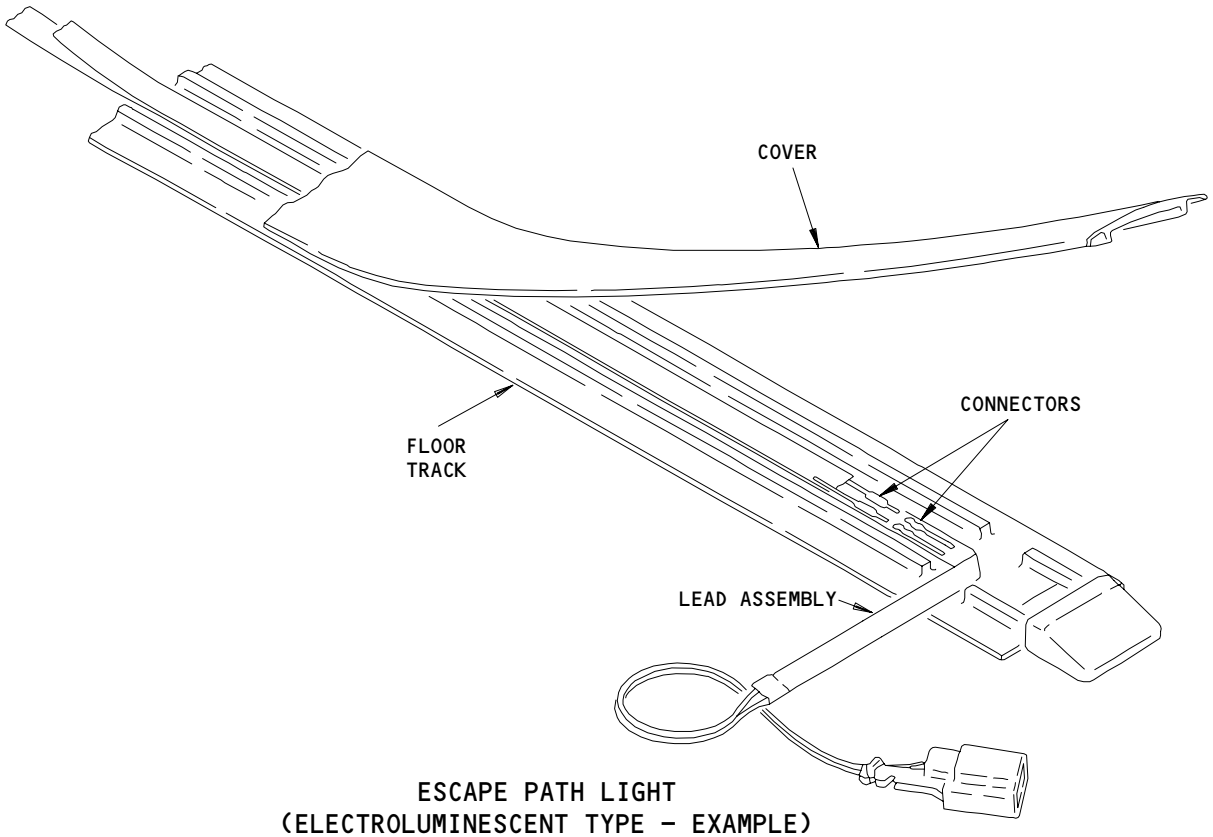
      S 962-066
      (2) Carefully replace the lamp.

      S 432-069
      (3) Carefully push down the lens on the floor track.

          NOTE: When you install a lens with an arrow, make sure you point the arrow in the correct direction.



ESCAPE PATH LIGHT
(INCANDESCENT TYPE - EXAMPLE)



ESCAPE PATH LIGHT
(ELECTROLUMINESCENT TYPE - EXAMPLE)

Floor Proximity Lights - Installation
Figure 201

D. Lamp Test

S 712-067

(1) At the attendant's panel, set the test switch to the on position.
  (a) Make sure the new lamp comes on correctly.
  (b) Make sure the emergency lights go off automatically after approximately one minute.

TASK 33-51-10-962-063

3. INCANDESCENT ESCAPE PATH LIGHTS ON THE FLOOR;
Escape Path Light - Light Assembly Replacement (Fig. 201)

A. General
(1) This task is to replace the light assembly, but not the floor track.

B. References
(1) SSM 33-51-01
(2) WDM 33-00-11, Lamp Usage Chart
(3) WDM 33-51-16 thru 33-51-17

C. Access
(1) Location Zone
  200 Upper Half of Fuselage

D. Light Assembly Removal

S 032-068

(1) Carefully lift up the edge of the lens and remove it from the floor track.

NOTE: Each lens with an arrow must be installed again with the arrow pointed in the correct direction. Each colored lens must be installed in the correct location. Before you remove a lens with an arrow, identify the direction of the arrow. Before you remove a colored lens, identify its location.

S 032-070

(2) For each cover adjacent to the light, lift up the edge of the cover and remove it.

NOTE: This will give access to the electrical connectors in the floor track.

S 022-071

(3) Disconnect each electrical connector that goes to and from the light.

S 022-072

(4) Pull out the light assembly.

E. Light Assembly Installation

S 422-054

(1) Carefully install the new light assembly in the floor track.

S 422-073
(2) Connect each electrical connector.

NOTE: Make sure each connection is correct. You must feel two clicks when you connect the electrical connector. If you do not feel two clicks, then use pliers. If you do not feel two clicks when you use the pliers, then replace the light assembly.

S 432-074
(3) Carefully push down each cover and lens on the floor track.

NOTE: When you install a lens with an arrow, make sure you point the arrow in the correct direction. When you install a colored lens, make sure you install it in the correct location. Replace each damaged lens.

F. Light Test

S 712-075
(1) At the attendant's panel, set the test switch to the on position.
(a) Make sure the new lamp comes on correctly.
(b) Make sure the emergency lights go off automatically after approximately one minute.

TASK 33-51-10-962-077
4. ELECTROLUMINESCENT ESCAPE PATH LIGHTS ON THE FLOOR;
Escape Path Light - Lamp Replacement (Fig. 201)
A. General
(1) This task is to replace the lamp, but not the floor track.
B. References
(1) SSM 33-51-01
(2) WDM 33-00-01, Lamp Usage Chart
(3) WDM 33-51-16 thru 33-51-17
C. Access
(1) Location Zone
200 Upper Half of Fuselage
D. Lamp Replacement

S 032-078
(1) Carefully lift up the edge of the cover and remove it from the floor track.

S 962-079
(2) Carefully replace the lamp.
(a) Disconnect the ends of the lamp.
(b) Pull up the lamp from the floor track.
(c) Put the new lamp in the floor track.
(d) Connect the ends of the lamp.

S 432-080
(3) Carefully push down the cover on the floor track.

E. Lamp Test

S 712-083

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAT ONE MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(1) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.
(a) Quickly make sure the new lamp comes on correctly.

S 862-082
(2) Set the to the off position.
(a) Make sure the emergency lights go off.

TASK 33-51-10-002-056

5. Escape Path Light - Strip Removal (Fig. 201)

A. General
(1) This task is to remove a strip of escape path emergency lights with its track, lenses, and covers.

B. References
(1) AIPC 33-60-98
(2) AMM 25-27-01/401, Floor Coverings
(3) SSM 33-51-01
(4) WDM 33-51-16 and 33-51-17

C. Access
(1) Location Zone
200 Upper Half of Fuselage

D. Light Strip Removal

S 032-084
(1) Disconnect the electrical wires at the power supply.

S 022-091
(2) Carefully remove the light strip.
(a) Remove each cover and lens from the track.
(b) Sufficiently remove the adjacent floor covering to get access to the light strip (AMM 25-27-01/401).

NOTE: The emergency escape path lights can be removed and installed in parts as shown in AIPC 33-60-98.

(c) Install each cover and lens on the track again.

(d) Carefully lift the wires between the power supply and the track from the tape on the floor.
(e) Carefully lift the track from the tape on the floor to remove the light strip.
(f) Remove and discard the used tape.

TASK 33-51-10-402-057

6. Escape Path Light - Strip Installation (Fig. 201)

A. General

(1) This task is to install a strip of escape path emergency lights with its track, lenses, and covers.

B. References

(1) AIPC 33-60-98
(2) AMM 25-27-01/401, Floor Coverings
(3) SSM 33-51-01
(4) WDM 33-51-16 and 33-51-17

C. Access

(1) Location Zone
200 Upper Half of Fuselage

D. Light Strip Installation

S 422-101

(1) Install the light strip.

NOTE: The light strip is the complete assembly with the covers and lenses installed on the track.

(a) Apply doubleback tape to the bottom of the track.
(b) Put the track in its position on the floor.
(c) Attach the electrical wires between the track and the power supply to the floor with some tape.
(d) Remove each cover and lens from the floor track.
(e) Install the adjacent floor covering (AMM 25-27-01/401).
(f) Install each cover and lens on the floor track.

S 432-092

(2) Connect the electrical wires to the power supply.

E. Light Test

S 712-130

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN ONE MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(1) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.
   (a) Make sure the light strip comes on correctly.

S 862-131

(2) Set the switch to the off position.
   (a) Make sure the light strip goes off correctly.

TASK 33-51-10-902-102

7. AIRPLANES WITH ELECTROLUMINESCENT CROSSAISLE LIGHTS;
Electroluminescent Crossaisle Light - Replacement (Fig. 202)

A. General
   (1) The electroluminescent crossaisle lights (referred to in this task as the lights) are installed on the floor of the passenger compartment in the crossaisles adjacent to the exits. These lights are usually installed on the mats or painted areas of the floor, not on the areas with the carpet. They are green, not white. They are electroluminescent strips of light, not incandescent lamps.

B. Consumable Materials
   (1) A00181 Adhesive - BMS 5-92 Type 1
   (2) G00576 Sand paper - fine grain
   (3) B00081 Solvent - Trichloroethylene, stabilized
   (4) G00347 Tape - doubleback, 1-inch wide; Permacel P-55
   (5) Sealant - BAC 5010 Type 60, G.E. RTV 108, General Electric Company
   (6) A00801 Sealant - BMS 5-95

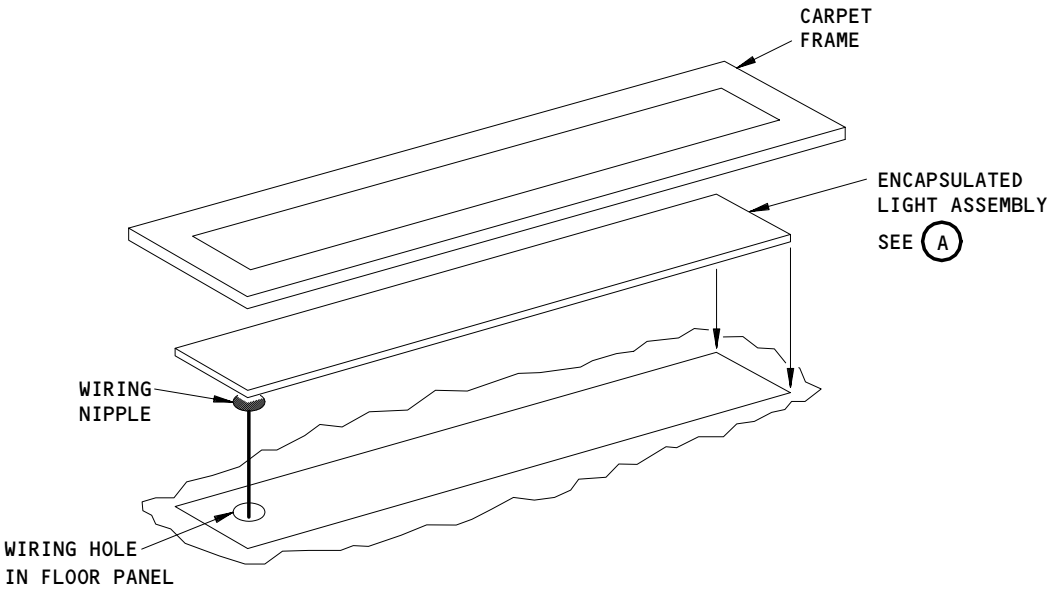
C. References
   (1) AMM 24-22-00/201, Electrical Power - Control
   (2) SSM 33-51-01
   (3) WDM 33-00-11, Lamp Usage Chart
   (4) WDM 33-51-16 thru 33-15-17

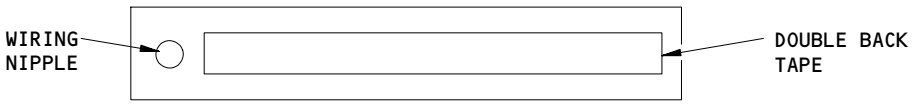
D. Access
   (1) Location Zone
      200 Upper Half of Fuselage

E. Procedure

S 012-018

(1) If there is a frame around the outer edge of the light, remove it.
   (a) Remove the screws that hold the frame to the floor.
   (b) Remove the frame.





ENCAPSULATED LIGHT ASSEMBLY
(BOTTOM VIEW)
A

Electroluminescent Crossaisle Light - Replacement
Figure 202

S 022-029

CAUTION: REMOVE THE LIGHTS ONLY WHEN IT IS APPLICABLE. DAMAGE TO THE FLOOR PANELS CAN OCCUR IF YOU TRY TO REMOVE PERMANENTLY-INSTALLED ELECTROLUMINESCENT LIGHTS.

(2) Do these steps to remove the light:
  (a) Remove the sealant (if applied) along the edge of the light with the sealant cutting tool.
  (b) Carefully pull the light from the floor panel.
  (c) Cut the electrical wires.

S 332-025

(3) For lights installed on the mats or painted areas, prepare the surface for the installation of the light.
  (a) Lightly sand the surface.
  (b) Clean the surface with the solvent.
  (c) Repair damage (if it is small) to the floor panel.
    1) Fill dents with the adhesive.
    2) Fully cure the adhesive before you continue to do this procedure.
    3) Clean the surface again with the solvent.

S 422-021

(4) Do these steps to install the light:
  (a) Use a splice to connect the electrical wires of the light with the electrical wires of the airplane.
  (b) Make a mark for the location of the light.
    1) Apply masking tape around the outer edge of the light.
  (c) Apply the doubleback tape to the bottom of the light.
    1) Align the tape 0.25 inch from the wiring nipple to 0.25 inch from the end opposite the wiring nipple.
    2) Apply the tape.
  (d) For lights installed on the mats or painted areas, apply the sealant to the bottom of the light around the doubleback tape.

    NOTE: Do not apply the sealant around the bottom of the wiring nipple.

  (e) Remove the backing from the doubleback tape.
  (f) Put the wiring nipple in the hole in the floor panel.
  (g) Install the light.
    1) Push down on the light to attach it to the floor panel.
  (h) If there was a frame around the light strip, do the following:
    1) Apply wet BMS 5-95 sealant to the screw threads.
    2) Install the screws while the sealant is still wet.
    3) Wipe away any excess sealant.

S 712-023
(5) Do a test of the light.

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN ONE MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(a) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.
1) Make sure the light strip comes on correctly.
(b) Set the switch to the off position.
1) Make sure the light strip goes off correctly.

TASK 33-51-10-962-124

8. SAS ALL EXCEPT 150-157,162-167;
Inverter - Fuse Replacement (Fig. 203)

A. General
(1) Electroluminescent floor proximity lights operate with electrical power from an inverter.
(2) It is not necessary to replace the inverter if the replacement of the fuse corrects the problem.

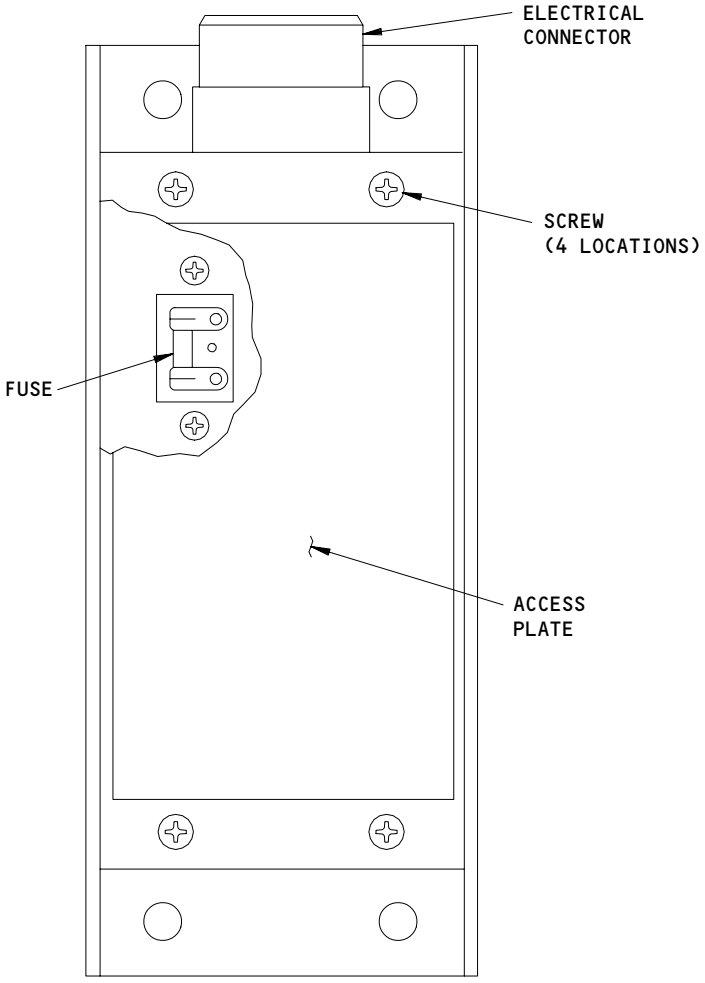
B. Reference
(1) SSM 33-51-01
(2) WDM 33-51-16 thru 33-51-17

C. Access
(1) Location Zone
200 Upper Half of the Fuselage

D. Procedure

S 012-108
(1) Remove the access panel or air grill to get access to the inverter.

S 962-047
(2) Replace the fuse.
(a) Disconnect the electrical connector from the inverter.
(b) Remove the screws and remove the access plate from the inverter.
(c) Replace the fuse.
1) Cut the leads on the new fuse to the correct length.



INVERTER
(EXAMPLE)

Floor Proximity Lights Installation
Figure 203

(d) Install the access plate on the inverter with the screws.
(e) Connect the electrical connector to the inverter.

S 712-060
(3) Do a test of the inverter.

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN ONE MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(a) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.
1) Make sure that the lights connected to the inverter come on correctly.
(b) Set the switch to the off position.
1) Make sure the lights connected to the inverter go off correctly.

S 412-048
(4) Install the access panel or air grill.

TASK 33-51-10-962-129
9. SAS ALL EXCEPT 150-157,162-167;
Inverter - Assembly Replacement (Fig. 203)
A. General
(1) Electroluminescent floor proximity lights operate with electrical power from an inverter.
B. Reference
(1) SSM 33-51-01
(2) WDM 33-51-16 thru 33-51-17
C. Access
(1) Location Zone
200 Upper Half of the Fuselage
D. Procedure

S 012-109
(1) Remove the access panel or air grill to get access to the inverter.

S 962-028
(2) Replace the inverter.
(a) Disconnect the electrical connector.
(b) Remove the screws that hold the inverter in its position.
(c) Remove the inverter.
(d) Install the new inverter with the screws.
(e) Connect the electrical connector.

S 712-030

(3) Do a test of the new inverter.

CAUTION: DO NOT KEEP THE EMERGENCY LIGHTS ON FOR LONGER THAN ONE MINUTE. TOO MUCH OPERATION DECREASES THE POWER IN THE BATTERIES.

(a) At the overhead panel, P5, or the attendant's panel, set the switch for the emergency lights to the on position.
1) Make sure that the lights connected to the inverter come on correctly.

(b) Set the switch to the off position.
1) Make sure that the lights connected to the inverter go off correctly.

S 412-032

(4) Install the access panel or air grill.