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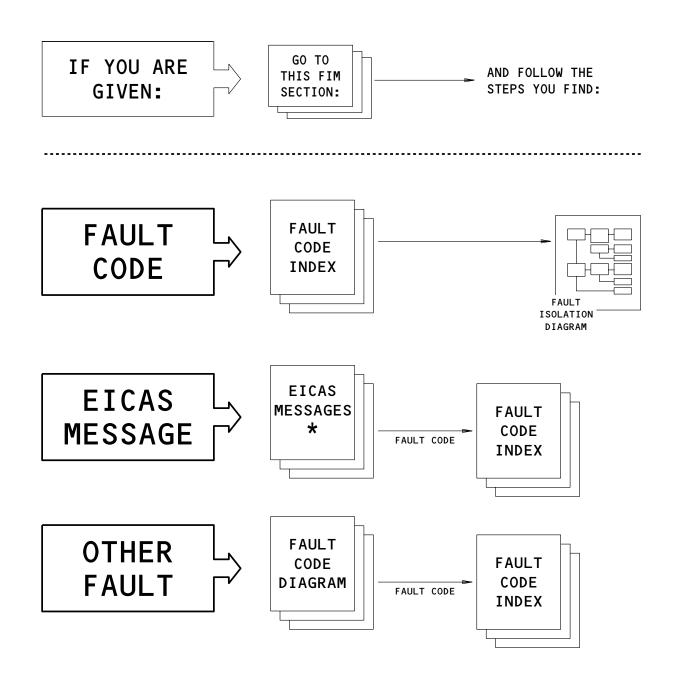
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 $\star$  THERE IS ALSO A MASTER LIST OF ALL EICAS MESSAGES AT THE FRONT OF THE FIM

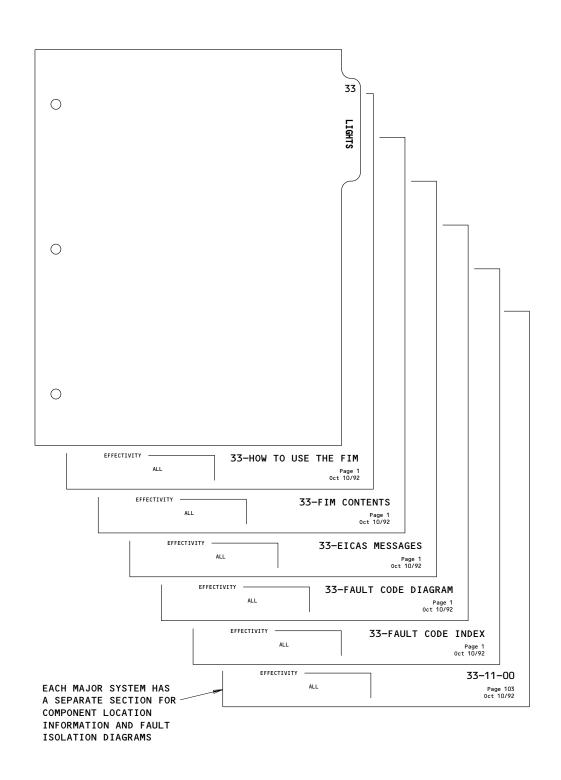
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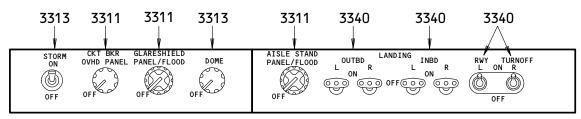
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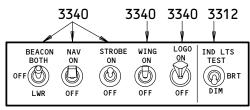
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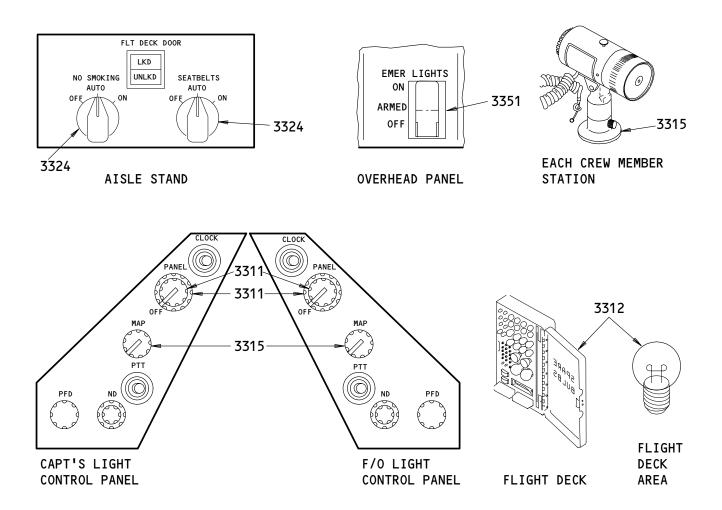
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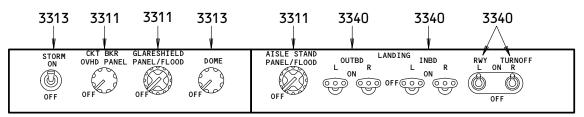
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KLM AIRCRAFT

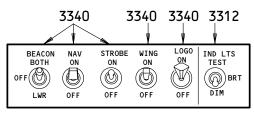
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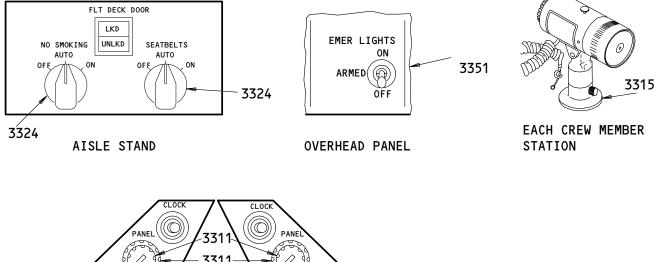
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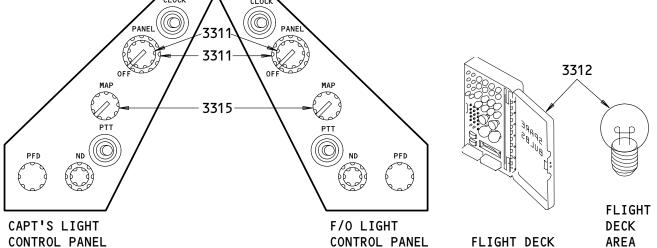






OVERHEAD PANEL





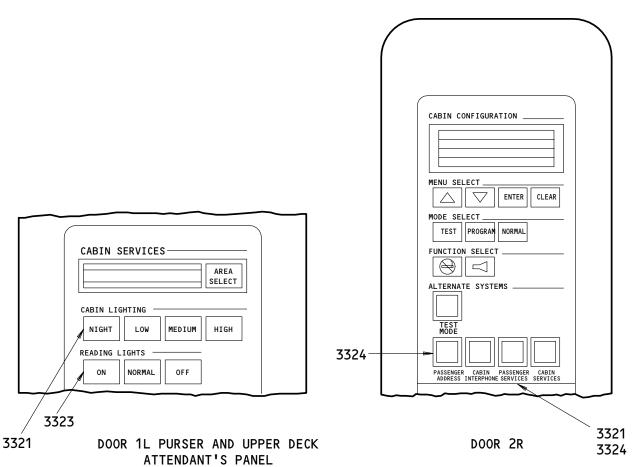
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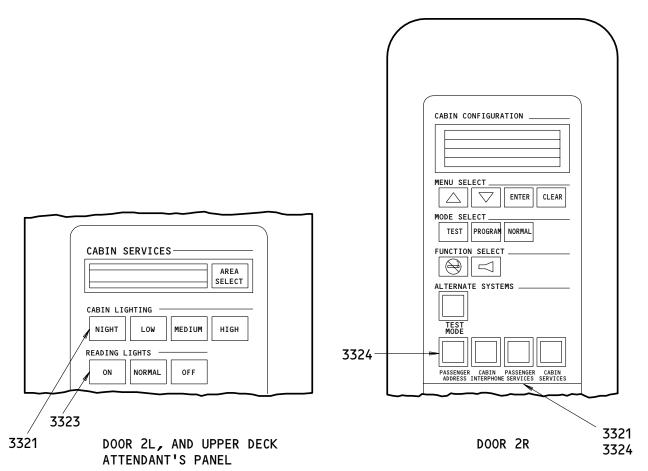
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CEILING INDIRECT. EMER EXIT  EMER (INTERIOR)  ATTND PNL SW.  OVND PNL SW.  FLOOR EMER ESCAPE PATH.  NO SMOKING.  READING.  RETURN TO SEAT.  SEAT BELT SIGNS.  SIDEWALL WASH LIGHTS.	3351 3351 3351 3321 3324 3323 3324 3324	COMPASS DOME FLOODLIGHTS CONTROL STAND GLARESHIELD INSTRUMENT PANEL MAP MASTER DIM & TEST SW MISCELLANEOUS BULBS & LAMPS PANELS CONTROL STAND GLARESHIELD INSTRUMENT OVERHEAD SPARE BULBS STORM UTILITY  EXTERIOR LIGHTS ANTICOLLISION (STROBE) LANDING LOGO	3313 
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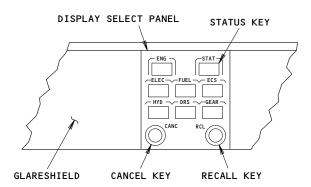
TITLE	CHAP/SEC	TITLE	CHAP/SEC
CABIN LIGHTS		COCKPIT LIGHTS	
CEILING INDIRECT EMER EXIT EMER (INTERIOR) ATTND PNL SW. OVND PNL SW. FLOOR EMER ESCAPE PATH NIGHT. NO SMOKING READING RETURN TO SEAT. SEAT BELT SIGNS. SIDEWALL WASH LIGHTS	3351 3351 3351 3351 3321 3324 3323 3324 3324	COMPASS. DOME. FLOODLIGHTS CONTROL STAND GLARESHIELD INSTRUMENT PANEL  MAP MASTER DIM & TEST SW MISCELLANEOUS BULBS & LAMPS. PANELS CONTROL STAND GLARESHIELD INSTRUMENT OVERHEAD SPARE BULBS STORM. UTILITY	
		EXTERIOR LIGHTS  ANTICOLLISION (BEACON) ANTICOLLISION (STROBE) LANDING	

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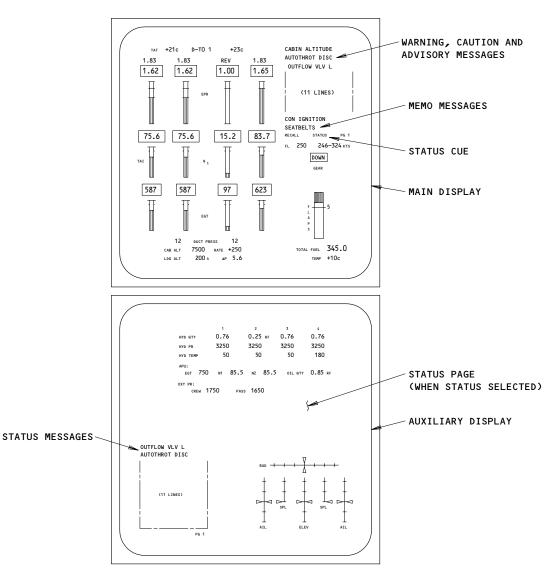
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#### **EICAS DISPLAYS**

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LDG LIGHTS ON	(MEMO)	ONE OR MORE LANDING LIGHTS ON	33 ME 06 00
NO SMOKING ON	(MEMO)	NO SMOKING SIGNS ARE MANUALLY SELECTED ON	33 ME 03 00
PASS SERVICES 1	(STATUS)	CABIN SERVICES 1 SYS FAILED	33 51 02 00
PASS SERVICES 2	(STATUS)	CABIN SERVICES 2 SYS FAILED	33 51 03 00
PASS SIGNS ON	(MEMO)	PASSENGER SIGNS ARE MANUALLY SELECTED ON (INHIBITS 'SEATBELTS ON' AND 'NO SMOKING ON')	33 ME 04 00
SEATBELTS OFF	(MEMO)	SELECTED OFF IN FLT	33 ME 05 00
SEATBELTS ON	(MEMO)	SEATBELT SIGNS ARE MANUALLY SELECTED ON	33 ME 02 00
STROBE LIGHT OFF	(MEMO)	INFLIGHT-STROBE LIGHTS OFF	33 ME 01 00

LIGHTS - EICAS MESSAGES

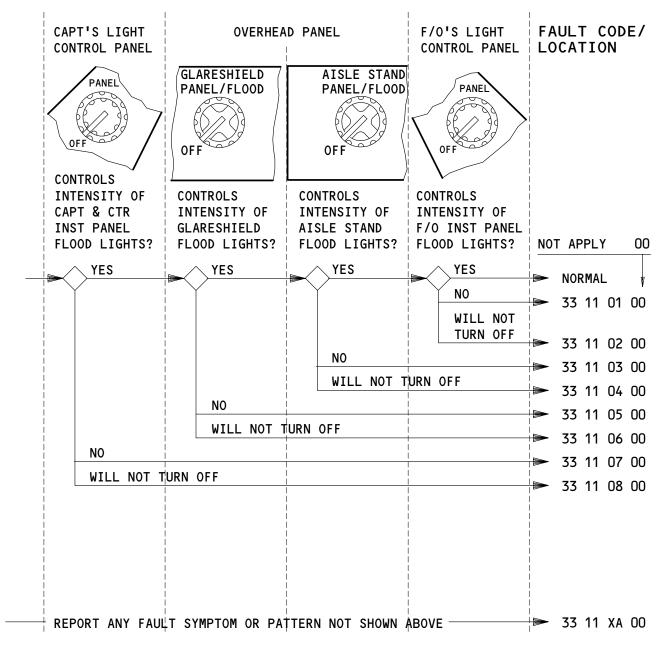
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#### APPLICABLE CIRCUIT BREAKER

6E26 FLT DK LIGHTS FLOOD PILOTS MAIN
6E27 FLT DK LIGHTS FLOOD GLARE SHEILD

#### FLOODLIGHTS - FAULT CODES

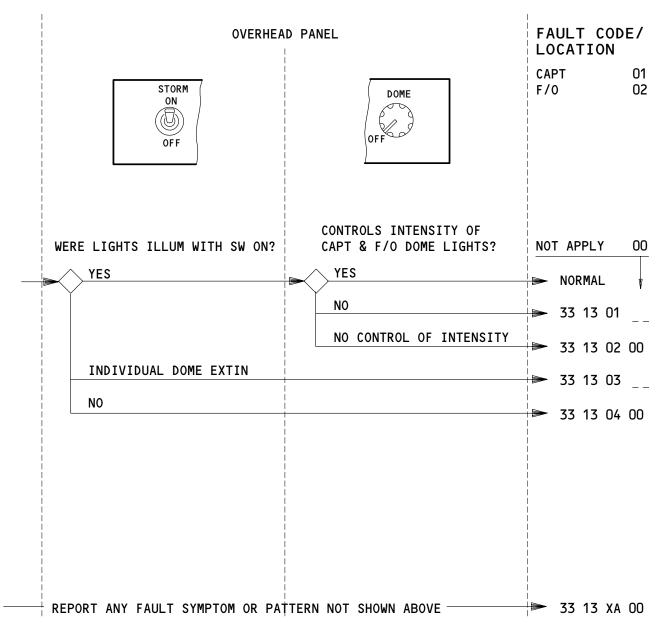
ALL

## 33-FAULT CODE DIAGRAM

01

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#### APPLICABLE CIRCUIT BREAKER

6F24	FLT DK LIGHTS DOME
6L2	FLT DECK LIGHT DOME
6L3	FLT DECK LIGHT STORM

#### STORM AND DOME LIGHTS - FAULT CODES

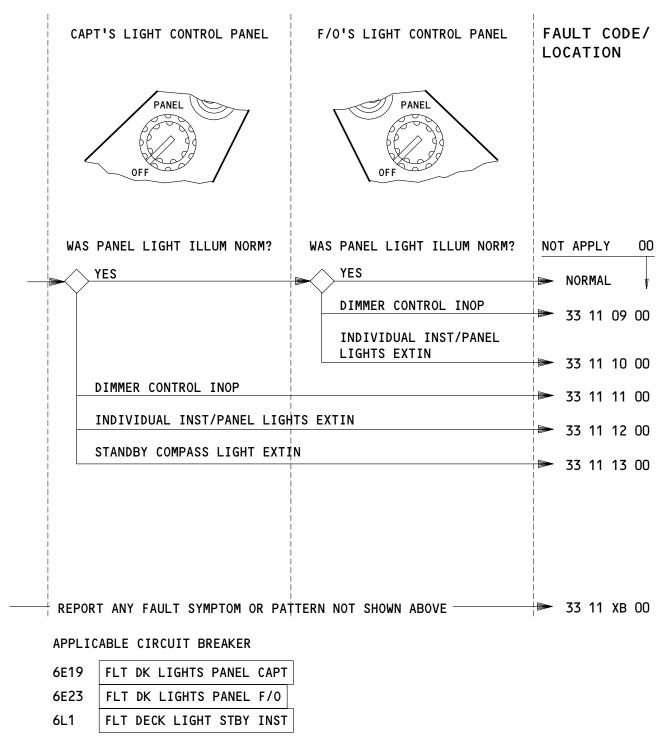
ALL ALL

## 33-FAULT CODE DIAGRAM

02

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#### INSTRUMENT/MISC PANEL LIGHTING - FAULT CODES

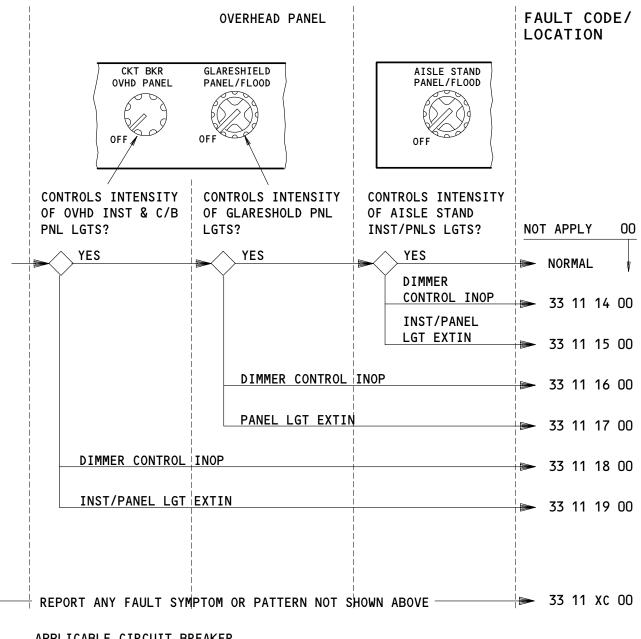
ALL

#### 33-FAULT CODE DIAGRAM

01

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6E20	FLT DK LIGHTS PANEL OVHD
6E21	FLT DK LIGHTS PANEL GLARESHIELD
6E24	FLT DK LIGHTS PANEL OVHD P7
6E25	FLT DK LIGHTS PANEL OBS
6F23	FLT DK LIGHTS MAP & UTIL
6L1	FLT DECK LIGHT STBY INST

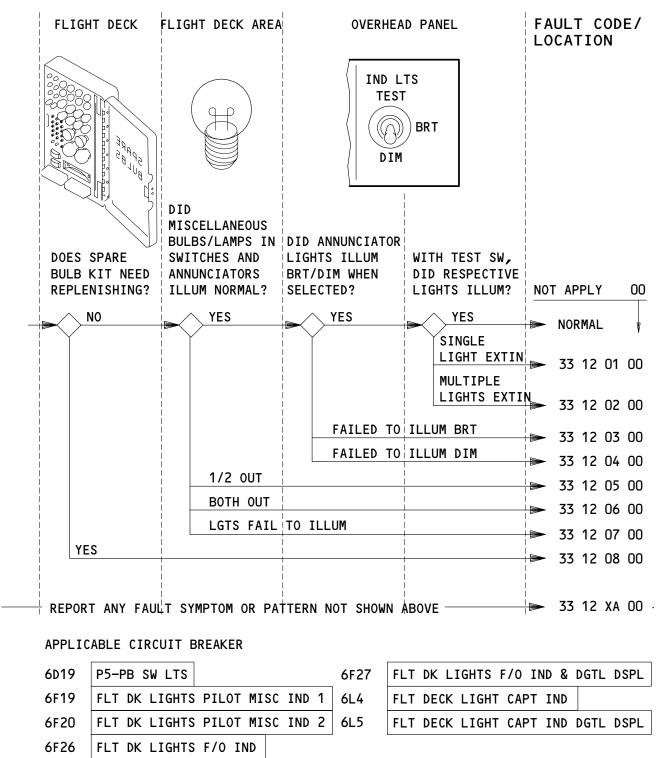
OVERHEAD, GLARESHIELD AND AISLE STAND PANEL LIGHTS - FAULT CODES

EFFECTIVITY-

## 33-FAULT CODE DIAGRAM

01





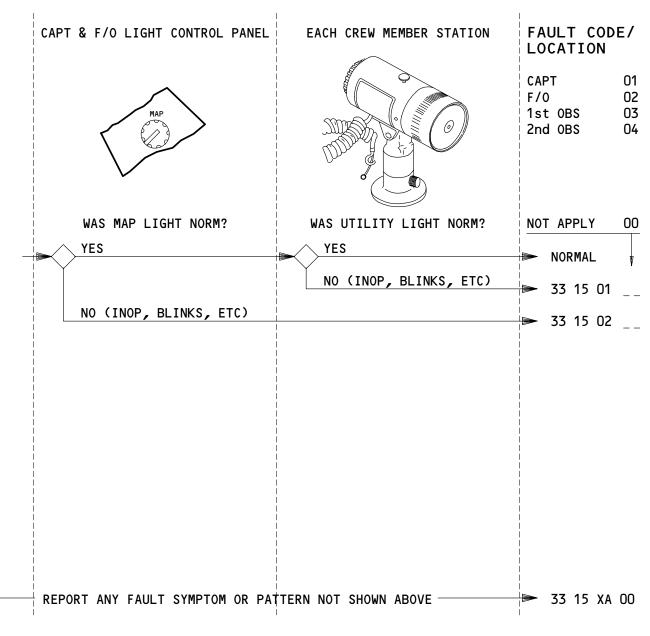
#### MISCELLANEOUS BULBS/MASTER DIM AND TEST - FAULT CODES

#### 33-FAULT CODE DIAGRAM

02

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6F23 FLT DK LIGHTS MAP & UTIL

MAP, UTILITY LIGHTS - FAULT CODES

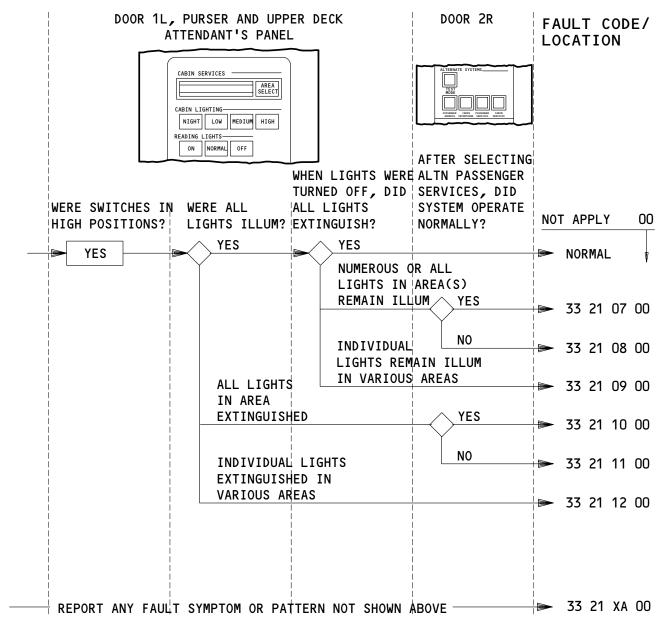
ALL ALL

## 33-FAULT CODE DIAGRAM

01

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NONE

#### INDIRECT CEILING LIGHTS- FAULT CODES

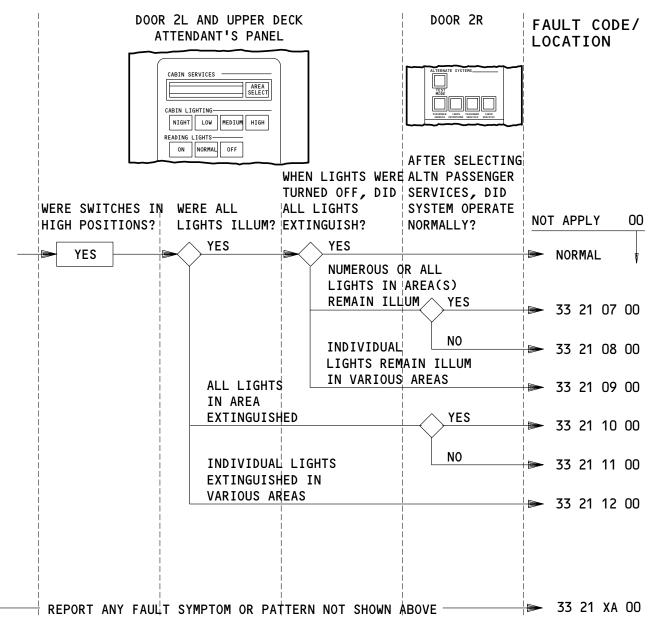
EFFECTIVITY— KLM ALL

### 33-FAULT CODE DIAGRAM

04

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NONE

#### INDIRECT CEILING LIGHTS - FAULT CODES

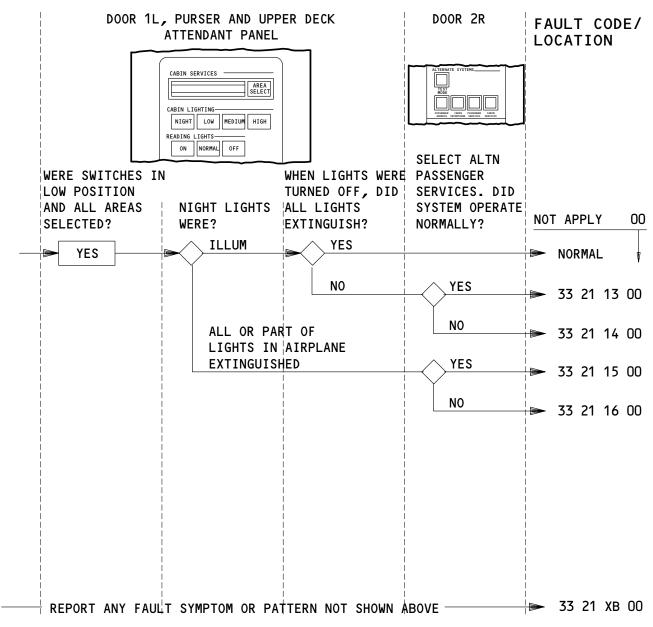
EFFECTIVITY——UTA ALL

### 33-FAULT CODE DIAGRAM

04

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NONE

NIGHT LIGHTS - FAULT CODES

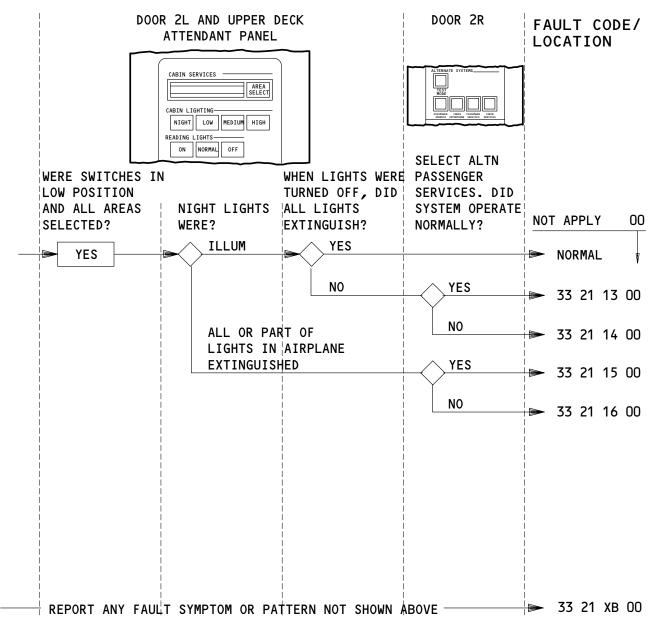
EFFECTIVITY— KLM ALL

## 33-FAULT CODE DIAGRAM

04

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NONE

NIGHT LIGHTS - FAULT CODES

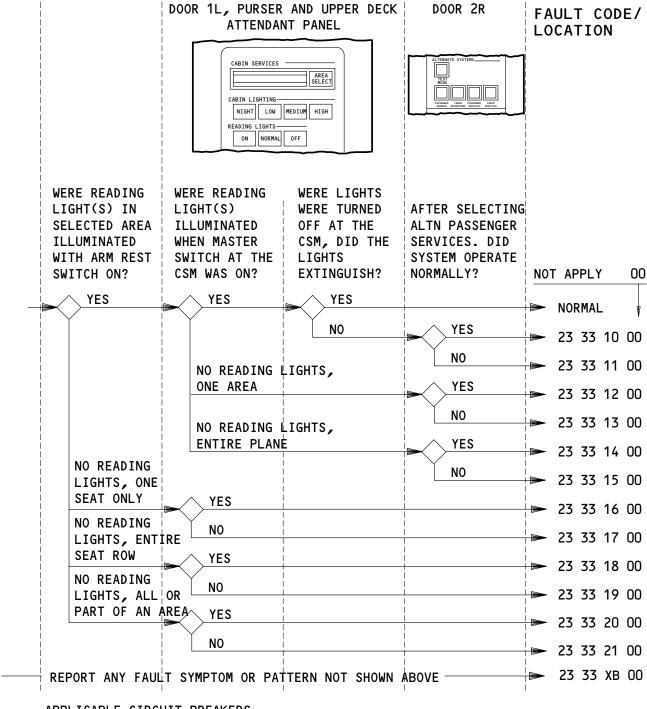
EFFECTIVITY— UTA ALL

## 33-FAULT CODE DIAGRAM

02

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NONE

READING LIGHTS - FAULT CODES

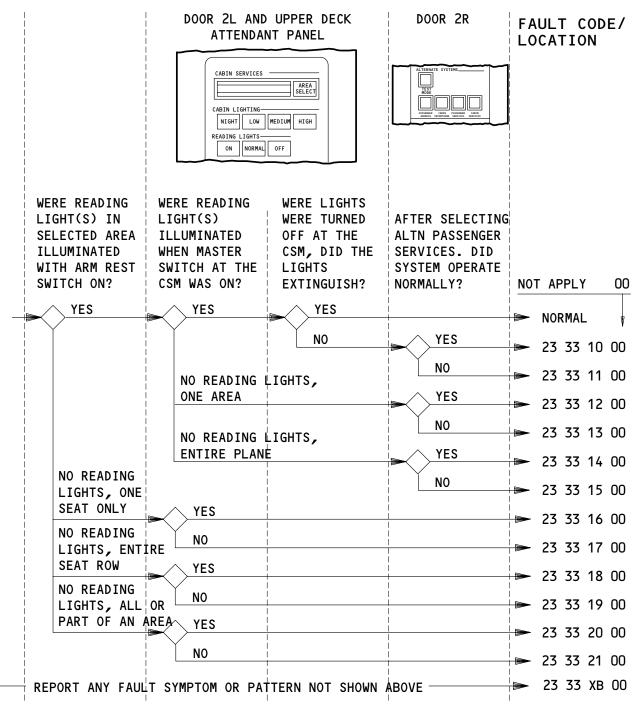
EFFECTIVITY— KLM ALL

#### 33-FAULT CODE DIAGRAM

02

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NONE

READING LIGHTS - FAULT CODES

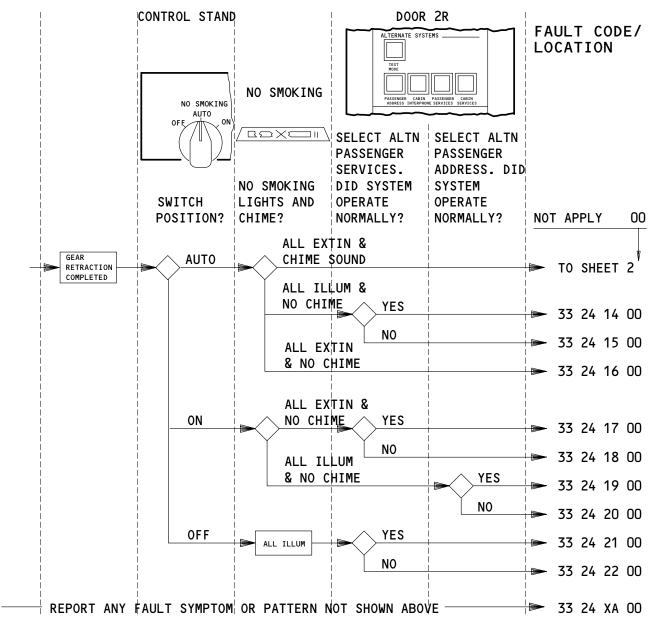
EFFECTIVITY—UTA ALL

## 33-FAULT CODE DIAGRAM

02

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NONE

#### NO SMOKING LIGHTS (SHEET 1) - FAULT CODES

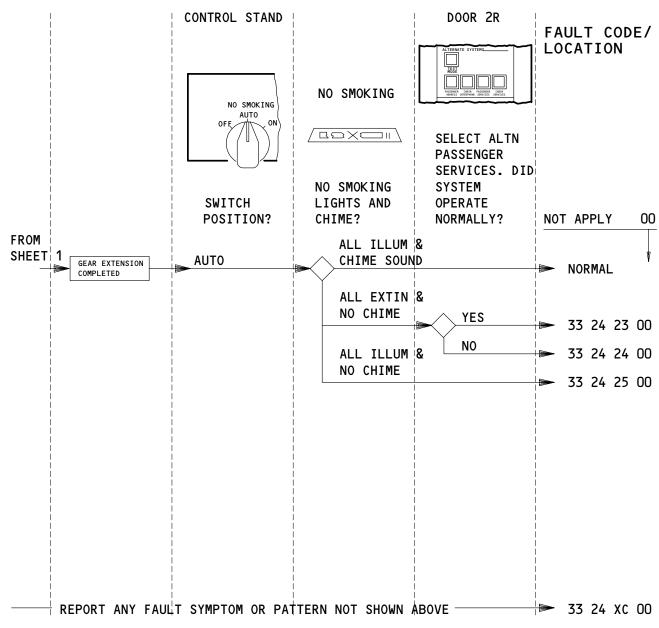
ALL ALL

#### 33-FAULT CODE DIAGRAM

04

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NONE

NO SMOKING LIGHTS (SHEET 2) - FAULT CODES

ALL ALL

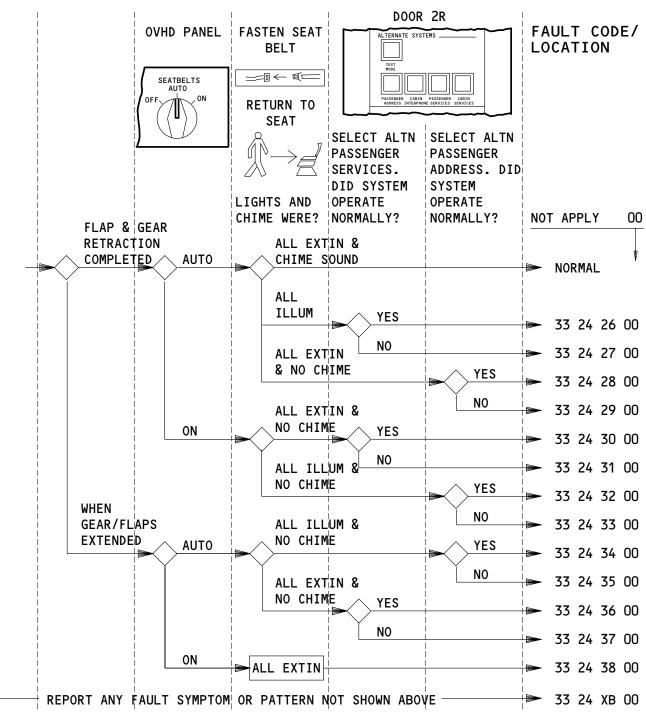
## 33-FAULT CODE DIAGRAM

05

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830248





NONE

SEAT BELTS/RETURN TO SEAT LIGHTS - FAULT CODES

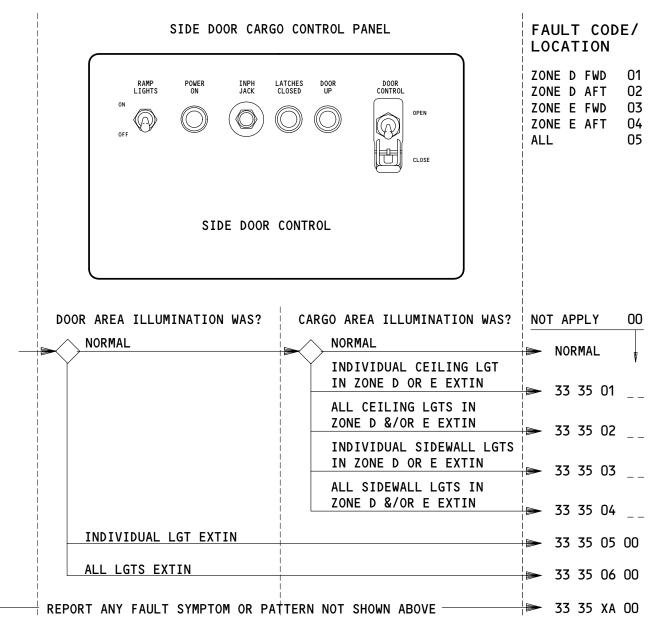
ALL

#### 33-FAULT CODE DIAGRAM

04

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MAIN DECK CARGO HANDLING LIGHTS - FAULT CODES

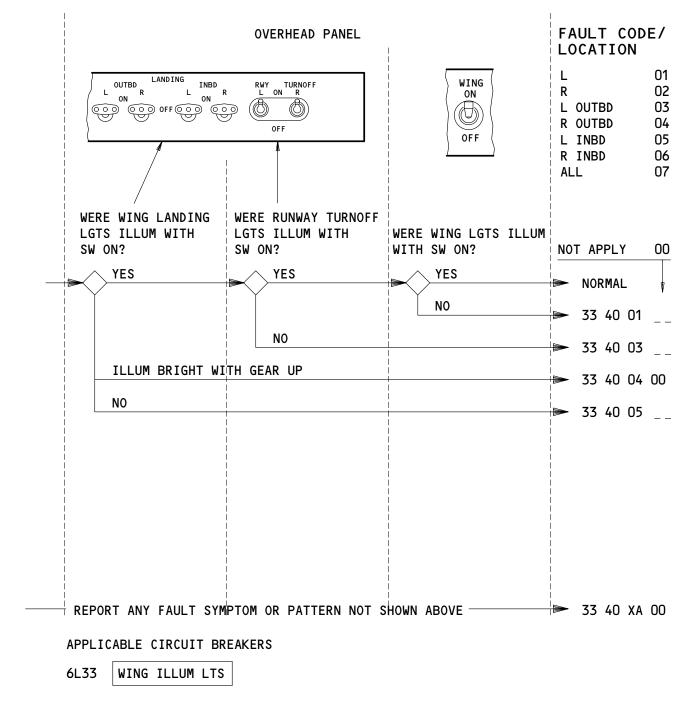
EFFECTIVITY———COMBIS

### 33-FAULT CODE DIAGRAM

04

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LANDING, RUNWAY TURNOFF, AND WING LIGHTS - FAULT CODES

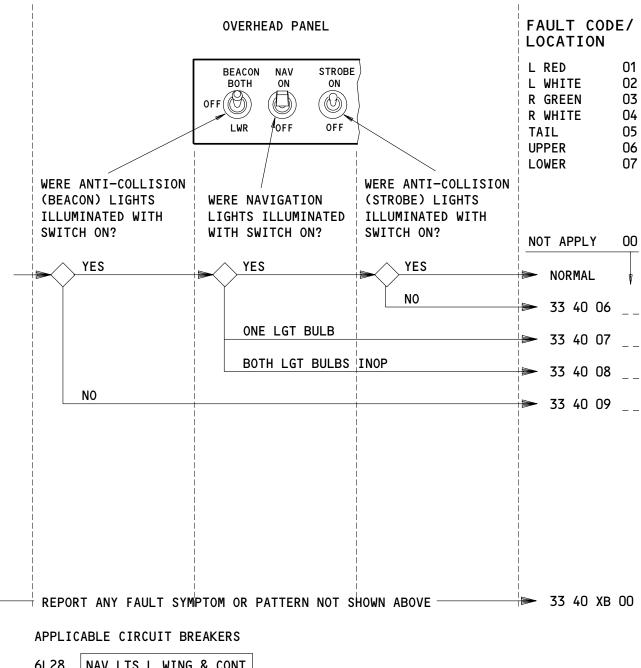
ALL ALL

#### 33-FAULT CODE DIAGRAM

03

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6L28	NAV LTS L WING & CONT
6L29	NAV LTS R WING
6L30	NAV LTS TAIL
6L31	ANTI COLL LTS RED
6L32	ANTI COLL LTS WHITE

BEACON, NAVIGATION AND STROBE LIGHTS - FAULT CODES

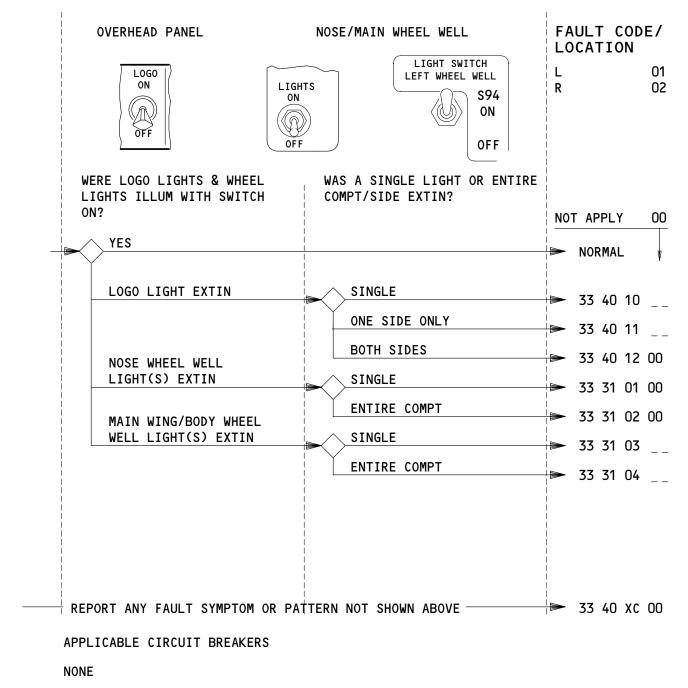
ALL ALL

#### 33-FAULT CODE DIAGRAM

02

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WHEEL WELL/LOGO LIGHTS - FAULT CODES

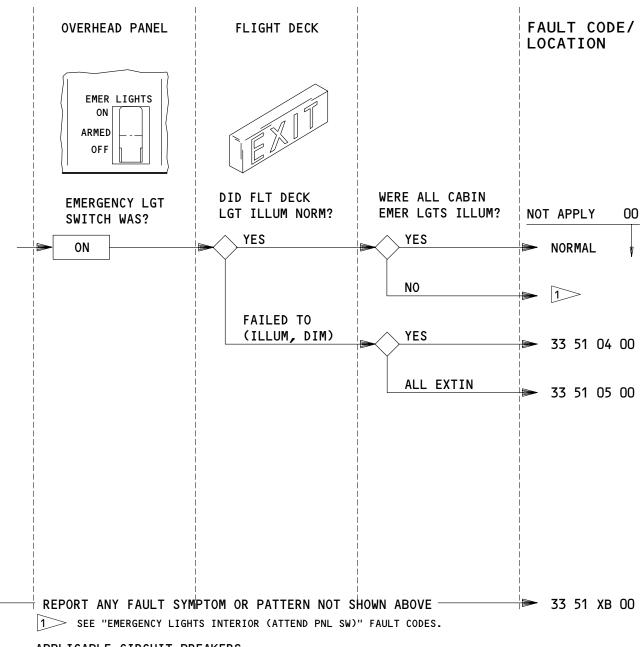
ALL

### 33-FAULT CODE DIAGRAM

01

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7G14 EMER LTS CHARGING FWD 7G15 EMER LTS CHARGING AFT

EMERGENCY LIGHTS INTERIOR (OVHD PNL SW) - FAULT CODES

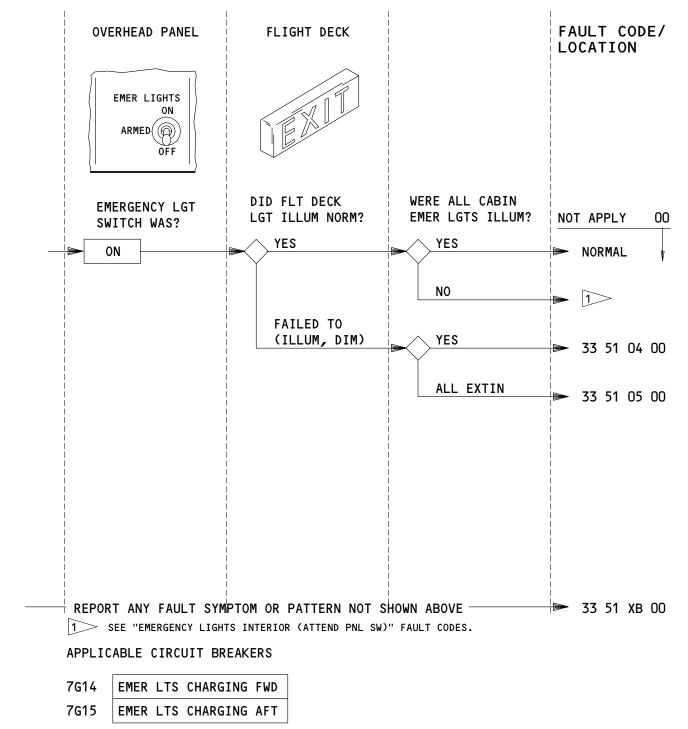
EFFECTIVITY-KLM ALL

## 33-FAULT CODE DIAGRAM

01

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EMERGENCY LIGHTS INTERIOR (OVHD PNL SW) - FAULT CODES

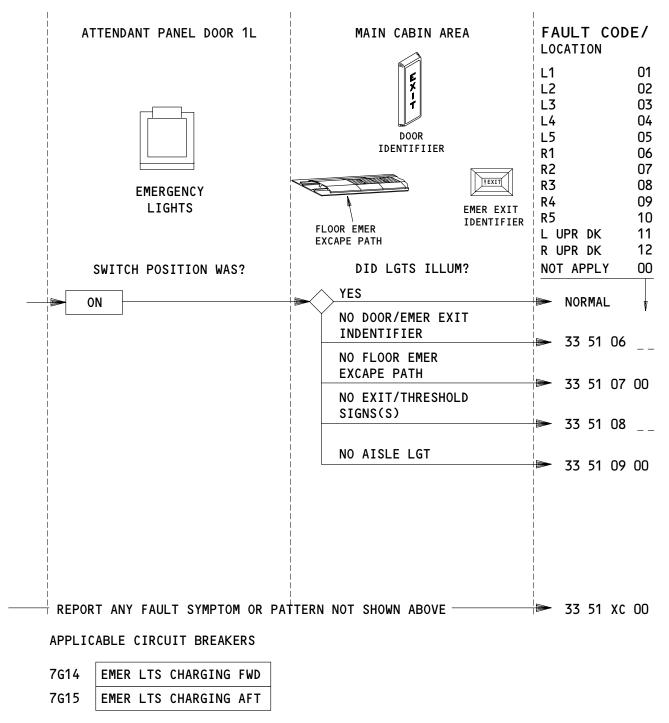
UTA ALL

## 33-FAULT CODE DIAGRAM

01

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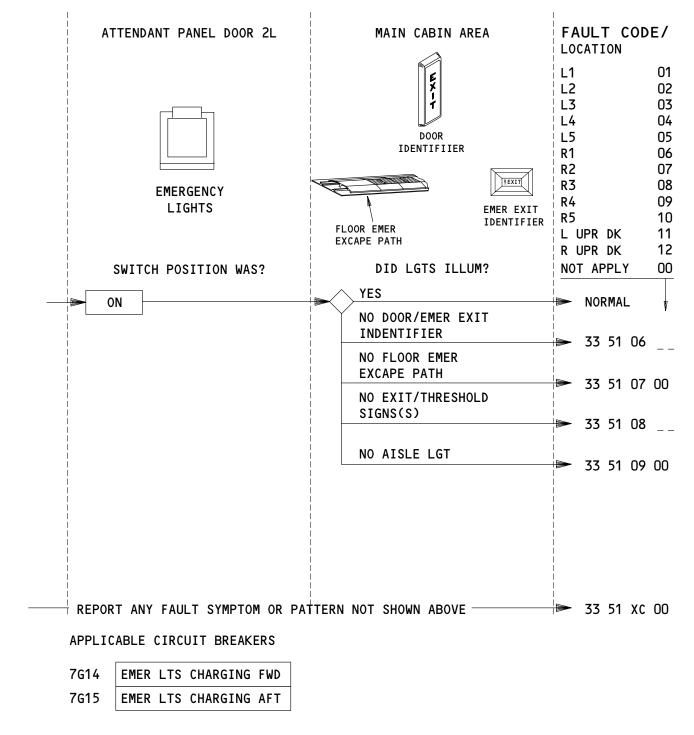
EMERGENCY LIGHTS INTERIOR (ATTND PNL SW) - FAULT CODES

## 33-FAULT CODE DIAGRAM

01

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EMERGENCY LIGHTS INTERIOR (ATTND PNL SW) - FAULT CODES

EFFECTIVITY————UTA ALL

## 33-FAULT CODE DIAGRAM

01

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FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 11 XA 00	The flight crew found a flood light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-11-00/501
33 11 XB 00	The flight crew found an instrument/miscellaneous panel lighting problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-11-00/501
33 11 XC 00	The flight crew found an overhead, glareshield or aisle stand problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-11-00/501
33 12 XA 00	The flight crew found a miscellaneous bulb or master dim and test problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-12-00/501
33 13 XA 00	The flight crew found a storm or dome light problem that is not on fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-13-00/501
33 15 XA 00	The flight crew found a map/utility light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-15-00/501
33 21 XA 00	The flight crew found an indirect ceiling/sidewall wash light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-21-00/501

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 21 XB 00	The flight crew found a night light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-21-00/501
33 23 XB 00	The flight crew found a reading light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book. 1. AMM 33-23-00/501
33 24 XA 00	The flight crew found a no smoking sign problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-24-00/501
33 24 XB 00	The flight crew found a fasten seat belt/return to seat sign problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-24-00/501
33 24 XC 00	The flight crew found a no smoking sign problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-24-00/501
33 35 XA 00	The flight crew found a main deck cargo handling light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-35-00/501
33 40 XA 00	The flight crew found a landing, runway turnoff, or wing light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-42-00/501
33 40 XB 00	The flight crew found a beacon, navigation or strobe light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-43-00/501



FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 40 XC 00	The flight crew found a whellwell or stablizer logo light problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-45-00/501
33 51 XB 00	The flight crew found an emergency light (overhead panel switch) problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-51-00/501
33 51 XC 00	The flight crew found an emergency light (attendant panel switch) problem that is not on the fault code diagram in the FRM. See the entry that the flight crew wrote in the log book.  1. AMM 33-51-00/501
33 11 01 00 	F/O's instrument panel floodlight inoperative.  1. FIM 33-11-00/101, Fig. 103, Block 1.
33 11 02 00	F/O's instrument panel floodlight control will not control intensity of lights. Light remains dim with control OFF.  1. FIM 33-11-00/101, Fig. 103, Block 2.
33 11 03 00 	Control stand floodlight inoperative.  1. FIM 33-11-00/101, Fig. 105, Block 1.
33 11 04 00	Control stand floodlight control will not control intensity of light. Light remains dim with control OFF.  1. FIM 33-11-00/101, Fig. 105, Block 2.
33 11 05 00 	Glareshield floodlight inoperative. 1. FIM 33-11-00/101, Fig. 104, Block 1.

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 11 06 00	Glareshield floodlight control will not control intensity of light. Light remains dim with control OFF.  1. FIM 33-11-00/101, Fig. 104, Block 2.
33 11 07 00 	Capt & center instrument panel floodlight inoperative.  1. FIM 33-11-00/101, Figure 103, Block 1.
33 11 08 00	Capt & center instrument panel floodlight control will not control the intensity of light. Light remains dim with the control OFF.  1. FIM 33-11-00/101, Fig. 106, Block 2.
33 11 09 00 	F/O instrument and panel light dimmer control inoperative.  1. FIM 33-11-00/101, Fig. 107, Block 1.
33 11 10 00 	F/O instrument panel (state location) light extinguished.  1. FIM 33-11-00/101, Fig. 107, Block 2.
33 11 11 00 	Capt's instrument and panel light dimmer control inoperative.  1. FIM 33-11-00/101, Fig. 106, Block 1.
33 11 12 00 	Capt's instrument panel (state location) light extinguished.  1. FIM 33-11-00/101, Fig. 106, Block 2.
33 11 13 00 	Standby compass light extinguished.  1. FIM 33-11-00/101, Fig. 108, Block 1.
33 11 14 00 	Aisle stand dimmer control inoperative.  1. FIM 33-11-00/101, Fig. 110, Block 1.
33 11 15 00 	Aisle stand instrument/panel lights (state location) extinguished.  1. FIM 33-11-00/101, Fig. 110, Block 3.
33 11 16 00 	Glareshield dimmer control inoperative.  1. FIM 33-11-00/101, Fig. 108, Block 1.

# 33-FAULT CODE INDEX

ALL

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FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 11 17 00 	Glareshield panel light(s) (state location) extinguished.  1. FIM 33-11-00/101, Fig. 108, Block 1.
33 11 18 00 	Overhead instrument/CB panel dimmer control inoperative.  1. FIM 33-11-00/101, Fig. 109, Block 1.
33 11 19 00 	Overhead instrument/CB panel light(s) (state location) extinguished. 1. FIM 33-11-00/101, Fig. 109, Block 1.
33 12 01 00 	With IND LTS switch in TEST, single light remains extinguished (specify light).  1. FIM 33-12-00/101, Fig. 103, Block 1
33 12 02 00 	With IND LTS switch in TEST, multiple lights remains extinguished.  1. FIM 33-12-00/101, Fig. 103, Block 1
33 12 03 00 	With IND LTS switch in BRT, annunciator lights fail to illuminate bright.  1. FIM 33-12-00/101, Fig. 103, Block 1
33 12 04 00 	With IND LTS switch in DIM, annunciator lights fail to illuminate dim. 1. FIM 33-12-00/101, Fig. 103, Block 1
33 12 05 00	Single bulb inop in (Identify switch, annunciator or other)  1. Replace lamp.
33 12 06 00 	Both bulbs inop in (Identify switch, annunciator or other)  1. FIM 33-12-00/101, Fig. 103, Block 1
33 12 07 00 	Numerous flight deck lights fail to illuminate. (Identify) 1. FIM 33-12-00/101, Fig. 103, Block 1
33 12 08 00	Spare bulb kit needs replenishing.  1. Replenish as necessary.
33 13 01	(01=Capt, 02=F/0) dome light would not illuminated.  1. Relamp faulty dome light (WDM 33-13-51).

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 13 02 00	Capt & F/O dome light intensity could not be controlled with dome light switch.  1. Replace LH ltg control module M7261 (WDM 33-13-51).
33 13 03	(01=Capt, 02=F/0) Storm lights would not illuminate.  1. Relamp faulty dome light (WDM 33-13-51)
33 13 04 00	Capt & F/O storm lights will not illuminate.  1. Replace storm lights relay R236 (WDM 33-13-51).
33 15 01 <u> </u>	(01=Capt, 02=F/0, 03=1st 0bs, 04=2nd 0bs) utility light (inoperative, blinks, etc.).  1. FIM 33-15-00/101, Fig. 103, Block 1.
33 15 02 <u> </u>	(01=Capt, 02=F/0,) map light (inoperative, blinks, etc.).  1. FIM 33-15-00/101, Fig. 104, Block 1.
33 21 01 00 thru 33 21 06 00	Not Used
33 21 07 00	(Numerous, All) (Indirect ceiling, sidewall wash, indirect ceiling/sidewall wash) lights remain illuminated in area(s)with switches off. Light operation normal with ALTERNATE SYSTEM PASSENGER SERVICES selected.  1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).
33 21 08 00	<pre>(Numerous, All) (Indirect ceiling, sidewall wash, indirect ceiling /sidewall wash) lights remain illuminated in areaswith switches off. Lights remain illuminated with ALTERNATE SYSTEMS PASSENGER SERVICES selected. 1. Do the Indirect Ceiling/Sidewall Wash lights INOP procedure     (FIM 33-21-00/101, Fig. 104).</pre>



FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 21 09 00	<ul> <li>Individual (indirect ceiling, sidewall wash, indirect ceiling/sidewall wash) lights remain illuminated in various areas. (Report by nearest seat number with switches off).</li> <li>1. Do the Indirect Ceiling/Sidewall Wash lights INOP procedure starting at block 2 (FIM 33-21-00/101, Fig. 104).</li> </ul>
33 21 10 00 	All (indirect ceiling, sidewall wash, indirect ceiling/ sidewall wash) lights extinguished with light switches on. Light operation normal with ALTERNATE SYSTEMS PASSENGER SERVICES selected. 1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).
33 21 11 00	All (indirect ceiling, sidewall wash, indirect ceiling/ sidewall wash) lights extinguished with light switches on. Lights remain extinguished with ALTERNATE SYSTEMS PASSENGER SERVICES SELECTED. 1. Do the Indirect Ceiling/Sidewall Wash lights INOP procedure (FIM 33-21-00/101, Fig. 104).
33 21 12 00	<ul> <li>Individual (indirect ceiling, sidewall wash, indirect ceiling/sidewall wash) lights extinguished with light switches on. (Report by nearest seat number).</li> <li>1. Do the Indirect Ceiling/Sidewall Wash light INOP procedure (FIM 33-21-00/101, Fig. 104).</li> </ul>
33 21 13 00 	Night lights remain illuminated with switches off. Light operation was normal with ALTERNATE SYSTEMS PASSSENGER SERVICE selected.  1. Replace Entertainment Services Controller (ESC) (AMM 23-34-11/401).

FAULT CODE LOG BOOK REPORT/ CORRECTIVE ACTION Night lights remain illuminated with switches off. Lights 33 21 14 00 remained illuminated with ALTERNATE SYSTEMS PASSENGER SERVICE selected. 1. Do the Night Light Problems procedure (FIM 33-21-00/101, Fig. 105). 33 21 15 00 With night lights on (All, Part of, Areas\_\_\_\_\_ extinguished. Light operation was normal with ALTERNATE SYSTEMS PASSENGER SERVICE selected. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401). 33 21 16 00 With night lights on (All, Part of, areas\_\_\_ extinguished with ALTERNATE SYSTEMS PASSENGER SERVICE selected. 1. Do the Failure of Night Lights to Extinguish procedure (FIM 33-21-00/101, Fig. 106). 33 23 01 00 thru Not Used 33 24 13 00 33 24 14 00 With the no smoking switch in AUTO, when the landing gear was retracted, no smoking signs remained illuminated and the chime did not sound. System functioned properly when the ALTERNATE PASSENGER SERVICES SYSTEM was selected. Replace the Entertainment Services Controller (ESC) (AMM 23-34-00/401). 33 24 15 00 With the no smoking switch in AUTO, when the landing gear was retracted, no smoking signs remained illuminated and the chime did not sound. ALTERNATE PASSENGER SERVICES SYSTEM was selected and the condition still existed. 1. Replace the Crew Alert Card in the MAWEA (AMM 31-51-02/401).

EFFECTIVITY-

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 24 16 00	With the no smoking switch in AUTO, when the landing gear was retracted, no smoking signs extinguished but the chime did not sound.  1. Replace the Passenger Address Controller (PAC) (AMM 23-31-01/401).  2. If the problem continues replace the Crew Alert Card in the MAWEA (AMM 31-51-02/401).
33 24 17 00 	No smoking signs remained extinguished and chime did not sound with switch selected ON. Operated normally with ALTERNATE PASSENGER SERVICES SYSTEM selected.  1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).
33 24 18 00	No smoking signs remained extinguished and chime did not sound with the switch selected ON. Condition still existed with ALTERNATE PASSENGER SERVICES SYSTEM selected.  1. Do the NO SMOKING Lights/Chimes Inop - All Areas on Airplane (FIM 33-24-00/101, Fig. 104).
33 24 19 00 	Chime did not sound when the no smoking switch was selected ON. System functioned properly when ALTERNATE PASSENGER ADDRESS SYSTEM was selected.  1. Replace the Passenger Address Controller (PAC) (AMM 23-31-01/401).
33 24 20 00	Chime did not sound when the no smoking switch was selected ON. Condition still existed with ALTERNATE PASSENGER ADDRESS SYSTEM selected.  1. Do the NO SMOKING Lights/Chimes Inop - All Areas on Airplane (FIM 33-24-00/101, Fig. 104).
33 24 21 00 	No smoking signs remained illuminated when the switch was selected OFF. System functioned properly when ALTERNATE PASSENGER SERVICES SYSTEM was selected.  1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).

FAULT CODE LOG BOOK REPORT/
CORRECTIVE ACTION

- 33 24 22 00 No smoking signs remained illuminated when switch was selected OFF. Condition still existed with ALTERNATE PASSENGER SERVICES SYSTEM selected.
  - 1. Replace the Passenger Information Sign switch module M7332 in the P8 panel (WDM 33-24-11).
  - 2. If problem continues check and repair wiring between the MAWEA and the PAC and the ESC (WDM 33-24-11).
- 33 24 23 00 With no smoking switch in AUTO, when landing gear was extended, no smoking signs remained extinguished and chime did not sound. System functioned properly when ALTERNATE PASSENGER SERVICES SYSTEM was selected.
  - 1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).
- 33 24 24 00 With the no smoking switch in AUTO, when the landing gear was extended, no smoking signs remained extinguished and the chime did not sound. ALTERNATE PASSENGER SERVICES SYSTEM was selected and condition still existed.
  - 1. Replace the Crew Alert Card in MAWEA (AMM 31-51-02/401).
- 33 24 25 00 With the no smoking switch in AUTO, when the landing gear was extended, chimes did not sound.
  - Replace the Passenger Address Controller (PAC) (AMM 23-31-01/401).
  - 2. If problem continues replace the Crew Alert Card in the MAWEA (AMM 31-51-02/401).
- 33 24 26 00 Fasten seat belt and return to seat signs remain illuminated with flaps and gear up and switch in AUTO position. System functioned properly when ALTERNATE SYSTEM PASSENGER SERVICES was selected.
  - 1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).

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ALL



FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 24 27 00	Fasten seat belt and return to seat signs remain illuminated with flaps and gear up and switch in AUTO position. ALTERNATE PASSENGER SERVICES SYSTEM was selected and the condition still existed. 1. Replace the Crew Alert Card in the MAWEA (AMM 31-51-02/401).
33 24 28 00 	Fasten seat belt and return to seat chime did not sound when flaps and gear retracted and switch in AUTO position. System functioned properly when ALTERNATE PASSENGER SERVICES SYSTEM (PASSENGER ADDRESS) was selected.  1. Replace the Passenger Address Controller (PAC) (AMM 23-31-01/401).
33 24 29 00	Fasten seat belt and return to seat chime did not sound when flaps and gear retracted and switch in AUTO position. ALTERNATE PASSENGER SERVICES SYSTEM (PASSENGER ADDRESS) was selected and the condition still existed.  1. Replace the Crew Alert Card in the MAWEA (AMM 31-51-02/401).
33 24 30 00	Fasten seat belt and return to seat signs remained extinguished and chime did not sound with switch in ON position. System functioned properly when ALTERNATE PASSENGER SERVICES SYSTEM was selected.  1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).
33 24 31 00	Fasten seat belt and return to seat signs remained extinguished and chime did not sound with switch in ON position. ALTERNATE PASSENGER SERVICES SYSTEM was selected and condition still existed.  1. Do the FASTEN SEAT BELT Lights/Chime Inop - All Areas on Airplane (FIM 33-24-00/101, Fig. 105).

LOG BOOK REPORT/ CORRECTIVE ACTION
Fasten seat belt and return to seat chime did not sound when switched to ON position. System functioned properly when ALTERNATE PASSENGER SERVICES SYSTEM was selected.  1. Replace the Entertainment Services Controller (AMM 23-34-11/401).
Fasten seat belt and return to seat chime did not sound when switched to ON position. ALTERNATE PASSENGER SERVICES SYSTEM (PASSENGER ADDRESS) was selected and condition still existed.  1. Do the FASTEN SEAT BELT Lights/Chime Inop - All Areas on Airplane (FIM 33-24-00/101, Fig. 105).
Fasten seat belt and return to seat chime did not sound with switch in AUTO position and (flaps, gear) extension. System functioned properly when ALTERNATE PASSENGER ADDRESS SYSTEM was selected.  1. Replace the Passenger Address Controller (PAC) (AMM 23-31-01/401).
Fasten seat belt and return to seat chime did not sound with switch in AUTO position and (flaps, gear) extension. ALTERNATE PASSENGER ADDRESS SYSTEM was selected and condition existed.  1. Replace Crew Alert Card in the MAWEA (AMM 31-51-02/401).
Fasten seat belt and return to seat signs remained extinguished and chime did not sound with switch in AUTO position and (flaps, gear) extension. System functioned properly when ALTERNATE PASSENGER SERVICES SYSTEM was selected.  1. Replace the Entertainment Services Controller (ESC) (AMM 23-34-11/401).

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 24 37 00	Fasten seat belt and return to seat signs remained extinguished and chime did not sound with switch in AUTO position and (flaps, gear) extension. ALTERNATE PASSENGER SERVICES SYSTEM was selected and condition still existed.  1. Replace Crew Alert Card in the MAWEA (AMM 31-51-02/401).
33 24 38 00 	Fasten seat belt and return to seat signs remained extinguished with switch in ON position and airplane configured for landing.  1. Do the FASTEN SEAT BELT Lights/Chime Inop - All Areas on Airplane (FIM 33-24-00/101, Fig. 105).
33 26 01 00 	<ul> <li>(Identify location). Lavatory call light switch in the lav will not reset call lights. Operation is normal with ALTERNATE PASSENGER SERVICES SYSTEM selected.</li> <li>1. Replace the entertainment/service controller B7456 (AMM 23-34-11/401).</li> </ul>
33 26 02 00	(Identify location). Lavatory call light switch in the lav will not reset call lights. ALTERNATE PASSENGER SERVICES SYSTEM selected and condition still exists. 1. FIM 33-26-00/101, Fig. 107, Block 1.
33 26 03 00 	(Identify Location). Lavatory call light reset switch/light above lavatory door inop. Call chimes ok. Operation is normal with ALTERNATE PASSENGER SERVICES SYSTEM selected.  1. Replace the entertainment/service controller B7456 (AMM 23-34-11/401).
33 26 04 00	(Identify location). Lavatory call light reset switch light above lavatory door inop. Call chimes ok. ALTERNATE PASSENGER SERVICE SYSTEM selected and condition still exists.  1. FIM 33-26-00/101, Fig. 105, Block 1.

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 26 05 00	(Identify location). Amber lavatory call light(s) inop. Chimes ok. Operation is normal with ALTERNATE PASSENGER SERVICES SYSTEM selected. 1. Replace the entertainment/service controller B7456 (AMM 23-34-11/401).
33 26 06 00	(Identify location). Amber lavatory call light(s) inop. ALTERNATE PASSENGER SERVICES SYSTEM selected and condition still exists. 1. FIM 33-26-00/101, Fig. 103, Block 1.
33 26 07 00	Lavatory call chime inop when called from lav. Lavatory call light normal. 1. FIM 33-26-00/101, Fig. 104, Block 1.
33 26 08 00 	(Identify location). Lavatory call switch(es) will not illuminate call lights or sound chime. Operation is normal with ALTERNATE PASSENGER SERVICES SYSTEM selected.  1. Replace the entertainment/service controller B7456 (AMM 23-34-11/401).
33 26 09 00	(Identify location). Lavatory call switch(es) will not illuminate call lights or sound chime. ALTERNATE PASSENGER SERVICES SYSTEM selected and condition still exists.  1. FIM 33-26-00/101, Fig. 106, Block 1.
33 31 01 00	A single nose wheel light doew not come on with the switch in the ON position.  1. Replace the lamp in the wheel well light.
33 31 02 00	All nose wheel well lights do not come on with the switch in the ON position.  1. Replace the lamps in all of the nose wheel well lights.  2. If the problem persists, replace the light switch.

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 31 03	A single light does not come on (O1=L, O2=R) main (wing, body) wheel well with the switch in the ON position.  1. Replace the lamp in the main wheel well light.
33 31 04	All lights do not come on in (O1=L, O2=R) main (wing, body) wheel well with the switch in the ON position.  1. Replace switch.
33 35 01	<pre>Individual ceiling light extin in (01=zone D Fwd, 02=zone D Aft, 03=zone E fwd, 04= zone E aft, 05=All) main cargo area(s). 1. Replace the individual lamp(s).</pre>
33 35 02	All ceiling lights extin in (O1=zone D fwd, O2=zone D aft, O3=zone E fwd, O4=zone E aft, O5=all) main deck cargo area(s).  1. Replace switch.
33 35 03	<pre>Individual sidewall light extin in (01=zone D fwd, 02=zone D aft, 03=zone E fwd, 04=zone E aft, 05=all) main cargo area(s). 1. Replace individual lamp(s).</pre>
33 35 04	All sidewall lights extin in (O1=zone D fwd, O2=zone D aft, O3=zone E fwd, O4=zone E aft, O5=all) main deck cargo area(s).  1. Replace switch.
33 35 05 00	<pre>Individual cargo door area light extin. 1. Replace individual lamp(s).</pre>
33 35 06 00	All cargo door area lights extin.  1. Replace switch.
33 40 01	(01-L, 02=R, 07=ALL) wing lights failed to illuminate with switch ON.  1. Relamp wing illumination lights (MM 33-41-00/201).
33 40 02	Not Used.
33 40 03 <u> </u>	(01=L, 02=R, 07=All) runway turnoff light(s) failed to illuminate with switch ON.  1. FIM 33-40-00/101, Fig. 103, Block 1.
33 40 04 00 	Wing landing lights remain bright with landing gear retracted.  1. FIM 33-40-00/101, Fig. 104, Block 1.

FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 40 05 <u> </u>	(03=L outboard, 04=R outboard, 05=L inboard, 06=R inboard, 07=All) wing landing light(s) failed to illuminate with switch ON.  1. FIM 33-40-00/101, Fig. 104, Block 1.
33 40 06	<ul> <li>(02=L white, 04=R white, 05=tail) strobe light(s) failed to illuminate.</li> <li>1. Relamp wingtip strobe light (AM 33-44-05/201) or relamp tail cone strobe light (AMM 33-44-07/201) as required.</li> </ul>
33 40 07	<ul> <li>One (O1=L red, O3=R green, O5=tail) navigation light failed to illuminate.</li> <li>1. Relamp wingtip navigation light (AMM 33-43-04/201) or relamp tail navigation light (AMM 33-43-01/201) as required.</li> </ul>
33 40 08	Both (O1=L red, O3=R green, O5=tail) navigation lights failed to illuminate.  1. Relamp wingtip navigation light (AMM 33-43-04/201) or relamp tail navigation light (AMM 33-43-01/201) as required.
33 40 09	(O6=Upper, O7=Lower) fuselage beacon light failed to illuminate.  1. Relamp upper beacon light (AMM 33-44-01/201) or relamp lower beacon light (AMM 33-44-03/201) as required.
33 40 10 <u> </u>	(01=L, 02=R) side (outbd, inbd) logo light failed to come on with the switch in the ON position.  1. FIM 33-40-00/101, Fig. 105, Block 1.
33 40 11 <u> </u>	(01=L, 02=R) side (outbd, inbd) side logo lights do not come on with the switch in the ON position.  1. FIM 33-40-00/101, Fig. 105, Block 1.
33 40 12 <u> </u>	All logo lights do not come on with the logo light switch in the ON position.  1. FIM 33-40-00/101, Fig. 105, Block 1.

EFFECTIVITY-

# 33-FAULT CODE INDEX

FAULT CODE LOG BOOK REPORT/
CORRECTIVE ACTION

33 51 01 00 The EICAS message >EMER LIGHTS (ADVISORY) shows.

1. Make sure the pilots EMER LIGHTS switch on the P5 panel is in the ARMED position and the EMER LIGHTS switch on the attendant's panel is in the NORMAL position.

NOTE: An >EMER LIGHTS advisory message will appear on the main EICAS display anytime the pilots' EMERG LIGHTS switch is not in the ARMED position or the pilots' EMERG LIGHTS switch is in the ARMED position and the emergency lights have been turned on by the EMER LIGHTS switch on the attendant's panel.

2. If >EMER LIGHTS (ADVISORY) stays on do the corrective action for EIU DISAGREE (FIM 31-61-00/101).

33 51 02 00 Not Used.

33 51 03 00 Not Used.

33 51 04 00 Flight deck emergency exit light failed to come on or was dim with overhead emergency switch ON. All cabin emergency lights were normal.

1. FIM 33-51-00/101, Fig. 103, Block 1.

33 51 05 00 Flight deck and main cabin emergency lights failed to come on with overhead emergency switch.

1. FIM 33-51-00/101, Fig 103, Block 1.

33 51 06 -- (01=L1, 02=L2, 03=L3, 04=L4, 05=L5, 06=R1, 07=R2, 08=R3, 09=R4, 10=R5, 11=L UPR DK, 12=R UPR DK) Exit identifire light(s) fail to come on with attendants switch ON.

1. FIM 33-51-00/101, Fig. 103, Block 4.

33 51 07 00 Floor emergency escape path light(s) (state location) fail to come on with attendants switch ON.

1. FIM 33-51-00/101, Fig. 103, Block 4.

33 51 08 \_\_ (01=L1, 05=L5, 06=R1, 10=R5, 11=L UPR DK) exit/threshold sign fails to come on with the attendants panel switch ON.

1. FIM 33-51-00/101, Fig. 103, Block 4.

33 51 09 00 Aisle light does not come on with attendant switch ON. Specify location by nearest seat number.

1. FIM 33-51-00/101, Fig. 103, Block 4.

EFFECTIVITY-

## 33-FAULT CODE INDEX



FAULT CODE	LOG BOOK REPORT/ CORRECTIVE ACTION
33 ME 01 00	EICAS message STROBE LIGHT OFF (MEMO) 1. No Action Required
33 ME 02 00	EICAS message SEATBELTS ON (MEMO)  1. No Action Required
33 ME 03 00	EICAS message NO SMOKING ON (MEMO)  1. No Action Required
33 ME 04 00	EICAS message PASS SIGNS ON (MEMO) 1. No Action Required
33 ME 05 00	EICAS message SEATBELTS OFF (MEMO)  1. No Action Required
33 ME 06 00	EICAS message LDG LIGHTS ON (MEMO)  1. No Action Required

EFFECTIVITY-

# 33-FAULT CODE INDEX

ALL



## LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

A. White incandescent and fluorescent lamps are used on all airplane light assemblies. Selected requirements for colored illumination as used on instrument panel indicators, fuselage anti-collision, and wingtip navigation lights is achieved through the use of colored lenses.

CAUTION: CHECK IDENTIFICATION NUMBER BEFORE INSTALLING LAMP. INSTALLATION OF LAMPS WITH INCORRECT VOLTAGE RATING FOR APPLICATION MAY CAUSE CIRCUITRY DAMAGE.

- B. Most light assemblies are readily relampable with standard tools. However, certain precautions should be taken in the selection of lamps used as replacements. Lamps of different voltages ratings may have the same physical characteristics; therefore, size and shape of lamp should not be used as only criteria for selecting replacement lamps. Always verify that identification number on replacement lamp is correct for the application as specified in the Illustrated Parts Catalog. The lamp usage chart, SSM 33-00-01, may be used for a quick check of a lamp number for most applications.
- C. Primary lighting power used is 115 volts ac. Step-down transformers and transformer rectifier units supply the various levels of ac and dc voltages required by specific lighting groups. Panel-mounted circuit breakers protect individual lighting circuits. Lighting controls are conveniently located throughout the airplane and vary in complexity from simple toggle switches to logic circuitry.
- D. Airplane lighting consists of:
  - (1) Flight Compartment Lighting (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.
  - (2) Passenger Compartment Lighting (33-20-00)
    - (a) Passenger compartment lights give lighting to each seat, aisle, entry, lavatory, galley, and crew rest. Each call light and information sign gives messages to the flight crew and the passengers.
  - (3) Cargo and Service Compartment Lighting (33-30-00)
    - (a) Cargo and service compartment lights illuminate maintenance and cargo loading areas during ground operations.
  - (4) Exterior Lighting (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.

33-00-00



- (5) Emergency Lighting (33-50-00)
  - (a) Each interior and exterior emergency light gives lighting to the escape paths. There are lights for the aisles and exits and their associated areas.

ALL

33-00-00

01

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## FLIGHT COMPARTMENT LIGHTING - DESCRIPTION AND OPERATION

## 1. General

- A. Flight compartment lighting consists of instrument panel and compartment area illumination.
- B. Lighting control panels at each crewmembers station and overhead panel P5 provide lighting on/off switching and dimming control.
- C. Flight compartment lighting is divided into four sections:
  - (1) Instrument Panel Lights (33-11-00)
    - (a) The instruments, switch/lights and systems control panels contain integral incandescent lights. Glareshield and control stand panels are provided with external flood lighting for illumination. The lights illuminate dials, control panel lettering and switch position lettering.
  - (2) Master Dim and Test (33-12-00)
    - (a) A master dim and test system allows the pilot to test indicator lights in the flight compartment, or to select one of two predetermined indicator light intensity levels.
  - (3) Flight Compartment Illumination (33-13-00)
    - (a) Flight compartment illumination is provided by incandescent dome lights in the ceiling panels, flight deck access lights and panel flood lights.
  - (4) Flight Compartment Auxiliary Lights (33-15-00)
    - (a) Area lights such as map, chart, and flight kit/utility lights are provided.

ALL

33-10-00



## PILOTS' PANEL LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

- A. The pilots panels are externally illuminated by floodlights and integrally illuminated by lightplates, instrument lights, and lighted pushbutton switches.
- B. Floodlight, lightplate, instrument light, and lighted pushbutton switch light intensities are adjustable by use of dimming controls convenient to each pilot.
- C. When pilots' panel flood lights, integral lights, and lighted push button switches are operating from standby power, selected lights will illuminate. This is for load shedding. The dimmers are also controlled by a fixed resistance switched in by standby power controlled relays which sets light intensity to a predetermined level.
- D. 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. Pilots' Panel Floodlights

- A. White variable intensity floodlighting is provided for the main instrument panel, glareshield, and control stand panel with normal electrical power applied.
- B. A 115 volt ac bus supplies electrical power to the instrument panel and glareshield floodlight dimmer units. Remote dimmer controls for the instrument panel floodlights are located on the P72 lightshield panel left (pilot) and right (first officer). A dimmer control for the glareshield floodlight is located on the P5 overhead panel.
- C. A 28 volt dc bus supplies electrical power to one floodlight used for P8 control stand illumination. The P8 control stand light and dimmer control are both located on the P5 overhead panel.

## Pilots' Panel Integral Lights

- A. Concentric light adjustment controls are provided for instrument panel and floodlight illumination. This arrangement provides area light control capability for either or both of the instrument/lightplates or floodlight light intensity levels.
- B. For information on the lightplate on the remote control display unit (RCDU) located in the E/E bay, refer to 33-15-00/001.
- C. Main instrument panel area illumination controls are located on each side of the P72 panel. Overhead panel circuit breaker and module instrument lightplate illumination is provided by a single control on the P5 overhead panel. The glareshield and aisle stand panel instrument and flood illumination is adjustable by concentric controls located on the P5 overhead panel.

33-11-00



- D. Instrument nomenclature and switch positions are illuminated by 5-volt ac incandescent lamps. The lamps are soldered onto the circuit board and are not replaceable on the airplane.
  - (1) Nomenclature on the flight compartment circuit breaker panels is on illuminated acrylic lightplates.
- E. For maintainability, the 5-volt ac instrument dial lights are considered physically part of the instruments in which they are located.
- F. 115-volt ac buses provide electrical power to resistance controlled dimmer transformers. If instrument lights are operating from normal airplane electrical power, the light dimmers will be controlled by remote adjustable potentiometers for desired light intensities.
- G. Each dimmer unit is provided with integral circuit breakers for secondary circuit protection.
  - (1) The captain's and the first officer's main instrument panel dimmer controls are dual units. Each dimmer control has a dual knob and concentric shafts that control separate dimmer circuits. Both shafts are connected to potentiometers.
  - (2) The center shaft potentiometer controls a remote dimmer transformer circuit that transforms 115-volt ac input to 0- to 5-volt ac output for use on the pilots main panel instruments and lightplates The first officer has a duplicate control for instruments and lightplates on his main panels.
  - (3) The outer shaft potentiometer controls a remote dimmer transformer circuit used to adjust pilot of first officer instrument panel floodlight intensity levels.

33-11-00



## 4. <u>Lighted Pushbutton Switches</u>

- A. The pilots lighted pushbutton switches have two legends. Each legend is illuminated by an independent two-lamp circuit.
  - (1) The illuminated legends that indicate pushbutton switch system status are supplied with 5 volts ac power from an instrument panel light dimmer. If the pushbutton switch is activated, light intensity is controlled by a potentiometer and remote dimmer transformer.
  - (2) The legend lights which identify system functions (Ref 33-12-00/001) have their illumination intensity controlled by the master dim and test module.

33-11-00



## PILOTS' PANEL LIGHTS

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER	1		FLT COMPT, P6	*
DIMMER CONTROL -				
CONTROL STAND PANEL			FLT COMPT, CONTROL STAND	33-11-00
PILOTS' PANEL			FLT COMPT, CONTROL STAND	33-11-00
LIGHTSHIELD PANEL			FLT COMPT, CONTROL STAND	33-11-00
OBSERVER PANEL			FLT COMPT, P7	33-11-00
OVERHEAD PANEL			FLT COMPT, P5	33-11-00
LIGHT -	1		FLT COMPT	33-11-00
CONTROL STAND FLOOD				
INSTRUMENT PANEL FLOOD				
LIGHTSHIELD FLOOD				
RELAY			FLT COMPT, P6	*
SWITCH-LIGHT	2		FLT COMPT	*

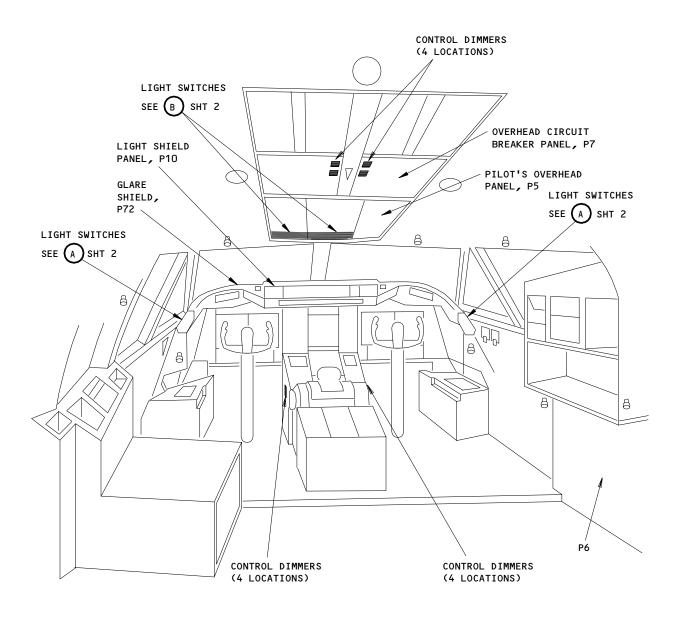
<sup>\*</sup> SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT

Pilots' Panel Lights - Component Index Figure 101

EFFECTIVITY-ALL

33-11-00





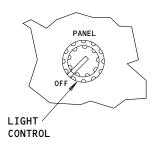
FLIGHT COMPARTMENT

Pilots' Panel Lights - Component Location Figure 102 (Sheet 1)

ALL 01 Page 102 Oct 10/93

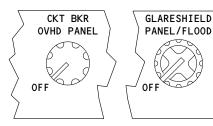
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LIGHT SWITCH (EXAMPLE)







LIGHT SWITCH (EXAMPLE)



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

ALL

33-11-00

01

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## PILOTS' PANEL LIGHTS - FAULT ISOLATION

## 1. General

- A. All fault isolation procedures are based on the assumption that wiring is OK and that electrical power is available.
- B. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagram.
- After replacing component, perform electrical check for proper operation before closing assembly.

## Fault Isolation Procedures

Figure 103	Flight Compartment Main Panel Floodlight Problems
Figure 104	Flight Compartment Glareshield Floodlight Problems
Figure 105	Flight Compartment Control Stand Floodlight Problems
Figure 106	Flight Compartment Captains' Main Instrument Panel Integral Light Problems
Figure 107	Flight Compartment F/O Main Instrument Panel Integral Light Problems
Figure 108	Flight Compartment Lightshield and Standby Compass Integral Light Problems
Figure 109	Flight Compartment P5 Pilots' Overhead Panel and P7 Overhead Circuit Breaker Panel Light Problems
Figure 110	Flight Compartment Control Stand Integral Light Problems

EFFECTIVITY-

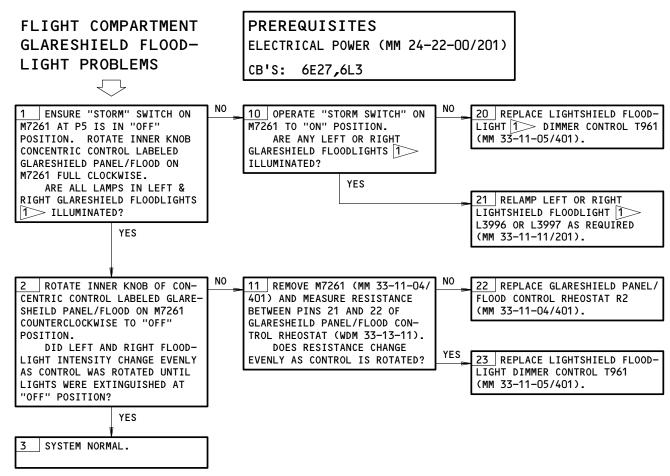
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#### **PREREQUISITES** FLIGHT COMPARTMENT MAIN PANEL FLOOD-ELECTRICAL POWER (MM 24-22-00/201) LIGHT PROBLEMS CB'S: 6E22,6E26,6L1,6L3 ENSURE "STORM" SWITCH ON 10 OPERATE "STORM SWITCH" ON 20 REPLACE CAPT AND CTR (F/O) M7261 AT P5 IS IN "OFF" M7261 TO "ON" POSITION. MAIN PANEL FLOODLIGHT DIMMER POSITION. ROTATE INNER KNOB ARE ANY CAPT AND CTR (F/O) CONTROL T1735 (T1736) INSTRUMENT PANEL FLOODLIGHTS (MM 33-11-05/401). CONCENTRIC CONTROL LABELED "PANEL" ON CAPT (F/O) LIGHT ILLUMINATED? CONTROL LEFT (RIGHT) GLARE-NO SHIELD FULL CLOCKWISE. ARE ALL CAPT AND CTR (F/O) 21 RELAMP CAPT AND CTR (F/O) INSTRUMENT PANEL FLOODLIGHTS INSTRUMENT PANEL FLOODLIGHTS ILLUMINATED? L4000,L3998, OR L3999 AS REQUIRED (MM 33-11-11/201). YES 22 REPLACE CAPT AND CTR (F/O) ROTATE INNER KNOB LABELED 11 REMOVE CAPT AND CTR (F/O) "PANEL" ON CAPT (F/O) LIGHT PANEL FLOODLIGHT CONTROL RHEO-PANEL FLOODLIGHT CONTROL RHEO-CONTROL LEFT (RIGHT) GLARE-STAT R411 (R412)(MM 33-11-04). STAT R411 (R412) SHIELD COUNTERCLOCKWISE TO MEASURE RESISTANCE BETWEEN (MM 33-11-04/401). "OFF" POSITION. R411 (R412) PINS 4 AND 6 DID FLOODLIGHT INTENSITY (WDM 33-13-11). CHANGE EVENLY AS CONTROL WAS DOES RESISTANCE CHANGE 23 REPLACE CAPT AND CTR (F/O) ROTATED UNTIL LIGHTS WERE EVENLY AS CONTROL IS ROTATED? PANEL FLOODLIGHT DIMMER CON-EXTINGUISHED AT "OFF" TROL T1735 (T1736) POSITION? (MM 33-11-05/401).YES SYSTEM NORMAL.

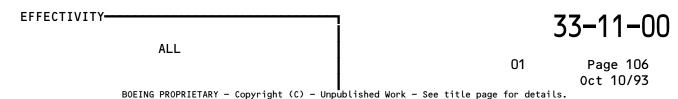
## Flight Compartment Main Panel Floodlight Problems Figure 103



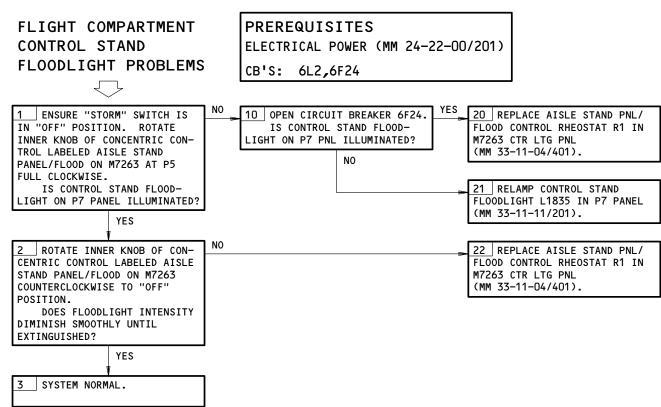


GLARESHIELD ILLUMINATION IS PROVIDED BY LIGHT ASSEMBLIES LOCATED IN THE LIGHTSHIELD (P10)

## Flight Compartment Glareshield Floodlight Problems Figure 104



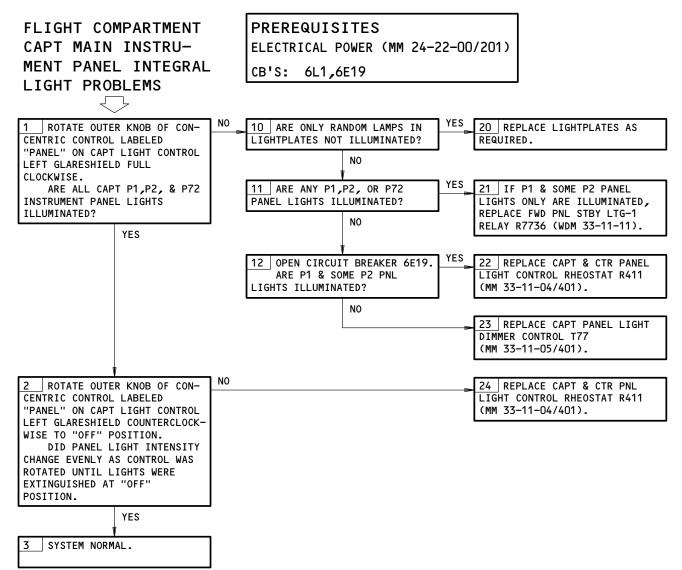




Flight Compartment Control Stand Floodlight Problems
Figure 105

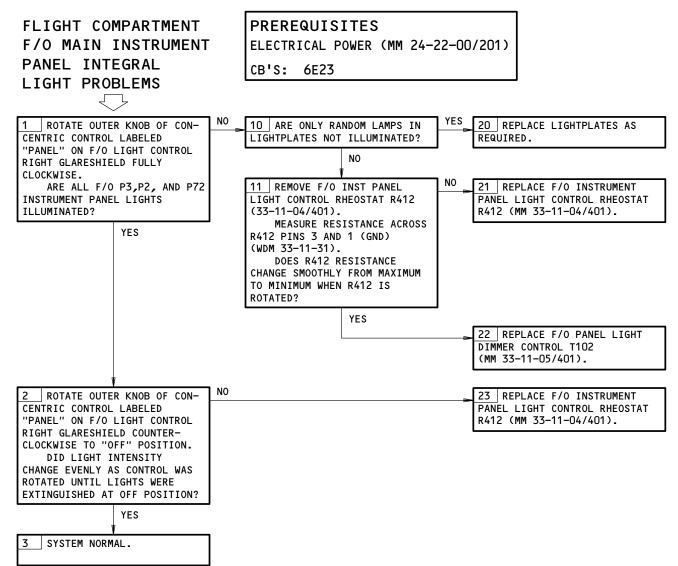
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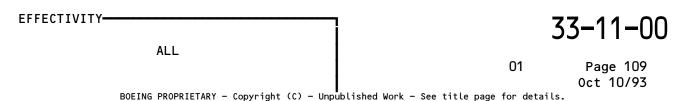


Flight Compartment Capt Main Instrument Panel Integral Light Problems
Figure 106

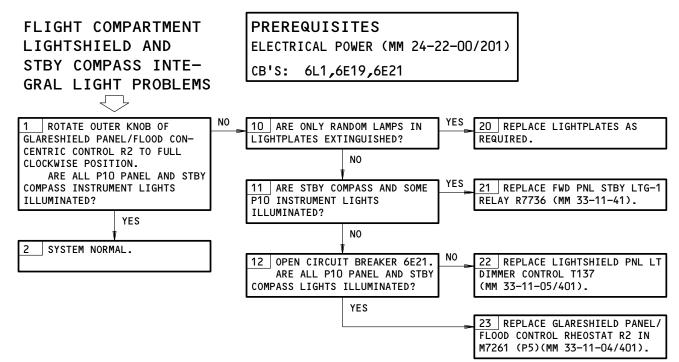




Flight Compartment F/O Main Instrument Panel Integral Light Problems
Figure 107







Flight Compartment Lightshield and Stby Compass Integral Light Problems
Figure 108

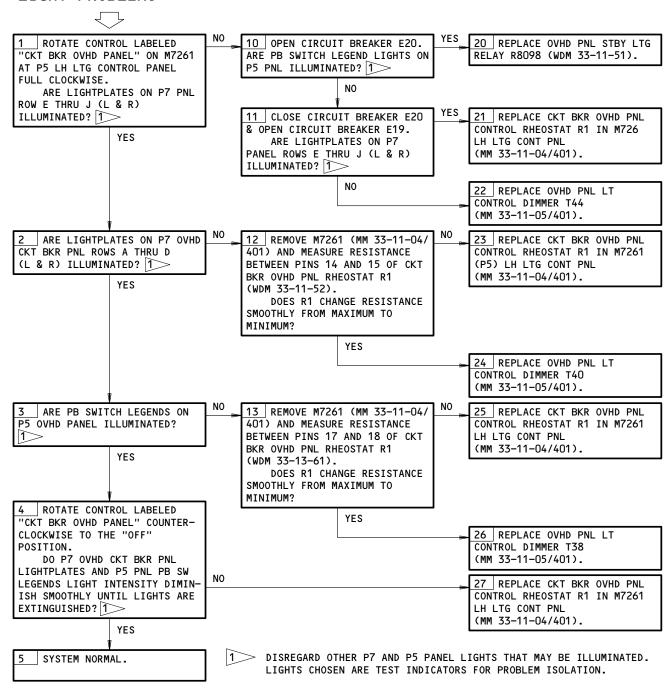


FLIGHT COMPARTMENT
P5 PILOT'S OVHD
PANEL & P7 OVHD CKT
BKR PANEL INTEGRAL
LIGHT PROBLEMS

## **PREREQUISITES**

ELECTRICAL POWER (MM 24-22-00/201)

CB'S: 6D19,6E19,6E20,6E24,6L1



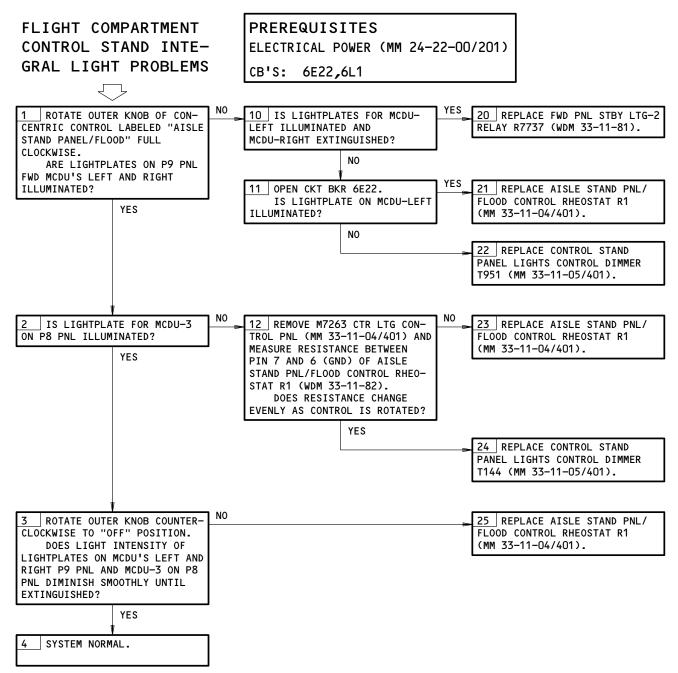
Flight Compartment P5 Pilot's Ovhd Panel & P7
Ovhd Ckt Bkr Panel Integral Light Problems
Figure 109

ALL

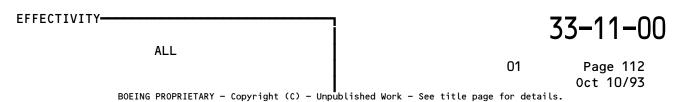
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Flight Compartment Control Stand Integral Light Problems
Figure 110





## PILOTS' PANEL LIGHTS - ADJUSTMENT/TEST

## 1. General

- A. The tasks in this procedure have these operational tests:
  - (1) The floodlights for the pilots panel.
  - (2) The panel lights for the pilot.
  - (3) The standby power lights.
- B. The floodlights are installed in four locations.
- C. The panel lights for the pilot are the lightplates, the instrument indicator lights, and the lighted pushbutton switches.

## TASK 33-11-00-705-001

- 2. Floodlights Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-11-01
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Deck

- C. Procedure
  - s 865-002
  - (1) Supply electrical power (Ref 24-22-00/201).
    - s 865-003
  - (2) Set these floodlight controls fully counterclockwise:
    - (a) GLARE SHIELD PANEL/FLOOD on the P5 panel (inner knob).
    - (b) AISLE STAND PANEL/FLOOD on the P5 panel (inner knob).
    - (c) PANEL control on the left side of the P72 panel (inner knob).
    - (d) PANEL control on the right side of the P72 panel (inner knob).
    - s 865-004
  - (3) Make sure these circuit breakers are closed:
    - (a) P6 Main Power Distribution Panel
      - 1) 6E22 FLT DK LIGHTS PANEL CONT STAND
      - 2) 6E26 FLT DK LIGHTS FLOOD PILOTS MAIN
      - 3) 6E27 FLT DK LIGHTS FLOOD GLARE SHIELD
      - 4) 6F24 FLT DK LIGHTS DOME
      - 5) 6L2 FLT DECK LIGHT DOME
      - 6) 6L1 FLT DECK LIGHT STBY INST
      - 7) 6L3 FLT DECK LIGHT STORM

EFFECTIVITY-

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## s 715-005

- (4) Do a test of the floodlights on the P10 lightshield panel.
  - Turn the control for the GLARE SHIELD PANEL/FLOOD fully clockwise.
  - (b) Make sure the floodlight comes on.
  - (c) Turn the control fully counterclockwise.
  - (d) Make sure the floodlight goes off.
  - (e) Set the STORM switch on the M7261 module to the ON position.
  - Make sure the floodlight comes on.
  - (q) Set the STORM switch to the OFF position.

#### s 715-006

- Do a test of the floodlight for the aisle stand.
  - Turn the inner knob on the AISLE STAND PANEL/FLOOD control fully clockwise.
  - Make sure the floodlight changes from off to a bright intensity.

The floodlight assembly is installed between the NOTE: P7-1 and the P7-2 panels.

(c) Turn the control fully counterclockwise.

#### s 715-007

ALL

- Do a test of the pilots' main panel floodlights.
  - (a) Turn the inner knob for the PANEL control on the left P72 panel fully clockwise.
  - Make sure the P72 floodlights (which are above the P1 and the P2 panels) change from off to a bright intensity.
  - (c) Turn the control fully counterclockwise.
  - Turn the inner knob for the PANEL control on the right side of the P72 panel fully clockwise.
  - Make sure the floodlights (which are above the P3 panel) change from off to a bright intensity.

EFFECTIVITY-

33-11-00



- (f) Turn the control fully counterclockwise.
- (g) Open circuit breaker 6E22 FLT DK LIGHTS PANEL CONTROL STAND on the P6 Main Power Distribution Panel.
- (h) Make sure the floodlights (which are above the P1 panel and the P2 panel) change from off to a bright intensity.
- (i) Close circuit breaker 6E22 FLT DK LIGHTS PANEL CONTROL STAND on the P6 Main Power Distribution Panel.
- (j) Make sure the floodlights (which are above the P1 panel and the P2 panel) change from a bright intensity to off.
- (k) Set the STORM switch on the M7261 module to the ON position.
- (1) Make sure these floodlights change from off to a bright intensity:
  - 1) The floodlights (which are above the P1 panel).
  - 2) The floodlights (which are above the P2 panel).
  - 3) The floodlights (which are above the P3 panel).
- (m) Set the STORM switch to the OFF position.

s 865-008

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

TASK 33-11-00-705-009

- 3. Panel Lights Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-11-02 and 33-11-03
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Deck

C. Procedure

s 865-010

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

s 865-011

ALL

- (2) Set these instrument panel controls fully counterclockwise:
  - (a) GLARE SHIELD PANEL/FLOOD on the P5 panel (outer knob).
  - (b) CKT BKR OVHD PNL on the P5 panel.

EFFECTIVITY-

33-11-00

l l



- (c) AISLE STAND PANEL/FLOOD on the P5 panel (outer knob).
- (d) PANEL control on the left side of the P72 panel (outer knob).
- (e) PANEL control on the right side of the P72 panel (outer knob).
- (f) PANEL control on the first observers panel.

## s 865-012

- (3) Make sure these circuit breakers are closed:
  - (a) P6 Main Power Distribution Panel
    - 1) 6E19 FLT DK LIGHTS PANEL CAPT
    - 2) 6E20 FLT DK LIGHTS PANEL OVERHEAD 1
    - 3) 6E21 FLT DK LIGHTS PANEL GLARE SHIELD
    - 4) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 5) 6E23 FLT DK LIGHTS PANEL F/O
    - 6) 6E24 FLT DK LIGHTS PANEL OVHD 2
    - 7) 6E25 FLT DK LIGHTS PANEL OBS
    - 8) 6L1 FLT DECK LIGHT STBY INST
    - 9) 6D19 FLT DK LIGHTS PANEL OVHD AND P7

#### s 715-013

- (4) Do a test of the panel lights on the P1 panel and the P2 panel for the Captain.
  - (a) Turn the outer knob of the PANEL control on the left side of the P72 panel fully clockwise.
  - (b) Make sure the lights on the P1 panel and the P2 panel come on.
  - (c) Turn the control fully counterclockwise.

#### s 715-014

- (5) Do a test of the panel lights on the P2 panel and the P3 panel for the first officer.
  - (a) Turn the outer knob of the PANEL control on the right side of the P72 panel fully clockwise.
  - (b) Make sure the first officers lights on the P2 panel and the P3 panel come on.

## s 715-015

ALL

- (6) Do a test of the glare shield lights.
  - (a) Turn the outer knob of the GLARE SHIELD PANEL/FLOOD control on the M7261 module fully clockwise.

EFFECTIVITY-

33-11-00



- (b) Make sure the lights on the glare shield come on.
- (c) Turn the control fully counterclockwise.

## s 715-016

- (7) Do a test of the lights on the P5 panel and the P7 panel.
  - (a) Turn the knob for the CKT BKR OVHD PNL control on the M7261 module fully clockwise.
  - (b) Make sure the P5 panel and the P7 panel lights come on.
  - (c) Turn the control fully counterclockwise.

## s 715-017

- (8) Do a test of the instrument panel lights for the first observer.
  - (a) Turn the observers PANEL control fully clockwise.
  - (b) Make sure the panel lights come on.

#### s 715-018

- (9) Do a test of the instrument panel lights on the aisle stand.
  - (a) Turn the outer knob for the AISLE STAND PANEL/FLOOD control on the M7263 module fully clockwise.
  - (b) Make sure the instrument panel lights on the aisle stand come on.
  - (c) Turn the control fully counterclockwise.

#### s 865-019

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

## TASK 33-11-00-705-026

- 4. Standby Power Lights Operational Test
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-11-04
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Deck

EFFECTIVITY-

33-11-00



#### C. Procedure

s 865-020

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

s 865-021

- Set these instrument panel controls fully counterclockwise: (2)
  - (a) GLARE SHIELD PANEL/FLOOD on the P5 panel (outer knob).
  - (b) CKT BKR OVHD PNL on the P5 panel.
  - (c) AISLE STAND PANEL/FLOOD on the P5 panel (outer knob)
  - (d) PANEL control on the left side of the P72 panel (outer knob).
  - (e) PANEL control on the right side of the P72 panel (outer knob).

s 865-027

- (3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - P6 Main Power Distribution Panel
    - 1) 6E19 FLT DK LIGHTS PANEL CAPT
    - 2) 6E20 FLT DK LIGHTS PANEL OVERHEAD 1
    - 3) 6E21 FLT DK LIGHTS PANEL GLARE SHIELD
    - 4) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 5) 6E26 FLT DK LIGHTS FLOOD PILOTS MAIN

s 865-028

(4) Make sure the standby instrument lights come on correctly (SSM 33-11-04).

s 865-023

- (5) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - P6 Main Power Distribution Panel
    - 1) 6E19 FLT DK LIGHTS PANEL CAPT
    - 2) 6E20 FLT DK LIGHTS PANEL OVERHEAD 1
    - 3) 6E21 FLT DK LIGHTS PANEL GLARE SHIELD
    - 4) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 5) 6E26 FLT DK LIGHTS FLOOD PILOTS MAIN

S 865-025

ALL

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

EFFECTIVITY-

33-11-00



## PILOTS' PANEL LIGHT CONTROLS - REMOVAL/INSTALLATION

## 1. General

- A. This procedure contains four tasks.
  - (1) The first task is the removal of the light controls on the P10 lightshield.
  - (2) The second task is the installation of the light controls on the P10 lightshield.
  - (3) The third task is the removal of the light controls on the P5 panel.
  - (4) The fourth task is the installation of the light controls on the P5 Panel.

## TASK 33-11-04-004-002

- 2. Lightshield Control Removal (Pilots Panel Lights)
  - A. References
    - (1) IPC 33-11-04 Fig 20
    - (2) SSM 33-11-01, 33-11-02, 33-13-02
  - B. Access
    - (1) Location Zone

221 Control Cabin, LH222 Control Cabin, RH

- C. Procedure
  - s 864-001
  - (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) P6 Main Power Distribution Panel
      - 1) 6E19 FLT DK LIGHTS PANEL CAPT
      - 2) 6E23 FLT DK LIGHTS PANEL F/0
      - 3) 6E26 FLT DK LIGHTS FLOOD PILOTS MAIN
      - 4) 6E27 FLT DK LIGHTS FLOOD GLARE SHIELD
      - 5) 6F23 FLT DK LIGHTS MAP & UTIL
      - 6) 6H8 ELEX CLOCK
      - 7) 6H17 CLOCK DISP
      - 8) 6L1 FLT DK LIGHT STBY INST
    - (b) P7 Circuit Breaker Panel
      - 1) 7F12 ND L
      - 2) 7F13 PFD L
      - 3) 7F17 ND R
      - 4) 7F18 PFD R

EFFECTIVITY-

33-11-04



s 034-058

- (2) Remove the control knobs:
  - (a) Loosen the set screws of the applicable control knobs.
  - (b) Remove the control knobs.

s 034-059

- (3) Remove the lightplate:
  - (a) Remove the screws that attach the lightplate to the panel.
  - (b) Remove the lightplate from the panel.

s 024-060

- (4) Remove the control:
  - (a) Remove the nut that attaches the control to the panel.

CAUTION: CAREFULLY REMOVE THE CONTROL FROM THE PANEL ASSEMBLY. THE WIRE BUNDLE CONNECTED TO THE CONTROL COULD BE DAMAGED DURING THE CONTROL REMOVAL.

- (b) Pull the control away from the rear side of the panel assembly until it is clear of other components.
- (c) Carefully pull the control down until you see it below the panel.
- (d) Examine the wire and the control terminal configuration for the connection sequence.
- (e) Remove the wires from the control.
- (f) Remove the control.

TASK 33-11-04-424-013

- 3. <u>Lightshield Control Installation (Pilots Panel Lights)</u>
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-04 Fig 20
    - (3) SSM 33-11-01, 33-11-02, 33-13-02
  - B. Access
    - (1) Location Zone

221 Flight Compartment - LH Light Control Panel
222 Flight Compartment - RH Light Control Panel

C. Procedure

s 424-061

- (1) Install the control:
  - (a) Connect the wires to the new control.
  - (b) Put the replaced control up the rear side of the panel to install the control shaft through the panel opening.
  - (c) Install the nut that attaches the control to the panel.

EFFECTIVITY-

33-11-04



s 434-062

- (2) Install the lightplate:
  - (a) Set the lightplate in its position on the panel.
  - (b) Install the screws that attach the lightplate to the panel.

s 434-019

- (3) Install the control knobs:
  - (a) Put the knobs on the control shaft.
  - (b) Tighten the set screws on the control knobs.

## s 864-020

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P6 Main Power Distribution Panel
    - 1) 6E19 FLT DK LIGHTS PANEL CAPT
    - 2) 6E23 FLT DK LIGHTS PANEL F/O
    - 3) 6E26 FLT DK LIGHTS FLOOD PILOTS MAIN
    - 4) 6E27 FLT DK LIGHTS FLOOD GLARE SHIELD
    - 5) 6F23 FLT DK LIGHTS MAP & UTIL
    - 6) 6H8 ELEX CLOCK
    - 7) 6H17 CLOCK DISP
    - 8) 6L1 FLT DK LIGHT STBY INST
  - (b) P7 Circuit Breaker Panel
    - 1) 7F12 ND L
    - 2) 7F13 PFD L
    - 3) 7F17 ND R
    - 4) 7F18 PFD R

## s 714-063

- (5) If you replaced the PANEL light control, do a test of the control operation:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Turn the outer knob of the control full clockwise.
  - (c) See that the floodlight intensity changes smoothly.
  - (d) Turn the inner knob of the control full clockwise.
  - (e) See that the panel light intensity changes smoothly.

## s 714-064

- (6) If you replaced the MAP light control, do a test of the control operation:
  - (a) Turn the MAP light control full clockwise.
  - (b) See that the map light intensity changes smoothly.

## S 864-028

(7) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-11-04

ALL



TASK 33-11-04-004-029

- P5 Panel Controls Removal (Pilots Panel Lights)
  - A. General
    - (1) This removal can be used for the left control module (M7261), the center control module (M7263) or the right control module (M7262).
  - B. References
    - (1) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;

IPC 33-11-04 Fig 20

(2) RIGHT CONTROL MODULE (M7262);

IPC 31-12-11 Fig 2

IPC 33-11-10 Fig 1

IPC 33-41-00 Fig 10

IPC 33-43-00 Fig 10

IPC 33-44-00 Fig 10

IPC 33-45-00 Fig 10

(3) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;

SSM 33-11-03

SSM 33-11-04

(4) RIGHT CONTROL MODULE (M7262);

SSM 33-12-01

SSM 33-41-10

SSM 33-43-10

SSM 33-44-01

SSM 33-44-02

SSM 33-45-10

- C. Access
  - (1) Location Zone

200 Flight Compartment

D. Procedure

s 864-030

- (1) For controls installed on the left control module (M7261), open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6E27 FLT DK LIGHTS FLOOD GLARE SHIELD
    - 2) 6F24 FLT DK LIGHTS DOME
    - 3) 6L1 FLT DECK LIGHT STBY INST
    - 4) 6L3 FLT DECK LIGHT STORM
    - 5) 6E20 FLT DK LIGHTS PANEL OVHD
    - 6) 6E21 FLT DK LIGHTS PANEL GLARE SHIELD
    - 7) 6E24 FLT DK LIGHTS PANEL OVHD P7
    - 8) 6D19 P5 PB SW LTS

EFFECTIVITY-

33-11-04



## s 864-031

- (2) For controls installed on the middle control module (M7263), open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 2) 6L1 FLT DECK LIGHT STBY INST
    - 3) 6L2 FLT DECK LIGHT DOME
  - (b) P414 Power Distribution Center Left
    - 1) 414L2 LANDING LT RIGHT INBD
    - 2) 414L3 LANDING LT LEFT INBD
    - 3) 414L20 LIGHT RUNWAY TURNOFF LEFT & CONT
    - 4) 414L21 LIGHT RUNWAY TURNOFF RIGHT
  - (c) P415 Power Distribution Center Right
    - 1) 415L31 LANDING LT LEFT OUTBD
    - 2) 415L32 LANDING LT RIGHT OUTBD

#### s 864-074

(3) RIGHT CONTROL MODULE (M7262);

Open these circuit breakers and attach DO-NOT-CLOSE tags:

- (a) P6 Main Power Distribution Panel
  - 1) 6F19 PILOTS MISC IND LTS 1
  - 2) 6F20 PILOTS MISC IND LTS 2
  - 3) 6F26 F/O IND LTS
  - 4) 6F27 F/O IND & DGTL DSPL
  - 5) 6L4 CAPT IND LTS
  - 6) 6L5 LTS IND & DGTL DSPL CAPT
  - 7) 6L28 L WING NAV LTS & CONT
  - 8) 6L29 R WING NAV LTS
  - 9) 6L30 TAIL NAV LTS
  - 10) 6L31 RED ANTI-COLLISION LIGHTS
  - 11) 6L32 WHITE ANTI-COLLISION LIGHTS
  - 12) 6L33 WING ILLUMINATION LIGHTS
- (b) P84 Aft Center Miscellaneous Circuit Breaker Panel
  - 1) LOGO LIGHTS RIGHT

EFFECTIVITY-

ALL

33-11-04

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#### 2) LOGO LIGHTS - LEFT

s 034-065

(4) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;

Remove the control knobs:

- (a) Loosen the set screws of the applicable control knobs.
- (b) Remove the control knobs.

s 034-066

- (5) Remove the lightplate:
  - (a) Remove the screws that attach the lightplate to the panel.
  - (b) Remove the lightplate from the panel.

s 034-067

- Remove the module from the P5 panel:
  - (a) Loosen the screws that attach the module to the P5 Panel.
  - (b) Pull the module from the panel carefully to prevent wire bundle damage.

S 024-068

(7) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;

Remove the control:

- (a) Remove the nut that attaches the control to the module panel.
- (b) Examine the wire and the control terminal configuration for the connection sequence.
- (c) Remove the wires from the control.
- (d) Remove the control.

s 034-075

(8) RIGHT CONTROL MODULE (M7262); Disconnect the electrical connector from the rear of the module.

TASK 33-11-04-404-043

- 5. P5 Panel Controls Installation (Pilots Panel Lights)
  - References Α.
    - (1) 24-22-00/201, Manual Control

ALL

EFFECTIVITY-

33-11-04



- (2) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE; IPC 33-11-04
- (3) RIGHT CONTROL MODULE (M7262);

IPC 31-12-11 Fig 2

IPC 33-11-10 Fig 1

IPC 33-41-00 Fig 10

IPC 33-43-00 Fig 10

IPC 33-44-00 Fig 10

IPC 33-45-00 Fig 10

(4) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;

SSM 33-11-03

SSM 33-11-04

(5) RIGHT CONTROL MODULE (M7262);

SSM 33-12-01

SSM 33-41-10

SSM 33-43-10

SSM 33-44-01

SSM 33-44-02

SSM 33-45-10

- B. Access
  - (1) Location Zone

200 Flight Compartment

C. Procedure

S 424-069

(1) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;

Install the control:

- (a) Connect the electrical wires to the new control.
- (b) Put the control shaft into the panel hole from the rear side.
- (c) Install the nut that attaches the control to the module panel.

s 434-076

(2) RIGHT CONTROL MODULE (M7262);

Connect the electrical connector to the rear of the module.

s 424-070

- (3) Install the module:
  - (a) Put the module in the panel carefully to prevent wire bundle damage.
  - (b) Tighten the screws that attach the module to the panel.

s 434-071

- (4) Install the lightplate:
  - (a) Set the lightplate in its position on the module.
  - (b) Install the screws that attach the lightplate to the module.

EFFECTIVITY-

33-11-04



#### s 434-048

- (5) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE; Install the control knob:
  - (a) Put the control knob on the control shaft.
  - (b) Tighten the set screws on the control knob.

#### S 864-049

- (6) For controls on the left control module (M7261), close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6E27 FLT DK LIGHTS FLOOD GLARE SHIELD
    - 2) 6F24 FLT DK LIGHTS DOME
    - 3) 6L1 FLT DECK LIGHT STBY INST
    - 4) 6L3 FLT DECK LIGHT STORM
    - 5) 6E20 FLT DK LIGHTS PANEL OVHD
    - 6) 6E21 FLT DK LIGHTS PANEL GLARE SHIELD
    - 7) 6E24 FLT DK LIGHTS PANEL OVHD P7
    - 8) 6D19 P5 PB SW LTS

## s 864-050

- (7) For controls on the middle control module (M7263), remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P6 Main Power Distribution Panel
    - 1) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 2) 6L1 FLT DECK LIGHT STBY INST
    - 3) 6L2 FLT DECK LIGHT DOME
  - (b) P414 Power Distribution Center Left
    - 1) 414L2 LANDING LT RIGHT INBD
    - 2) 414L3 LANDING LT LEFT INBD
    - 3) 414L20 LIGHT RUNWAY TURNOFF LEFT & CONT
    - 4) 414L21 LIGHT RUNWAY TURNOFF RIGHT
  - (c) P415 Power Distribution Center Right
    - 1) 415L31 LANDING LT LEFT OUTBD
    - 2) 415L32 LANDING LT RIGHT OUTBD

EFFECTIVITY-

ALL

33-11-04



s 864-078

(8) RIGHT CONTROL MODULE (M7262);

Remove the DO-NOT-CLOSE tags and close these circuit breakers:

- (a) P6 Main Power Distribution Panel
  - 1) 6F19 PILOTS MISC IND LTS 1
  - 2) 6F20 PILOTS MISC IND LTS 2
  - 3) 6F26 F/0 IND LTS
  - 4) 6F27 F/O IND & DGTL DSPL
  - 5) 6L4 CAPT IND LTS
  - 6) 6L5 LTS IND & DGTL DSPL CAPT
  - 7) 6L28 L WING NAV LTS & CONT
  - 8) 6L29 R WING NAV LTS
  - 9) 6L30 TAIL NAV LTS
  - 10) 6L31 RED ANTI-COLLISION LIGHTS
  - 11) 6L32 WHITE ANTI-COLLISION LIGHTS
  - 12) 6L33 WING ILLUMINATION LIGHTS
- (b) P84 Aft Center Miscellaneous Circuit Breaker Panel
  - 1) LOGO LIGHTS RIGHT
  - 2) LOGO LIGHTS LEFT

## s 714-072

- (9) LEFT (M7261) OR CENTER (M7263) CONTROL MODULE;
  - Do a test of the replaced control:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Turn the knob on the replaced control full clockwise.
  - (c) Make sure the light intensity changes smoothly.
  - (d) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

## s 714-077

ALL

(10) RIGHT CONTROL MODULE (M7262);

Do these steps to test the replaced module:

- (a) Supply electrical power (AMM 24-22-00/201).
- (b) Set and hold the IND LTS switch, on the control module, in the TEST position.
- (c) Make sure the indicator lights come on.

<u>NOTE</u>: Refer to SSM 33-12-01, to identify which indicator lights will come on.

EFFECTIVITY-

33-11-04



- (d) After approximately 10 seconds, make sure the indicator lights become dim.
- (e) Set the IND LTS switch to the BRT position.
- (f) Make sure the indicator lights go off.

It is possible that some of the indicator lights will stay on. If this occurs, make sure that it is the correct operation of each indicator light that stayed on (SSM 33-12-01).

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

EFFECTIVITY-

ALL

33-11-04



# PANEL LIGHT DIMMER - REMOVAL/INSTALLATION

## 1. General

- A. This procedure has these tasks:
  - (1) The removal and installation of dimmers installed in the P7 panel.
  - (2) The removal and installation of dimmers installed in the P9 aisle control stand.
- B. Twelve light dimmers supply adjustable voltages for the instrument lights.
  - (1) Eight dimmers are installed in the P9 aisle control stand behind the Control Display Units (CDU).
    - (a) To get access to dimmers in the P9 aisle control stand, the CDU's must be removed.
  - (2) Four dimmers are installed behind the P7 panel.
    - (a) Open the P7 panel to get access to the dimmer.

# TASK 33-11-05-004-001

- 2. <u>Dimmer Removal from the P7 Panel</u>
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-04 Fig 5
    - (3) SSM 33-11-02
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Compartment

C. Removal Procedure

S 864-065

ALL

(1) Prepare for a dimmer removal from the P7 panel:

WARNING: REMOVE ELECTRICAL POWER FROM THE AIRPLANE BEFORE YOU OPEN THE P7 OVERHEAD CIRCUIT BREAKER PANEL. INJURY TO PERSONNEL OR DAMAGE TO EQUIPMENT CAN OCCUR IF ELECTRICAL POWER IS ON.

- (a) Remove the electrical power from the airplane (Ref 24-22-00/201).
- (b) Make sure the STANDBY POWER switch and BATTERY switch on the P5 overhead panel are in the OFF position.

NOTE: Standby power is not applied to the P7 panel when these switches are in the OFF position.

EFFECTIVITY-

33-11-05

01.1



S 014-066

- (2) Get access to the P7 panel dimmers:
  - (a) Open the P7 panel to get access to dimmers T38, T40, T44 and T143.
  - (b) Identify the dimmer to be replaced.

s 024-067

- (3) Remove the dimmer from the P7 panel:
  - (a) Remove the terminal cover and the fuse holder cap from the dimmer.
    - Turn the fuse holder cap counterclockwise to release it from the dimmer.
  - (b) Remove the nuts from the electrical terminals on the dimmer.
  - (c) Disconnect the wires from the dimmer electrical terminals.
  - (d) Remove the screws that attach the dimmer to the panel.
  - (e) Remove the dimmer from the panel.

s 034-068

- (4) Remove the secondary circuit breakers from the dimmer:
  - (a) Remove the cover(s) from the dimmer circuit breaker(s).
  - (b) Disconnect the dimmer wires from the circuit breaker(s).
  - (c) Remove the secondary circuit breaker(s) from the dimmer.
    - Keep the secondary circuit breaker(s) for installation on the replacement dimmer.

TASK 33-11-05-404-011

- 3. Dimmer Installation in the P7 Panel
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-04 Fig 5
    - (3) SSM 33-11-02
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Compartment

C. Installation Procedure

s 034-069

ALL

- (1) Install the secondary circuit breakers on the dimmer:
  - (a) Connect the dimmer output wires to the secondary circuit breaker(s).
  - (b) Install the secondary circuit breaker(s) on the dimmer.

EFFECTIVITY-

33-11-05



(c) Install the cover(s) on the dimmer circuit breaker(s).

s 424-070

- (2) Install the dimmer in the P7 panel:
  - (a) Put the dimmer in its position in the panel.
  - (b) Install the screws that attach the dimmer to the panel.
  - (c) Connect the electrical wires to the dimmer terminals.

CAUTION: TIGHTEN THE NUTS ON THE DIMMER ELECTRICAL TERMINALS TO 12 TO 15 LB-IN (1.4 TO 1.7 KM). OVERTIGHTENING MAY RESULT IN STUD BREAKAGE ON THE DIMMER MODULE.

- (d) Install the nuts and washers on the dimmer electrical terminals.
- (e) Install the terminal cover and the fuse holder cap on the dimmer.
- (f) Close the secondary circuit breaker(s) on the dimmer.
- (g) Close the P7 panel.

s 714-071

- (3) Do a test of the dimmer:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Turn the dimmer control full clockwise.
  - (c) Make sure the instrument lights come on and change from a dim intensity to a bright intensity.
  - (d) Turn the dimmer control counterclockwise to the OFF position.
  - (e) Make sure the instrument lights change to a dim intensity and then go off.

s 864-022

(4) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

TASK 33-11-05-004-023

- 4. Dimmer Removal from the P9 Aisle Control Stand
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 34-61-02/401, Control Display Unit
    - (3) IPC 33-11-04 Fig 1
    - (4) SSM 33-11-01, 33-11-03, 33-11-04
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Compartment

EFFECTIVITY-

33-11-05

01.1

ALL



#### C. Removal Procedure

#### s 864-072

- (1) Prepare for a dimmer removal from the control stand:
  - (a) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - 1) P6 Main Power Distribution Panel
      - a) 6L1 FLT DK LIGHT STBY INST
      - b) 6E19 FLT DK LIGHTS PANEL CAPT
      - c) 6E21 FLT DK LIGHTS PANEL GLARESHIELD
      - d) 6E22 FLT DK LIGHTS PANEL CONT STAND
      - e) 6E23 FLT DK LIGHTS PANEL F/0
      - f) 6E26 FLT DK LIGHTS PILOTS MAIN
      - g) 6E27 FLT DK LIGHTS FLOOD GLARESHIELD

## s 014-073

- (2) Get access to the control stand dimmers:
  - (a) Remove the Right Control Display Unit (RCDU) for access to dimmers T77, T102, T144, and T951 (Ref 34-61-02/401).
  - (b) Remove the Left Control Display Unit (LCDU) for access to dimmers T137, T961, T1735, and T1736 (Ref 34-61-02/401).

## s 024-074

- (3) Remove the dimmer:
  - (a) Remove the terminal cover and the fuse holder cap from the dimmer.
    - 1) Turn the fuse holder cap counterclockwise to release it from the dimmer.
  - (b) Remove the nuts from the electrical terminals on the dimmer.
  - (c) Disconnect the wires from the dimmer electrical terminals.
  - (d) Remove the screws that attach the dimmer to the control stand.
  - (e) Remove the dimmer from the control stand.

## s 034-075

ALL

- (4) Remove the secondary circuit breakers from the dimmer:
  - (a) Remove the cover(s) from the dimmer circuit breaker(s).
  - (b) Disconnect the dimmer wires from the circuit breakers.

EFFECTIVITY-

33-11-05



- (c) Remove the secondary circuit breakers from the dimmer.
  - Keep the secondary circuit breakers for installation in the new dimmer.

## TASK 33-11-05-404-034

- 5. <u>Dimmer Installation in the P9 Aisle Control Stand</u>
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 34-61-02/401, Control Display Unit
    - (3) IPC 33-11-04 Fig 1
    - (4) SSM 33-11-01, 33-11-03, 33-11-04
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panel, Flight Compartment

- C. Installation Procedure
  - s 434-076
  - (1) Install the secondary circuit breakers on the dimmer:
    - (a) Connect the dimmer output wires to the secondary circuit breaker(s).
    - (b) Attach the secondary circuit breaker(s) to the dimmer.
    - (c) Install the cover(s) on the dimmer circuit breaker(s).
    - s 424-077
  - (2) Install the dimmer in the control stand:
    - (a) Put the dimmer in its position in the control stand.
    - (b) Install the screws that attach the dimmer to the control stand.
    - (c) Connect the electrical wires to the dimmer electrical terminals.

CAUTION: TIGHTEN THE NUTS ON THE DIMMER ELECTRICAL TERMINALS TO 12 TO 15 LB-IN (1.4 TO 1.7 KM). OVERTIGHTENING MAY RESULT IN STUD BREAKAGE.

- (d) Install the nuts on the dimmer electrical terminals.
- (e) Install the terminal cover and the fuse holder cap on the dimmer.
- (f) Close the secondary circuit breaker(s) on the dimmer.
- s 414-078

ALL

- (3) Close the control stand:
  - (a) Install the RCDU or LCDU removed for dimmer access (Ref 34-61-02/401).

EFFECTIVITY-

33-11-05

01.1



## s 864-060

- (4) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - P6 Main Power Distribution Panel
    - 1) 6L1 FLT DK LIGHT STBY INST
    - 2) 6E19 FLT DK LIGHTS PANEL CAPT
    - 3) 6E21 FLT DK LIGHTS PANEL GLARESHIELD
    - 4) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 5) 6E23 FLT DK LIGHTS PANEL F/O
    - 6) 6E26 FLT DK LIGHTS PILOTS MAIN
    - 7) 6E27 FLT DK LIGHTS FLOOD GLARESHIELD

## s 714-079

- (5) Do a test of the dimmer:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Turn the dimmer control full clockwise.
  - Make sure the instrument lights come on and change from a dim intensity to a bright intensity.
  - (d) Turn the dimmer control counterclockwise to the OFF position.
  - Make sure the instrument lights come on brightly, change to a dim intensity, and go off.

#### S 864-045

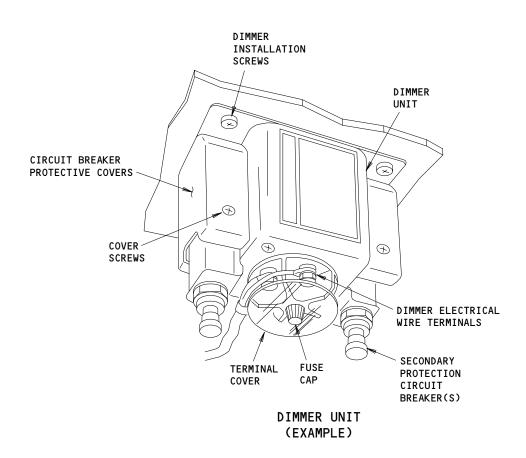
(6) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

ALL

33-11-05





Panel Light Dimmer Installation Figure 401

33-11-05

01

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# PILOTS' PANEL FLOODLIGHTS - MAINTENANCE PRACTICES

# 1. General

- A. This procedure has three tasks:
  - (1) Remove the pilots' instrument panel floodlights.
  - (2) Install the pilots' instrument panel floodlights.
  - (3) Replace the lamp of the control stand floodlight in the P7 panel.
- B. The floodlight group contains five light assemblies. These assemblies are installed below the pilots' glare shield and lightshield.
- C. Each floodlight assembly contains a housing, a circuit board with ten or fourteen lamps, and a lens.
- D. The control stand floodlight is installed in the lower center of the P7 panel.

TASK 33-11-11-002-001

- 2. Pilots Panel Floodlight Removal
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-11
    - (3) SSM 33-11-01
  - B. Access
    - (1) Location Zone

200 Flight Compartment

C. Removal Procedure

s 862-002

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

s 862-003

ALL

- (2) Make sure these circuit breakers are closed:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L1 FLT DECK LIGHT STBY INST
    - 2) 6L2 FLT DK LIGHT DOME
    - 3) 6L3 FLT DK LIGHT STORM
    - 4) 6E22 FLT DK LIGHTS PANEL CONT STAND
    - 5) 6E26 FLT DK LIGHTS FLOOD PILOTS MAIN
    - 6) 6E27 FLT DK LIGHTS FLOOD GLARESHIELD
    - 7) 6F24 FLT DK LIGHTS DOME

EFFECTIVITY-

33-11-11

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## s 212-012

- (3) Identify the defective floodlight lamps:
  - (a) Set the STORM switch to ON.
    - The STORM switch is installed on module M7261 in the P5 panel.
  - (b) Identify the floodlight lamps that do not come on.
  - (c) Set the STORM switch to OFF.

## s 022-013

- (4) Remove the defective floodlight:
  - (a) Remove the screws that install the floodlight.
    - 1) For the P10 lightshield, remove the floodlight screws from the top side of the lightshield.
    - 2) For the P1 or P3 instrument panel, remove the floodlight screws from the bottom side of the lightshield.
    - 3) For the P2 instrument panel, remove the floodlight screws from the bottom side of the glare shield.
  - (b) Lower the light assembly.
  - (c) Pull the floodlight wires from the panel access hole to get access to the wire connections.
  - (d) Disconnect the floodlight wires from the airplane wires at the pin jacks.
  - (e) Remove the floodlight.

## TASK 33-11-11-402-011

- 3. Pilots Panel Floodlight Installation
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-11
    - (3) SSM 33-11-01
  - B. Access
    - (1) Location Zone

ALL

200 Flight Compartment

EFFECTIVITY-

33-11-11



#### C. Installation Procedure

s 422-014

- (1) Install the floodlight:
  - (a) Connect the floodlight wires to the airplane wires at the pin jacks.
  - (b) Push the airplane wire with pin jacks and the unwanted floodlight wire through the panel access hole.
  - (c) Set the floodlight in its position on the panel.
  - (d) Install the screws that attach the floodlight assembly to the panel.

s 712-015

- (2) Do a test of the floodlight:
  - (a) Set the STORM switch to ON.
    - 1) The STORM switch is on module M7261 in the P5 panel.
  - (b) Make sure the replaced floodlight comes on.
  - (c) Set the STORM switch to OFF.

s 862-018

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

TASK 33-11-11-962-019

- 4. Floodlight Lamp Replacement (Control Stand)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-11
    - (3) SSM 33-11-01
  - B. Access
    - (1) Location Zone

200 Flight Compartment

C. Replacement Procedure

s 962-016

(1) Replace the lamp:

ALL

(a) Remove the lamp cover screws.

EFFECTIVITY-

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- (b) Remove the lamp cover assembly from the P7 panel.
- Replace the lamp. (c)
- Install the lamp cover assembly and tighten the screws.

s 862-024

(2) Supply electrical power (Ref 24-22-00/201).

s 862-025

- (3) Make sure these circuit breakers are closed:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L2 FLT DK LIGHT DOME
    - 2) 6L3 FLT DK LIGHT STORM

s 712-018

- (4) Do a test of the replaced lamp:
  - (a) Set the STORM light switch to ON.
    - 1) The STORM switch is on module M7261 in the P5 panel.
  - Make sure that the replaced floodlight lamp comes on.
  - (c) Set the STORM switch to OFF.

s 862-029

(5) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

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33-11-11



# <u>LIGHTPLATES - MAINTENANCE PRACTICES</u>

## 1. General

- A. This procedure contains the tasks that remove and install the lightplates.
- B. Lightplates are installed on circuit breakers and on instrument panel modules.
  - (1) Each lightplate contains a data panel and a circuit board.
  - (2) Two or more lamps supply light for each word on the data panel.
  - (3) Many small lamps and one coaxial plug connector are installed on the circuit board.
  - (4) Do not repair the lightplates in the airplane.

TASK 33-11-12-002-002

- 2. Lightplate Removal (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC, 33-11-12
  - B. Access
    - (1) Location Zone

200 Flight Deck, Pilots Instrument Panel

C. Removal Procedure

s 862-007

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

s 212-014

- (2) Identify defective lamps in the lightplates:
  - (a) Turn the lightplate control knob full clockwise.
  - (b) See that the lightplates come on.
  - (c) Examine the lightplates to identify the lightplate areas where data panel lights do not come on.

s 022-015

(3) Remove the lightplate:

ALL

(a) Turn the lightplate control full counterclockwise.

EFFECTIVITY-

33-11-12



- (b) Remove the control knobs from the lightplate.
- (c) Loosen screws that install the lightplate.
- (d) Twist and pull the lightplate to remove the lightplate connector from the module.

# TASK 33-11-12-402-011

- 3. Lightplate Installation (Fig. 201)
  - References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-11-12
  - B. Access
    - (1) Location Zone

200 Flight Deck, Pilots Instrument Panel

- C. Installation Procedure
  - s 422-016
  - (1) Install the lightplate:
    - (a) Put the lightplate electrical connector on the module receptacle.
    - (b) Push the lightplate connector into the module receptacle.
    - (c) Tighten the screws that attach the lightplate to the module.
    - (d) Install the control knobs.
    - s 712-017
  - (2) Do a test of the lightplate:
    - (a) Supply electrical power (Ref 24-22-00/201).
    - (b) Turn the lightplate control knob full clockwise.
    - (c) Make sure all areas of the lightplate come on.
    - s 862-019

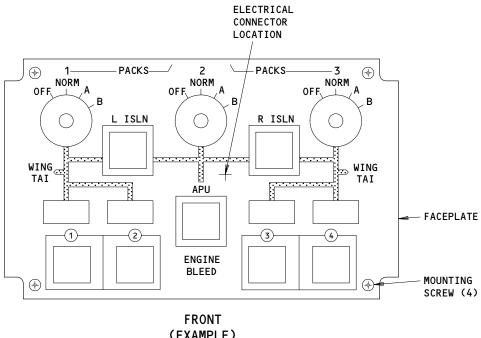
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(3) Remove electrical power if it is not necessary (Ref 24-22-00/201).

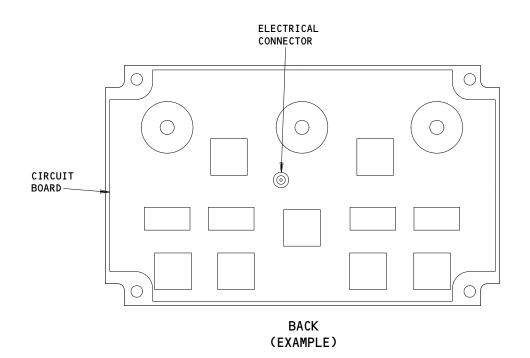
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33-11-12









Lightplate Assembly Figure 201

EFFECTIVITY-33-11-12 ALL 01 Page 203 Feb 10/91 BOEING PROPRIETARY - Copyright (C) - Unpublished Work - See title page for details.



#### MASTER DIM AND TEST - DESCRIPTION AND OPERATION

#### 1. General

- A. The master dim and test consists of a control switch and module, instrument panel indicator lights and pushbutton switch legends.
- B. The pilots master dim and test provides a choice of two instrument panel indicator light intensities (bright or dim) and a method of testing the indicator lamps. The choice of a dim, bright or test function is made by setting the IND LTS switch to the desired position.
- C. Instrument panel lighted pushbutton switches contain two illuminated legends. Each legend, illuminated by an independent two lamp circuit, is supplied electrical power from different sources.
- D. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-12-01 thru 33-12-99
  - (2) WDM 33-12-11 thru 33-12-99

# 2. Master Dim and Test Control Module

- A. The master dim and test control module is a card file of printed circuit cards that contain control relays and solid-state dimmers. The relays are used to add dimmer cards in series with the indicator lamp voltage source and to switch grounds onto indicator lamp test circuits. Master dim and test module relays are operated when the indicator light switch is set to the dim or test position.
- B. The master dim and test module is mounted on the aft top surface of the P6 panel. Access to the master dim and test module is accomplished by opening an access panel at the rear of the closet wall panel above the P6 panel.

# 3. <u>Indicator Lights</u>

A. The standard indicator has a 1/2 x 1 inch lens for nomenclature and is mounted directly to its panel. They are arranged individually or in groups. Indicator assemblies are of a modular construction, consisting of two diodes, two lamps and a fuse. The use of two lamps provides added reliability in the event of failure of one lamp. The two diodes isolate the indicator test circuit from the system fault circuit. The fuse provides circuit protection and prevents other indicator lights from being made operational in the event of an individual test light module malfunction.

# 4. Lighted Pushbutton Switches

- A. Instrument panel lighted pushbutton switches contain two illuminated legends. Lamps in the lighted legend identifying a system fault or function are supplied power from the master dim and test module. The module can be controlled for either bright or dim lamp illumination, or to conduct lamp testing by setting the IND LTS switch on the pilots' P5 overhead panel to the desired position.
- B. Lighted pushbutton switch legends that indicate system status or switch positions are not controlled nor operated by the master dim and test module. Power is supplied from an independent dimmer control (Ref 33-11-00).

33-12-00



# 5. Operation

- A. The indicator lamps on the pilots panels are 28-volt type. Primary dimming control is provided by a three-position IND LTS switch located on the pilots' overhead panel P5. The IND LTS switch TEST position is momentary only and must be manually held if a longer duration display is desired.
- B. If the IND LTS switch is set to the BRT position, indicator lamps will be supplied with 28 volts.
- C. Setting the IND LTS switch to DIM position operates module dim relays that add dimmer cards in series with indicator voltage sources. The dimmer cards reduce the indicator lamp supply voltage from 28 to 12 volts.
- D. Setting the IND LTS switch to TEST position operates the test relays that provide electrical grounds to indicator test circuits. Indicator lamps will be illuminated in the bright mode.
- E. If the IND LTS switch is held in the TEST position longer than 10 seconds, the indicator lights intensity displayed will be switched from bright to dim. The switching and delay for testing the dim function is provided by a time-delay relay contained in the master dim and test module.
- F. If the IND LTS switch is released from TEST position, the time delay will be released and circuit operation will revert to normal.

 33-12-00



# MASTER DIM AND TEST

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CARD - DIMMER	2		FLT COMPT CLOSET	*
CIRCUIT BREAKER	1		FLT COMPT, P6	33-12-01
INDICATOR			FLT COMPT	33-12-02
PUSHBUTTON SWITCH			FLT COMPT	33-12-03
MODULE - MASTER DIM AND TEST			FLT COMPT CLOSET	33-12-01
RELAY			FLT COMPT, P6	*
RELAY	2		FLT COMPT CLOSET	*
SWITCH - IND LTS DIM AND TEST	1		FLT COMPT, P5	33-12-04

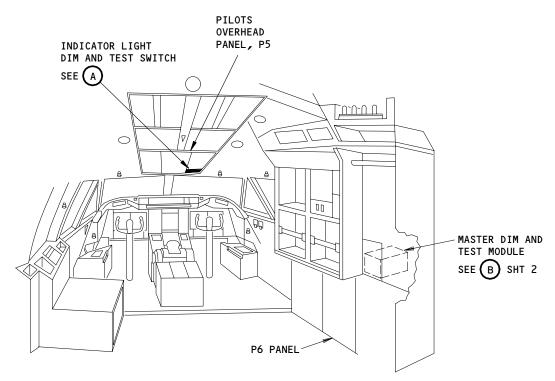
<sup>\*</sup> SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT

Master Dim and Test - Component Index Figure 101

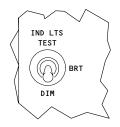
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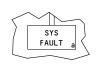


FLIGHT COMPARTMENT



INDICATOR LIGHT DIM AND TEST SWITCH (EXAMPLE)





INDICATOR LIGHT (EXAMPLE)



PUSHBUTTON SWITCH-LIGHT (EXAMPLE)

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

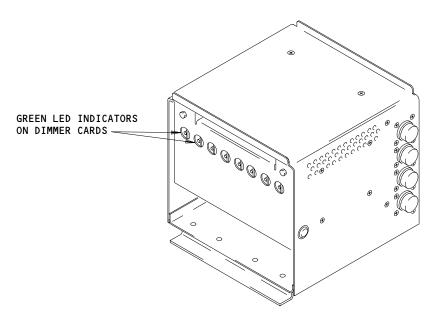
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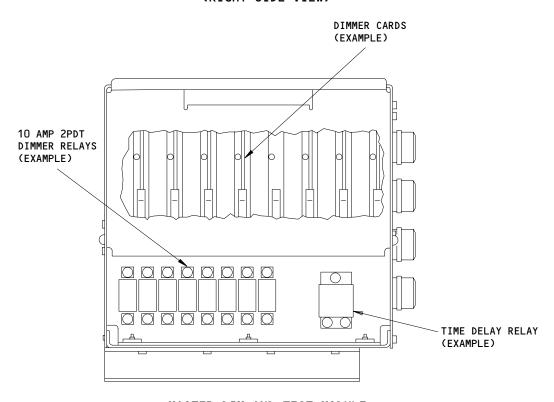
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(RIGHT SIDE VIEW)



MASTER DIM AND TEST MODULE (FRONT VIEW)



Master Dim and Test - Component Location (Detail from Sht 1) Figure 102 (Sheet 2)

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#### MASTER DIM AND TEST - FAULT ISOLATION

# 1. <u>General</u>

- A. Fault isolation will require application of electrical power.
- B. All troubleshooting procedures are based on the assumption that airplane wiring is OK and that electrical power is available.
- C. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagram.
- D. After replacing component, perform electrical check for proper operation before closing assembly.
- E. The master dim and test consists of a control switch and module, instrument panel indicator lights and pushbutton switch legends.
- F. The master dim and test system provides a choice of two instrument panel indicator light intensities (bright or dim) and a method of testing the indicator lamps. The choice of a dim, bright, or test function is made by setting the IND LTS switch to the desired position.

# 2. Fault Isolation Tips

- A. Prior to troubleshooting the master dim and test system, check indicator lamps by operating the IND LTS switch to the TEST position. Replace any failed lamps.
- B. While checking for lamp failures note groups or combinations of indicator lights that also fail to illuminate.

<u>NOTE</u>: Combinations and types of lights that malfunction and the type of malfunction provide information to rapid fault isolation.

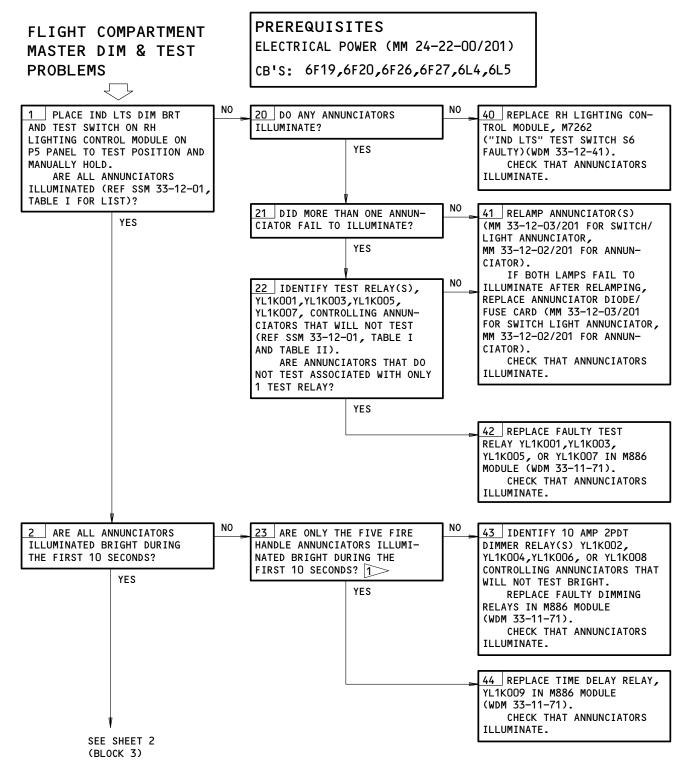
- C. Most components in the master dim and test module provide dim or test capability to several indicator lights. System schematics may indicate a single component common to all indicator lights.
- D. The master dim and test module contains control relays that will: when activated, switch dimmer cards in series with the indicator light power source; and when deactivated, switch the dimmer cards out of the supply circuit. A control relay switching malfunction then will result in a constant bright or dim indicator light intensity regardless of the IND LTS switch position.

#### Fault Isolation Procedures

Figure 103 Flight Compartment Master Dim and Test Problems

 33-12-00





DISREGARD WHITE ANNUNCIATORS "EXT PWR 1 AVAIL" AND "EXT PWR 2 AVAIL". THEY WILL BE ILLUMINATED BRIGHT THROUGHOUT SELF-TEST IF GROUND POWER IS AVAILABLE.

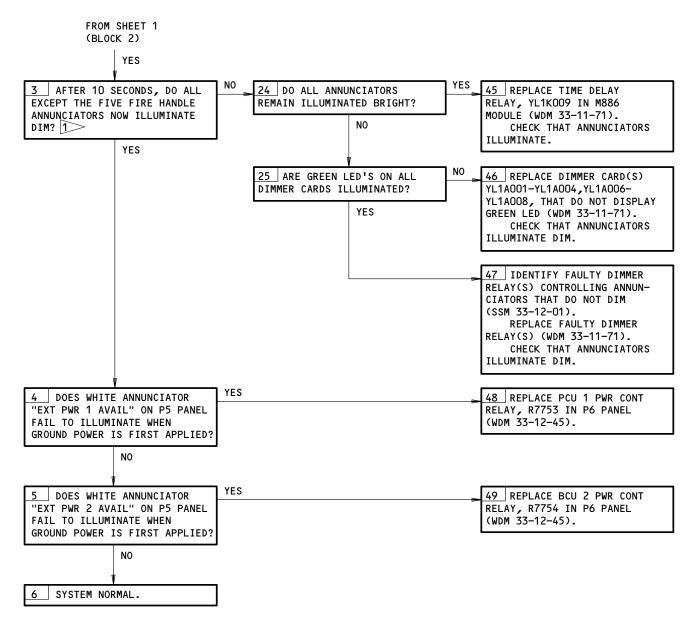
Flight Compartment Master Dim & Test Problems
Figure 103 (Sheet 1)

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Flight Compartment Master Dim & Test Problems
Figure 103 (Sheet 2)



# MASTER DIM AND TEST - ADJUSTMENT/TEST

#### 1. General

- A. This procedure has this task:
  - (1) Master Dim and Test System Operational Test

TASK 33-12-00-705-001

- 2. <u>Master Dim and Test System Operational Test</u>
  - A. General
    - (1) Each of the indicator lights show the condition of a different function in the airplane.
    - (2) When you set the switch for the indicator lights to the test position, the indicator lights will come on.
      - (a) It is possible some indicator lights will stay on when the other indicator lights go off. If this occurs, make sure it is the correct operation of each indicator light that stayed on.
      - (b) For these indicator lights, a test is done for the operation of the indicator light when you do a test of the applicable system:
        - Squib test lights, P461, with the cargo fire extinguishing system
        - 2) Fire handles, P5, with the fire detection system
        - 3) Fuel cut-off switches, P8, with the fire detection system
        - 4) Green band indicators for the stab trim position with the MAWEA system
        - 5) ON BAT light for IRS with the IRS system
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-12-01 thru 33-12-99
    - (3) WDM 33-12-41 thru 33-12-99
  - C. Access
    - (1) Location Zone

200 Flight Compartment

D. Procedure

s 865-002

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

s 715-004

- (2) Do the operational test.
  - (a) At the pilot's overhead panel, P5, set and hold the switch for the indicator lights in the test position.
    - 1) Make sure the indicator lights come on.

NOTE: Refer to SSM 33-12-01, to identify which indicator lights will come on.

EFFECTIVITY-

33-12-00

ALL



- 2) After approximately 10 seconds, make sure the indicator lights become dim.
- (b) Set the switch for the indicator lights to the bright position.
  - 1) Make sure the indicator lights go off.

NOTE: It is possible that some of the indicator lights will stay on. If this occurs, make sure that it is the correct operation of each indicator light that stayed on (WDM 33-12-41 thru 33-12-99).

s 865-005

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

EFFECTIVITY-

ALL

33-12-00



# MASTER DIM AND TEST MODULE - MAINTENANCE PRACTICES

## 1. General

- A. This procedure contains tasks that replace the Master Dim and Test module, the module circuit cards, or the module relays.
- B. The Master Dim and Test module is installed above the P6 panel.

TASK 33-12-01-962-001

- 2. Master Dim and Test Module Replacement (Fig. 201)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AIPC 33-12-51
    - (3) SSM 33-11-01, SSM 33-11-71, SSM 33-12-01
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panels - Flight Compartment

C. Prepare for the Replacement

s 862-002

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DGTL DSPL
    - 5) 6L4 FLT DECK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
- D. Replacement Procedure

s 022-057

- (1) Remove the module:
  - (a) Open the access panel on the closet wall to get access to the module.
    - 1) The access panel on the closet wall is installed above the P6 panel.
  - (b) Remove the screws that attach the module to the P6 panel.
  - (c) Disconnect the electrical cables from the module.

EFFECTIVITY-

33-12-01

01

ALL



(d) Remove the module from the P6 panel.

#### s 422-058

- (2) Install the module:
  - (a) Set the new module in its location on the top of the P6 panel.
  - (b) Connect the electrical cables to the module.
  - (c) Install the screws that attach the module to the P6 panel.
  - (d) Close the module access panel on the closet wall.

## s 862-010

- (3) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F20 FLT DK LIGHTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DGTL DSPL
    - 5) 6L4 FLT DECK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL

# s 862-009

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

#### s 712-059

- (5) Do a test of the module:
  - (a) Put the IND LTS switch on the P5 panel to the TEST position and hold the switch in that position.
  - Make sure the panel indicator lights come on.
  - (c) Hold the IND LTS switch in the TEST position longer then 10 seconds.

NOTE: A time delay relay installed in the module operates after 10 seconds. At that time, the relay connects the dimmer cards in series with the indicator lamps and the lamp power.

EFFECTIVITY-

ALL

33-12-01



(d) After 10 seconds, make sure the indicator lights change from a bright intensity to a dim intensity.

NOTE: Indicator lights with red lenses will not change to a dim intensity.

- (e) Put the IND LTS switch to the BRT position.
- (f) Make sure the indicator lights go off.

NOTE: It is possible some indicator lights will not go off. A system defect or a system configuration can make its indicator light stay on.

s 862-017

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

TASK 33-12-01-962-018

- 3. <u>Module Circuit Card Replacement</u> (Fig. 201)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AIPC 33-12-51
    - (3) SSM 33-12-01
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panels - Flight Deck

C. Prepare for the Replacement

s 862-019

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DGTL DSPL
    - 5) 6L4 FLT DECK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
- D. Replacement Procedure

s 022-060

- (1) Remove the circuit card:
  - (a) Open the access panel on the closet wall to get access to the module.

NOTE: The access panel on the closet wall is installed above the P6 panel.

EFFECTIVITY-

33-12-01

ALL



- (b) Remove the module cover screws and move the cover away from the front of the module.
- (c) Remove the applicable circuit card from the module.

## s 422-061

- (2) Install the circuit card:
  - (a) Put the replacement card in the module and push until the card is engaged in its connector.
  - (b) Close the module cover and install the cover screws.
  - (c) Close the module access panel on the closet wall.

## s 862-025

- (3) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F20 FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DGTL DSPL
    - 5) 6L4 FLT DECK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL

# s 862-024

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

#### s 712-062

- (5) Do a test of the circuit card:
  - (a) Put the IND LTS switch on the P5 panel to the TEST position and hold the switch in that position.
  - (b) Make sure the panel indicator lights come on.
  - (c) Hold the IND LTS switch in the TEST position longer than 10 seconds.

NOTE: A time delay relay installed in the module operates after 10 seconds. At that time, the relay connects the dimmer cards in series with the indicator lamps and the lamp power.

EFFECTIVITY-

ALL

33-12-01



(d) After 10 seconds, make sure the indicator lights change from a bright intensity to a dim intensity.

<u>NOTE</u>: Indicator lights with red lenses will not change to dim intensity.

- (e) Put the IND LTS switch in the BRT position.
- (f) Make sure the indicator lights go off.

NOTE: It is possible some indicator lights will not go off. A system defect or a system configuration can make its indicator light stay on.

s 862-032

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

TASK 33-12-01-962-033

- 4. Module Relay Replacement (Fig. 201)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AIPC 33-12-51
    - (3) SSM 33-12-01
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panels - Flight Compartment

C. Prepare for the Replacement

s 862-034

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DGTL DSPL
    - 5) 6L4 FLT DECK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
- D. Replacement Procedure

s 022-063

- (1) Remove a relay:
  - (a) Open the access panel on the closet wall to get access to the module.
    - The access panel on the closet wall is installed above the P6 panel.
  - (b) Identify the relay to be replaced in the module.
  - (c) Remove the installation screws from the relay.
  - (d) Pull the relay from its socket.

EFFECTIVITY-

33-12-01



s 422-038

- (2) Install a relay:
  - (a) Put the relay in the socket on the module.
  - (b) Tighten the relay installation screws.
  - (c) Close the module access panel on the closet wall.

S 862-041

- (3) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DGTL DSPL
    - 5) 6L4 FLT DECK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL

s 862-040

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

s 712-064

- (5) Do a test of the relay:
  - (a) Put the IND LTS switch on the P5 panel to the TEST position and hold the switch in that position.
  - (b) Make sure the panel indicator lights come on.
  - (c) Hold the IND LTS switch in the TEST position longer that 10 seconds.

NOTE: A time delay relay installed in the module operates after 10 seconds. At that time, the relay connects the dimmer cards in series with the indicator lamps and the lamp power.

(d) After 10 seconds, make sure the indicator lights change from a bright intensity to a dim intensity.

<u>NOTE</u>: Indicator lights with red lenses will not change to a dim intensity.

- (e) Put the IND LTS switch to the BRT position.
- (f) Make sure the indicator lights go off.

NOTE: It is possible some indicator lights will not go off. A system defect or a system configuration can make its indicator light stay on.

s 862-048

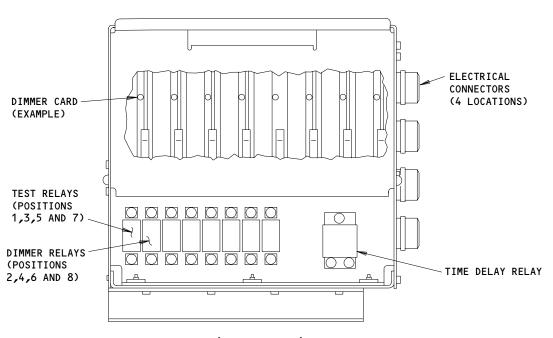
(6) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

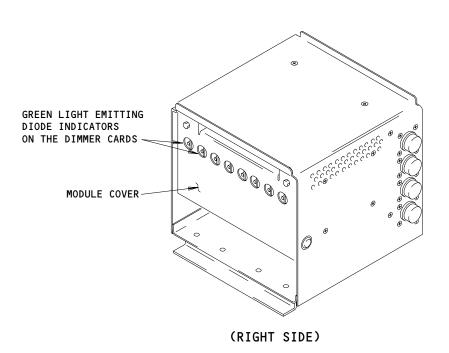
33-12-01

ALL

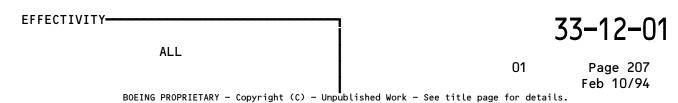








Master Dim and Test Component Replacement Figure 201





# INDICATOR LIGHT - MAINTENANCE PRACTICES

# 1. <u>General</u>

- A. This procedure contains these tasks for an indicator light:
  - (1) Replace the lamps.
  - (2) Replace the diode/fuse card.
  - (3) Remove the indicator light assembly.
  - (4) Install the indicator light assembly.
- B. Two lamps are installed in each indicator light.
  - (1) Do not operate the indicator light with only one lamp.
  - (2) An internal short circuit can occur if you install the lens in the module with one lamp.

#### TASK 33-12-02-962-001

- 2. Lamp Replacement (Indicator Light) (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-12-01
    - (3) IPC 33-12-02 Fig. 20
  - B. Access
    - (1) Location Zone

200 Flight Compartment , Pilots' Instrument Panels

C. Replacement Procedure

s 862-059

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

s 712-060

- (2) Find the defective lamps:
  - (a) Put the IND LTS switch on the P5 panel to the TEST position.
  - (b) Identify the lamps that do not come on.
  - (c) Put the IND LTS switch to the BRT position.

s 862-061

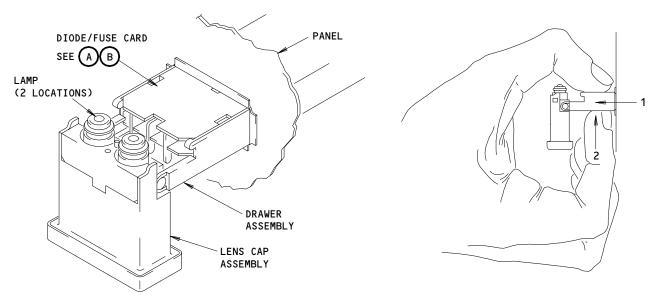
- (3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DIG DISP
    - 5) 6L4 FLT DK LIGHT CAPT IND
    - 6) 6L5 FLT DK LIGHT CAPT IND & DIG DISP

EFFECTIVITY-

33-12-02

ALL

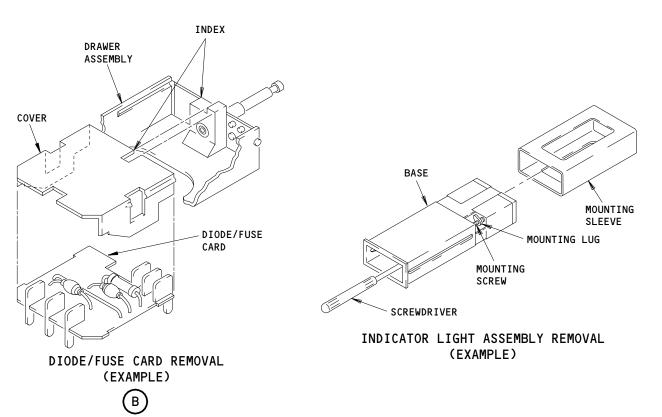




INDICATOR LIGHT (EXAMPLE)

DIODE/FUSE CARD REMOVAL
(EXAMPLE)





Indicator Light Figure 201

ALL

O1 Page 202
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s 032-070

CAUTION: USE ONLY YOUR FINGERS TO PULL OUT THE LENS CAP ASSEMBLY. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

- (4) Carefully pull out 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.

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

(c) Turn down the lens cap.

s 962-055

(5) Replace the lamp.

s 432-073

- (6) Carefully push in the lens cap assembly.
  - (a) Turn up the lens cap.
  - (b) Push the lens cap assembly straight back until it locks into its position.
  - (c) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
    - P6 Main Power Distribution Panel
      - a) 6D19 FLT DK LIGHTS PILOTS MISC IND 1
      - b) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
      - c) 6F26 FLT DK LIGHTS F/O IND
      - d) 6F27 FLT DK LIGHTS F/O IND & DIG DISP
      - e) 6L4 FLT DK LIGHT CAPT IND
      - f) 6L5 FLT DK LIGHT CAPT IND & DIG DISP

s 712-013

(7) Do a test of the lamp:

ALL

(a) Put the IND LTS switch on the P5 panel to the TEST position.

EFFECTIVITY-

33-12-02

Į.



(b) Make sure the replaced lamp comes on.

NOTE: If the two lamps in the indicator light do not come on, use an eraser to clean the contacts on the diode/fuse card. To make sure the contacts in the center of the base assembly move freely, carefully push the contacts with a wooden dowel.

(c) Put the IND LTS switch to the BRT position.

s 862-062

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

TASK 33-12-02-002-014

- 3. <u>Diode/Fuse Card Replacement (Indicator Light)</u> (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-12-01
  - B. Access
    - (1) Location Zone

200 Flight Compartment, Pilots' Instrument Panels

C. Procedure

s 862-015

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F20 FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DIG DISP
    - 5) 6L4 FLT DK LIGHT CAPT IND
    - 6) 6L5 FLT DK LIGHT CAPT IND & DIG DISP

s 032-071

ALL

<u>CAUTION</u>: USE ONLY YOUR FINGERS TO PULL OUT THE LENS CAP ASSEMBLY. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

EFFECTIVITY-

33-12-02



- (2) Carefully pull out 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.

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

(c) Turn down the lens cap.

### s 962-058

- (3) Replace the diode/fuse card.
  - (a) Remove the diode/fuse card.
    - Hold the top and bottom of the diode/fuse card assembly with your fingers.
    - 2) Pull the diode/fuse card assembly straight out until it is clear of the base assembly.
    - 3) Push up on the diode/fuse card assembly to remove it.
    - 4) Remove and keep the cover from the diode/fuse card.
  - (b) Install the new diode/fuse card.
    - 1) Install the cover on the new diode/fuse card.
    - 2) With the index points aligned, put the diode/fuse card assembly into the drawer assembly.
    - 3) Carefully push down the front end of the diode/fuse card assembly until you hear a click.

### s 432-059

- (4) Carefully push in the lens cap assembly.
  - (a) Turn up the lens cap.
  - (b) Push the lens cap assembly straight back until it locks into its position.

### s 862-021

ALL

- (5) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DIG DISP
    - 5) 6L4 FLT DK LIGHT CAPT IND
    - 6) 6L5 FLT DK LIGHT CAPT IND & DIG DISP

EFFECTIVITY-

33-12-02



s 712-022

- (6) Do a test of the indicator light:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Put the IND LTS switch on the P5 panel to the TEST position.
  - (c) Make sure the indicator light with the new diode/fuse card comes on.
  - (d) Put the IND LTS switch to the BRT position.
  - (e) Remove electrical power if it is not necessary (Ref 24-22-00/201).

TASK 33-12-02-002-035

- 4. Indicator Light Removal (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-12-01
  - B. Access
    - (1) Location Zone

200 Flight Compartment, Pilots' Instrument Panels

- C. Removal Procedure
  - s 862-036
  - (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) P6 Main Power Distribution Panel
      - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
      - 2) 6F20 FLT DK LIGHTS PILOTS MISC IND 2
      - 3) 6F26 FLT DK LIGHTS F/O IND
      - 4) 6F27 FLT DK LIGHTS F/O IND & DIG DISP
      - 5) 6L4 FLT DK LIGHT CAPT IND
      - 6) 6L5 FLT DK LIGHT CAPT IND & DIG DISP

s 012-037

(2) Get access to the rear of the indicator.

s 032-038

ALL

- (3) Disconnect the electrical wires from the contacts on the rear of the indicator light.
  - (a) Use the correct tool from table 201.

EFFECTIVITY-

33-12-02



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

(b) Identify the wires to aid during the installation of the indicator light.

s 022-072

CAUTION: USE ONLY YOUR FINGERS TO PULL OUT THE LENS CAP ASSEMBLY. TOOLS CAN CAUSE DAMAGE TO THE LENS CAP.

- (4) Carefully pull out 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.

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

(c) Turn down the lens cap.

s 022-061

- (5) Remove the diode/fuse card assembly.
  - (a) Hold the top and bottom of the diode/fuse card assembly with your fingers.
  - (b) Pull the diode/fuse card assembly straight out until it is clear of the base assembly.
  - (c) Push up on the diode/fuse card assembly to remove it.

s 022-062

ALL

- (6) Remove the drawer assembly.
  - (a) With your fingers, lightly apply pressure to the sides of the drawer assembly and pull it out.

EFFECTIVITY-

33-12-02



s 022-063

(7) Remove the mounting sleeve from the base assembly.

(a) Use a small screwdriver to loosen the mounting screws.

NOTE: This will turn the mounting lugs.

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

s 022-064

(8) Remove the base assembly from the panel.

TASK 33-12-02-402-042

5. Indicator Light Installation (Fig. 201)

<u>NOTE</u>: Make sure you disassemble the indicator light before you install it. Refer to the steps that remove the annuciator.

- A. References
  - (1) 24-22-00/201, Manual Control
  - (2) SSM 33-12-01
- B. Access
  - (1) Location Zone

200 Flight Compartment, Pilots' Instrument Panel

C. Procedure

s 422-043

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

s 422-066

(2) Install the mounting on the end of the base assembly that is behind the panel.

CAUTION: DO NOT USE A SCREWDRIVER IF IT IS TOO LARGE. IF THE SCREWS ARE TIGHTENED MORE THAN IT IS NECESSARY, DAMAGE TO THE INDICATOR LIGHT CAN OCCUR.

- (a) Carefully turn the mounting screws to engage the mounting lugs.
  - 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.
- (b) With a three-inch screwdriver, tighten one then the other mounting screws with quarter turns.

EFFECTIVITY-

33-12-02



### s 422-067

- (3) Install the diode/fuse card.
  - (a) With the index points aligned, put the diode/fuse card assembly into the drawer assembly.
  - (b) Carefully push down the front end of the diode/fuse card assembly until you hear a click.

### s 422-068

- (4) Carefully push in the lens cap assembly.
  - (a) Turn up the lens cap.
  - (b) Push the lens cap assembly straight back until it locks into its position.

### s 422-069

- (5) Install the contacts for the wires behind the indicator light.
  - (a) Use the correct tool from Table 201.
  - (b) Move the contact into the end of the insertion tool.
  - (c) Carefully put the contact through the hole and push on it lightly until the contact is in position.
  - (d) Carefully pull on the wire to make sure the contact is in its position.

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

### S 862-047

- (6) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOTS MISC IND 1
    - 2) 6F2O FLT DK LIGHTS PILOTS MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND & DIG DISP
    - 5) 6L4 FLT DK LIGHT CAPT IND
    - 6) 6L5 FLT DK LIGHT CAPT IND & DIG DISP

## s 712-048

ALL

- (7) Do a test of the indicator light:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Put the IND LTS switch on the P5 panel to the TEST position.
  - (c) Make sure the indicator lights come on.
  - (d) Put the IND LTS switch in the BRT position.
  - (e) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-12-02



## LIGHTED PUSHBUTTON SWITCHES - MAINTENANCE PRACTICES

- 1. <u>General</u> (Fig. 201)
  - A. This procedure contains pushbutton switch tasks that:
    - (1) Replace the indicator lamps in the lens cap,
    - (2) Replace the diode/fuse card of the master module,
    - (3) Remove the master module from the switch assembly,
    - (4) Install the master module in the switch assembly.
  - B. The pushbutton switches have two light circuits that are electrically isolated.
    - (1) One circuit controls the caution indicator lamps in the switch assembly.
      - (a) 28 V dc is supplied to these lamps from the Master Dim and Test module.
      - (b) The caution indicator lamps can be tested if the IND LTS switch is put in the TEST position.
    - (2) The second circuit controls the position indicator lamps in the switch.
      - (a) 5 V ac is supplied to these lamps from an instrument panel dimmer.
      - (b) A check of the position indicator lamps cannot be done unless the switch is operated.
        - 1) Refer to the applicable switch system procedure to operate the switch.

### TASK 33-12-03-962-001

- 2. Pushbutton Switch Lamp Replacement (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panels - Flight Compartment

C. Lamp Replacement Procedure

s 862-002

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

s 862-003

- (2) Make sure these circuit breakers are closed:
  - (a) P6 Main Power Distribution Panel
    - 1) 6F19 FLT DK LIGHTS PILOT MISC IND 1
    - 2) 6F20 FLT DK LIGHTS PILOT MISC IND 2
    - 3) 6F26 FLT DK LIGHTS F/O IND
    - 4) 6F27 FLT DK LIGHTS F/O IND DGTL DSPL
    - 5) 6L4 FLT DK LIGHT CAPT IND
    - 6) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
    - 7) 6E20 FLT DK LIGHTS PANEL OVHD

EFFECTIVITY-

33-12-03



## s 212-050

- (3) Identify the defective lamps:
  - (a) Put the IND LTS switch on the P5 panel to the TEST position and hold the switch in that position.
  - (b) Identify the indicator lamps that do not come on.
  - (c) Put the IND LTS switch to the BRT position.

### s 862-060

- (4) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6D19 P5 PB SW LTS
    - 2) 6F19 FLT DK LIGHTS PILOT MISC IND 1
    - 3) 6F20 FLT DK LIGHTS PILOT MISC IND 2
    - 4) 6F26 FLT DK LIGHTS F/O IND
    - 5) 6F27 FLT DK LIGHTS F/O IND DGTL DSPL
    - 6) 6L4 FLT DK LIGHT CAPT IND
    - 7) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
    - 8) 6E20 FLT DK LIGHTS PANEL OVHD

### s 212-048

(5) Identify the system controlled by the switch to receive maintenance.

s 862-009

WARNING: OPEN THE SYSTEM CIRCUIT BREAKERS CONTROLLED BY THE PUSHBUTTON SWITCH. THE INSTALLATION OF THE LENS CAP INTO THE SWITCH CAN OPERATE THE SWITCH AND CAUSE ITS SYSTEM TO OPERATE. THE ACCIDENTAL OPERATION OF A SYSTEM CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(6) Open the circuit breakers to all airplane systems controlled by the pushbutton switch and attach DO-NOT-CLOSE tags.

### s 032-051

- (7) Get access to the switch lamps:
  - (a) Make sure the switch is in the off position.

CAUTION: DO NOT HOLD THE SWITCH LENS CAP WITH A TOOL OR THE LENS CAP CAN BE DAMAGED. REMOVE THE LENS CAP WITH YOUR FINGERS.

(b) Hold the lens cap with your fingers and pull it away from the pushbutton switch.

EFFECTIVITY-

33-12-03



s 962-012

- (8) Replace the lamps in the lens cap as follows:
  - (a) Pull the lens cap away from the switch assembly.

NOTE: The lens cap will be held by two retainer wires to the switch. Do not remove the wires from the switch or the lens cap.

- (b) When the lens cap is fully extended, turn the cap 90 degrees to see the bottom of the lamps.
- (c) Replace the lamps.

s 432-052

- (9) Install the lens cap in the switch assembly:
  - (a) When the lamp replacement is completed, push the retainer wires and the lens cap into the switch.
  - (b) Make sure the pushbutton switch is in the off position.

s 862-015

- (10) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6D19 P5 PB SW LTS
    - 2) 6F19 FLT DK LIGHTS PILOT MISC IND 1
    - 3) 6F20 FLT DK LIGHTS PILOT MISC IND 2
    - 4) 6F26 FLT DK LIGHTS F/O IND
    - 5) 6F27 FLT DK LIGHTS F/O IND DGTL DSPL
    - 6) 6L4 FLT DK LIGHT CAPT IND
    - 7) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
    - 8) 6E20 FLT DK LIGHTS PANEL OVHD

s 862-016

(11) Close the circuit breakers for the system controlled by the switch and remove the DO-NOT-CLOSE tags.

s 712-053

- (12) Do a test of the replaced lamps:
  - (a) Put the IND LTS switch on the P5 panel to the TEST position and hold it in that position.

EFFECTIVITY-

33-12-03



- (b) Make sure the replaced indicator lamps come on.
- (c) Put the IND LTS switch to the BRT position.
- (d) Do not push the switch to do a check of the switch position lamps.

NOTE: The test of replaced lamps in the switch must be done with the applicable system test for that switch.

s 862-021

(13) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

TASK 33-12-03-962-065

- 3. <u>Diode/Fuse Card Replacement</u> (Fig. 201)
  - A. Access
    - (1) Location Zone

200 Pilots Instrument Panels - Flight Compartment

B. Procedure

s 022-061

(1) Do the task in this procedure: "Master Module Removal".

s 022-062

(2) Remove the diode/fuse card.

(a) Pull away the diode/fuse card to disconnect it.

s 422-063

(3) Install the new diode/fuse card.

(a) Push the new diode/fuse card in its position.

s 422-064

(4) Do the task in this procedure: "Master Module Installation".

TASK 33-12-03-002-022

- 4. <u>Master Module Removal</u> (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
  - B. Access
    - (1) Location Zone

ALL

200 Pilots Instrument Panels - Flight Compartment

EFFECTIVITY-

33-12-03



### C. Removal Procedure

s 862-054

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P6 Main Power Distribution Panel
    - 1) 6D19 P5 PB SW LTS
    - 2) 6F19 FLT DK LIGHTS PILOT MISC IND 1
    - 3) 6F20 FLT DK LIGHTS PILOT MISC IND 2
    - 4) 6F26 FLT DK LIGHTS F/O IND
    - 5) 6F27 FLT DK LIGHTS F/O IND DGTL DSPL
    - 6) 6L4 FLT DK LIGHT CAPT IND
    - 7) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
    - 8) 6E20 FLT DK LIGHTS PANEL OVHD

S 862-024

WARNING: OPEN THE SYSTEM CIRCUIT BREAKERS CONTROLLED BY THE PUSHBUTTON SWITCH. THE INSTALLATION OF THE LENS CAP INTO THE SWITCH CAN OPERATE THE SWITCH AND CAUSE ITS SYSTEM TO OPERATE. THE ACCIDENTAL OPERATION OF A SYSTEM CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Open the circuit breakers to all airplane systems controlled by the pushbutton switch and attach DO-NOT-CLOSE tags.

s 032-055

- (3) Get access to the module:
  - (a) Push the lens cap with your finger to get an extension of the lens cap from its installed position.

CAUTION: DO NOT HOLD THE SWITCH LENS CAP WITH A TOOL OR THE LENS CAP CAN BE DAMAGED. REMOVE THE LENS CAP WITH YOUR FINGERS

(b) Hold the lens cap with your fingers and pull it away from the pushbutton switch.

s 022-056

- (4) Remove the module:
  - (a) Turn the lens cap 90 degrees to get access to the mounting lug screws on the master module.
  - (b) Turn the mounting lug screws counterclockwise until the mounting lugs on the master module retract.
  - (c) Put your finger between the retainer wires and against the lens cap.
  - (d) With your finger, pull the lens cap away from the housing assembly and remove the module (See Fig. 201).

EFFECTIVITY-

33-12-03



- (e) If the retainer wires become disconnected from the master module before the module has been removed, do these steps:
  - 1) Make sure the mounting lugs are fully retracted on each side of the module.
  - 2) Remove the master module with needle nose pliers.
- (f) Remove the lens cap and the retainer wires from the master module.

TASK 33-12-03-402-032

- 5. <u>Master Module Installation</u> (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
  - B. Access
    - (1) Location Zone

200 Pilots Instrument Panels - Flight Compartment

C. Installation Procedure

s 422-057

- (1) Install the module:
  - (a) Attach the lens cap and the retainer wires to the master module.
  - (b) Put the master module with its attached lens cap into the housing assembly.
  - (c) Push the master module into the housing until the module pins connect with the socket in the housing.
    - 1) Push at the center of the module with your finger to make sure the module is fully engaged.
  - (d) Use a screwdriver to tighten the mounting lug screws as follows:
    - 1) Make sure the mounting lugs extend into the detent holes of the mounting sleeve.
    - 2) Turn the mounting lug screws clockwise until any loose fit of the lugs is gone.
    - 3) First tighten one screw 1/4 turn.
    - 4) Then tighten the second screw 1/4 turn.
    - 5) Do the last two steps in 1/4 turn increments until the mounting lugs are tight.
    - 6) Do not turn the screws more than 1-1/4 total turns (Ref 20 inch ounces).

s 432-058

- (2) Install the lens cap:
  - (a) Push the lens cap into the housing until the module cam plate engages the lens cam lock.
  - (b) Make sure the pushbutton switch is in the off position.

s 712-059

- (3) Do a test of the module:
  - (a) Supply electrical power (Ref 24-22-00/201).

EFFECTIVITY-

33-12-03

ALL



- (b) Close these circuit breakers and remove the DO-NOT-CLOSE tags:
  - 1) P6 Main Power Distribution Panel
    - a) 6D19 P5 PB SW LTS
    - b) 6F19 FLT DK LIGHTS PILOT MISC IND 1
    - c) 6F2O FLT DK LIGHTS PILOT MISC IND 2
    - d) 6F26 FLT DK LIGHTS F/O IND
    - e) 6F27 FLT DK LIGHTS F/O IND DGTL DSPL
    - f) 6L2 FLT DK LIGHT CAPT IND
    - g) 6L5 FLT DECK LIGHT CAPT IND DGTL DSPL
    - h) 6E20 FLT DK LIGHTS PANEL OVHD
- (c) Put the IND LTS switch on the P5 panel to the TEST position and hold it in that position.
- (d) Make sure the replaced indicator lamps come on.
- (e) Put the IND LTS switch to the BRT position.
- (f) Do a adjustment/test procedure for the applicable pushbutton switch system.

### s 862-047

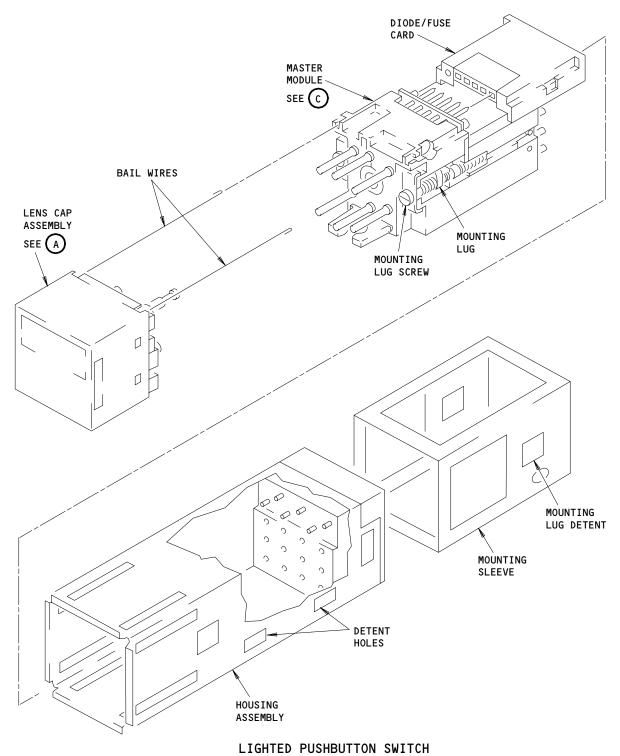
(4) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-12-03

ALL





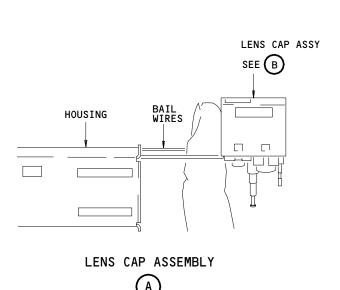
Lighted Pushbutton Switch - Maintenance Practices Figure 201 (Sheet 1)

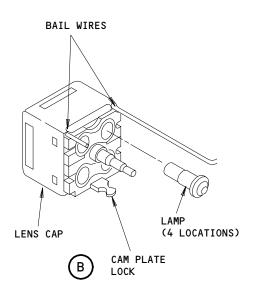
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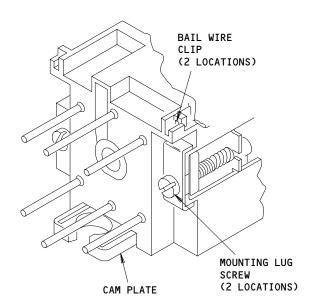
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## MASTER MODULE

(0)

Lighted Pushbutton Switch - Maintenance Practices Figure 201 (Sheet 2)

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33-12-03

01

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## PILOTS' INDICATOR LIGHTS DIM/TEST SWITCH - REMOVAL/INSTALLATION

### 1. General

- A. This procedure contains these tasks for a pilot's indicator lights dim/test switch (referred to as a switch):
  - (1) Switch Removal
  - (2) Switch Installation

TASK 33-12-04-004-001

- 2. Switch Removal (Fig. 401)
  - A. References
    - (1) AIPC 33-11-10
    - (2) SSM 33-12-01
    - (3) WDM 20-10-13
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 864-023

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

s 034-003

(2) Loosen the screws on the lightplate below the switch.

s 034-004

(3) Remove the lightplate.

s 034-005

(4) Open the overhead panel, P5.

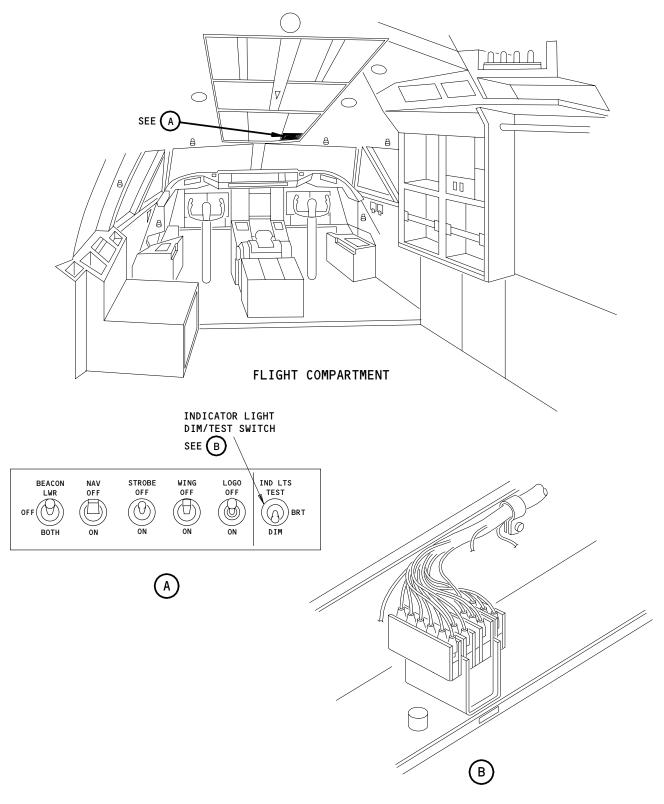
s 034-006

- (5) Cut the switch wires at the switch.
  - (a) Make sure the wire length is sufficient to make a splice for the replacement switch (WDM 20-10-13).

EFFECTIVITY-

33-12-04





Pilots Indicator Lights Dim/Test Switch Installation Figure 401

ALL

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s 034-007

(6) Remove the nut and lockwasher that attach the switch to the panel.

s 024-008

(7) Remove the switch from the panel.

TASK 33-12-04-404-009

- 3. Switch Installation (Fig. 401)
  - A. References
    - (1) AIPC 33-11-10
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-12-01
    - (4) WDM 20-10-13
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 424-011

(1) Install the switch in its position in the P5 panel.

s 434-012

(2) Install the lockwasher and nut to attach the switch to the P5 panel.

s 434-013

(3) Make a splice to add the replacement switch to the airplane wires (WDM 20-10-13).

s 434-015

(4) Close the P5 panel.

s 434-014

(5) Install the lightplate around the switch and tighten its screws.

S 864-016

(6) Remove the DO-NOT-CLOSE tags and close each circuit breaker that was opened.

EFFECTIVITY-

33-12-04



## s 714-022

- (7) Do a test of the switch.
  - (a) Supply electrical power (AMM 24-22-00/201).
  - (b) At the P5 panel, set the switch to the test position.1) Make sure the panel indicator lights come on.
  - (c) Set the switch to the usual position.
  - (d) Remove electrical power if it is not necessary (AMM 24-22-00/201).

ALL

33-12-04

01

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## FLIGHT COMPARTMENT ILLUMINATION LIGHTS - DESCRIPTION AND OPERATION

### 1. General

- A. Flight compartment illumination is provided by flight compartment access lights and dome lights. Access lights provide entryway illumination from outside the airplane to the flight deck. Dome lights provide general area illumination of the flight compartment.
  - (1) The flight compartment access path from a main deck entry door and the main equipment center external access door is illuminated by lamps in the lower lobe, main deck and upper deck. A switch at each entry and in flight compartment provides illumination control.
  - (2) Three dome lights provide general flight compartment illumination. The captain and first officer have one dome light each above their flight station. A third dome light illuminates the aft area of the flight compartment.
- 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. Flight Compartment Access Lights

- A. Access paths to the flight compartment from either the No. 1 main entry door or the main E/E equipment center external access door are illuminated. The lamps used are located as follows: two fluorescent upper deck ceiling light lamps over stairwell, two main entry door area direct ceiling lamps, and two main equipment center dome lights. The three access light switches are located at the two key points of entry and in the flight compartment.
- B. The access path illumination lamps are selected from other systems. They are switched to the access light circuit by operating any of the three access light switches. The access lights relay located in the main power center-left P414, when energized by one of the switches, will transfer the lights from their normal system circuit to a common access light circuit. The 28-volt dc ground handling bus provides power.

### 3. Flight Compartment Dome Lights

- A. The dome lights located directly above the captain, first officer and the aft dome light are controlled by a single variable dimmer transformer on the pilots' P5 overhead panel. The 28-volt ac ground service bus supplies power to the flight compartment dome lights through the energized state of the dome lights relay.
- B. Clockwise rotation of the DOME lights control knob on the P5 panel will increase the dome light intensity as the knob rotates.
- C. The STORM switch energizes the storm lights relay connecting the pilots' dome lights to the 28-volt dc main battery bus and overriding the light dimmer control.

33-13-00



## FLIGHT COMPARTMENT ILLUMINATION

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -	1		FLT COMPT, P6	*
CIRCUIT BREAKER -	1		117AL, MAÍN EQUIP CTR, P414	*
LIGHT -	_		FLT COMPT	*
DOME	1		FLT COMPT	
FLT DK ACCESS	1		PATHWAY USED TO ACCESS THE FLIGHT COMPT	*
RELAY -				
SWITCH -				
DOME LIGHT			FLT COMPT	*
FLT DECK ACCESS LT			FLT COMPT AND DOORS USED TO ACCESS THE FLIGHT COMPT	*

<sup>\*</sup> 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

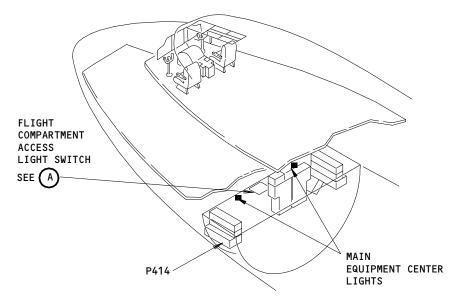
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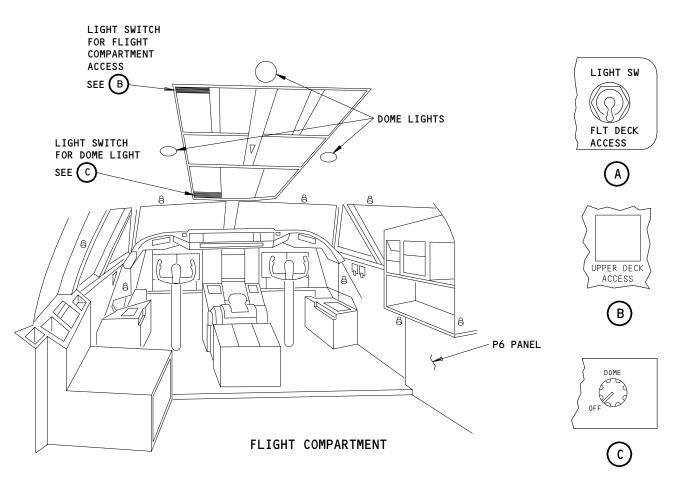
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## MAIN EQUIPMENT CENTER



Flight Compartment Illumination - Component Location Figure 102

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## FLIGHT COMPARTMENT ILLUMINATION - FAULT ISOLATION

### 1. General

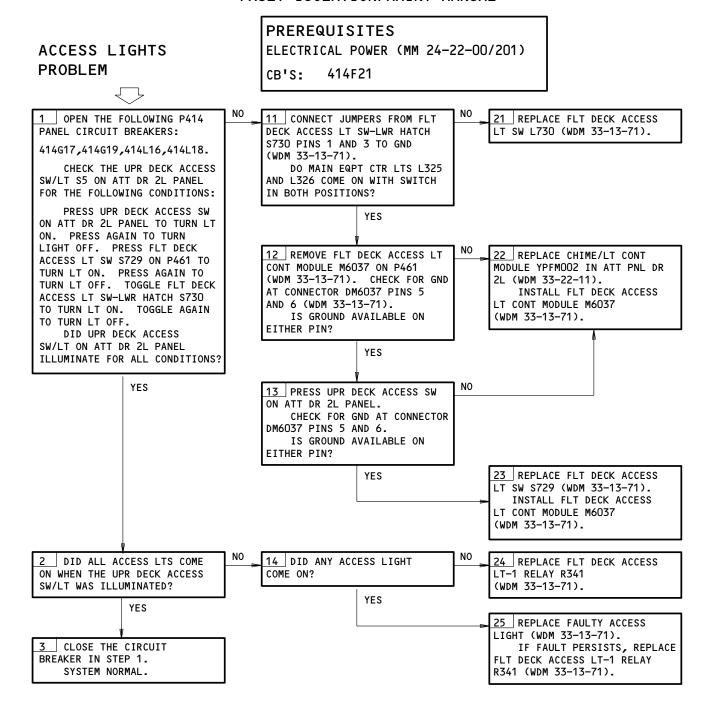
- A. All trouble shooting procedures are based on the assumption that airplane wiring is OK and that electrical power is available.
- B. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagrams.
- C. After replacing component, perform electrical check for proper operation before closing assembly.
- 2. Fault Isolation Procedures

Figure 103 Access Lights Problems

 33-13-00

02

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# Access Lights Problem Figure 103



## FLIGHT COMPARTMENT ILLUMINATION LIGHTS - ADJUSTMENT/TEST

## 1. General

- A. This procedure contains two tasks. The first task is an operational test test of the access lights.
- B. The second task is an operational test of the dome lights in the flight compartment.

TASK 33-13-00-705-001

- 2. Access Lights Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-13-02
  - B. Access
    - (1) Location Zone

100 Lower Lobe Equipment Center, Overhead Lights

200 Main Deck Dr 2-L Ceiling Lights

200 Upper Deck Ceiling Lights Forward and Aft

C. Procedure

s 865-002

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

s 715-003

- (2) Do a test of the access lights:
  - (a) Set a switch for the access lights to the on position.
  - (b) Make sure these lights come on correctly:
    - 1) Two lights in the main equipment center.
    - 2) Two lights at left door 1 and left door 2.
    - 3) Two lights in the upper deck ceiling (forward and aft).
  - (c) Set the switch to the off position.
    - 1) Make sure each light goes off correctly.
  - (d) Do the test again with the other access light switches.

s 865-009

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

EFFECTIVITY-

33-13-00

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TASK 33-13-00-705-010

### <u>Dome Lights Operational Test</u>

- References
  - (1) 24-22-00/201, Manual Control
  - (2) IPC 33-13-00 Fig 10
  - (3) SSM 33-13-01
- В. Access
  - (1) Location Zone

100 Flight Compartment

### C. Procedure

s 865-011

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

s 865-027

- (2) Prepare to do a test of the dome lights.
  - (a) Turn the dimmer control for the dome lights full counterclockwise.
    - 1) The dimmer control is installed on the P5 panel.
  - Make sure the STORM light switch is OFF.
    - 1) The STORM light switch is installed on the P5 panel.

s 715-028

- Do a test of the dome lights.
  - (a) Turn the dimmer control for the dome lights full clockwise.
  - Make sure the dome lights come on.
  - Turn the dimmer control counterclockwise to a position where the dome lights change to a dim intensity.
  - (d) Open circuit breaker 6F24 FLT DK LIGHT - DOME on the P6 Main Power Distribution Panel.
  - (e) Make sure the dome light changed from a dim intensity to a bright intensity.
  - Close circuit breaker 6F24 FLT DK LIGHT DOME on the P6 Main (f) Power Distribution Panel.

EFFECTIVITY-

ALL

33-13-00



- (g) Make sure the dome lights changed to a dim intensity.
- (h) Put the STORM switch on the P5 panel to ON.
- (i) Make sure the dome lights change from a dim intensity to a bright intensity.
- (j) Put the STORM switch on the P5 panel to OFF.

s 865-026

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

EFFECTIVITY-

ALL

33-13-00



## FLIGHT COMPARTMENT AUXILIARY LIGHTS - DESCRIPTION AND OPERATION

### 1. General

- A. The flight compartment auxiliary lights are made up of these lights:
  - (1) Worktable
    - (a) Worktable lights provided for the captain and the first officer are located directly above the individual worktables.
  - (2) Map
    - (a) Map lights are provided for the captain, first officer and first observer.
  - (3) Utility
    - (a) Utility lights are provided for the flight crew. Each utility light is connected to a terminal block by a flexible cord so it can be removed from its mount for use.
  - (4) An electrical receptacle is also provided for the use of a portable signal light.
- B. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-13-02, 33-15-01
  - (2) WDM 33-11-61, 33-11-62, 33-13-49, 33-15-11, 33-15-31

## 2. Worktable Lights

- A. The captain and the first officer are each provided with a control for their worktable lights. The worktable light aperture size may be varied by rotating the outside knob on the end of the light assembly.
- B. On some airplanes the captain's and first officer's folding side table lights are bracket mounted in the window sill. These lights have a on-off/dimmer control knob installed.
- C. The 28-volt ac main bus supplies power to the worktable incandescent lamps through a circuit breaker on the P6 panel.

## 3. Map Lights

- A. The pilots' map lights are located adjacent to the forward portion of the pilots' overhead panel P5. The map lights are double hinged to their mounting base so the pilots can change the direction of the light pattern as desired. The pilots' map lights have an iris adjustment ring to vary the size of the light pattern. The 28-volt ac bus 4 supplies power to the map lights through a circuit breaker located on the P6 panel. The MAP light controls are on the main instrument lightshield panel P72, and are pull-on, push-off, rotate to dim type.
- B. The first observers map light, same as the pilots', is controlled by a dimmer and switch control on the observers panel.

## 4. Utility Lights

A. Utility floodlights are provided in the flight compartment, one for each flight crewmember. The utility lights are semiportable. They can be removed from their mounting fixture and used to illuminate areas not possible otherwise. The light assembly is electrically connected to its mount by a flexible cord that extends to approximately 50 inches. Rotation of the front section of the light permits the selection of white or red light. Rotation of the red knob on the light varies its intensity from off to dim through bright. A small pushbutton on the red knob provides maximum intensity light output at any position of knob rotation. Releasing the pushbutton restores the light intensity to that selected by knob rotation.

 33-15-00



B. The 28-volt ac bus 4 supplies power to the utility lights through a circuit breaker located on the P6 panel. The utility lights and the map lights use a common circuit breaker.

## 5. Miscellaneous Lighting

- A. A remote control display unit (RCDU) is installed in the E/E bay. The RCDU lightplate is illuminated with 5 volts ac from stepdown transformer T1857 in the P415 panel.
- B. Instrument nomenclature and switch positions are illuminated by 5 volt ac incandescent lightplate lamps. The lamps are soldered into a circuit board and are not line-replaceable.
- C. RCDU lightplate illumination intensity is not controllable. If lightplate illumination is diminished or non-existant, refer to 33-11-12/201.

### 6. Portable Signal Light Receptacle

A. The portable signal light receptacle is located in the P6 main power distribution panel. The 28-volt ac ground service bus supplies power to the receptacle through a circuit breaker on the P6 panel.

 33-15-00

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## FLIGHT COMPARTMENT AUXILIARY LIGHTS

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER			FLT COMPT, P6	
MAP	2		FLT COMPT	*
UTILITY	2		FLT COMPT, P23	*
SWITCH-LIGHT	2		FLT COMPT, P72	*

<sup>\*</sup> SEE THE SSM OR WDM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING CIRCUIT

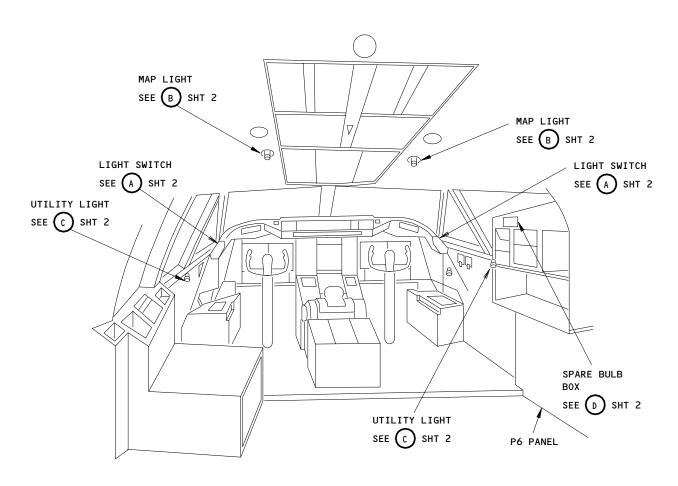
Flight Compartment Auxiliary Lights - Component Index Figure 101

33-15-00

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FLIGHT COMPARTMENT

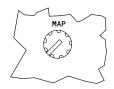
Flight Compartment Auxiliary Lights - Component Location Figure 102 (Sheet 1)

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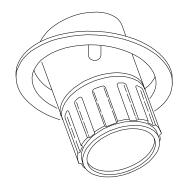
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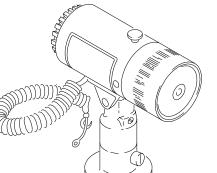
LIGHT SWITCH (EXAMPLE)





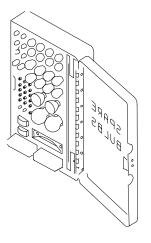
MAP LIGHT (EXAMPLE)

B



UTILITY LIGHT (EXAMPLE)





SPARE BULB BOX



Flight Compartment Auxiliary Lights - Component Location (Details from Sht 1) Figure 102 (Sheet 2)

EFFECTIVITY-

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## FLIGHT COMPARTMENT AUXILIARY LIGHTS - FAULT ISOLATION

### 1. General

- A. Fault isolation will require application of electrical power.
- B. All trouble shooting procedures are based on the assumption that airplane wiring is correct and that electrical power is available.
- C. After replacing component, perform electrical check for proper operation before closing assembly.

## 2. <u>Fault Isolation Procedures</u>

- Fig. 103 Flight Compartment Utility Light Problems
- Fig. 104 Flight Compartment Map Light Problems

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33-15-00

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## FLIGHT COMPARTMENT UTILITY LIGHT PROBLEMS

PREREQUISITES
MANUAL CONTROL (MM 24-22-00/201)
CB: 6F23

1 PRESS OVERRIDE BUTTON ON BACK OF UTILITY LIGHT, RELEASE BUTTON, ROTATE DIMMER CONTROL ON BACK OF UTILITY LIGHT.
DOES LIGHT ILLUMINATE WITH EITHER CONTROLS?

YES

2 SYSTEM NORMAL.

Flight Compartment Utility Light Problems
Figure 103

33-15-00

#### **PREREQUISITES** MANUAL CONTROL (MM 24-22-00/201) FLIGHT COMPARTMENT MAP LIGHT PROBLEMS CB: 6F23 NO ROTATE CAPT (F/O) MAP 10 RELAMP CAPT (F/O) MAP LIGHT DIMMER CLOCKWISE. LIGHT L106 (L107). DOES CAPTAIN (F/O) LIGHT IF FAULT PERSISTS, REPLACE CAPT (F/O) MAP LT DIMMER S166 ILLUMINATE? (S167)(WDM 33-13-41). YES DOES MAP LIGHT DIMMER 7 REPLACE CAPT (F/O) MAP LT INTENSITY VARY EVENLY AS DIMMER SWITCH \$166 (\$167) DIMMER IS ROTATED? (WDM 33-13-41). YES 3 SYSTEM NORMAL.

Flight Compartment Map Light Problems Figure 104

EFFECTIVITY-ALL

33-15-00



### FLIGHT COMPARTMENT AUXILIARY LIGHTS - ADJUSTMENT/TEST

## 1. <u>General</u>

- A. This procedure contains a task to do an operational test of the auxiliary lights in the flight compartment.
- B. The auxiliary light systems are the worktable lights, the map lights, and the utility lights.

TASK 33-15-00-705-031

- 2. Flight Compartment Auxiliary Lights Operational Test
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-13-02
  - B. Access
    - (1) Location Zone

200 Flight Compartment

C. Procedure

s 865-001

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

s 715-025

- (2) Do a test of the captains worktable lights:
  - (a) Turn the control for the captains worktable light fully clockwise.

NOTE: The control for a worktable light is installed on the front side of the light assembly.

- (b) Make sure the worktable light changes to a bright intensity.
- (c) Turn the control counterclockwise to the OFF position.

s 715-026

- (3) Do a test of the worktable light for the first officer:
  - (a) Turn the worktable light control for the first officer fully clockwise.

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- (b) Make sure the worktable light changes to a bright intensity.
- (c) Turn the worktable light control counterclockwise to the OFF position.

### s 715-027

- (4) Do a test of the captains map light:
  - (a) Turn the control for the captains map light fully clockwise.
    - 1) The map light control is installed on the left side of the P72 panel.
  - (b) Make sure the map light for the captain changes to a bright intensity.
  - (c) Turn the light control counterclockwise to the OFF position.

#### s 715-030

- (5) Do a test of the map light for the first officer:
  - Turn the map light control for the first officer fully clockwise.
  - (b) The map light control is installed on the right side of the P72 panel.
  - Make sure the map light for the first officer changes to a (c) bright intensity.
  - Turn the map light control counterclockwise to the off position.

### s 715-028

- (6) Do a test of the map light for the first observer:
  - (a) Turn the map light control for the first observer fully clockwise.
  - Make sure the map light for the first observer changes to a bright intensity.
  - Turn the map light control counterclockwise to the off position.

### s 715-029

ALL

- (7) Do a test of the utility lights:
  - (a) Turn the red knob on a utility light to the BRT position.

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- (b) Make sure the utility light changes to a bright intensity.
- (c) Turn the red knob on the utility light to the OFF position.
- (d) Push the small button on the red knob of the utility light.
- (e) Make sure the utility light changes to a bright intensity.
- (f) Do this procedure again for the other utility lights.

S 865-024

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

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#### PASSENGER COMPARTMENT LIGHTING - DESCRIPTION AND OPERATION

#### 1. General

- A. Passenger compartment lighting consists of the cabin lighting system, passenger service system, and the miscellaneous light systems.
- B. The cabin lighting system and passenger service system are part of the advanced cabin entertainment/service system (ACESS).
  - (1) ACESS (Advanced Cabin Entertainment/Service System) is an integrated system that combines the functions of the passenger address system, passenger entertainment system, cabin interphone system, cabin lighting system and passenger service system.
  - (2) ACESS is a digital electronic system comprised of components installed throughout the airplane and linked together by a digital data bus network.
- C. The cabin lighting system gives general lighting to the passenger compartments, lavatories, galleys, and crew rests. Cabin lighting system information is provided in sections:
  - (1) Passenger Compartment Illumination (AMM 33-21-00/001)
  - (2) Lavatory Lights (AMM 33-26-00/001)
  - (3) Upper Deck Passenger Compartment Lights (AMM 33-28-00/001)
  - (4) Crew Rest Lights (AMM 33-29-00/001).
- D. The passenger service system supplements the cabin lighting system. The passenger service system provides reading lights and information signs for passenger locations. The passenger service system also includes the call system enables passengers to request assistance from a passenger seat or a lavatory. Passenger service system information is given in these sections:
  - (1) Passenger Service Control System (AMM 33-23-00/001)
  - (2) Passenger Information Signs (AMM 33-24-00/001)
  - (3) Call Lights (AMM 33-25-00/001).
- E. The miscellaneous systems are described in sections:
  - (1) Passenger Loading Lights (AMM 33-22-00/001)
  - (2) Galley Lights (AMM 33-27-00/001).

#### 2. <u>Cabin Lighting System (CLS)</u>

A. The cabin lighting system responds to data generated by attendants panel cabin system module (CSM) pushbuttons. This data, distributed to appropriate overhead electronic units (OEU's), controls cabin illumination. Discrete data from other sources applied to entertainment/service controller (ESC) and OEU input terminals also direct OEU outputs to change cabin illumination.

 33-20-00



- B. Output signals from overhead electronic units (OEU's) command fluorescent lamp solid state ballast activation. Additional outputs from the OEU's direct incandescant light control relay activation.
- C. CSM pushbuttons provide control of passenger cabin lighting by selecting combinations of the following light states.
  - (1) Fluorescent ceiling lights bright, dim, off.
  - (2) Sidewall Washlights bright, dim, off.
  - (3) Night lights on, dim, off.
  - (4) Direct ceiling lights bright, dim, off.
- D. Discrete inputs to ESC and OEU modules are able to switch illumination intensity of cabin lighting as follows:
  - (1) Cabin decompression:
    - (a) Overrides CSM selection by switching all ceiling and sidewall lights to bright illumination intensity.
  - (2) Air/Ground switch:
    - (a) When in ground position, switches all lavatory lights to bright illumination intensity.
  - (3) Loss of ground service bus electrical power.
    - (a) Overrides CSM control and switches all night lights to illuminated state.
- 3. <u>Passenger Service System (PSS)</u>
  - A. Passenger reading lights, attendant call lights, passenger information signs, and lavatory call functions are controlled by the passenger service system.
  - B. Passengers may control their own reading light or call a flight attendant for assistance by pressing pushbuttons switches at their seat. Lavatory call buttons are also conveniently located for passengers inside the lavatory.
  - C. The PSS controls illumination of passenger information signs. PSS discretes generated from pilots flight deck switches command NS/FSB sign activation.

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#### PASSENGER COMPARTMENT ILLUMINATION LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

- A. Passenger compartment illumination by fluorescent indirect ceiling lights, sidewall wash lights, and incandescent night lights, is controlled by the Advanced Cabin Entertainment/Service System (ACESS).
- B. Pushbutton controls for passenger compartment lighting are located on the Cabin System Module (CSM). Data signals for the control of these lights, are generated by the CSM and are routed to a Local Area Controller (LAC). From the LAC this data is transmitted to the Entertainment/Service Controller (ESC). The ESC determines which Overhead Electronic Units (OEUS) and LACS are affected by the configuration request and which outputs require activation/deactivation. The proper LAC receives this control information from the ESC and directs it to the correct OEU. The OEU output then activates the proper dimmable solid state fluorescent lamp ballasts and/or incandescent night lights.
- C. The CSM provides attendants with several combinations of on/off and dim/bright cabin lighting.
- D. The attendants panel CSM also provides a system of monitoring and reporting cabin lighting status.
  - (1) The CSM performs lighting control functions on an area by area basis and will display the status of any area selected.
  - (2) The CSM interfaces with a local area controller (LAC) that provides cabin illumination data processing enroute to applicable OEU's.
  - (3) A one line, sixteen character LED display screen on each CSM provides a description of the cabin area selected. Each CSM may control one or more cabin lighting area.
  - (4) Displays may be changed from one description to another by operating the CSM AREA SELECT switch. Repeated operation of the AREA SELECT switch will cause the display to scroll through its program of controllable areas.
  - (5) CSM areas of control are predetermined by the airplane configuration program.
  - (6) Discrete data supplied to ACESS from the cabin decompression relay will override any CSM previously chosen light modes by switching all lighting to an on and bright condition.
- E. For CSM locations (Ref 23-30-01/001) or ACESS interior configuration layout drawing 401U2001.

33-21-00



- F. 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

### Indirect Ceiling Lights

- A. The main source of general illumination is provided by a row of fluorescent lamps installed above the overhead stow bins near the ceiling panel. This lighting is continuous except for the lowered ceiling areas at each entryway.
- B. The lights are evenly distributed over five zones of passenger compartments to provide a consistant level of illumination.

#### 3. Sidewall Washlights

A. The sidewall washlights are installed between the outboard overhead stow bins and sidewalls, and are attached to a support rail on the sidewall with hex head socket screws. Sidewall lighting is continuous except for the lowered ceiling areas at each entryway and areas with lavatories or galleys.

#### 4. Night Lights

- A. Incandescent night illumination lights provide low level illumination to the passenger compartment.
- B. Incandescent night illumination lamps are located in two different areas.
  - (1) Passenger area night illumination lights are installed on one end of selected ceiling light assemblies.
    - (2) Night lights located in door 1 (L & R), door 3 (L & R), and door 4 (L & R) areas are installed in the over door fairings.

#### 5. <u>Dimmable Ballasts</u>

- A. Ballasts for the ceiling and sidewall fluorescent lights are mounted on the top panel of all pivot bins used in zones A and B.
- B. Ballasts for the remaining ceiling and sidewall fluorescent lights are mounted on the outside of the stow bin outboard vertical panels.
- C. 115 Volts ac is applied directly to fluorescent light ballasts from circuit breakers on the P414 Main Power Distribution Panel.
- D. Dimmable solid state ballasts are capable of operating fluorescent lamps at either a dim or bright illumination intensity.
  - (1) Dim or bright illumination is accomplished by switching the dim/bright ballast control line and return pair between an open or short circuit.
  - (2) Dim/bright ballast control switching is performed by the OEU's as directed by the attendants panel CSM.
- E. Dimmable solid state ballasts are also capable of on/off illumination management.
  - (1) On/off illumination selection is accomplished by switching the on/off ballast control line and return pair between an open or short circuit.

 33-21-00



(2) On/off ballast control line switching is performed by the OEU's as directed by the attendants panel CSM.

#### 6. Operation

- A. The fluorescent ceiling and sidewall lights receive power from controllable ballasts.
- B. The light ballasts are supplied operating power from 115 volts ac. Ballasts are also supplied discretes from OEU outputs that control its operation.
- C. OEU output discretes for ballast control inputs originate from the attendants panel CSM.
  - (1) The CSM supplies commands to the ACESS digital data bus. The data stream containing command information is transmitted to OEU's throughout the cabin.
  - (2) The OEU's decode the applicable data from the data stream for use as light ballast control discretes.
- D. One set of discrete inputs from an OEU can make the ballast turn the lights on or off. Another set of OEU discretes can make the ballast change the light intensity bright or dim.
- E. The OEU to ballast discretes simulate an open or closed switch condition across these sets of ballast control terminals:
  - (1) ON/OFF and RTN.
  - (2) BRT/DIM and RTN.
- F. The ballast output to the lights respond to ballast control terminal conditions as follows:
  - (1) ON/OFF to RTN terminals,
    - (a) If open, then lights are on.
    - (b) If closed, then lights are off.
  - (2) BRT/DIM to RTN terminals.
    - (a) If open, then lights are bright.
    - (b) If closed, then lights are dim.

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## PASSENGER COMPARTMENT ILLUMINATION

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
BALLAST, MXXXX	1,2		ON OUTBOARD SIDE OF OUTBOARD STOWAGE BINS	33-21-05
INDIRECT CEILING LIGHTS SIDEWALL WASH LIGHTS				
CIRCUIT BREAKERS -	1		117AL, MAIN EQUIP CTR, P414,P180	
CABIN SVCE ZN A & B, C186		1	414B11	*
CABIN SVCE ZN C & D, C187		1	414B10	*
CABIN SVCE ZN E, C188		1	414A10	*
CABIN SVCE UPPER DECK, C189		1	414A11	*
CEILING LIGHT UPPER DECK, C1964		1	414H22	*
CEILING LIGHT ZN A, C8454		1	414H17	*
CEILING LIGHT ZN B, C242		1	414H18	*
CEILING LIGHT ZN C & D LEFT, C266		1	414H2O	*
CEILING LIGHT ZN C & D RIGHT, C265		1	414H19	*
CEILING LIGHT ZN E, C8707		1	414H21	*
LIGHT DR 1 THRSHLD & ATT WORK		1	414G17	*
LIGHT UPR DK WNDW REVEAL, C690		1	414L17	*
WASH LIGHT ZN A, C1756		1	414J21	*
WASH LIGHT ZN B, C1752		1	414J22	*
WASH LIGHT ZN C & D LEFT, C1754		1	414J23	*
WASH LIGHT ZN C & D RIGHT, C1753		1	414J24	*
WASH LIGHT ZN E, C1755	4.5	1	414J25	
LIGHT - INDIRECT CEILING, LXXXX	1,2	1>	ABOVE THE OVERHEAD STOW BINS NEAR THE CEILING PANELS	33-21-02
LIGHT - NIGHT, LXXXX	1,2		INSTALLED AT ONE END OF SELECTED INDIRECT CEILING LIGHT ASSEMBLIES	33-21-08
LIGHT - SIDEWALL WASH, LXXXX	1,2	1>	BETWEEN THE OUTBOARD OVERHEAD STOW BINS AND THE SIDEWALL PANELS	33-21-04

<sup>\*</sup> SEE THE WDM EQUIPMENT LIST

1 QUANTITY VARIES WITH PASSENGER SEATING CONFIGURATION

Passenger Compartment Illumination - Component Index Figure 101

EFFECTIVITY-

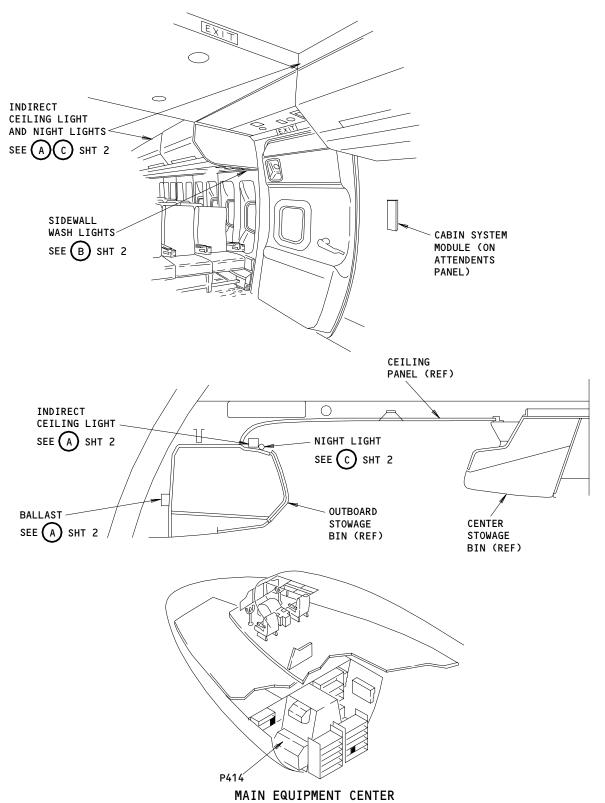
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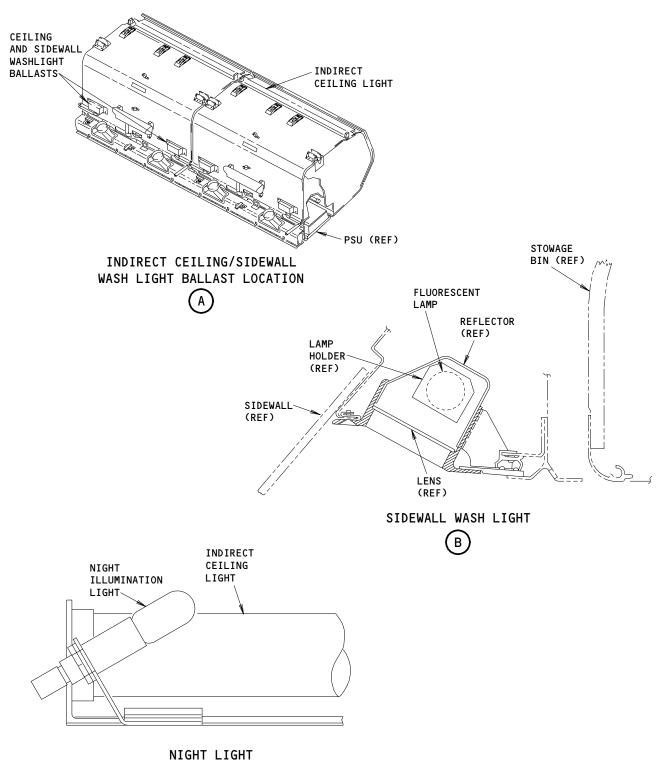
Passenger Compartment Illumination - Component Location Figure 102 (Sheet 1)

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Passenger Compartment Illumination - Component Location (Details from Sht 1) Figure 102 (Sheet 2)

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## PASSENGER COMPARTMENT ILLUMINATION - FAULT ISOLATION

#### 1. General

- A. All fault isolation procedures are based on the assumption that wiring is OK and that electrical power is available.
- B. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagram.
- C. After replacing component, perform electrical check for proper operation before closing assembly.

## 2. Fault Isolation Procedures

Figure 103	General Troubleshooting Guide/Cabin Lighting		
Figure 103A	Indirect Ceiling/Sidewall Washlight Problems		
Figure 104	Indirect Ceiling/Sidewall Washlights INOP		
Figure 105	Night Light Problems		
Figure 106	Figure 106 Failure of Night Lights to Extinguish		
Figure 107 Night Lights, Isolated Failure			

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SYSTEM	SYMPTOM	SECTOR	CORRECTIVE ACTION PRIORITY
CABIN LIGHTING	CSM UNABLE TO CONTROL CABIN LIGHTING	ENTIRE AIRPLANE	1. PUSH THE ALT PASSENGER SERVICES BUTTON AT THE CCTM AND MAKE SURE THE CSM CAN CONTROL THE CABIN LIGHTING.  2. PUSH THE ALT CABIN SERVICES BUTTON AT THE CCTM AND USE DIFFERENT CSM TO CONTROL THE CABIN LIGHTING AGAIN.  3. DO THE ACESS BITE ALL (TEST ALL UNITS) AT THE CCTM AND CORRECT ALL ERRORS PER FIM 23-30-01/101, FIG. 104).  4. MAKE SURE THE CB 414G17, DR1 THRESHOLD & ALT WORK LIGHT, IS CLOSED.  5. VERIFY THE "LOSS OF GROUND SERVICE BUS" DISCRETE INPUT TO THE ESC (INSERT A, PIN D4).
		ENTIRE LAC ZONE	1. PUSH THE ALT PASSENGER SERVICES BUTTON AT THE CCTM AND MAKE SURE THE CSM CAN CONTROL THE CABIN LIGHTING.  2. PUSH THE ALT CABIN SERVICES BUTTON AT THE CCTM AND USE DIFFERENT CSM TO CONTROL THE CABIN LIGHTING AGAIN.  3. DO THE BITE ALL (TEST ALL UNITS) AT THE CCTM AND CORRECT ALL ERRORS PER FIM 23-30-01/101, FIG. 104.
		SINGLE OEU COLUMN	1. DO THE ACESS BITE ALL (TEST ALL UNITS) AND CORRECT ALL ERRORS PER FIM 23-30-01/101, FIG. 104.

NOTE: THIS IS A GENERAL TROUBLESHOOTING GUIDE FOR CABIN LIGHTING PROBLEMS.

General Troubleshooting Guide/Cabin Lighting Figure 103

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#### **PREREQUISITES** MAKE SURE THIS SYSTEM WILL OPERATE: ACESS (AMM 23-30-01/501) MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 414H17,414H18,414H19,414H20,414H21,414H22, 414J21,414J22,414J23,414J24,414J25,414L17 MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) INDIRECT CEILING/ SIDEWALL WASHLIGHT TEST MODE SWITCH MUST BE OUT TO SWITCH TO NOTE: ALTERNATE CARD IN A CONTROLLER. **PROBLEMS** WITH THE CABIN SYSTEM 10 PUSH THE ALTERNATE 20 DO THIS PROCEDURE: MODULE (CSM) CABIN LIGHTING SYSTEMS PASSENGER SERVICE INDIRECT CEILING/SIDEWALL SWITCH IN HI POSITION, ARE ANY SWITCH (TEST MODE BUTTON MUST WASHLIGHT PROBLEMS "INOP" INDIRECT CEILING/SIDEWALL (FIG. 104). WASHLIGHTS ON? DOES THE SYSTEM OPERATE NORMAL? YES YES 21 REPLACE THE ENTERTAINMENT SERVICES CONTROLLER (ESC) (AMM 23-34-11/401). NO ARE ALL INDIRECT CEILING/ 22 DO THIS PROCEDURE: SIDEWALL WASHLIGHTS ON? INDIRECT CEILING/SIDEWALL WASHLIGHT PROBLEMS "INOP" (FIG. 104). WITH THE CSM CABIN 11 PUSH THE ALTERNATE SYSTEMS 23 DO THIS PROCEDURE:

PASSENGER SERVICES SWITCH

(TEST MODE BUTTON MUST BE

DOES THE SYSTEM OPERATE

YES

OUT).

0K?

INDIRECT CEILING/SIDEWALL

WASHLIGHT PROBLEMS "INOP"

(FIG. 104, BLOCK 2).

24 REPLACE THE ESC (AMM 23-34-11/401).

Indirect Ceiling/Sidewall Washlight Problems
Figure 103A

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LIGHTING SWITCH SET TO THE

INDIRECT CEILING/SIDEWALL

WASHLIGHTS GO OFF?

NIGHT POSITION, DO MOST OF THE

THE ACESS SYSTEM IS OK.

YFS

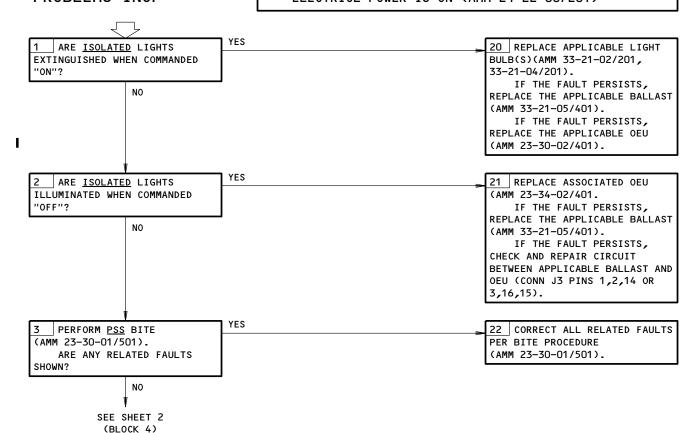


MAKE SURE THIS SYSTEM WILL OPERATE:
ACESS (AMM 23-30-01/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 414H17, 414H18, 414H19, 414H20, 414H21, 414H22, 414J21, 414J22, 414J23, 414J24, 414J25, 414L17

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICL POWER IS ON (AMM 24-22-00/201)

INDIRECT CEILING/ SIDEWALL WASHLIGHT PROBLEMS INOP

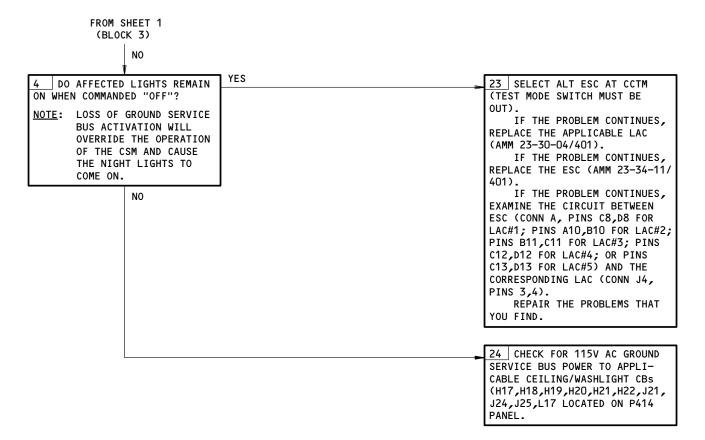


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Indirect Ceiling/Sidewall Washlight Problems INOP Figure 104 (Sheet 2)

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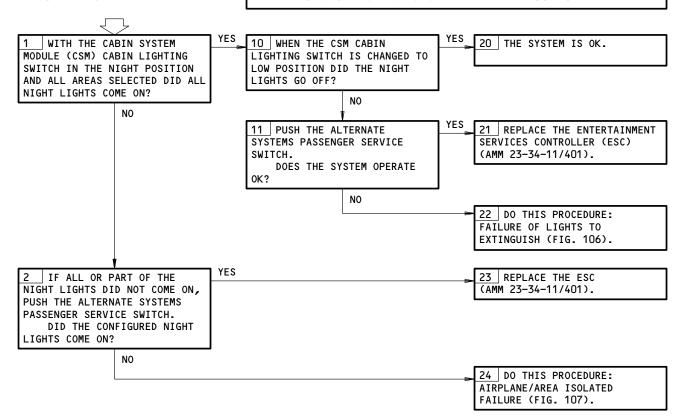


MAKE SURE THIS SYSTEM WILL OPERATE:
ACESS (AMM 23-30-01/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 414H17,414H18,414H19,414H20,414H21,414H22,414J21,414J22,414J23,414J24,414J25,414L17

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICL POWER IS ON (AMM 24-22-00/201)

## NIGHT LIGHT PROBLEMS



Night Light Problems Figure 105

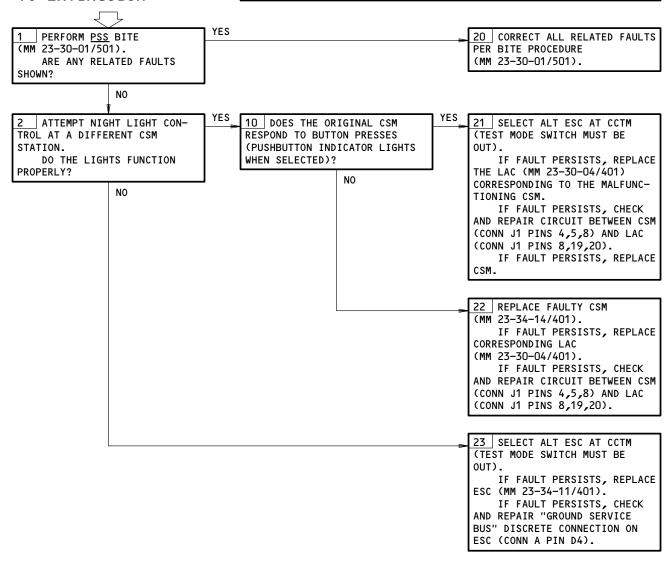
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ELECTRICAL POWER (MM 24-22-00/201) ACESS (MM 23-30-01/501)

## FAILURE OF LIGHTS TO EXTINGUISH

CB'S: 414G17



COMMENTS: THE CONTROLLER MUST BE FAILING TO SEND THE MESSAGE TO EXTINGUISH THE LIGHTS, OR THE MESSAGE MUST NOT BE GET-TING TO THE ESC FOR PROCESSING. THE SECOND POSSIBILITY CONSISTS OF A NUMBER OF UNITS POSSIBLY FAILING.

> Failure of Lights to Extinguish Figure 106

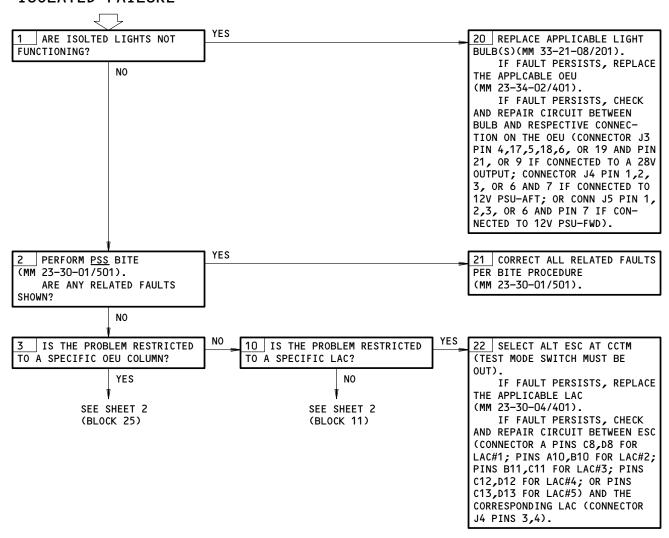
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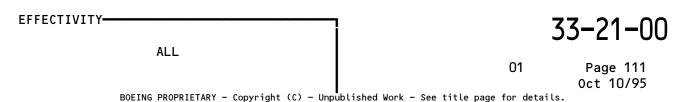
ELECTRICAL POWER (MM 24-22-00/201) ACESS (MM 23-30-01/501)

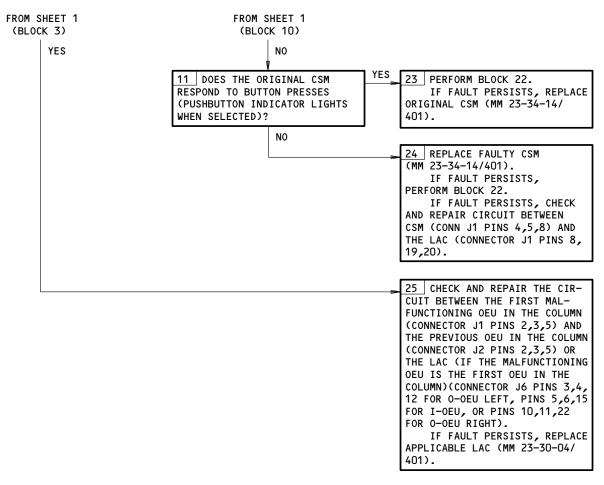
CB'S: 414G17

# AIRPLANE/AREA ISOLATED FAILURE



## Airplane/Area Isolated Failure Figure 107 (Sheet 1)





NOTE: THIS FAULT TREE FIRST DETERMINES WHETHER THE FAILURE IS A BULB OR AN OEU (ISOLATED FAILURES), OR WHETHER THE CONTROLLER AND/ OR ITS CONNECTIONS ARE THE SOURCE(S) OF THE PROBLEM.

## Airplane/Area Isolated Failure Figure 107 (Sheet 2)

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#### PASSENGER COMPARTMENT ILLUMINATION LIGHTS - ADJUSTMENT/TEST

#### 1. General

A. This procedure contains an operational test of the ceiling, sidewall washlights, and night lights.

TASK 33-21-00-715-025

- Operational Test
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-21-01 thru 33-21-05
    - (4) WDM 33-21-11 thru 33-21-42
    - (5) WDM 90-01-08 thru 91-01-24
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

S 865-022

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

S 865-024

- (2) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).
  - (a) Make sure the ceiling lights and the sidewall washlights come on.

<u>NOTE</u>: ACESS will turn on the compartment lights when first operated.

s 715-021

- (3) Do a test of the passenger compartment lights:
  - (a) Operate the CSM to show ALL AREAS on its display.
    - 1) Push the AREA SELECT switch to supply the correct display.
  - (b) At the CSM, set the switch for the lights to the NITE position.
    - Make sure the lights come on correctly for the NITE lighting.

NOTE: When NIGHT is selected on the CSM, all OEU's associated with ceiling lights and sidewall wash lights which do not go out should be replaced (WDM 33-21-11 thru 33-21-42, WDM 91-01-08 thru 91-01-24).

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- (c) At the CSM, set the switch for the lights to the LO position.
  - 1) Make sure the lights come on correctly for the LO lighting.
- At the CSM set the switch for the lights to the MED position.
  - 1) Make sure the lights come on correctly for the MED lighting.
- (e) At the CSM, set the switch for the lights to the HI position.
  - 1) Make sure the lights come on correctly for the HI lighting.
- Open circuit breaker 414G17 LIGHT DR 1 THRSHLD & ATT WORK on the P414 power distribution center - left.
  - 1) Make sure the night lights come on.
- (g) Close circuit breaker 414G17 LIGHT DR 1 THRSHLD & ATT WORK.

s 865-019

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

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## INDIRECT CEILING LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has this task:
    - (1) Indirect Ceiling Light Lamp Replacement

TASK 33-21-02-962-001

- Indirect Ceiling Light Lamp Replacement (Fig. 201)
  - A. References
    - (1) AMM 23-30-01/501, ACESS A/T.
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-21-01 and 33-21-03
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

s 862-019

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

s 862-020

(2) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

s 862-021

(3) At the Cabin System Module (CSM) of the attendant's panel, set the indirect ceiling light to the off mode.

s 962-013

- (4) Carefully replace the lamp.
- D. Lamp Test

s 712-017

ALL

- (1) Set the light to the on mode.
  - (a) Make sure the new lamp comes on correctly.

EFFECTIVITY-

33-21-02



s 862-018

(2) Set the light to the usual mode.

s 862-011

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

EFFECTIVITY-

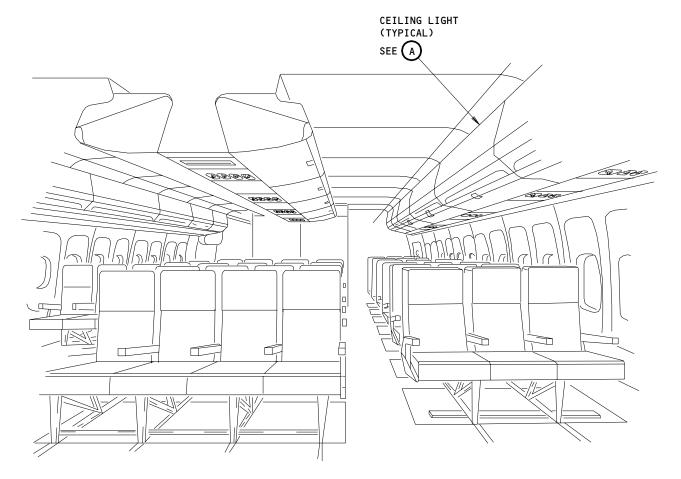
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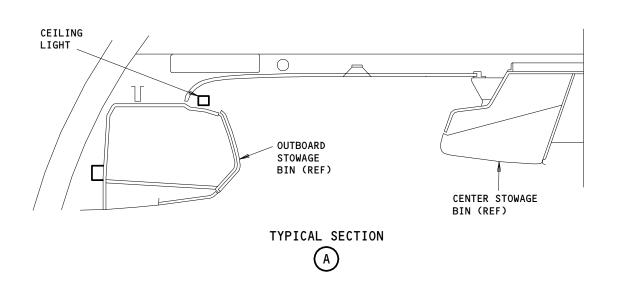
33-21-02

01

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Ceiling Light Relamping Figure 201

ALL 01 Page 203 Oct 10/88



## SIDEWALL WASH LIGHTS - MAINTENANCE PRACTICES

#### 1. General

- A. This procedure contains the task that replaces lamps in the sidewall washlights.
- B. The sidewall washlights are installed between the outboard stowage bins and the sidewall.

TASK 33-21-04-962-001

- 2. Washlight Lamp Replacement
  - A. References
    - (1) 23-30-01/501, ACESS
    - (2) 24-22-00/201, Manual Control
    - (3) SSM 33-21-02 and 33-21-03
  - B. Access
    - (1) Location Zone

200 Passenger Compartment Overhead

C. Replacement Procedure

s 862-019

- (1) Prepare for the lamp replacement:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).

NOTE: ACESS will turn on the sidewall washlights when first operated.

- (c) Identify the sidewall washlights that do not come on.
- (d) Push the LO switch button on the Cabin System Module (CSM) in the attendants panel.
- (e) Make sure the sidewall washlights are off.

s 012-020

- (2) Get access to the lamp:
  - (a) Remove the screws from the edges of the washlight assembly.

EFFECTIVITY-

33-21-04



- (b) Remove the washlight assembly from the sidewall.
- (c) Disconnect the washlight electrical cable from the stowage bin.
- (d) Remove the reflector from the light assembly.

s 962-021

(3) Replace the lamp:

WARNING: OBEY THE SAFETY PRECAUTIONS WHEN YOU REMOVE THE FLUORESCENT LAMPS FROM THE LIGHT ASSEMBLY. BROKEN LAMPS CAN CAUSE INJURY.

- (a) Remove the lamp as follows:
  - 1) Put your hands at each end of the fluorescent lamp.
  - 2) Push on the two lamp ends and turn the lamp with your thumbs until the lampholder releases the lamp.
- (b) Install the new lamp as follows:
  - 1) Put the lamp end pins into the lamp holder slots.
  - 2) Put your hands at each end of the lamp.
  - 3) Push on the lamp ends and turn the lamp with your thumbs until the lamp is set in the lampholder.
  - 4) Install the reflector in the washlight light assembly.

s 412-013

- (4) Install the washlight assembly in the sidewall as follows:
  - (a) Connect the washlight electrical cable to the stowage bin.
  - (b) Put the washlight assembly into the PSU rail slot.
  - (c) Lift the outer edge of the light assembly to the sidewall support angle.
  - (d) Install the screws that attach the light assembly to a sidewall panel.

s 712-022

- (5) Do a test of the lamp:
  - (a) Push the HIGH switch button on the attendants panel CSM.
  - (b) Make sure the replaced lamp comes on.

s 862-017

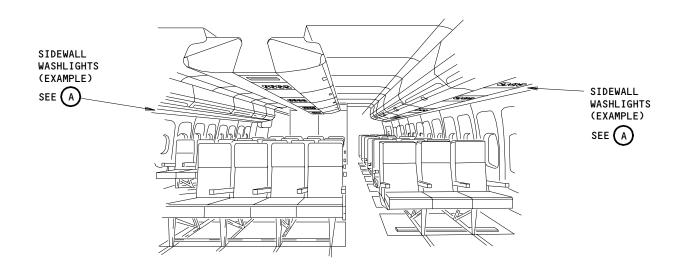
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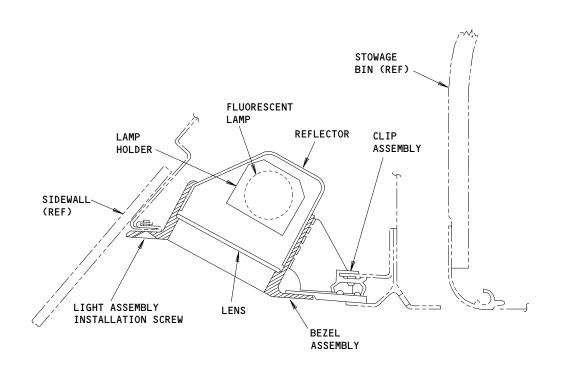
(6) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-21-04







(A)

Sidewall Washlight Relamping Figure 201

33-21-04

01

Page 203 Feb 10/91



## CEILING AND SIDEWALL LIGHT BALLAST - REMOVAL/INSTALLATION

## 1. General

- A. This procedure contains the tasks that remove and install fluorescent light ballasts.
- B. Light ballasts installed in zone A can be found on the top of the stowage bins.
- C. Light ballasts installed in zones B through E can be found on the outboard panel of the outboard stowage bins.
- D. Light ballasts installed on short stowage bins can be found on the top of the stowage bins.

TASK 33-21-05-004-001

#### 2. Ballast Removal

- A. References
  - (1) 25-22-01/401, Main Deck Access Ceiling Panels
  - (2) SSM 33-21-03 and 33-21-04
- B. Access
  - (1) Location Zone

200 Passenger Compartment

C. Removal Procedure

s 864-010

- (1) Prepare to remove a ballast:
  - (a) Identify the location of the ballast to be removed.
  - (b) Open the applicable circuit breaker(s) and attach DO-NOT-CLOSE tags:
    - 1) P414 Power Distribution Center Left
      - a) 414J21 WASH LIGHT ZN A
      - b) 414J22 WASH LIGHT ZN B
      - c) 414J23 WASH LIGHT ZN C&D LEFT
      - d) 414J24 WASH LIGHT ZN C&D RIGHT
      - e) 414J25 WASH LIGHT ZN E
      - f) 414H17 CEILING LIGHT ZN A
      - q) 414H18 CEILING LIGHT ZN B
      - h) 414H19 CEILING LIGHT ZN C&D RIGHT
      - i) 414H2O CEILING LIGHT ZN C&D LEFT
      - j) 414H21 CEILING LIGHT ZN E

EFFECTIVITY-

ALL

33-21-05



s 014-011

- Get access to the light ballast:
  - In zone A, remove the ceiling panel for access to the ballast (Ref 25-22-01/401).
  - On short stowage bins, get access to the ballast between the top of the stowage bin and the ceiling panel.
  - In other zones, open the stowage bin to get access to the ballast.
    - 1) A rectangular hole in the bin panel supplies access to the ballast when the bin door is open.
    - 2) If the stowage bin does not have an access hole, then remove the sidewall light to get access to the ballast.

s 024-012

- (3) Remove the ballast:
  - (a) Remove the screws that attach the ballast to the stowage bin or the ceiling panel.
  - Disconnect the electrical cable from the ballast. (b)
  - (c) Remove the ballast.

TASK 33-21-05-404-008

#### 3. Ballast Installation

- References
  - (1) 23-30-01/501, ACESS A/T.
  - (2) 24-22-00/201, Manual Control
  - (3) 25-22-01/401, Main Deck Access Ceiling Panels
  - (4) SSM 33-21-03 and 33-21-04
- B. Access
  - (1) Location Zone

Passenger Compartment 200

Installation Procedure

s 424-013

Install the ballast: (1)

ALL

- (a) Connect the electrical cable to the ballast.
- (b) Put the ballast in its installation position.
- (c) Install the screws that attach the ballast to the stowage bin or ceiling panel.

EFFECTIVITY-

33-21-05



## s 864-011

- (2) Close the applicable circuit breaker(s) and remove the DO-NOT-CLOSE tags:
  - (a) P414 Power Distribution Center Left.
    - 1) 414J21 WASH LIGHT ZN A
    - 2) 414J22 WASH LIGHT ZN B
    - 3) 414J23 WASH LIGHT ZN C&D LEFT
    - 4) 414J24 WASH LIGHT ZN C&D RIGHT
    - 5) 414J25 WASH LIGHT ZN E
    - 6) 414H17 CEILING LIGHT ZN A
    - 7) 414H18 CEILING LIGHT ZN B
    - 8) 414H19 CEILING LIGHT ZN C&D RIGHT
    - 9) 414H2O CEILING LIGHT ZN C&D LEFT
    - 10) 414H21 CEILING LIGHT ZN E

#### S 864-014

- (3) Prepare to do a test of the ballast:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30/501).
  - (c) See that the ceiling and sidewall lights come on.

NOTE: ACESS will make the passenger lights come on when it is first started.

(d) Push the NITE switch button on the Cabin System Module (CSM) in the attendants panel.

### s 714-017

- (4) For a ballast connected to a sidewall washlight, do a test of the replaced ballast:
  - (a) Push the LO switch button on the attendants panel CSM.
  - (b) Make sure the sidewall washlight comes on.
  - (c) Push the MED switch button on the attendants panel CSM.
  - (d) Make sure the sidewall washlight changed from a dim intensity to a bright intensity.

#### s 714-016

ALL

- (5) For a ballast connected to a ceiling light, do a test of the replaced ballast:
  - (a) Push the MED switch button on the attendants panel CSM.

EFFECTIVITY-

33-21-05



- (b) Make sure the ceiling light comes on.
- (c) Push the HI switch button on the attendants panel CSM.
- Make sure the ceiling light changed from a dim intensity to a bright intensity.

#### s 864-015

- (6) Put the airplane in its usual condition.
  - Replace the ceiling panel if removed for the replacement of the ballast (Ref 25-22-01/401).
  - (b) Close the stowage bin door if opened for ballast access.

#### s 864-026

(7) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

ALL

33-21-05



## NIGHT LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has this task:
    - (1) Night Light Lamp Replacement

TASK 33-21-08-962-015

- 2. <u>Night Light Lamp Replacement</u> (Fig. 201)
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 33-21-02/201, Ceiling Lights
    - (4) SSM 33-21-05
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

S 862-025

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

s 862-026

(2) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

s 862-027

(3) At the Cabin System Module (CSM) of the attendants panel, set the night light to the off mode.

s 962-022

- (4) Carefully replace the lamp.
- D. Lamp Test

s 712-023

- (1) Set the night light to the on mode.
  - (a) Make sure the new lamp comes on correctly.

EFFECTIVITY-

33-21-08



s 862-024

(2) Set the night light to the usual mode.

s 862-014

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

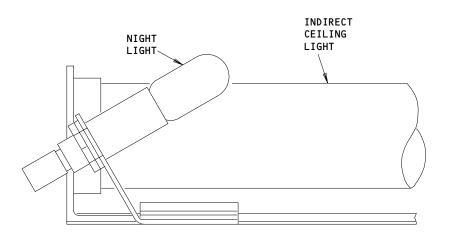
EFFECTIVITY-

ALL

33-21-08

Page 202 Jun 10/94





NIGHT LIGHT (EXAMPLE)

Night Light Lamp Replacement Figure 201

33-21-08

01

Page 203 Oct 10/94



#### PASSENGER LOADING LIGHTS - DESCRIPTION AND OPERATION

- 1. General (Fig. 1)
  - A. A passenger loading light is one of these lights:
    - (1) Threshold light
    - (2) Attendants work light
    - (3) Direct ceiling light
    - (4) Crossover light
    - (5) Closet light
  - 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. Threshold Lights
  - A. A threshold light gives specific lighting to the area in a door way. Each light is installed in the ceiling near the door.
  - B. The switch for each light is on an attendant's panel near it.
  - C. This type of incandescent light operates with 28 volts ac from a ground service bus.
- 3. Attendants' Work Lights
  - A. There is an attendant's work light installed above each attendant's work area.
  - B. Each light is controlled with a switch on the attendants panel near it.
  - C. This type of incandescent light operates with 28 volts ac from a ground service bus.
- 4. <u>Direct Ceiling and Crossover Lights</u>
  - A. Direct ceiling lights are controlled with the Cabin System Module (CSM) switches on the attendant's panel. It is necessary to have an active Advanced Cabin Entertainment/Service System (ACESS).
    - (1) Direct ceiling lights are illuminated by data generated from attendants panel cabin system module (CSM) pushbuttons switches. CSM generated data is then sent to a local area controller (LAC) for signal processing and distribution to applicable overhead electronic units (OEU's). Corresponding OEU outputs then provide 28 volts to the incandescant direct ceiling lights.
      - (a) The CSM performs lighting control functions on an area by area basis and will display the status of any area selected.

ALL

33-22-00



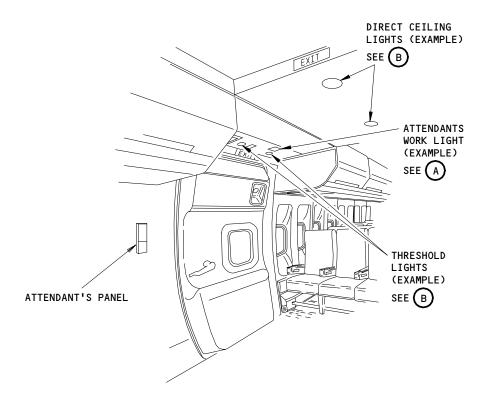
- (b) CSM areas of control are predetermined by the airplane configuration software program.
- (c) A one line, sixteen character display screen on each CSM provides a description of the cabin area selected. Each CSM may have one or more areas of control.
- (d) CSM displays may be changed from one area to another by operating the CSM AREA SELECT switch. Repeated operation of the AREA SELECT switch will cause the display to scroll through its program of controlled areas.
- (e) Discrete data supplied to ACESS from the cabin decompression relay will override any CSM previously selected lighting by switching all lights to an on and bright condition.
- B. Crossover lights are illuminated any time electrical power is available from the ground service bus.
  - (1) 115 volts ac from the ground service bus is transformed to 28 volts ac for the crossover lights. Crossover light switching is not provided.

#### 5. Closet Lights

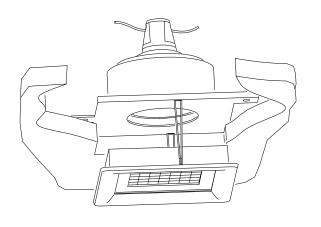
- A. The coat closets are illuminated by 28 volt incandescent lamps. Push-on, push-off switches provide individual light control.
- B. The light in each forward closet, if installed, is supplied 28 volts ac from the 28 volt ground service bus. The light in each aft closet, if installed, is supplied 28 volts ac from a stepdown transformer and the 115 volt ac ground service bus. The transformer for the aft closet lights is in the P84 panel.

 33-22-00

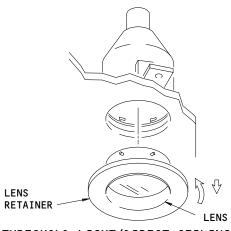




PASSENGER COMPARTMENT (EXAMPLE)



ATTENDANT'S WORK LIGHT



THRESHOLD LIGHT/DIRECT CEILING LIGHT



Passenger Loading Lights - Component Location Figure 1

ALL ALL

33-22-00

01

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### PASSENGER LOADING LIGHTS - MAINTENANCE PRACTICES

### 1. General

- A. This procedure has these tasks:
  - (1) Threshold Light or Work Light Lamp Replacement
  - (2) Threshold Light Light Assembly Replacement
  - (3) Direct Ceiling Light or Crossover Light Lamp Replacement
  - (4) Direct Ceiling Light or Crossover Light Light Assembly Replacement
  - (5) Lights/Chime/Door Status Module Replacement

### TASK 33-22-00-962-001

- 2. Threshold Light or Work Light Lamp Replacement
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-00-01, Lamp Usage Chart
    - (3) SSM 33-22-01
    - (4) WDM 33-22-11 thru 33-22-12
  - B. Equipment
    - (1) Overhead Light R/I Tool (Optional)
       P/N ST2602-H
  - C. Access
    - (1) Location Zone

200 Upper Half of Fuselage

D. Lamp Replacement

s 862-040

- (1) Do one of these steps to remove electrical power from the 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 aft miscellaneous circuit breaker panel, P85.
    - 2) On the power distribution center panel, P414.

s 032-041

- (2) Remove the lens.
  - (a) On a threshold light, turn the lens counterclockwise and pull it down.

NOTE: Overhead light R/I tool (Optional, P/N ST2602-H) can be used to remove the threshold light lens.

(b) On a work light, pull the lens down until the lens spring wires are extended.

NOTE: Do not remove the lens and the spring wires from the light assembly.

EFFECTIVITY-

33-22-00

ALL



s 962-042

(3) Carefully replace the lamp.

s 432-043

(4) Install the lens.

NOTE: Overhead light R/I tool (Optional, P/N ST2602-H) can be used to install the threshold light lens.

### E. Lamp Test

S 862-044

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

s 862-045

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

s 712-046

(3) Set the switch to the on position.

(a) Make sure the new lamp comes on correctly.

s 862-047

(4) Set the switch to the usual position.

s 862-013

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

TASK 33-22-00-962-074

#### 3. Threshold Light - Light Assembly Replacement

- References
  - (1) AMM 24-22-00/201, Manual Control
  - SSM 33-00-01, Lamp Usage Chart (2)
  - (3) SSM 33-22-01

ALL

EFFECTIVITY-

33-22-00



- (4) WDM 33-22-11 thru 33-22-12
- B. Equipment
  - (1) ST2602-H Overhead Light R/I Tool (optional)
- C. Access
  - (1) Location Zone

831 Door One - Left

841 Door One - Right

832 Door Two - Left

842 Door Two - Right

833 Door Three - Left

843 Door Three - Right

834 Door Four - Left

844 Door Four - Right

835 Door Five - Left

845 Door Five - Right

- D. Procedure
  - s 862-075
  - (1) At the attendant's panel, set the THRESHOLD LIGHT switch to the off position. Attach a DO-NOT-OPERATE tag.
    - s 012-077
  - (2) Turn the lens counterclockwise and pull it down.
    - NOTE: The overhead light R/I tool can be used to remove the threshold light lens.
    - s 012-078
  - (3) Remove the lamp.
    - s 032-079
  - (4) On the inside walls of the light assembly, remove the three fasteners that hold the light assembly to the three mounting brackets.
    - s 022-080
  - (5) Lower the light assembly and disconnect the electrical wires from the two terminals.
    - s 422-081
  - (6) Raise the replacement light assembly and connect the electrical wires to the two terminals.
    - s 432-082
  - (7) Hold the light assembly in position and install the three fasteners to connect the light assembly to the three mounting brackets.
    - s 412-083
  - (8) Install the lamp.

EFFECTIVITY-

33-22-00



s 412-084

(9) Install the lens.

NOTE: The overhead light R/I tool can be used to install the threshold light lens.

E. Test

s 862-085

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

s 712-086

- (2) At the attendant's panel, remove the DO-NOT-OPERATE tag and set the THRESHOLD LIGHT switch to the on position.
  - (a) Make sure that the lamp comes on.

s 712-088

- (3) Set the THRESHOLD LIGHT switch to the off position.
  - (a) Make sure that the lamp goes off.

s 862-089

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

TASK 33-22-00-962-014

- 4. <u>Direct Ceiling Light or Crossover Light Lamp Replacement</u>
  - A. References
    - (1) 23-30-01/501, ACESS

ALL

- (2) 24-22-00/201, Manual Control
- (3) SSM 33-22-04
- B. Access
  - (1) Location Zone

200 Passenger Compartment

EFFECTIVITY-

33-22-00



### C. Replacement Procedure

s 862-034

- (1) Prepare to replace the lamp:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).

<u>NOTE</u>: All of the passenger compartment lights will come on when ACESS is started.

- (c) Identify the defective lamps.
- (d) Push the NITE switch on the Cabin System Module (CSM) to make the lights go off.

s 962-031

- (2) Replace the lamp:
  - (a) Remove the light assembly lens as follows:
    - 1) Turn the lens counterclockwise and pull down.
  - (b) Replace the lamp.
  - (c) Install the lens.

s 712-032

- (3) Do a test of the lamp:
  - (a) Push the HIGH switch on the CSM installed on the panel.
  - (b) Make sure the new lamp comes on.

s 862-027

(4) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

TASK 33-22-00-962-090

- 5. <u>Direct Ceiling Light Or Crossover Light Light Assembly Replacement</u>
  - A. References
    - (1) 23-30-01/501, ACESS

EFFECTIVITY-

33-22-00



- (2) 24-22-00/201, Manual Control
- (3) SSM 33-22-04
- (4) WDM 33-22-41 and 33-22-43
- B. Access
  - (1) Location Zone

832 Door Two - Left

842 Door Two - Right

833 Door Three - Left

843 Door Three - Right

835 Door Five - Left

845 Door Five - Right

#### C. Procedure

s 862-091

(1) On the cabin system module (CSM), push the NITE switch to make the lights go off.

s 012-092

(2) Turn the lens counterclockwise and pull it down.

s 012-093

(3) Remove the lamp.

s 032-094

(4) On the inside walls of the light assembly, remove the three fasteners that hold the light assembly to the three mounting brackets.

s 022-095

(5) Lower the light assembly and disconnect the electrical wires from the two terminals.

s 422-096

(6) Raise the replacement light assembly and connect the electrical wires to the two terminals.

s 432-097

(7) Hold the light assembly in position and install the three fasteners to connect the light assembly to the three mounting brackets.

s 412-098

(8) Install the lamp.

s 412-099

(9) Install the lens.

ALL

s 862-100

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

EFFECTIVITY-

33-22-00



s 712-101

- (11) Do a test of the light assembly:
  - (a) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

NOTE: All of the passenger compartment lights will come on when ACESS is started.

- (b) Make sure the light comes on.
- (c) Push the NITE switch on the CSM.
- (d) Make sure the light goes off.

s 862-102

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

TASK 33-22-00-962-103

- 6. <u>Lights/Chime/Door Status Module Replacement</u>
  - A. General
    - (1) This task replaces the Lights/Chime/Door Status module from an attendant panel.
    - (2) The Lights/Chime/Door Status modules are located on the attendant panels.
    - (3) After you remove the Lights/Chime/Door Status module from an attendant panel, refer to the component maintenance manual for that module to replace the switches/indicators on that module.
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 23-33-03
    - (3) SSM 23-33-06
    - (4) SSM 24-22-06
    - (5) SSM 33-22-01
    - (6) SSM 52-73-01
  - C. Access
    - (1) Location Zone
      - 211 Passenger Cabin Nose To First Door L.H.
      - 212 Passenger Cabin Nose To First Door R.H.
      - 226 Aft Upper Deck Passenger Cabin R.H.
      - 231 Passenger Cabin First To Second Door L.H.
      - 232 Passenger Cabin First To Second Door R.H.
      - 241 Passenger Cabin Second To Third Door L.H.
      - 242 Passenger Cabin Second To Third Door R.H.
      - 251 Passenger Cabin Third To Fourth Door L.H.
      - 252 Passenger Cabin Third To Fourth Door R.H.
      - 271 Passenger Cabin STA 2040 To STA 2360 L.H.
      - 272 Passenger Cabin STA 2040 To STA 2360 R.H.

EFFECTIVITY-

33-22-00

ALL



#### D. Procedure

s 862-104

- (1) Open the applicable circuit breakers and attach the DO-NOT-CLOSE tags:
  - P85 Aft Miscellaneous Circuit Breaker Panel (a)
    - 1) THSHD AND ATT WORK LIGHTS DOORS 4 & 5
  - (b) P180 DC Power Distribution Panel
    - 180H10 DOORS AUTO/MANUAL IND 1)
    - 2) ENT SVCE 28V DC
  - P414 Power Distribution Center Left Panel (c)
    - 1) 414G17 THSHD AND ATT WORK LIGHTS - DOOR 1
    - 2) 414L6 **ENT SVCE AC**
    - 3) 414L15 THSHD AND ATT WORK LIGHTS - DOORS 2 & 3

s 012-105

- (2) Remove the decorative shroud from the attendant panel:
  - Remove the two screws from the bottom surface of the shroud.
  - (b) Lift the shroud up and remove it from the attendant panel.

s 022-106

- Remove the Lights/Chime/Door Status module from the attendant panel: (3)
  - Remove the four screws from the face of the Lights/Chime/Door Status module.
  - (b) Slowly pull the Lights/Chime/Door Status module out from the attendant panel.
  - Disconnect the electrical connector at the rear of the Lights/Chime/Door Status module.
  - Remove the Lights/Chime/Door Status module from the attendant panel.

s 422-107

ALL

- Install the replacement Lights/Chime/Door Status module onto the attendant panel:
  - (a) Connect the electrical connector onto the rear of the Lights/Chime/Door Status module.

EFFECTIVITY-

33-22-00



- (b) Put the Lights/Chime/Door Status module onto the attendant panel.
- (c) Install the four screws onto the face of the Lights/Chime/Door Status module.

s 412-108

- (5) Install the decorative shroud onto the attendant panel:
  - (a) Engage the two pins into the top surface of the module chassis.
  - (b) Push the shroud down.
  - (c) Install the two screws onto the bottom surface of the shroud.
- E. Lights/Chime/Door Status Module Test

s 862-109

- (1) Remove each DO-NOT-CLOSE tag and close the applicable circuit breakers:
  - (a) P85 Aft Miscellaneous Circuit Breaker Panel
    - 1) THSHD AND ATT WORK LIGHTS DOORS 4 & 5
  - (b) P180 DC Power Distribution Panel
    - 1) 180H10 DOORS AUTO/MANUAL IND
    - 2) ENT SVCE 28V DC
  - (c) P414 Power Distribution Center Left Panel
    - 1) 414G17 THSHD AND ATT WORK LIGHTS DOOR 1
    - 2) 414L6 ENT SVCE AC
    - 3) 414L15 THSHD AND ATT WORK LIGHTS DOORS 2 & 3

s 862-110

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

s 712-111

- (3) Do a test of a Lights/Chime/Door Status module that is installed on a main deck attendant panel.
  - (a) Push the THRESHOLD LIGHT switch on the Lights/Chime/Door Status module to the on position.
  - (b) Make sure that the two threshold lights over the entryway of the nearest door come on.
  - (c) Push the THRESHOLD LIGHT switch to the off position.
  - (d) Make sure that the two threshold lights go off.

s 712-112

- (4) Do a test of the Lights/Chime/Door Status module on the upper deck attendant panel:
  - (a) Push the CHIME OFF switch on the Lights/Chime/Door Status module to the on position.
  - (b) From a nearby passenger seat, push the ATTENDANT CALL button on the digital passenger control unit (DPCU).
  - (c) Make sure that you hear no single chime sound over the passenger address system.

EFFECTIVITY-

33-22-00



- (d) Push the ATTENDANT CALL RESET button on the DPCU.
- (e) Push the CHIME OFF switch to the off position.
- (f) Push the ATTENDANT CALL button on the DPCU.
- (g) Male sure that you hear a single chime sound over the passenger address system.
- (h) Push the ATTENDANT CALL RESET button on the DPCU.

s 862-113

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

ALL

33-22-00



### PASSENGER LOADING LIGHTS - ADJUSTMENT/TEST

- 1. General
  - A. This procedure contains this task:
    - (1) Passenger Loading Lights Operational Test

TASK 33-22-00-715-001

- 2. <u>Passenger Loading Lights Operational Test</u>
  - A. References
    - (1) AMM 23-30-01/501, Access Introduction
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-22-01 thru 33-22-99
    - (4) WDM 33-22-11 thru 33-22-99
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

s 865-014

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

s 715-015

- (2) Do a test of the threshold lights and the work lights at each entry door:
  - (a) At the attendant's panel, set the switch for the threshold lights to the onposition.
    - 1) Make sure each applicable light comes on.
  - (b) Set the switch to the off position.
    - 1) Make sure each light goes off.
  - (c) At the attendant's panel, set the switch for the attendant's work lights to the on position.
    - 1) Make sure each applicable light comes on.
  - (d) Set the switch to the off position.
    - 1) Make sure each light goes off.

s 715-010

- (3) Do a test of the direct ceiling lights and the crossover lights:
  - (a) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).
    - 1) Make sure each applicable light comes on.

EFFECTIVITY-

33-22-00



- (b) At the Cabin System Module (CSM) of the attendant's panel, set the switch for the ceiling lights to the night position.
  - 1) Make sure each light goes off.

s 865-013

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

EFFECTIVITY-

ALL

33-22-00

01

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#### PASSENGER SERVICE CONTROL SYSTEM - DESCRIPTION AND OPERATION

### 1. General (Fig. 1)

- A. The passenger service system (PSS) and cabin lighting system (CLS) are part of the advanced cabin entertainment/service system (ACESS).
- B. ACESS is a digital electronic system composed of components installed throughout the airplane and linked together by a digital data bus.
- C. The passenger service system supplements the cabin lighting system by providing passenger reading light, passenger to attendant call and passenger information sign operation and control.
- D. This procedure will provide information on the passenger service system and the passenger reading lights.
- E. For attendants call operation, refer to 33-25-00.
- F. For passenger information sign operation, refer to 33-24-00.
- G. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-23-01 thru 33-23-99
  - (2) WDM 33-23-11 thru 33-23-99

### Passenger Service System (PSS)

- A. The passenger service system provides a means of multiplexing and programming control signals for passenger reading light control and attendant call operation.
- B. The PSS consists of ACESS components plus inter seat cables, reading lights, row call lights, and attendant master call lights.
- C. The PSS shares the following ACESS components with the cabin lighting system:
  - (1) Cabin System Module (CSM)
  - (2) Entertainment/Service Controller (ESC)
  - (3) Local Area Controller (LAC)
  - (4) Overhead Electronic Unit (OEU)
- D. The PSS uses two additional ACESS components that are:
  - (1) Digital Passenger Control Unit (DPCU)
  - (2) Seat Electronic Unit (SEU)
- E. A brief description of these PSS components follow. For additional component information refer to AMM 23-30-01/001.
  - (1) The cabin system module (CSM) is the main control panel for the passenger service system and the cabin lighting system.
    - (a) Push button switches control service and lighting functions for CSM selected areas. As pushbutton switches are actuated, the applicable button legend becomes illuminated.
    - (b) CSM READING LIGHTS switches enable attendants to operate all passenger reading lights to either an illuminated, extinguished, or normal control state. ON and OFF switch positions remove passenger control of reading lights. NORMAL position returns reading light control to passengers.
    - (c) CSM PASSENGER SERVICES SYSTEM pushbuttons labeled ON and OFF control power application to some passenger service system components when the airplane is on the ground.

 33-23-00



- (2) A digital passenger control unit (DPCU) is installed in the armrest of every passenger seat. The DPCU provides passengers with control of several services which include attendants call switch, call reset switch, and reading light switch. Data from the DPCU's is routed to a seat electronic unit through inter seat cables.
- (3) Seat electronic units (SEU's) contain encoding and decoding circuits for passenger DPCU selections. The SEU provides an interface between the DPCU and the ACESS for reading light ON/OFF control and attendant CALL/RESET control.
  - (a) The SEU receives reading light and attendant call signals from each DPCU in the seat group and transmits that data to the local area controller.
  - (b) The seat electronics unit (SEU) is responsible for controlling inputs and outputs to as many as four digital passenger control units.
  - (c) Inter seat cables connect seat electronic units together. All inter seat cables are the same length and are interchangeable.
- (4) Local area controllers (LAC) contain circuits to control reception and distribution of signals for the passenger service system and the cabin lighting system. These controllers are installed in the Door 2 and Door 5 lowered ceiling areas.
- (5) The entertainment/services controller (ESC) controls passenger service system discrete inputs, outputs, and digital data from the local area controller.
  - (a) Examples of discrete signals processed by the ESC are those generated by passenger information sign control, air ground relay, and decompression relay.
- (6) Overhead electronic units (OEU's) receive multiplexed data from the local area controller, decode the data, and determine which control circuits to activate or deactivate.
  - (a) OEU's also have capability of accepting discrete inputs. The OEU's multiplex these inputs and transmit them to the local area controller for control of other cabin lighting system functions.
  - (b) There are two versions of the overhead electronics unit (OEU).
    - 1) One version is used for columns one and three out of the local area controller (LAC). This OEU is referred to as an outboard OEU or an O-OEU.

EFFECTIVITY-

ALL

33-23-00



- 2) The second version is used for column two out of the LAC. This OEU is referred to as an inboard OEU or I-OEU.
- (c) Each 0-OEU has four switch inputs, six reading light outputs for columns one and three, six passenger sign outputs, two ballast outputs, and two roll call light outputs.
- (d) Each I-OEU has four switch inputs, eight reading light outputs for column two, six passenger sign outputs, two ballast outputs, and four row call light outputs.
- (e) Reading light and passenger sign outputs are used for a variety of purposes and are not limited to just reading lights or passenger signs.
- (f) The switch inputs are passed back to the LAC for processing while light outputs are controlled by service requests from the LAC.
  - Switch inputs are used for such things as light switches in crew rest areas, lavatory doors, or attendant call from lavatories.
- F. The main deck passenger compartment is divided into zones A, B, C, D, and E. The upper deck passenger compartment is also considered a zone. Each zone may be divided in columns of seats or service areas. Each attendants station monitors calls from two or more columns of seats. Columns of seats are two or three seats wide.

#### 3. Reading Lights

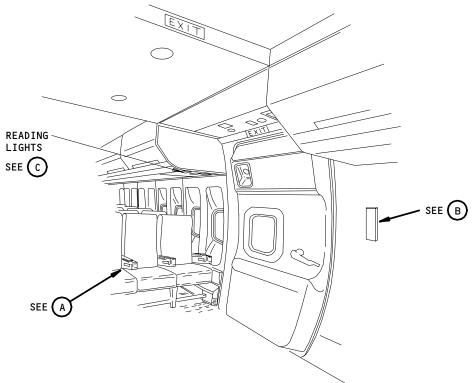
- A. Reading lights are mounted in a PSU tray above each set of seats in the passenger compartment. Reading light access for maintenance purposes is easily gained by lowering the PSU tray. The PSU tray, hinged on one side and retained by latches on the other, may be lowered by releasing the latches.
- B. Gimbal mounted reading lights enable individual lamp aiming for each passenger.
- C. Passenger reading light illumination may be controlled from the passengers seat digital passenger control unit (DPCU) by pressing the pushbutton switch with the symbolic label of an illuminated lamp.
- D. DPCU's are installed on the arm rest of each passenger seat.
- E. Reading lights may also be controlled on an area basis from the attendants panel cabin system module (CSM). Operation of reading lights may be removed from passenger control by use of the CSM pushbutton switch labeled READING LIGHTS ON or OFF.
  - (1) Activating the button labeled ON will operate all reading lights in the CSM control area to an illuminated state.
  - (2) Pressing the OFF button will extinguish all reading lights in the same CSM control area. Passengers are unable to control their reading lights when either switch has been actuated.
  - (3) Pressing CSM pushbutton switch labeled NORMAL returns control of reading lights to the passengers.
  - (4) When the airplane is on the ground, pressing the attendants panel CSM passenger service system OFF switch will remove power from all of the reading lights, seat electronic units, and digital passenger control units. The OFF switch is illuminated to indicate this status. Power is restored by pressing the ON switch. The OFF switch is not operational in flight.

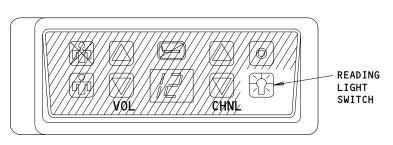
EFFECTIVITY-

ALL

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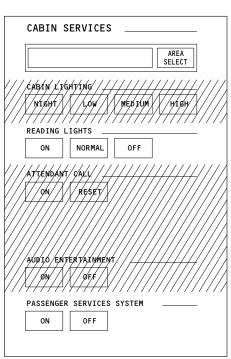






DIGITAL PASSENGER CONTROL UNIT (INSTALLED IN EACH SEAT ARMREST)

(A)



CABIN SYSTEM MODULE

B

Passenger Reading Lights Component Location Figure 1 (Sheet 1)

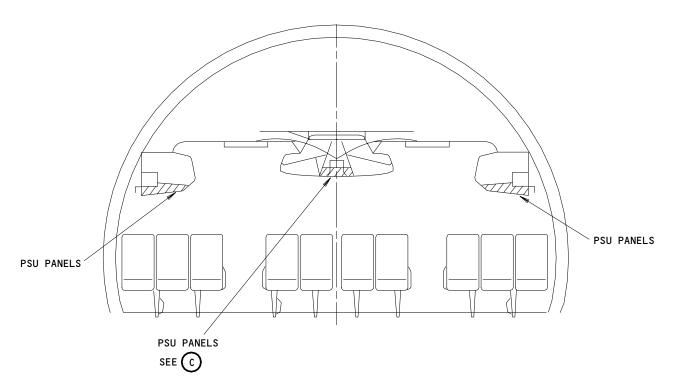
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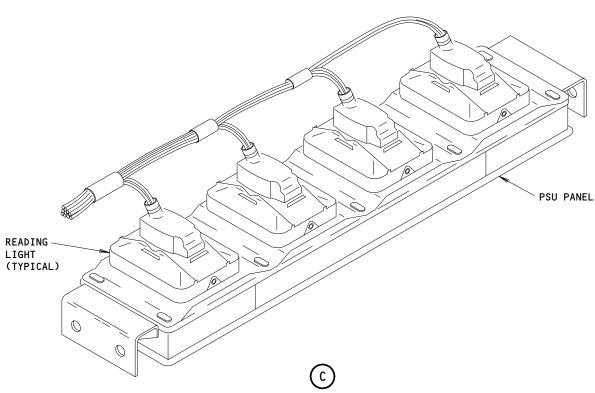
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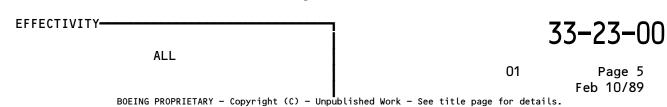
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Passenger Reading Lights Component Location Figure 1 (Sheet 2)





### PASSENGER SERVICE CONTROL SYSTEM - ADJUSTMENT/TEST

### 1. General

- A. This procedure contains a task to do an operational test of the passenger reading lights.
- B. The reading lights use the Advanced Cabin Entertainment/Service System (ACESS) for control.

TASK 33-23-00-705-003

- 2. Reading Lights Operational Test
  - A. References
    - (1) 23-30-01/501, ACESS
    - (2) 24-22-00/201, Manual Control
    - (3) SSM 23-34-42, 23-34-43, 23-34-65
  - B. Access
    - (1) Location zone

200 Passenger Compartment

C. Prepare to do a test of the reading lights:

s 865-015

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

s 715-016

- (2) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
- D. Procedure

s 715-014

ALL

- (1) Do a test of the passenger reading lights:
  - (a) Make sure the switch for the PASSENGER SERVICE SYSTEM is on.
  - (b) Push the AREA SELECT switch until the CSM display shows ALL AREAS.
  - (c) Push the READING LIGHTS ON switch on the CSM.
  - (d) Make sure the passenger reading lights come on.
  - (e) Push the READING LIGHTS OFF switch on the CSM.
  - (f) Make sure the passenger reading lights go off.

EFFECTIVITY-

33-23-00



- (g) Push the NORMAL switch for the READING LIGHTS on the CSM.
- (h) Push the reading light switch at the applicable passenger seat DPCU.
- (i) See that the applicable reading light comes on.
- E. Put the airplane back to its usual condition.

s 865-017

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

ALL ALL

33-23-00

01

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### READING LIGHT - MAINTENANCE PRACTICES

### 1. <u>General</u>

A. This procedure contains the tasks that replace lamps in the reading lights and that adjust the reading lights.

TASK 33-23-07-962-001

- Reading Light Lamp Replacement (Fig. 201)
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 25-23-01/201, Passenger Service Units
    - (4) SSM 23-34-42, 23-32-43, 23-34-44
  - B. Access
    - (1) Location Zone

200 Passenger Cabin

C. Replacement Procedure

s 862-033

- (1) Prepare for lamp replacement:
  - (a) Supply electrical power (AMM 24-22-00/201).
  - (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).
  - (c) Push the READING LIGHTS ON switch on the Cabin System Module (CSM).
    - 1) The CSMs are installed in some attendant panels.
    - 2) The READING LIGHTS switches can make the reading lights come on, go off, or give control to the passengers.
  - (d) Identify the reading lights that do not come on.
  - (e) Push the READING LIGHTS OFF switch on the CSM.

s 962-034

- (2) Lamp Replacement:
  - (a) Open the applicable Passenger Service Unit (PSU) panel(s) (AMM 25-23-01/201).

EFFECTIVITY-

33-23-07



- Release the retaining wires that hold the reflector to the light assembly.
- (c) Lift the reflector away from the light assembly.

CAUTION: AIRPLANES WITH HALOGEN LAMPS;

DO NOT TOUCH HALOGEN LAMPS WITH YOUR HANDS. WEAR GLOVES OR USE A CLEAN CLOTH WHEN YOU COME IN CONTACT WITH HALOGEN LAMPS. THE OIL/GREASE FROM YOUR HANDS CAN CAUSE HALOGEN

LAMPS TO MALFUNCTION.

- Replace the lamp. (d)
- (e) Put the reflector on the light assembly.
- (f) Set the retaining wires to hold the reflector to the light assembly.
- (g) Close the PSU panel(s) (AMM 25-23-01/201).
- (h) Push the READING LIGHT NORMAL switch.

s 712-035

- Do a test of the lamp:
  - (a) Push the reading light switch on the Digital Passenger Control Unit (DPCU) at the passengers seat.
  - Make sure the replaced lamp comes on.

s 862-019

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

TASK 33-23-07-822-020

- 3. Reading Light Adjustment (Fig. 201)
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 25-23-01/201, Passenger Service Units
    - (4) SSM 23-33-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Beam Adjustment

s 862-052

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

s 862-053

ALL

(2) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

EFFECTIVITY-

33-23-07



s 862-054

(3) At the Cabin System Module (CSM), set the switch for the reading lights to the on position.

s 862-055

(4) At the PSU, set the switch for the reading light to the on position.

s 012-038

(5) Open a PSU panel adjacent to the reading light (AMM 25-23-01/201).

s 822-056

(6) Move the reading light to its correct position.

NOTE: Figure 201 shows the usual adjustment of the light beam.
With some light assemblies, wiring harnesses, or seat
configurations; the lighting will be better if the light beam
is pointed to a different seat. The correct adjustment of a
reading light is in the direction that gives the best
lighting for a person to read a book. This is at
approximately the center of the forward edge of the seat.

s 412-057

(7) Close the PSU panel (AMM 25-23-01/201).

s 862-050

(8) Set the switch for the reading light to the usual position.

s 862-032

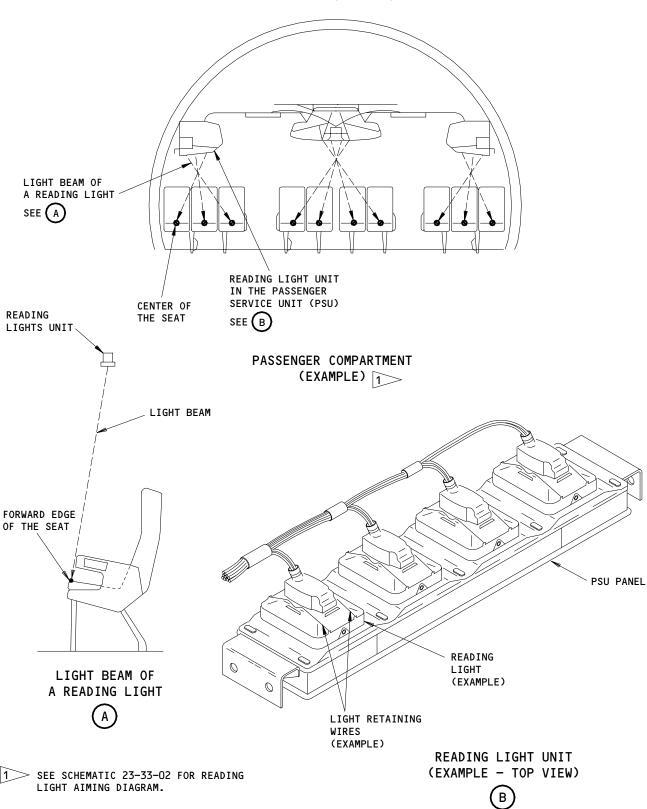
(9) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

33-23-07

ALL





Reading Lights - Lamp Replacement and Adjustment Figure 201

ALL

O1 Page 204
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### READING LIGHT - REMOVAL/INSTALLATION

#### 1. General

- A. This procedure has the tasks that remove and install passenger reading lights.
- B. Reading lights are installed on two types of PSU panels that are:
  - (1) A 6-inch panel that has one reading light assembly and one attendants call light.
  - (2) An 8-inch panel that has one reading light assembly, one attandants call light, and one OEU (Overhead Electronic Unit).
- C. A PSU panel must be lowered to get access to the reading lights and to remove the PSU panel.
- D. The removal and installation procedure for the 6-inch panel has different steps than for the 8-inch panel.
- E. If a 6-inch panel with reading lights and an attendant call light is replaced, these tests are necessary:
  - (1) Reading light Adjustment/Test
  - (2) Attendants call Adjustment/Test
- F. If an 8-inch PSU panel with reading light, attendant call light and an OEU is replaced, these tests are necessary:
  - (1) Reload ACESS configuration database.
  - (2) Activate ACESS for operation.
  - (3) Reading lights Adjustment/Test
  - (4) Attendants Call Adjustment/Test
- G. If a PSU panel with reading lights and OEU is removed, a replacement panel with OEU must be installed. The ACESS system will not operate correctly with a missing OEU. Refer to 23-30-01 for data about ACESS.

TASK 33-23-07-004-001

- Remove Reading Light and PSU Panel (Fig. 401)
  - A. References
    - (1) 25-23-01/201, Passenger Service Units MP
    - (2) IPC 33-23-07
    - (3) SSM 23-34-61, 23-34-62, 23-34-63, 23-34-64
  - B. Access
    - (1) Location Zone

200 Passenger Cabin

C. Procedure

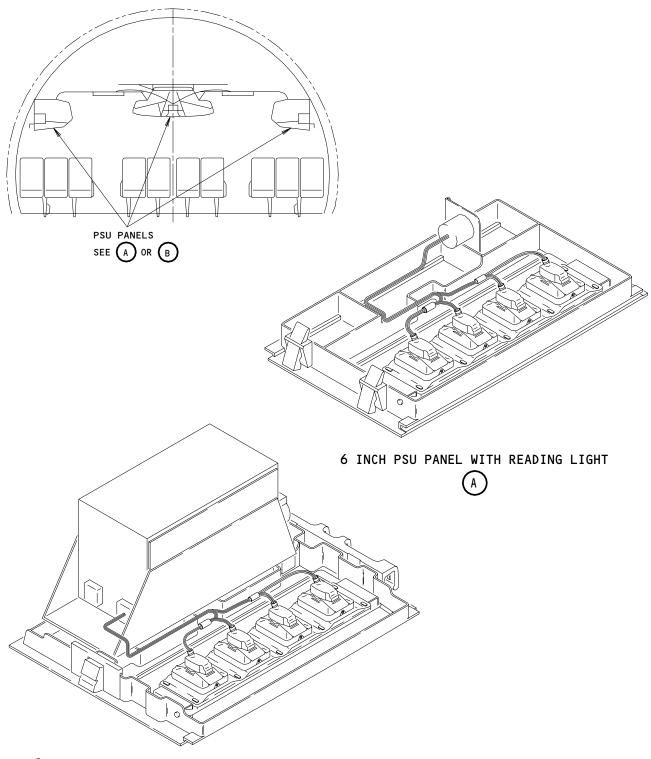
s 864-002

(1) Identify the reading light and PSU panel to be removed.

s 864-003

- (2) Open these circuit breakers on the P414 Main Distribution Center Left and attach DO-NOT-CLOSE tags:
  - (a) 414F9/414F10 READING LT ZN A&B RIGHT





8 INCH PSU PANEL WITH READING LIGHT AND OEU

B

Reading Light Installation Figure 401

33-23-07

03

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- (b) 414H4 READING LIGHT ZN A&B CTR
- (c) 414H3 READING LIGHT ZN A&B LEFT
- 414F10/414F11 READING LT ZN C&D RIGHT
- (e) 414E9 READING LT ZN C&D CTR
- 414H6 READING LT ZN C&D LEFT (f)
- (q) 414E11 READING LT ZN E RIGHT
- (h) 414E10 READING LT ZN E CTR
- 414H5 READING LT ZN E LEFT (j) 414H2 READING LIGHT UPPER DECK
- (k) 414B11 CABIN SVCE ZN A&B
- (l) 414B10 CABIN SVCE ZN C&D
- (m) 414A10 CABIN SVCE ZN E
- (n) 414A11 CABIN SVCE UPPER DECK

S 864-004

(i)

(3) Do procedure 25-23-01/201 to lower PSU panel with reading lights.

s 034-005

- On 6-inch PSU panels with a light assembly:
  - (a) Remove the airplane wire bundle connector from the reading light connector.
  - Remove the panel lanyard clip from the PSU rail to disconnect the panel.

s 034-006

- On 8-inch PSU panels with a light assembly and OEU:
  - (a) Remove the airplane wire bundle connectors from the OEU.
  - (b) Lift the hinge on light assembly and OEU PSU panel out of the PSU rail.
  - Remove the panel lanyard clip from the PSU rail to disconnect (c) the panel.

s 024-007

(6) Remove the light assembly and PSU panel.

TASK 33-23-07-404-008

- Install Reading Light and PSU Panel 3.
  - References
    - (1) AMM 23-30-10/201, ACESS
    - (2) AMM 23-30-01/501, ACESS

EFFECTIVITY-PASSENGER AIRPLANES



- (3) AMM 24-22-00/201, Manual Control
- (4) AMM 25-23-01/201, Passenger Service Units
- (5) AMM 33-23-00/501, Reading Lights
- (6) AMM 33-25-00/501, Attendants Call
- (7) IPC 33-23-07
- (8) SSM 23-34-61, 23-34-62, 23-34-63, 23-34-64
- B. Access
  - (1) Location Zone

200 Passenger Cabin

### C. Procedure

s 864-009

(1) Identify the reading light assembly and PSU panel to be installed.

s 424-010

- (2) On 6-inch PSU panels with a light assembly:
  - (a) Set the PSU panel lanyard clip into the PSU rail.
  - (b) Connect the airplane wire bundle connector to the reading light connector.

s 424-011

- (3) On 8-inch PSU panels with a light assembly and OEU:
  - (a) Set the PSU panel lanyard clip into the PSU rail.
  - (b) Install the hinge of the light assembly and OEU PSU panel into the PSU rail.
  - (c) Connect the airplane wire bundle connectors to the OEU.

s 864-012

WARNING: REFER TO THE SPECIFIED PROCEDURE TO CLOSE THE PSU PANEL CORRECTLY. THE PSU PANEL CAN FALL AND CAUSE INJURY TO PERSONS IF YOU DO NOT CLOSE IT CORRECTLY.

(4) Close the PSU panel (Ref 25-23-01/201).

S 864-013

- (5) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P414 Main Distribution Center Left:
  - (a) 414F9 READING LT ZN A&B RIGHT
  - (b) 414H4 READING LIGHT ZN A&B CTR
  - (c) 414H3 READING LIGHT ZN A&B LEFT
  - (d) 414F10 READING LT ZN C&D RIGHT
  - (e) 414E9 READING LT ZN C&D CTR
  - (f) 414H6 READING LT ZN C&D LEFT
  - (g) 414E11 READING LT ZN E RIGHT

EFFECTIVITY—————
PASSENGER AIRPLANES



- (h) 414E10 READING LT ZN E CTR
- (i) 414H5 READING LT ZN E LEFT
- (j) 414H2 READING LIGHT UPPER DECK
- (k) 414B11 CABIN SVCE ZN A&B
- (L) 414B10 CABIN SVCE ZN C&D
- (m) 414A10 CABIN SVCE ZN E
- (n) 414A11 CABIN SVCE UPPER DECK

### s 714-014

- (6) On 6-inch PSU panels with a reading light assembly and call light:
  - (a) Do a test of the replaced reading lights (Ref 33-23-00/501).
  - (b) Do a test of the replaced call light (Ref 33-25-00/501).

#### s 714-015

- (7) On 8-inch PSU panels with a reading light assembly, call light, and
  - (a) Install ACESS Configuration Database (AMM 23-30-10/201).
  - (b) Activate ACESS (Ref 23-30-01/501).
  - (c) Do a test of the replaced reading lights (Ref 33-23-00/501).
  - (d) Do a test of the replaced call light (Ref 33-25-00/501).

### s 864-016

(8) Remove electrical power if it is no longer necessary (Ref 24-22-00/201).



#### PASSENGER INFORMATION SIGNS - DESCRIPTION AND OPERATION

### 1. General

- A. A passenger information sign is one of these types of signs:
  - (1) NO SMOKING sign
  - (2) FASTEN SEAT BELT sign
  - (3) RETURN TO SEAT sign
  - (4) LAVATORY OCCUPIED sign
- B. Passenger information signs give instructions to persons in the passenger compartment during a flight of the airplane.
- C. NO SMOKING and FASTEN SEAT BELT signs are installed at location to make it possible for each person to see at least one sign at all times.
- D. The RETURN TO SEAT signs are come on when the FASTEN SEAT BELT signs come on, except during a cabin decompression. During decompression the RETURN TO SEAT signs are off.
- E. There is a LAVATORY OCCUPIED sign installed on the ceiling near each lavatory. When the lavatory door is closed and locked, the sign comes on (AMM 33-26-00/001). This lets the passengers know when there is a person in the lavatory.
- F. 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. The signs operate with 28 volts of electrical power.
- B. PASSENGER AIRPLANES;

The passenger service system (PSS) controls and monitors information sign activity (AMM 23-33-00/001).

- (1) Pilots' sign control switch generates discrete inputs for PSS processing that directs NO SMOKING and FASTEN SEAT BELT activity.
- (2) Lavatory door lock switch positions generate discrete inputs for PSS processing that control the LAVATORY OCCUPIED signs.
- C. NO SMOKING, FASTEN SEAT BELT, and RETURN TO SEAT signs operate in an automatic or manual mode as selected with a switch on the pilot's control stand, P8.
  - (1) When the switch is set to the automatic position, discrete inputs from other functions control the signs as follows:

NOTE: RETURN TO SEAT signs go off, if the passenger oxygen comes on.

33-24-00



FUNCTIONS THAT CONTROL SIGNS IN AUTOMATIC MODE					
FASTEN SEAT BELT SIGN	LANDING GEAR NOT UP AND LOCKED (OR) FLAP LEVER NOT IN RETRACT (OR) ON SOME AIRPLANES; AIRPLANE ALTITUDE (OR) CABIN PRESSURE (OR) PASSENGER OXYGEN ON.				
NO SMOKING SIGN	LANDING GEAR NOT UP AND LOCKED (OR) CABIN PRESSURE (OR) PASSENGER OXYGEN ON.				
RETURN TO SEAT SIGN	LANDING GEAR NOT UP AND LOCKED (OR) FLAP LEVER NOT IN RETRACT (OR) ON SOME AIRPLANES; AIRPLANE ALTITUDE (OR) CABIN PRESSURE.				

- (2) To operate the signs in the manual mode, the switch is set to the on position. This makes the signs come on.
- (3) With the switch set to the off position, the signs are usually off. Cabin decompression will override any switch position and activate the signs.
- (4) Activation of either sign will produce a corresponding tone from area chimes.

EFFECTIVITY-

ALL

33-24-00



### PASSENGER INFORMATION SIGNS

COMPONENT*		QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER - SIGN -			MAIN EQUIP CTR, P414	
NO SMOKING			ON STOWAGE BINS, CEILING PANELS	33-24-03
FASTEN SEAT BELT			& ABOVE ENTRY DOORS ON STOWAGE BINS, CEILING PANELS	33-24-03
RETURN TO SEAT			& ABOVE ENTRY DOORS INSIDE LAVATORIES	33-26-07

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

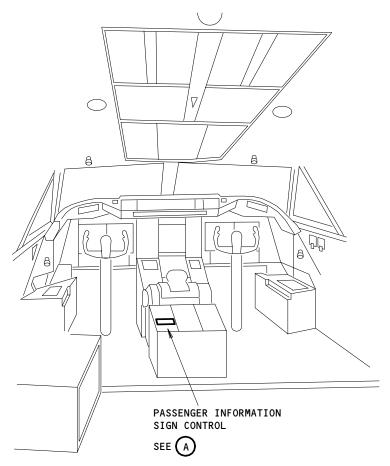
Passenger Information Signs - Component Index Figure 101

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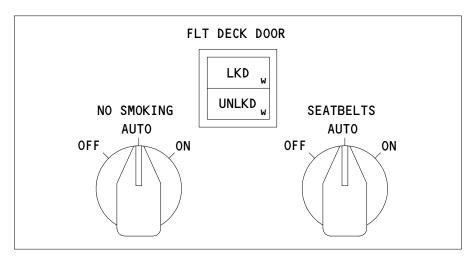
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FLIGHT COMPARTMENT



PASSENGER SIGNS



Passenger Information Signs - Component Location Figure 102 (Sheet 1)

EFFECTIVITY-ALL

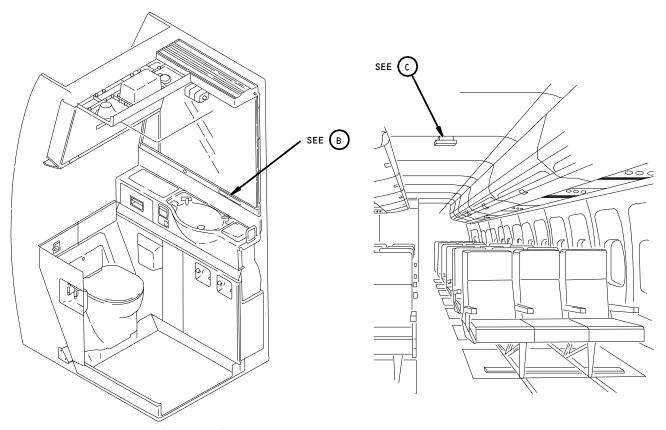
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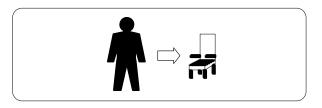
Page 102 Oct 10/94





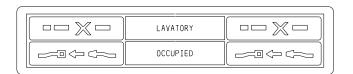
LAVATORY (EXAMPLE)

MAIN DECK



RETURN TO SEAT SIGN (EXAMPLE)





BILLBOARD LENS LEGEND (EXAMPLE)



Passenger Information Signs - Component Location Figure 102 (Sheet 2)

EFFECTIVITY-ALL

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33-24-00

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### PASSENGER INFORMATION SIGNS - FAULT ISOLATION

### 1. General

- A. All fault isolation procedures are based on the assumption that wiring is OK and that electrical power is available.
- B. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagram.
- C. After replacing component, perform electrical check for proper operation before closing assembly.

## 2. Fault Isolation Procedures

	gure 103 General Troubleshooting Guide/Pass. Info Sign gure 104   NO SMOKING Lights/Chimes Inop - All Areas on Airplane		
Figure 105	FASTEN SEAT BELT Lights/Chimes Inop - All Areas on Airplane		
Figure 106	Figure 106 NO SMOKING Lights/Chimes Inop - LAC Zone Area		
Figure 107	Figure 107 FASTEN SEAT BELT Lights/Chimes Inop - LAC Zone Area		
Figure 108	Figure 108 NO SMOKING Lights/Chimes Inop - Column Areae		
Figure 109	FASTEN SEAT BELT Lights/Chimes Inop - Column Area		

ALL

33-24-00



SYSTEM	SYMPTOM	SECTOR	CORRECTIVE ACTION PRIORITY
PASSENGER INFORMATION SIGN (PIS)	PIS INOP	ENTIRE AIRPLANE	1. PUSH THE ALT PASSENGER SERVICES BUTTON AT THE CCTM AND MAKE SURE THE PASSENGER INFORMATION SIGNS OPERATE. 2. DO THE PSS BITE TEST AT THE CCTM AND CORRECT ALL ERRORS PER FIM 23-30-01/101, FIG. 104.
		ENTIRE LAC ZONE	1. PUSH THE ALT PASSENGER SERVICES BUTTON AT THE CCTM AND MAKE SURE THE PASSENGER INFORMATION SIGNS OPERATE. 2. DO THE PSS BITE TEST AT THE CCTM AND CORRECT ALL ERRORS PER FIM 23-30-01/101, FIG. 104.
		SINGLE OEU COLUMN	1. DO THE PSS BITE TEST AT THE CCTM AND CORRECT ALL ERRORS PER FIM 23-30-01/101, FIG. 104. 2. DO THE LAMP TEST AT THE CCTM AND MAKE SURE ALL LIGHTS ARE ON.
	NS/FSB INOP	ENTIRE AIRPLANE	1. VERIFY THE "NO SMOKING" AND "FASTEN SEAT BELT" DISCRETE TO THE ESC (INSERT A, PINS A3,B3).

NOTE: THIS IS A GENERAL TROUBLESHOOTING GUIDE FOR PASSENGER INFORMATION SIGN PROBLEMS.

General Troubleshooting Guide/Pass. Info Sign Figure 103

EFFECTIVITY-ALL

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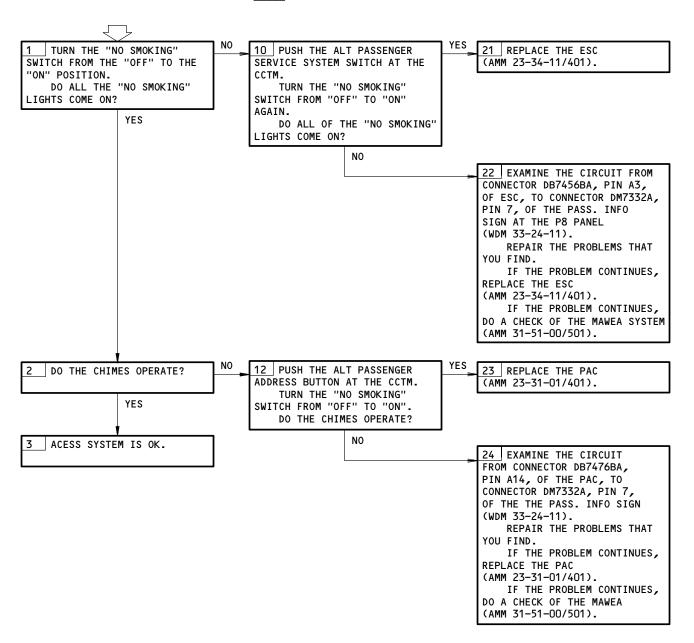


# "NO SMOKING" LIGHTS/ CHIMES INOP - ALL AREAS ON AIRPLANE

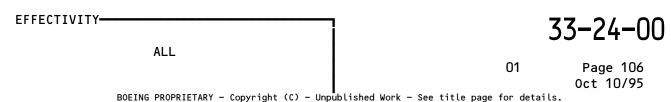
### **PREREQUISITES**

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

NOTE: SEE GENERAL TROUBLESHOOTING GUIDE ON FIG. 103.



NO SMOKING Lights/Chimes Inop - All Areas on Airplane Figure 104



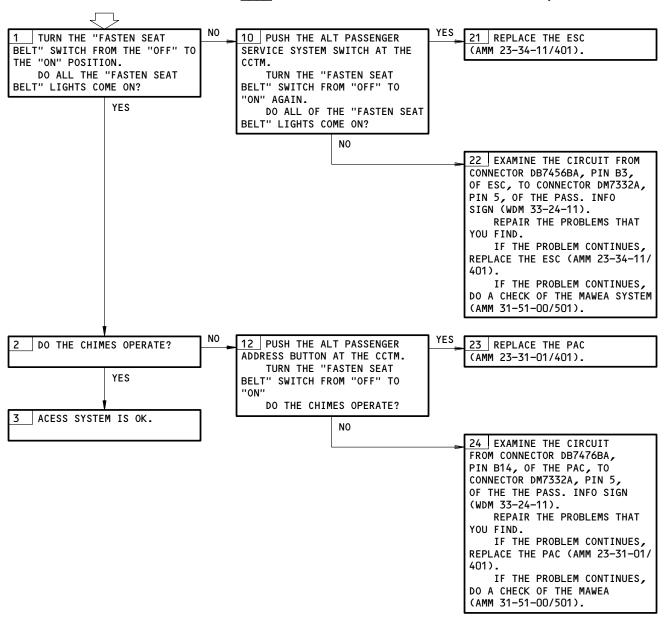


# "FASTEN SEAT BELT" LIGHTS/CHIMES INOP - ALL AREAS ON AIRPLANE

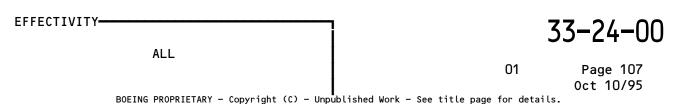
#### **PREREQUISITES**

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

NOTE: SEE GENERAL TROUBLESHOOTING GUIDE, FIG. 103.



FASTEN SEAT BELT Lights/Chimes Inop - All Areas on Airplane Figure 105



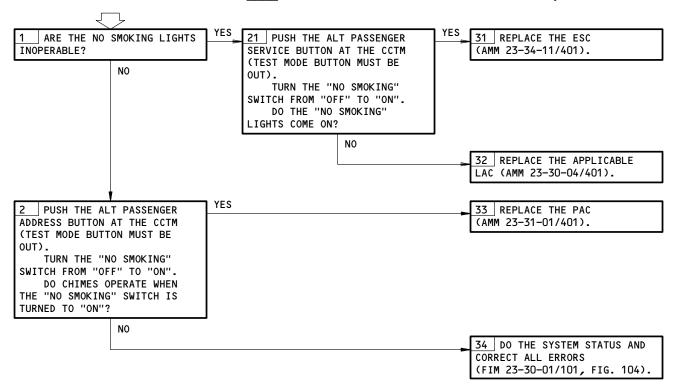


# "NO SMOKING" LIGHTS/ CHIMES INOP - LAC ZONE AREA

## **PREREQUISITES**

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

NOTE: SEE GENERAL TROUBLESHOOTING GUIDE, FIG. 103.



NO SMOKING Lights/Chimes Inop - LAC Zone Area Figure 106

ALL

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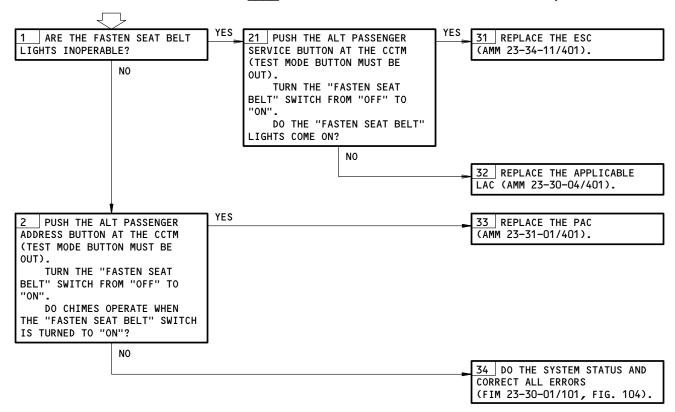


# "FASTEN SEAT BELT" LIGHTS/CHIMES INOP -LAC ZONE AREA

## **PREREQUISITES**

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

SEE GENERAL TROUBLESHOOTING GUIDE, FIG. 103. NOTE:



FASTEN SEAT BELT Lights/Chimes Inop - LAC Zone Area Figure 107

EFFECTIVITY-ALL

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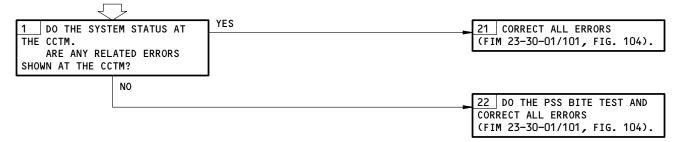


# **PREREQUISITES**

"NO SMOKING" LIGHTS/ CHIMES INOP -COLUMN AREA

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

NOTE: SEE GENERAL TROUBLESHOOTING GUIDE, FIG. 103.



NO SMOKING Lights/Chimes Inop - Column Area Figure 108

EFFECTIVITY-ALL

33-24-00

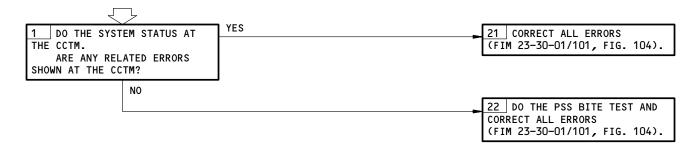


# "FASTEN SEAT BELT" LIGHTS/CHIMES INOP -COLUMN AREA

## **PREREQUISITES**

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

NOTE: SEE GENERAL TROUBLESHOOTING GUIDE, FIG. 103.



FASTEN SEAT BELT Lights/Chimes Inop - Column Area Figure 109

33-24-00

01

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## PASSENGER INFORMATION SIGNS - ADJUSTMENT/TEST

#### 1. General

- A. This procedure has these tasks:
  - (1) NO SMOKING and FASTEN SEAT BELT (NSFSB) Signs Operational Test
  - (2) LAVATORY OCCUPIED Signs Operational Test
  - (3) Passenger Signs Operational Test of the Automatic Mode

TASK 33-24-00-705-001

- 2. NO SMOKING and FASTEN SEAT BELT (NSFSB) Signs Operational Test
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-24-01 and 33-24-02
    - (4) WDM 33-24-24
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

s 865-002

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

s 865-004

(2) Do the ACESS Bite (AMM 23-30-01/501).

s 715-023

- (3) Do these steps to do the operational test:
  - (a) At the control stand, P8, set the switch for the NO SMOKING signs to the on position.
    - Make sure you hear a chime sound in the passenger compartment.
    - 2) Make sure the NO SMOKING signs come on.
  - (b) Set the switch to the off position.
    - 1) Make sure the NO SMOKING signs go off.

EFFECTIVITY-

33-24-00



- Set the switch for the FASTEN SEAT BELT signs to the on position.
  - 1) Make sure you hear a chime sound in the passenger compartment.
  - 2) Make sure the FASTEN SEAT BELT signs come on.
- Set the switch to the off position.
  - 1) Make sure the FASTEN SEAT BELT signs go off.

S 865-029

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

TASK 33-24-00-705-014

- LAVATORY OCCUPIED Signs Operational Test 3.
  - References
    - (1) AMM 23-30-01/501, ACESS
    - AMM 24-22-00/201, Manual Control (2)
    - (3) SSM 33-24-02
    - (4) WDM 33-24-24
  - В. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

s 865-015

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

s 715-024

ALL

- Do these steps to do the operational test:
  - (a) Do the ACESS bite (Ref 23-30-01/501).
    - 1) Make sure the LAVATORY section of the sign comes on.
    - 2) Make sure the OCCUPIED section of the sign is off.
  - For each group of lavatories, close each lavatory door and move the door bolt to OCCUPIED.
    - 1) Make sure the LAVATORY section of the sign stays on.

EFFECTIVITY-

33-24-00



- 2) Make sure the OCCUPIED section for the applicable sign comes on.
- (c) LAVATORY WITH HANDICAPPED PROVISIONS;

Do a check of the handicapped provisions.

- Make sure the doors in the lavatory group stay closed and locked.
- 2) Open the handicapped lavatory door.
- 3) Make sure the OCCUPIED section of the sign goes out.
- 4) Set the light switch to the bright position.

NOTE: The switch is installed above the door.

- a) Make sure the OCCUPIED section of the sign comes on.
- 5) Set the switch to the dim position.
- 6) Open the lavatory doors.

S 865-022

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

TASK 33-24-00-715-027

- 4. Passenger Signs Operational Test of the Automatic Mode
  - A. References
    - (1) AMM 31-51-00/501, MAWEA
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-24-02
    - (4) WDM 33-24-24
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

s 715-026

- (1) Do this task "Input Systems Test" (AMM 31-51-00/501).
  - NOTE: This task will make sure all the airplane systems that control the automatic mode of the passenger signs are operational.
  - NOTE: The operational test for the automatic mode of the passenger signs simulates an ON command from the (Modularized Avionics Warning Electronics Assembly) (MAWEA).

EFFECTIVITY-

33-24-00



s 865-030

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

s 715-025

- (3) Do these steps to do the operational test:
  - (a) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - 1) P7 Circuit Breaker Panel
      - a) 7AO1 MAWEA PWR A
      - b) 7B01 MAWEA PWR B
  - (b) Disconnect the connector (DW3403A) from the M7952 (MAWEA) module.
  - (c) At the control stand, P8, set the switches for the NO SMOKING and FASTEN SEAT BELT signs to the automatic position.
    - Make sure the NO SMOKING, FASTEN SEAT BELT, and RETURN TO SEAT signs are off.
  - (d) Connect a ground to pin A6 of the connector that you removed from the M7952 module.
    - 1) Make sure all the NO SMOKING signs come on.
    - 2) Make sure all the FASTEN SEAT BELT and the RETURN TO SEAT signs are off.
    - 3) Make sure you hear a chime in the passenger cabin.
  - (e) Remove the ground from pin A6 of the connector.
  - (f) Connect a ground to pin A7 of the connector you removed from the M7952 module.
    - 1) Make sure all the NO SMOKING signs go off.
    - 2) Make sure all the FASTEN SEAT BELT and RETURN TO SEAT signs come on.
    - 3) Make sure you hear a chime in the passenger cabin.
  - (g) Remove the ground from pin A7 on the connector.
  - (h) Connect the connector (DW3403A) to the M7952 (MAWEA) module.

s 865-031

ALL

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

EFFECTIVITY-

33-24-00



## PASSENGER INFORMATION SIGNS - MAINTENANCE PRACTICES

#### 1. General

- A. This procedure contains these tasks:
  - (1) A task for the replacement of the lamps in the billboard sign.
  - (2) A task for the replacement of the lamps in the PSU or the end cap sign.
- B. The passenger information signs get their power from OEU's (Overhead Electronic Units). The OEU's are part of the ACESS (Advanced Cabin Entertainment Services System).
  - (1) Open the ACESS OEU circuit breakers to remove the electrical power from the signs .
  - (2) Control of the signs is by the NO SMOKING and the SEATBELTS switches on the P8 panel.

<u>NOTE</u>: Close the lavatory door to control the lavatory OCCUPIED section of the sign.

TASK 33-24-02-962-001

- 2. Billboard Sign Lamp Replacement
  - A. References
    - (1) 24-22-00/201 Manual Control
    - (2) 23-30-01/501 ACESS Adjustment/Test
  - B. Access
    - (1) Location Zone

200 Passenger Compartment

200 Flight Deck, Pilots Instrument Panel

C. Replacement Procedure

s 862-002

ALL

- (1) Prepare for the lamp replacement:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
  - (c) Put the NO SMOKING switch on the P8 panel to ON.
  - (d) Put the SEATBELTS switch on the P8 panel to ON.
  - (e) Close the lavatory doors for the applicable sign.
  - (f) Identify the defective lamps.
  - (g) Put the NO SMOKING switch on the P8 panel to OFF.
  - (h) Put the SEATBELTS switch on the P8 panel to OFF.

EFFECTIVITY-

33-24-02



(i) Open the lavatory doors if it is necessary.

s 962-003

- (2) Do these steps to replace the defective lamps:
  - (a) Remove the lens.

NOTE: The lens has one pin on each end and a pin in the middle. Pull on the ends of the lens until the pins are loose. When the pins are clear at each end, pull the lens away from the housing assembly.

- (b) Replace the defective lamps.
  - 1) Pull the defective lamp out from the front of the light assembly.
  - Push the replacement lamp in its position from the front of the light assembly.
- (c) Put the NO SMOKING switch on the P8 panel to ON.
- (d) Put the SEATBELTS switch on the P8 panel to ON.
- (e) Close the lavatory doors for the applicable sign.
- (f) Make sure the replacement lamps are on.
- (g) Turn off all Passenger Information Sign switches from previous steps.
- (h) Replace the lens.

NOTE: Put the three guide pins in their related holes.

When the pins are in their position, push the lens from each end.

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

TASK 33-24-02-962-004

- 3. Attendant's Panel Sign Lamp Replacement
  - A. References
    - (1) 24-22-00/201 Manual Control
    - (2) 23-30-01/501 ACESS Adjustment/Test
  - B. Access
    - (1) Location Zone

200 Passenger Compartment

200 Flight Deck, Pilots Instrument Panel

C. Replacement Procedure

s 862-006

- (1) Prepare for the lamp replacement:
  - (a) Supply electrical power (Ref 24-22-00/201).

EFFECTIVITY-

33-24-02



- (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
- (c) Put the NO SMOKING switch on the P8 panel to ON.
- (d) Put the SEATBELTS switch on the P8 panel to ON.
- (e) Identify the defective lamps.
- (f) Put the NO SMOKING switch on the P8 panel to OFF.
- (g) Put the SEATBELTS switch on the P8 panel to OFF.

## s 962-007

- (2) Do these steps to replace the defective lamps:
  - (a) Pull down on the light assembly to the end of the clips that hold the light assembly.
  - (b) Push together each of the clips that hold the light assembly.
  - (c) Pull down to get to the rear of the light assembly.
  - (d) Push the slide fasteners to release the rear of the light assembly from its front.
  - (e) Pull the defective lamp from its position.
  - (f) Push the replacement lamp into its position.
  - (g) Put the rear of the light assembly in its position on the front.
  - (h) Push the slide fasteners to attach the rear of the light assembly to the front.
  - (i) Push together the clips that hold the light assembly.
  - (j) Push the clips into the panel above the door.
  - (k) Push the light assembly into its position in the panel above the door.
  - (l) Make sure the replacement lamps are on.
  - (m) Remove electrical power if it is not necessary (Ref 24-22-00/201).

## TASK 33-24-02-962-005

- 4. (PSU or Stow Bin End Cap Sign) Lamp Replacement
  - A. References
    - (1) 24-22-00/201 Manual Control
    - (2) 23-30-01/501 ACESS Adjustment/Test
  - B. Access
    - (1) Location Zone

200 Passenger Compartment

200 Flight Deck, Pilots Instrument Panel

C. Replacement Procedure

s 862-008

- (1) Prepare for the lamp replacement:
  - (a) Supply electrical power (Ref 24-22-00/201).

EFFECTIVITY-

33-24-02

ALL



- (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
- (c) Put the NO SMOKING switch on the P8 panel to ON.
- (d) Put the SEATBELTS switch on the P8 panel to ON.
- (e) Identify the defective lamps.
- (f) Put the NO SMOKING switch on the P8 panel to OFF.
- (g) Put the SEATBELTS switch on the P8 panel to OFF.

## s 962-009

- (2) Do these steps to replace the defective lamps:
  - (a) Pull the light assembly from the passenger service unit or the stow bin

NOTE: On some installations it will be necessary to lower the passenger service unit (Ref 25-23-01/201).

(b) Remove the lens from the light assembly.

CATUTION: THE LENS CAN BE DAMAGED WHEN YOU PULL THE LENS FROM ITS ENDS. TO REMOVE THE LENS, PULL FROM THE CENTER IN A ROTORY MOTION AWAY FROM THE LIGHT ASSEMBLY.

- (c) Remove the defective lamp.
- (d) Install the replacement lamp.
- (e) Install the lens on the light assembly.
- (f) Push the light assembly back in its initial position.
- (g) Make sure the replacement lamps are on.
- (h) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

ALL

33-24-02



## PASSENGER INFORMATION SIGNS - REMOVAL/INSTALLATION

- 1. <u>General</u> (Fig. 401)
  - A. This procedure contains four tasks that are:
    - (1) Remove a PSU passenger information sign.
    - (2) Install a PSU passenger information sign.
    - (3) Remove a PSU lavatory occupied sign.
    - (4) Install a PSU lavatory occupied sign.
  - B. Passenger information signs are installed on 3-inch PSU panels or on 6-inch PSU panels.
    - (1) The passenger information signs contain no smoking and fasten seat belt instructions for the passengers.
  - C. Lavatory occupied signs are installed on main deck 10-inch PSU panels.
  - D. Get access to the signs by lowering the applicable PSU panel.
  - E. The passenger information signs and the lavatory occupied signs get their power from OEUs (Overhead Electronic Units). OEU's are part of ACESS (Advanced Cabin Entertainment/Services System).
    - (1) Removal of sign electrical power is done by opening circuit breakers for ACESS OEU's.
    - (2) The passenger information signs are set to on or off by switches on the P8 panel module M7332.
    - (3) The lavatory occupied signs are switched on or off by the lavatory door lock switches.

#### TASK 33-24-03-004-001

- 2. Remove PSU Passenger Information Sign (Fig. 401)
  - A. References
    - (1) 25-23-01/201, Passenger Service Units
    - (2) IPC 33-24-03
    - (3) SSM 33-24-02
  - B. Access
    - (1) Location Zone

200 Passenger Cabin

C. Procedure

S 864-002

- (1) Open these circuit breakers on the P414 Main Distribution Center Left and attach DO-NOT-CLOSE tags:
  - (a) 414B11 CABIN SVCE ZN A&B
  - (b) 414B10 CABIN SVCE ZN C&D
  - (c) 414A10 CABIN SVCE ZN E
  - (d) 414A11 CABIN SVCE ZN UPPER DECK

s 014-003

(2) Lower the applicable PSU panel and sign (Ref 25-23-01/201).

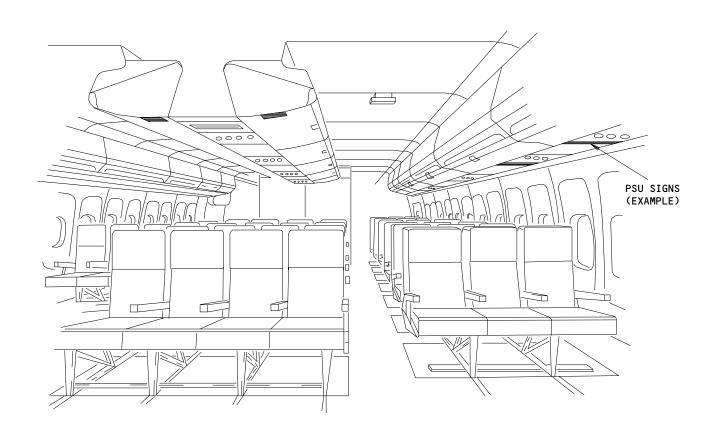
NOTE: On some airplanes it will not be necessary to lower the PSU, the sign can be pulled stright out to get to the terminals on the rear of the sign.

EFFECTIVITY-

33-24-03

ALL





Passenger Information Signs Installation Figure 401 (Sheet 1)

EFFECTIVITY ALL

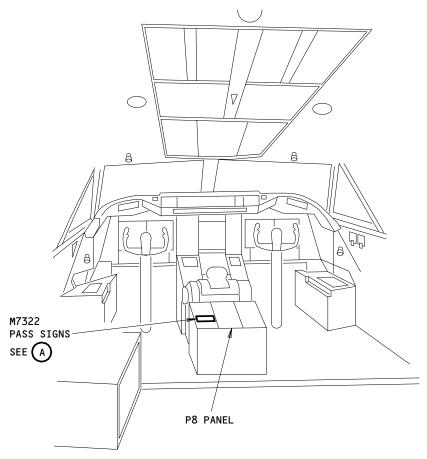
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33-24-03

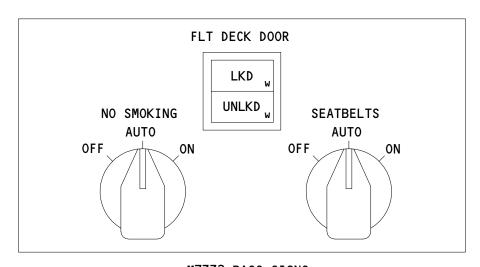
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PASSENGER INFORMATION SIGN CONTROL



M7332 PASS SIGNS



Passenger Information Signs Installation Figure 401 (Sheet 2)

EFFECTIVITY-ALL

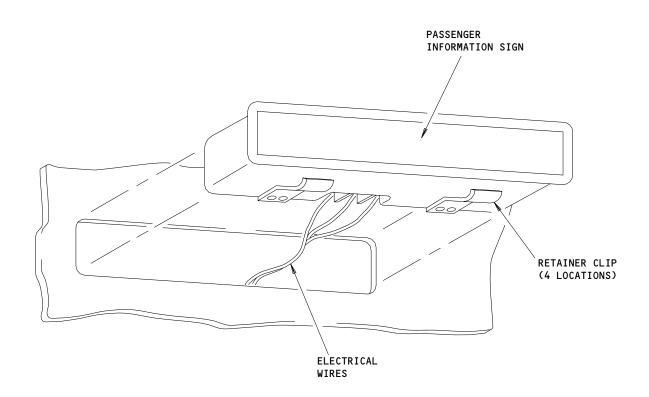
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9806804

Passenger Information Signs Installation Figure 401 (Sheet 3)

EFFECTIVITY ALL

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33-24-03

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s 034-004

(3) Disconnect wires from the sign.

s 024-005

(4) Remove the sign.

TASK 33-24-03-404-033

- 3. <u>Install PSU Passenger Information Sign</u> (Fig. 401)
  - A. References
    - (1) 23-30-01/501, ACESS A/T
    - (2) 24-22-00/201, Manual Control
    - (3) 25-23-01/201, Passenger Service Units
    - (4) IPC 33-24-03
    - (5) SSM 33-24-02
  - B. Access
    - (1) Location Zone

200 Passenger Cabin

- C. Procedure
  - s 434-006
  - (1) Connect electrical wires to the sign.

s 424-007

WARNING: REFER TO THE SPECIFIED PROCEDURE TO CLOSE THE PSU PANEL CORRECTLY. THE PSU PANEL CAN FALL AND CAUSE INJURY TO PERSONS IF YOU DO NOT CLOSE IT CORRECTLY.

(2) Close the PSU panel (Ref 25-23-01/201).

NOTE: On some airplanes it will not have been necessary to lower the PSU. The sign can be pushed stright into the PSU after the wires are connected to the rear of the sign.

s 864-008

- (3) Remove DO-NOT-CLOSE tags and close these circuit breakers on the P414 Main Distribution Center Left:
  - (a) 414B11 CABIN SVCE ZN A&B
  - (b) 414B10 CABIN SVCE ZN C&D
  - (c) 414A10 CABIN SVCE ZN E
  - (d) 414A11 CABIN SVCE UPPER DECK

s 864-009

(4) Supply electrical power (Ref 24-22-00/201).

s 864-010

(5) Prepare ACESS for operation (Ref 23-30-01/501).

EFFECTIVITY-

33-24-03

ALL



s 864-011

(6) Set NO SMOKING switch on module M7332 on the P8 panel to the ON position.

s 714-012

(7) See that the no smoking part of the replaced sign is on.

s 714-013

(8) See that the fasten seat belt part of the replaced sign is off.

s 864-014

(9) Set the SEATBELTS switch on module M7332 to the ON position.

s 714-015

(10) See that the fasten seat belt part of the replaced sign is on.

S 864-016

(11) Set NO SMOKING and SEATBELTS switches to the OFF position.

s 864-017

(12) Remove electrical power if it is no longer necessary (Ref 24-22-00/201).

TASK 33-24-03-004-018

- 4. Remove PSU Lavatory Occupied Sign (Fig. 401)
  - A. Reference
    - (1) 25-23-01/201, Passenger Service Units
    - (2) IPC 33-24-03
    - (3) SSM 33-24-02
  - B. Access
    - (1) Location Zone

200 Passenger Cabin

- C. Procedure
  - s 864-019
  - (1) Open these circuit breakers on the P414 Main Distribution Center Left and attach DO-NOT-CLOSE tags:
    - (a) 414B11 CABIN SVCE ZN A&B
    - (b) 414B10 CABIN SVCE ZN C&D
    - (c) 414A10 CABIN SVCE ZN E
    - (d) 414A11 CABIN SVCE UPPER DECK

s 864-020

(2) Lower applicable PSU panel and sign (Ref 25-23-01/201).

s 034-021

(3) Disconnect wires from the sign.

EFFECTIVITY-

33-24-03

ALL



s 024-022

(4) Remove the sign and panel.

TASK 33-24-03-404-023

- 5. <u>Install PSU Lavatory Occupied Sign</u> (Fig. 401)
  - A. Reference
    - (1) 23-30-01/501, ACESS
    - (2) 24-22-00/201, Manual Control
    - (3) 25-23-01/201, Passenger Service Units
    - (4) IPC 33-24-03
    - (5) SSM 33-24-02
  - B. Access
    - (1) Location Zone

200 Passenger Cabin

C. Procedure

S 434-024

(1) Connect electrical wires to the sign.

S 024-025

WARNING: REFER TO THE SPECIFIED PROCEDURE TO CLOSE THE PSU PANEL CORRECTLY. THE PSU PANEL CAN FALL AND CAUSE INJURY TO PERSONS IF YOU DO NOT CLOSE IT CORRECTLY.

(2) Close the PSU panel (Ref 25-23-01/201).

S 864-026

- (3) Remove DO-NOT-CLOSE tags and close these circuit breakers on the P414 Main Distribution Center Left:
  - (a) 414B11 CABIN SVCE ZN A&B
  - (b) 414B10 CABIN SVCE ZN C&D
  - (c) 414A10 CABIN SVCE ZN E
  - (d) 414A11 CABIN SVCE UPPER DECK

s 864-027

(4) Supply electrical power (Ref 24-22-00/201).

s 864-028

(5) Prepare ACESS for operation (Ref 23-30-01/501).

s 864-029

(6) Identify the group of lavatories connected to the occupied sign.

s 864-030

(7) Close all of the lavatory doors in the group and operate their bolt lock switches to the closed position.

EFFECTIVITY-

33-24-03

ALL



s 714-031

(8) See that the replaced lavatory sign comes on.

s 864-032

(9) Unlock the lavatory doors.

s 714-034

(10) See that the replaced lavatory sign goes off.

s 864-035

(11) Remove electrical power if it is no longer necessary (Ref 24-22-00/201).

EFFECTIVITY-

ALL

33-24-03

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#### CALL LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

- A. Attendant call lights consist of a set of master call lights over each entry door, secondary call lights at passengers seat locations, and secondary call lights on lavatory exteriors.
  - (1) A set of attendant call lights over the entry doors consist of:
    - (a) A blue light used for individual passenger call for services.
    - (b) A pink light used for pilots crew call.
    - (c) An amber light used for a lavatory call for services.
- B. The attendants call system provides passengers with capability of activating attendants call from any passenger seat or lavatory.
  - (1) Each activation of a passenger or lavatory call is accompanied by a generated tone from chimes at the appropriate attendant stations.
- C. Passenger initiated calls may be reset from any passenger seat, from the originating lavatory or from the CSM.
- D. For maintenance purposes, call lights may be controlled on an area basis from the attendants panel cabin system module (CSM). Selection of an area is accomplished by using the area select switch to scroll through CSM displays.
  - (1) Pressing the ATTENDANTS CALL switch labeled ON illuminates all call lights for the CSM selected area.
  - (2) Pressing the switch labeled RESET extinguishes all call lights for the selected area and returns call light control to passenger seats and lavatories.
- E. The attendants call is a subsystem of the passenger service system (PSS), and the PSS is a part of the advanced cabin entertainment/service system (ACESS).
  - (1) ACESS is an integrated system consisting of the Passenger Address System (PAS), the Passenger Entertainment System (PES), the Passenger Service System (PSS), the Cabin Interphone System (CIA), and the Cabin Lighting System (CLS).
    - (a) For information on ACESS refer to 23-30-01/501.
  - (2) The passenger service system (PSS) provides the passengers with controls of their reading light, their passenger-to-attendant call, and their lavatory call functions.
    - (a) For information on PSS, refer to 33-23-00/001, Passenger Service Control System.

EFFECTIVITY-

33-25-00



- F. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-25-01 thru 33-25-99
  - (2) WDM 33-25-11 thru 33-25-99

## 2. <u>Passenger Compartment Call</u>

- A. A call for service initiated from passengers seating will illuminate a blue master call light on the attendants overhead panel. Secondary call lights are installed on overhead PSU tray above each seat row. These secondary call lights will also illuminate to identify the passenger row initiating the service call.
- B. A digital passenger control unit (DPCU) containing attendant call and reset pushbuttons is installed in the arm rest of every passenger seat. Data from DPCU attendant call pushbuttons is routed to a seat electronics unit.
  - (1) DPCU pushbuttons used for attendants call utilize symbolic button labels denoting call or reset selections. The call pushbutton will be illuminated if pressed and extinguished if reset.
- C. Seat electronic units (SEU) contain encoding and decoding circuits for passenger DPCU commands. SEU's provide the interface between the DPCU and ACESS for attendant call activation and reset control.

## Lavatory Call

- A. Lavatory-to-attendant calls for service initiated from any lavatory will illuminate an amber master call light on the applicable attendant's overhead panel. The secondary call light, as a part of the lavatory call reset switch, is installed on each lavatory exterior above the door. The secondary call light will also be illuminated to identify the lavatory requesting attendant service.
  - (1) The lavatory master call light and lavatory secondary call light can be reset by pressing the lavatory call reset switch over the applicable lavatory door.
- B. Lavatory attendants call pushbutton switches are conveniently located slightly below the lavatory counter top. Switch buttons become illuminated when activated.
- C. When the lavatory call switch is pressed, a discrete signal is sent to the lavatory overhead electronic unit (OEU).
  - (1) The OEU data bus transmits call data to the local area controller (LAC) which applies 28 volts dc to the appropriate attendants station amber call light.
  - (2) The LAC also commands the originating lavatory OEU to illuminate its lavatory call reset switch.

### 4. Attendants Call Operation

- A. When a passenger seat attendants call pushbutton is pressed, data is sent to a seat electronics unit (SEU).
  - (1) The SEU encodes the data and transmits the command by data bus to the local area controller (LAC).
  - (2) The LAC processes the information to:
    - (a) Provide 28 volts dc to the appropriate blue master call light.
    - (b) Transmit a command to an OEU to illuminate the appropriate row call light.

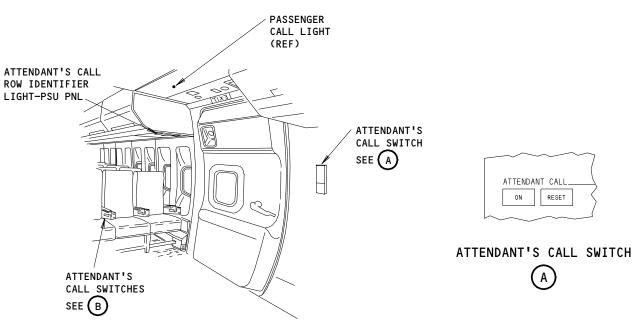
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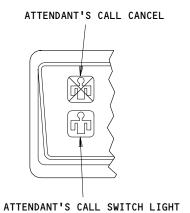


- (3) Pressing the call reset switch commands the OEU to extinguish the row call light. When all attendant calls from a designated area have been reset, the LAC will extinguish the applicable blue master call light.
- (4) The LAC also sends the data to the passenger address controller through the entertainment service controller , which sounds the attendant call chime.
- B. The local area controller (LAC) processes the data to:
  - (1) Provide 28 volts dc to the appropriate amber master call light.
  - (2) Transmit a command to the lavatory OEU to illuminate lavatory call light from outside the originating lavatory.

33-25-00







DIGITAL PASSENGER CONTROL UNIT



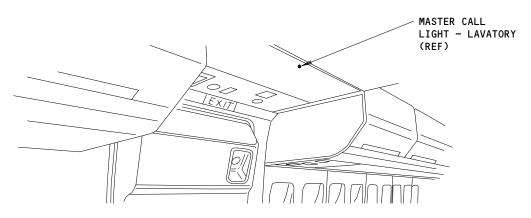
Attendant's Call - Component Location Figure 1 (Sheet 1)

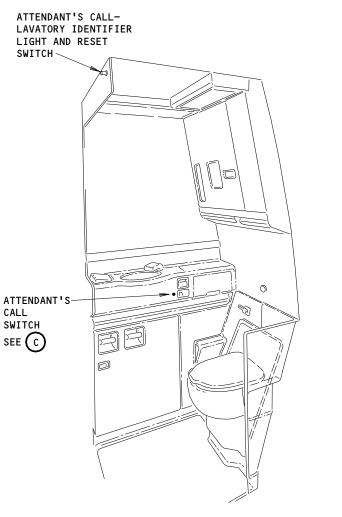
EFFECTIVITY-ALL 33-25-00

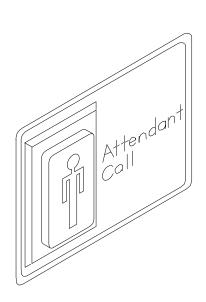
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ATTENDANT'S CALL SWITCH (EXAMPLE)

LAVATORY (EXAMPLE)

Attendant's Call - Component Location Figure 1 (Sheet 2)

EFFECTIVITY ALL

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33-25-00

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## CALL LIGHTS - ADJUSTMENT/TEST

- 1. General
  - A. This procedure has this task:
    - (1) Call Lights Operational Test

TASK 33-25-00-715-001

- 2. <u>Call Lights Operational Test</u>
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 23-34-31
    - (4) SSM 23-34-42 thru 33-34-44
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 865-002

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

s 865-003

(2) Operate the ACESS (Ref 23-30-01/501).

s 865-004

(3) Operate the AREA SELECT switch on the Cabin System Module (CSM) to show ALL AREAS of control.

s 865-029

ALL

- (4) If the amber attendant call light on the CSM is on, do these steps:
  - (a) Push and release the RESET switch on the front of the CSM.
    - 1) Make sure the amber attendant call light goes off.

NOTE: When you push and release the RESET switch, the light on the switch will come on. When all call lights go off, the light on the switch will go off.

EFFECTIVITY-

33-25-00

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s 865-009

(5) Push the symbolic attendants call switch on the Digital Passenger Control Unit (DPCU) on a passenger seat.

s 715-010

- (6) Make sure the steps that follow occur:
  - The row call light in the PSU tray above the seat group of the DPCU is on.
  - The blue master call light at the attendants station is on.
  - (c) The chime operates.

s 865-011

(7) Push the CANCELLATION switch on the passenger DPCU.

s 715-012

- (8) Make sure the steps that follow occur:
  - (a) The row call light in the seat group goes off.
  - (b) The blue master call light at the attendants station is off.

s 865-013

(9) Push a symbolic attendants call switch in a lavatory.

s 715-014

- (10) Make sure the steps that follow occur:
  - (a) The lavatory call light above the lavatory door is on.
  - (b) The amber master call light at the attendants station is on.
  - (c) The chime operates.

s 865-015

(11) Push the call light switch above the lavatory door to get the system to set again.

s 715-016

ALL

- (12) Make sure the steps that follow occur:
  - (a) The lavatory call light above the lavatory door is out.

EFFECTIVITY-

33-25-00



(b) The amber master call light at the attendants station is off.

s 865-017

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

EFFECTIVITY-

ALL

33-25-00

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## LAVATORY LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

- A. Lavatory lighting includes internal lavatory illumination, internal passenger information signs, external lavatory occupied signs, and attendant call pushbutton/indicators.
- B. Lavatory fluorescent lighting, RETURN TO SEAT signs, ATTENDANTS CALL switches/indicators and external LAV occupied signs operate as part of the Advanced Cabin Entertainment/Services System (ACESS).
- C. The mirror light shall be energized when the lavatory door is closed. An OCCUPIED sign shall be illuminated when the lavatory door is closed and the slide bolt is in the locked position.
- D. The lockdoor sign is not part of nor controlled by ACESS. The sign is operated by a second set of door lock switch contacts.
- E. 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. Operation

- A. Lavatory light and sign components are controlled by ACESS. These components interface with I-OEUs (Inboard Overhead Electronic Units) to transmit lavatory generated discrete signals to a LAC (local area controller). The processed data is then returned from the LAC to the I-OEU to control light and passenger information sign operation.
  - (1) The I-OEU provides outputs for light ballast control lines to command light dim/bright operation. Solid state dimmable ballasts require open or short circuit control line conditions to achieve a corresponding bright or dim lamp operation.
  - (2) The I-OEU uses passenger information sign lamp drivers to power the LAVATORY OCCUPIED signs. I-OEU lamp driver circuits also monitor the passenger information sign (PIS) lamps for an open or short circuit lamp condition.
- B. I-OEU discrete inputs needed to operate the mirror lights are generated by the position of the door proximity switch (S5).
- C. I-OEU discrete inputs needed to operate the LAVATORY OCCUPIED signs are generated by the position of the door lock limit switch (S1).
  - (1) If the airplane is airborne, and the lavatory door is open, the lavatory lights will be on at a dim intensity. Closing the door will change the lights from a dim intensity to a bright intensity.

33-26-00



- (2) If the airplane is on the ground, the dim function will be inhibited by the ACESS system response to the air ground relay R121. The lavatory ceiling light will remain at a bright intensity level regardless of the door proximity switch position.
- D. The LOCK DOOR sign, not a part of ACESS, is controlled by a second set of door lock limit switch contacts. The sign will be illuminated anytime the lavatory door switch is in the unlocked positon, and extinguished whenever the switch is in locked positon.
- E. Some main deck lavatories are equipped with: a second door switch for handicapped passengers that performs the same functions as the door bolt switch.

#### 3. <u>Lavatory Fluorescent Lights</u>

- A. 115 volts ac is supplied to lavatory fluorescent lamp ballasts through circuit breakers on the P414 panel. Lavatory lighting is divided between two circuit breakers: forward lavatory lights; and aft lavatory lights.
- B. Fluorescent lamp assemblies and lenses are mounted on main deck lavatory ceilings and upper deck lavatory walls.

## 4. <u>Lavatory Lights Ballast</u>

- A. Lavatory fluorescent lamp ballasts are solid state dimmable devices.

  115 volts ac power is supplied continously to each ballast. Ballast operation is controlled by the electrical state of two pairs of control line inputs.
  - (1) One control line pair (ON/OFF) is left open circuited. The open circuit state commands the ballast to be in a constant active or on condition.
  - (2) The second control line pair (BRT/DIM) is switched between open or short circuit conditions by the I-OEU in response to the position of the door proximity switch.
- B. Lavatory fluorescent light ballasts are located above lavatory ceilings.

## 5. Lavatory Door Lock Switch

- A. The door lock limit switch is located in the lavatory door frame behind the door bolt striker plate.
- B. The limit switch is normally operated by closing the lavatory door and setting the door lock bolt to LOCK position.
- C. The limit switch may be operated manually when the door is open by depressing the striker plate.
- D. The door lock switch provides data to control the off and on positions of the passenger information signs.

## 6. <u>Lavatory Information Signs</u>

## A. General

- (1) The lock door and return to seat signs are symbolic displays on a graphic retainer strip. The strip is back illuminated by a light assembly composed of two rows of light emitting diodes (LEDs).
- B. The lock door sign is installed behind the graphic strip retainer at the bottom of the dispenser cabinet.
- C. The return to seat sign is installed behind the graphic strip retainer at the bottom of the lavatory mirror.

 33-26-00



### 7. <u>Lavatory Occupied Signs</u>

- A. The lavatory occupied signs are controlled by ACESS which monitors lavatory occupancy from the lavatory door lock switch position.
- 8. Lavatory Attendant Call Switches
  - A. Attendant call pushbutton switches near the counter sink will become illuminated with a symbolic display when actuated. Refer to 33-25-00 for more information.
  - B. The lavatory call light and reset switch above the door resets the call when actuated. Refer to 33-25-00 for more information.
- 9. <u>Door Proximity Switch</u>
  - A. The door proximity switch provides a short or open circuit to the DIM/BRT line of the ballast. This line controls the intensity of the lavatory lights. A short circuit will dim the lights, an open circuit will allow the lights to go full bright.

33-26-00

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## LAVATORY MASTER CALL LIGHTS

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER -	1		117AL, MAIN EQUIP CTR, P180 AND P414	
LIGHT - CALL	2 2		FLT ATTENDANT STATION	33-25-02 *
SWITCH - ATTENDANT CALL			LAVATORIES	^

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

Lavatory Master Call Lights - Component Index Figure 101

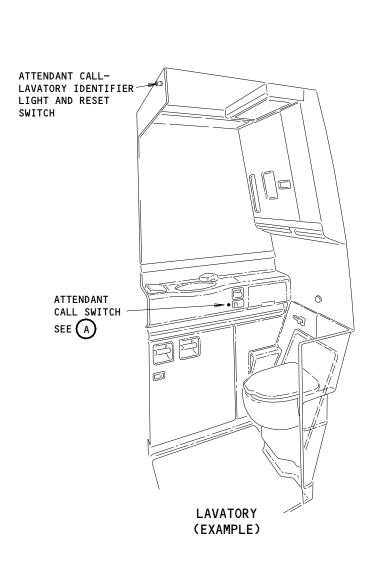
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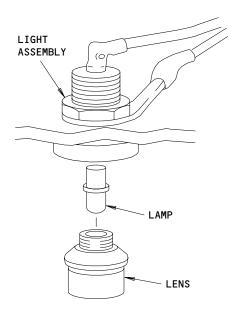
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33-26-00

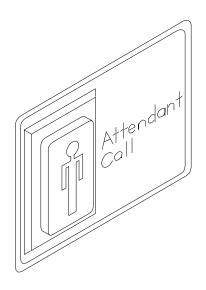
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CALL LIGHT (EXAMPLE)



LAVATORY CALL SWITCH

Lavatory Master Call Lights Figure 102

33-26-00

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## LAVATORY LIGHTS - FAULT ISOLATION

## 1. General

- A. All fault isolation procedures are based on the assumption that wiring is OK and that electrical power is available.
- B. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagram.
- C. After replacing component, perform electrical check for proper operation before closing assembly.

## 2. Fault Isolation Procedures

Figure 103	Lavatory Master Call Light(s) Inop/Chime OK
Figure 104	Lavatory Call - Chimes Inop/Lights Normal
Figure 105	Lavatory Call Light (Above Lav Door) Inop/Chime OK
Figure 106	Lavatory Call Lights and Chime Inop
Figure 107	Lavatory Call Reset (Above Lav Door) Inop

EFFECTIVITY-

33-26-00



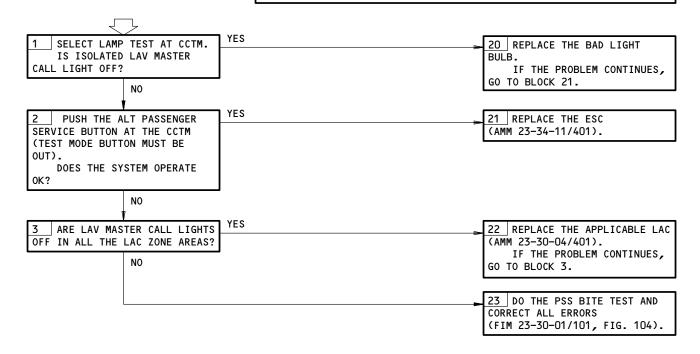
## **PREREQUISITES**

MAKE SURE THIS SYSTEM WILL OPERATE: ACCESS (AMM 23-30-01/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 180G05,414F03,414F04,414F05,414F06,414A10,414A11, 414B10,414B11,414L06

LAVATORY MASTER CALL LIGHT(S) INOP/CHIME OK

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) CSM: PASSENGER SERVICES SYSTEM "ON"



Lavatory Master Call Light(s) Inop/Chime OK Figure 103

EFFECTIVITY-ALL

33-26-00

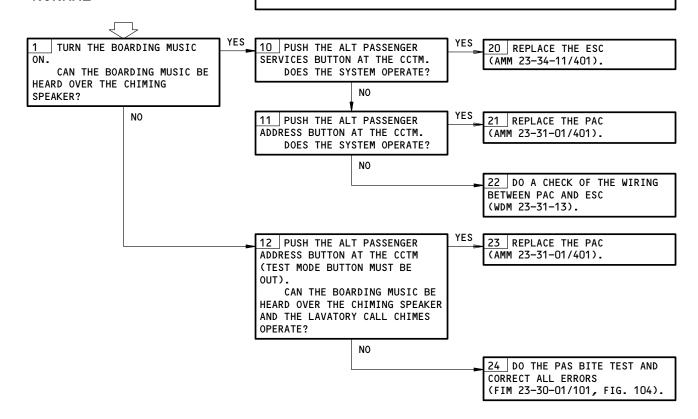


MAKE SURE THIS SYSTEM WILL OPERATE: ACCESS (AMM 23-30-01/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 180G05,414A10,414A11,414B10,414B11,414F03, 414F04,414F05,414F06,414L06

LAVATORY CALL -CHIMES INOP/LIGHTS NORMAL

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) CSM: PASSENGER SERVICES SYSTEM "ON"



Lavatory Call - Chimes Inop/Lights Normal Figure 104

EFFECTIVITY-ALL

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33-26-00

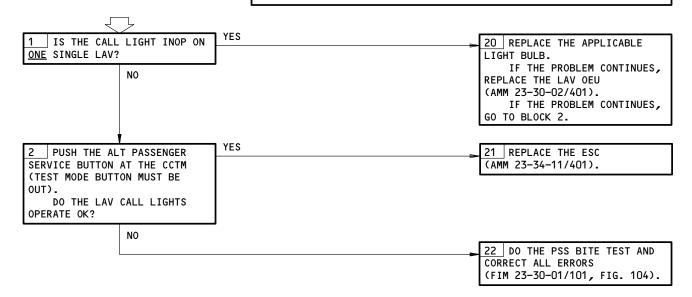


MAKE SURE THIS SYSTEM WILL OPERATE: ACCESS (AMM 23-30-01/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 180G05,414A10,414A11,414B10,414B11,414F03, 414F04,414F05,414F06,414L06

LAVATORY CALL LIGHT (ABOVE LAV DOOR) INOP/CHIME OK

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) CSM: PASSENGER SERVICES SYSTEM "ON"



Lavatory Call Light (Above Lav Door) Inop/Chime OK Figure 105

EFFECTIVITY-ALL

33-26-00

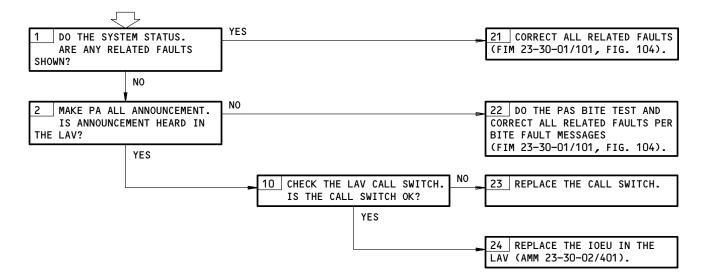


MAKE SURE THIS SYSTEM WILL OPERATE: ACCESS (AMM 23-30-01/501)

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 180G05,414A10,414A11,414B10,414B11,414L06

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) CSM: PASSENGER SERVICES SYSTEM "ON"

# LAVATORY CALL LIGHTS AND CHIMES INOP



Lavatory Call Lights and Chime Inop Figure 106

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33-26-00

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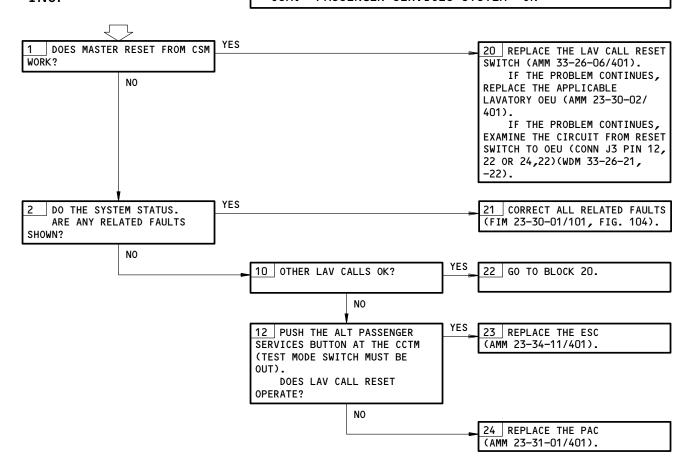


MAKE SURE THIS SYSTEM WILL OPERATE: ACCESS (AMM 23-30-01/501)

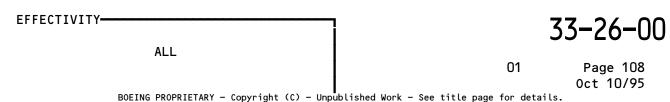
MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 180G05,414A10,414A11,414B10,414B11,414L06

LAVATORY CALL RESET (ABOVE LAV DOOR)
INOP

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201) CSM: PASSENGER SERVICES SYSTEM "ON"



### Lavatory Call Reset (Above Lav Door) Inop Figure 107





### LAVATORY LIGHTS - ADJUSTMENT/TEST

#### 1. General

A. This procedure contains a task to do an operational test of the lights in the lavatory.

TASK 33-26-00-715-001

- 2. Lavatory Lights Operational Test
  - A. References
    - (1) 23-30-01/501, ACESS
    - (2) 24-22-00/201, Manual Control
    - (3) 32-09-02/201, Air/Ground Relays System
    - (4) SSM 33-26-01
  - B. Access
    - (1) Location Zone

200 All Lavatory Interiors

C. Procedure

s 865-002

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

s 865-003

- (2) Make sure the circuit breakers for the lavatory lights are closed:
  - (a) P180 DC Power Distribution Panel
  - (b) P414 Power Distribution Center Left

s 715-004

(3) Do a Test of the Lavatory Lights

YOU MUST CAREFULLY FOLLOW THE STEPS TO PREPARE THE WARNING: SAFETY SENSITIVE SYSTEMS FOR THE AIR MODE. THE AUTOMATIC OPERATION OF THE AIRPLANE SYSTEMS CAN CAUSE INJURY TO

PERSONS AND DAMAGE TO EQUIPMENT.

(a) Do the "Prepare Safety-Sensitive Systems for Air Mode Simulation" task (Ref 32-09-02/201).

EFFECTIVITY-

33-26-00



- (b) Open this circuit breaker and attach a DO-NOT-CLOSE tag.
  - 1) P7 Overhead Circuit Breaker Panel
    - a) 7F23 LANDING GEAR DSP & CONT ALTN
- (c) Operate the ACESS system (Ref 23-30-01/501).
- (d) Make sure the lavatory ceiling lights are on.
- (e) Put the SEAT BELTS switch on the P8 panel to the ON position.
- (f) Make sure the RETURN TO SEAT sign is on.
- (g) Put the SEAT BELTS switch on the P8 Panel to the OFF position.
- (h) Make sure the RETURN TO SEAT sign is off.
- (i) Go into the lavatory.
- (j) Make sure the lavatory door is open.
- (k) Make sure the lavatory lights are on at a dim intensity.
- (l) Close the lavatory door.

NOTE: It is not necessary to lock the door bolt.

- (m) Make sure the lavatory lights changed from a dim intensity to a bright intensity.
- (n) Open the lavatory door.
- (o) Make sure the LOCK DOOR sign is on.
- (p) Close and lock the lavatory door.
- (q) Make sure the LOCK DOOR sign is off.
- (r) Do these steps again for each lavatory.
- D. Put the airplane back to its usual condition.

s 865-019

- (1) Remove the DO-NOT-CLOSE tag and close this circuit breaker.
  - (a) P7 Overhead Circuit Breaker Panel
    - 1) 7F23 LANDING GEAR DSP & CONT ALTN

s 715-021

(2) Do the "Put Safety-Sensitive Systems Back to the Condition Before Air Mode Simulation " task (Ref 32-09-02/201)..

s 865-015

ALL

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

EFFECTIVITY-

33-26-00



### LAVATORY FLUORESCENT LIGHTS - MAINTENANCE PRACTICES

#### 1. General

A. This procedure has the task that replaces lamps in lavatory lights.

TASK 33-26-03-962-000

- 2. Fluorescent Lamp Replacement
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-26-01
    - (3) WDM 33-26-11 thru 33-26-99
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

s 862-001

- (1) Remove electrical power from the lavatory light:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution center panel, P414.

s 012-014

- (2) Remove the lens.
  - (a) LIGHT ON THE CEILING;

Put a small rod into the pin holes in the lens.

- 1) Release the PSU latch with the rod and open the panel.
- (b) LIGHT ON THE WALL;
  Remove the screws from the ends of the lens.

s 962-010

(3) Carefully replace the lamp.

s 412-002

- (4) Install the lens.
  - (a) LIGHT ON THE CEILING;

Push the lens up until latched.

(b) LIGHT ON THE WALL;
Install the lens with its screws.

EFFECTIVITY-

33-26-03



## D. Lamp Test

s 862-003

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

s 862-004

- (2) Remove each DO-NOT-CLOSE tag.
  - (a) Close each circuit breaker that was opened.
  - (b) Make sure the lamp comes on correctly.

s 862-008

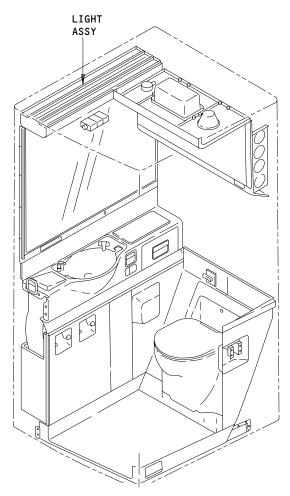
(3) Remove the electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

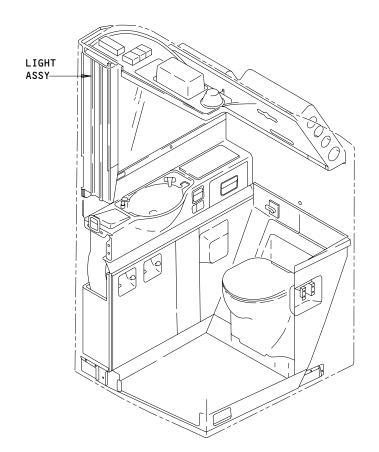
ALL

33-26-03





LAVATORY WITH CEILING MOUNTED LIGHT ASSY (TYPICAL)



LAVATORY WITH WALL MOUNTED LIGHT ASSY (TYPICAL)

Lavatory Fluorescent Lights Relamping Figure 201

ALL ALL

571635

33-26-03

01

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## LAVATORY DOOR LOCK SWITCH - REMOVAL/INSTALLATION

#### 1. General

- A. This procedure contains the tasks that remove and install the door lock switch in a lavatory.
- B. The door lock switches are installed in the lavatory door frame.

TASK 33-26-04-004-001

- 2. <u>Door Lock Switch Removal</u>
  - A. References
    - (1) SSM 33-26-05
  - B. Access
    - (1) Location Zone

200 Lavatory Door Frame

C. Removal Procedure

S 864-029

- (1) Prepare for the switch removal:
  - (a) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
    - 1) P180 DC Power Distribution Panel
      - a) 180F19 LAV DOOR LOCK IND

s 024-030

- (2) Remove the switch:
  - (a) Remove the screws that attach the trim plate and the door lock switch to the door frame.
  - (b) Pull the trim plate and the door lock switch from the door frame.
  - (c) Remove the screws that attach the trim plate to the door lock switch.
  - (d) Disconnect the electrical wires from the door lock switch.
  - (e) Remove the switch.

TASK 33-26-04-404-008

- 3. Door Lock Switch Installation
  - A. References
    - (1) 23-30-01/501, ACESS

EFFECTIVITY-

33-26-04



- (2) 24-22-00/201, Manual Control
- (3) 32-09-02/201, Air/Ground Relay System
- (4) SSM 33-26-05
- Access В.
  - (1) Location Zone

Lavatory Door Frame 200

Installation Procedure

s 424-031

- (1) Install the switch in the door frame:
  - (a) Connect the electrical wires to the door lock switch.
  - (b) Attach the trim plate to the door lock switch with screws.
  - (c) Install the trim plate and the door lock switch in the door frame.
  - (d) Install the screws that attach the trim plate and the door lock switch to the lavatory door frame.
  - Close this circuit breaker and remove the DO-NOT-CLOSE tag.
    - 1) P180 DC Power Distribution Panel
      - a) 180F19 LAV DOOR LOCK IND
- D. Do an Operational Test of the Door Lock Switch.

S 864-032

- (1) Prepare to do a test of the door lock switch:
  - (a) Supply electrical power (AMM 24-22-00/201).

YOU MUST CAREFULLY FOLLOW THE STEPS IN THE REFERENCED TASK WARNING: TO PREPARE THE SAFETY SENSITIVE SYSTEMS FOR THE AIR MODE.

FAILURE TO FOLLOW THE STEPS CORRECTLY CAN CAUSE THE AUTOMATIC OPERATION OF THE AIR PLANE SYSTEMS. THIS CAN

CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- Do the "Prepare Safety-Sensitive Systems for Air Mode Simulation" task (Ref 32-09-02/201).
- Open this circuit breaker and attach a DO-NOT-CLOSE tag on the P7 Overhead Circuit Breaker Panel:
  - 1) 7F23 LANDING GEAR DSP & CONT ALTN

EFFECTIVITY-

ALL

33-26-04



- (d) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
- (e) Make sure the lavatory fluorescent light comes on.
- (f) Make sure the LOCK DOOR sign comes on.

#### s 714-033

- (2) Do a test of the door lock switch:
  - (a) Go into the lavatory, close the door, and set the door lock bolt to the LOCK position.
  - (b) Make sure the LOCK DOOR sign goes off.
  - (c) Make sure the lavatory ceiling light changed from a dim intensity to a bright intensity.

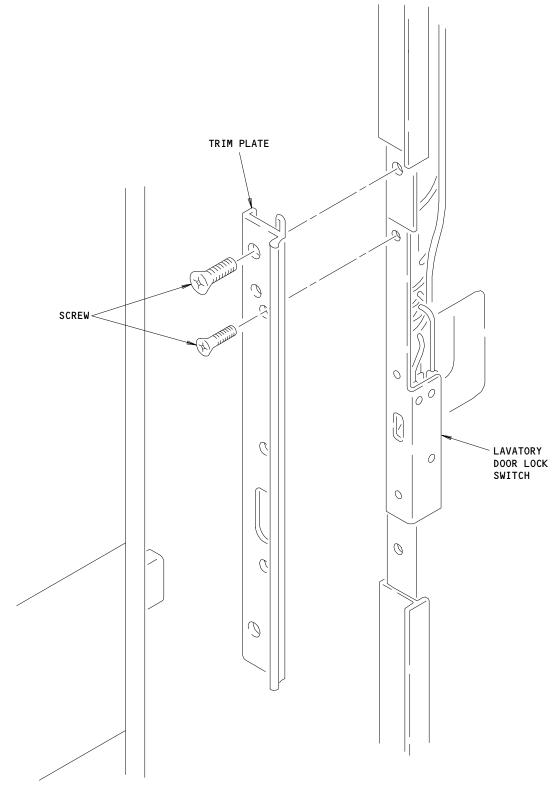
#### S 864-034

- (3) Put the airplane in its usual condition:
  - (a) Close this circuit breaker and remove the DO-NOT-CLOSE tag from the P7 Overhead Circuit Breaker Panel.
    - 1) 7F23 LANDING GEAR DSP & CONT ALTN
  - (b) Do the "Put Safety-Sensitive Systems Back to the Condition Before Air Mode Simulation" task (Ref 32-09-02/201).
  - (c) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-26-04





Lavatory Door Lock Switch Installation Figure 401

ALL

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## LAVATORY LIGHTS BALLAST - REMOVAL/INSTALLATION

#### 1. General

A. This procedure has the tasks that remove and install ballasts for the lavatory ceiling lights.

TASK 33-26-05-024-021

- 2. Ballast Removal
  - A. References
    - (1) SSM 33-26-01
  - B. Access
    - (1) Location Zone

200 Lavatory Interior

C. Ballast Removal

S 864-041

- (1) Remove electrical power from the lavatory light:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution center panel, P414.

s 014-042

- (2) Open the lavatory PSU panel as follows to get access to the light ballast:
  - (a) Put a small rod into the pin hole on the PSU panel.
  - (b) Release the PSU latch with the rod and open the panel.

s 024-027

- (3) Remove the ballast:
  - (a) Disconnect the electrical cable from the ballast.
  - (b) Remove the installation screws from the ballast.
  - (c) Disconnect the ballast electrical bond to ground at the ballast.
  - (d) Remove the ballast.

TASK 33-26-05-424-022

- 3. <u>Ballast Installation</u>
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 32-09-02/201, Air/Ground Relay System
    - (4) SSM 33-26-01

EFFECTIVITY-

33-26-05



- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Ballast Installation

s 424-028

- (1) Install the ballast:
  - (a) Set the ballast in its position.
  - (b) Connect the electrical bond wire to the ballast.
  - (c) Install the screws that attach the ballast to the lavatory.
  - (d) Connect the electrical cable to the ballast.
  - (e) Close the PSU panel.
- D. Ballast Test

S 864-032

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

S 864-033

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

s 864-037

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO PREPARE THE SAFETY SENSITIVE SYSTEMS FOR THE AIR MODE. FAILURE TO FOLLOW THE STEPS CORRECTLY CAN CAUSE THE AUTOMATIC OPERATION OF THE AIRPLANE SYSTEMS. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Do this task: "Prepare Safety-Sensitive System for Air Mode Simulation" (Ref 32-09-02/201).

S 864-040

- (4) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7F23 LANDING GEAR DSP & CONT ALTN

s 864-038

(5) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).

s 714-034

ALL

- (6) Close and lock the lavatory door.
  - (a) Make sure the fluorescent light changes from dim to bright.

EFFECTIVITY-

33-26-05



s 864-035

(7) Remove the DO-NOT-CLOSE tag.

(a) Close the circuit breaker.

1) 7F23 LANDING GEAR DSP & CONT ALTN

s 864-036

(8) Do this task: "Put Safety-Sensitive Systems Back to the Condition Before Air Mode Simulation" (Ref 32-09-02/201).

s 414-043

(9) Close the lavatory PSU panel.

s 864-020

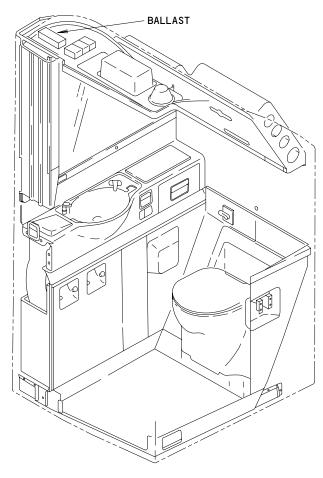
(10) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

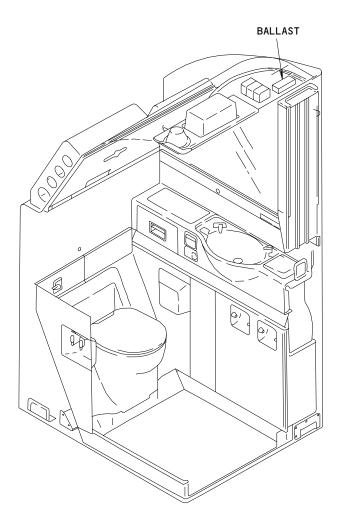
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UPPER DECK LAVATORY (EXAMPLE)



UPPER DECK LAVATORY (EXAMPLE)

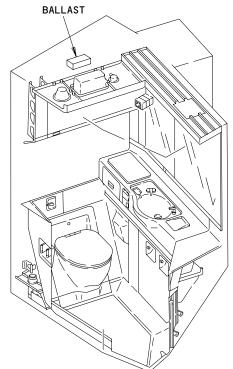
Lavatory Lights Ballast Installation Figure 401 (Sheet 1)

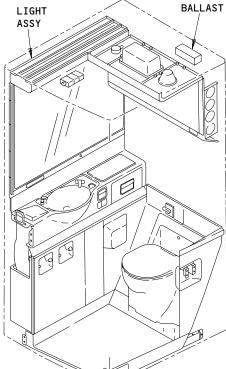
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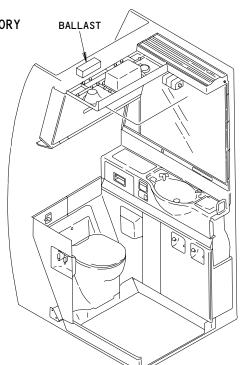
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CENTERLINE LAVATORY AFT DOOR 5 (EXAMPLE)



CENTERLINE LAVATORY (EXAMPLE)

SIDEWALL LAVATORY (EXAMPLE)

Lavatory Lights Ballast Installation Figure 401 (Sheet 2)

EFFECTIVITY-ALL

571789

33-26-05

02

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## LAVATORY CALL RESET SWITCH - REMOVAL/INSTALLATION

#### 1. General

A. This procedure contains the tasks that remove and install the lavatory call reset switch.

TASK 33-26-06-004-001

- 2. <u>Lavatory Call Reset Switch Removal</u> (Fig. 401)
  - A. References
    - (1) SSM 33-26-01 thru 33-26-02
    - (2) IPC 33-26-00 Fig. 50
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Switch Removal

s 864-003

- (1) Remove electrical power from the switch:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution center panel, P414.

s 034-004

(2) Turn the switch cover counterclockwise and remove it from the switch.

s 034-005

(3) Turn the switch retainer that is behind the panel 45 degrees and remove it through the square hole in the lavatory panel.

s 024-006

(4) Pull the switch assembly through the square hole in the panel.

s 034-007

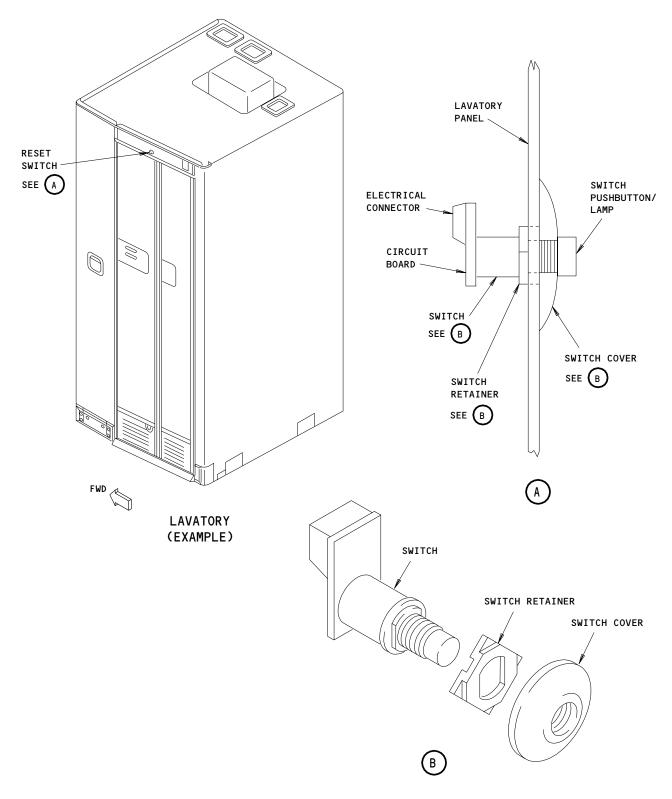
(5) Disconnect the electrical wires from the switch.

EFFECTIVITY-

33-26-06

ALL





Lavatory Call Rest Switch Component Location Figure 401

ALL

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TASK 33-26-06-404-008

- 3. <u>Lavatory Call Reset Switch Installation</u> (Fig. 401)
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-26-01 thru 33-26-02
    - (4) IPC 33-26-00 Fig. 50
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Switch Installation

s 434-009

(1) Connect the electrical wires to the reset switch.

s 424-010

(2) Put the switch assembly through the square hole in the panel.

s 434-011

(3) Install the switch retainer on the switch.

s 434-012

(4) Put the switch retainer through the square hole in the panel.

s 434-013

(5) Turn the switch and the switch retainer 45 degree to lock the corners of the retainer to the panel.

s 434-014

- (6) Install and tighten the switch cover.
- D. Switch Test

s 864-023

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

S 864-015

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

EFFECTIVITY-

33-26-06



s 864-017

(3) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

s 714-017

- (4) In the lavatory, set the call switch to the on position.
  - (a) Make sure the lamp in the reset switch above the door comes on correctly.

s 864-020

- (5) Set the reset switch to the off position.
  - (a) Make sure the lamp in the reset switch goes off correctly.

s 864-022

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

EFFECTIVITY-

ALL

33-26-06



#### LAVATORY INFORMATION SIGNS - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure has these tasks:
    - (1) LOCK DOOR Sign Removal
    - (2) LOCK DOOR Sign Installation
    - (3) RETURN TO SEAT Sign Removal
    - (4) RETURN TO SEAT Sign Installation

TASK 33-26-07-004-001

- 2. LOCK DOOR Sign Removal (Fig. 401)
  - A. References
    - (1) SSM 33-26-01 thru 33-26-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Sign Removal

S 864-038

- (1) Remove electrical power from the sign:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the DC power distribution panel, P180.

s 014-003

(2) Open the dispenser door.

s 034-004

(3) Remove the sign fasteners.

s 034-005

(4) Disconnect the wires from the sign assembly terminals.

s 024-006

(5) Remove the sign assembly.

TASK 33-26-07-404-007

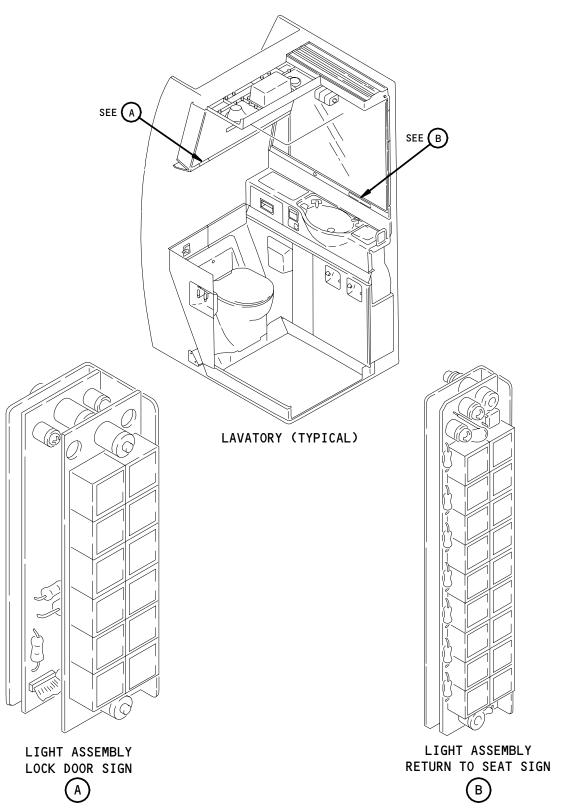
- 3. LOCK DOOR Sign Installation
  - A. References
    - (1) AMM 24-22-00/201, Manual Control

EFFECTIVITY-

33-26-07

ALL





Lavatory Information Signs Installation Figure 401 (Sheet 1)

EFFECTIVITY-ALL

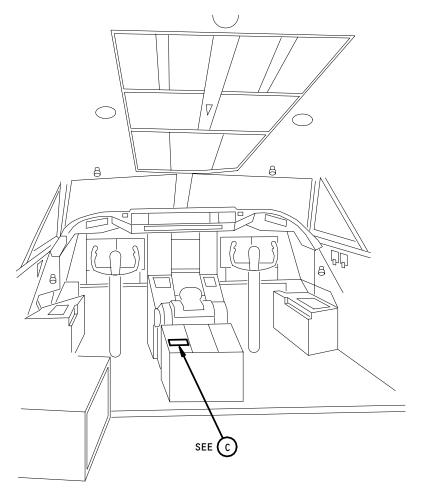
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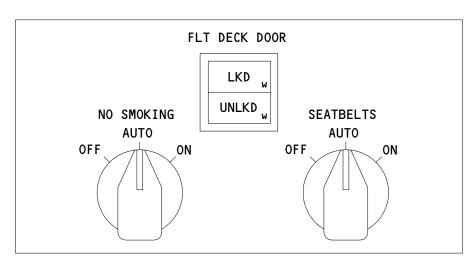
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PASS SIGNS

 $\bigcirc$ 

Lavatory Information Signs Installation Figure 401 (Sheet 2)

ALL ALL

33-26-07

01

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- (2) SSM 33-26-01 thru 33-26-02
- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Sign Installation

s 434-008

(1) Connect the electrical wires to the replacement sign assembly.

s 424-009

(2) Put the sign assembly in its position.

s 434-010

(3) Install the fasteners in the sign assembly.

s 414-011

- (4) Close the dispenser door.
- D. Sign Test

s 864-039

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

s 864-040

- (2) Remove each DO-NOT-OPERATE tag.
  - (a) Close each circuit breaker that was opened.
  - (b) Make sure the LOCK DOOR sign comes on correctly.

s 714-041

- (3) Close and lock the lavatory door.
  - (a) Make sure the LOCK DOOR sign goes off.

s 864-042

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

TASK 33-26-07-004-018

- 4. <u>RETURN TO SEAT Sign Removal</u> (Fig. 401)
  - A. References
    - (1) SSM 33-26-01 thru 33-26-02
    - B. Access
      - (1) Location Zone

200 Upper Half of Fuselage

EFFECTIVITY-

33-26-07



#### C. Sign Removal

s 864-043

- (1) Remove electrical power from the sign:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution center panel, P414.

s 014-020

- (2) Remove the mirror from the lavatory wall:
  - (a) If the mirror has one part, do these steps:
    - 1) Remove the screws from the bottom of the retainers.
    - Lift the mirror assembly up and remove it from the mounting bracket.
  - (b) If the mirror has two parts, do these steps:
    - 1) Push the button to release the mirror, and open the mirror segment attached by a hinge:
      - a) Remove the fasteners from the mirror.
      - b) Remove the mirror from the wall.
      - c) Remove the screws from the bottom of the mirror retainer.
    - 2) Lift the mirror assembly up and remove it from the mounting bracket.

s 034-021

(3) Remove the two screws from the sign assembly.

s 034-022

(4) Disconnect the electrical wires from the sign assembly terminals.

s 024-023

(5) Remove the sign assembly.

TASK 33-26-07-404-024

- 5. RETURN TO SEAT Sign Installation (Fig. 401)
  - A. References
    - (1) AMM 23-30-01/501, ACESS

EFFECTIVITY-

33-26-07



- (2) AMM 24-22-00/201, Manual Control
- (3) SSM 33-26-01 thru 33-26-02
- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Sign Installation

S 434-025

(1) Connect the electrical wires to the sign assembly.

s 424-026

(2) Put the sign assembly in its position.

s 434-027

(3) Install the sign assembly fasteners.

S 414-028

- (4) Install the mirror on the wall:
  - (a) If the mirror has one part, do these steps:
    - 1) Put the mirror in its position.
    - 2) Install the screws into the bottom of the mirror retainer at the lower edge of the mirror.
  - (b) If the mirror has two parts, do these steps:
    - 1) Put the mirror in its position.
    - 2) Install the screws into the bottom of the mirror retainer at the lower edge of the mirror assembly.
    - 3) Install the mirror segment attached by a hinge.
    - 4) Install the fastener in the mirror segment attached by a hinge.
    - 5) Close the mirror.
- D. Sign Test

S 864-044

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

s 86/L-0/5

ALL

(2) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.

EFFECTIVITY-

33-26-07



s 864-046

(3) Operate the ACESS system (AMM 23-30-01/501).

s 714-048

(4) At the P8 panel, set the SEAT BELTS switch to the on position.(a) Make sure the RETURN TO SEAT sign comes on correctly.

S 864-049

(5) Set the switch to the off position.

s 864-050

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

EFFECTIVITY-

ALL

33-26-07



### GALLEY LIGHTS - DESCRIPTION AND OPERATION

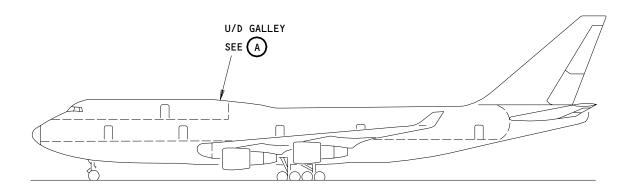
#### 1. General (Fig. 1)

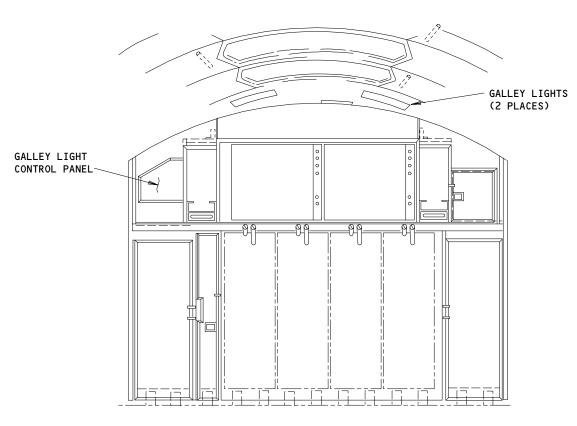
- A. The main deck galley lighting is provided by fluorescent lights located in the ceilings. For relamping of main deck galley lights, refer to 33-21-02/201. For details of galley circuits and operation, refer to Chapter 25.
- B. The upper deck galley area lighting is provided by fluorescent lights installed in the ceiling reveals above the galley and fluorescent light panels aft and to the side of the ceiling reveals. Relamping is easily accomplished through the opening at the ends of the ceiling reveal or by removing the lens from the aft fluorescent light panels.
- C. The upper deck galley ceiling lights use ground service transfer bus 115-volt ac. The upper deck galley ceiling lights are controlled by a 3-position (OFF, DIM, BRIGHT) switch in the upper deck galley control panel. The galley light control panel switch controls the solid state ballasts outputs. With the switch in the DIM position the ballasts provide a reduced current output less than the lamp-rated current which allows a fixed lower level of illumination. With the switch in the BRIGHT postion, the ballasts provide a current output at the lamp-rated current which allows a full illumination.
- D. 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

ALL

33-27-00







UPPER DECK GALLEY

Galley Lights - Components Location Figure 1

EFFECTIVITY-ALL

33-27-00

01

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## UPPER DECK GALLEY LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has these tasks:
    - (1) Galley Light Lamp Replacement
    - (2) Galley Light Ballast Removal
    - (3) Galley Light Ballast Installation

TASK 33-27-07-962-001

- 2. Galley Light Lamp Replacement (Fig. 201)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-27-01
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Replacement Procedure

s 862-044

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

S 862-046

- (2) Do one of these steps to remove electrical power from the galley light:
  - (a) Set the switch for the galley 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 Power Distribution Center Panel, P414.

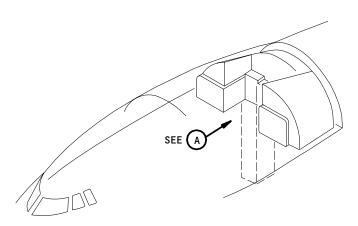
s 962-028

- (3) Do the Lamp Replacement:
  - (a) For ceiling panel lights, get access to the lamp through the opening at the panel end.
  - (b) For galley (work) lights, get access to the lamp by the removal of the lens from the panel.

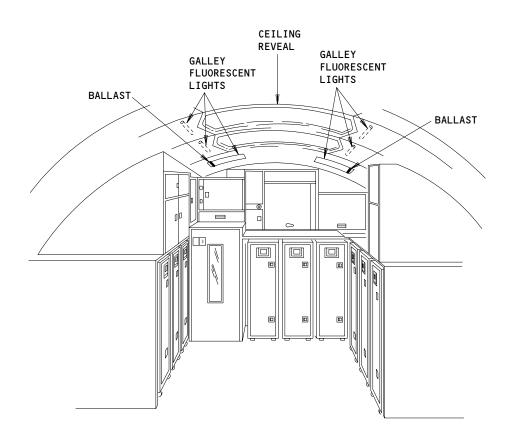
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33-27-07





## UPPER DECK GALLEY



UPPER DECK GALLEY LIGHTS



Upper Deck Galley Lights Component Location Figure 201

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33-27-07

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- (c) One lampholder in each fluorescent light assembly has a telescopic end.
- (d) Remove the lamp as follows:
  - 1) Push the lamp longitudinally to the lampholder with the telescopic end.
  - 2) When the opposite end of the lamp is clear of its lampholder, remove the lamp.
- (e) Install a new lamp:
  - Put one end of the lamp into the lampholder with a telescopic end.
  - 2) Push longitudinally on the lamp to the telescopic end.
  - 3) Put the opposite end of the lamp in its lampholder.
- (f) If the replaced lamp was in the galley (work) light, install the lens.
- (g) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - 1) P414 Power Distribution Center Left
    - a) 414H22 CEILING LIGHT UPPER DECK

#### s 712-029

- (4) Do a test of the light:
  - (a) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
    - 1) Close each circuit breaker that was opened.
  - (b) Set the switch to the on position.
    - 1) Make sure the lamp comes on correctly.
  - (c) Set the switch to the usual position.

### s 862-047

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

### TASK 33-27-07-962-016

- Ballast Removal
  - A. References
    - (1) 25-22-03/401, Upper Deck Ceiling Panels
    - (2) SSM 33-27-01
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Removal Procedure

#### s 862-032

- (1) Remove electrical power from the galley light ballast:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the Power Distribution Center Panel, P414.

EFFECTIVITY-

33-27-07

ALL



#### s 022-033

- (2) To replace the ballast on airplanes that have the sculptured ceiling panels, do these steps:
  - (a) Get access to the ballast by the removal of the fluorescent lamp in the ceiling light.
  - (b) One lampholder in each fluorescent light assembly has a telescopic end.
  - (c) Remove the lamp as follows:
    - 1) Push the lamp longitudinally to the lampholder with the telescopic end.
    - 2) When the opposite end of the lamp is clear of its lampholder, remove the lamp.
  - (d) Remove the screws that attach the ballast to the light assembly.
  - (e) Disconnect the electrical connector from the ballast.
  - (f) Remove the ballast.

## s 022-035

- (3) To replace the ballast on airplanes that do not have the sculptured ceiling panels, do these steps:
  - (a) Remove the ceiling panel (Ref 25-22-03/401).
  - (b) Remove the screws that attach the ballast to the panel.
  - (c) Disconnect the electrical cable from the ballast.

#### s 022-037

- (4) To remove the ballast in the galley (work) lights, do these steps:
  - (a) Remove the lens from the ceiling panel.
  - (b) Remove the screws that attach the ballast to the light assembly.
  - (c) Disconnect the electrical connector from the ballast.
  - (d) Remove the ballast.

#### TASK 33-27-07-422-031

# 4. <u>Ballast Installation</u>

- A. References
  - (1) 24-22-00/201, Manual Control
  - (2) 25-22-03/401, Upper Deck Ceiling Panels
  - (3) SSM 33-27-01
- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Installation Procedure

#### s 422-038

- (1) To install the ballast on airplanes that have the sculptured ceiling panels, do these steps:
  - (a) Put the ballast in the light assembly.
  - (b) Connect the electrical connector to the ballast.

EFFECTIVITY-

33-27-07



- (c) Install the screws that attach the ballast to the light assembly.
- (d) Install the fluorescent lamp in the light assembly as follows:
  - Put one end of the lamp into the lampholder with a telescopic end.
  - 2) Push longitudinally on the lamp to the telescopic end.
  - 3) Put the opposite end of the lamp in its lampholder.

#### s 422-040

- (2) To install the ballast on airplanes that do not have the sculptured ceiling panels, do these steps:
  - (a) Put the ballast on the ceiling panel.
  - (b) Connect the electrical connector to the ballast.
  - (c) Install the screws that attach the ballast to the panel.
  - (d) Install the ceiling panel (Ref 25-22-03/401).

#### s 422-042

- (3) To install the ballast in the galley (work) lights, do these steps:
  - (a) Put the ballast in the light assembly.
  - (b) Install the screws that attach the ballast to the light assembly.
  - (c) Connect the electrical connector to the ballast.
  - (d) Install the lens on the ceiling panel.

#### s 712-043

- (4) Do a test of the ballast:
  - (a) Remove each DO-NOT-CLOSE tag and close each circuit breaker that was opened.
  - (b) Supply electrical power (AMM 24-22-00/201).
  - (c) Set the switch for the galley light to the bright position.
    - Make sure the lights connected to the new ballast come on brightly.
  - (d) Set the switch to the dim position.
    - 1) Make sure the lights become dim.
  - (e) Set the switch to the usual position.

#### S 862-036

ALL

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

EFFECTIVITY-

33-27-07



## UPPER DECK PASSENGER COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

- 1. General (Fig. 1)
  - A. Upper deck lighting is supplied by these light systems:
    - (1) Indirect ceiling
    - (2) Sidewall
    - (3) Direct ceiling
    - (4) Overstair
    - (5) Stair tread
    - (6) Galley
    - (7) Reading
    - (8) Closet and auxiliary
    - (9) Lavatory
    - (10) Crew rest
  - B. Control for the indirect ceiling lights, sidewall lights, and direct ceiling lights is from the Cabin System Module (CSM) on the attendant's panel.
    - (1) During decompression, discrete data supplied to ACESS from the cabin decompression relay will override any CSM previously chosen light modes by switching all lighting to an on and bright condition.
  - C. For more data about this lighting system, refer to these sources:
    - (1) SSM 33-28-01 thru 33-28-99
    - (2) WDM 33-28-11 thru 33-28-99
- 2. <u>Descriptions</u>
  - A. Indirect Ceiling Lights
    - (1) An indirect ceiling light is installed in the right end and the left end of the ceiling panels of the upper deck. Each light contains a fluorescent lamp. The lamp is replaced from the passenger compartment through the slot at the end of the ceiling panel.
    - (2) ON SOME AIRPLANES;
      Ceiling light ballasts are installed above the outboard PSU rails.
    - (3) ON SOME AIRPLANES;
      Ceiling light ballasts are installed on the top side of the ceiling panels.
    - (4) Cabin System Module (CSM) pushbutton switches control the operation of the ballasts to turn the ceiling lights off, on, dim or bright.
  - B. Sidewall Lights
    - (1) Fluorescent lights illuminate the upper deck windows and sidewall panels. The installations are similar to the sidewall lights on the main deck passenger compartment. Light assemblies are installed above slots in the sidewall panels. The lamps in these lights can be replaced through the slots.

EFFECTIVITY-

33-28-00



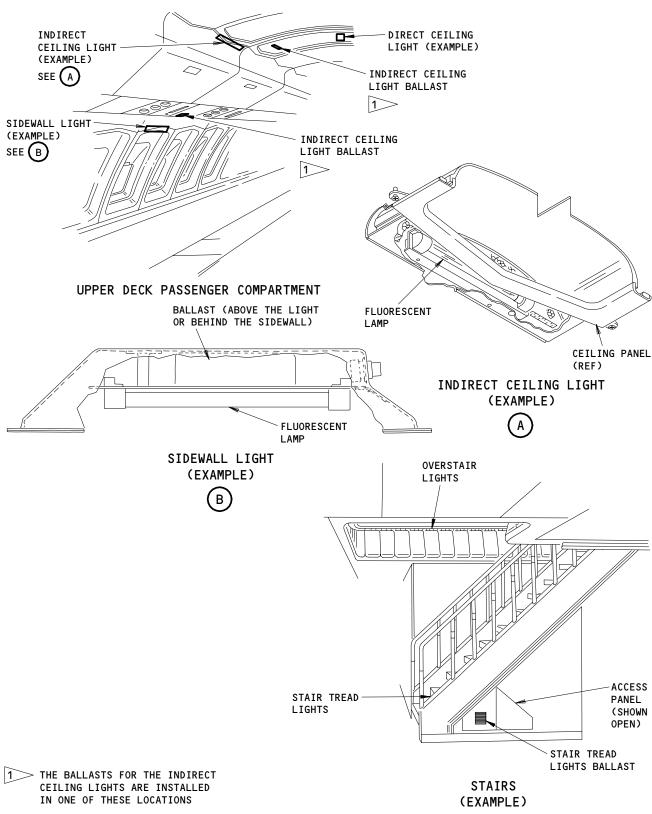
- (2) ON SOME AIRPLANES; The ballasts are above the lights.
- (3) ON SOME AIRPLANES;
  The ballasts are behind the lights on the back of the sidewall.
- (4) Cabin System Module (CSM) pushbutton switches control the operation of the ballasts to turn the window lights off, on, dim, or bright.
- C. Direct Ceiling Lights
  - (1) The direct ceiling lights consist of incandescant light assemblies recessed in the following ceiling locations:
    - (a) Over the aisle adjacent to upper deck lavatories.
    - (b) Over the crossaisle between upper deck exit doors.
    - (c) Over the upper deck aisle area adjacent to the stairway.
  - (2) One forward and one aft direct ceiling light will be illuminated when the flight deck access lights are activated.
  - (3) All upper deck direct ceiling lights can be illuminated through the use of upper deck attendants panel CSM switch operations.
- D. Overstair Lights
  - (1) The stairwell is illuminated by over the stair fluorescent light fixtures mounted on the vertical surface between the main and upper decks. Fluorescent lamps shine downward through translucent lens and grille assemblies on a curved reflector panel. Any fluorescent lamp or solid state ballast can be easily replaced by removing the applicable grille assembly. Grille assemblies are held in place by spring retainers and are readily removable.
  - (2) The 115 volt ground service bus provides electrical power to solid state ballasts located in the light assemblies. One ballast provides power for two fluorescent lamps.
  - (3) The overstair lights are controlled by a lighted pushbutton switch on the attendants panel located at door 2 left. The pushbutton switch provides an open or closed pair of control terminals on the solid state ballast for ballast activation and lamp illumination.
- E. Stair Tread Lights
  - (1) A fluorescent light assembly is installed in each step. Seven solid state ballasts installed below the stair ramp provide power to the fluorescent lamps. Each ballast controls two lamps. 115 volts ac ballast power is supplied from the ground service bus through a circuit breaker on the P414 power distribution center - left. Access to the lamps is gained by removing the stair carpet and tread plate.

EFFECTIVITY-

ALL

33-28-00





Upper Deck Passenger Compartment Lights - Component Location Figure 1

33-28-00

01

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- F. Upper Deck Galley Lights
  - (1) Galley lights are found in AMM 33-27-00/001, Galley Lights.
- G. Passenger Reading Lights
  - (1) The upper deck reading lights, similar to the main deck passenger compartment reading lights, are located in the side and center passenger service units. The upper deck reading lights are multiplexed as part of the same system that controls the main deck reading lights. Refer to 33-23-00 for reading light description and operation.
- H. Closet and Auxiliary Lights
  - (1) The upper deck closet lights are similar to the main deck passenger compartment closet lights (Ref 33-22-00). The 28-volt ac main bus supplies power to the lights through circuit breakers located on the P414 power distribution center left.
  - (2) Auxiliary lights consist of the upper deck attendants reading lights and are controlled by switches at the attendants station. 28 volts ac power is provided for incandescent reading lamps for each attendant.
  - (3) Auxiliary lights also include a service compartment access light aft of the upper deck galley. An access panel in the aft upper deck galley partition provides access to the cabin air recirculation filters and fans. The overhead of the service area is equipped with an incandescent light and switch.
- I. Lavatory Lights
  - (1) The lavatory lights are found in AMM 33-26-00/001, Lavatory Lights.
- J. Crew Rest Lights
  - (1) For the lights in a crew rest, refer to AMM 33-29-00/001, Crew Rest Lights.

### 3. Operation

- A. Ceiling, window reveal, direct ceiling, and night light illumination is controlled by cabin system module (CSM) pushbutton switches located on the upper deck attendants panel. CSM switches labeled NITE, LO, MED, or HIGH select combinations of on/off and dim/bright light intensities for each of the four light systems.
- B. Each operated CSM pushbutton switch supplies information to the Advanced Cabin Entertainment/Service System (ACESS) commanding solid state ballasts and incandescant lights relays to active or inactive states.
- C. Electrical power applied to ACESS will initially command upper deck cabin light intensity to be bright.

33-28-00



## UPPER DECK PASSENGER COMPARTMENT LIGHTS - ADJUSTMENT/TEST

### 1. General

- A. This procedure has this task:
  - (1) Upper Deck Lights Operational Test
- B. The test for the access lights is in AMM 33-13-00/501, Flight Compartment Illumination.

TASK 33-28-00-715-018

- 2. Upper Deck Lights Operational Test
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-28-04, 33-28-07, 33-28-07
    - (4) WDM 33-13-71
    - (5) WDM 33-22-11
    - (6) WDM 33-28-41 thru 33-28-48
    - (7) WDM 33-28-75 thru 33-28-77
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

s 865-015

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

s 865-017

(2) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

s 715-004

ALL

- (3) Do a test of the upper deck lights:
  - (a) At the attendant's panel, set the switch for the lights to the night lighting position.
    - 1) Make sure the lights come on correctly.
  - (b) At the attendant's panel, set the switch for the lights to the dim lighting position.
    - 1) Make sure the lights come on correctly.

EFFECTIVITY-

33-28-00



- (c) At the attendant's panel, set the switch for the lights to the medium lighting position.
  - 1) Make sure the lights come on correctly.
- (d) At the attendant's panel, set the switch for the lights to the bright lighting position.
  - 1) Make sure the lights come on correctly.

s 865-013

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

EFFECTIVITY-

ALL

33-28-00

01

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## UPPER DECK INDIRECT CEILING LIGHTS - MAINTENANCE PRACTICES

### 1. General

- A. This procedure contains the task that replaces the lamps in the indirect ceiling lights on the upper deck.
- B. Ceiling panels on the upper deck have a light assembly installed at each end of the panel.
- C. The fluorescent lamps can be replaced through the openings between the ceiling panel and reveal panel.

### TASK 33-28-01-962-001

- 2. <u>Indirect Ceiling Light Lamp Replacement</u>
  - A. References
    - (1) 23-30-01/501, ACESS
    - (2) 24-22-00/201, Manual Control
    - (3) IPC 33-28-01
    - (4) SSM 33-28-09
  - B. Access
    - (1) Location Zone

200 Upper Deck Ceiling Panels

- C. Replacement Procedure
  - s 862-011
  - (1) Prepare for the lamp replacement:
    - (a) Supply electrical power (Ref 24-22-00/201):
    - (b) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
    - (c) Identify the indirect ceiling lights that do not come on.
    - (d) Open this circuit breaker and attach a DO-NOT-CLOSE tag.
      - 1) P414 Power Distribution Center Left
        - a) 414H22 UPPER DECK CEILING LIGHT

#### s 962-012

(2) Replace the lamp:

ALL

- (a) Remove the defective lamp from the light assembly as follows:
  - 1) Push the lamp longitudinally to compress the telescopic end.

EFFECTIVITY-

33-28-01



- 2) When the opposite lamp end is clear of the lamp holder, remove the lamp.
- Install the lamp into the light assembly as follows:
  - 1) Put one end of the new lamp into the telescopic lamp holder end.
  - 2) Push longitudinally on the lamp to compress the telescopic end.
  - 3) Install the opposite lamp end into the lamp holder.

### s 712-013

- (3) Do a test of the lamp:
  - (a) Close this circuit breaker and remove the DO-NOT-CLOSE tag.
    - 1) P414 Power Distribution Center
      - a) 414H22 UPPER DECK CEILING LIGHT
  - (b) Make sure the lamp comes on.

### s 862-010

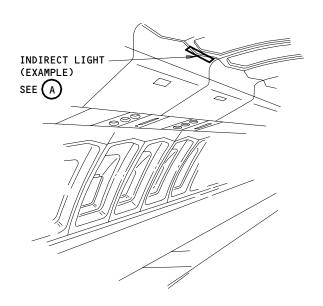
(4) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

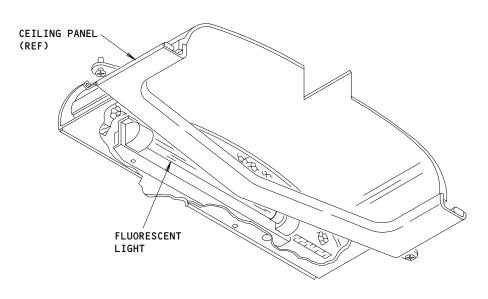
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33-28-01





UPPER DECK PASSENGER COMPARTMENT



INDIRECT CEILING LIGHT (EXAMPLE)



Upper Deck Indirect Ceiling Lights - Component Location Figure 201

ALL ALL

318841

33-28-01

01

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# INDIRECT CEILING LIGHTS BALLAST - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure contains these tasks:
    - (1) Indirect Ceiling Light Ballast Removal
    - (2) Indirect Ceiling Light Ballast Installation
  - B. ON SOME AIRPLANES;

The ballasts are installed in the upper deck above the outboard PSU rail.

C. ON SOME AIRPLANES;

The ballasts are installed in the upper deck on the top side of the ceiling panels.

TASK 33-28-02-004-001

- 2. Indirect Ceiling Light Ballast Removal
  - A. References
    - (1) 25-22-03/401, Upper Deck Ceiling Panels
    - (2) 25-23-01/201, Passenger Service Units
    - (3) SSM 33-28-09
    - (4) WDM 33-28-11 thru 33-28-99
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Ballast Removal

S 864-034

- (1) Remove electrical power from the indirect ceiling light:
  - (a) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution center panel, P414.

s 014-035

(2) BALLAST ABOVE A PSU RAIL;
Open the applicable PSU panel (AMM 25-23-01/201).

s 014-036

- (3) BALLAST ABOVE A CEILING PANEL; Lower the ceiling panel (AMM 25-22-03/401).
  - (a) Disconnect the electrical connector.
  - (b) Remove each screw that holds the ballast.

TASK 33-28-02-404-007

- 3. <u>Indirect Ceiling Light Ballast Installation</u>
  - A. References
    - (1) AMM 23-30-01/501, ACESS

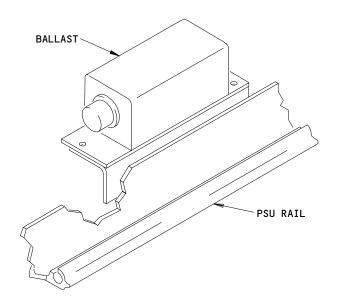
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(2) AMM 24-22-00/201, Manual Control

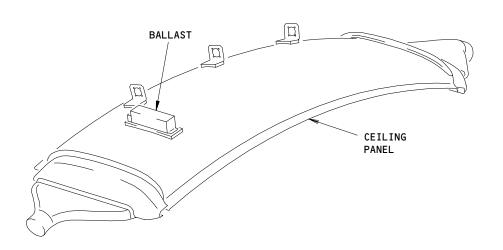
EFFECTIVITY-

33-28-02





INDIRECT CEILING LIGHT BALLAST (ABOVE THE PSU - EXAMPLE)



INDIRECT CEILING LIGHT BALLAST (ABOVE THE CEILING PANEL - EXAMPLE)

THE BALLASTS FOR THE INDIRECT CEILING LIGHTS ARE INSTALLED IN ONE OF THESE LOCATIONS

Upper Deck Passenger Compartment Lights - Component Location Figure 401

33-28-02

01

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- (3) AMM 25-22-03/401, Upper Deck Ceiling Panels
- (4) AMM 25-23-01/201, Passenger Service Units (PSU's)
- (5) SSM 33-28-09
- (6) WDM 33-28-11 thru 33-28-99
- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Ballast Installation

s 424-028

- (1) Install the ballast:
  - (a) Install the ballast with its screws.
  - (b) Connect the electrical connector.

S 864-038

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

S 864-039

(3) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).

S 864-040

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

s 714-041

- (5) At the attendant's panel, set the switch for the indirect ceiling light to the dim position.
  - (a) Make sure the light comes on correctly.

s 714-042

- (6) Set the switch to the bright position.
  - (a) Make sure the light becomes bright.

s 864-043

(7) Set the switch to the usual position.

s 864-018

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

EFFECTIVITY-

33-28-02

ALL



# UPPER DECK SIDEWALL LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has this task:
    - (1) Sidewall Light Lamp Replacement

TASK 33-28-03-962-001

- 2. <u>Sidewall Light Lamp Replacement</u>
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-28-04
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

s 862-012

- (1) Do one of these steps to remove electrical power from the sidewall light:
  - (a) At the Cabin System Module (CSM) of the attendant's panel, set the sidewall light to the off mode.
  - (b) Open each applicable circuit breaker and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution center panel, P414.

s 032-015

(2) SIDEWALL LIGHT WITH A LENS; Remove each fastener and remove the lens.

s 962-013

- (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 432-016

(4) SIDEWALL LIGHT WITH A LENS; Install the lens with the fasteners.

EFFECTIVITY-

33-28-03



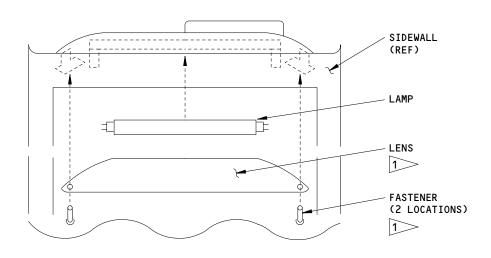
- D. Lamp Test
  - s 862-017
  - (1) Supply electrical power (AMM 24-22-00/201).
    - s 862-018
  - (2) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.(a) Close each circuit breaker that was opened.
    - s 862-019
  - (3) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (AMM 23-30-01/501).
    - s 712-022
  - (4) At the attendant's panel, set the sidewall light to the on mode.(a) Make sure the new lamp comes on correctly.
    - s 862-026
  - (5) Set the sidewall light to the usual mode.
    - s 862-011
  - (6) Remove electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

ALL

33-28-03





SIDEWALL LIGHT (EXAMPLE)

1 SIDEWALL LIGHT WITH A LENS

318842

Upper Deck Sidewall Lights - Lamp Replacement Figure 201

ALL

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# UPPER DECK SIDEWALL LIGHTS BALLAST - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure has these tasks:
    - (1) Sidewall Light Ballast Removal
    - (2) Sidewall Light Ballast Installation

TASK 33-28-04-004-001

- 2. <u>Sidewall Light Ballast Removal</u> (Fig. 401)
  - A. References
    - (1) AMM 25-21-02/401, Upper Deck Window Reveal and Shade
    - (2) SSM 33-28-04
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Ballast Removal

S 864-002

- (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P414 Power Distribution Center Left
    - 1) 414L17 UPR DK WNDW REVEAL LIGHT

s 014-028

(2) BALLAST BEHIND THE SIDEWALL;
Remove the window reveal (sidewall) panel (AMM 25-21-02/401).

NOTE: The ballast is on the back side of the window reveal panel.

s 014-022

ALL

(3) BALLAST ABOVE THE SIDEWALL LIGHT;

Get access to the ballast:

- (a) Carefully remove the lamp from the applicable sidewall light.
- (b) Remove a screw from the base plate of the light assembly opposite the hinge.
- (c) Lower the light assembly on its hinge to get access to the ballast.

EFFECTIVITY-

33-28-04



s 024-023

- (4) Remove the ballast:
  - (a) Disconnect the electrical cable from the ballast.
  - (b) Remove the screws that attach the ballast to the base plate.
  - (c) Remove the ballast from the base plate.

TASK 33-28-04-404-034

- 3. <u>Sidewall Light Ballast Installation</u> (Fig. 401)
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 25-21-02/401, Upper Deck Window Reveal and Shade
    - (4) SSM 33-28-04
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Ballast Installation

s 424-024

- (1) Install the new ballast:
  - (a) Set the ballast on the base plate.
  - (b) Install the screws that attach the ballast to the base plate.
  - (c) Connect the electrical cable to the ballast.

s 424-032

(2) BALLAST BEHIND A SIDEWALL; Install the window reveal (sidewall) panel (AMM 25-21-02/401).

This tate the window reveal (Stacward) panel (All E) E

s 414-025

(3) BALLAST ABOVE THE SIDEWALL LIGHT;

Close the light assembly:

- (a) Lift the light assembly to its usual position.
- (b) Install the screw that attaches the base plate of the light assembly to the window reveal.
- (c) Carefully install the lamp.
- D. Ballast Test

s 864-029

ALL

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

EFFECTIVITY-

33-28-04



s 864-028

- (2) Close this circuit breaker and remove the DO-NOT-CLOSE tag:
  - (a) P414 Power Distribution Center Left
    - 1) 414L17 UPR DK WNDW REVEAL LIGHT

s 714-027

- (3) Do a test of the ballast:
  - (a) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
  - (b) Make sure the applicable lamp comes on brightly.
  - (c) On the upper deck, push the LO switch on the Cabin System Module (CSM).
  - (d) Make sure the light becomes dim.

s 864-021

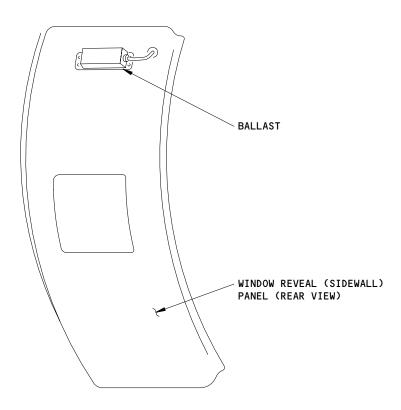
(4) Remove electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

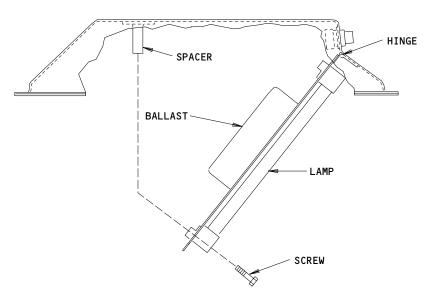
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BALLAST BEHIND THE SIDEWALL (EXAMPLE)



BALLAST ABOVE THE SIDEWALL LIGHT (EXAMPLE)

Upper Deck Sidewall Lights - Ballast Installation Figure 401

EFFECTIVITY-ALL

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33-28-04

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# UPPER DECK DIRECT CEILING LIGHTS - MAINTENANCE PRACTICES

- 1. <u>General</u> (Fig. 201)
  - A. This procedure contains a task that replaces lamps in the direct ceiling lights.

TASK 33-28-05-962-001

- 2. <u>Direct Ceiling Lights Lamp Replacement</u>
  - A. References
    - (1) 23-30-01/501, ACESS
    - (2) 24-22-00/201, Manual Control
    - (3) IPC 33-28-01
    - (4) SSM 33-28-07
  - B. Access
    - (1) Location Zone

200 Passenger Compartment - Upper Deck

C. Replacement Procedure

s 862-014

- (1) Prepare for the lamp replacement:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Make sure this circuit breaker is closed:
    - P414 Power Distribution Center Left
       a) 414L18 LIGHT UPR DK CLG
  - (c) Prepare the Advanced Cabin Entertainment/Service System (ACESS) for operation (Ref 23-30-01/501).
  - (d) Make sure the deck direct ceiling lights come on.
  - (e) Identify the lamp(s) that do not come on.

s 022-015

- (2) Remove the lamp:
  - (a) Open this circuit breaker and attach a DO-NOT-CLOSE tag.
    - 1) P414 Power Distribution Center Left
      - a) 414L18 LIGHT UPR DK CLG

EFFECTIVITY-

33-28-05



- (b) Remove the lens from the light assembly.
  - 1) Turn the lens counterclockwise.
  - 2) Pull the lens down until it is clear of the light.
- (c) Remove the lamp from the light assembly.

s 422-016

(3) Install the lamp in the light assembly.

s 412-017

(4) Install the lens in the light assembly.

s 862-018

- (5) Close this circuit breaker and remove the DO-NOT-CLOSE tag.
  - (a) P414 Power Distribution Center Left
    - 1) 414L18 LIGHT UPR DK CLG

s 712-019

(6) Make sure the lamp comes on.

s 862-013

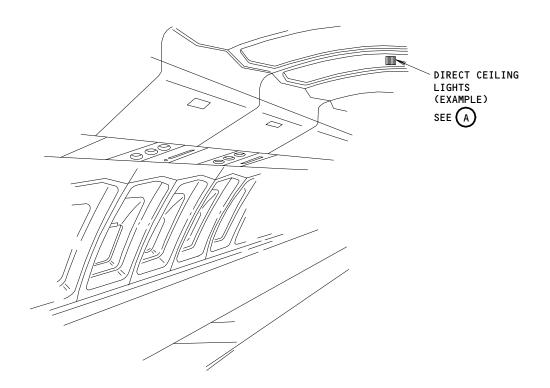
(7) Remove the electrical power if it is not necessary (Ref 24-22-00/201).

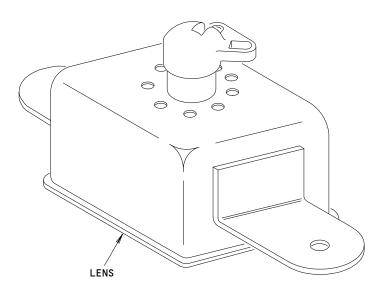
EFFECTIVITY-

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33-28-05







DIRECT CEILING LIGHT



Upper Deck Direct Ceiling Lights - Maintenance Practices Figure 201

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33-28-05

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# OVERSTAIR LIGHTS - MAINTENANCE PRACTICES

### 1. General

- A. This procedure contains these tasks:
  - (1) Overstair Lights Lamp Replacement
  - (2) Overstair Lights Lamp Holder Replacement
- B. The overstair lights are installed in the stairwell between the main deck and the upper deck.

TASK 33-28-06-962-001

- 2. <u>Overstair Light Lamp Replacement</u>
  - A. References
    - (1) AIPC 33-21-06
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-29-01
    - (4) WDM 33-29-11 thru 33-29-99
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

s 862-015

- Do one of these steps to remove electrical power from the 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 for the the overstair light and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution panel, P414.

s 012-018

- (2) Remove the grill from the overstair light.
  - (a) Pull the grill to the near side against the spring retainer until the opposite side is clear of the retaining grooves.
  - (b) Lower the opposite side of the grill until it is clear of the retaining grooves.

EFFECTIVITY-

33-28-06



(c) Push the grill away and lower the near side until the grill is clear of the light assembly.

s 962-008

(3) Replace the lamp.

s 412-016

- (4) Install the grill on the light.
  - (a) Put the grill assembly into the retainer spring on near side.
  - Pull the grill against the retainer spring pressure and lift the far side of the grill into the retaining grooves.
- D. Lamp Test

s 862-022

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

s 862-020

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

s 862-021

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

s 862-034

(4) Set the switch to the usual position.

S 862-014

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

TASK 33-28-06-962-019

- Overstair Light Lamp Holder Replacement
  - References
    - (1) AIPC 33-21-06

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(2) AMM 24-22-00/201, Manual Control

EFFECTIVITY-

33-28-06



- (3) AMM 25-27-05/401, Upper Deck Floor Covering
- (4) AMM 53-21-02/401, Main and Upper Deck Floor
- (5) SSM 33-29-01
- (6) WDM 33-29-11 thru 33-29-99
- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Holder Replacement

#### s 862-023

- (1) Do one of these steps to remove electrical power from the 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 for the overstair light and attach the DO-NOT-CLOSE tag:
    - 1) On the power distribution panel, P414.

#### s 012-024

- (2) Remove the grill from the overstair light.
  - (a) Pull the grill to the near side against the spring retainer until the opposite side is clear of the retaining grooves.
  - (b) Lower the opposite side of the grill until it is clear of the retaining grooves.
  - (c) Push the grill away and lower the near side until the grill is clear of the light assembly.

## s 012-026

(3) On the upper deck, remove the floor covering (AMM 25-27-05/401) and floor panel (AMM 53-21-02/401) above the overstair light.

<u>NOTE</u>: Only remove a sufficient part of the floor to get access to the location above the lamp holder.

### s 962-027

- (4) Replace the lamp holder.
  - (a) Carefully remove the lamp.
  - (b) Disconnect the electrical wires from the lamp holder.
  - (c) At the top of the overstair light, remove the screws that hold the lamp holder.
  - (d) Install the new lamp holder with the screws.
  - (e) Connect the electrical wires.
  - (f) Carefully install the lamp.

#### s 412-025

- (5) Install the grill on the light.
  - (a) Put the grill assembly into the retainer spring on near side.
  - (b) Pull the grill against the retainer spring pressure and lift the far side of the grill into the retaining grooves.

EFFECTIVITY-

33-28-06



s 412-028

- (6) On the upper deck, install the floor covering (AMM 25-27-05/401) and floor panel (AMM 53-21-02/401) above the overstair light.
- D. Lamp Holder Test

s 862-030

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

s 862-029

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

s 862-031

(3) Set the switch to the on position.

(a) Make sure the new lamp comes on correctly.

s 862-032

(4) Set the switch to the usual position.

s 862-033

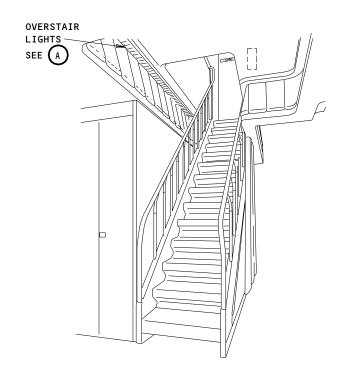
(5) Remove electrical power if it is not necessary (AMM 24-22-00/201).

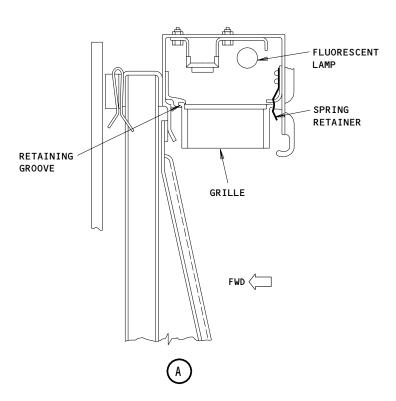
EFFECTIVITY-

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33-28-06







Overstair Lights - Lamp Replacement Figure 201

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# OVERSTAIR LIGHTS BALLAST - REMOVAL/INSTALLATION

#### General

- A. This procedure contains the tasks that remove and install a ballast in the overstair lights.
- B. The overstair lights are installed in the stairwell between the main deck and the upper deck.
- C. The ballasts are installed in the overstair light assembly adjacent to the fluorescent lamps.

TASK 33-28-07-004-001

- 2. <u>Ballast Removal (Overstair Lights)</u>
  - A. References
    - (1) AIPC 33-21-06
    - (2) AIPC 33-21-07
    - (3) SSM 33-28-09
  - B. Access
    - (1) Location Zone

100 Main Deck Ceiling Around Stairwell

C. Removal Procedure

S 864-002

- (1) Open this circuit breaker and attach a DO-NOT-OPERATE tag:
  - (a) P414 Power Distribution Center Left
    - 1) 414L19 LIGHT OVER STAIR

s 014-018

- (2) Get access to the ballast:
  - (a) Remove the grill assembly from the overstair lights as follows:
    - 1) Pull the grill to the near side against its spring until the opposite side is clear of the retaining grooves.
    - 2) Lower the opposite side of the grill until it is clear of the retaining grooves.
    - 3) Push the grill away and lower the near side until the grill is clear of the light assembly.
    - 4) Remove the grill from the light assembly.

EFFECTIVITY-

33-28-07



s 024-019

- (3) Remove the ballast:
  - (a) Disconnect the electrical cable from the ballast.
  - (b) Remove the screws that attach the ballast to the light assembly.
  - (c) Remove the ballast from the light assembly.

TASK 33-28-07-404-007

- Ballast Installation (Overstair Light)
  - A. References
    - (1) AIPC 33-21-06
    - (2) AIPC 33-21-07
    - (3) AMM 24-22-00/201, Manual Control
    - (4) SSM 33-21-09
  - B. Access
    - (1) Location Zone

100 Main Deck Ceiling Around Stairwell

C. Installation Procedure

s 424-020

(1) Install the ballast:

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- (a) Hold the ballast in its installation position in the light assembly.
- (b) Install the screws that attach the ballast to the light assembly.
- (c) Connect the electrical cable to the ballast.
- (d) Install the grill as follows:
  - 1) Hold the grill in your hands.
    - Put the grill into the retainer spring on the near side of the light assembly.
  - 3) Pull the grill against the retainer spring and lift the far side of the grill into the retaining grooves.
- (e) Close this circuit breaker and remove the DO-NOT-CLOSE tag:
  - 1) P414 Power Distribution Center Left
    - a) 414L19 LIGHT OVER STAIR

EFFECTIVITY-

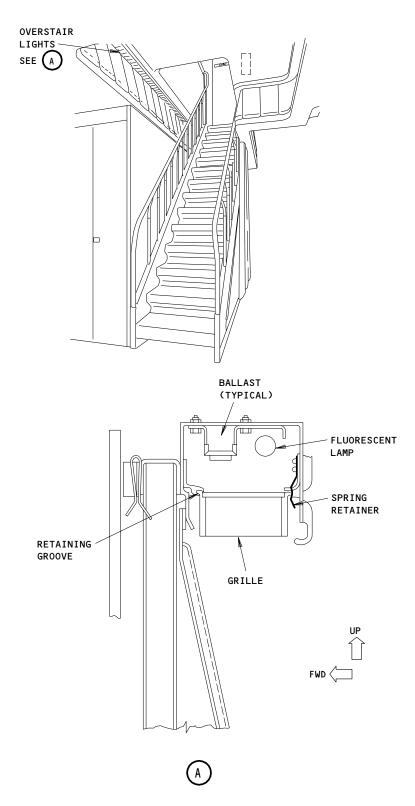
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# s 714-021

- (2) Do a test of the ballast:
  - (a) Supply electrical power (AMM 24-22-00/201).
  - (b) Push the OVERSTAIR LIGHTS switch on the attendant's panel at left door 2.
  - (c) Make sure the lights connected to the ballast come on.
  - (d) Remove electrical power if it is not necessary (AMM 24-22-00/201).





Overstair Lights Ballast Installation Figure 401

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33-28-07

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# STAIR TREAD LIGHTS - MAINTENANCE PRACTICES

### 1. General

A. This procedure contains a task for the replacement of the lamps in the stair tread.

TASK 33-28-08-962-001

- 2. Stair Tread Lamp Replacement (Fig. 201)
  - A. Consumable Materials
    - (1) G01043 Cloth Clean Dry
  - B. References
    - (1) 24-22-00/201, Manual Control
    - (2) 25-27-04/401, Stairway Step Covering
    - (3) IPC 33-28-09
  - C. Access
    - (1) Location Zone

200 Upper Deck Stairway

D. Replacement Procedure

s 712-018

- (1) Identify the defective lamps:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Identify the stair tread lamps that do not come on.
  - (c) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
    - 1) P414 Power Distribution Center Left
      - a) 414H24 UPPER DK TREAD LT

s 012-022

(2) Get access to the lamp:

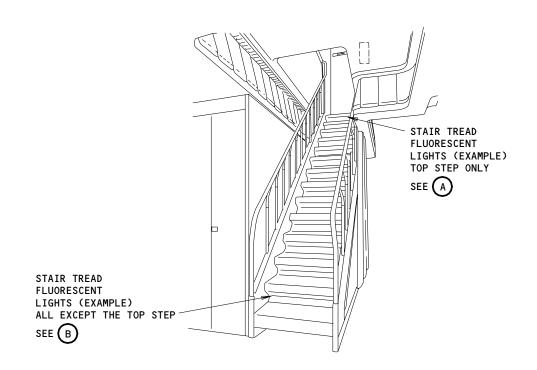
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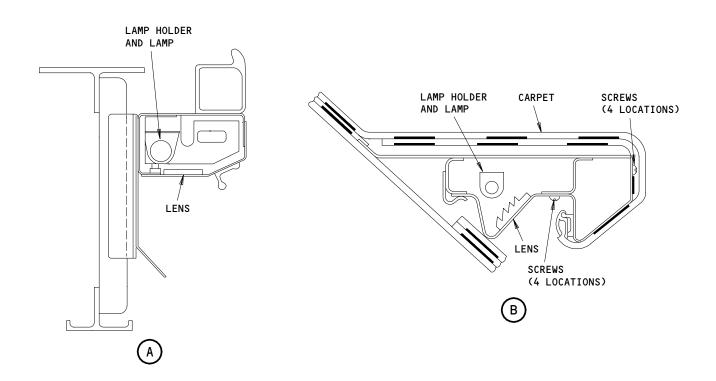
- (a) Remove the carpet and the pad from the stair tread plate for access to screws on its front edge (Ref 25-27-04/401).
- (b) Remove the screws from the front edge of the tread plate.
- (c) Remove the screws from the lens support assembly adjacent to the lens on the lower side of the tread plate.

EFFECTIVITY-

33-28-08







Stair Tread Lights Relamping Figure 201

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(d) Remove the lens support assembly from the stair tread.

#### s 962-019

- (3) Replace the lamp:
  - (a) Remove the lamp from its lampholder as follows:
    - 1) Push the lamp longitudinally in the direction of the lampholder with a telescopic end.
    - 2) When the opposite end of the lamp is clear of the lampholder, remove the lamp.
  - (b) Clean the lens of the light assembly with a clean dry cloth.
  - (c) Install a new lamp as follows:
    - 1) Put one end of the lamp into the lampholder with the telescopic end.
    - 2) Push the lamp longitudinally to the telescopic end.
    - 3) Install the opposite lamp end into the lamp holder.

### s 712-020

- (4) Do a test of the lamp:
  - (a) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P414 Power Distribution Center Left
      - a) 414H24 UPPER DK TREAD LT
  - (b) Make sure the lamp in the tread light comes on.

# s 412-021

- (5) Install the parts you removed for access:
  - (a) Hold the lens support assembly in its position and install the screws adjacent to the lens.
  - (b) Install the screws that attach the lens support assembly to the front edge of the stair tread plate.
  - (c) Install the carpet and the pad on the front edge of the stair tread plate (Ref 25-27-04/401).

### s 862-017

ALL

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

EFFECTIVITY-

33-28-08



## STAIR TREAD LIGHTS BALLAST - REMOVAL/INSTALLATION

# 1. General

- A. This procedure contains two tasks. The first task is the removal of the ballast for the stair tread lights.
- B. The second task is the installation of the ballast for the stair tread lights.

TASK 33-28-09-004-001

- 2. <u>Ballast Removal (Stair Tread Lights)</u> (Fig. 401)
  - A. References
    - (1) IPC 33-28-10
  - B. Access
    - (1) Location Zone

200 Below the Upper Deck Staircase

C. Removal Procedure

s 864-002

- (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P414 Power Distribution Center Left
    - 1) 414H24 UPPER DK TREAD LT

s 014-016

- (2) Get access to the ballasts:
  - (a) Open the access door on the outboard side of the staircase.
  - (b) Identify the ballast to be removed.

s 024-019

- (3) Remove the ballast:
  - (a) Disconnect the electrical connector from the ballast.
  - (b) Remove the screws that hold the ballast.
  - (c) Remove the ballast.

TASK 33-28-09-404-007

- 3. <u>Ballast Installation (Stair Tread Lights)</u> (Fig. 401)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-28-10
  - B. Access
    - (1) Location Zone

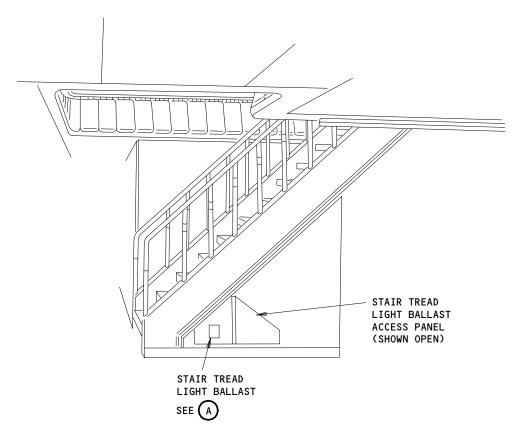
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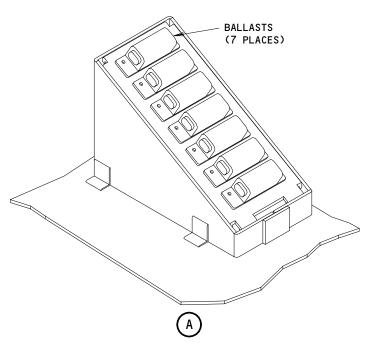
200 Below the Upper Deck Staircase

EFFECTIVITY-

33-28-09







Stair Tread Light Ballast Installation Figure 401

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#### C. Installation Procedure

s 424-017

- (1) Install the ballast:
  - (a) Install the screws that hold the ballast.
  - (b) Connect the electrical connector to the ballast.
  - (c) Close the access door.

s 714-018

- (2) Do a test of the ballast:
  - (a) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P414 Power Distribution Panel Left
      - a) 414H24 UPPER DK TREAD LT
  - (b) Make sure the fluorescent lights connected to the ballast come on.

S 864-014

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

EFFECTIVITY-

ALL

33-28-09



#### CREW REST LIGHTS - DESCRIPTION AND OPERATION

### 1. General

- A. Crew rest lights are also referred to as personnel accommodation lights. These lights give lighting to the crew rest areas.
- B. No smoking fasten seat belt (NS/FSB) signs are installed in each crew rest area (AMM 33-24-00/001).
  - (1) Each FASTEN SEAT BELT sign operates with the signs in the passenger compartment.
  - (2) Each NO SMOKING sign is continuously on, unless electrical power is removed from the airplane.

#### 2. Flight Compartment Crew Rest

- A. A dome or area light gives general lighting in the flight compartment crew rest.
  - (1) The incandescent lamp in this light operates with 28 volts ac.
  - (2) There is a switch to make this light come on and go off.
- B. A reading light is installed above each rest location.
  - (1) The incandescent lamp in each reading light operates with 28 volts ac.
  - (2) AIRPLANES WITH FLUORESCENT READING LIGHTS; Some of the reading lights contain a fluorescent lamp instead. These reading lights operate with 115 volts ac.
  - (3) ON SOME AIRPLANES;
    - There is a switch on each reading light to control it independently.
  - (4) ON SOME AIRPLANES;
    The reading lights are also controlled with the Advanced Cabin Entertainment/Service System (ACESS).
- C. AIRPLANES WITH A LIGHT ABOVE A TABLE;
  - A work light is installed above the table.
  - (1) The incandescent lamp in this light operates with 28 volts ac.
  - (2) There is a switch to make this light come on and go off.
- D. For more data about the lights in this crew rest, refer to these sources:
  - (1) SSM 23-24-01
  - (2) SSM 33-13-01 thru 33-13-02
  - (3) SSM 33-28-06

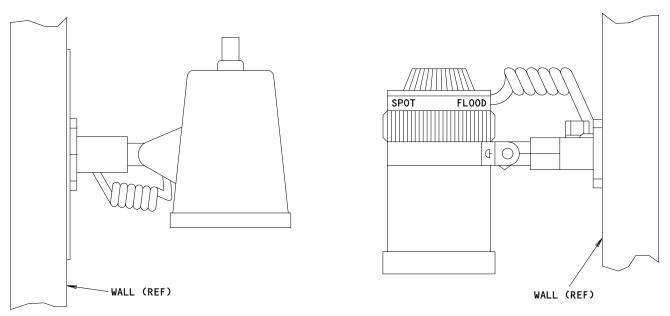
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(4) WDM 33-13-41 thru 33-13-99

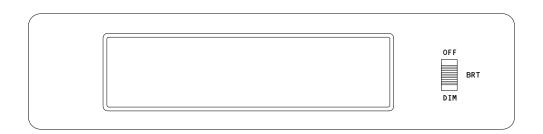
EFFECTIVITY-

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## INCANDESCENT READING LIGHTS (EXAMPLES)



# FLUORESCENT READING LIGHT (EXAMPLE)



1 AIRPLANES WITH FLUORESCENT READING LIGHTS

## Personnal Accomodation Lights Component Location Figure 1

ALL

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#### CREW REST LIGHTS - ADJUSTMENT/TEST

- 1. General
  - A. This procedure has these tasks:
    - (1) Flight Compartment Crew Rest Lights Operational Test

TASK 33-29-00-715-001

- 2. Flight Compartment Crew Rest Lights Operational Test
  - A. References
    - (1) AMM 23-30-01/501, ACESS
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 23-34-01
    - (4) SSM 33-13-01 thru 33-13-02
    - (5) SSM 33-21-07 thru 33-21-09
    - (6) SSM 33-28-06
    - (7) WDM 33-13-41 thru 33-13-99
    - (8) WDM 33-21-71 thru 33-21-99
    - (9) WDM 33-28-61
  - B. Access
    - (1) Location zone

200 Upper Half of Fuselage

C. Procedure

s 865-010

- Prepare to do a test of the lights.
  - (a) Supply electrical power (AMM 24-22-00/201).
  - (b) AIRPLANES WITH THE READING LIGHTS CONTROLLED WITH "ACESS"; Do the ACESS bite test (AMM 23-30-01/501).

s 715-003

- (2) Do an operational test of the dome or area light.
  - (a) Set the switch for the light to the on position.
    - 1) Make sure the light comes on correctly.
  - (b) Set the switch to the off position.
    - 1) Make sure the light goes off correctly.

s 715-005

- (3) Do an operational test of each reading light.
  - (a) Set the switch for the light to the on position.

NOTE: If the switch is a dimmer control, then slowly set it from the dim to the bright position.

1) Make sure the light comes on correctly.

EFFECTIVITY-

33-29-00

ALL



- (b) Set the switch to the off position.
  - 1) Make sure the light goes off correctly.

#### s 715-089

- (4) AIRPLANES WITH A LIGHT ABOVE A TABLE; Do an operational test of the light.
  - (a) Set the switch for the light to the on position.
    - 1) Make sure the light comes on correctly.
  - (b) Set the switch to the off position.
    - 1) Make sure the light goes off correctly.
  - (c) Remove electrical power if it is no longer necessary (AMM 24-22-00/201).

EFFECTIVITY-

ALL

33-29-00

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## CARGO AND SERVICE COMPARTMENT LIGHTING - DESCRIPTION AND OPERATION

#### 1. General

- A. Lighting is provided in the main gear and nose gear wheel wells, E/E equipment compartments, air conditioning, APU, and tailcone compartments, and wing fueling panels. Lighting is also provided for the interior and exterior areas of the forward and aft lower lobe cargo compartments.
- B. Cargo and service compartment lighting is divided into these functional groups:
  - (1) Service Compartment Lights (AMM 33-31-00/001)
  - (2) Main Deck Cargo Handling Lights (AMM 33-35-00/001)
  - (3) Cargo Compartment Lights (AMM 33-37-00/001)

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33-30-00



## SERVICE COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

#### 1. General (Fig. 1)

- A. The service compartment lights provide general illumination for servicing the following areas: wheel wells, air conditioning compartment, tail cone, APU compartment, and electrical/electronic equipment centers. Incandescent dome light assemblies with conveniently located toggle switches provide lighting and control for all areas except the upper equipment center-left, and the aft equipment center which have utility lights attached by a 50-inch flexible cord similar to the flight compartment utility lights (Ref 33-15-00).
- B. The following buses supply primary 28-volt power to the service compartment lights through the associated transformers and switches. 115-volt ac ground handling bus. 115-volt ac ground service transfer bus. 28-volt ac ground service bus, and 28-volt dc ground handling bus.
- 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. Wheel Well Lights

- A. Nose Wheel Well Lights
  - (1) Explosion-proof dome light assemblies are mounted in the ceiling of the nose wheel well to provide area illumination for servicing. A LIGHTS toggle switch mounted on the nose wheel well control panel provides control.
- B. Main Wheel Well Lights
  - (1) Explosion-proof dome light assemblies are mounted in each of the four main wheel wells to provide area illumination for servicing. Toggle switches are provided for control. A toggle switch is on each aft wheel well panel adjacent to the inboard landing gear.

#### 3. Air Conditioning Compartment Lights

A. Explosion-proof dome light assemblies are located in the air conditioning compartment to provide area illumination for servicing. A toggle switch, located in the ground service pneumatic connector panel aft of the air conditioning compartment aft bulkhead and approximately 30 inches left of the airplane centerline, provides control.

 33-31-00



## 4. <u>Electrical/Electronic Equipment Centers Lights</u>

- A. Main and Forward Equipment Centers Lights
  - (1) Dome light assemblies are mounted in the ceiling of the main equipment center (E1) and in the ceiling of the forward equipment centers (E4 and E5). These lights provide area illumination for servicing and are all controlled by the same two switches. These switches are located at the upper and lower entry hatches of the main equipment center. All the dome lights may be turned on or off by either of these switches. Two of the main equipment center dome lights also function as airplane access lights through the flight compartment access lights relay (Ref 33-13-00).
- B. Center Equipment Center Light
  - (1) A dome light gives lighting for servicing.
- C. Upper Equipment Center-Left Light
  - (1) A utility light provides illumination for servicing the upper equipment center-left. The light located in a snap-in swivel mounting base, is electrically connected to a 50-inch coiled cord. It can be used as a portable light within the range of the coiled cord. A knob on the rear of the light assembly turns the light on and off.
- D. Aft Equipment Center Light
  - (1) A utility light provides illumination for servicing the aft equipment center. It is similar to the upper equipment center light except it has a rheostat dimmer switch and a momentary—on pushbutton switch that shunts the rheostat when pressed and turns the light on bright.
- 5. Tail Cone Lights
  - A. Incandescent dome lights give lighting for servicing the tail cone.

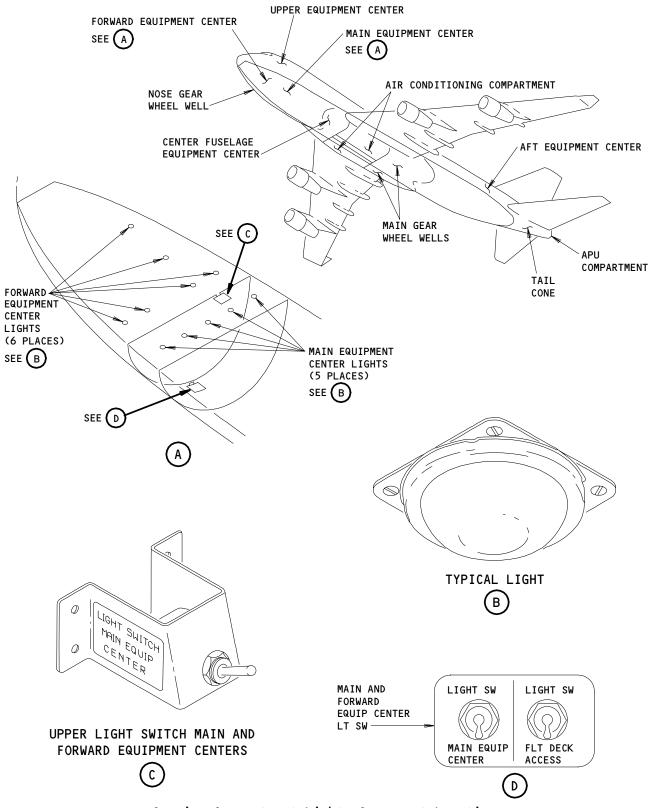
    There is a light switch in each entry hatch.
- 6. APU Compartment Lights
  - A. Explosion-proof dome lights provide general area illumination for servicing APU compartment installations. The dome lights are mounted on the compartment sides. A toggle switch mounted adjacent to the left dome light turns the lights on and off. The aft equipment lights transformer powers the two lights.

EFFECTIVITY-

ALL

33-31-00





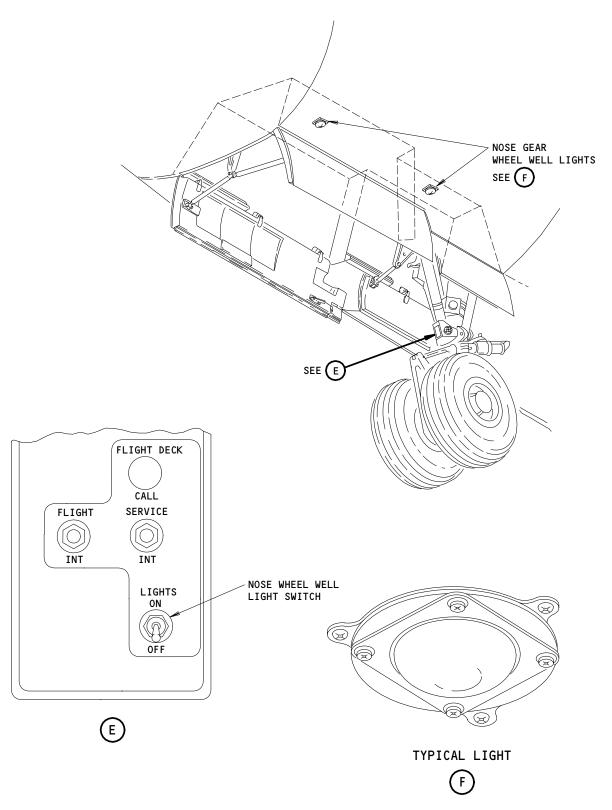
Service Compartment Lights Component Location Figure 1 (Sheet 1)

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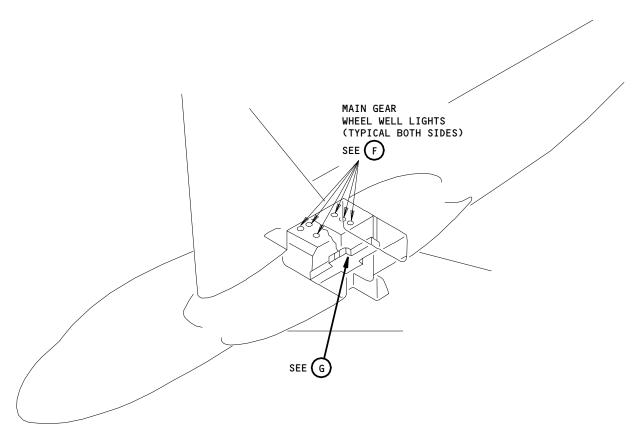
Service Compartment Lights Component Location Figure 1 (Sheet 2)

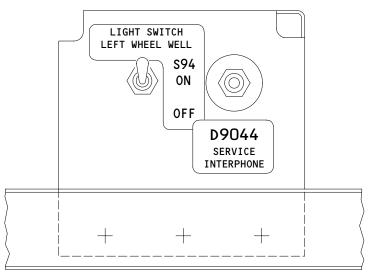
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WHEEL WELL LIGHT SWITCH LOCATION - BOTH SIDES

G

Service Compartment Lights Component Location Figure 1 (Sheet 3)

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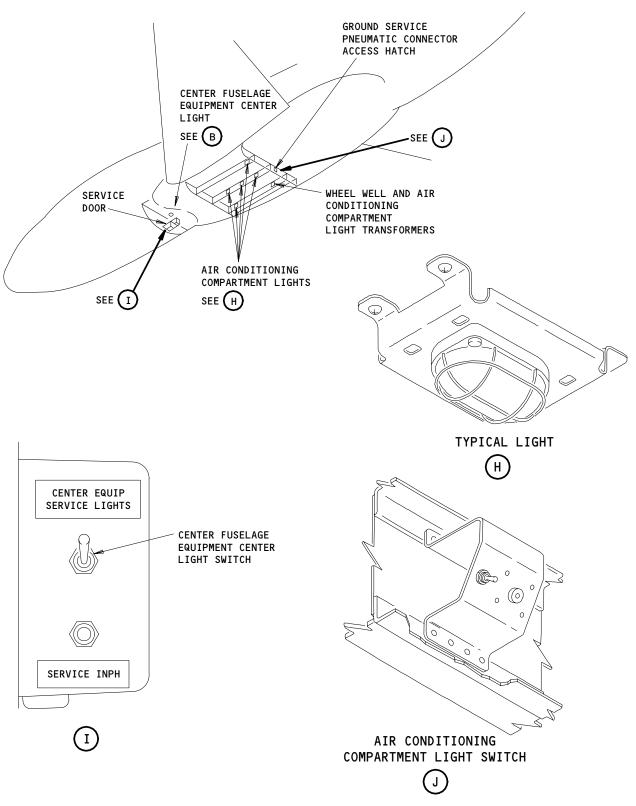
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Service Compartment Lights Component Location Figure 1 (Sheet 4)

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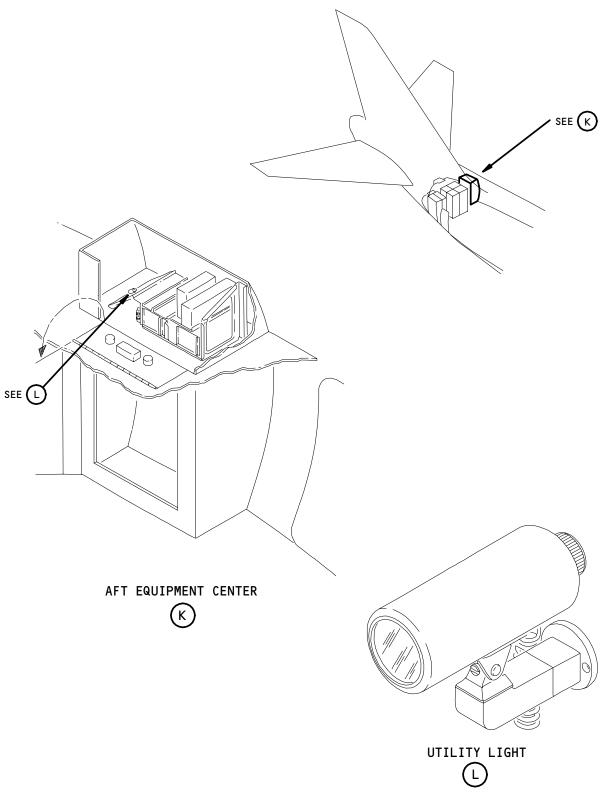
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Service Compartment Lights Component Location Figure 1 (Sheet 5)

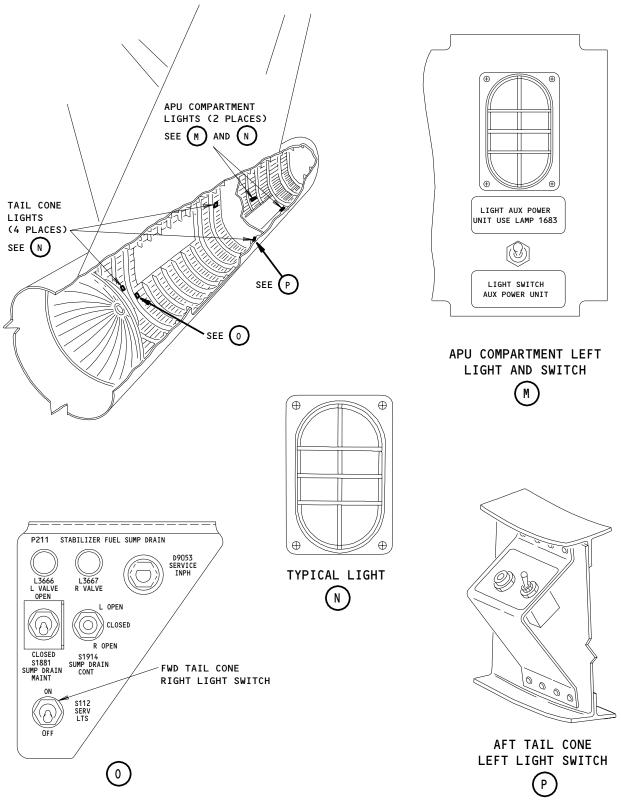
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33-31-00

02

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Service Compartment Lights Component Location Figure 1 (Sheet 6)

33-31-00

02

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## SERVICE COMPARTMENT LIGHTS - ADJUSTMENT/TEST

#### 1. General

- A. This procedure contains these tasks:
  - (1) A task to do a test of the lights in the nose wheel well.
  - (2) A task to do a test of the lights in the main wheel wells.
  - (3) A task to do a test of the lights in the air conditioning compartment.
  - (4) A task to do a test of the main and the forward electrical equipment centers.
  - (5) A task to do a test of the light in the aft electrical equipment center.
  - (6) A task to do a test of the light in the tail cone compartment.
  - (7) A task to do a test of the lights in the Auxiliary Power Unit (APU) compartment.
  - (8) A task to do a test of the fueling station lights.

#### TASK 33-31-00-705-001

- 2. Lights in the Nose Wheel Well Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 32-00-30/201, Landing Gear Door Locks
    - (3) SSM 33-31-10
  - B. Access
    - (1) Location Zone 100 Nose Wheel Well
  - C. Procedure

s 865-002

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

s 865-003

- (2) Make sure this circuit breaker is closed:
  - (a) P414 Power Distribution Center Left
    1) 414F20 LIGHT NOSE W/W

s 495-005

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT INSTALL THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: "The Installation of the Door Locks on the Nose Landing Gear" (Ref 32-00-30/201).

EFFECTIVITY-

33-31-00

ALL

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s 715-082

- (4) Do a test of the lights in the nose wheel well:
  - (a) Put the LIGHTS switch on the P37 panel to ON.
  - (b) Make sure the lights in the nose wheel well are on.
  - (c) Put the LIGHTS switch on the P37 panel to OFF.
  - (d) Make sure the lights in the nose wheel well are off.

s 865-080

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT REMOVE THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: "The Removal of the Door Locks on the Nose Landing Gear" (Ref 32-00-30/201).

s 865-011

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

TASK 33-31-00-705-012

- Lights in the Main Wheel Well Operational Test
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 32-00-30/201, Landing Gear Door Locks
    - (3) IPC 33-31-10, 33-31-11
    - (4) SSM 33-31-10
  - B. Access
    - (1) Location Zone

100 Left/Right Main Wheel Well

C. Procedure

s 865-013

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

s 865-014

ALL

- (2) Make sure these circuit breakers are closed:
  - (a) P414 Power Distribution Center Left
    - 1) 414C24 AIR COND COMP & W/W LT RIGHT
    - 2) 414C23 AIR COND COMP & W/W LT LEFT

EFFECTIVITY-

33-31-00



s 495-065

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL
THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE
QUICKLY IF YOU DO NOT INSTALL THE DOOR LOCKS CORRECTLY. THIS
CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(3) Do this task: "The Installation of the Door Locks on the Main Landing Gear" (Ref 32-00-30/201).

s 715-073

- (4) Do a test of the lights in the main wheel wells:
  - (a) Put the LIGHT SWITCH RIGHT WHEEL WELL switch to ON.
  - (b) Make sure the lights in the right wheel well are on.
  - (c) Put the LIGHT SWITCH RIGHT WHEEL WELL switch to OFF.
  - (d) Make sure the lights in the right wheel well are off.
  - (e) Put the LIGHT SWITCH LEFT WHEEL WELL switch to ON.
  - (f) Make sure the lights in the left wheel well are on.
  - (g) Put the LIGHT SWITCH LEFT WHEEL WELL switch to OFF.
  - (h) Make sure the lights in the left wheel well are off.

s 865-081

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT REMOVE THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: "The Removal of the Door Locks on the Main Landing Gear" (Ref 32-00-30/201).

s 865-019

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

TASK 33-31-00-705-020

- 4. Lights in the Air Conditioning Compartment Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-31-10
  - B. Access
    - (1) Location Zone

100 Air Conditioning Compartment

EFFECTIVITY-

33-31-00



#### C. Procedure

s 865-021

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

s 865-022

- (2) Make sure these circuit breakers are closed:
  - (a) P414 Power Distribution Center Left
    - 1) 414C24 AIR COND COMP & W/W LT RIGHT
    - 2) 414C23 AIR COND COMP & W/W LT LEFT

s 715-075

- (3) Do a test of the lights in the air conditioning compartment:
  - (a) Put the switch for the lights in the air conditioning compartment to ON.
  - (b) Make sure the lights in the air conditioning compartment are
  - (c) Put the switch for the lights in the air conditioning compartment to OFF.
  - (d) Make sure the lights in the air conditioning compartment are off.

S 865-027

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

TASK 33-31-00-705-028

- 5. Lights in the Main and Forward Electrical Equipment Center Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-31-02, 33-31-03
    - (3) SSM 33-31-30
  - B. Access
    - (1) Location Zone

100 Main and Forward Electrical & Electronics Equipment Center

C. Procedure

s 865-029

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

s 865-030

ALL

- (2) Make sure these circuit breakers are closed:
  - (a) P414 Power Distribution Center Left
    - 1) 414G19 LIGHT MN & FWD EQPT CTR

EFFECTIVITY-

33-31-00



#### 2) 414F21 LIGHT FLT DK ACCESS

s 715-076

- (3) Do a test of the lights in the main and the forward electrical equipment centers:
  - (a) Put the LIGHT SWITCH MAIN EQUIP CENTER to ON.
  - (b) Make sure the lights in the main equipment center and the forward equipment center are on.
  - (c) Put the LIGHT SWITCH MAIN EQUIP CENTER to OFF.
  - (d) Make sure the lights in the main equipment center and the forward equipment center are off.

s 865-035

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

TASK 33-31-00-705-036

- 6. Light in the Aft Equipment Center Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-31-40
    - (3) SSM 33-31-30
  - B. Access
    - (1) Location Zone

300 Aft Equipment Center

C. Procedure

s 865-037

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

s 865-038

- (2) Make sure this circuit breaker is closed:
  - (a) P84 Panel
    - 1) AFT LIGHT

s 715-077

- (3) Do a test of the light in the aft equipment center:
  - (a) Turn the AFT EQUIPMENT CENTER switch to ON.
  - (b) Make sure the light in the aft equipment center is on.
  - (c) Turn the AFT EQUIPMENT CENTER switch to OFF.
  - (d) Make sure the light in the aft equipment center is off.

s 865-043

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

EFFECTIVITY-

33-31-00

ALL



TASK 33-31-00-705-044

- 7. The Light in the Tail Cone Compartment Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-31-00
    - (3) SSM 33-31-40
  - B. Access
    - (1) Location Zone

300 Tail Cone Compartment

C. Procedure

S 865-045

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

S 865-046

- (2) Make sure these circuit breakers are closed:
  - (a) P84 Panel
    - 1) AFT LIGHTING
    - 2) LIGHTS TAIL & APU COMP

s 715-078

- (3) Do a test of the light in the tail cone compartment:
  - (a) Put the FWD TAIL CONE LIGHTS and the AFT TAIL CONE LIGHTS switches to ON.
  - (b) Make sure the lights in the forward and the aft tail cone compartment are on.
  - (c) Put the FWD TAIL CONE LIGHTS and the AFT TAIL CONE LIGHTS switches to OFF.
  - (d) Make sure the lights in the forward and the aft tail cone compartment are off.

s 865-051

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

TASK 33-31-00-705-052

- 8. Lights in the APU Compartment Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-31-00
    - (3) SSM 33-31-40
  - B. Access
    - (1) Location Zone

300 APU Compartment

C. Procedure

s 865-053

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

EFFECTIVITY----

33-31-00

ALL



S 865-054

- (2) Make sure these circuit breakers are closed:
  - (a) P84 Panel
    - 1) AFT LIGHTING
    - 2) LIGHTS TAIL & APU COMP

s 715-079

- (3) Do a test of the lights in the APU compartment:
  - (a) Put the APU LIGHT switch to ON.
  - (b) Make sure the lights in the APU compartment are on.
  - (c) Put the APU LIGHT switch to OFF.
  - (d) Make sure the lights in the APU compartment are off.

S 865-059

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

TASK 33-31-00-705-060

- 9. Lights in the Fueling Station Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 28-21-01
    - (3) WDM 28-21-14
  - B. Access
    - (1) Location Zone

521 Left/Right Pressure Fueling Bay

C. Procedure

s 865-061

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

s 865-062

- (2) Make sure these circuit breakers are closed:
  - (a) P414 Power Distribution Center Left
    - 1) 414F22 LIGHT FUELING
  - (b) P180 DC Power Distribution Panel
    - 1) 180B2 FUELING LIGHTS HOT

s 715-063

ALL

- (3) Do a test of the lights in the fueling station:
  - (a) Open the right fueling station door.
  - (b) Make sure the right fueling station light comes on.
  - (c) Close the right fueling station door.
  - (d) Open the left fueling station door.
  - (e) Make sure the left fueling station light comes on.
  - (f) Close the left fueling station door.

EFFECTIVITY-

33-31-00



s 865-064

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

EFFECTIVITY-

ALL

33-31-00

01

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## MAIN DECK CARGO HANDLING LIGHTS - DESCRIPTION AND OPERATION

#### 1. General (Fig. 1)

- A. Some of the passenger compartment can be changed to a cargo configuration. When this is done, the ceiling panels, stowage bins, ceiling lights, and sidewall lights are removed.
  - (1) In the cargo configuration, the attendants panel at door 4-L or the cargo door control panel can be used to control the lights.
- B. The types of cargo area lighting and their general locations are as follows:
  - (1) Incandescent ceiling light assembly's are installed on the ceilings. In the passenger configuration, these light assembly's are covered by ceiling panels.
  - (2) Incandescent sidewall light assembly's are installed in cargo sidewall panels. A passenger to cargo interior change must be done to install the sidewall panels that contain these lights.
  - (3) The side cargo door contains fluorescent and incandescent light assembly's.
    - (a) Three fluorescent light modules are installed across the door supply sidewall lights.
    - (b) Four incandescent lights are installed across the top of the door supply ramp area lights.
- C. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-35-01 thru SSM 33-35-99
  - (2) WDM 33-35-11 thru WDM 33-35-99

## 2. <u>Ceiling Lights</u>

A. The floodlight modules are attached to the compartment ceiling along the centerline of the cargo area. Module housings are attached to the ceiling with screws.

## 3. <u>Sidewall Lights</u>

- A. During a change from passenger to cargo, sidewall panels will be installed where passenger stow bins are removed.
  - (1) The sidewall panels contain two types of light assemblies. One type of light assembly is the same module used on the cargo ceiling lights. The second type is the same dome light used on the lower cargo bay ceilings.

33-35-00

04.1



- (2) One left and one right sidewall panel contain the control panel assemblies.
  - (a) These panel assemblies contain control relays, voltage stepdown transformers, and secondary circuit breakers for zone E sidewall lights.

## 4. Side Cargo Door Lights

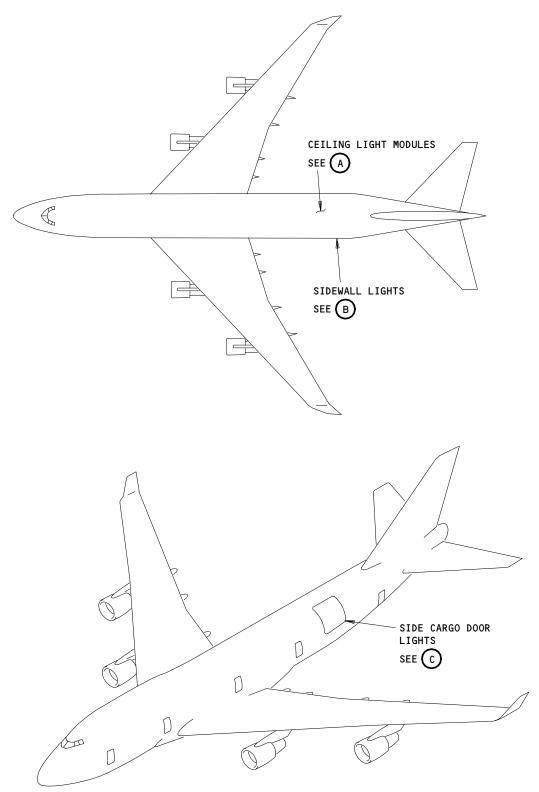
- A. The cargo door has lights installed across the top part of the door.
  - (1) The incandescent lights are the same modules used for the ceiling lights. Each module is installed in a door panel recess. The incandescent lights are used to light the cargo door ramp area when the door position is open.
    - (a) The incandescent lights are permanently installed in the cargo door sidewall. The lights can be seen after a change to the cargo configuration.
    - (b) The incandescent lights are also referred to as ramp lights.
  - (2) Fluorescent lights installed below the incandescent lights give lighting to the cargo door sidewall when the door is closed. Each light assembly contains two fluorescent lamps, one ballast, and a housing.
    - (a) The three fluorescent light assemblies are not permanently installed on the door. The lights are added during the change from passenger to cargo.

#### 5. Operation

- A. There is 115 volts ac of electrical power supplied to transformers. The transformers supply 28 volts ac to operate the incandescent lights.
- B. 115 Volt ac for cargo door fluorescent lights is provided from the P242 control panel. P242 will not be installed unless the passenger to cargo change has been made. A relay in the P242 panel that controls sidewall lights also controls the side cargo door fluorescent lights. The relay and lights are operated by switches at the attendants panels or the cargo door control panel.

33-35-00





Main Deck Cargo Handling Lights Component Location Figure 1 (Sheet 1)

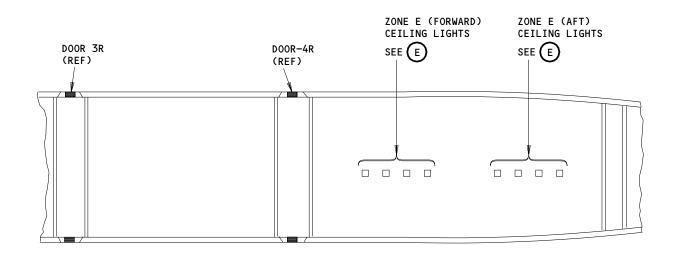
EFFECTIVITY-AIRPLANES WITH A CARGO AREA ON THE MAIN DECK

33-35-00

02

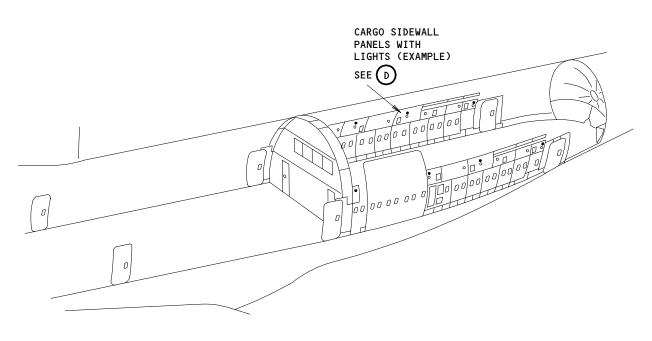
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## MAIN DECK LIGHTS





## SIDEWALL PANEL LOCATION



Main Deck Cargo Handling Lights - Components Location Figure 1 (Sheet 2)

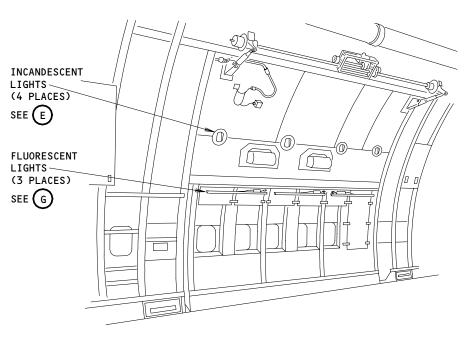
AIRPLANES WITH A CARGO AREA
ON THE MAIN DECK

33-35-00

02

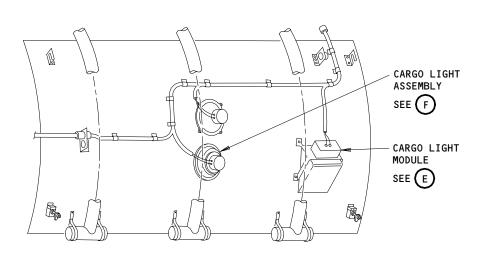
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SIDE CARGO DOOR LIGHTS





SIDEWALL PANEL WITH LIGHTS (TYPICAL)



Main Deck Cargo Handling Lights - Component Location Figure 1 (Sheet 3)

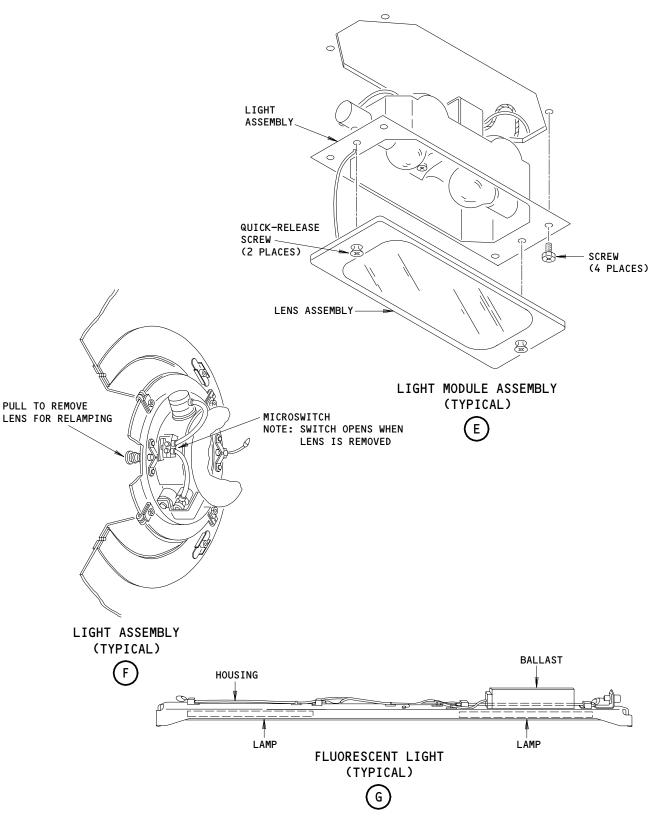
AIRPLANES WITH A CARGO AREA
ON THE MAIN DECK

33-35-00

02

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Main Deck Cargo Handling Lights - Component Location Figure 1 (Sheet 4)

AIRPLANES WITH A CARGO AREA
ON THE MAIN DECK

33-35-00

02

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## MAIN DECK CARGO HANDLING LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has these tasks:
    - (1) Main Deck Cargo Light Lamp Replacement
  - B. Main Deck Cargo lights includes ceiling lights, sidewall lights, and ramp lights.

TASK 33-35-00-902-001

- 2. Main Deck Cargo Lights Lamp Replacement (Fig. 201)
  - A. Consumable Materials
    - (1) GO1043 Cloth non abrasive, lint free.
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 52-32-00/001, Side Cargo Door
    - (3) SSM 33-35-01 through 33-35-05
  - C. Access
    - (1) Location Zone

200 Main Passenger Deck

D. Lamp Replacement

s 862-053

- (1) Remove the electrical power from the cargo lights:
  - (a) Open each applicable circuit breaker for the main deck cargo lights and attach a DO-NOT-CLOSE tag:
    - 1) On the Power Distribution Center Right, P415.
    - 2) On the DC Distribution Panel, P180

s 962-065

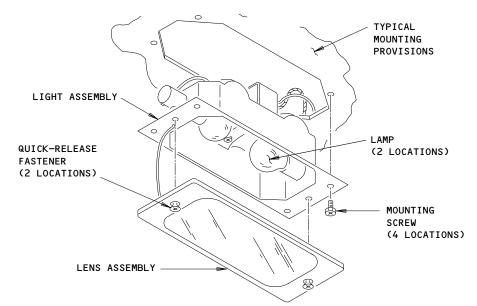
- (2) Replace the lamp
  - (a) Remove the lens.
  - (b) Carefully replace the lamp.
  - (c) Clean the lens and the reflector with a clean dry cloth.
  - (d) Install the lens.
- E. Lamp Test

s 862-058

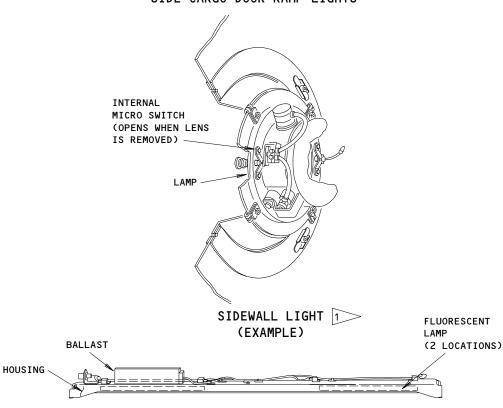
(1) Supply electrical power (AMM 24-22-00/201).

33-35-00





LIGHT ASSEMBLY
(CEILING, SIDEWALL 1, AND
SIDE CARGO DOOR RAMP LIGHTS



SIDE CARGO DOOR FLUORESCENT SIDEWALL LIGHT

1 BOTH TYPES OF SIDEWALL LIGHT ASSEMBLY'S ARE USED ON SIDEWALL PANELS

Main Deck Cargo Handling Lights - Relamping Figure 201

33-35-00

02

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s 862-059

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

s 712-068

(3) Set the switch to the on position.

s 012-060

(4) For a test of the ramp lights, open the cargo door (AMM 52-32-00/001).

(a) Make sure the new lamp comes on correctly.

s 862-070

(5) Set the switch to the usual position.

s 432-062

(6) Close the side cargo door if it is not necessary (AMM 52-32-00/001).

s 862-056

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



## MAIN DECK CARGO HANDLING LIGHTS - ADJUSTMENT/TEST

#### 1. General

A. This procedure contains a task to do an operational test of the main deck cargo handling lights.

TASK 33-35-00-705-001

- 2. Main Deck Cargo Handling Lights Operational Test
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 52-32-00/001, Side Cargo Door
    - (3) SSM 33-35-01 thru 33-35-05
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Prepare for the Test

s 865-003

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

S 865-046

- (2) Close the circuit breakers for the main deck cargo lights and attach a DO-NOT-OPEN tag:
  - (a) DC Power Distribution Panel, P180
  - (b) Power Distribution Panel Right, P415
  - (c) Main Deck Control Panels

s 715-035

- (3) Do a test of the ceiling and sidewall lights:
  - (a) Push the switch on the control panel for the side cargo door.
  - (b) Make sure these lights come on:
    - 1) The ceiling and sidewall lights in zone E.
    - 2) The fluorescent lights on the side cargo door.
  - (c) Make sure the light in the switch is on.
  - (d) Push the switch again.

33-35-00



- (e) Make sure the lights go off.
- (f) Make sure the light in the switch is off.
- (g) Use the switch on the attendants panel, and do the test again.

#### s 715-036

- (4) Do a test of the ramp lights for the side cargo door.
  - (a) Open the side cargo door (AMM 52-32-00/001).

NOTE: The door has to be open for the ramp light to operate.

(b) Operate the RAMP LIGHT switch to the ON position.

NOTE: The switch is installed on the control panel for side cargo door.

- (c) Make sure the incandescent ramp lights are on.
- (d) Operate the RAMP LIGHT switch to the OFF position.
- (e) Make sure the ramp lights are off.
- (f) Close the side cargo door (AMM 52-32-00/001).
- (g) Operate the RAMP LIGHT switch to the ON position.
- (h) Make sure the incandescent ramp lights are off.
- (i) Operate the RAMP LIGHT switch to the OFF position.

#### s 715-037

- (5) Do a test of the power transfer relays:
  - (a) Push the CARGO LIGHTS switch on the control panel for the side cargo door.
  - (b) Make sure the zone E ceiling and the sidewall lights are on.
  - (c) Open this circuit breaker on the P415 Panel and attach a DO-NOT-CLOSE tag:
    - 1) 415H22 MAIN DECK CARGO LTS SIDEWALL ZN E L-FWD
  - (d) Make sure that the left zone E forward and the left aft sidewall lights stay on.
  - (e) Make sure the ceiling lights for the aft zone E stay on.
  - (f) Open this circuit breaker on the P415 Panel and attach a DO-NOT-CLOSE tag:
    - 1) 415H23 MAIN DECK CARGO LTS SIDEWALL ZN E R-FWD



- (g) Make sure that the right zone E forward and the right aft sidewall lights stay on.
- (h) Make sure the ceiling lights for the forward zone E stay on.
- (i) Remove the DO-NOT-CLOSE tags and close these circuit breakers on the P415 Panel:
  - 1) 415H22 MAIN DECK CARGO LTS SIDEWALL ZN E L-FWD
  - 2) 415H23 MAIN DECK CARGO LTS SIDEWALL ZN E R-FWD
- (j) Make sure that all the zone E ceiling and sidewall lights stay on.

s 865-031

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

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#### CARGO COMPARTMENT LIGHTS - DESCRIPTION AND OPERATION

#### 1. General (Fig. 1)

- A. Dome lights evenly distributed throughout the cargo compartment areas provide the basic illumination for handling of cargo. Dome lights adjacent to doors illuminate cargo compartment entry areas. The 115-volt ac ground handling bus provides power to the lighting systems.
- B. The exterior cargo handling areas are illuminated by lights mounted in the side of the airplane near the cargo compartment doors For more information about these lights, refer to AMM 33-46-00/001.
- C. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-37-01 thru 33-37-99
  - (2) WDM 33-37-11 thru 33-37-99

## 2. Forward Cargo Compartment Lights

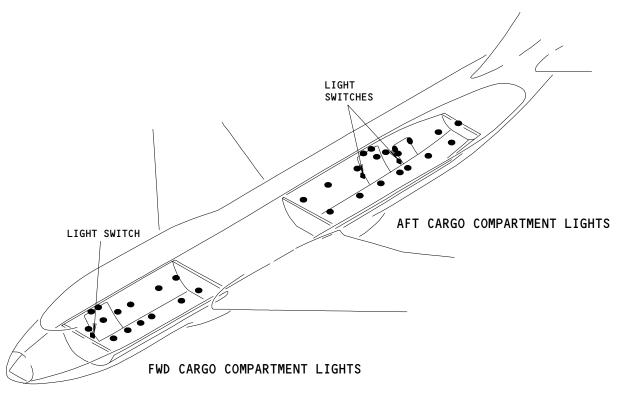
- A. The forward cargo compartment is illuminated by incandescent dome lights provided with protective shielding to prevent damage during cargo handling. Two of the lights located on the ceiling panel adjacent to the door provide entryway lighting when the door is raised to the open position. The remaining lights are mounted on the ceiling.
- B. The 115-volt ac ground handling bus supplies primary power to the forward compartment light transformer on the P54 center equipment panel through a circuit breaker located on the P414 power distribution center left. The 28-volt ac secondary output of the transformer supplies power to the lights through secondary circuit breakers located on the P54 panel. A toggle switch located on a panel at the cargo compartment door switches the lights off and on. The switch is connected between the power source and the high voltage side of the transformer.

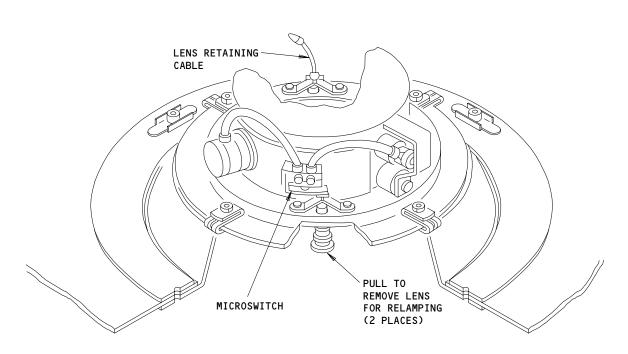
#### 3. Aft Cargo Compartment Lights

- A. The aft cargo compartment is illuminated by incandescent dome lights provided with protective shielding the same as for the forward cargo compartment. Two dome lights mounted on the ceiling panel adjacent to the door provide entryway illumination when the door is in the raised position. A dome light is mounted on each side of the bulk-cargo door to illuminate the entryway. The remaining dome lights are located on the compartment ceiling.
- B. The 115-volt ac ground handling bus supplies primary power to the aft cargo compartment light transformer, located on the P59 aft lower cargo compartment equipment panel. The 28-volt ac transformer secondary output supplies power to the lights through secondary circuit breakers located on the P59 panel. Switches located one at each door, turn the lights on or off.

33-37-00







TYPICAL CARGO COMPARTMENT LIGHT

Cargo Compartment Lights Component Location Figure 1

ALL

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### CARGO COMPARTMENT LIGHTS - ADJUSTMENT/TEST

#### 1. General

- A. This procedure contains these tasks:
  - (1) A task to do an operational test of the lights in the forward cargo compartment.
  - (2) A task to do an operational test of the lights in the aft cargo compartment.

TASK 33-37-00-705-001

- 2. Forward Cargo Compartment Lights Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) WDM 33-37-11
    - (3) SSM 33-37-10
  - B. Access
    - (1) Location Zone

122 Forward Cargo Compartment

C. Procedure

s 865-002

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

s 715-003

- (2) Do these steps to do a test of the forward cargo compartment lights:
  - (a) Close these circuit breakers:
    - 1) P414 Power Distribution Center Left
      - a) 414C22 FORWARD CARGO COMPT LIGHTS
    - 2) P54 Center Equipment
      - a) FORWARD CARGO LIGHTS RIGHT
      - b) FORWARD CARGO LIGHTS LEFT
  - (b) Put the FORWARD CARGO COMPARTMENT LIGHT switch on the sidewall panel to ON.
  - (c) Make sure all the forward cargo compartment lights are on.
  - (d) Put the FORWARD CARGO COMPARTMENT LIGHT switch on the sidewall panel to OFF.
  - (e) Make sure all the forward cargo compartment lights are off.

s 865-004

ALL

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

TASK 33-37-00-705-005

- 3. Aft Cargo Compartment Lights Operational Test
  - A. References
    - (1) 24-22-00/201, Manual Control

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- (2) WDM 33-37-21
- (3) SSM 33-37-20
- B. Access
  - (1) Location Zone

142 Aft Cargo Compartment

C. Procedure

s 865-006

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

s 715-007

- (2) Do these steps to do a test of the aft cargo compartment lights:
  - (a) Close these circuit breakers:
    - 1) P59 Lower Cargo Equipment Aft
      - a) AFT CARGO COMPARTMENT LIGHT PRIM
      - b) AFT CARGO LIGHT SEC
      - c) AFT CARGO LIGHT SEC
  - (b) Put the SW-AFT CARGO COMPT LT switch on the P59 panel to its other position.
  - (c) Make sure all the aft cargo compartment lights are on.
  - (d) Put the SW-SVCE LT COMPT LT on the cargo sidewall panel to its other position.
  - (e) Make sure all the aft cargo compartment lights are off.

s 865-008

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

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### EXTERIOR LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

- A. Exterior lighting is divided into the following sections:
  - (1) Wing Illumination Lights (AMM 33-41-00/001)
    - (a) Wing illumination lights are flush mounted on each side of the airplane above the intersection of the wing leading edge and the fuselage. These lights illuminate the wing leading edges and the engine nacelles. The lights use sealed beam incandescent lamps.
  - (2) Landing and Runway Turnoff Lights (AMM 33-42-00/001)
    - (a) Two landing lights are mounted in each wing leading edge to illuminate the runway during takeoff and landing. Two runway turnoff lights mounted on the lower tripod brace provide illumination of runway turnoff areas.
  - (3) Navigation Lights (AMM 33-43-00/001)
    - (a) Navigation lights are mounted on the tip of each wing and in the tail cone. These lights provide indication of airplane position, direction, and attitude.
  - (4) Strobe Anti-Collision Lights (AMM 33-44-00/001)
    - (a) A strobe anti-collision light is mounted on the top and bottom of the airplane fuselage. Each light produces a high intensity flashing light to provide indication of airplane presence.
    - (b) A strobe (xenon flashtube) anticollision light is mounted in each forward wingtip fairing and on the tail cone below the APU exhaust. Each light produces a high intensity flash approximately once every second.
  - (5) Logo Lights (AMM 33-45-00/001)
    - (a) Logo lights are flush mounted to the upper surface of each horizontal stabilizer to illuminate the airline insignia on the vertical fin.
  - (6) Cargo Door Area Lights (AMM 33-46-00/001)
    - (a) A light assembly is flush mounted to the side of the fuselage near each of the cargo doors. The lights illuminate the exterior cargo handling areas.

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(b) Controls for the cargo door area lights are located by the cargo door. All other exterior lighting is controlled from switches located on the pilots P5 overhead panel on the flight deck.

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## **EXTERIOR LIGHTS**

COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
LANDING, RUNWAY, TURNOFF, TAXI AND WING ILLUMINATION LIGHTS				
CIRCUIT BREAKERS - WING ILLUMINATION LIGHTS, C166 CIRCUIT BREAKERS - INBD LANDING LT-L, C168 INBD LANDING LT-R, C171 RUNWAY TURNOFF L AND CONTROL, C169 RUNWAY TURNOFF R, C170 RUNWAY TURNOFF-LEFT, C1439 RUNWAY TURNOFF-RIGHT, C1440 CIRCUIT BREAKERS - OUTBD LANDING LT-L, C167 OUTBD LANDING LT-R, C172 LIGHT - LEFT INBD LANDING, L344 LIGHT - LEFT OUTBD LANDING, L343 LIGHT - L RUNWAY, L346 LIGHT - RIGHT INBD LANDING, L347 LIGHT - RIGHT OUTBD LANDING, L348 LIGHT - RI RUNWAY, L345 LIGHT - WING ILLUMINATION-LEFT, L330	1 1 2 2 2 2 2 2 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FLT COMPT, P6 6L33 POWER DISTRIBUTION CENTER-L 414L3 414L2 414L20 414L21 414M5 414M6 POWER DISTRIBUTION CENTER-R 415L31 415L32 LEFT WING LE LEFT WING LE NOSE WHEEL STRUT, P37 RIGHT WING LE RIGHT WING LE NOSE WHEEL STRUT, P37 LEFT FUSELAGE ABOVE WING/BODY FAIRING	*  *  *  *  *  *  *  33-42-02  33-42-02  33-42-02  33-42-02  33-42-03  33-42-00
LIGHT - WING ILLUMINATION-RIGHT, L331	3	1	RIGHT FUSELAGE ABOVE WING/BODY FAIRING	33-42-00
MODULE - LIGHT CONTROL PANEL, M7263	1	1	FLT COMPT, P5	*

<sup>\*</sup> SEE WDM EQUIPMENT LIST

Exterior Lights - Component Index Figure 101 (Sheet 1)

EFFECTIVITY-

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
LANDING, RUNWAY, TURNOFF, TAXI AND WING ILLUMINATION LIGHTS (CONT)				
RELAY - (REF 32-09-02, FIG. 101) GEAR UP, R84 RELAY - (REF 32-61-01, FIG. 101) GROUND SAFETY, R7333 RELAY - (REF 31-01-36, FIG. 101) LANDING LIGHT DIMMER LEFT, R1041 LANDING LIGHT DIMMER RIGHT, R1042 RIGHT RUNWAY LIGHT, R7771 RELAY - (REF 31-01-39, FIG. 101) LEFT RUNWAY LIGHT, R7770 SWITCH - L INBD LANDING LT, S3 SWITCH - L OUTBD LANDING LT, S1 SWITCH - RINBD LANDING LT, S5 SWITCH - RINBD LANDING LT, S5 SWITCH - RINBD LANDING LT, S6 SWITCH - RINBD LANDING LT, S6 SWITCH - RINBD LANDING LT, S6 SWITCH - WING ILLUMINATION LIGHTS, S4 TRANSFORMER - INBD LANDING LIGHT RIGHT, T57 TRANSFORMER - INBD LANDING LIGHT RIGHT, T57 TRANSFORMER - LT-L, T179, RUNWAY TURNOFF TRANSFORMER - LT-R, T178, TURNWAY TURNWAY TRANSFORMER - OUTBD LANDING LIGHTS LEFT, T53	1 1 1 1 1 1 2 2	1 1 1 1 1 1 1 1 1	FLT COMPT, P5 FLT COMPT, P5 FLT COMPT, P5 FLT COMPT, P5 FLT COMPT, P5 FLT COMPT, P5 FLT COMPT, P5 FLT COMPT, P5 LEFT WING LE RIGHT WING LE POWER DISTRIBUTION CENTER-L POWER DISTRIBUTION CENTER-L LEFT WING LE	* * * * * * * * * * * * * * * * * * * *
TRANSFORMER - OUTBD LANDING LIGHTS LEFT, T53 TRANSFORMER - OUTBD LANDING LIGHTS RIGHT, T58	2	1	LEFT WING LE RIGHT WING LE	

<sup>\*</sup> SEE WDM EQUIPMENT LIST

Exterior Lights - Component Index Figure 101 (Sheet 2)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
BEACON, NAVIGATION, AND STROBE LIGHTS				
CIRCUIT BREAKERS -  RED ANTI-COLLISION LIGHTS, C174  NAV LIGHTS - CONT AND WING LEFT, C173  NAV LIGHTS - TAIL, C1824  NAV LIGHTS - WING RIGHT, C1823  WHITE ANTI-COLLISION LIGHTS, C1822  LIGHT - LEFT TAIL NAVIGATION, L2933  LIGHT - LEFT WING NAVIGATION, L8  LIGHT - LEFT WING NAVIGATION, L15  LIGHT - LOWER RED ANTI-COLLISION, L333  LIGHT - RIGHT TAIL NAVIGATION, L2932  LIGHT - RIGHT WING NAVIGATION, L7  LIGHT - RIGHT WING NAVIGATION, L14  LIGHT - TAIL CONE ANTI-COLLISION, X412  LIGHT - UPPER RED ANTI-COLLISION, L332  LIGHT - WHITE ANTI-COLLISION-LEFT WING, X413  LIGHT - WHITE ANTI-COLLISION-RIGHT WING, X411	1 4 4 4 4 4 4 4 4 4 4 4 4	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	FLT COMPT, P6 6L31 6L28 6L30 6L29 6L32 TAIL CONE LEFT WING TIP LE LEFT WING TIP LE BOTTOM OF FUSELAGE TAIL CONE RIGHT WING TIP LE RIGHT WING TIP LE TAIL CONE TOP OF FUSELAGE FWD OF ENTRY DOOR LEFT WING TIP LE RIGHT WING TIP LE	* * * * 33-43-01 33-43-04 33-43-01 33-43-04 33-43-04 33-44-07 33-44-01 33-44-05 33-44-05
MODULE - EMI FILTER, M2947		1	LEFT WING LE FLAP CAVITY	*
MODULE - EMI FILTER, M2948  MODULE - LIGHT CONTROL PANEL, M7262  RELAY - (REF 31-01-06, FIG. 101)  NAVIGATION LIGHTS, R763	1	1 1	RIGHT WING LE FLAP CAVITY FLT COMPT, P5	*
SWITCH - ANTI-COLLISION LIGHTS, S1	1	1	FLT COMPT, P5	*
SWITCH - FIXED NAVIGATION LIGHTS, S2	1	1	FLT COMPT, P5	*
SWITCH - WHITE ANTI-COLLISION LIGHTS, S3	1	1	FLT COMPT, P5	*
TRANSFORMER - NAVIGATION LIGHT-LEFT, T944		1	AFT EQUIP CTR, P84	33-43-03
TRANSFORMER - NAVIGATION LIGHT-RIGHT, T943 TRANSFORMER - TAIL NAVIGATION LIGHT, T128		1	LEFT WING TIP LE RIGHT WING TIP LE	33-43-03 *

<sup>\*</sup> SEE WDM EQUIPMENT LIST

Exterior Lights - Component Index Figure 101 (Sheet 3)

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COMPONENT	FIG. 102 SHT	QTY	ACCESS/AREA	REFERENCE
LOGO LIGHTS				
CIRCUIT BREAKERS - LOGO LIGHTS-LEFT, C501 LOGO LIGHTS-RIGHT, C500	1	1 1	AFT EQUIP CTR, P84 MISC CIRCUIT BREAKER PANEL MISC CIRCUIT BREAKER PANEL	*
LIGHT - LOGO LEFT, L228	6	1	LEFT HORIZONTAL STABILIZER, STA 387L	33-45-00
LIGHT - LOGO LEFT, L3186	6	1	LEFT HORIZONTAL STABILIZER, STA 402L	33-45-00
LIGHT - LOGO RIGHT, L227	6	1	RIGHT HORIZONTAL STABILIZER, STA 387R	33-45-00
LIGHT - LOGO RIGHT, L3185	6	1	RIGHT HORIZONTAL STABILIZER, STA 402R	33-45-00
MODULE - LIGHT CONTROL PANEL, M7262	1	1	FLT COMPT, P5	*
RELAY - LOGO LIGHT, R267		1	•	31-01-36
SWITCH - LOGO LIGHT, S5 (M7362)	1	1	FLT COMPT, P5	*
TRANSFORMER - LOGO LIGHT LEFT, T96	6	1	LEFT HORIZONTAL STABILIZER	33-45-00
TRANSFORMER - LOGO LIGHT RIGHT, T95	6	1	RIGHT HORIZONTAL STABILIZER	33-45-00

<sup>\*</sup> SEE WM EQUIPMENT LIST

Exterior Lights - Component Index Figure 101 (Sheet 4)

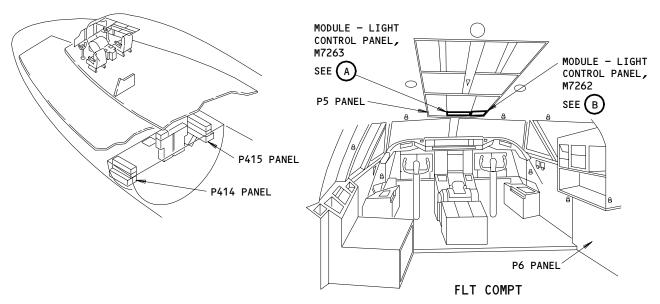
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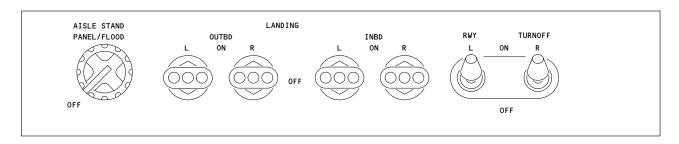
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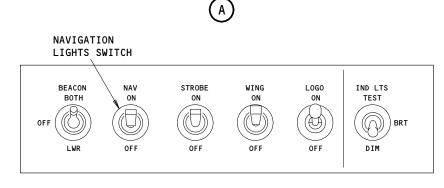
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## MODULE - LIGHT CONTROL PANEL, M7263



MODULE - LIGHT CONTROL PANEL, M7262

B

Exterior Lights - Component Location Figure 102 (Sheet 1)

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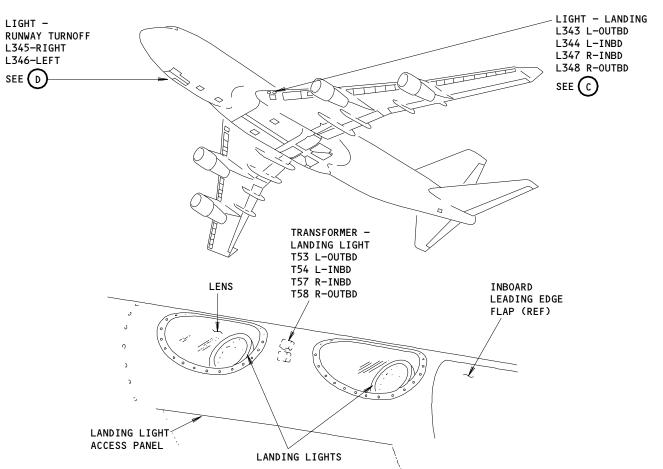
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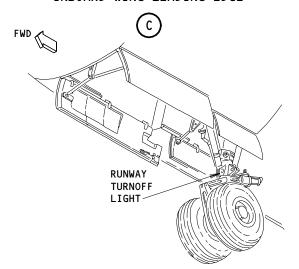
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### INBOARD WING LEADING EDGE



NOSE LANDING GEAR STRUT



Exterior Lights - Component Location Figure 102 (Sheet 2)

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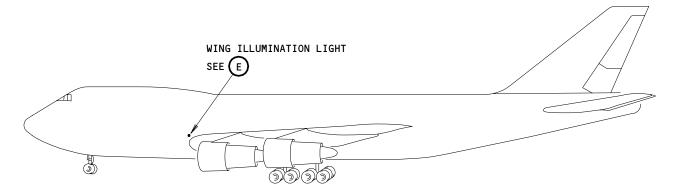
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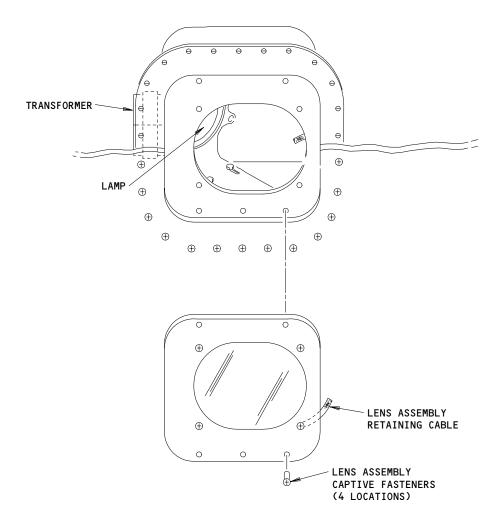
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## WING ILLUMINATION LIGHT



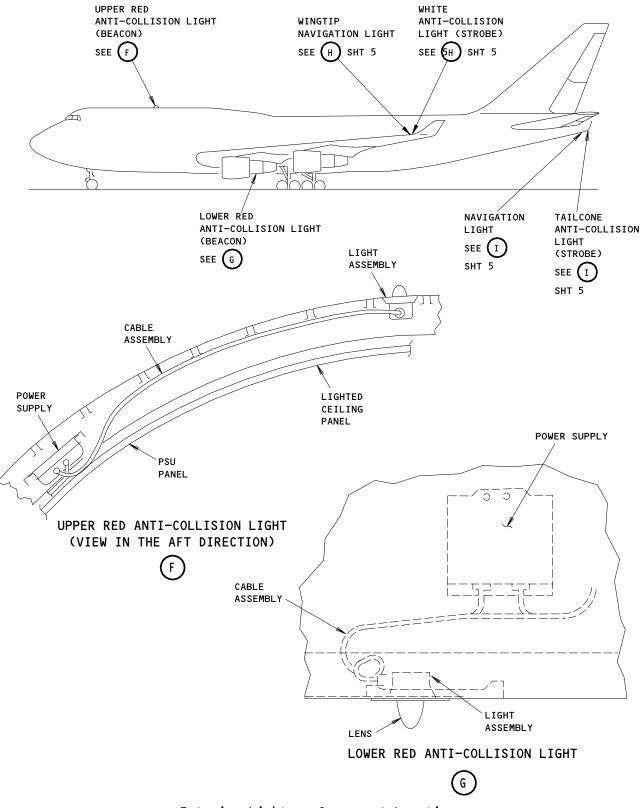
Exterior Light - Component Location Figure 102 (Sheet 3)

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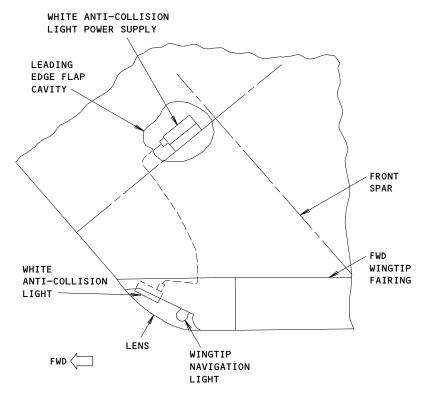
Exterior Lights - Component Location Figure 102 (Sheet 4)

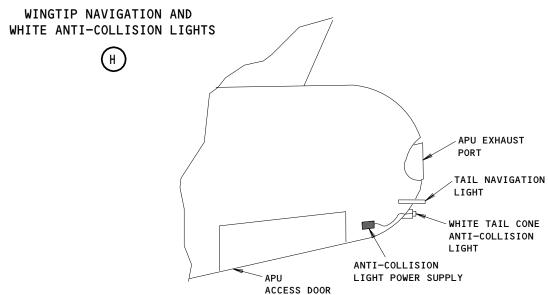
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TAIL NAVIGATION AND TAIL CONE WHITE ANTI-COLLISION LIGHT



Exterior Lights - Component Location Figure 102 (Sheet 5)

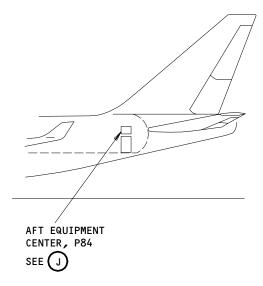
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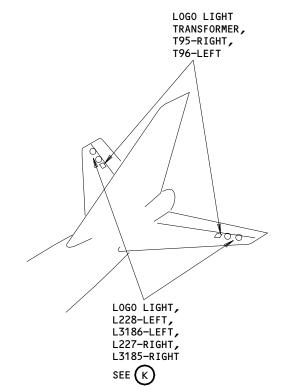
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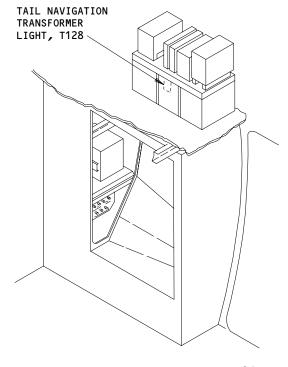
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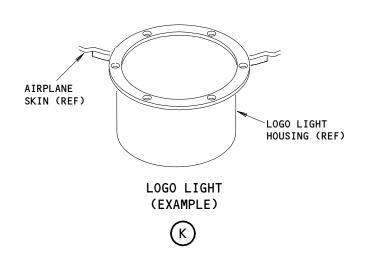
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AFT EQUIPMENT CENTER, P84

Exterior Lights - Component Location Figure 102 (Sheet 6)

EFFECTIVITY-ALL

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# EXTERIOR LIGHTS - FAULT ISOLATION

### 1. General

- A. Fault isolation will require application of electrical power.
- B. All trouble shooting procedures are based on the assumption that airplane wiring is OK and that electrical power is available.
- C. If the corrective action in the procedure does not correct the problem, check wiring using the wiring diagram.
- D. After replacing component, perform electrical check for proper operation before closing assembly.
- 2. Fault Isolation Procedures

Figure 103, Runway Turnoff Light Problems

Figure 104, Landing Light Problems

Figure 105, Logo Light Problems

 33-40-00

#### **PREREQUISITES** MANUAL CONTROL (MM 24-22-00/201) **RUNWAY TURNOFF** LIGHT PROBLEMS CB'S: 415L20,415L21 YES ARE L (R) RUNWAY TURNOFF 20 REPLACE L (R) RUNWAY LIGHTS ILLUMINATED WHEN SWITCH TURNOFF SWITCH S5 (S6) ON S5 (S6) IS IN THE "OFF" LIGHTING CONTROL MODULE, M7263 POSITION? (WDM 33-42-11). NO PLACE L (R) RUNWAY TURNOFF 10 PLACE THE REMAINING RUNWAY 21 REPLACE R7333-GND SAFETY SWITCH, S5 (S6), TO THE "ON" TURNOFF SWITCH (S6 [S5]) TO RELAY IN P414 (WDM 33-42-11). THE "ON" POSITION. POSITION. IS THE L (R) RUNWAY DO BOTH RUNWAY TURNOFF TURNOFF LIGHT ILLUMINATED? LIGHTS REMAIN EXTINGUISHED? YES SYSTEM NORMAL. 11 RETURN SWITCH PLACED "ON" 22 RELAMP L (R) RUNWAY IN BLOCK 10 TO THE "OFF" TURNOFF LIGHT (MM 33-42-03/ POSITION. REMOVE CONNECTOR 201). D40332P FROM POWER DISTRIBUTION CENTER-L P414 (WDM 33-42-11).IS 28V AC PRESENT BETWEEN PIN 3 (LEFT) OR PIN 2 (RIGHT) AND GROUND OF D40332J? 12 MEASURE LT-L (R) TRANS-23 REPLACE LT-L (R) FORMER PRIMARY VOLTAGE ACROSS TRANSFORMER, T178 (T179) (WDM 33-42-11). T179 (T178) TERMINALS HV2 AND GROUND (WDM 33-42-11). IS 115V AC PRESENT BETWEEN HV TERMINAL AND GROUND? NO 24 REPLACE L (R) RUNWAY LIGHT RELAY, R7770 (R7771). IF FAULT PERSISTS, CHECK AND REPAIR WIRING BETWEEN RELAY R7770 (R7771) AND

Runway Turnoff Light Problems Figure 103 CIRCUIT BREAKER C169 (C170)

(WDM 33-42-11).

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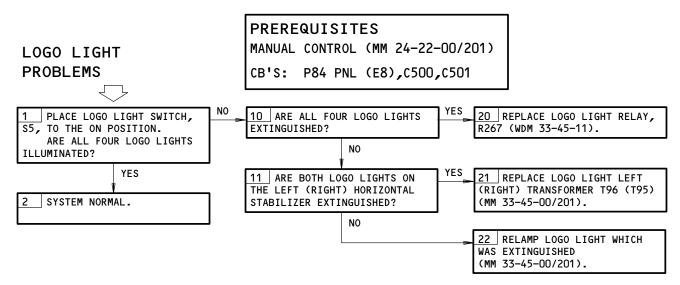
#### **PREREQUISITES** MANUAL CONTROL (MM 24-22-00/201) LANDING LIGHT **PROBLEMS** CB'S: 414L2,414L3,415L31,415L32 NO 20 RELAMP EXTINGUISHED PLACE ALL FOUR LANDING LIGHT SWITCHES (S1,S2,S3,S4) LANDING LIGHT (MM 33-42-02/ TO THE "ON" POSITION. 201). ARE ALL WING LANDING IF FAULT PERSISTS, REPLACE LIGHTS ILLUMINATED? APPLICABLE LANDING LIGHT TRANSFORMER (MM 33-42-02/201). YES 21 REPLACE LANDING LIGHT 2 | PLACE ALL FOUR LANDING 10 DO ONLY THE LEFT OR RIGHT LIGHT SWITCHES TO "OFF" WING PAIR OF LANDING LIGHTS RELAY R1041-LEFT (R1042-RIGHT) POSITION. CHANGE ILLUMINATION FROM (WDM 33-42-11).PERFORM LANDING LIGHT BRIGHT TO DIM INTENSITY? ADJUSTMENT AND TEST NO (MM 33-42-00/501). DOES LANDING LIGHT 22 REPLACE LANDING GEAR LEVER POSITION RELAY R843 ILLUMINATION CHANGE FROM BRIGHT TO DIM AND BACK TO (WDM 33-42-11). BRIGHT? YES

Landing Light Problems Figure 104

ALL

SYSTEM NORMAL.

33-40-00



Logo Light Problems Figure 105

EFFECTIVITY-ALL

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### WING ILLUMINATION LIGHTS - DESCRIPTION AND OPERATION

### 1. General

- A. Wing illumination lights are flush mounted on each side of the airplane above the intersection of the wing leading edge and the fuselage. Each of the 250 watt sealed beam lamps is housed behind heat resistant glass and focused on the wing leading edge. The lights have sufficient back scatter to illuminate the engine nacelles in addition to the wing leading edges.
- B. The 115 volt ac ground service bus supplies power to the wing illumination lights through stepdown transformers. Wing illumination light transformers are located in the floor beam area above the forward cargo compartment ceiling liner. The secondary output of the transformers provides 13 volts to the lamps. The circuit breaker for the lights is on the main power circuit breaker panel P6.
- C. A WING toggle switch located on the M7262 RH LTG control module (P5) controls the primary voltage to the transformers.
- D. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-41-10
  - (2) WDM 33-41-11

ALL ALL

33-41-00



### WING ILLUMINATION LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - This procedure contains these tasks:
    - (1) A task for the replacement of the lamps in the wing illumination
    - (2) A task for the adjustment of the wing illumination lights.

TASK 33-41-00-962-001

- 2. <u>Lamp Replacement (Wing Illumination Lights)</u> (Fig. 201)
  - References
    - (1) AMM 24-22-00, Manual Control
    - (2) SSM 33-41-10
    - (3) WDM 33-41-11
  - Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Lamp Replacement

s 862-002

Open each applicable circuit breaker and attach a DO-NOT-CLOSE tag: (a) On main power distribution panel, P6.

s 962-039

(2) Remove the lens and lamp retainer.

s 962-040

(3) Carefully replace the lamp.

s 962-041

- (4) Install the lamp retainer and the lens.
- D. Lamp Test

s 862-042

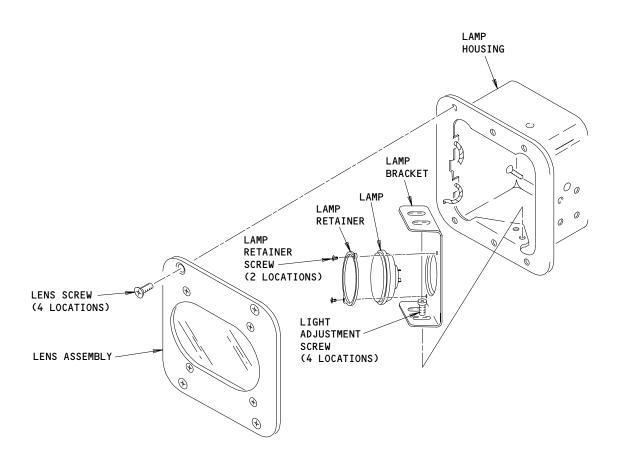
ALL

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

EFFECTIVITY-

33-41-00





WING ILLUMINATION LIGHT

Wing Illumination Lights - Lamp Replacement Figure 201

299468

33-41-00



s 862-032

(2) Remove each DO-NOT-CLOSE tag.

(a) Close each circuit breaker that was opened.

s 712-044

(3) Set the switch to the on position.

(a) Make sure the new lamp comes on correctly.

s 862-043

(4) Set the switch to the usual position.

S 862-045

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

TASK 33-41-00-822-015

- 3. <u>Light Adjustment</u> (Wing Illumination Lights) (Fig. 202)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-41-10
    - (3) WDM 33-41-11
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 862-036

ALL

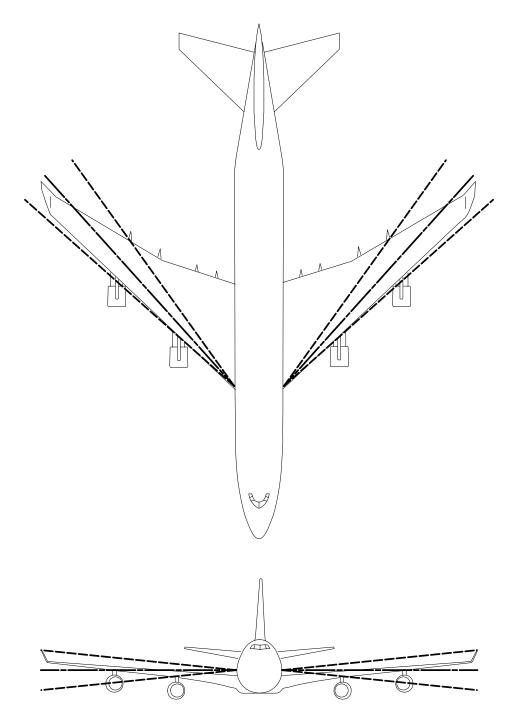
- (1) Do these steps to do the adjustment:
  - (a) Loosen the screws on the lens.
  - (b) Remove the lens from the light assembly.
    - 1) Let the lens assembly hang from its lanyard.

      Loosen the four lamp adjustment screws on the lamp bracket.
  - (d) Supply electrical power (AMM 24-22-00/201).
  - (e) Make sure this circuit breaker is closed:
    - 1) P6 Main Power Distribution Panel
      - a) 6L33 WING ILLUM LTS
  - (f) Put the WING switch on the P5 panel to ON.

EFFECTIVITY-

33-41-00





PRIMARY LIGHT BEAM PATTERN

NOTE: LIGHT BACK SCATTER WILL ILLUMINATE ENGINE INLETS.

Wing Illumination Lights Adjustment Figure 202

ALL

O1 Page 204
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(g) Make sure the light is on.

WARNING: DO NOT TOUCH THE LAMP WITH YOUR BARE HANDS. HEAT FROM THE LAMP WILL BURN YOUR HANDS.

- (h) Adjust the lamp until the center of the light beam points to the aft corner of the wingtip.
- (i) Tighten the four screws on the lamp bracket.
- (j) Put the WING switch to OFF.
- (k) Make sure the light is off.
- (l) Put the lens on the light assembly and tighten its screws.
- (m) Remove electrical power if it is not necessary (AMM 24-22-00/201).

EFFECTIVITY-

ALL

33-41-00

**i** 

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### WING ILLUMINATION LIGHTS - ADJUSTMENT/TEST

#### 1. General

A. This procedure contains a task to do an operational test of the wing illumination lights.

TASK 33-41-00-705-001

- 2. Operational Test (Wing Illumination Lights)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) IPC 33-41-10
    - (3) SSM 33-41-10
  - B. Access
    - (1) Location Zone

200 Exterior Fuselage Left/Right Above Wing Leading Edge

- C. Procedure
  - s 865-002
  - (1) Supply electrical power (AMM 24-22-00/201).
    - s 865-003
  - (2) Make sure this circuit breaker is closed:
    - (a) P6 main power distribution panel
      - 1) 6L33 WING ILLUM LTS
    - s 865-004
  - (3) Put the WING switch on the P5 panel to ON.
    - s 715-008
  - (4) Make sure the lights on each side of the airplane are on.
    - s 715-009
  - (5) Make sure the beam of each light is pointed at the aft corner of the wingtip.
    - s 865-006
  - (6) Put the WING switch on the P5 panel to OFF.

EFFECTIVITY-

33-41-00

ALL



s 715-010

(7) Make sure the lights on each side of the airplane are off.

s 865-007

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

EFFECTIVITY-

ALL

33-41-00

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### WING ILLUMINATION LIGHT TRANSFORMER - REMOVAL/INSTALLATION

#### 1. General

- This procedure contains these tasks: Α.
  - (1) A task for the removal of the transformer for the wing illumination
  - (2) A task for the installation of the transformer for the wing illumination lights .

TASK 33-41-01-004-001

- Transformer\_Removal (Fig. 401) 2.
  - References
    - (1) AIPC 33-41-10
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 25-52-01/401, Containerized Cargo Compartment Ceiling and Sidewall Linings
    - (4) SSM 33-41-10
  - B. Access
    - (1) Location Zone

100 Forward Cargo Compartment Overhead

C. Procedure

S 864-002

- Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L33, WING ILLUM LTS

s 014-003

- (2) Get access to the transformer as follows:
  - (a) The two transformers are installed in the forward cargo compartment on the main deck floor beams.

s 024-007

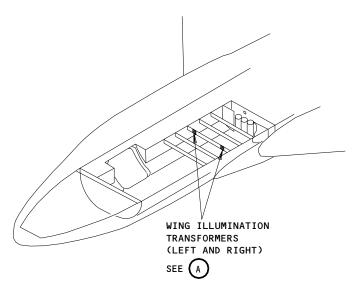
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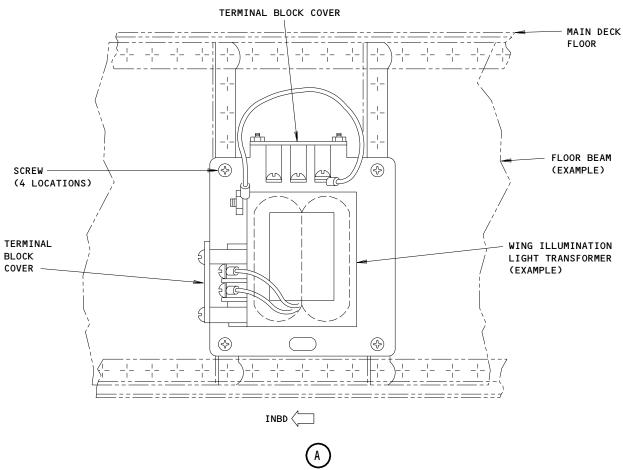
(3) Remove the ceiling lining adjacent to the transformer (AMM 25-52-01/401).

EFFECTIVITY-

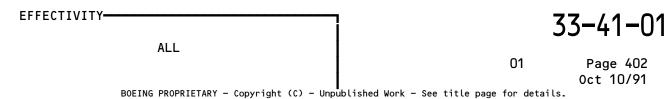
33-41-01







Wing Illumination Light Transformer Installation Figure 401





s 034-008

(4) Remove the four transformer mounting screws.

s 034-009

(5) Look at the position of the electrical wires to make sure you install the replacement transformer correctly.

NOTE: Hold the loose transformer to make sure you do not do damage to the electrical wires.

s 024-045

(6) Remove the covers from the two terminal boards of the transformer.

s 034-046

(7) Disconnect the electrical wires from the transformer.

S 024-044

(8) Remove the transformer.

TASK 33-41-01-404-010

- 3. Transformer Installation (Fig. 401)
  - A. References
    - (1) AIPC 33-41-10
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 25-52-01/401, Containerized Cargo Compartment Ceiling and Sidewall Linings
    - (4) SSM 33-41-10
  - B. Access
    - (1) Location Zone

100 Forward Cargo Compartment Overhead

C. Procedure

s 434-011

(1) Remove the terminal board covers on the replacement transformer.

s 434-012

(2) Connect the electrical wires to the terminals in the sequence that they were removed.

NOTE: Hold the transformer to make sure you do not do damage to the electrical wires.

s 424-013

(3) Replace the covers on the transformer terminal boards.

EFFECTIVITY-

33-41-01

ALL



s 434-014

(4) Put the transformer in its position on the mounting bracket and install the four screws.

s 864-017

- (5) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L33, WING ILLUM LTS

s 714-047

- Do a test of the lights:
  - (a) Supply electrical power (AMM 24-22-00/201).
  - (b) Put the WING switch on the P5 panel to ON.
  - (c) Make sure the lights are on.
  - (d) Put the WING switch on the P5 panel to OFF.
  - (e) Make sure the lights are off.
  - (f) Remove electrical power if it is not necessary (AMM 24-22-00/201).
- D. Put the airplane back to its usual condition.

s 414-015

(1) Install the ceiling lining (AMM 25-52-01/401).

EFFECTIVITY-

ALL

33-41-01

01.1



### WING ILLUMINATION LIGHT - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure contains these tasks:
    - (1) Wing Illumination Light Removal
    - (2) Wing Illumination Light Installation

TASK 33-41-02-004-001

- 2. Wing Illumination Light Removal (Fig 401)
  - A. References
    - (1) AMM 51-31-01/201, Seals and Sealing
    - (2) SSM 33-41-10
    - (3) WDM 33-41-11
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Removal

s 864-015

- (1) Do one of these steps to remove electrical power from the wing illumination 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 a DO-NOT-CLOSE tag:
  - (c) On main power distribution panel, P6.

s 144-012

(2) Remove the sealant from around the light assembly (AMM 51-31-01/201).

s 024-013

(3) Remove each screw and remove the light assembly.

s 144-003

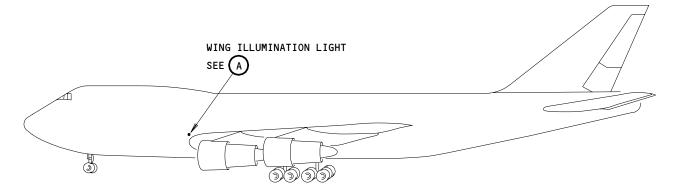
(4) Clean the sealant from the airplane skin (AMM 51-31-01/201).

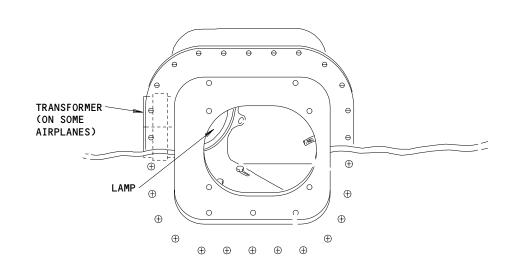
EFFECTIVITY-

33-41-02

ALL







## WING ILLUMINATION LIGHT ASSEMBLY



Exterior Light - Installation Figure 401

ALL

33-41-02

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TASK 33-41-02-404-019

- 3. Wing Illumination Light Installation (Fig 401)
  - A. Consumable Materials
    - (1) A00247 Sealant BMS 5-95, Class B
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 51-31-01/201, Seals and Sealing
    - (3) SSM 33-41-10
    - (4) WDM 33-41-11
  - C. Access
    - (1) Location Zone

200 Upper Half of Fuselage

D. Light Installation

s 394-016

(1) Apply the sealant between the light assembly and the airplane skin (AMM 51-31-01/201).

s 424-014

(2) Install the light assembly with its screws.

s 394-017

- (3) Apply the sealant around the edge of the light assembly (AMM 51-31-01/201).
- E. Light Test

s 824-015

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

s 864-014

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

s 714-015

- (3) At the overhead panel, P5, set the switch for the wing illumination light to the on position.
  - (a) Make sure the light comes on correctly.

s 864-016

(4) Set the switch to the off position.

s 864-017

- (5) Remove electrical power if it is not necessary (AMM 24-22-00/201).
- F. Light Adjustment

s 824-006

(1) If it is necessary, do this task: Wing Illumination Light - Light Adjustment (AMM 33-41-00/201).

EFFECTIVITY-

33-41-02

ALL



### LANDING AND RUNWAY TURNOFF LIGHTS - DESCRIPTION AND OPERATION

#### 1. General

- A. The landing and runway turnoff lights consist of:
  - (1) Four landing lights flush mounted in individual wing cavities aft of each wing leading edge.
  - (2) Two runway turnoff lights mounted on the nose gear lower tripod brace by the service interphone panel.
- B. 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. Landing Lights

- A. The four landing lights use halogen sealed beam lamps and are mounted behind curved heat resistant glass lenses in the leading edge of the wings. The inboard and outboard landing lights in each wing are adjacent to each other with two landing light transformers mounted between them. The light beams are adjustable plus or minus 5 degrees in each axis.
- B. The 115 volt ac buses 1 and 3 supply primary power to the landing light transformers.
  - (1) AC bus No. 1 supplies power to the left and right inboard landing lights through a circuit breaker on the P414 power distribution center left.
  - (2) AC bus No. 3 supplies power to the left and right outboard landing lights through a circuit breaker on the P415 power distribution center right.
  - (3) AC power to landing light transformers are controlled by switches on the P5 pilots overhead panel.
- C. An automatic landing light dimming circuit reduces voltages across the landing light lamps whenever the landing gear lever is in the UP position. Moving the landing gear lever from DWN to UP position provides a ground path to energize relay R84 which then provides ground paths to energize two landing light dimming relays R1041 and R1042. The landing light relays switch the 115 Volts ac inputs to alternate taps on the landing light transformers causing the transformer secondary voltages to be reduced.

#### 3. Runway Turnoff Lights

- A. The two runway turnoff lights use sealed beam incandescent lamps and are mounted in the nose wheel light control panel housing on the nose gear. The lamps are aimed approximately 65 degrees left and right of the airplane centerline.
- B. The 115-volt ac ground service bus supplies power to the runway turnoff lights transformers which provide 28 volts ac to the lights for light operation. When energized the runway turnoff lights relays turn the lights on. The 115-volt ac ground service bus, circuit breakers, transformers, and relays are all located in the P414 panel.
  - (1) Each runway turnoff light transformer output is protected by a secondary circuit breaker located in the P414 panel.

33-42-00



- C. A ground safety relay in the P414 panel prevents the lights from coming on when the landing gear is retracted. 115 volts ac ground service buss supplies power to energize the runway turnoff lights relays through the ground safety relay.
- D. The RUNWAY TURNOFF (L and R) switches on the P5 pilots' overhead panel control the lights. If the airplane is on the ground and the ground safety relay is energized, 115 volts ac is connected to the runway turnoff light relays through the ground safety relay. Setting either switch to the ON position will connect the applicable runway turnoff light relay coil to ground, energize the runway turnoff light relay, and supply 28 volts ac to the light.

ALL

33-42-00



#### LANDING AND RUNWAY TURNOFF LIGHTS - ADJUSTMENT/TEST

- 1. General
  - A. This procedure contains these tasks:
    - (1) A task to do an operational test of the landing lights.
    - (2) A task to do an operational test of the runway turnoff lights (Referred to as the turnoff lights).

TASK 33-42-00-705-001

- 2. Landing Lights Operational Test
  - A. References
    - (1) AMM 9-11-00/201, Airplane Towing
    - (2) AMM 24-22-00/201, Manual Control
    - (3) SSM 33-42-10 thru 33-42-20
    - (4) WDM 33-42-11 thru 33-42-12
  - B. Access
    - (1) Location Zone
      - 511 Inboard Leading Edge of Left Wing 611 Inboard Leading Edge of Right Wing
  - C. Procedure

s 865-002

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

s 865-044

- (2) Make sure these circuit breakers are closed:
  - (a) P414 Power Distribution Center Left
    - 1) 415L17 LANDING LT L OUTBD
    - 2) 414L3 LANDING LT L INBD
    - 3) 414L2 LANDING LT R INBD
    - 4) 415L18 LANDING LT R OUTBD
  - (b) P7 Panel
    - 1) 7F24 LANDING GEAR LEVER LOCK

EFFECTIVITY-

33-42-00

01

ALL



s 495-005

YOU MUST CAREFULLY INSTALL THE GROUND LOCKS IN ALL LANDING WARNING: GEAR. AN ACCIDENTAL RETACTION OF THE LANDING GEAR CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Install the ground locks in all landing gear (Ref 9-11-00/201).

s 495-006

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT INSTALL THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) Do this task: "Installation of the Door Locks on the Landing Gear" (Ref 32-00-30/201).

s 715-033

(5) Do these steps to do a test of the outboard lights:

CAUTION: DO NOT KEEP THE LIGHTS ON FOR MORE THAN FIVE MINUTES. AFTER YOU MAKE THE LIGHTS COME ON, MAKE THE LIGHTS GO OFF FOR AN EQUAL TIME. BECAUSE OF THE HEAT, THE CONTINUOUS OPERATION OF THE LIGHTS WILL DECREASE THE LIFE OF THE LAMPS.

- Put the OUTBD L and INBD L or the OUTBD R and INBD R switches on the P5 panel to ON.
- (b) Make sure the applicable light is on.
- Put the landing gear lever to UP.
- Make sure the light changes from a bright intensity to a dim intensity.
- (e) Put the landing gear lever to OFF.
- (f) Make sure the light stays dim.
- Put the OUTBD L and INBD L or the OUTBD R and INBD R switches on the P5 panel to OFF.

EFFECTIVITY-

ALL

33-42-00



(h) Make sure the light is off.

s 715-034

(6) Do these steps to do a test of the inboard lights:

CAUTION: DO NOT KEEP THE LIGHTS ON FOR MORE THAN FIVE MINUTES.

AFTER YOU MAKE THE LIGHTS COME ON, MAKE THE LIGHT GO OFF
FOR AN EQUAL TIME. BECAUSE OF THE HEAT, THE CONTINUOUS
OPERATION OF THE LIGHTS WILL DECREASE THE LIFE OF THE
LAMPS.

- (a) Put the INBD R or the INBD L switch on the P5 panel to ON.
- (b) Make sure the applicable light is on.
- (c) Put the landing gear lever to UP.
- (d) Make sure the light changes from a bright intensity to a dim intensity.
- (e) Put the landing gear lever to OFF.
- (f) Make sure the light stays dim.
- (g) Put the INBD R or the INBD L switch on the P5 panel to OFF.
- (h) Make sure the applicable light goes off.

s 865-040

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

TASK 33-42-00-705-017

- 3. <u>Turnoff Lights Operational Test</u>
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-42-03
    - (3) SSM 33-42-10
  - B. Access
    - (1) Location Zone

716 Nose Landing Gear Strut

C. Procedure

s 865-035

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

s 865-018

ALL

- (2) Make sure these circuit breakers are closed:
  - (a) P414 Power Distribution Center Left
    - 1) 414L20 RUNWAY TURNOFF LT LEFT & CONT
    - 2) 414L21 RUNWAY TURNOFF LT RIGHT

EFFECTIVITY-

33-42-00



s 495-041

WARNING: YOU MUST CAREFULLY INSTALL THE GROUND LOCKS IN ALL LANDING GEAR. AN ACCIDENTAL RETACTION OF THE LANDING GEAR CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(3) Install the ground locks in all landing gear (Ref 9-11-00/201).

S 495-042

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT INSTALL THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(4) Do this task: "Installation of the Door Locks on the Landing Gear" (Ref 32-00-30/201).

s 715-039

- (5) Do these steps to do a test of the turnoff lights:
  - (a) Put the RWY TURNOFF -L or the RWY TURNOFF -R switch on the P5 panel to ON.
  - (b) Make sure the applicable light is on.
  - (c) Put the RWY TURNOFF -L or the RWY TURNOFF -R switch on the P5 panel to OFF.
  - (d) Make sure the applicable light is off.

s 865-025

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

EFFECTIVITY-

33-42-00



## LANDING LIGHT LENS - REMOVAL/INSTALLATION

### 1. General

- A. This procedure contains these tasks:
  - (1) A task for the removal of the light lens.
  - (2) A task for the installation of the light lens.
- B. The landing light lens assemblies are readily replaceable. Replacement procedures are identical for each of the four assemblies. This replacement does not effect adjustment of lamps and adjustment/tests are not required.
- C. Nicks, scratches, or chips do not constitute reason for replacement of lens unless transmission of light is impaired.
- D. Cracks of any size will propagate in flight due to thermal expansion and contraction and vibration. Lens should be replaced if direction of crack is such that it will cross a major portion of the lens. Minor cracks across a small portion of lens do not constitute need for immediate replacement of lens but replacement should be accomplished at earliest time convenient to using airline.

TASK 33-42-01-004-001

- 2. Lens Removal (Fig. 401)
  - A. Access
    - (1) Location Zone

511 Left Wing Leading Edge 611 Right Wing Leading Edge

B. Procedure

s 034-002

(1) Remove the screws that attach the lens assembly to the wing edge.

s 034-003

(2) Break the sealant at the slot between the lens assembly and the wing edge.

s 024-004

(3) Remove the lens assembly.

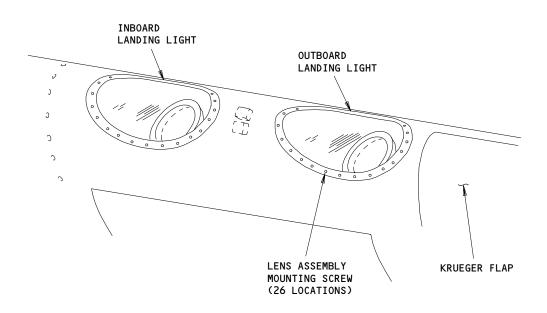
TASK 33-42-01-404-004

- 3. Lens Installation (Fig. 401)
  - A. References
    - (1) 51-31-01/201, Seals and Sealing

EFFECTIVITY-

33-42-01





LANDING LIGHTS

Landing Light Lens Installation Figure 401

33-42-01

01

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- B. Consumable Materials
  - (1) A00474 Silicone Rubber Sealant, DC 93-006
  - (2) A00521 Primer, DC 1200
- C. Access
  - (1) Location Zone

511 Left Wing Leading Edge 611 Right Wing Leading Edge

- D. Procedure
  - s 114-005
  - (1) Clean the surfaces on the wing and the lens per BAC5516.
    - s 384-010
  - (2) Prime the surfaces on the wing with DC 1200 per BAC5000.
    - s 394-011
  - (3) Mix the DC 93-006 per BAC5516. Put the mixed DC 93-006 on the surfaces of the wing with a spatula.
    - s 424-005
  - (4) Put the lens in position on the wing.
    - s 434-007
  - (5) Put the frame over the lens and install with fasteners.
    - \$ 884-012
  - (6) Cure the DC 93-006 per BAC5000 and after cure trim off excess.
    - s 394-008
  - (7) Seal the slot between the lens assembly and the wing edge (Ref 51-31-01/201).

EFFECTIVITY-

33-42-01

ALL



## LANDING LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has these tasks:
    - (1) Landing Light Lamp Replacement
    - (2) Landing Light Light Beam Adjustment
    - (3) Landing Light Transformer Replacement
    - (4) 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.

TASK 33-42-02-962-001

- 2. Landing Light Lamp Replacement (Fig. 201)
  - A. Special Tools and Equipment
    - (1) Lock, Leading Edge Flap Drive Unit (Ref 27-81-00/201)
  - B. References
    - (1) AMM 20-11-29/201, Seals on Open Terminals in Fuel Vapor Areas
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 27-81-00/201, Leading Edge Flap System
    - (4) IPC 33-42-02-01
    - (5) SSM 33-42-10
  - C. Access
    - (1) Location Zone

Leading Edge to Front Spar, Left Leading Edge to Front Spar, Right

D. Procedure

s 862-088

ALL

(1) Prepare for the replacement of the landing light lamp:

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO

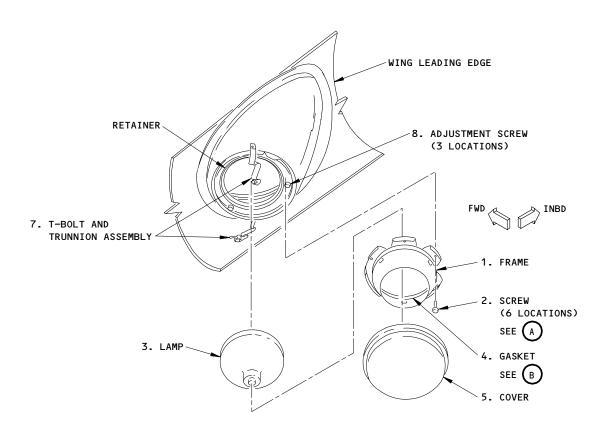
PERSONS OR DAMAGE TO EQUIPMENT.

(a) Do this task: "Leading Edge Flap Extension" (Ref 27-81-00/201).

EFFECTIVITY-

33-42-02



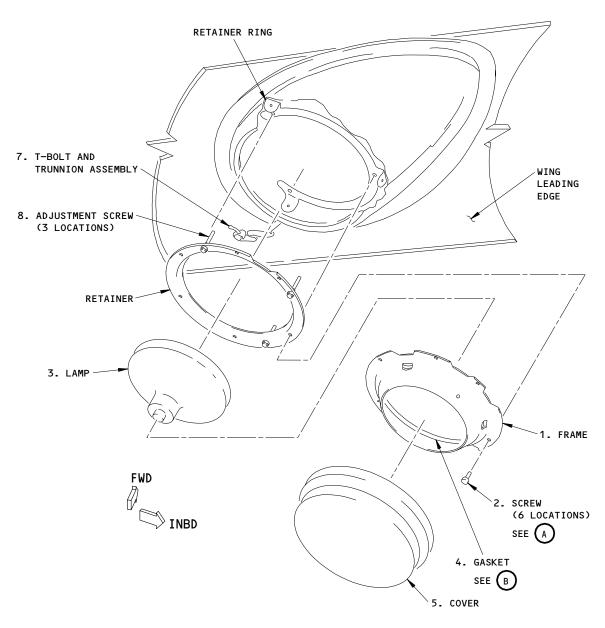


LANDING LIGHT

Landing Light Lamp Replacement Figure 201 (Sheet 1)

33-42-02





LANDING LIGHT

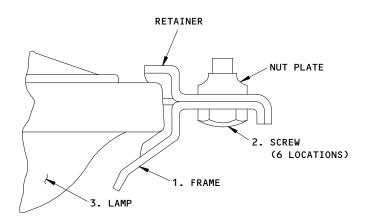
# Landing Light Lamp Replacement Figure 201 (Sheet 2)

33-42-02

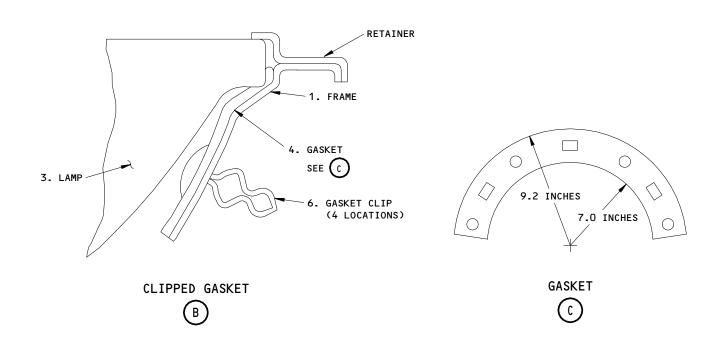
23

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SCREW
(6 LOCATIONS)



Landing Light Lamp Replacement Figure 201 (Sheet 3)

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33-42-02

01

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WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (b) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (Ref 27-81-00/201).
- (c) Install a DO-NOT-OPERATE tag on the flap control lever.
- (d) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - 1) P414 Power Distribution Center Left
    - a) 414L3 LANDING LT LEFT INBD
    - b) 414L2 LANDING LT RIGHT INBD
  - 2) P415 Power Distribution Center Right
    - a) 415L31 LANDING LT LEFT OUTBD
    - b) 415L32 LANDING LT RIGHT OUTBD
- (e) Get access to the rear of the landing light through the access door.

#### s 962-095

- (2) Do these steps to replace the landing light lamp:
  - (a) Remove the self-locking nut from the T-bolt and trunnion assembly (7) to release the cover retaining straps.
  - (b) Remove the cover (5).
  - (c) Disconnect the electrical wires from the lamp.
  - (d) Remove the screws (2) and remove the frame (1).

NOTE: Do not turn the adjustment screws (8).

- (e) Remove the lamp (3).
- CAUTION: INSTALL OR REPLACE THE GASKET IF IT IS NECESSARY. FAILURE TO INSTALL OR REPLACE THE GASKET CAN DECREASE THE LIFE OF THE LAMP.
- (f) Examine the installation of the gasket (4), or replace the gasket on the lamp (3).

EFFECTIVITY-

ALL

33-42-02



CAUTION: WHEN YOU INSTALL THE LAMP, MAKE SURE IT IS CORRECTLY ALIGNED AGAINST THE RETAINER. THE LAMP CAN BREAK IF YOU DO NOT INSTALL IT CORRECTLY.

- Install the replacement lamp (3) with the filament in the horizontal position.
- (h) Install the frame (1).
- (i) Install the screws (2).
- (j) Connect the electrical wires to the replacement lamp (3).

MAKE SURE YOU SEAL EACH BARE ELECTRICAL CONNECTION NEAR WARNING: THE LIGHT TO PREVENT AN EXPLOSION OF FUEL FUMES. AN EXPLOSION CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (k) Seal each electrical connection (AMM 20-11-29/201).
- (l) Install the lamp cover (5).
- Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - 1) P414 Power Distribution Center Left
    - a) 414L3 LANDING LT LEFT INBD
    - b) 414L2 LANDING LT RIGHT INBD
  - 2) P415 Power Distribution Center Right
    - a) 415L31 LANDING LT LEFT OUTBD
    - b) 415L32 LANDING LT RIGHT OUTBD

#### s 712-087

- (3) Do these steps to do a test of the replacement lamp:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Put the applicable LANDING switch on the P5 Panel to ON.
  - (c) Make sure the replacement lamp is on.
  - (d) Put the LANDING switch on the P5 panel to OFF.
  - (e) Make sure the landing light is off.
- E. Put the airplane back to its usual condition

s 412-019

(1) Close the access door.

ALL

EFFECTIVITY-

33-42-02

01.101



s 092-020

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (Ref 27-81-00/201).

s 862-076

(3) Do this task: "Leading Edge Flap Retraction" (Ref 27-81-00/201).

s 862-077

(4) Remove the DO-NOT-OPERATE tag from the flap control lever.

s 862-021

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

TASK 33-42-02-822-022

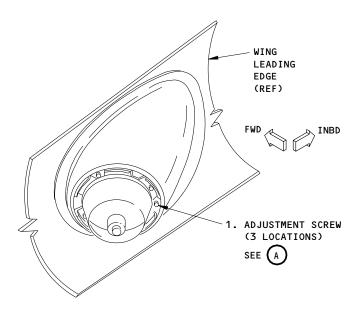
- Landing Light Light Beam Adjustment (Fig. 201 thru 204)
  - A. Special Tools and Equipment
    - (1) Lock, Leading Edge Flap Drive Unit (Ref 27-81-00/201).
    - (2) Light Aligner (If a light aligner is used.), LA-87, J. C. Air, 400 Industrial Parkway, Industrial Airport, Kansas 66031, USA
  - B. References
    - (1) 24-22-00/201, Manual Control
    - (2) 27-81-00/201, Leading Edge Flap System
  - C. Access
    - (1) Location Zone

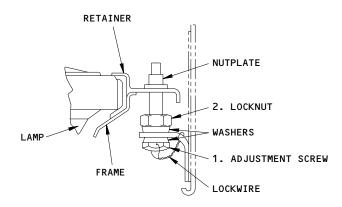
Leading Edge to Front Spar, Left Leading Edge to Front Spar, Right

EFFECTIVITY-

33-42-02







ADJUSTMENT SCREW

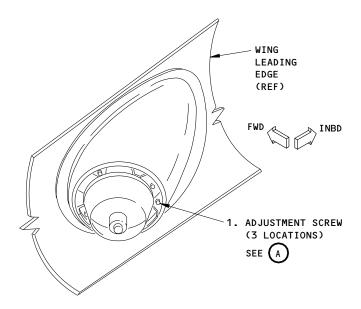
Landing Light Adjustment Figure 202 (Sheet 1)

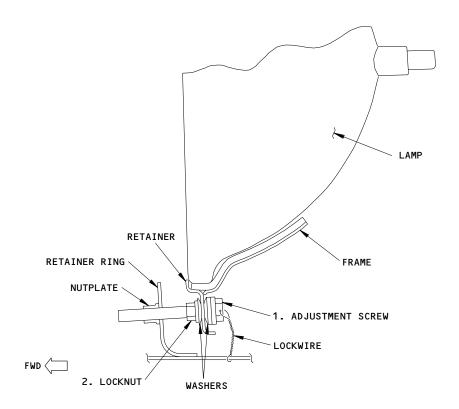
33-42-02

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ADJUSTMENT SCREW

Landing Light Adjustment Figure 202 (Sheet 2)

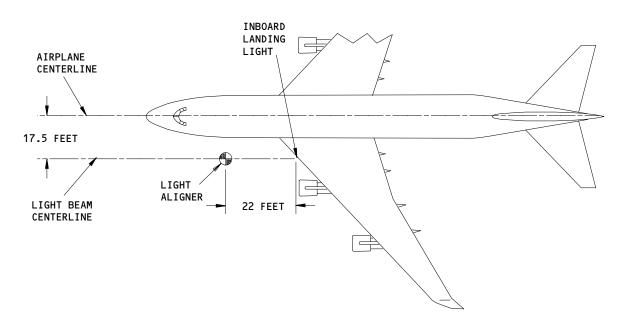
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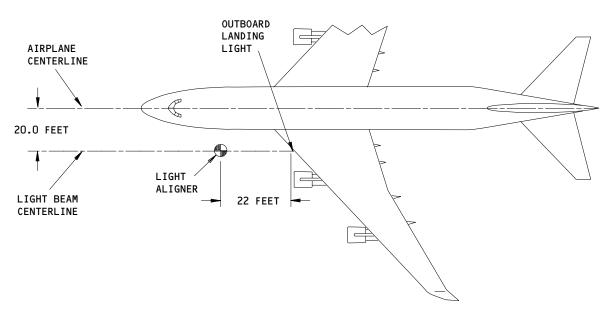
24

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# LOCATION OF THE LIGHT ALIGNER FOR THE LEFT INBOARD LANDING LIGHT (RIGHT INBOARD LIGHT IS SYMMETRICAL)



LOCATION OF THE LIGHT ALIGNER FOR THE LEFT OUTBOARD LANDING LIGHT (RIGHT OUTBOARD LIGHT IS SYMMETRICAL)

Landing Light - Adjustment with a Light Aligner Figure 203 (Sheet 1)

EFFECTIVITY-ALL

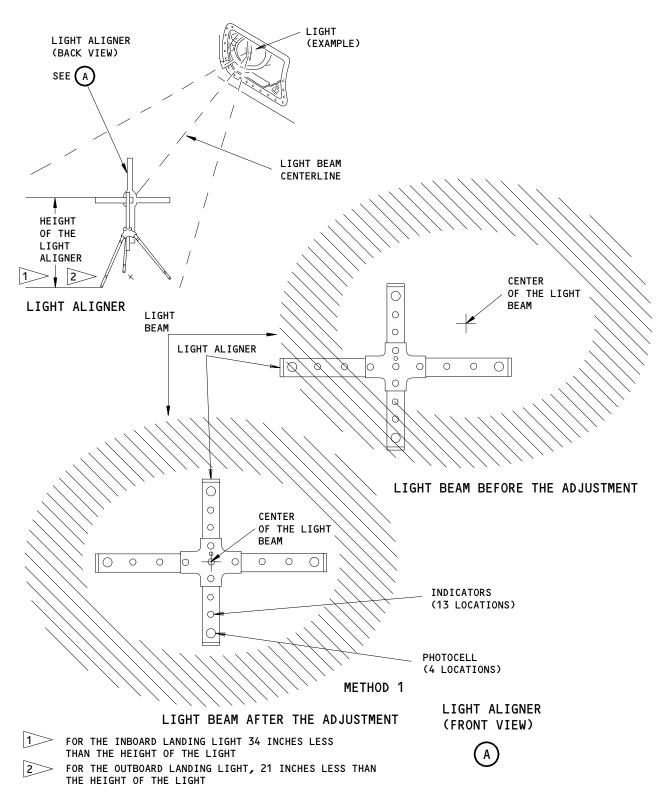
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Landing Light - Adjustment with a Light Aligner Figure 203 (Sheet 2)

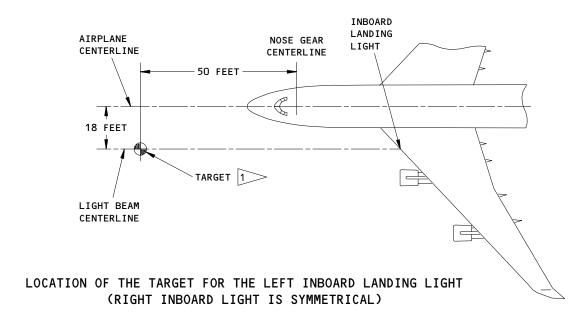
ALL

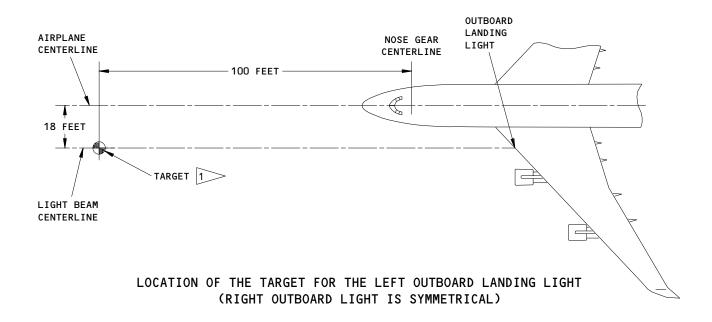
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O1 Page 211
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A TARGET IS A MARK OR AN OBJECT THAT IDENTIFIES A LOCATION ON THE GROUND

Landing Light - Adjustment with a Target Figure 204

ALL

ALL

O1 Page 212
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D. Prepare for the Light Beam Adjustment

s 862-092

(1) Make sure the airplane and the test area are on level ground.

s 862-096

(2) Make sure the airplane is approximately level.

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Do this task: "Leading Edge Flap Extention" (Ref 27-81-00/201).

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (b) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (Ref 27-81-00/201).
- (c) Install a DO-NOT-OPERATE tag to the flap control lever.
- (d) Get access to the rear of the landing light through the access door.
- (e) Remove the self-locking nut from the T-bolt and trunnion assembly (7) (Fig. 201), to release the cover retaining straps.
- (f) Remove the cover (5) (Fig. 201).
- (g) Remove the lockwire from each adjustment screw (1).
- (h) Loosen the locknut (2) on each adjustment screw (1).
- E. Light Beam Adjustment with a Light Aligner

s 942-097

ALL

- (1) Set the light aligner in its position (Fig. 203).
  - (a) Measure the height of the light from the ground.

EFFECTIVITY-

33-42-02



(b) Use the height of the light to adjust the height of the light aligner.

s 862-098

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

s 862-099

CAUTION: DO NOT KEEP THE LIGHTS ON FOR MORE THAN FIVE MINUTES. AFTER YOU MAKE THE LIGHTS COME ON, MAKE THE LIGHTS GO OFF FOR AN EQUAL TIME. BECAUSE OF THE HEAT, THE CONTINUOUS OPERATION OF THE LIGHTS WILL DECREASE THE LIFE OF THE LAMPS.

(3) At the overhead panel, P5, set the switch for the landing light to the on position.

s 822-100

(4) Do these steps to adjust the landing lights:

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY WITH YOUR BARE HANDS; USE GLOVES. THE HEAT FROM THE LAMP WILL BURN YOUR BARE HANDS.

(a) Turn the adjustment screws (1) until only the center indicator on the light aligner is yellow.

NOTE: The other indicators must be black.

- (b) Tighten the locknuts (2) to keep the adjustment screws (1) in their position.
- (c) Set the switch to the off position.
- F. Light Beam Adjustment with a Target

s 862-101

ALL

(1) Set the target in its position on the ground (Fig. 204).

<u>NOTE</u>: The target is a mark or an object sufficiently large to be clearly seen when you point a light at it.

EFFECTIVITY-

33-42-02

01

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

s 862-103

CAUTION: DO NOT KEEP THE LIGHTS ON FOR MORE THAN FIVE MINUTES.

AFTER YOU MAKE THE LIGHTS COME ON, MAKE THE LIGHTS GO OFF FOR AN EQUAL TIME. BECAUSE OF THE HEAT, THE CONTINUOUS OPERATION OF THE LIGHTS WILL DECREASE THE LIFE OF THE

LAMPS.

(3) At the overhead panel, P5, set the switch for the landing light to the on position.

s 822-091

(4) Do these steps to adjust the landing light:

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY WITH YOUR BARE HANDS; USE GLOVES. THE HEAT FROM THE LAMP WILL BURN YOUR BARE HANDS.

- (a) Turn the adjustment screws (1) until the light beam is on the target.
- (b) Tighten the locknuts (2) to keep the adjustment screws (1) in their position.
- (c) Set the switch to the off position.
- G. Put the Airplane Back to Its Usual Condition

s 432-104

(1) Put a lockwire on each adjustment screw (1).

s 432-105

(2) Install the cover (5) (Fig. 201).

s 412-047

(3) Close the access door.

ALL

EFFECTIVITY-

33-42-02

(



s 092-048

(4) Remove the target.

s 092-049

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (Ref 27-81-00/201).

s 862-080

(6) Do this task: "Leading Edge Flap Retraction: (Ref 27-81-00/201).

s 862-081

(7) Remove the DO-NOT-OPERATE tag for the flap control lever.

s 862-050

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

TASK 33-42-02-962-051

- 4. <u>Transformer Replacement</u> (Fig. 205)
  - A. Special Tools and Equipment
    - (1) Lock, Leading Edge Flap Drive Unit (Ref 27-81-00/201)
  - B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
203	1 2	Mounting screw Transformer	33-42-02-1	1	15 10

- C. References
  - (1) 20-11-14/701, Metal Surfaces
  - (2) 24-22-00/201, Manual Control
  - (3) 27-81-00/201, Leading Edge Flap System
  - (4) SSM 33-42-10
- D. Access
  - (1) Location Zone

Leading Edge to Front Spar, Left Leading Edge to Front Spar, Right

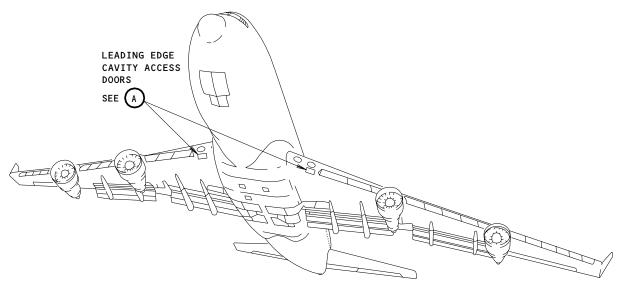
E. Prepare to replace the transformer

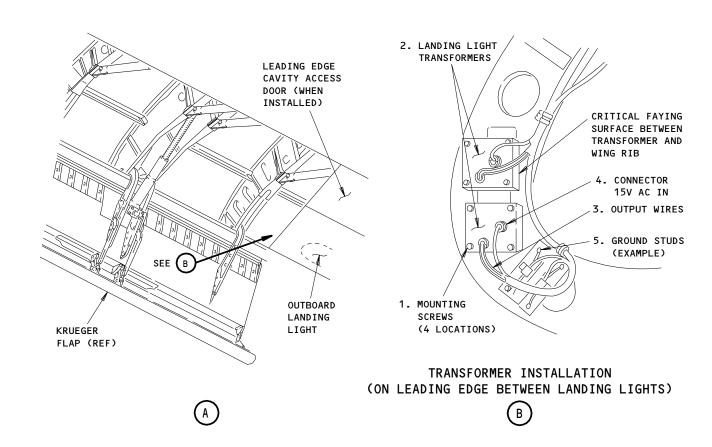
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EFFECTIVITY-

33-42-02







Landing Light Transformer Replacement Figure 205

33-42-02

02

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WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(1) Do this task: "Leading Edge Flap Extension" (Ref 27-81-00/201).

s 492-082

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL
THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU
DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE
INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (Ref 27-81-00/201).

s 862-083

(3) Install a DO-NOT-OPERATE tag on the flap control lever.

s 012-054

(4) Get access to the rear of the landing light through the access door.

s 862-055

- (5) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P414 Power Distribution Center Left
    - 1) 414L3 LANDING LT LEFT INBD
    - 2) 414L2 LANDING LT RIGHT INBD
  - (b) P415 Power Distribution Center Right
    - 1) 415L31 LANDING LT LEFT OUTBD
    - 2) 415L32 LANDING LT RIGHT OUTBD

s 962-093

ALL

- (6) Do these steps to replace the transformer:
  - (a) Identify the transformer (2) to be replaced.
  - (b) Disconnect the electrical connector (4) from the transformer (2).

EFFECTIVITY-

33-42-02



- (c) Disconnect the wires (3) from the transformer (2).
- (d) Remove the transformer mounting screws (1).
- (e) Remove the transformer (2).
- (f) Clean the surface of the transformer and the wing (Ref 20-11-14/701).
- (g) Put the transformer (2) in its position and install the mounting screws (1).
- (h) Connect the electrical wires (3) to the transformer (2).
- (i) Connect the electrical connector (4).

- (7) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P414 Power Distribution Center Left
    - 1) 414L3 LANDING LT LEFT INBD
    - 2) 414L2 LANDING LT RIGHT INBD
  - (b) P415 Power Distribution Center Right
    - 1) 415L31 LANDING LT LEFT OUTBD
    - 2) 415L32 LANDING LT RIGHT OUTBD

### s 712-094

- (8) Do a test of the replacement transformer:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Put the applicable LANDING switch on the P5 panel to ON.
  - (c) Make sure the landing light is on.
  - (d) Put the LANDING switch on the P5 panel to OFF.
- F. Put the airplane back to its usual condition

s 412-068

(1) Close the access door.

s 092-069

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (Ref 27-81-00/201).

EFFECTIVITY-

33-42-02

ALL



(3) Do this task: "Leading Edge Flap Retraction" (Ref 27-81-00/201).

s 862-086

(4) Remove the DO-NOT-OPERATE tag from the flap control lever.

s 862-070

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

TASK 33-42-02-352-107

- 5. <u>Landing Light Lens Temporary Repair</u> (Fig. 206)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 27-81-00/201, Leading Edge Flap System
    - (3) AMM 51-31-01/201, Seals and Sealing
  - B. Equipment
    - (1) A Small Sheet Of Mylar
  - C. Access
    - (1) Location Zone

511 Leading Edge to Front Spar, Left 611 Leading Edge to Front Spar, Right

D. Procedure

s 862-117

ALL

(1) Prepare for the temporary repair of the landing light lens:

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(a) Do this task: "Leading Edge Flap Extension" (AMM 27-81-00/201).

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (b) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (AMM 27-81-00/201).
- (c) Install a DO-NOT-OPERATE tag on the flap control lever.
- (d) Open the applicable circuit breakers and attach DO-NOT-CLOSE tags:
  - 1) P414 Power Distribution Center Left
    - a) 414L3 LANDING LT LEFT INBD
    - b) 414L2 LANDING LT RIGHT INBD

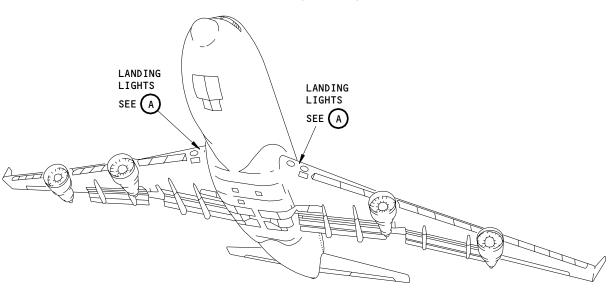
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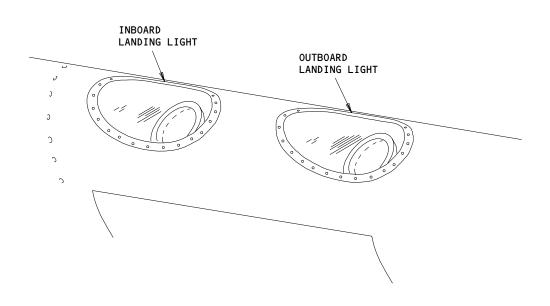
33-42-02

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LANDING LIGHTS (LEFT SIDE SHOWN, RIGHT SIDE OPPOSITE)



Landing Light Lens Temporary Repair Figure 206

EFFECTIVITY-ALL

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33-42-02

01

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- 2) P415 Power Distribution Center Right
  - a) 415L31 LANDING LT LEFT OUTBD
  - b) 415L32 LANDING LT RIGHT OUTBD

s 032-108

(2) Remove the screws that attach the lens assembly to the edge of the wing.

s 032-109

(3) Break the sealant at the slot between the lens assembly and the edge of the wing.

s 022-110

(4) Remove the damaged lens assembly.

s 352-111

- (5) Do these steps to make a temporary lens.
  - (a) See Table 206 for the material and the minimum thickness of the temporary lens.

TABLE 206			
MATERIAL	INBOARD LENS (INCHES)	OUTBOARD LENS (INCHES)	
2024-T3 ALUMINUM 7075-T6 ALUMINUM 17-7PH STEEL	0.071 0.063 0.040	0.080 0.071 0.050	

- (b) Use the damaged lens 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 is less than 0.080 inches for the temporary lens, 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.

EFFECTIVITY-

ALL

33-42-02



(d) Drill countersunk holes in the temporary lens and shim (if necessary), 100 degree head.

s 142-112

(6) Clean the used sealant from the edge of the wing (AMM 51-31-01/201).

s 422-113

(7) Put the shim (if necessary) and the temporary lens in position on the edge of the wing.

s 432-114

(8) Install the screws that attach the temporary lens and shim (if necessary) to the wing.

s 392-115

(9) Seal the slot between the temporary lens and the edge of the wing (AMM 51-31-01/201).

s 092-120

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(10) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (AMM 27-81-00/201).

s 862-121

(11) Do this task: "Leading Edge Flap Retraction" (AMM 27-81-00/201).

s 862-119

(12) Remove the DO-NOT-OPERATE tag from the flap control lever.

s 862-122

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

EFFECTIVITY-

33-42-02



## RUNWAY TURN-OFF LIGHTS - MAINTENANCE PRACTICES

### 1. General

- A. This procedure contains these tasks:
  - (1) A task for the replacement of the lamps.
  - (2) A task for the adjustment of the lights.

#### TASK 33-42-03-962-001

- 2. <u>Lamp Replacement</u> (Runway Turnoff Lights) (Fig. 201)
  - A. Special Tools and Equipment
    - (1) 11MIT65B04012 Actuator Lock Nose Landing Gear Door (Recommended)
    - (2) 10MIT65B04012 Actuator Lock Nose Landing Gear Door (Alternative)
    - (3) 7MIT65B04012 Actuator Lock Nose Landing Gear Door (Alternative)
  - B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1 2 3 4 5 6	Retaining Screws Outer Retaining Ring Gasket Lamp Lamp Beam Adjustment Screws Inner Retaining Ring	33-42-00	1	5 15 30 25 10 20

- C. References
  - (1) 24-22-00/201, Manual Control
  - (2) 32-00-30/201, Landing Gear Door Locks
  - (3) SSM 33-42-10
- D. Access
  - (1) Location Zones

711	Nose	Landing	Gear	Door	Lock,	Fwd	Left
712	Nose	Landing	Gear	Door	Lock,	Fwd	Right
713	Nose	Landing	Gear	Door	Lock,	Aft	Left
714	Nose	Landing	Gear	Door	Lock -	Aft	Riaht

- E. Prepare for the Lamp Replacement
  - s 862-031
  - (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) P414 Power Distribution Center Panel Left
      - 1) 414L20 LIGHT RUNWAY TURNOFF LEFT & CONT

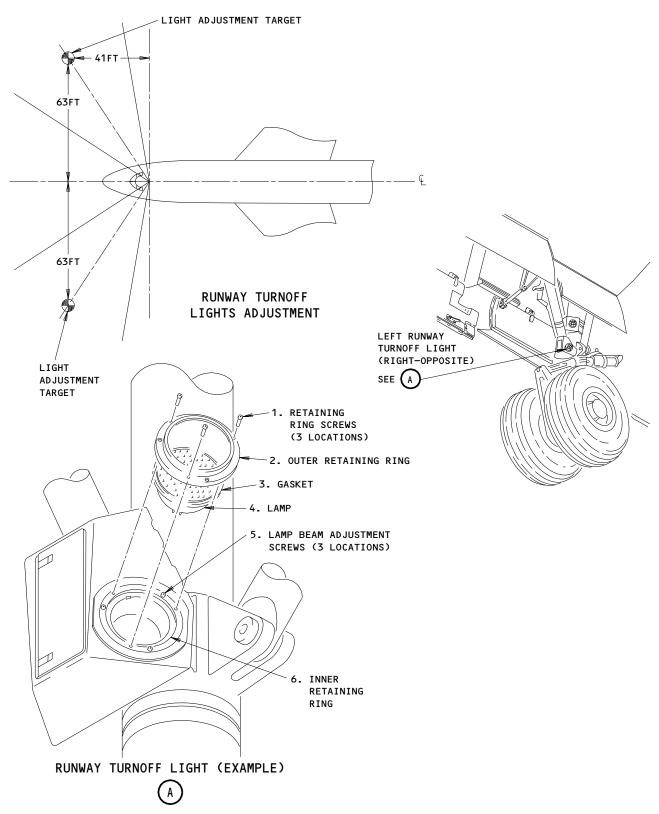
EFFECTIVITY-

33-42-03

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Runway Turnoff Lights Lamp Replacement Figure 201

576237

33-42-03

01

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2) 414L21 LIGHT RUNWAY TURNOFF RIGHT

s 492-004

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT INSTALL THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: "The Installation of the Door Locks on the Nose Landing Gear" (Ref 32-00-30/201).

#### F. Procedure

s 022-032

- (1) Do these steps to remove the lamp:
  - (a) Remove the retaining screws (1)

NOTE: Do not turn the adjustment screws (5).

- (b) Remove the outer retaining ring (2).
- (c) Pull the lamp (4) from the light housing.
- (d) Disconnect the electrical wires.
- (e) Remove the lamp (4).
- (f) Remove the gasket (3) from the lamp.

s 422-033

- (2) Do these steps to install the lamp:
  - (a) Install the gasket (3) on the replacement lamp.
  - (b) Connect the electrical wires to the replacement lamp.

CAUTION: WHEN YOU INSTALL THE LAMP, MAKE SURE IT IS CORRECTLY ALIGNED AGAINST THE RETAINING RING. THE LAMP CAN BREAK IF YOU DO NOT INSTALL IT CORRECTLY.

- (c) Install the replacement lamp (4) in the light housing.
- (d) Put the outer retainer ring (2) on the lamp.
- (e) Align the vertical lines on the lamp with the label, TOP, above the lamp.

EFFECTIVITY-

33-42-03



(f) Install the retaining screws (1).

s 862-036

- (3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P414 Power Distribution Center Panel Left
    - 1) 414L20 LIGHT RUNWAY TURNOFF LEFT & CONT
    - 2) 414L21 LIGHT RUNWAY TURNOFF RIGHT

s 712-034

- (4) Do a test of the replacement lamp:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Put the applicable RWY TURNOFF switch on the P5 panel to ON.
  - (c) Make sure the replaced lamp comes on.
  - (d) Put the RWY TURNOFF switch on the P5 panel to OFF.
  - (e) Make sure the light is off.

s 092-015

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE DOOR LOCKS FROM THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT REMOVE THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(5) Do this task: "The Removal of the Door Locks on the Nose Landing Gear" (Ref 32-00-30/201).

s 862-016

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

TASK 33-42-03-822-017

- Adjustment (Runway Turnoff Lights) (Fig. 201)
  - A. Special Tools and Equipment
    - (1) 11MIT65B04012 Actuator Lock Nose Landing Gear Door (Recommended)
    - (2) 10MIT65B04012 Actuator Lock Nose Landing Gear Door (Alternative)
    - (3) 7MIT65B04012 Actuator Lock Nose Landing Gear Door (Alternative)
  - B. References
    - (1) 8-00-00/201, Leveling and Weighing
    - (2) 24-22-00/201, Manual Control
    - (3) 32-00-30/201, Landing Gear Door Locks
    - (4) IPC 33-42-00
    - (5) SSM 33-42-10
  - C. Access
    - (1) Location Zones

711 Nose Landing Gear Door Lock, Fwd Left

712 Nose Landing Gear Door Lock, Fwd Right

713 Nose Landing Gear Door Lock, Aft Left

714 Nose Landing Gear Door Lock, Aft Right

D. Prepare to Do the Adjustment

ALL

EFFECTIVITY-

33-42-03



s 492-019

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE DOOR LOCKS ON THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT INSTALL THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: "The Installation of the Door Locks on the Nose Landing Gear" (Ref 32-00-30/201).

s 862-020

(2) Make the airplane level (Ref 8-00-00/201).

s 942-021

(3) Set the applicable light adjustment target as shown in Figure 201.

s 862-022

(4) Supply electrical power (Ref 24-22-00/201).

### E. Procedure

s 822-035

(1) Do these steps to do the adjustment of the lights:

CAUTION: DO NOT OPERATE THE LIGHTS FOR MORE TIME THAN IT IS NECESSARY TO DO THIS PROCEDURE. THE EXTENDED OPERATION DECREASES THE LIFE OF THE LAMPS.

- (a) Put the applicable RWY TURNOFF switch on the P5 panel to ON.
- (b) Examine the position of the light beam on the target.
- (c) Adjust the adjustment screws (5) until the light beam shows on the target.
- (d) Put the RWY TURNOFF switch on the P5 panel to OFF.
- (e) Make sure the lights are off.
- (f) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-42-03



F. Put the airplane back to its usual condition

s 092-027

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE DOOR LOCKS FROM THE LANDING GEAR DOORS. THE DOORS CAN CLOSE QUICKLY IF YOU DO NOT REMOVE THE DOOR LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: "The Removal of the Door Locks on the Nose Landing Gear" (Ref 32-00-30/201).

s 092-028

(2) Remove the light adjustment target.

EFFECTIVITY-

ALL

33-42-03

01

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## NAVIGATION LIGHTS - DESCRIPTION AND OPERATION

### 1. General

- A. Quartz halogen lamps mounted behind a red, green, or white lens provide visual indication of airplane position, direction, and attitude. The red, green and white lights are located as follows: two red lights on the left wingtip; two green lights in the right wingtip; and two white lights on the tail cone. The 115-volt ac ground service bus supplies electrical power for light operation. The NAV lights switch on P5 pilots overhead panel provides control.
- B. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-43-10
  - (2) WDM 33-43-11

## 2. Wingtip Navigation Lights

- A. Two colored navigation light assemblies are mounted in each forward wingtip fairing behind a clear acrylic lens. Each navigation light assembly contains a single quartz halogen lamp and a reflector mounted beneath a colored lens. The light assemblies are mounted to a bracket by three screws. The lights are removed from the airplane for relamping or replacement by opening the access door beneath the lights, disconnecting the electrical connector on the back of the light and removing the three mounting screws.
- B. A strobe light assembly is also mounted behind the acrylic lens. For more information on the wingtip strobe light refer to MM 33-44-00/001 (white anti-collision light reference of Anti-Collision Lights).

### 3. Tail Navigation Lights

A. Each light assembly contains a quartz halogen lamp mounted beneath a clear lens. The lights are relamped by loosening two screws and pulling its lens assembly.

## 4. Navigation Light Transformers

A. Three transformers are provided for navigation light operation. A transformer is located in each wingtip and in the aft E8 equipment rack P84 panel. The wingtip transformers have electrical connectors and are accessible through the lower side of the wing leading edge near the wing tip when leading edge flaps are extended.

## 5. Operation

A. The 115-volt ac ground service bus supplies power to the transformers through the navigation lights relay. The relay and the circuit breakers are located on P6 panel. The NAV lights switch on the P5 panel turns the lights on by completing the ground path for the relay coil.

33-43-00



- (1) In normal ground configuration, 115 volt ac is provided to the navigation lights relay from the ground service bus through contacts of deactivated wing lighting transfer relay R7786.
- (2) If the airplane is being towed, the navigation lights may be illuminated. 115 volt ac power can be supplied to the navigation lights from the main battery bus through activated lighting transfer relay R7786 if the towing power backup and standby power switches are enabled.

ALL

33-43-00



# TAIL NAVIGATION LIGHT - MAINTENANCE PRACTICES

## 1. General

- A. This procedure contains three tasks. The first task is the replacement of the lamp in the tail navigation light.
- B. The second task is the removal of the tail navigation light.
- C. The third task is the installation of the tail navigation light.

TASK 33-43-01-962-001

- 2. Lamp Replacement (Tail Navigation Light) (Fig. 201)
  - A. Consumable Materials
    - (1) B00062 Solvent Acetone or equivalent grease free solvent
    - (2) GO1043 Cloth, lint free
  - B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1 2 3 4 5 6 7 8	Light Assembly Light Assy. Fasteners *[1] Lens Assembly Lens Assy. Fasteners Lamp Lamp Retainer Lamp Retainer Screws Lamp Holder Assy. Electrical Wires	33-43-00	01	5

- \*[1] Items 2-9 To be furnished
  - C. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-43-10
  - D. Access
    - (1) Location Zone

300 Empennage - Tail Cone

E. Procedure

s 212-002

WARNING: MAKE SURE THE APU IS OFF. THE APU EXHAUST CAN CAUSE INJURY TO PERSONS WHEN YOU DO MAINTENANCE AT THE TAIL CONE AREA.

(1) Put the APU CONTROL switch on the P5 panel to the OFF position and attach a DO-NOT-OPERATE tag.

s 862-003

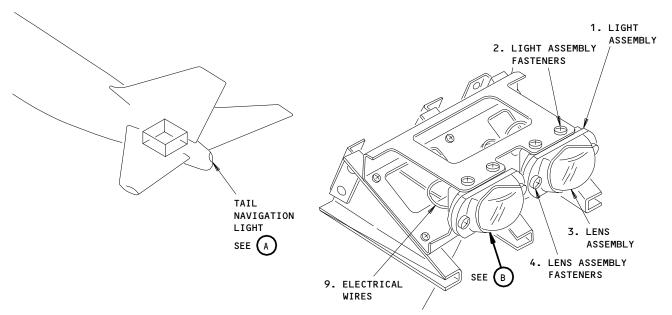
- (2) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P83 Panel
    - 1) APU PRIMARY CONTROL

EFFECTIVITY-

33-43-01

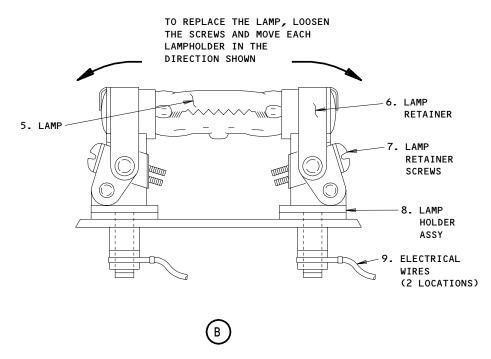
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## TAIL NAVIGATION LIGHT





Tail Navigation Light Relamping/Installation Figure 201

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(b) P6 Power Distribution Panel1) 6L30 NAV LTS-TAIL

## s 012-044

- (3) Get access to the lamp:
  - (a) Loosen the fasteners (4) that hold the lens (3).
  - (b) Remove the lens (3) from the light assembly (1).
  - (c) Let the lens assembly hang from its lanyard.
  - (d) Loosen the lamp retainer screws (7) on the lampholder assembly, and turn the lamp retainers (6).

#### S 962-045

- (4) Replace the lamp:
  - (a) Remove the lamp (5) from the light assembly (1).
  - (b) Make sure the terminals that engage the lamp are not dirty.

<u>NOTE</u>: If the terminals are dirty, clean them to make a good electrical connection.

(c) Use a lint free cloth to hold the lamp (5) and make sure the lamp is clean.

NOTE: If the lamp is dirty, use an acetone solvent on a lint free cloth to clean the lamp.

CAUTION: DO NOT LET YOUR FINGERS TOUCH THE LAMP. OILS FROM THE SKIN CAN CAUSE AN EXPLOSION OF THE LAMP WHEN IT IS HOT.

- (d) Hold the lamp with a lint free cloth and push the lamp in its position.
- (e) Turn the lamp retainers (6) into their position above the lamp ends and tighten the lamp retainer screws (7).
- (f) Hold the lamp with a lint free cloth and apply approximately 2 pounds of force away from the reflector.
- (g) Make sure the lamp does not change its position with the force applied.

<u>NOTE</u>: If the lamp does change its position , tighten the lampholder or replace the light assembly.

- (h) Clean the lens (3) with a lint free cloth, and put it in its position.
- (i) Tighten the lens assembly fasteners (4).
- (j) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - 1) P6 Power Distribution Panel
    - a) 6L30 NAV LTS-TAIL

## s 712-046

- (5) Do a test of the tail navigation light:
  - (a) Supply electrical power (Ref 24-22-00/201).

EFFECTIVITY-

33-43-01

ALL



- (b) Put the NAV switch on the P5 panel to the ON position.
- (c) Make sure the tail navigation light is on.
- (d) Put the NAV switch on the P5 panel to the OFF position.
- F. Put the airplane back to its usual condition

s 862-047

(1) Remove the DO-NOT-OPERATE tag from the APU CONTROL switch on the P5 panel.

S 862-048

- (2) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P83 Panel
    - 1) APU PRIMARY CONTROL

S 862-024

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

TASK 33-43-01-002-025

- Taillight Removal (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-43-00
    - (3) SSM 33-43-10
  - B. Access
    - (1) Location Zone

300 Empennage - Tail Cone

C. Procedure

s 862-050

(1) Prepare to Remove the Light:

WARNING: MAKE SURE THE APU IS OFF. THE APU EXHAUST CAN CAUSE INJURY TO PERSONS WHEN YOU DO MAINTENANCE AT THE TAIL CONE AREA.

- (a) Put the APU CONTROL switch on the P5 panel to the OFF position and attach a DO-NOT-OPERATE tag.
- (b) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - 1) P83 Panel
    - a) APU PRIMARY CONTROL
  - 2) P6 Power Distribution Panel
    - a) 6L30 NAV LTS-TAIL

s 022-051

- (2) Remove the Light:
  - (a) Remove the light assembly fasteners (2).
  - (b) Pull on the light assembly (1) to get access to the electrical wires (9).
  - (c) Disconnect the electrical wires (9) from the terminals on the light assembly (1).

EFFECTIVITY-

33-43-01

ALL



(d) Remove the light assembly (1).

TASK 33-43-01-402-052

- 4. Taillight Installation (Fig. 201)
  - A. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1 2 3 4 5 6 7 8	Light Assembly Light Assy. Fasteners *[1] Lens Assembly Lens Assy. Fasteners Lamp Lamp Retainer Lamp Retainer Screws Lamp Holder Assy. Electrical Wires	33-43-00	01	5

\*[1] Items 2-9 To be furnished

- B. References
  - (1) 24-22-00/201, Manual Control
  - (2) SSM 33-43-10
- C. Access
  - (1) Location Zone

300 Empennage - Tail Cone

D. Procedure

s 422-033

- (1) Install the Light:
  - (a) Connect the electrical wires (9) to the light assembly (1).
  - (b) Put the light assembly in its position and install the light assembly fasteners (2).

s 712-053

- (2) Do a Test of the Tail Navigation Light:
  - (a) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 Power Distribution Panel
      - a) 6L30 NAV LTS-TAIL
  - (b) Supply electrical power (Ref 24-22-00/201).
  - (c) Put the NAV switch on the P5 panel to the ON position.
  - (d) Make sure the tail navigation light is on.
  - (e) Put the NAV switch on the P5 Panel to the OFF position.
- E. Put the airplane back to its usual condition

s 862-054

(1) Remove the DO-NOT-OPERATE tag from the APU CONTROL switch on the P5 panel.

EFFECTIVITY-

33-43-01



s 862-055

- (2) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P83 Panel
    - 1) APU PRIMARY CONTROL

s 862-043

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

EFFECTIVITY-

ALL

33-43-01



# WINGTIP NAVIGATION LIGHT TRANSFORMER - REMOVAL/INSTALLATION

# 1. General

- A. This procedure contains two tasks. The first task is the removal of the transformers for the wingtip navigation lights (Referred to as the transformer).
- B. The second task is the installation of the transformer.

TASK 33-43-03-004-001

- Transformer Removal (Fig. 401)
  - A. Special Tools and Equipment
    - (1) Lock, Leading Edge Flap Drive Unit (Ref 27-81-00/201)
  - B. References
    - (1) 24-22-00/201, Manual Control
    - (2) 27-81-00/201, Leading Edge Flap System
    - (3) SSM 33-43-10
  - C. Access
    - (1) Location Zone

537 Variable Camber Flap No. 1A Left 637 Variable Camber Flap No. 1A Right

D. Procedure

S 864-026

(1) Prepare for the Removal:

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO

PERSONS OR DAMAGE TO EQUIPMENT.

(a) Do this task: "Leading Edge Flap Extension" (Ref 27-81-00/201).

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

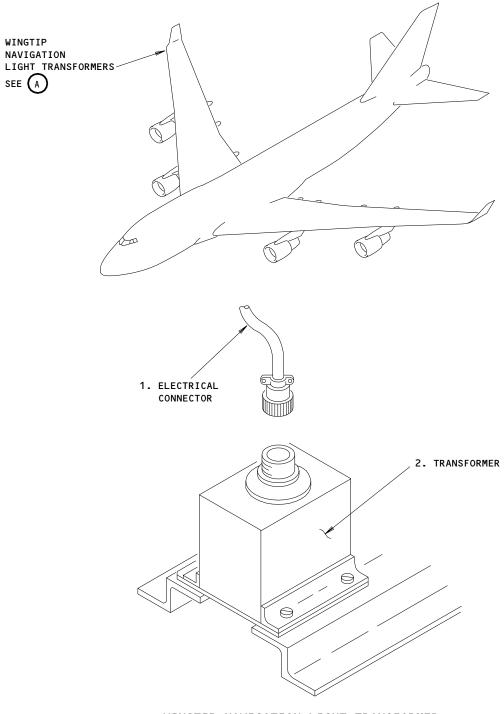
(b) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (Ref 27-81-00/201).

EFFECTIVITY-

33-43-03

ALL





WINGTIP NAVIGATION LIGHT TRANSFORMER



Wing Tip Navigation Light Transformer Installation Figure 401

 33-43-03

01

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- (c) Install a DO-NOT-OPERATE tag on the flap control lever.
- (d) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - 1) P6 Power Distribution Panel
    - a) 6L29 NAV LTS R WING
    - b) 6L28 NAV LTS L WING & CONT

s 024-027

- (2) Remove the Transformer:
  - (a) Disconnect the electrical connector (1) from the transformer (2)
  - (b) Remove the screws (3) and remove the transformer (2).

## TASK 33-43-03-404-007

- 3. Transformer Installation (Fig. 401)
  - A. Special Tools and Equipment
    - (1) Lock, Leading Edge Flap Drive Unit (Ref 27-81-00/201)
  - B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
401	1	Electrical Connector	TBF		
	2 3	Transformer Mounting Screws	33–43–00 TBF	02	160

- C. References
  - (1) AMM 24-22-00/201, Manual Control
  - (2) AMM 27-81-00/201, Leading Edge Flap System
  - (3) SSM 33-43-10
- D. Access
  - (1) Location Zone

537 Variable Camber Flap No. 1A Left

637 Variable Camber Flap No. 1A Right

EFFECTIVITY-

33-43-03

ALL



#### E. Procedure

s 424-028

- (1) Install the Transformer:
  - (a) Put the transformer (2) on the mounting bracket and install the mounting screws (3).
  - (b) Connect the electrical connector (1) to the transformer (2).

s 714-029

- (2) Do a Test of the Transformer:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - 1) P6 Power Distribution Panel
      - a) 6L29 NAV LTS R WING
      - b) 6L28 NAV LTS L WING & CONT
  - (c) Put the NAV switch on the P5 panel to the ON position.
  - (d) Make sure that the navigation lights on the wingtips are on.
  - (e) Put the NAV switch on the P5 panel to the OFF position.
- F. Put the airplane back to its usual condition

s 094-015

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (Ref 27-81-00/201).

s 864-023

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: "Leading Edge Flap Retraction" (Ref 27-81-00/201).

S 864-025

(3) Remove the DO-NOT-OPERATE tag from the flap control.

s 864-017

ALL

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

EFFECTIVITY-

33-43-03



# WINGTIP NAVIGATION LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure contains these tasks:
    - (1) A task for the removal of the navigation light lamp.
    - (2) A task for the installation of the navigation light lamp.
    - (3) A task for the replacement of the navigation light lens.

TASK 33-43-04-962-001

- 2. Wingtip Lamp Removal (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-43-10
  - B. Access
    - (1) Location Zone

538 Wingtip - Left 638 Wingtip - Right

C. Procedure

s 862-035

- (1) Prepare for the removal:
  - (a) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - 1) P6 Main Power Distribution Panel
      - a) 6L29 NAV LTS WING-R
      - b) 6L28 NAV LTS WING-L

WARNING: MAKE SURE THE STROBE LIGHTS ARE OFF WHEN YOU DO MAINTENANCE ON THE NAVIGATION LIGHTS. THE OPERATION OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (b) Make sure that the STROBE switch on the P5 panel is in OFF.
- (c) Attach a DO-NOT-OPERATE tag to the STROBE switch.

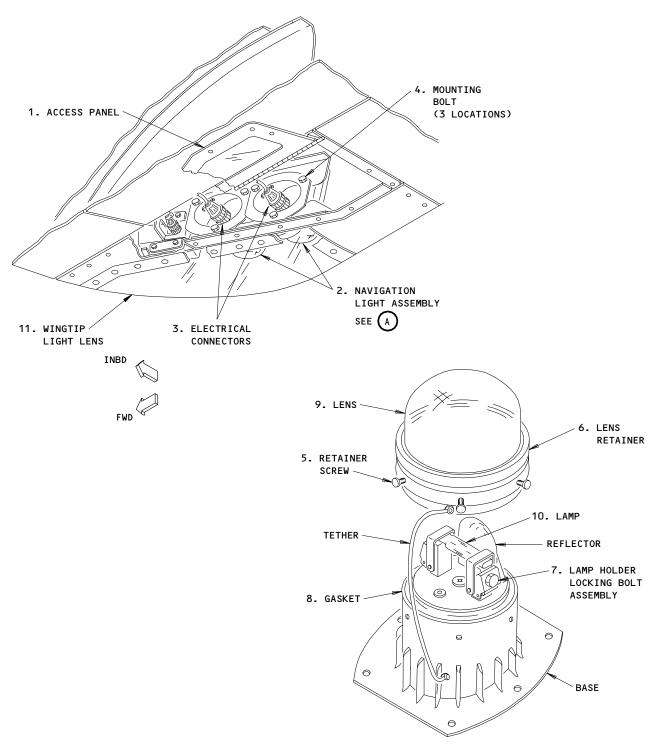
s 012-036

- (2) Do these steps to remove the light assembly:
  - (a) Open the access panel (1) below the light assembly (2).

EFFECTIVITY-

33-43-04





NAVIGATION LIGHT ASSEMBLY



Navigation Light Installation Figure 201

577244

33-43-04

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- (b) Disconnect the electrical connector (3).
- (c) Remove the bolts (4) and pull the light assembly (2) from the wing.

s 022-028

- (3) Do these steps to remove the navigation light lamp:
  - (a) Loosen the screws (5) that hold the lens retainer (6).
  - (b) Lift the lens retainer (6) and the lens (9) from the light assembly.
  - (c) Loosen the lampholder bolts (7) and turn the clamp assemblies.
  - (d) Remove the navigation light lamp (10).

TASK 33-43-04-402-029

- 3. Wingtip Lamp Installation (Fig. 201)
  - A. Consumable Materials
    - (1) B00062 Solvent Acetone
    - (2) G01043 Cloth, lint free
  - B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1 2 3 4 5 6 7 8 9	Access Panel FWD Navigation Light Assy - Right FWD Navigation Light Assy - Left Electrical Connector Mounting Bolts Retainer Screws Lens Retainer Lamp Holder Locking Bolt Gasket Lens Lamp	57-23-01 33-43-04	10 1	150 95 90

- C. References
  - (1) 24-22-00/201, Manual Control
  - (2) SSM 33-43-10
- D. Access
  - (1) Location Zone

538 Wingtip - Left638 Wingtip - Right

EFFECTIVITY-

33-43-04

ALL

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#### E. Procedure

s 862-037

- (1) Prepare for the installation:
  - (a) Make sure the terminals that engage the lamp are not dirty.

<u>NOTE</u>: If the terminals are dirty, clean them to make a good electrical connection.

(b) Clean the reflector with a lint free cloth.

CAUTION: DO NOT LET YOUR FINGERS TOUCH THE LAMP. OILS FROM THE SKIN CAN CAUSE AN EXPLOSION OF THE LENS WHEN IT IS HOT.

(c) Use a lint free cloth to hold the lamp (10) and make sure that the lamp is clean.

NOTE: If the lamp is dirty, use an acetone solvent on a lint free cloth to clean the lamp.

s 422-030

- (2) Do these steps to install the navigation light lamp:
  - (a) Use a cloth to hold the lamp (10) and push the lamp into the lampholder.
  - (b) Turn the clamp assembly into its position and tighten the lamp holder bolt (7).
  - (c) Clean the gasket (8) and the lens (9) with a lint free cloth.
  - (d) Put the retainer (6) and the lens (9) on the lamp assembly and tighten the lens retainer screws (5).

s 412-031

- (3) Do these steps to install the navigation light assembly:
  - (a) Clean the inner surface of the lens with a lint free cloth.
  - (b) Put the light assembly (2) on the bracket and install the bolts (4).
  - (c) Connect the electrical connector (3).
  - (d) Close the access panel (1).

s 712-032

- (4) Do a test of the navigation light:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - 1) P6 Main Power Distribution Panel
      - a) 6L29 NAV LTS WING-R
      - b) 6L28 NAV LTS WING-L
  - (c) Put the NAV switch on the P5 panel to ON.
  - (d) Make sure that the wingtip navigation lights are on.
  - (e) Put the NAV switch on the P5 panel to OFF.

EFFECTIVITY-

33-43-04

ALL



- (f) Make sure the wingtip navigation lights are off.
- (g) Remove electrical power if it is not necessary (Ref 24-22-00/201).
- F. Put the airplane back to its usual condition

S 862-034

(1) Remove the DO-NOT-OPERATE tag from the STROBE switch on the P5 panel.

TASK 33-43-04-962-039

- 4. Wingtip Light Lens Replacement (Fig. 201)
  - A. References
    - (1) AMM 51-31-01/201, Seals And Sealing
    - (2) BAC 5750, Solvent Cleaning
    - (3) IPC 57-23-01-10, Tip Fairing Installation Wing Extension Navigation Light Forward
  - B. Consumable Materials
    - (1) BMS 5-26 Class B-1/2 (alternative) BMS 5-79 Class B-2 (alternative)
  - C. Access
    - (1) Location Zone

538 Wingtip - Left 638 Wingtip - Right

D. Procedure

s 862-040

- (1) Do these steps to prepare for the replacement of the wingtip light lens [11]:
  - (a) Open the applicable circuit breakers and attach DO-NOT-CLOSE tags:
    - 1) P6 Main Power Distribution Panel
      - a) 6L28 NAV LTS WING-L
      - b) 6L29 NAV LTS WING-R

WARNING: MAKE SURE THE STROBE LIGHTS ARE OFF WHEN YOU DO MAINTENANCE ON THE WINGTIP LIGHT LENS [11]. THE OPERATION OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

(b) On the overhead panel P5, make sure that the STROBE switch is in the OFF position.

EFFECTIVITY-

33-43-04

ALL



(c) Attach a DO-NOT-OPERATE tag on the STROBE switch.

#### s 962-041

- (2) Do these steps to replace the wingtip light lens [11]:
  - (a) Remove the bolts that hold the lens [11] to the airplane (IPC 57-23-01-10).
  - Remove the lens [11] from the airplane. (b)
  - (c) Clean the outside of the replacement lens [11] around the edges with solvent (BAC 5750).
  - (d) Clean the surfaces the replacement lens [11] touches with solvent (BAC 5750).
  - (e) Install the replacement lens [11] on the airplane (IPC 57-23-01-10).
  - (f) Seal the outside edges of the lens [11] and the airplane with BMS 5-26 Class B-1/2 sealant (alternative) or BMS 5-79 Class B-2 sealant (alternative) (AMM 51-31-01/201).

#### S 862-042

- (3) Remove the DO-NOT-CLOSE tags and close the applicable circuit breakers:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L28 NAV LTS WING-L
    - 2) 6L29 NAV LTS WING-R

#### S 862-043

(4) On the overhead panel P5, remove the DO-NOT-OPERATE tag from the STROBE switch.

EFFECTIVITY-

ALL

33-43-04



# ANTI-COLLISION LIGHTS - DESCRIPTION AND OPERATION

## 1. General

- A. Strobe (xenon flashtube) anti-collision lights located on the top and bottom of the fuselage produce high intensity flashes at approximately 48 times per minute. Each light installation consists of a light assembly and a separate power supply unit.
  - (1) The 115-volt ac ground service bus supplies power for anti-collision light operation through the BEACON lights switch on the P5 pilots overhead panel.
  - (2) When BEACON lights switch is set to the BOTH position, upper and lower anti-collision lights will flash. When switch is set to LOWER position, the lower anti-collision light only will flash.
- B. A strobe (xenon flashtube) anti-collision light is installed inside each forward wingtip fairing and on the tail cone below the APU exhaust port. The lights flash at approximately 48 flashes per minute. Each light installation consists of a light assembly and a separate power supply unit.
  - (1) The 115-volt ac ground service bus supplies power for anti-collision position light operation through the STROBE lights switch on the P5 panel. The strobe light power supply provides the timed high voltage pulses to cause the light to flash.

<u>WARNING</u>: HIGH VOLTAGE PRESENT AT STROBE LIGHT COMPONENTS. WAIT 10 MINUTES AFTER REMOVING POWER BEFORE PERFORMING MAINTENANCE.

C. When performing maintenance on the anti-collision light system components, wait 10 minutes after power has been removed from system before handling components. This will permit high voltage capacitors to discharge.

WARNING: DO NOT LOOK DIRECTLY AT FLASHING STROBE LIGHT FROM CLOSE RANGE.
LIGHT FLASHES MAY CAUSE MOMENTARY VISION IMPAIRMENT.

D. The high intensities of strobe light flashes may cause some eye discomfort if observed from a close range. Advise all personnel working in area close to strobe light(s) to avoid looking directly at strobe light when it is flashing.

EFFECTIVITY-

ALL

33-44-00



- E. 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. Upper Anti-Collision Light

A. The upper anti-collision light is located at station 568 beneath a red lens. The light installation is comprised of a light assembly, a power supply, and a cable assembly. Each light assembly contains a flashtube, a trigger coil, and a reflector. Each power supply assembly contains a transistorized power circuit and timing circuit. The unit develops the high voltage (approximately 500 volts) and timing sequence (approximately 48 cycles per minute) for flashtube operation. The power supply has two electrical connectors. One connector goes to airplane wiring and the other to the strobe light cable.

## 3. Lower Anti-Collision Light

A. The lower anti-collision light is located at station 1148 on the bottom of the airplane fuselage. It is located on the keel beam area between the air conditioning compartment access doors. The light installation is similar to the upper anti-collision light.

#### 4. Wingtip Anti-Collision Lights

- A. A strobe (xenon flashtube) anti-collision light is installed in each forward wingtip fairing behind a clear acrylic lens. A cable assembly connects the light to its power supply. The power supply is mounted in the outboard surface of the leading edge flap cavity. The light assembly is relamped by opening an access door on the lower wingtip fairing surface disconnecting the electrical connector, removing mounting screws, and removing light assembly. The power supply is replaced by extending and locking the outboard leading-edge flaps, disconnecting electrical connectors, removing mounting screws, and removing power supply.
- B. Each light assembly contains a flashtube, a trigger coil, a reflector, and a clear rectangular lens. The reflector lamp lens arrangement directs the light beam so that it covers 70 degree arc in the vertical plane and a 140 degree arc in the horizontal plane.
- C. Each power supply assembly contains a transistorized power circuit and timing circuit. The unit develops the high voltage (approximately 500 volts) and timing sequence (approximately 48 cycles per minute) for flashtube operation. Each power supply has two electrical connectors. One connector goes to airplane wiring and the other to the strobe light cable.

# 5. Tail Cone Anti-Collision Light

A. A strobe (xenon flashtube) anti-collision light is installed on the tail cone below the APU exhaust port. A cable assembly connects the light to its power supply. The power supply is mounted in the lower portion of the tail cone just aft of the APU access doors. The strobe light, cable, and power supply are the same as the units mounted in the wingtips. The strobe light is relamped by removing four mounting screws, disconnecting electrical connector, and removing light. The power supply is replaced by opening the APU access doors, disconnecting the electrical connectors, and removing four mounting screws.

ALL

33-44-00



# UPPER ANTI-COLLISION LIGHT - MAINTENANCE PRACTICES

## 1. General

A. This procedure contains a task for the replacement of the lamp in the upper anti-collision light.

TASK 33-44-01-962-001

- 2. Lamp Replacement (Fig. 201)
  - A. Consumable Materials
    - (1) GO1043 Cloth Clean Dry
  - B. References
    - (1) 24-22-00/201, Manual Control
    - (2) 33-44-01/401, Upper Anti-Collision Light
    - (3) 25-22-03/401, Upper Deck Ceiling Panels
    - (4) IPC 33-44-01
    - (5) SSM 33-44-01
  - C. Access
    - (1) Location Zone

200 Forward Upper Deck Ceiling, Passenger Cabin

D. Procedure

s 962-020

- (1) Replace the lamp in the anti-collision light:
  - (a) Find the ceiling panel at station 568 (the fifth ceiling panel forward of the midrange lowered ceiling).

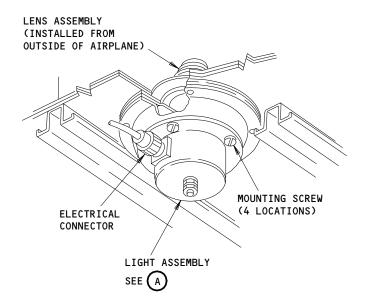
<u>NOTE</u>: Some airplanes have a panel installed in the ceiling panel to get access to the light.

- (b) On airplanes with an access panel, open the access panel in the ceiling panel.
- (c) On airplanes without an access panel, remove the ceiling panel (Ref 25-22-03/401).
- (d) Loosen three sides of the insulation to get access to the light assembly.

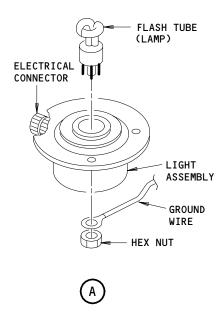
EFFECTIVITY-

33-44-01





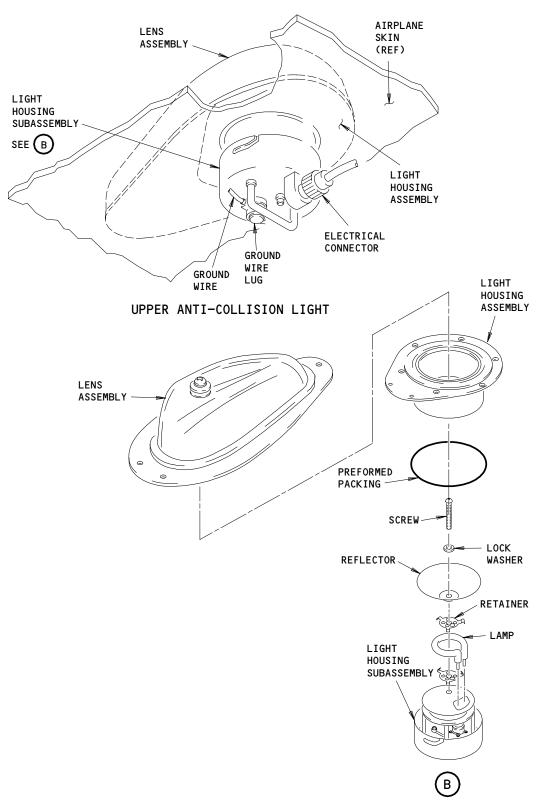
# UPPER ANTI-COLLISION LIGHT



Upper Anti-Collision Light Lamp Replacement Figure 201 (Sheet 1)

 33-44-01





Upper Anti-Collision Light Lamp Replacement Figure 201 (Sheet 2)

EFFECTIVITY
ANTI-COLLISION LIGHT
WITH A TEAR DROP-SHAPED LENS

33-44-01

04

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- (e) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - 1) P6 main power distribution panel
    - a) 6L31 RED ANTI-COLLISION LTS

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

- (f) Disconnect the electrical connector from the light subassembly.
- (g) Disconnect the ground wire from the light subassembly.
- (h) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS; Do these steps to replace the lamp:
  - Turn the light subassembly counterclockwise and pull it from the housing assembly.
  - 2) Remove these parts from the light subassembly:
    - a) The screw.
    - b) The lock washer.
    - c) The reflector.
    - d) The retaining ring.
  - 3) Remove the lamp from the light subassembly.

CAUTION: DO NOT LET YOUR FINGERS TOUCH THE LAMP. FINGER OILS ON THE LAMP WILL CAUSE LAMP FAILURE.

- 4) Use a clean dry cloth to hold the replacement lamp and push it into the light subassembly.
- 5) Install these parts in the light subassembly:
  - a) The retaining ring.
  - b) The reflector.
  - c) The lock washer.
  - d) The screw.
- (i) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS;

Do these steps to replace the lamp:

 Loosen the mounting screws that hold the light subassembly into the light housing.

EFFECTIVITY-

ALL

33-44-01

05

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- 2) Pull the light subassembly down to get access to the lamp.
- 3) Hold the lamp by its bottom and pull the lamp away from the light subassembly.

<u>CAUTION</u>: DO NOT LET YOUR FINGERS TOUCH THE REPLACEMENT LAMP. FINGER OILS ON THE LAMP WILL CAUSE LAMP FAILURE.

- 4) Use a clean dry cloth to hold the lamp and install the replacement lamp into the light subassembly.
- 5) Put the light subassembly into its position in the light assembly.
- 6) ANTI-COLLISION LIGHT WITH A TEAR-DROP SHAPED LENS; Turn the light subassembly clockwise until it is locked into the light assembly.
- 7) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS; Tighten the screws that hold the light subassembly.
- 8) Connect the ground wire to the light subassembly.
- 9) Connect the electrical connector to the light subassembly.

## s 712-019

- (2) Do a test of the light:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 main power distribution panel
      - a) 6L31 RED ANTI-COLLISION LTS

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT WILL CAUSE DAMAGE TO YOUR EYES.

- (c) Put the BEACON switch on the P5 panel in the BOTH position.
- (d) Make sure the light comes on.
- (e) Put the BEACON switch in the OFF position.
- (f) Make sure the light goes off.
- (g) Remove electrical power if it is not necessary (Ref 24-22-00/201).

# s 412-027

ALL

- (3) Install the parts you removed to get access to the lamp:
  - (a) Put the insulation back in its initial position.
  - (b) On airplanes with an access panel, close the access panel in the ceiling panel.
  - (c) On airplanes without an access panel, install the ceiling panel (Ref 25-22-03/401).

EFFECTIVITY-

33-44-01



# UPPER ANTI-COLLISION LIGHT - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure contains these tasks:
    - (1) A task to remove the light assembly.
    - (2) A task to install the light assembly.

TASK 33-44-01-004-001

- 2. <u>Light Assembly Removal</u> (Fig. 401)
  - A. References
    - (1) IPC 33-44-01 Fig. 2
    - (2) SSM 33-44-01
    - (3) 25-22-03/401, Upper Deck Ceiling Panels
  - B. Access
    - (1) Location Zone

200 Ceiling - Upper Deck Passenger Compartment

C. Procedure

s 864-002

- (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag.
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 RED ANTI-COLLISION LTS

s 014-037

- (2) Get access to the light as follows:
  - (a) Find the ceiling panel at station 568 (the fifth ceiling panel forward of the midrange lowered ceiling).

NOTE: Some airplanes have a panel installed in the ceiling panel to get access to the light.

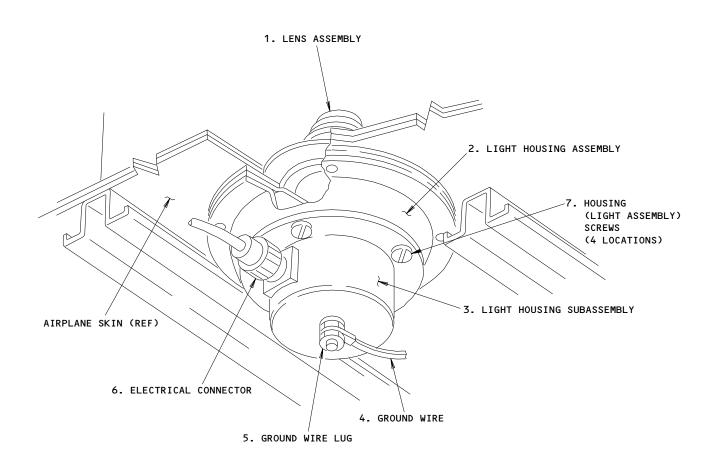
- (b) On airplanes with an access panel, open the access panel in the ceiling panel.
- (c) On airplanes without an access panel, remove the ceiling panel (Ref 25-22-03/401).

EFFECTIVITY-

33-44-01

ALL





UPPER ANTI-COLLISION LIGHT

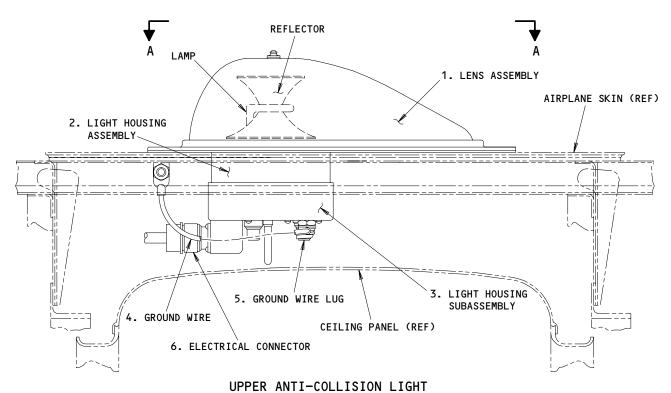
Upper Anti-Collision Light Installation Figure 401 (Sheet 1)

 33-44-01

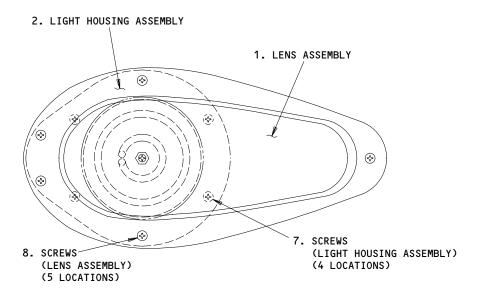
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(SIDE VIEW)



UPPER ANTI-COLLISION LIGHT (TOP VIEW) A-A

Upper Anti-Collision Light Installation Figure 401 (Sheet 2)

EFFECTIVITY-ANTI-COLLSION LIGHT WITH A TEAR DROP-SHAPED LENS 33-44-01

05

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(d) Loosen three sides of the insulation to get access to the light assembly.

s 024-016

(3) ANTI-COLLISION LIGHT WITH CIRCULAR SHAPED LENS; Do these steps to remove the light assembly:

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

- (a) Disconnect the electrical connector (6) from the light subassembly (3).
- (b) Disconnect the ground wire (4) from the light subassembly (3).
- (c) Loosen the light assembly mounting screws (7).
- (d) Remove the light assembly (2).

s 024-017

(4) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS;

Do these steps to remove the light assembly:

- (a) Disconnect the electrical connector (6) from the light subassembly (3).
- (b) Disconnect the ground wire (4) from the light subassembly (3).
- (c) Remove the screws (8) from the lens assembly (1).
- (d) Remove the lens assembly (1).
- (e) Remove the screws (7) from the light assembly (2).
- (f) Remove the light assembly (2).

TASK 33-44-01-404-009

3. <u>Light Assembly Installation</u> (Fig. 401)

# A. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
401	1 2 3	Upper Anti-collision Light Light Assembly Light Assy. Mounting Screws	33-44-01	02	150 195
	4 5	Bonding Jumper Hex Nut	33-44-01	02	180
	6	Power Cable	33-44-01	02	190

- B. References
  - (1) 24-22-00/201, Manual Control
  - (2) 25-22-03/401, Upper Deck Ceiling Panels
  - (3) SSM 33-44-01

EFFECTIVITY-

33-44-01



- C. Consumable Materials
  - (1) A00247 Sealant Chromate, BMS 5-95, Class B or C
- D. Access
  - (1) Location Zone

200 Ceiling - Upper Deck Passenger Compartment

#### E. Procedure

## s 424-014

- (1) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS; Do these steps to install the light assembly:
  - (a) Put the light assembly (2) in its position.
  - (b) Tighten the light assembly mounting screws (7).
  - (c) Connect the ground wire (4) to the light subassembly (3).
  - (d) Connect the electrical connector (6) to the light subassembly (3).

## s 424-015

- (2) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS;
  - Do these steps to install the light assembly:
  - (a) Put the light assembly (2) in its position.
  - (b) Install the screws (7).
  - (c) Before you install the lens assembly (1), use the sealant (BMS 5-95, Class B or C) to apply a seal between the lens assembly and the skin panel (AMM 51-31-01/201).
  - (d) Put the lens assembly (1) in its position.
  - (e) Install the screws (8).
  - (f) Connect the ground wire (4) to the light subassembly (3).
  - (g) Connect the electrical connector (6) to the light subassembly (3).

## s 714-033

- (3) Do a test of the light:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 MAIN POWER DISTRIBUTION PANEL
      - a) 6L31 RED ANTI-COLLISION LTS

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT WILL CAUSE DAMAGE TO YOUR EYES.

- (c) Put the BEACON switch on the P5 panel in the BOTH position.
- (d) Make sure the light comes on.
- (e) Put the BEACON switch on the P5 panel in the OFF position.
- (f) Make sure the light goes off.
- (g) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-44-01



- F. Put the Airplane back to Its Usual Condition
  - s 414-034
  - (1) Put the insulation back in its initial position.
    - s 414-053
  - (2) On airplanes with an access panel, close the access panel in the ceiling panel.
    - s 414-054
  - (3) On airplanes without an access panel, install the ceiling panel (Ref 25-22-03/401).

EFFECTIVITY-

ALL

33-44-01



# UPPER ANTI-COLLISION LIGHT LENS - REMOVAL/INSTALLATION

## 1. General

- A. This procedure contains has tasks:
  - (1) Upper Anti-Collision Light Lens Removal
  - (2) Upper Anti-Collision Light Lens Installation
- B. To replace the lens of a lower anti-collision light, refer to Lower Anti-Collision Light (AMM 33-44-03/201 or AMM 33-44-03/401).

TASK 33-44-02-004-001

- Upper Anti-Collision Light Lens Removal (Fig. 401)
  - A. References
    - (1) AIPC 33-44-01 Fig. 2
    - (2) AMM 51-31-01/201, Seals and Sealing
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

S 864-040

- Do one of these steps to remove electrical power from the light:
  - (a) At the overhead panel, P5, set the switch to the off position and attach a DO-NOT-OPERATE tag.
  - (b) Open the circuit breaker for the red anti-collision lights and attach the DO-NOT-CLOSE tag:
    - 1) On the main power distribution panel, P6.

s 034-041

(2) Remove the sealing compound from around the lens assembly (AMM 51-31-01/201).

S 024-044

(3) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS;

Do these steps to remove the lens:

- (a) Remove the lens mounting screws.
- (b) Remove the lens retaining ring.
- (c) Remove the lens assembly.
- (d) Remove the gasket from the lens.

S 024-045

(4) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS;

Do these steps to remove the lens:

- (a) Remove the lens retaining screws.
- (b) Remove the lens.
- (c) Remove the gasket.

TASK 33-44-02-404-007

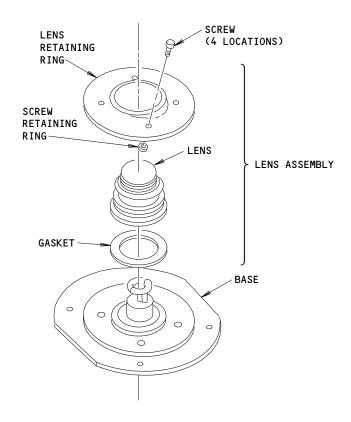
- 3. <u>Upper Anti-Collision Light Lens Installation</u> (Fig. 401)
  - A. Consumable Materials
    - (1) A00000 Compound Sealing BMS 5-142

EFFECTIVITY---

33-44-02

ALL



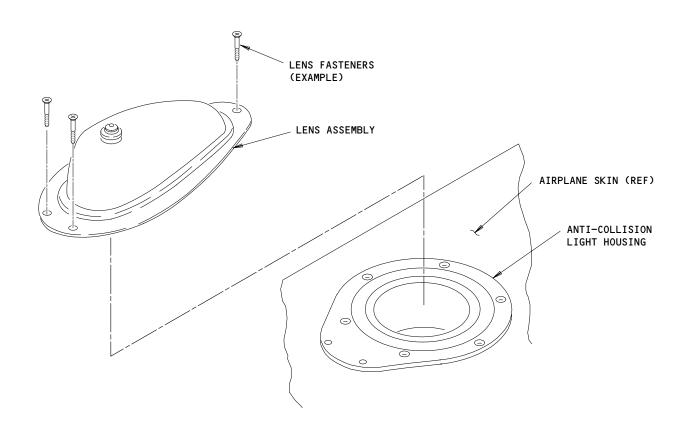


UPPER ANTI-COLLISION LIGHT

Upper Anti-Collision Light Lens Installation Figure 401 (Sheet 1)

 33-44-02





UPPER ANTI-COLLISION LIGHT

# Upper Anti-Collision Light Lens Installation Figure 401 (Sheet 2)

33-44-02

04

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- B. References
  - (1) AIPC 33-44-01 Fig. 2
  - (2) AMM 51-31-01/201, Seals and Sealing
- C. Access
  - (1) Location Zone

200 Upper Half of Fuselage

- D. Procedure
  - S 424-046
  - (1) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS; Do these steps to install the lens:
    - (a) Put the lens gasket in its position on the lens.
    - (b) Put the lens retaining ring on the lens.
    - (c) Put the lens assembly in its position on the skin panel.
    - (d) Install the lens retaining screws.
    - s 424-047
  - (2) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS;

Do these steps to install the lens:

- (a) Put the gasket in its position on the airplane skin.
- (b) Put the lens in its position.
- (c) Install the lens retaining screws.
- s 434-042
- (3) With the sealing compound (BMS 5-142), apply a fillet seal around the lens assembly (AMM 51-31-01/201).
  - s 864-043

ALL

- (4) Supply electrical power to the light.
  - (a) Remove each DO-NOT-OPERATE or DO-NOT-CLOSE tag.
    - 1) Close each circuit breaker that was opened.

EFFECTIVITY-

33-44-02



# LOWER ANTI-COLLISION LIGHT - MAINTENANCE PRACTICES

# 1. <u>General</u>

A. This procedure contains a task for the replacement of the lamp in the lower anti-collision light.

TASK 33-44-03-962-001

- 2. <u>Lamp Replacement</u> (Fig. 201)
  - A. Consumable Materials
    - (1) A00247 Sealant Chromate, BMS 5-95, Class B or C
    - (2) G01043 Cloth Lint Free
  - B. References
    - (1) 24-22-00/201, Manual Control
    - (2) IPC 33-44-03
    - (3) SSM 33-44-01
  - C. Access
    - (1) Location Zone

100 Exterior Fuselage - Lower Half

D. Procedure

s 862-018

- (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 ANTI COLL LTS RED

s 022-038

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

(2) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS;

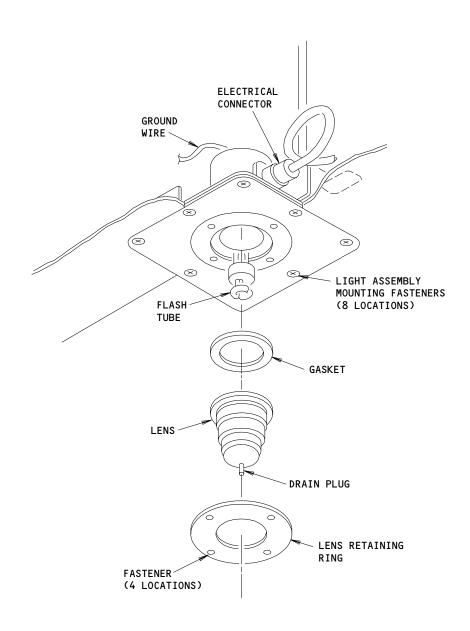
Do these steps to remove the lens:

- (a) Loosen the fasteners that hold the lens retaining ring.
- (b) Remove the lens retaining ring.

EFFECTIVITY-

33-44-03





LOWER ANTI-COLLISION LIGHT

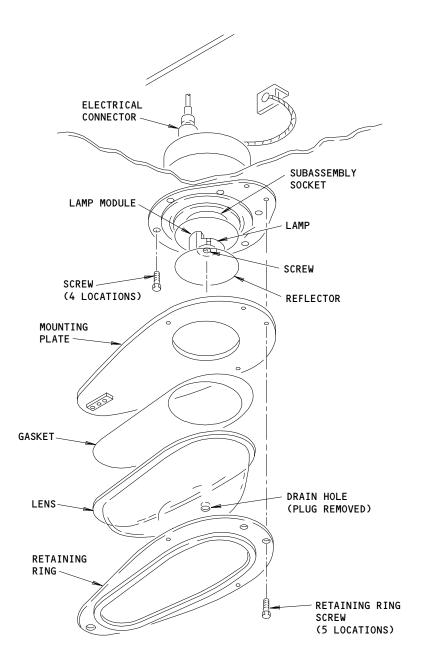
Lower Anti-Collision Light Lamp Replacement Figure 201 (Sheet 1)

33-44-03

03

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LOWER ANTI-COLLISION LIGHT

Lower Anti-Collision Light Lamp Replacement Figure 201 (Sheet 2)

EFFECTIVITY
ANTI-COLLISION LIGHT
WITH A TEAR DROP-SHAPED LENS

33-44-03

04

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- (c) Remove the lens.
- (d) Remove the gasket.

s 022-020

- (3) Do these steps to remove the lamp:
  - (a) Hold the lamp by its bottom part, not the glass.
  - (b) Pull the lamp down.

NOTE: Do not turn the lamp to remove it.

s 422-007

CAUTION: DO NOT LET YOUR FINGERS TOUCH THE REPLACEMENT LAMP. THE OILS FROM YOUR SKIN CAN CAUSE THE LAMP TO BREAK WHEN IT IS HOT.

(4) Do these steps to install the replacement lamp:

NOTE: Hold the lamp with a clean dry cloth.

- (a) Hold the lamp by its bottom part, not the glass.
- (b) Push the lamp into its socket.

s 022-039

- (5) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS; Do these steps to install the lens:
  - (a) Put the gasket in its position.
  - (b) Put the lens in its position.
  - (c) Put the lens retaining ring in its position.
  - (d) Tighten the fasteners that hold the lens retaining ring.

s 022-040

ALL

- (6) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS; Do these steps to replace the lamp:
  - (a) Remove the lens retaining screws.

EFFECTIVITY-

33-44-03



- (b) Remove the lens.
- (c) Remove these parts from the light subassembly:
  - 1) The screw.
  - 2) The lock washer.
  - 3) The reflector.
  - 4) The retaining ring.
- (d) Remove the lamp from the light subassembly.

<u>CAUTION</u>: DO NOT LET YOUR FINGERS TOUCH THE LAMP. FINGER OILS ON THE LAMP WILL CAUSE LAMP FAILURE.

- (e) Hold the replacement lamp with a clean dry cloth.
- (f) Push the replacement lamp into the light subassembly.
- (g) Install these parts in the light subassembly:
  - 1) The retaining ring.
  - 2) The reflector.
  - 3) The lock washer.
  - 4) The screw.
- (h) Before you install the lens assembly, use the sealant (BMS 5-95, Class B or C) to apply a seal between the lens assembly and the skin panel (AMM 51-31-01/201).
- (i) Put the lens in its position on the airplane skin.
- (j) Install the lens retaining screws.

#### s 712-022

- (7) Do a test of the light:
  - (a) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 Main Power Distribution Panel
      - a) 6L31 ANTI COLL LTS RED
  - (b) Supply electrical power (Ref 24-22-00/201).

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT WILL CAUSE DAMAGE TO YOUR EYES.

- (c) Put the BEACON switch on the P5 panel to LWR.
- (d) Make sure the light flashes.
- (e) Put the BEACON switch on the P5 panel to OFF.
- (f) Make sure the light is off.
- (g) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-44-03

ALL



# LOWER ANTI-COLLISION LIGHT - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure contains these tasks.
    - (1) A task for the removal of the light.
    - (2) A task for the installation of the light.

TASK 33-44-03-004-001

- 2. <u>Light Assembly Removal</u> (Fig. 401)
  - A. References
    - (1) 6-09-03/201, Access Doors and Panels
    - (2) IPC 33-44-03
    - (3) SSM 33-44-01
  - B. Access
    - (1) Location Zone

100 Lower Half of Fuselage, Exterior

C. Procedure

s 864-050

- (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 ANTI COLL LTS RED

S 024-051

- (2) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS; Do these steps to remove the light assembly:
  - (a) Open the panel, 192HR, in the air conditioning bay (Ref 6-09-03/201) to get access to the top of the light.

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

(b) Remove the lockwire from the electrical connector.

NOTE: Identify the position of the electrical connector. When you replace the light, you must connect the electrical connector in the same position.

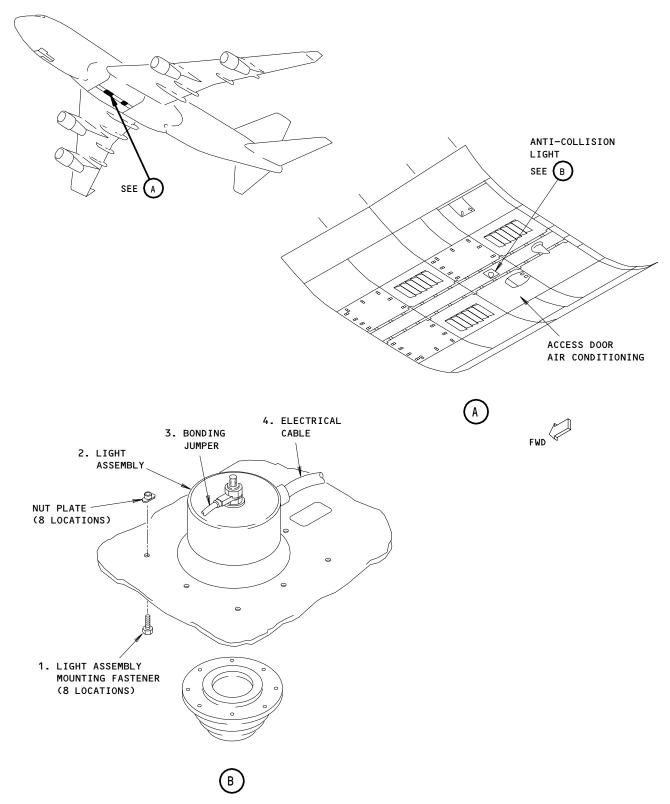
(c) Disconnect the electrical connector.

EFFECTIVITY-

33-44-03

ALL





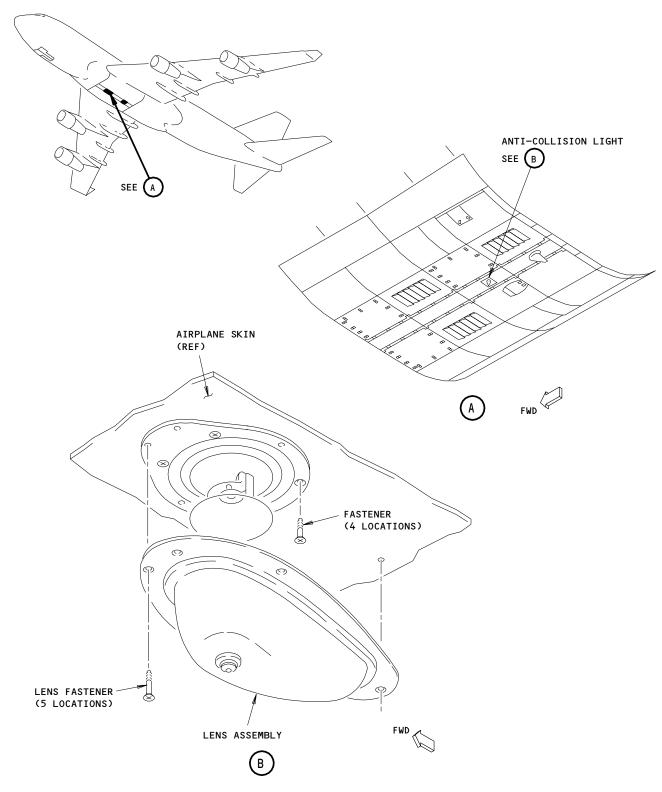
Lower Anti-Collision Light Installation Figure 401 (Sheet 1)

 33-44-03

03

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Lower Anti-Collision Light Installation Figure 401 (Sheet 2)

33-44-03

04

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- (d) Remove the nut that holds the bonding jumper.
- (e) Remove the bonding jumper.
- (f) Remove the light assembly mounting fasteners (1).
- (g) Carefully break the seal while you pull down on the light.

s 024-052

(3) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS;

Do these steps to remove the light assembly:

(a) Open the panel, 192HR, in the air conditioning bay (Ref 6-09-03/201) to get access to the top of the light.

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

(b) Remove the lockwire from the electrical connector.

NOTE: Identify the position of the electrical connector. When you replace the light, you must connect the electrical connector in the same position.

- (c) Disconnect the electrical connector.
- (d) Remove the nut that hold the bonding jumper.
- (e) Remove the bonding jumper.
- (f) Remove the lens assembly retaining screws.
- (g) Remove the lens assembly.
- (h) Remove the light subassembly retaining screws.
- (i) Remove the light subassembly.

TASK 33-44-03-404-013

3. <u>Installation (Lower Beacon Light)</u> (Fig. 401)

### A. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
401	1 2 3 4	Light Assembly Mounting Fasteners Light Assembly Bonding Jumper Electrical Cable	33-44-03	2	190 200 185 195

- B. References
  - (1) 6-09-03/201, Access Doors and Panels
  - (2) 24-22-00/201, Manual Control
  - (3) 51-31-01/201, Seals and Sealing
  - (4) SSM 33-44-01

EFFECTIVITY-

33-44-03



- C. Consumable Materials
  - (1) A00247 Sealant Chromate, BMS 5-95, Class B or C
- D. Access
  - (1) Location Zone

100 Lower Half of Fuselage, Exterior

#### E. Procedure

s 424-053

- (1) ANTI-COLLISION LIGHT WITH A CIRCULAR SHAPED LENS; Do these steps to install the light assembly:
  - (a) With the sealant (BMS 5-95, Class B or C), apply a seal between the light and the airplane skin (AMM 51-31-01/201).
  - (b) Hold the light assembly (2) in its position and install the mounting fasteners (1).
  - (c) Connect the electrical connector.

NOTE: Make sure the connector is in its initial position.

- (d) Connect the lockwire to the electrical connector.
- (e) Put the bonding wire (3) in its position.
- (f) Install the nut to hold the bonding wire.
- (g) Close the panel, 192HR, in the air conditioning bay (Ref 6-09-03/201).

s 424-054

(2) ANTI-COLLISION LIGHT WITH A TEAR DROP-SHAPED LENS;

Do these steps to install the light assembly.

- (a) With the sealant (BMS 5-95, Class B or C), apply a seal between the light and the airplane skin (AMM 51-31-01/201).
- (b) Put the light subassembly in its position.
- (c) Install the light subassembly retaining screws.
- (d) Put the lens assembly in its position.
- (e) Install the lens assembly retaining screws.
- (f) Connect the electrical connector.
- (q) Install the lockwire on the electrical connector.
- (h) Put the bonding jumper in its position.
- (i) Install the nut to hold the bonding jumper.
- (j) Close the panel, 192HR, in the air conditioning bay (Ref 6-09-03/201).

s 714-032

- (3) Do a test of the light:
  - (a) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 Main Power Distribution Panel
      - a) 6L31 ANTI COLL LTS RED
  - (b) Supply electrical power (Ref 24-22-00/201).

EFFECTIVITY-

33-44-03



WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (c) Put the BEACON switch on the P5 panel to LWR.
- (d) Make sure the light is on.
- (e) Put the BEACON switch on the P5 panel to OFF.
- (f) Make sure the light is off.
- (g) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

ALL

33-44-03



# WINGTIP STROBE LIGHT - MAINTENANCE PRACTICES

#### 1. General

A. This procedure contains a task for the replacement of the strobe light lamp.

TASK 33-44-05-962-001

- Lamp Replacement (Wingtip Strobe Light) (Fig. 201)
  - A. Consumable Materials
    - (1) G01043 Cloth Lint Free
  - B. References
    - (1) 24-22-00/201, Manual Control
    - (2) 33-44-05/401, Wingtip Strobe Lights
    - (3) SSM 33-44-02
  - C. Access
    - (1) Location Zone

538 Wingtip - Left 638 Wingtip - Right

D. Procedure

s 012-014

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

(1) Remove the strobe light assembly from the wingtip (Ref 33-44-05/401).

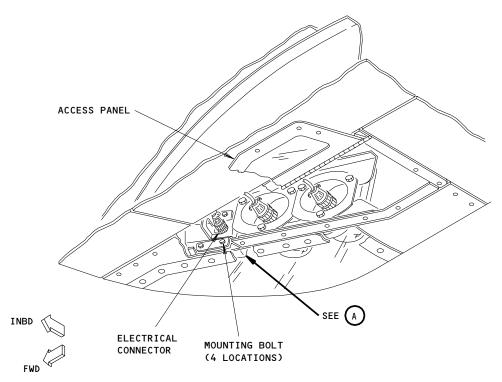
s 022-010

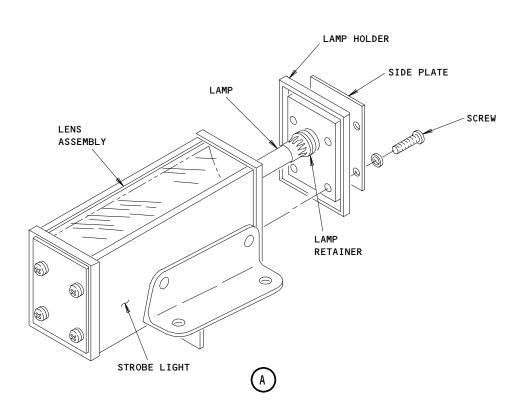
- (2) Do these steps to remove the lamp:
  - (a) Remove the mounting screws from the side plate of the light assembly.
  - (b) Remove the side plate.

EFFECTIVITY-

33-44-05







Wingtip Strobe Light Installation Figure 201

33-44-05

01

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- (c) Pull out the lamp holder.
- (d) Carefully pull the lamp from the lamp retainer.

s 422-011

- (3) Do these steps to install the replacement lamp:
  - (a) If it is necessary, clean the electrical contacts in the lamp receptacles to remove all dirt and corrosion.
  - (b) Clean the lens with a clean dry cloth.

CAUTION: DO NOT LET YOUR FINGERS TOUCH THE REPLACEMENT LAMP. THE OILS FROM YOUR SKIN CAN CAUSE THE LAMP TO BREAK WHEN IT IS HOT.

- (c) Push the replacement lamp into the lamp retainer in the light assembly.
- (d) Carefully push the lamp holder against the light assembly.

<u>NOTE</u>: Make sure the end of the lamp goes into the lamp retainer.

(e) Install the side plate with its mounting screws.

s 412-012

(4) Install the light assembly (Ref 33-44-05/401).

s 712-013

ALL

- (5) Do a test of the replacement lamp:
  - (a) Supply electrical power (Ref 24-22-00/201).

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (b) Put the STROBE switch on the P5 panel to ON.
- (c) Make sure the strobe light is on.
- (d) Put the STROBE switch on the P5 panel to OFF.
- (e) Make sure the strobe light is off.
- (f) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

33-44-05



# WINGTIP STROBE LIGHT - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure contains these tasks:
    - (1) A task for the removal of the strobe light.
    - (2) A task for the installation of the strobe light.

TASK 33-44-05-004-001

- 2. Strobe Light Removal (Fig. 401)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-44-02
  - B. Access
    - (1) Location Zone

538 Wingtip, Left 638 Wingtip, Right

C. Procedure

s 024-020

(1) Do these steps to remove the strobe light:

WARNING: DO NOT TOUCH THE LIGHT ASSEMBLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE LIGHT CAN CAUSE INJURY TO PERSONS.

- (a) Open this circuit breaker and attach a DO-NOT-CLOSE tag.
  - 1) P6 Main Power Distribution Panel
    - a) 6L32 STROBE
- (b) Open the access panel (1) below the light on the wingtip.
- (c) Disconnect the electrical connector (3).
- (d) Remove the mounting bolts (2).
- (e) Remove the light assembly (4).

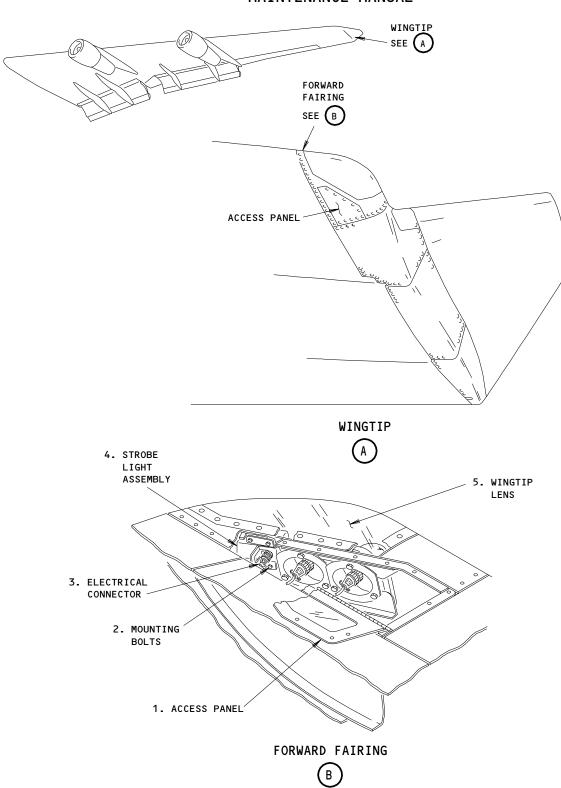
TASK 33-44-05-404-006

- 3. <u>Installation (Wingtip Strobe Light)</u> (Fig. 401)
  - A. Consumable Materials
    - (1) G01043 Cloth nonabrasive, lint free

EFFECTIVITY-

33-44-05





Wingtip White Anti-Collision Light Installation Figure 401

ALL

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#### B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
401	1 2 3 4 5	Access Panel Mounting Bolts Electrical Connector Strobe Light Assembly Wingtip Lens	57-23-01	10	150

- C. References
  - (1) 24-22-00/201, Manual Control
  - (2) SSM, 33-44-02
- D. Access
  - (1) Location Zone

538 Wingtip, Left638 Wingtip, Right

### E. Procedure

s 424-018

- (1) Do these steps to install the strobe light assembly:
  - (a) Clean the inner surface of the lens (5) with a lint free cloth.
  - (b) Put the strobe light assembly (4) in its position on the mounting bracket and install the mounting bolts (2).
  - (c) Connect the electrical connector (3).
  - (d) Close the access panel (1).

s 714-019

ALL

- (2) Do a test of the strobe light assembly:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 Main Power Distribution Panel
      - a) 6L32 STROBE



WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR

EYES.

- (c) Put the Set STROBE switch on the P5 panel to ON.
- (d) Make sure the strobe light is on.
- (e) Put the STROBE switch on the P5 panel to OFF.
- (f) Make sure the strobe light is off.

s 864-021

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

EFFECTIVITY-

ALL

33-44-05

01

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# WINGTIP STROBE LIGHT POWER SUPPLY - REMOVAL/INSTALLATION

#### 1. General

- A. This procedure contains these tasks:
  - (1) A task for the removal of the power supply for the strobe light in the wingtip.
  - (2) A task for the installation of the power supply for the strobe light in the wingtip.

TASK 33-44-06-004-001

- 2. Removal (Wingtip Strobe Light Power Supply) (Fig. 401)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 27-81-00/201, Leading Edge Flap System
    - (3) SSM 33-44-02
  - B. Access
    - (1) Location Zone

538 Wingtip - Left637 Wingtip - Right

#### C. Procedure

S 864-023

(1) Do these steps to prepare for the removal of the power supply: (a) Supply electrical power (Ref 24-22-00/201).

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(b) Do this task: "Leading Edge Flap Extension" (Ref 27-81-00/201).

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

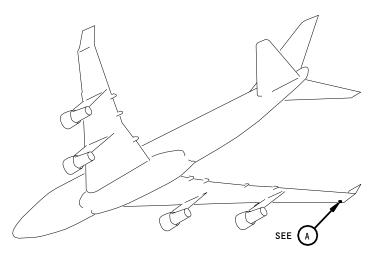
(c) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (Ref 27-81-00/201).

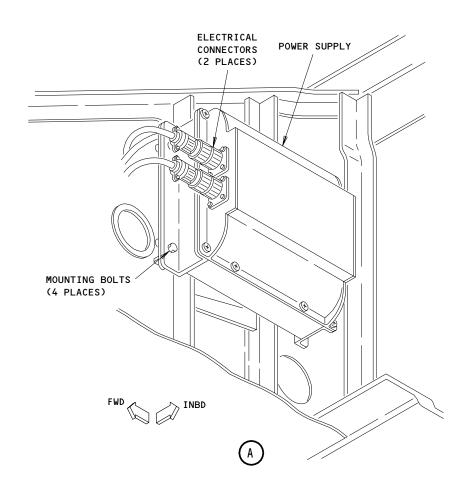
EFFECTIVITY-

33-44-06

ALL







Wingtip White Anti-Collision Light Power Supply Installation Figure 401

ALL

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(d) Put a DO-NOT-OPERATE tag on the flap control lever.

WARNING: DO NOT TOUCH THE POWER SUPPLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE POWER SUPPLY CAN CAUSE INJURY TO PERSONS.

(e) Open this circuit breaker and attach a DO-NOT-CLOSE tag:1) P6 Main Power Distribution Panela) 6L32 ANTI COLL LTS WHITE

s 024-024

- (2) Do these steps to remove the power supply:
  - (a) Disconnect the electrical connectors.
  - (b) Remove the mounting bolts.
  - (c) Remove the power supply.

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(d) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (Ref 27-81-00/201).

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

- (e) Do this task: "Leading Edge Flap Retraction" (Ref 27-81-00/201).
- (f) Remove the DO-NOT-OPERATE tag from the flap control lever.
- (g) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - 1) P6 Main Power Distribution Panel
    - a) 6L32 ANTI COLL LTS WHITE

EFFECTIVITY-

ALL

33-44-06



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

TASK 33-44-06-404-007

- 3. <u>Installation (Wintip Strobe Light Power Supply)</u> (Fig. 401)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 27-81-00/201, Leading Edge Flap System
    - (3) SSM 33-44-02
  - B. Access
    - (1) Location Zone

538 Wingtip - Left637 Wingtip - Right

- C. Procedure
  - s 864-030
  - (1) Do these steps to prepare for the installation of the power supply: (a) Supply electrical power (Ref 24-22-00/201).
    - WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.
    - (b) Do this task: "Leading Edge Flap Extension" (Ref 27-81-00/201).
    - WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO INSTALL THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT INSTALL THE SAFETY LOCKS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.
    - (c) Do this task: "Extended Leading Edge Flap Deactivation and Safety Lock Installation" (Ref 27-81-00/201).
    - (d) Put a DO-NOT-OPERATE tag on the flap control lever.

s 424-025

- (2) Do these steps to install the power supply:
  - (a) Put the power supply in its position on the mounting bracket.
  - (b) Install the mounting bolts.
  - (c) Connect the electrical connectors.

s 714-026

ALL

- (3) Do these steps to do a test of the power supply:
  - (a) Make sure this circuit breaker is closed:
    - 1) P6 Main Power Distribution Panel
      - a) 6L32 ANTI COLL LTS WHITE

EFFECTIVITY-

33-44-06



WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (b) Put the STROBE switch on the P5 panel to ON.
- (c) Make sure the strobe lights are on.
- (d) Put the STROBE switch on the P5 panel to OFF.
- (e) Make sure the strobe lights are off.
- D. Put the airplane back to its usual condition

S 864-027

WARNING: YOU MUST CAREFULLY DO THE STEPS IN THE TASK BELOW TO REMOVE THE LE FLAP SAFETY LOCKS. THE LE FLAPS CAN MOVE QUICKLY IF YOU DO NOT DO THE STEPS CORRECTLY. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(1) Do this task: "Safety Lock Removal and Leading Edge Flap Activation" (Ref 27-81-00/201).

S 864-028

WARNING: MAKE SURE THAT PERSONS AND EQUIPMENT ARE CLEAR OF THE LE AND TE FLAPS AND FLAP DRIVE MECHANISMS BEFORE YOU MOVE THE FLAP CONTROL LEVER. WITH HYDRAULIC POWER REMOVED, THE FLAPS WILL MOVE AUTOMATICALLY BY ELECTRICAL POWER WHEN YOU MOVE THE FLAP CONTROL LEVER. THIS CAN CAUSE INJURY TO PERSONS OR DAMAGE TO EQUIPMENT.

(2) Do this task: "Leading Edge Flap Retraction" (Ref 27-81-00/201).

s 864-029

(3) Remove the DO-NOT-OPERATE tag from the flap control lever.

EFFECTIVITY-

33-44-06



s 864-018

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

EFFECTIVITY-

ALL

33-44-06

01

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# TAIL CONE WHITE ANTI-COLLISION LIGHT - MAINTENANCE PRACTICES

#### 1. General

A. This procedure contains a task for the replacement of the lamps.

TASK 33-44-07-962-001

- 2. Lamp Replacement (Tail Cone White Anti-Collision Light) (Fig. 201)
  - A. Consumable Materials
    - (1) G01043 Cloth nonabrasive, lint free
  - B. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
201	1 2 3 4 5 6 7 8	Electrical Connector Mounting Screws Tail Strobe Light Assembly Side Plate Side Plate Retaining Screws Lamp Holder Lamp Lens	33-44-01 33-44-01 33-44-01 33-44-01 33-44-01 33-44-01 33-44-01	10 1 1 10 10 10 10	75 35 30 40 10 35 20 45

- C. References
  - (1) 24-22-00/201, Manual Control
  - (2) SSM 33-44-02
- D. Access
  - (1) Location Zone

300 Tail Cone, Exterior

### E. Procedure

s 862-030

- (1) Do these steps to prepare for the lamp replacement:
  - (a) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
    - 1) P6 Main Power Distribution Panel
      - a) 6L32 ANTI COLL LTS WHITE

WARNING: MAKE SURE THE APU IS OFF. THE APU MUST BE OFF TO PREVENT INJURY TO PERSONS AT THE TAIL CONE AREA.

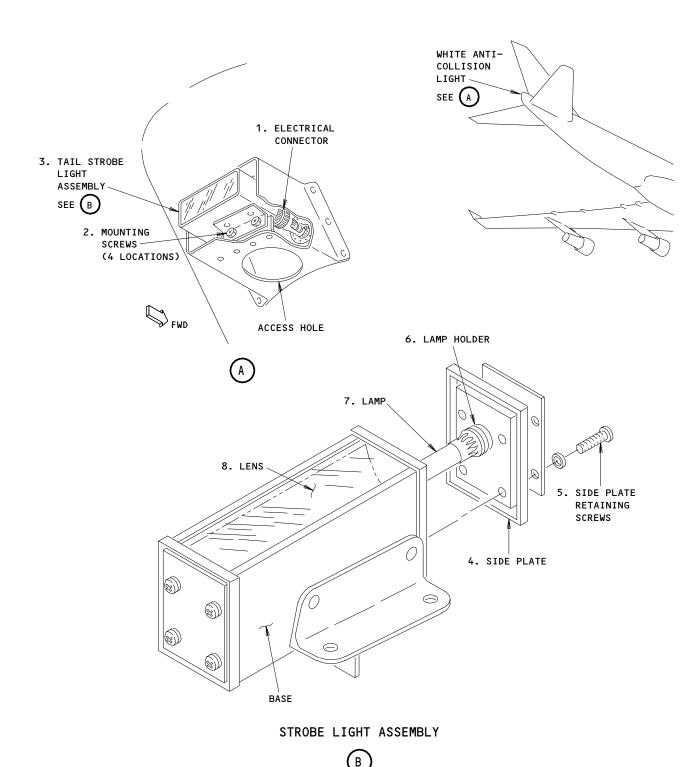
(b) At the overhead panel, P5, put the APU START switch to the off position and attach a DO-NOT-OPERATE tag.

EFFECTIVITY-

33-44-07

ALL





Tail Cone White Anti-Collision Light Relamping Figure 201

ALL

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(c) Open this circuit breaker and attach a DO-NOT-CLOSE tag:1) P83 Aft APU Equipment Control and Circuit Breaker Panela) C8816 APU START

#### s 012-026

- (2) Do these steps to remove the light assembly:
  - (a) Remove the safety wire from the electrical connector (1).
  - (b) Disconnect the electrical connector (1).
  - (c) Remove the mounting screws (2) and the light assembly (3).

#### s 962-027

- (3) Do these steps to replace the lamp:
  - (a) Remove the screws in the side plate (4).
  - (b) Remove the lamp (7) from the holders (6).
  - (c) Clean all the electrical connections.
  - (d) Clean the lens (8) with a soft cloth.
  - (e) Put the replacement lamp (7) in the holders (6).
  - (f) Install the side plate screws (4).

# s 412-028

- (4) Do these steps to install the light assembly:
  - (a) Put the light assembly (3) in its position and install the mounting screws (4).
  - (b) Connect the electrical connector (1).
  - (c) Replace the safety wire on the electrical connector.

#### s 712-029

ALL

- (5) Do these steps to do a test of the replacement lamp:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 Main Power Distribution Panel
      - a) 6L32 ANTI COLL LTS WHITE

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

(c) Put the STROBE switch on the P5 panel to ON.

EFFECTIVITY-

33-44-07



- (d) Make sure the strobe light is on.
- (e) Put the STROBE switch on the P5 panel to OFF.
- (f) Make sure the strobe lights are off.
- F. Put the airplane back to its usual condition

s 862-023

(1) Remove the DO-NOT-OPERATE tag from the APU START switch on the P5 panel.

s 862-024

- (2) Remove the DO-NOT-CLOSE tag and close this circuit breaker: (a) P83 Aft APU Equipment Control and Circuit Breaker Panel 1) C8816 APU START
  - s 862-025
- (3) Remove electrical power if it is not necessary (Ref 24-22-00/201).

EFFECTIVITY-

ALL

33-44-07



#### TAIL ANTI-COLLISION LIGHT POWER SUPPLY - REMOVAL/INSTALLATION

- 1. <u>General</u>
  - A. This procedure contains these tasks:
    - (1) A task for the removal of the power supply.
    - (2) A task for the installation of the power supply.

TASK 33-44-08-004-001

- 2. Removal (Tail Anti-Collision Light Power Supply) (Fig. 401)
  - A. References
    - (1) IPC 33-44-08 Fig. 1
    - (2) SSM 33-44-02
  - B. Access
    - (1) Location Zone

300 Tail Cone

C. Procedure

S 864-028

(1) Do these steps to prepare for the removal:

WARNING: DO NOT TOUCH THE POWER SUPPLY FOR 10 MINUTES AFTER YOU REMOVE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE POWER SUPPLY CAN CAUSE INJURY TO PERSONS.

- IN THE TOWER CONTENT ON CHOOL INCORT TO TERCONO.
- (a) Open this circuit breaker and attach a DO-NOT-CLOSE tag:1) P6 Main Power Distribution Panel
  - a) 6L32 ANTI COLL LTS WHITE

WARNING: MAKE SURE THE APU IS OFF. THE APU MUST BE OFF TO PREVENT INJURY TO PERSONS AT THE TAIL CONE AREA.

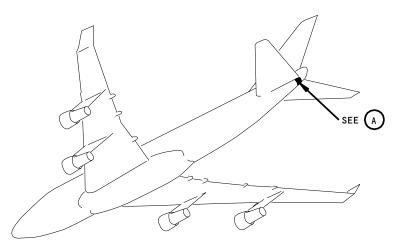
- (b) Put the APU switch to STOP and attach a DO-NOT-OPERATE tag.
- (c) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - 1) P83 panel
    - a) APU PRIMARY CONTROL

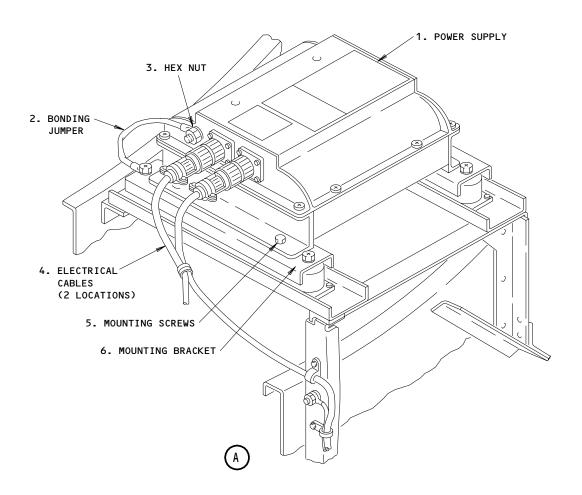
EFFECTIVITY-

33-44-08

ALL







Tail Strobe Light Power Supply Installation Figure 401

579000

33-44-08

01

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2) P6 Main Power Distribution Panel a) 6F15 A/APU - ENG START - PERF SOL PWR

#### s 024-029

- (2) Do these steps to remove the power supply:
  - (a) Open the APU access doors and install the support rods.
  - (b) Remove the safety wire from the electrical connectors.
  - (c) Disconnect the electrical connectors (4) from the power supply (1).
  - (d) Remove the nut (3) and disconnect the ground wire (2) from the power supply (1).
  - (e) Remove the mounting screws (5) from the power supply (1).
  - (f) Remove the power supply (1).

#### TASK 33-44-08-404-012

3. <u>Installation (Tail Anti-Collision Light Power Supply)</u> (Fig. 401)

#### A. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
401	1 2 3	Power Supply Bonding Jumper Hex Nut	33-44-08	1	50 40
	4 5 6	Electrical Cables Mounting Screws Mounting Bracket			55 45 75

- B. References
  - (1) 24-22-00/201, Manual Control
  - (2) SSM 33-44-02
- C. Access
  - (1) Location Zone

300 Tail Cone

## D. Procedure

s 424-030

- (1) Do these steps to install the power supply:
  - (a) Put the power supply (1) in its position (6) and install the mounting screws (5).

EFFECTIVITY-

33-44-08

ALL



- (b) Connect the ground wire (2) and install the nut (3).
- (c) Connect the electrical connectors (4).
- (d) Replace the safety wire on the electrical connectors (4).
- (e) Remove the door support rods and close the APU doors.

#### s 714-031

- (2) Do these steps to do a test of the power supply:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
    - 1) P6 Main Power Distribution Panel
      - a) 6L32 ANTI COLL LTS WHITE

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES.

THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (c) Put the STROBE switch on the P5 panel to ON.
- (d) Make sure the strobe light is on.
- (e) Put the STROBE switch on the P5 panel to OFF.
- (f) Make sure the strobe light is off.
- E. Put the airplane back to its usual condition

#### S 864-024

- (1) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P83 panel
    - 1) APU PRIMARY CONTROL
  - (b) P6 Main Power Distribution Panel
    - 1) 6F15 A/APU ENG START PERF SOL PWR

# S 864-026

(2) Remove the DO-NOT-OPERATE tag from the APU switch.

#### S 864-027

ALL

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

EFFECTIVITY-

33-44-08

01

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# UPPER AND LOWER BEACON LIGHT POWER SUPPLY - REMOVAL/INSTALLATION

#### 1. General

- A. This procedure contains these tasks:
  - (1) A task for the removal of the power supply for the upper beacon light.
  - (2) A task for the installation of the power supply for the upper beacon light.
  - (3) A task for the removal of the power supply for the lower beacon light.
  - (4) A task for the installation of the power supply for the lower beacon light.

TASK 33-44-09-004-001

- Removal (Upper Beacon Light) (Fig. 401)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 25-22-03/401, Upper Deck Ceiling Panel
    - (3) AIPC 33-44-09 Fig. 2
    - (4) SSM 33-44-01
  - B. Access
    - (1) Location Zone

200 Forward Upper Deck - Passenger Compartment.

C. Procedure

S 864-002

WARNING: DO NOT TOUCH THE POWER SUPPLY FOR 10 MINUTES AFTER YOU REMOVE THE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE POWER SUPPLY CAN CAUSE INJURY TO PERSONS.

- (1) Open this circuit breaker and attach a DO-NO-CLOSE tag:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 ANTI COLL LTS RED
  - (b) Find the ceiling panel at station 568 (the fifth ceiling panel forward of the midrange lowered ceiling).

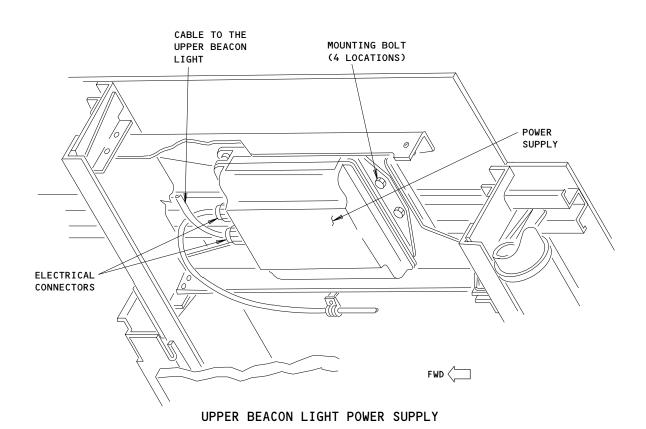
NOTE: Some airplanes have a panel installed in the ceiling panel to get access to the power supply.

EFFECTIVITY-

33-44-09

ALL





Upper and Lower Beacon Light Power Supply Installation Figure 401 (Sheet 1)

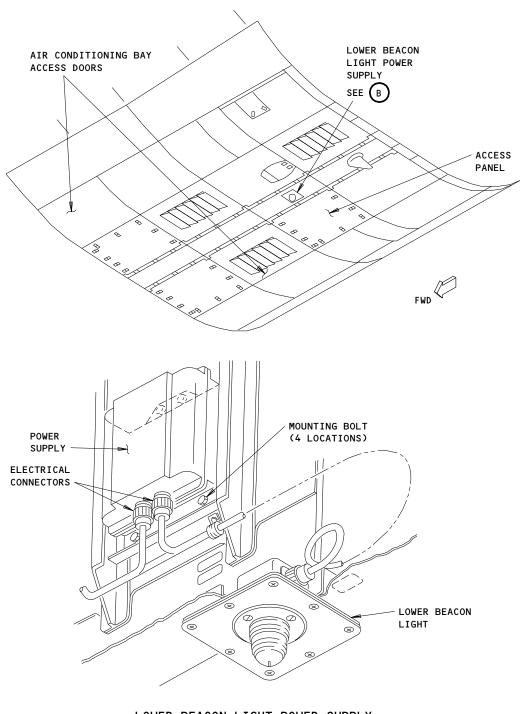
299105

33-44-09

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LOWER BEACON LIGHT POWER SUPPLY



Upper and Lower Beacon Light Power Supply Installation Figure 401 (Sheet 2)

ALL

299107

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01

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- (c) AIRPLANES WITH AN ACCESS PANEL;
  Open the access panel in the ceiling panel.
- (d) AIRPLANES WITHOUT AN ACCESS PANEL; Remove the ceiling panel (AMM 25-22-03/401).

s 004-032

- (2) Do these steps to remove the power supply:
  - (a) Disconnect the electrical connector.
  - (b) Remove the mounting bolts.
  - (c) Remove the power supply.

TASK 33-44-09-404-006

- 3. <u>Installation (Upper Beacon Light Power Supply)</u> (Fig. 401)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 25-22-03/401, Upper Deck Ceiling Panel
    - (3) AIPC 33-44-09 Fig. 2
    - (4) SSM 33-44-01
  - B. Access
    - (1) Location Zone

200 Forward Upper Deck, Passenger Compartment

- C. Procedure
  - s 404-033
  - (1) Do these steps to install the power supply:
    - (a) Put the power supply in its position.
    - (b) Install the mounting bolts.
    - (c) Connect the electrical connector.
    - s 414-009
  - (2) Close and latch the access panel (AMM 25-22-03/401).
- D. Installation Test
  - s 864-010
  - (1) Supply electrical power (AMM 24-22-00/201).
    - s 864-011

ALL

- (2) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 ANTI COLL LTS RED

EFFECTIVITY-

33-44-09



s 714-039

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES. THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (3) Do these steps to do the test of the power supply:
  - (a) Put the BEACON switch on the P5 panel in BOTH.
  - (b) Make sure the beacon light comes on and flashes.
  - (c) Put the BEACON switch on the P5 panel in OFF.

s 864-040

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

TASK 33-44-09-004-016

- 4. Removal (Lower Beacon Light Power Supply) (Fig. 401)
  - A. References
    - (1) AMM 24-22-00/201, Electrical Power
    - (2) AIPC 33-44-09 Fig. 2
    - (3) SSM 33-44-01
  - B. Access
    - (1) Location Zone

100 Lower Half Fuselage - Exterior

C. Procedure

s 864-017

WARNING: DO NOT TOUCH THE POWER SUPPLY FOR 10 MINUTES AFTER YOU REMOVE THE POWER. AN ELECTRICAL SHOCK FROM THE HIGH VOLTAGE IN THE POWER SUPPLY CAN CAUSE INJURY TO PERSONS.

- (1) Open this circuit breaker and attach a DO-NOT-CLOSE tag:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 ANTI COLL LTS RED

s 014-018

(2) Release the fasteners on the access panel adjacent to the lower beacon light to get access to the power supply.

EFFECTIVITY-

33-44-09

ALL



s 004-038

- (3) Do these steps to remove the power supply:
  - (a) Disconnect the electrical connector.
  - (b) Remove the mounting bolts.
  - (c) Remove the power supply.

TASK 33-44-09-404-021

- 5. <u>Installation (Lower Beacon Light Power Supply)</u> (Fig. 401)
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) SSM 33-44-01
  - B. Access
    - (1) Location Zone

100 Lower Half Fuselage - Exterior

C. Procedure

s 404-036

- (1) Do these steps to install the power supply:
  - (a) Put the power supply in its position.
  - (b) Install the mounting bolts.
  - (c) Connect the electrical connector.

s 414-024

- (2) Close and latch the access panel.
- D. Installation Test

S 864-025

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

s 864-026

ALL

- (2) Remove the DO-NOT-CLOSE tag and close this circuit breaker:
  - (a) P6 Main Power Distribution Panel
    - 1) 6L31 ANTI COLL LTS RED

EFFECTIVITY-

33-44-09



s 714-027

WARNING: DO NOT LET THE STROBE LIGHT FLASH DIRECTLY IN YOUR EYES. THE INTENSITY OF THE STROBE LIGHT CAN CAUSE DAMAGE TO YOUR EYES.

- (3) Do these steps to do the test of the power supply:
  - (a) Put the BEACON switch on the P5 panel in LWR.
  - (b) Make sure the lower beacon light comes on and flashes.
  - (c) Put the BEACON switch on the P5 panel in OFF.

s 864-030

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

EFFECTIVITY-

33-44-09

ALL



# LOGO LIGHTS - DESCRIPTION AND OPERATION

## 1. General

- A. Two logo lights installed on the upper surface of each horizontal stabilizer illuminate the airline insignia on the vertical fin. The installation is weather sealed and aerodynamically flush.
- B. Each pair of logo light assemblies have a transformer mounted inside the horizontal stabilizer slightly inboard from the logo lights. Access to the transformer is through an access panel on the lower side of the horizontal stabilizer near the trailing edge.
- C. 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. <u>Operation</u>

- A. All four logo lights are controlled by a single switch on P5 pilots overhead panel. With the LOGO LIGHTS switch in the ON position, power is applied through a logo light control relay to left and right logo light transformers.
- B. Each transformer applies power to an inboard logo light and an outboard logo light.
- C. Electrical power for the logo lights is provided by two circuit breakers on the ground service bus: LOGO LIGHT - LEFT, and LOGO LIGHT - RIGHT. Circuit breakers are located on the P84 panel at the E8 aft equipment center.

ALL

33-45-00



### LOGO LIGHTS - MAINTENANCE PRACTICES

## 1. General

- A. This procedure contains these tasks:
  - (1) Logo Light Lamp Replacement
  - (2) Logo Light Assembly Replacement
  - (3) Logo Light Transformer Replacement
  - (4) Logo Lights Operational Test
  - (5) Logo Light Light Beam Adjustment

### TASK 33-45-00-962-001

- 2. Logo Light Lamp Replacement (Fig. 201)
  - A. Equipment
    - (1) 24MIT65B00002 Attach Lanyard Saftety Harness Wing/Horizontal Stabilizer
    - (2) Full Body Harness

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- (3) Sealing Gun
- (4) Spatula
- B. References
  - (1) AMM 20-11-29/201, Seals on Open Electrical Terminals in Fuel Vapor Areas
  - (2) AMM 24-22-00/201, Manual Control
  - (3) AMM 51-31-01/201, Seals and Sealing
- C. Access
  - (1) Location Zone

222 Control Cabin, Right 334 Horizontal Stabilizer Rear Spar To Trailing Edge, Left 344 Horizontal Stabilizer Rear Spar To Trailing Edge, Right

D. Procedure

S 862-084

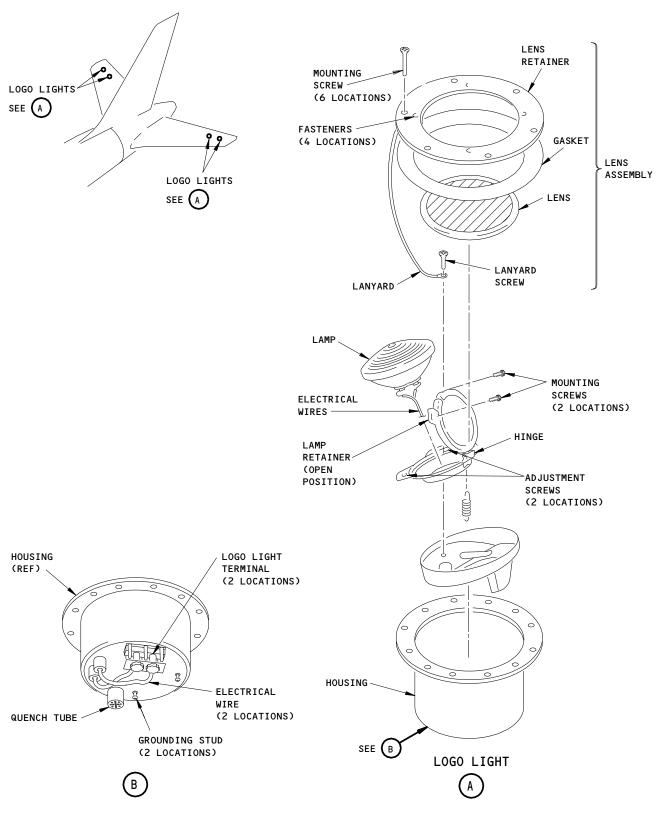
ALL

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

EFFECTIVITY-

33-45-00





Logo Light Lamp Replacement Figure 201

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s 862-085

(2) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the CUTOUT position.

s 862-086

- (3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) Overhead Circuit Breaker Panel, P7
    - 1) 7EO7, STAB TRIM S/O LEFT
    - 2) 7E20, STAB TRIM S/O RIGHT
  - (b) Aft Center Miscellaneous Circuit Breaker Panel, P84
    - 1) LOGO LIGHTS LEFT
    - 2) LOGO LIGHTS RIGHT

s 942-087

(4) Put on the body harness and attach it to the attach point on the horizontal stabilizer with the attach lanyard.

s 012-094

(5) Remove the six mounting screws from the lens retainer.

NOTE: Do not remove the four fasteners on the lens retainer.

(a) Pull out the lens assembly and put it to the side.

NOTE: Do not remove the lanyard.

s 962-051

(6) Do these steps to 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 from the bottom of the lamp.
- (d) Connect the electrical wires to the terminals on the bottom of the new lamp.

WARNING: MAKE SURE YOU SEAL EACH BARE ELECTRICAL CONNECTION

NEAR THE LIGHT TO PREVENT AN EXPLOSION OF THE FUEL FUMES. AN EXPLOSION CAN CAUSE INJURY TO PERSONS AND

DAMAGE TO EQUIPMENT.

(e) Seal each electrical connection (AMM 20-11-29/201).

CAUTION: WHEN YOU INSTALL THE LAMP, MAKE SURE IT IS CORRECTLY

ALIGNED AGAINST THE LAMP RETAINER. THE LAMP CAN

BREAK IF YOU DO NOT INSTALL IT CORRECTLY.

(f) Put the new lamp in the housing.

EFFECTIVITY-

33-45-00

ALL



(g) Close the lamp retainer and install the two mounting screws.

s 712-051

- (7) Do these steps to test the new lamp:
  - (a) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - 1) Aft Center Miscellaneous Circuit Breaker Panel, P84
      - a) LOGO LIGHTS LEFT
      - b) LOGO LIGHTS RIGHT
  - (b) On the pilot's overhead panel, P5, push the LOGO switch to the ON position.
  - (c) Make sure the new lamp comes on.
  - (d) Push the LOGO switch to the OFF position.

s 412-092

(8) Install the lens assembly with the six mounting screws.

s 392-093

(9) Apply sealant around the outer edge of the lens assembly (AMM 51-31-01/201).

s 942-088

(10) Remove the attach lanyard from the horizontal stabilizer.

s 862-089

- (11) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) Overhead Circuit Breaker Panel, P7
    - 1) 7EO7, STAB TRIM S/O LEFT
    - 2) 7E20, STAB TRIM S/O RIGHT

s 862-090

(12) On the pilot's control stand panel, P8, set both the STAB TRIM 2 switch and the STAB TRIM 3 switch to the ON position.

s 862-091

(13) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

TASK 33-45-00-962-060

- Logo Light Assembly Replacement (Fig. 201)
  - A. References
    - (1) AMM 20-11-29/201, Seals On Open Electrical Terminals In Fuel Vapor Areas
    - (2) AMM 24-22-00/201, Manual Control
    - (3) AMM 51-31-01/201, Seals And Sealing
  - B. Equipment
    - (1) 24MIT65B00002 Attach Lanyard Safety Harness Wing/Horizontal Stabilizer

EFFECTIVITY-

33-45-00



- (2) Full Body Harness
  - D.B. Industries 3965 Pepin Avenue Redwing, MN 55066-1837 (612) 388-8282
- (3) Resistance measuring bridge or ohmmeter capable of measuring .001 ohm
- (4) Sealing Gun
- (5) Spatula
- (6) Stainless Steel Brush
- C. Consumable Materials
  - (1) A00247 Sealant BMS 5-95, Class B-1/2
  - (2) B00184 Solvent BMS 11-7
  - (3) G00009 Corrosion Inhibiting Compound BMS 3-23
- D. Access
  - (1) Location Zone

222 Control Cabin, Right

334 Horizontal Stabilizer Rear Spar To Trailing Edge, Left

344 Horizontal Stabilizer Rear Spar To Trailing Edge, Right

- E. Procedure
  - S 862-064
  - (1) Supply electrical power (AMM 24-22-00/201).
    - s 862-061
  - (2) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the CUTOUT position.
    - s 862-063
  - (3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) Overhead Circuit Breaker Panel, P7
      - 1) 7EO7, STAB TRIM S/O LEFT
      - 2) 7E20, STAB TRIM S/O RIGHT
    - (b) Aft Center Miscellaneous Circuit Breaker Panel, P84
      - 1) LOGO LIGHTS LEFT

EFFECTIVITY-

33-45-00

01

ALL



#### 2) LOGO LIGHTS - RIGHT

S 942-065

(4) Put on the body harness and attach it to the attach point on the horizontal stabilizer with the attach lanyard.

s 022-066

- (5) Do these steps to remove a logo light assembly:
  - (a) Remove the screws that hold the logo light assembly to the airplane skin.
  - (b) Lift out the logo light assembly.
  - Disconnect the electrical wires from the bottom of the housing.
  - (d) Remove the logo light assembly.

s 212-067

(6) Do a visual check of the faying surfaces on the logo light assembly and the airplane for corrosion and dirt.

s 142-068

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.

(7) Clean the faying surfaces with a stainless steel brush until the faying surfaces are free from corrosion and dirt.

The use of materials other than stainless steel can NOTE: increase the risk of subsequent corrosion.

s 112-069

(8) With a cloth, apply large quantities of the solvent, BMS 11-7, to the faying surfaces; then rub clean.

ALL

(9) Apply the compound, BMS 3-23, to the faying surfaces to prevent corrosion.

EFFECTIVITY-

33-45-00



s 212-076

(10) Make sure that the holes in each end of the quench tube are clear. Clean, if necessary.

s 422-071

- (11) Do these steps to install a logo light assembly:
  - (a) Connect the electrical wires to the bottom of the housing.

WARNING: MAKE SURE THAT YOU USE THE COMPOUND TO SEAL EACH BARE ELECTRICAL CONNECTION NEAR THE LIGHT. THIS WILL PREVENT AN EXPLOSION OF THE FUEL FUMES. AN EXPLOSION CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

- (b) Apply a layer of a sealing compound to the electrical wires on the terminals (AMM 20-11-29/201).
- (c) Put the new assembly in the airplane skin.
- (d) With BMS 5-95, wet install the screws that hold the housing in position.
- (e) Make sure that the resistance from the screws in the housing to the airplane skin is not more than .001 ohm.

s 862-072

- (12) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) Aft Center Miscellaneous Circuit Breaker Panel, P84
    - 1) LOGO LIGHTS LEFT
    - 2) LOGO LIGHTS RIGHT

s 712-073

- (13) On the pilot's overhead panel, P5, push the LOGO switch to the ON position.
  - (a) Make sure that the logo light comes on.
  - (b) Push the LOGO switch to the OFF position.

s 392-075

(14) Apply sealant around the outer edge of the lens assembly (AMM 51-31-01/201).

s 942-076

(15) Remove the attach lanyard from the horizontal stabilizer.

s 862-077

- (16) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) Overhead Circuit Breaker Panel, P7
    - 1) 7EO7, STAB TRIM S/O LEFT
    - 2) 7E20, STAB TRIM S/O RIGHT

s 862-078

(17) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the ON position.

EFFECTIVITY-

33-45-00

ALL



s 862-079

(18) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

TASK 33-45-00-002-021

- <u>Logo Light Transformer Replacement</u> (Fig. 201)
  - Equipment
    - (1) 24MIT65B00002 - Attach Lanyard - Saftety Harness Wing/Horizontal Stabilizer
    - (2) Full Body Harness

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- В. References
  - (1) AMM 20-11-29/201, Seals on Open Electrical Terminals in Fuel Vapor
  - (2) AMM 24-22-00/201, Manual Control
- C. Access
  - (1) Location Zone

222 Control Cabin, Right 334 Horizontal Stabilizer Rear Spar To Trailing Edge, Left 344 Horizontal Stabilizer Rear Spar To Trailing Edge, Right

D. Procedure

s 862-095

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

s 862-096

(2) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the CUTOUT position.

s 862-097

ALL

- (3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) Overhead Circuit Breaker Panel, P7
    - 1) 7EO7, STAB TRIM S/O LEFT

EFFECTIVITY-

33-45-00



- 2) 7E20, STAB TRIM S/O RIGHT
- (b) Aft Center Miscellaneous Circuit Breaker Panel, P84
  - 1) LOGO LIGHTS LEFT
  - 2) LOGO LIGHTS RIGHT

s 942-098

(4) Put on the body harness and attach it to the attach point on the horizontal stabilizer with the attach lanyard.

s 012-099

(5) Open the access panel on the lower surface of the horizontal stabilizer to get access to the transformer.

s 962-053

- (6) Do these steps to replace a transformer:
  - (a) Disconnect the electrical wires connected to the transfomer.

<u>NOTE</u>: Make a note of the routing of the electrical wires to use when you install the new transformer.

- (b) Remove the fasteners that hold the transformer to the mounting bracket and remove the transformer.
- (c) Hold the replacement transformer to the mounting bracket while you install the fasteners.
- (d) Connect the electrical wires to the transformer.

WARNING: MAKE SURE YOU SEAL EACH BARE ELECTRICAL CONNECTION NEAR THE LIGHT TO PREVENT AN EXPLOSION OF THE FUEL FUMES. AN EXPLOSION CAN CAUSE INJURY TO PERSONS AND DAMAGE TO EQUIPMENT.

(e) Seal each electrical connection (AMM 20-11-29/201).

s 712-049

ALL

- (7) Do these steps to test the new transformer:
  - (a) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - 1) Aft Center Miscellaneous Circuit Breaker Panel, P84
      - a) LOGO LIGHTS LEFT
      - b) LOGO LIGHTS RIGHT
  - (b) On the pilot's overhead panel, P5, push the LOGO switch to the ON position.
  - (c) Make sure that the logo lights connected to the transformer come on.
  - (d) Push the LOGO switch to the OFF position.

EFFECTIVITY-

33-45-00



s 412-054

(8) Close the access panel on the lower surface of the horizontal stabilizer.

s 942-100

(9) Disconnect the attach lanyard from the horizontal stabilizer.

s 862-101

- (10) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) Overhead Circuit Breaker Panel, P7
    - 1) 7EO7, STAB TRIM S/O LEFT
    - 2) 7E20, STAB TRIM S/O RIGHT

s 862-102

(11) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the ON position.

s 862-103

(12) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

TASK 33-45-00-712-080

- 5. Logo Lights Operational Test
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
  - B. Access
    - (1) Location Zones

222 Control Cabin, Right

C. Procedure

s 862-081

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

s 712-082

- (2) Do these steps to test the logo lights:
  - (a) On the pilot's overhead panel, P5, push the LOGO switch to the ON position.
  - (b) Make sure that all four logo lights come on.
  - (c) Push the LOGO switch to the OFF position.
  - (d) Make sure that all four logo lights go off.

s 862-083

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

EFFECTIVITY-

33-45-00



TASK 33-45-00-822-058

- 6. Logo Light Light Beam Adjustment (Fig. 201)
  - A. Equipment
    - (1) 24MIT65B00002 Attach Lanyard Saftety Harness Wing/Horizontal Stabilizer
    - (2) Full Body Harness

D.B. Industries 3965 Pepin Avenue Redwing, MN 55066-1837 Phone: (612) 388-8282

- (3) Sealing Gun
- (4) Spatula
- B. References
  - (1) AMM 24-22-00/201, Manual Control
  - (2) AMM 51-31-01/201, Seals and Sealing
- C. Access
  - (1) Location Zone

222 Control Cabin, Right 334 Horizontal Stabilizer Rear Spar To Trailing Edge, Left 344 Horizontal Stabilizer Rear Spar To Trailing Edge, Right

- D. Procedure
  - s 862-104
  - (1) Supply electrical power (AMM 24-22-00/201).
    - s 862-105
  - (2) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the CUTOUT position.
    - s 862-106
  - (3) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) Overhead Circuit Breaker Panel, P7
      - 1) 7EO7, STAB TRIM S/O LEFT
      - 2) 7E20, STAB TRIM S/O RIGHT

EFFECTIVITY-

33-45-00

ALL

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- (b) Aft Center Miscellaneous Circuit Breaker Panel, P84
  - 1) LOGO LIGHTS LEFT
  - 2) LOGO LIGHTS RIGHT

s 942-107

(4) Put on the body harness and attach it to the attach point on the horizontal stabilizer with the attach lanyard.

s 012-108

(5) Remove the six mounting screws from the lens retainer.

NOTE: Do not remove the four fasteners on the lens retainer.

(a) Pull out the lens assembly and put it to the side.

NOTE: Do not remove the lanyard.

s 822-056

- (6) Do these steps to adjust the logo light beam:
  - (a) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - 1) Aft Center Miscellaneous Circuit Breaker Panel, P84
      - a) LOGO LIGHTS LEFT
      - b) LOGO LIGHTS RIGHT
  - (b) On the pilot's overhead panel, P5, push the LOGO switch to the ON position.
  - (c) Turn the two adjustment screws as necessary to point the light beam on the center of the logo.
  - (d) Push the LOGO switch to the OFF position.

s 412-057

(7) Install the lens assembly with the six mounting screws.

s 392-109

(8) Apply sealant around the outer edge of the lens assembly (AMM 51-31-01/201).

s 942-110

(9) Disconnect the attach lanyard from the horizontal stabilizer.

s 862-111

- (10) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) Overhead Circuit Breaker Panel, P7
    - 1) 7EO7, STAB TRIM S/O LEFT
    - 2) 7E20, STAB TRIM S/O RIGHT

s 862-112

ALL

(11) On the pilot's control stand panel, P8, set the STAB TRIM 2 switch and the STAB TRIM 3 switch to the ON position.

EFFECTIVITY-

33-45-00



s 862-113

(12) Remove electrical power if it is not necessary for other tasks (AMM 24-22-00/201).

EFFECTIVITY-

ALL

33-45-00

01

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### AREA LIGHTS - DESCRIPTION AND OPERATION

### 1. General

- A. Three light assemblies are mounted on the fuselage to illuminate airport ramp areas adjacent to each of the lower cargo doors. Area light assemblies are located on the exterior fuselage as follows:
  - (1) Aft of the lower forward cargo door No. 1.
  - (2) Forward of lower cargo door No. 2.
  - (3) Aft of the bulk cargo door.
- B. Each light assembly is provided with a control switch. Switches for area lights of cargo doors 1 and 2 are located in the exterior recessed control box adjacent to each door. The switch for the bulk cargo door area light is installed inside the forward edge of the bulk cargo door frame.
- C. Each light assembly consists of a step-down transformer and a sealed beam lamp mounted behind a heat-resistant glass lens. Relamping is accomplished by removing the lens from the exterior side of the fuselage.
- D. Area light assembly transformers are installed on the outside surface of the light housing. Access to the transformer is accomplished from the interior of the cargo area.
- E. The 115 volt ac ground handling bus supplies power to the light assembly transformer. 28 volts ac is tapped off the transformer to provide power to the seal beam lamp.
- F. For more data about this lighting system, refer to these sources:
  - (1) SSM 33-46-01 thru 33-46-99
  - (2) WDM 33-46-11 thru 33-46-99



# AREA LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure contains a task for the replacement of the lamps in the area lights.

TASK 33-46-00-962-001

- 2. <u>Lamp Replacement</u> (Fig. 201)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) SSM 33-37-30
  - B. Access
    - (1) Location Zone

100 Lower Cargo Doors

C. Procedure

s 212-002

(1) Identify the lamp to be replaced.

s 862-003

- (2) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) P414 Power Distribution Center Panel Left
    - 1) 414C25 FWD CARGO LT
  - (b) P59 Aft Lower Cargo Equipment Panel
    - 1) EXT CARGO AREA LIGHTS

s 032-023

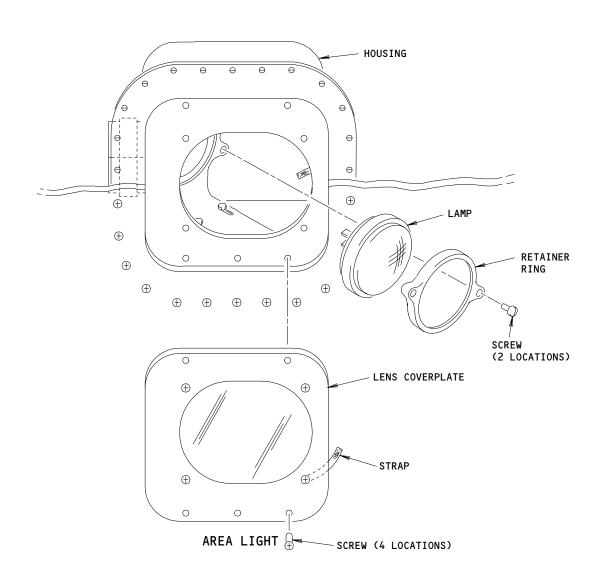
- (3) Remove the lens coverplate.
  - (a) Remove the screws from the outer edge of the lens coverplate.

<u>NOTE</u>: Do not remove the screws from the inner edge of the lens coverplate.

(b) Lift the lens coverplate away from the fuselage.

NOTE: Do not remove the strap from the lens coverplate.





Area Light Lamp Replacement Figure 201

33-46-00

02

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### S 962-024

- (4) Do these steps to replace the lamp:
  - (a) Remove the screws on the retainer ring.
  - (b) Remove the retainer ring.
  - (c) Carefully lift the lamp from the housing to get access to the wires behind the lamp.
  - (d) Disconnect the wires from the lamp.
  - (e) Remove the lamp from the housing.
  - (f) Attach the wires to the replacement lamp.

CAUTION: WHEN YOU INSTALL THE LAMP, MAKE SURE IT IS CORRECTLY ALIGNED AGAINST THE RETAINING RING. THE LAMP CAN BREAK IF YOU DO NOT INSTALL IT CORRECTLY.

- (g) Put the lamp in the housing.
- (h) Replace the retainer ring.
- (i) Install the screws in the retainer ring.

#### s 432-013

- (5) Install the lens coverplate.
  - (a) Hold the lens coverplate in its position.
  - (b) Install the screws on the outer edge of the lens coverplate.

#### s 712-026

- (6) Do these steps to do a test of the replacement lamp:
  - (a) Supply electrical power (Ref 24-22-00/201).
  - (b) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
    - 1) P414 Power Distribution Center Panel Left
      - a) 414C25 FWD CARGO LT
    - 2) P59 Aft Lower Cargo Equipment Panel
      - a) EXT CARGO AREA LIGHTS
  - (c) Put the applicable switch for the replacement lamp to ON.

<u>NOTE</u>: The switches for the area lights can be found adjacent to the cargo doors.

- (d) Make sure the lamp comes on.
- (e) Put the applicable switch for the replacement lamp to OFF.



- (f) Make sure the lamp is off.
- (g) Remove electrical power if it is not necessary (Ref 24-22-00/201).

AIRPLANES WITH CARGO HANDLING AREA LIGHTS



# AREA LIGHT TRANSFORMER - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure contains these tasks:
    - (1) A task for the removal of the transformer for the area lights.
    - (2) A task for the installation of the transformer for the area lights.

TASK 33-46-01-004-001

- 2. <u>Transformer Removal</u> (Fig. 401)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 25-52-01/401, Containerized Cargo Compartment Ceiling and Sidewall Linings
    - (3) 25-52-04/401, Containerized Cargo Compartment Insulation
    - (4) SSM 33-37-30
  - B. Access
    - (1) Location Zone

100 Lower Cargo Compartments, Interior

- C. Procedure
  - S 864-002
  - (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
    - (a) P414 Power Distribution Center Panel Left
      - 1) 414C25 LIGHT FWD CARGO
    - (b) P59 Aft Lower Cargo Equipment Panel
      - 1) CARGO AREA LIGHTS

s 014-003

(2) Remove the adjacent sidewall lining panel (Ref 25-52-01/401).

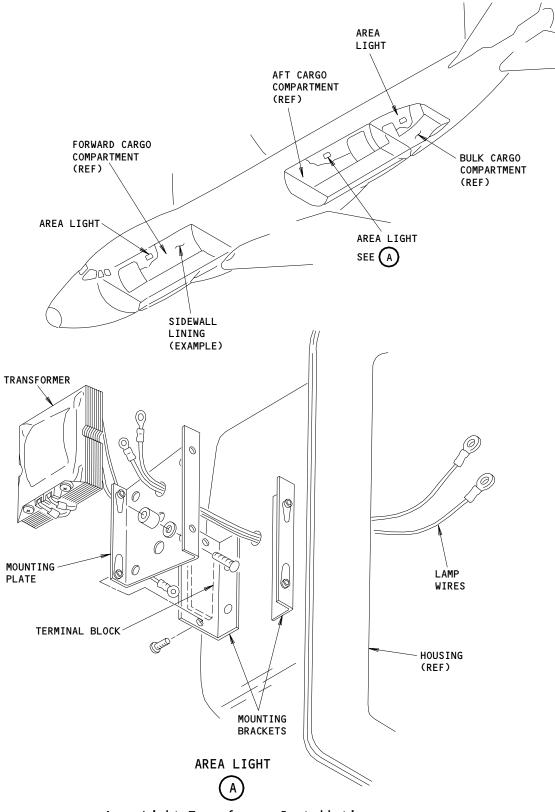
s 014-004

(3) Remove the sidewall insulation material that is necessary to get access to the transformer (Ref 25-52-04/401).

s 024-024

- (4) Do these steps to remove the transformer:
  - (a) Disconnect the lamp and transformer wires from the terminal block on the mounting bracket.





Area Light Transformer Installation Figure 401

33-46-01

02

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- (b) Remove the screws that hold the mounting plate to the mounting brackets.
- (c) Move the mounting plate away from the mounting brackets.
- (d) Remove the screws, washers, and spacers that attach the mounting plate to the transformer.
- (e) Remove the transformer.
- (f) Remove the lamp wires through the hole in the mounting plate.

TASK 33-46-01-404-011

- Transformer Installation (Fig. 401)
  - A. References
    - (1) 24-22-00/201, Manual Control
    - (2) 25-52-01/401, Containerized Cargo Compartment Ceiling and Sidewall Lining
    - (3) 25-52-04/401, Containerized Cargo Compartment Insulation
    - (4) SSM 33-37-30
  - B. Access
    - (1) Location Zone

100 Lower Cargo Compartments, Interior

C. Procedure

S 424-025

- (1) Do these steps to install the transformer:
  - (a) Put the lamp wires through the hole in the mounting plate.
  - (b) Attach the mounting plate to the transformer with the screws, washers, and spacers.
  - (c) Move the mounting plate (with the transformer) between the mounting brackets.
  - (d) Attach the mounting plate (with the transformer) to the mounting brackets with the screws.
  - (e) Connect the lamp and transformer wires to the terminal block on the mounting bracket.

s 414-026

(2) Install the sidewall insulation material (Ref 25-52-04/401).

s 414-017

(3) Install the sidewall lining panel (Ref 25-52-01/401).

s 864-018

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) P414 Power Distribution Center Panel Left
    - 1) 414C25 LIGHT FWD CARGO
  - (b) P59 Aft Lower Cargo Equipment Panel
    - CARGO AREA LIGHTS

s 714-028

- (5) Do these steps to do a test of the replacement transformer:
  - (a) Supply electrical power (Ref 24-22-00/201).

33-46-01



(b) Put the switch for the applicable area light to ON.

 $\underline{\text{NOTE}} \colon$  The switches for the area lights can be found adjacent to the cargo doors.

- (c) Make sure the area light comes on.
- (d) Put the area light switch to OFF.
- (e) Make sure the area light is off.
- (f) Remove electrical power if it is not necessary (Ref 24-22-00/201).



### EMERGENCY LIGHTING - DESCRIPTION AND OPERATION

#### 1. General

- A. Emergency lighting is available give lighting to the interior and exterior areas of the airplane necessary for the crew and passengers to quickly 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 in the flight compartment or the passenger compartment.
- B. Interior emergency lights consist of incandescent lamps that illuminate the passenger aisles, cross aisles, and entryways. Lighted exit signs are located in all the exit areas.
- C. Exterior emergency lights consist of incandescent lamps installed in the doors, door frames, and the exterior to illuminate the emergency escape routes.
- D. Battery operated power packs provide energy for the emergency lights.
- E. Emergency lights are contained in one section.
  - (1) Emergency Lights (AMM 33-51-00/001)

ALL

33-50-00



#### EMERGENCY LIGHTS - DESCRIPTION AND OPERATION

## 1. <u>General</u>

- A. In an electrical power failure, the emergency lights give lighting for the crew and passengers to quickly get out of the airplane via the emergency exit paths.
- B. The 6 volts dc of electrical power for the emergency lights comes from batteries contained in power supplies. Bus 4 supplies 28 volts dc of electrical power to the control circuit of each power supply to keep its batteries charged.
- C. The pilot can control the electrical emergency lights with a switch on the overhead panel, P5. There is also a switch in the passenger compartment to give the attendants control of the emergency lights.
- D. One upper deck and one main deck emergency power supply is installed in the main equipment center. Both power supplies are kept under constant charge for use as a spare upper deck or main deck power supply.
- E. 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. Overwing Lights

A. Overwing lights are lights installed on the fuselage above each wing. These emergency lights give lighting to the escape areas on the outer side of the airplane.

### 3. Slide Lights

A. A slide light is installed on the fuselage above each upper deck door for outer escape area lighting.

### 4. <u>Ceiling Lights</u>

- A. Ceiling lights give escape path lighting from above on the inner side of the airplane. There are ceiling lights in the flight compartment and passenger compartment.
- B. The ceiling lights are also referred to as aisle, crew, overdoor, and entryway lights.
- C. One type of light only contains a lamp. Electrical power is supplied with a separate power supply. The other type of light is a module that contains two incandescent lamps and a power supply.
- D. The other type of light is a module that has two incandescent lamps and a power supply. The lamps are connected in parallel to a power supply. The power supply contains nickel cadmium batteries and a solid-state printed circuit card logic assembly.

# 5. Floor Proximity Lights

- A. Floor proximity emergency lights identify the aisles, stairway, and exits of the passenger compartments.
  - (1) Aisle locator lights are installed in floor tracks along the main and upper deck aisles.
  - (2) Exit locator lights are installed along the stairway.
  - (3) Exit indicator signs are installed near the floor adjacent to each door.

33-51-00



B. Each electroluminescent floor proximity light operates with 115 volts ac from its inverter. The inverter changes the 6 volts dc from its power supply to 115 volts ac.

# 6. <u>Door (Slide) Lights</u>

- A. Emergency light modules are installed on the inner side of each of the passenger compartment doors. The lights give lighting to the emergency evacuation slide areas when the doors are opened.
  - (1) One type of light only contains a lamp. Electrical power is supplied with a separate power supply. The other type of light is a module that contains two incandescent lamps and a power supply.
- B. Each upper deck door has two emergency lights in the top of the door frame. These lights give lighting to the outer escape path when the door is opened.
  - (1) Each light is hinged and goes up into a stowed position to provide maximum door opening if required for maintenance purposes. Each light is equipped with two quick release fasteners. One secures the light in the stowed (raised) position. The other fastener secures the light in the normal (extended) position. A green band on the light assembly is provided for visually checking that the light is in the normal (extended) position for airplane operation. The green band may be visually checked with the door opened or closed.
    Openings in the top of the door permit light check with door closed.

NOTE: The light must be secured in the normal (extended) position and the green band visible for airplane operation.

### 7. Door (Sill) Lights

A. One or two emergency lights are installed in the upper frame of each main deck door. These lights give lighting to the doorway.

# 8. Exit Signs

- A. In an electrical power failure, the exit signs show the location of the doors to the passengers and the crew.
  - (1) There is an exit sign above each door.
  - (2) There are also exit signs which point to the doors. These signs are installed near the ceiling above or adjacent to the aisle.

33-51-00



- B. The lamps in the electrically lighted exit signs operate with the 6 volts of electrical power from the emergency light batteries.
- C. AIRPLANES WITH SELF-ILLUMINATED EXIT SIGNS; The lighting for each self-illuminated exit sign comes from a radioactive material.
  - (1) These signs are always on. You cannot make these lights go off with the emergency lights switch.
  - (2) Each sign is a plastic container that holds capsules filled with radioactive tritium gas.
  - (3) 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 breathe the gas or to absorb the gas through the skin. There are special procedures to replace and discard these signs (AMM 33-51-01/201).

### 9. Pilot's Switch

- A. The pilot's switch for the emergency lights is on the overhead panel, P5. This switch gives the primary control of the emergency lights.
  - (1) In the on position, the emergency lights are on.
    - (a) An >EMER LIGHTS advisory message shows on the main EICAS display.
  - (2) In the armed position, the emergency lights come on automatically if there is an electrical power failure. The emergency lights can be operated manually with the attendant's switch.
    - (a) An >EMER LIGHTS advisory message shows on the main EICAS display if the attendant's switch is used to make the emergency lights come on.
  - (3) In the off position, the emergency lights are off unless the attendant's switch is set to the on position.
    - (a) An >EMER LIGHTS advisory message shows on the main EICAS display.

# 10. Attendant's Switch

- A. The attendant's switch for the emergency lights is on an attendant's panel or adjacent attendant's handset in the forward area of the passenger compartment on the main deck. This switch gives the secondary control of the emergency lights.
  - (1) In the on position, the emergency lights are on.
    - (a) You cannot make the emergency lights go off with the pilot's switch. You must first set the attendant's switch to the off position.

EFFECTIVITY-

33-51-00



- (2) In the normal position, the emergency lights come on automatically if there is an electrical power failure.
  - (a) The pilot's switch must be set to the armed position.

# 11. Power Supplies

- A. The circuitry of each power supply consists of a logic light control circuit and a battery charging control circuit. The prime purpose of the logic circuit is to sense power failure and to make the emergency lights come on. The logic circuit also senses pilots' or attendants' switch directions. The battery charging control circuit provides a trickle charge to the batteries as long as power is available and controls battery discharge cut-off to prevent batteries from completely discharging and reversing polarity. The batteries in the power supply provide 6 volts dc of electrical power to the emergency lights connected to it.
- B. The 6 volts dc is changed to 115 volts ac for electroluminescent emergency lights with an inverter.

### 12. Operation

- A. Functional Description
  - (1) The 28-volt DC-Bus 4 supplies charging power to maintain batteries in the emergency lights power units. The emergency light lamps always receive their power from the emergency power unit batteries as do the emergency lamps in each lighted EXIT sign. Circuit breakers are located on the electrical circuit breaker panel P7.
  - (2) Each emergency light power unit contains a double ground seeking logic circuit that activates a relay or a transistor switch to turn the lights on and off. The power for each logic circuit is derived from the power pack and is independent of airplane power.
  - (3) The logic driver provides a ground circuit or logic zero to the transistor switch or relay to turn the lights on. Inversely it provides an open circuit or logic one to turn the lights off. The inputs to the logic circuit are initiated by the emergency lights switch settings (pilots' and attendant's switches) and the 28-volt DC-Bus 4 power status.

#### B. Control

- (1) Primary control of the emergency lights is with the pilot's switch.
  - (a) When the switch is set to the armed position, the power supplies are supplied with electrical power to keep their batteries charged. This 28 volts dc of electrical power comes from Bus 4. The emergency lights come on if there is an electrical power failure of Bus 4 or the attendant's switch is set to on. The armed position of the switch is the usual position during the operation of the airplane.

 33-51-00



- (b) When the switch is set to the on position, the emergency lights will come on. The emergency lights operate directly from the batteries. It is not necessary to have the electrical power from Bus 4.
- (c) When the switch is set to the off position and the attendant's switch is set to normal, the emergency lights are off. If the attendant's switch is set to on, then the emergency lights come on. When the pilot's switch is set to the off position and there is electrical power at Bus 4, then the power supplies will continue to charge their batteries. The pilot's switch is usually in the off position when the airplane is parked.
- (2) Secondary control of the emergency lights is with the attendant's switch.
  - (a) When the switch is in the normal position, it supplies a ground for the pilots' switch. Control of the emergency lights remains with the pilot's switch.
  - (b) When the switch is set to the on position, the emergency lights come on. It is not necessary to have the electrical power from Bus 4.
- C. Airplane Storage
  - (1) For periods up to six days of storage, no special procedures are required if emergency light system was completely charged at the beginning of storage period and no operation had occurred during storage.
  - CAUTION: IF POWER HAS NOT BEEN APPLIED TO INSTALLED EMERGENCY LIGHT SYSTEM DURING A LAYUP OF SIX DAYS OR MORE, AVOID TURNING ON ANY ASSEMBLY FOR A MINIMUM OF 16 HOURS AFTER APPLICATION OF POWER, AND 20 HOURS OR MORE IS DESIRABLE BEFORE PERFORMING A SYSTEM FUNCTIONAL TEST.
  - (2) For periods over six days of storage, or if emergency light system was not fully charged at beginning of storage, or the light was operated during storage, charge emergency light system for 16 to 20 hours before operation.

EFFECTIVITY-

33-51-00



# **EMERGENCY LIGHTS**

COMPONENT*	FIG. 102 SHT	QTY *	ACCESS/AREA	AMM REFERENCE
CIRCUIT BREAKER - COMPUTER - EICAS (FIM 31-61-00/101) LIGHT -			FLT COMPT, P7 MAIN EQUIP CTR	*
CEILING	2,3		FLT COMPT AND PASS. COMPT	33-51-07
DOOR (SILL)	2		PASS. COMPT	33-51-05
DOOR (SLIDE)	2		PASS. COMPT	33-51-06
FLOOR PROXIMITY				
AISLE LOCATOR LIGHT	4		PASS. COMPT	33-51-12
EXIT INDICATOR SIGN	4		PASS. COMPT	33-51-12
OVERWING	1		FUSELAGE	33-51-03
SLIDE	1		FUSELAGE	33-51-10
SIGN -				
EXIT	3		PASS. COMPT	33-51-03
SELF-ILLUMINATED EXIT 1	3		PASS. COMPT	33-51-03
SUPPLY - POWER	3		PASS. COMPT	33-51-04
SWITCH -				
ATTENDANT'S	3		PASS. COMPT	*
PILOT'S	1		FLT COMPT	*

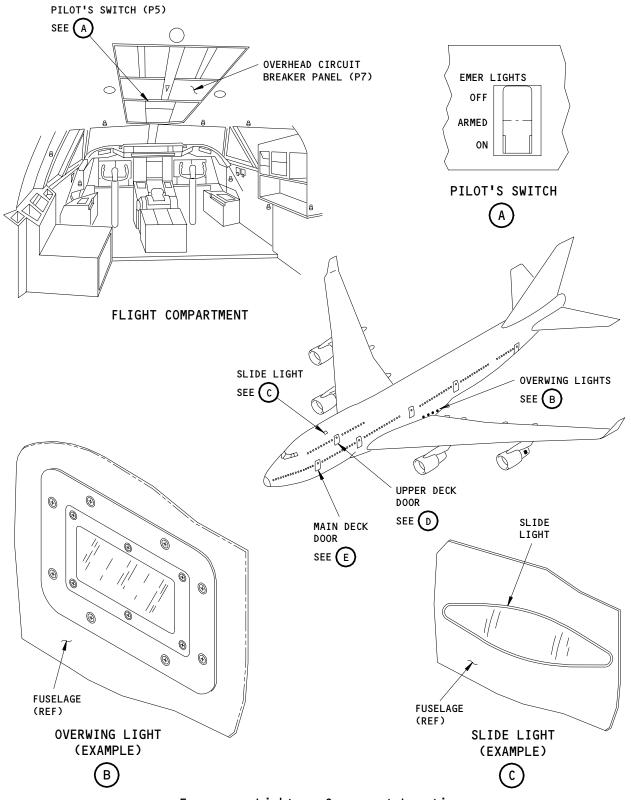
<sup>\*</sup> SEE THE WDM OR SSM FOR THE EQUIPMENT NUMBER, QUANTITY, AND LOCATION OF EACH COMPONENT IN THE LIGHTING

1 NOT INSTALLED ON ALL AIRPLANES

Emergency Lights - Component Index Figure 101

EFFECTIVITY-ALL 33-51-00





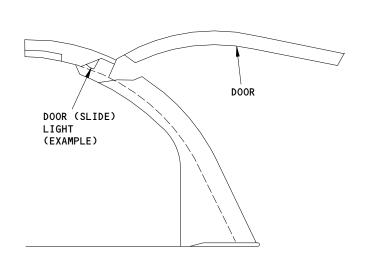
Emergency Lights - Component Location Figure 102 (Sheet 1)

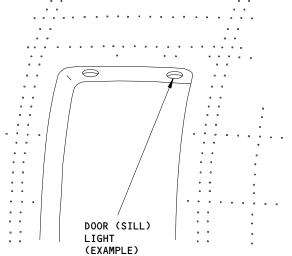
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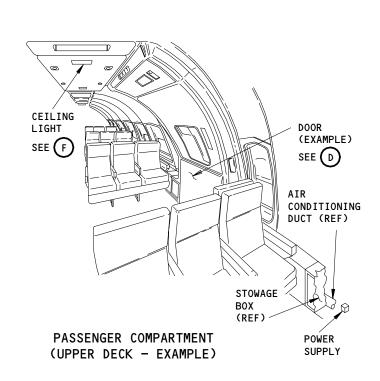


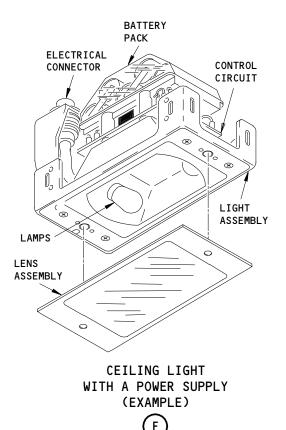
UPPER DECK DOOR (EXAMPLE)

(D)

MAIN DECK DOORWAY
(EXAMPLE)







Emergency Lights - Component Location Figure 102 (Sheet 2)

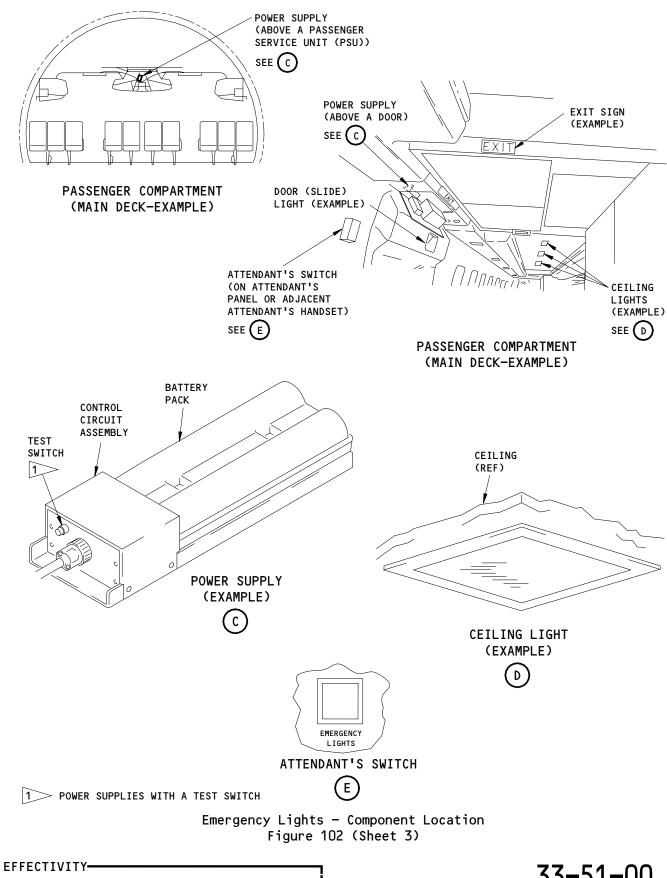
33-51-00

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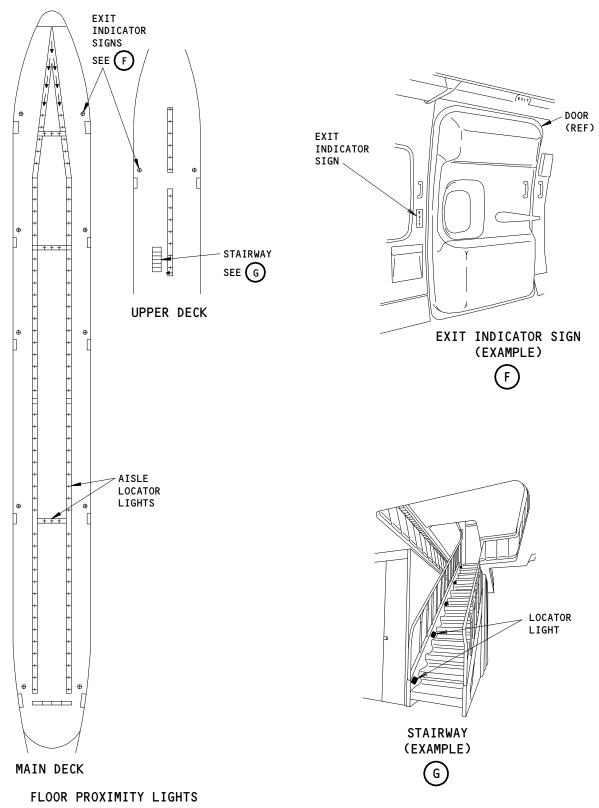
# FAULT ISOLATION/MAINT MANUAL



c79906

ALL





Emergency Lights - Component Location Figure 102 (Sheet 4)

754480

33-51-00

02

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#### EMERGENCY LIGHTS - FAULT ISOLATION

## 1. <u>General</u>

- A. The fault isolation diagrams were made from two basic conditions:
  - (1) That the airplane wire bundles are correctly installed.
  - (2) And that electrical power is supplied to the airplane.
- B. If the diagram instructions do not correct the malfunction, use the wire diagram manual to check applicable airplane wires.
- C. Check replaced components for correct operation before parts are installed over it.
- D. Check that 28 Volts dc charge power is available from the wire bundle connector before replacement of a power supply.
- E. Before doing a fault isolation task, do a visual check of the defective light and its installation. Look for apparant mechanical damage or unusual conditions in the general area of the light.

# 2. Fault Isolation Data

- A. Emergency lights will come on if one or more of these conditions occur:
  - (1) The pilots emergency light switch is set to the ON position.
  - (2) The attendants emergency light switch is set to the on position.
  - (3) The pilots emergency light switch is set to the armed position and the power supplied to emergency light charge circuits is removed.
- B. Each emergency light power supply has an electrical connector with pins 2, 3, and 4 used as follows:
  - (1) Pin 2 connects 28 Volts dc charge power to the power supply.
  - (2) Pin 3 connects the light control switch to the power supply.
  - (3) Pin 4 connects the light control switch to the power supply.
- C. The emergency light system is made up of many light groups connected together. Failure of one light group and not others may supply data about the cause of emergency light failure. See if the light failure may be related to how the light system is put together. Some examples of how the emergency light system is assembled are:
  - (1) The 28 Volts charge power for emergency light battery's is supplied by two circuit breakers on the P7 Overhead Circuit Breaker Panel.
    - (a) One circuit breaker supplies 28 Volts dc to forward zones A, B, C, and the upper deck.
    - (b) A second circuit breaker supplies 28 Volts dc to aft zones D and E.
  - (2) Control wires from pin 4 of the power supplies are connected to two contacts on the emergency light control switch. Failure of one or the other switch contact will cause incorrect light operation.
  - (3) Control wires from pin 3 of the power supplies are divided into 5 groups. These groups are electrically isolated from each other by 5 diodes at the pilots emergency light switch. The other side of the diodes are connected together and to one contact on the emergency light switch. Failure of this switch contact will cause incorrect light operation. Failure of a diode may also cause incorrect light operation.
  - (4) Pin 3 control groups are divided into these general areas:
    - (a) Zone A and upper deck.
    - (b) Zones B and D right.
    - (c) Zones B and D left.

 33-51-00



- (d) Zones C and E right.
- (e) Zones C and E left.
- (5) Lights installed in the upper frame of the main entry doors receive power from power supplys in the overdoor fairing. Door 3 mounted lights left and right also receive power from power supplys in the overdoor fairing.
- (6) The slide lights are mounted on doors 1, 2, 4, and 5 left and right. Each slide light module contains a light and power supply.
- (7) An upper deck module with light and power supply has an external output. The external output is used for a second light at some other location.
- (8) All other emergency lights receive power from power supply modules that are not attached to the light assembly. One module may supply power for three or four different types of emergency lights. Refer to SSM 33-51-02 for power supply load details.
- (9) Modules that contain only a power supply have fuses that can be replaced in the airplane. These fuses can be seen and replaced if the supply battery pack is removed. Modules that contain a power supply and light do not have fuses that can be replaced in the airplane.

## 3. Fault Isolation Procedures

Figure 103	Emergency Light Problems
Figure 104	Emergency Light with External Power Supplies - Problems
Figure 105	Emergency Lights with Self Contained Power Supplies - Problems

EFFECTIVITY-

## **PREREQUISITES**

MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 7G14,7G15

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)

EMERGENCY LIGHT PROBLEMS

1 AT THE P5 PANEL, SET THE PILOT'S EMERGENCY LIGHTS SWITCH TO THE "ON" POSITION.

ARE SOME EMERGENCY LIGHTS

ON?

YES

SEE SHEET 2
(BLOCK 2)

10 SET THE PILOT'S EMERGENCY LIGHTS SWITCH TO THE "OFF" POSITION.

OPEN THESE CIRCUIT BREAKERS ON THE P7 OVERHEAD CIRCUIT BREAKER PANEL (SSM 33-51-01):

7G14, EMER LTS FWD 7G15, EMER LTS AFT

DISCONNECT ONE EMER LIGHT
POWER SUPPLY FROM ITS
ELECTRICAL CONNECTOR.
PREPARE TO MEASURE
RESISTANCE BETWEEN PINS 3 AND

RESISTANCE BETWEEN PINS 3 AND 1 (GROUND) OF THE WIRE BUNDLE CONNECTOR. SET THE PILOT'S EMERGENCY

LIGHTS SWITCH TO THE "ARMED"
AND TO THE "ON" POSITIONS.
MONITOR RESISTANCE
INDICATION AT ALL THREE
POSITIONS. THEN MOVE THE
SWITCH TO "OFF" POSITION.
DID THE RESISTANCE
INDICATION CHANGE FROM
CONTINUITY IN POSITION "OFF"
TO NO CONTINUITY IN SWITCH

POSITIONS "ARMED" AND "ON"?

20 IF ONE OR MORE OF THE CONTINUITY INDICATIONS FAILED, REPLACE THE PILOT'S EMERGENCY LIGHTS SWITCH (AMM 26-10-02/401).

YES

CONSERVE BATTERY CHARGE. KEEP THE EMERGENCY LIGHT OPERATION TO MINIMUM TIME NECESSARY.

20A IDENTIFY AND LOCATE THE
POWER SUPPLY CONNECTED TO EACH
EMERGENCY LIGHT THAT DID NOT
COME ON (SSM 33-51-02).
FOR LIGHTS THAT USE AN
EXTERNAL POWER SUPPLY, DO
FIG. 104.

FOR LIGHTS THAT HAVE A SELF-CONTAINED POWER SUPPLY, DO FIG. 105.

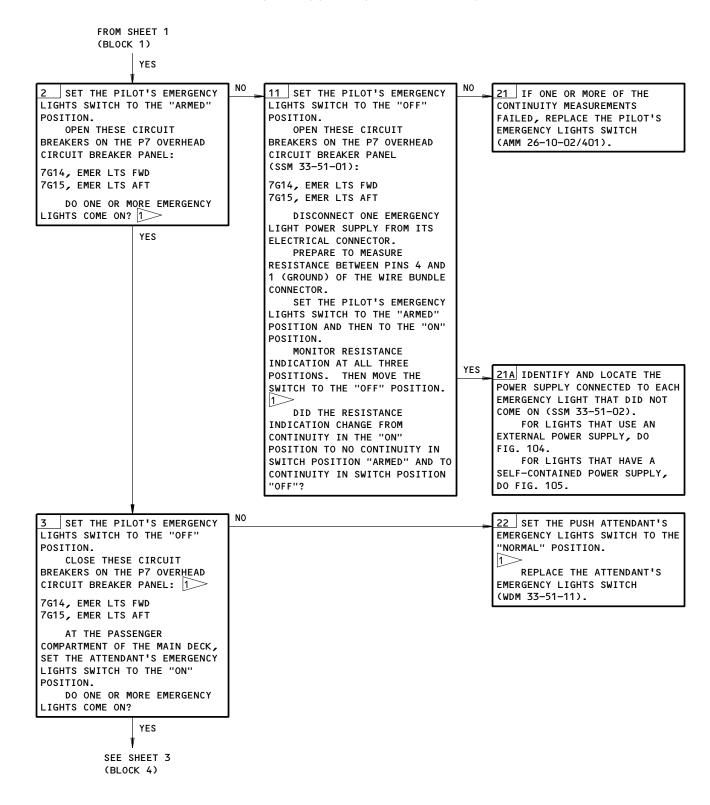
Emergency Light Problems Figure 103 (Sheet 1)

EFFECTIVITY-

33-51-00

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**Emergency Light Problems** Figure 103 (Sheet 2)

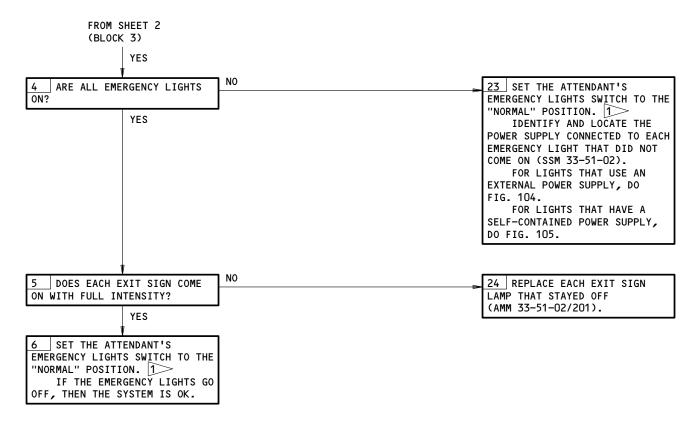
EFFECTIVITY-ALL

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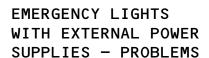




Emergency Light Problems Figure 103 (Sheet 3)

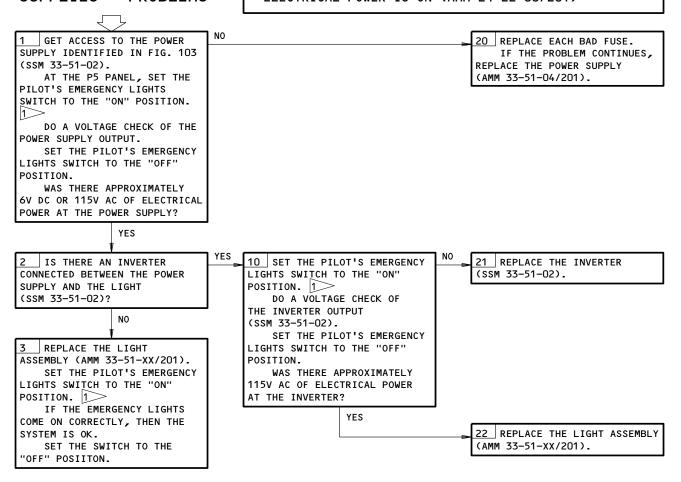


**PREREQUISITES** 



MAKE SURE THESE CIRCUIT BREAKERS ARE CLOSED: 7G14, 7G15

MAKE SURE THE AIRPLANE IS IN THIS CONFIGURATION: ELECTRICAL POWER IS ON (AMM 24-22-00/201)



1 CONSERVE BATTERY CHARGE. KEEP THE EMERGENCY LIGHT OPERATION TO MINIMUM TIME NECESSARY.

Emergency Lights with External Power Supplies - Problems
Figure 104

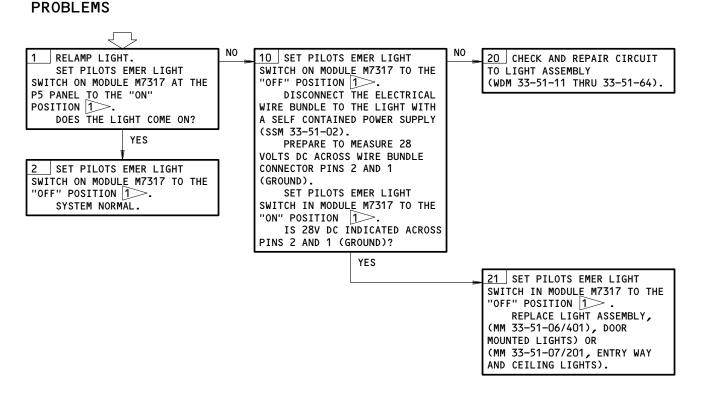


**EMERGENCY LIGHTS** WITH SELF-CONTAINED POWER SUPPLIES -

## **PREREQUISITES**

ELECTRICAL POWER (MM 24-22-00/201)

CB'S: 7G14,7G15



> CONSERVE BATTERY CHARGE, KEEP THE EMERGENCY LIGHT OPERATION TO MINIMUM TIME NECESSARY.

> Emergency Lights with Self-Contained Power Supplies - Problems Figure 105

EFFECTIVITY-ALL

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## EMERGENCY LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure contains these tasks:
    - (1) Disconnect an electrical connector.
    - (2) Connect an electrical connector.

TASK 33-51-00-032-001

- 2. <u>Disconnect an Electrical Connector</u>
  - A. References
    - (1) SSM 33-51
    - (2) WDM 33-51
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 212-002

(1) Refer to the SSM or WDM for the location of the connectors.

s 032-004

(2) Disconnect the electrical connector.

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (a) Make sure no emergency lights come on.
  - 1) If emergency lights come on, then quickly do one of these steps to make those lights go off:
    - a) Ground the applicable pins of the electrical connector (SSM 33-51 or WDM 33-51).
    - b) Disconnect the electrical connector between the lights that are on and their power supply.

EFFECTIVITY-

ALL



TASK 33-51-00-432-006

- 3. <u>Connect the Electrical Connector</u>
  - A. References
    - (1) AMM 33-51-00/501, Emergency Lights
    - (2) SSM 33-51
    - (3) WDM 33-51
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 432-007

(1) If you grounded the electrical connector, then remove the ground wires.

s 432-011

(2) Connect the electrical connector.

s 862-008

(3) Do the system test of the emergency lights (AMM 33-51-00/501).

EFFECTIVITY-

ALL

33-51-00



## EMERGENCY LIGHTS - ADJUSTMENT/TEST

- 1. General
  - A. This procedure contains these tasks:
    - (1) Emergency Lights Operational Test with the Pilot's Switch
    - (2) Emergency Lights Functional Test
    - (3) Emergency Lights System Test
  - B. This procedure is not for self-illuminated exit signs. A self-illuminated exit signs is always on.

TASK 33-51-00-715-001

- 2. Emergency Lights Operational Test with the Pilot's Switch
  - 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. Procedure

s 715-019

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (1) At the overhead panel, P5, set the switch for the emergency lights to the on position.
  - (a) Quickly make sure the emergency lights come on.
    - Quickly examine emergency lights on each side of the airplane.

NOTE: This test is to make sure the system operates.

It is not necessary to examine each emergency light.

EFFECTIVITY-

ALL

33-51-00

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2) AIRPLANES WITH FLOOR PROXIMITY LIGHTS; quickly examine the emergency lights on each side of the floor.

s 715-103

- (2) Set the switch to the off position.
  - (a) Make sure the emergency lights go off.

TASK 33-51-00-715-105

- Emergency Lights Operational Test With The Pilot's Switch And The Attendant's Switch
  - A. References
    - (1) AMM 24-22-00/201, Manual Control
  - B. Access
    - (1) Location Zone

200 Passenger Compartment

C. Procedure

s 865-033

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

s 865-095

- (2) At the overhead panel, P5, make sure the pilot's emergency lights switch is set to the off position.
  - (a) Make sure >EMER LIGHTS shows on the primary EICAS display.

s 715-106

ALL

- (3) Do the test:
  - (a) Push RCL on the display select panel.
    - 1) Make sure >EMER LIGHTS shows on the primary EICAS display.
      - a) If >EMER LIGHTS does not show on the primary EICAS display, push CANC on the P10 panel (as many times as it is necessary) until >EMER LIGHTS shows.

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

EFFECTIVITY-

33-51-00



- (b) Set the pilot's switch to the on position.
  - 1) Make sure >EMER LIGHTS shows on the primary EICAS display.
    - a) If >EMER LIGHTS does not show on the primary EICAS display, push CANC on the P10 panel (as many times as it is necessary) until >EMER LIGHTS shows.
  - 2) Make sure all the emergency lights come on.
- (c) Set the pilot's switch to the armed position.
  - Make sure >EMER LIGHTS does not show on the primary EICAS display.
    - a) If >EMER LIGHTS shows on the primary EICAS display, push RCL and CANC on the P10 panel (as many times as it is necessary) until >EMER LIGHTS does not show.
  - 2) Make sure all emergency lights go off.

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (d) Open each applicable EMER LTS circuit breaker and attach the DO-NOT-CLOSE tag:
  - 1) On the power distribution panel, P7.
    - a) Make sure all the emergency lights come on.
- (e) Remove each DO-NOT-CLOSE tag.
- (f) Close each circuit breaker that was opened.
  - 1) Make sure all emergency lights go off.

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (g) In the passenger compartment of the main deck, set the attendant's emergency lights switch to the on position.
  - 1) Make sure the light in the switch comes on.

EFFECTIVITY-

ALL

33-51-00



- 2) Make sure all the emergency lights come on.
- 3) Make sure >EMER LIGHTS shows on the primary EICAS display.
  - a) If >EMER LIGHTS does not show on the primary EICAS display, push CANC on the P10 panel (as many times as it is necessary) until >EMER LIGHTS shows.
- Set the pilot's switch to the armed position.
  - 1) Make sure all the emergency lights stay on.
- Set the pilot's switch to the off position.
  - 1) Make sure all the emergency lights stay on.
- Set the pilot's emergency lights switch to the on position.
  - 1) Make sure all emergency lights stay on.
- Set the pilot's switch to the armed position. (k)
- Set the attendant's switch to the normal position.
  - 1) Make sure the light in the switch goes off.
  - 2) Make sure >EMER LIGHTS does not show on the primary EICAS display.
    - a) If >EMER LIGHTS shows on the primary EICAS display, push RCL and CANC on the P10 panel (as many times as it is necessary) until >EMER LIGHTS does not show.
  - 3) Make sure all the emergency lights go off.
- (m) Set the pilot's switch to the off position.

S 865-063

(4) Continue to supply power to the emergency lights system for sufficient time to charge the battery packs for the power supplies.

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

### TASK 33-51-00-735-014

- Emergency Lights System Test
  - References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AMM 33-51-04/201, Power Supply
  - Access B.
    - (1) Location Zone

ALL

200 Passenger Compartment

EFFECTIVITY-

33-51-00



#### C. Procedure

S 865-066

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

s 865-068

(2) At the overhead panel, P5, make sure the pilot's emergency lights switch is set to the off position.

s 735-018

- (3) Do the test:
  - (a) Push RCL on the display select panel, P10.
    - 1) Make sure >EMER LIGHTS shows on the primary EICAS display.
      - a) If >EMER LIGHTS does not show on the primary EICAS display, push CANC on the P10 panel (as many times as it is necessary) until >EMER LIGHTS shows.
  - (b) Set the pilot's switch to the armed position.
    - Make sure >EMER LIGHTS does not show on the primary EICAS display.
      - a) If it is necessary, push RCL and CANC on the P10 panel until you get the necessary condition.
  - (c) Open each applicable EMER LTS circuit breaker and attach DO-NOT-CLOSE tag:
    - 1) On the power distribution panel, P7.
      - a) Write down the time you opened the circuit breakers.
      - b) Make sure all the emergency lights come on.
  - (d) Make sure each emergency light stays on for a minimum of 15 minutes before it goes off.

<u>NOTE</u>: The emergency lights will go off automatically when all available power is released from its battery.

1) Make a note of each emergency light that went off in less than 15 minutes.

CAUTION: KEEP THE EMERGENCY LIGHTS ON UNTIL ALL LIGHTS HAVE GONE OFF OR ONE HOUR HAS GONE BY TO ERASE THE MEMORIES OF THE BATTERIES. THIS ALLOWS THE BATTERIES TO BE CHARGED TO CAPACITY.

2) Keep the emergency lights on until all lights have gone off or one hour has gone by.

EFFECTIVITY-

ALL

33-51-00

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- (e) Remove each DO-NOT CLOSE tag.
- (f) Close each the circuit breaker that was opened.

s 965-098

(4) For each light that did not stay on for 15 minutes, do this task to replace the batteries: Power Supply - Battery Replacement (AMM 33-51-04/201).

S 865-084

(5) Set the pilot's switch to the off position.

S 865-085

CAUTION: SUPPLY ELECTRICAL POWER TO THE AIRPLANE FOR A MINIMUM OF 16
HOURS TO FULLY CHARGE THE BATTERIES BEFORE SUBSEQUENT FLIGHTS.
THE EMERGENCY LIGHTS CANNOT OPERATE CORRECTLY UNTIL THE
BATTERIES ARE CHARGED.

(6) Continue to supply electrical power to the airplane for a minimum of 16 hours after you complete the capacity test.

s 865-086

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

EFFECTIVITY-

ALL

33-51-00



## SELF-ILLUMINATED EXIT SIGNS - MAINTENANCE PRACTICES

### 1. <u>General</u>

- A. This procedure contains these tasks for a self-illuminated exit sign (referred to as the sign).
  - (1) A task to do a functional test of the signs.
  - (2) A task for the removal of the signs.
  - (3) A task for the installation of the signs.
- B. Each sign is always on. It is a plastic container that holds capsules filled with dangerous tritium gas. The gas gives the lighting.
- C. The sign is safe, unless it is broken. If the sign gets a hole or a crack, the radioactive gas can come out.
- D. The radioactive gas can cause injury. It is dangerous to breathe the gas or to permit the gas to be absorbed by your skin. If you break a sign, go away from the sign. Tell other persons to go away from the sign.
- E. Before you go near the damaged sign again, air must flow around the sign for a sufficient time. To make the air flow, operate the air conditioning system on the airplane or a ground system.
- F. During the servicing of the sign, the air you breathe must be continuously changed. This is to give you protection from the radioactive gas, if the sign breaks. Make sure an air conditioning system is on. The air conditioning system can be the one on the airplane or a ground system.
- G. When you remove a sign, put it in a metal container that has no air leaks. Since the sign is radioactive, you must obey the local government regulations about radioactive materials. There are regualtions on how to keep, move, or discard radioactive materials. Keep the container away from persons. Make sure there is a good airflow around the container.
- H. Do not repair a sign. Only the manufacturer of the sign can repair it. You must obey all the applicable government regulations when you send the sign to the manufacturer.
- I. For data on government regulations about radioactive materials, speak or write to a person in one of these groups:
  - (1) The radiation group at your airline.
  - (2) If you are in the United State of America (U.S.A.), the Nuclear Regulatory Commission (NRC)
    - (a) If you are in a state with an agreement with the NRC, then obey the regulations of that state. Get the data about the regulations from a person in one of these groups:
      - 1) The medical group at your airline



- 2) The state health department.
- (b) If you are in a state that does not have an agreement with the NRC, then obey the regulations of the NRC. Get the data about the regulations from a person in one of these groups:
  - 1) The medical group at your airline
  - 2) The NRC Regional Office.
- (3) If you are in another country, the local government.
- (4) If you cannot get the data from your airline group or the government, write or speak to a person in one of these groups:
  - (a) Safety Light Corporation 4150-A Old Berwick Road Bloomsburg, Pennsylvania 17815, U.S.A.

Telephone: (717) 784-4344 Telex: (510) 655-2634

(b) Safety, Health & Radiation Protection Information & Support Services Attention: Larry Proud The Boeing Company P.O. Box 3707, MS 6Y-38 Seattle, Washington 98124-2207, U.S.A.

Emergency Telephone: (206) 393-3053

Fax: (206) 393-3060

TASK 33-51-01-722-001

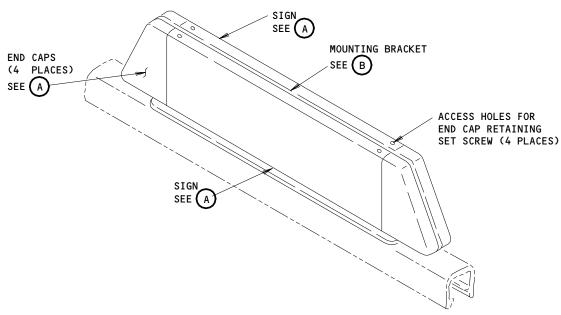
- 2. AIRPLANES WITH A SELF-ILLUMINATED EXIT SIGN; Functional Test (Self-illuminated Sign) (Fig. 201)
  - A. Special Tools and Equipment
    - (1) CAN-DB-45-3 Comparator Self-Powered Lighting, Inc. 8 Westchester Plaza Elmsford, New York 10523-1604 U.S.A.

Telephone: (914) 592-8230

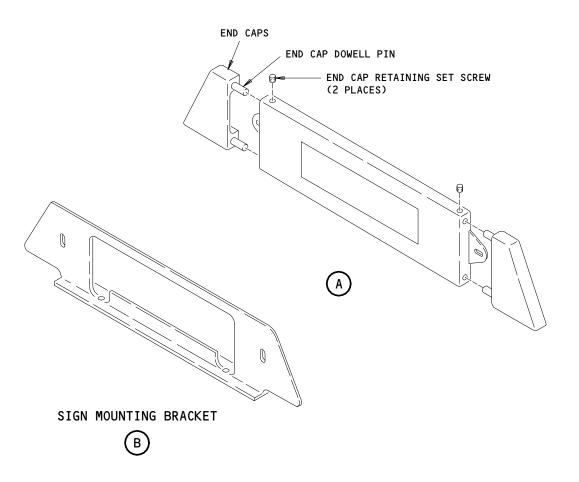
FAX: (914) 592-8435

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.





## CLASS DIVIDER MOUNTED EXIT SIGN



Self Illuminated Exit Sign Installation Figure 201 (Sheet 1)

EFFECTIVITY
AIRPLANES WITH SELF-ILLUMINATING SIGNS

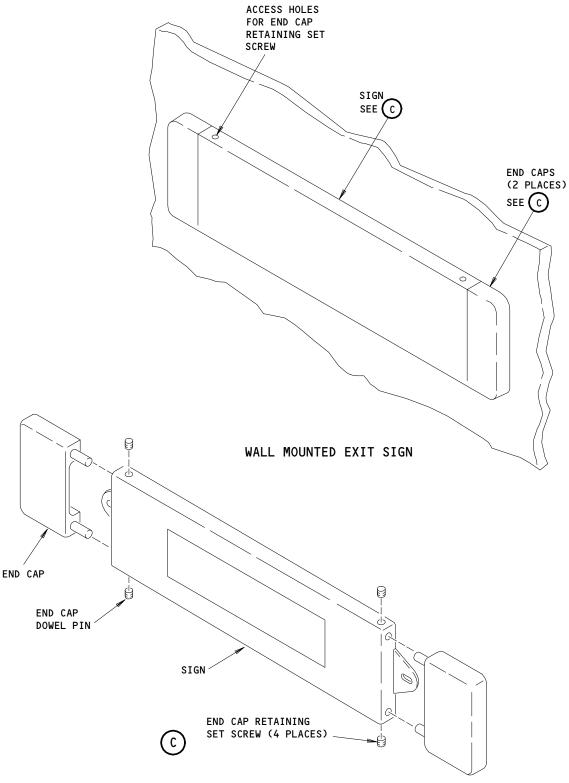
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Self Illuminated Exit Sign Installation Figure 201 (Sheet 2)

EFFECTIVITY-AIRPLANES WITH SELF-ILLUMINATING SIGNS

33-51-01

01

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- B. References
  - (1) IPC 33-51-01
- C. Access
  - (1) Location Zone

200 Passenger Compartment

D. Procedure

s 212-004

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.
    - Do these tasks to replace the sign: "Removal (Self-Illuminated Sign)" and "Installation (Self-Illuminated Sign)".

s 722-003

- (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.
    - Do these tasks to replace the sign: "Removal (Self-Illuminated Sign)" and "Installation (Self-Illuminated Sign)".

TASK 33-51-01-002-005

- 3. Removal (Self-Illuminated Sign)
  - A. Consumable Materials
    - (1) G00000 Gloves, Rubber
    - (2) G00624 Bag, Plastic
    - (3) G00000 Container, airtight metal dry radioactive waste material
    - (4) G00000 Wrapping material, air bubble protective packaging
  - B. References
    - (1) 21-00-00/201, Air Conditioning
    - (2) 21-25-00/001, Recirculation System
    - (3) IPC 33-51-01
  - C. Access
    - (1) Location Zone

200 Passenger Compartment

D. Prepare for the Sign Removal

s 862-006

(1) Make sure that the air conditioning packs are on (Ref 21-00-00/201).



s 862-007

(2) Make sure that the passenger cabin recirculated air is off (Ref 21-25-00/001).

s 032-008

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.

- (3) Get access to the sign fasteners as follows:
  - (a) For signs that are installed on the top of the class divider, loosen the screws on the top edge of the sign.

<u>NOTE</u>: The screws hold the end caps that cover the sign fasteners.

- 1) Do not remove the screws from the sign.
- (b) For the signs that are installed on the wall, loosen the screws on the top and the bottom edges of the sign.
  - 1) Do not remove the screws from the sign.
- (c) Remove the end caps from the sign.

<u>NOTE</u>: When the end caps are removed, you will see the sign fasteners.

E. Remove the Sign

s 022-010

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) If the sign is not damaged, do these steps to remove the sign:
  - (a) Remove the sign fasteners.
  - (b) Remove the sign from the mounting bracket.
  - (c) Wrap the sign in a protective material.



- (d) Put the wrapped sign in the metal container.
- (e) Close and seal the container.

NOTE: Until you can discard the container, keep the container where there is a 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.
- (f) Discard the container.

<u>NOTE</u>: Make sure you obey all local government regulations about radioactive materials.

s 022-009

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.

- (2) If the sign is damaged, do these steps to remove the sign:
  - (a) Remove the sign fasteners.
  - (b) Remove the sign from the bracket.
  - (c) Put the damaged sign in a plastic bag.
  - (d) Keep the plastic bag open, do not close the bag.
  - (e) Immediately remove the damaged sign and the plastic bag from the airplane.
  - (f) Put the plastic bag and the sign in an area that has good air flow and is isolated from other persons.
  - (g) Remove the rubber gloves.
    - 1) Put the rubber gloves in the bag with the sign.
  - (h) Keep the open plastic bag, the sign, and the rubber gloves in the area with good air flow for approximately two hours.
  - (i) After two hours, close the plastic bag.
  - (j) Put the plastic bag with the damaged sign, and the rubber gloves in an airtight metal container.



(k) Close and seal the container.

NOTE: Until you can discard the container, keep the container where there is a good airflow. Keep persons away from the container.

- 1) Make sure the container has a label on its outer side to identify its dangerous radioactive contents.
- (l) Discard the container.

<u>NOTE</u>: Make sure you obey all local government regulations about radioactive materials.

TASK 33-51-01-402-012

- 4. <u>Installation (Self-Illuminated Sign)</u>
  - A. References
    - (1) 21-00-00/201, Air Conditioning
    - (2) 21-25-00/001, Recirculation System
    - (3) IPC 33-51-01
  - B. Access
    - (1) Location Zone

200 Passenger Compartment

C. Procedure

s 862-013

(1) Make sure the air conditioning is on (Ref 21-00-00/201).

s 862-014

(2) Make sure that the passenger cabin recirculated air is off (Ref 21-25-00/001).

s 422-015

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.

- (3) Do these steps to install the sign:
  - (a) Put the sign in its position.
  - (b) Install the fasteners.
  - (c) If it is necessary, set the passenger cabin recirculated air on (Ref 21-25-00/001).
  - (d) If it is not necessary, set the air conditioning packs to off (Ref 21-00-00/201).



## EXIT SIGNS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has this task:
    - (1) Exit Sign Lamp Replacement

TASK 33-51-02-962-001

- 2. Exit Sign Lamp Replacement (Fig. 201)
  - A. References
    - (1) IPC 33-51-02
    - (2) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

s 012-001

- (1) Get access to the lamp.
  - (a) SIGN ON A COVE PANEL ON THE MAIN DECK; Remove the vertical panel above the sign.
  - (b) SIGN ABOVE AN ENTRY DOOR ON THE MAIN DECK;
    Push a rod in the hole on the bottom to release the lens.
  - (c) SIGN ON A COVE PANEL ON THE UPPER DECK; Open the lowered ceiling panel to get access to the rear of the sign.
  - (d) SIGN ABOVE AN UPPER DECK DOOR; Release the fasteners on top of the panel to open the doorway surround that holds the exit sign.
  - (e) SIGN ABOVE THE UPPER DECK AISLE NEAR THE STAIRWAY; Move the lens up.

NOTE: The lens has a hinge on the top edge.

s 962-002

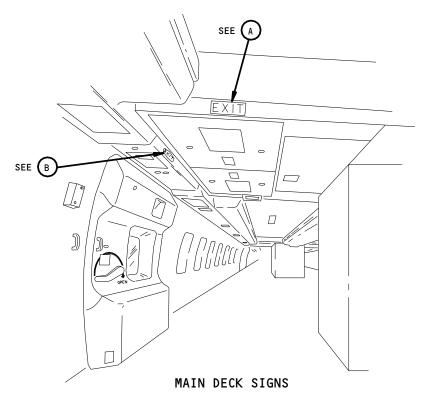
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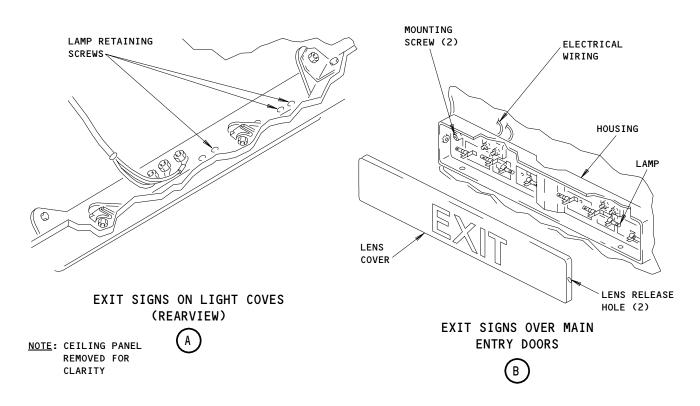
(2) Carefully replace the lamp.

EFFECTIVITY-

33-51-02





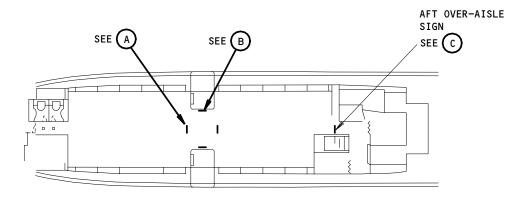


Lighted Exit Sign Relamping Figure 201 (Sheet 1)

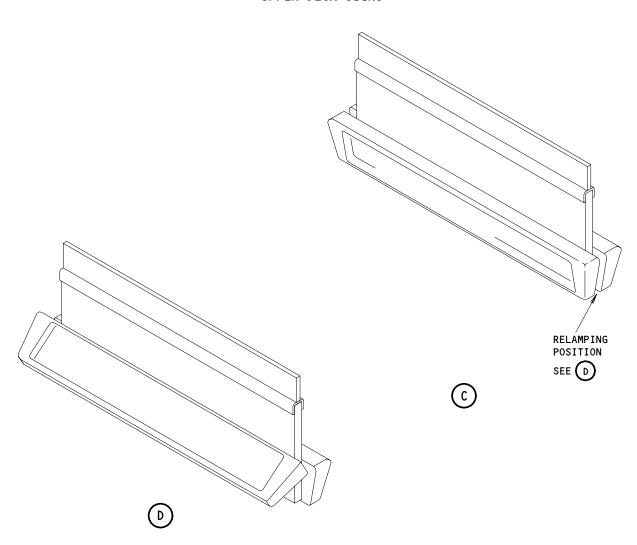
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## UPPER DECK SIGNS



Lighted Exit Sign Relamping Figure 201 (Sheet 2)

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s 412-003

(3) Put back each lens or panel that you opened for access.

D. Lamp Test

s 712-006

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(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 new lamp comes on correctly.

s 862-005

(2) Set the switch to the off position.

(a) Make sure the emergency lights go off.

EFFECTIVITY-

ALL

33-51-02



# OVERWING LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has this task:
    - (1) Overwing Light Lamp Replacement

TASK 33-51-03-962-001

- Overwing Light Lamp Replacement (Fig. 201)
  - A. Consumable Materials
    - (1) G01043 Cloth Clean Dry
  - B. References
    - (1) AMM 24-22-00/201, Manual Control
    - (2) AIPC 33-51-03
    - (3) SSM 33-51-01 and SSM 33-51-02
  - C. Access
    - (1) Location Zone

100 Left and Right Fuselage Exterior Aft of Door 3

D. Lamp Replacement

s 032-015

(1) Remove the mounting screws and remove the lens.

<u>NOTE</u>: The lens assembly is attached to the housing by a cable.

Do not remove the cable.

s 962-016

(2) Carefully replace the lamp.

s 162-017

(3) Clean the lens and the lamp reflector with a soft cloth.

s 432-018

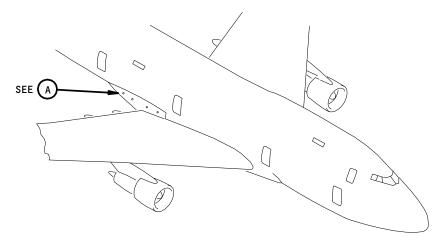
(4) Install the lens with its fasteners.

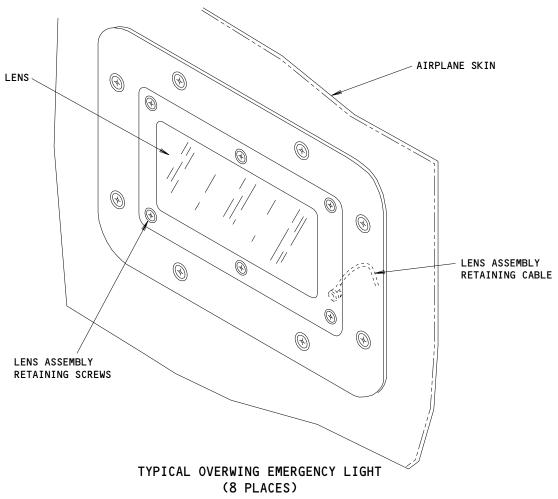
EFFECTIVITY-

33-51-03

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Overwing Emergency Light - Lamp Replacement Figure 201

EFFECTIVITY-ALL

33-51-03

01

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### E. Lamp Test

s 712-019

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (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 new lamp comes on correctly.

s 862-020

- (2) Set the switch to the off position.
  - (a) Make sure the emergency lights go off.

EFFECTIVITY-

ALL



### OVERWING LIGHTS - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure has these tasks:
    - (1) Overwing Light Removal
    - (2) Overwing Light Installation

TASK 33-51-03-004-001

- 2. Overwing Light Removal (Fig. 401)
  - A. References
    - (1) AIPC 33-51-03
    - (2) SSM 33-51-01 and SSM 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage, Exterior

C. Light Assembly Removal

s 864-030

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 024-019

(2) Remove the fasteners (1) and remove the light assembly (2) from the airplane skin.

s 034-020

(3) Disconnect the electrical connector from the light assembly (2).

s 034-021

(4) Disconnect the nut from the ground lug.

s 034-022

(5) Disconnect the ground wire from the light assembly (2).

TASK 33-51-03-404-007

- 3. Overwing Light Installation
  - A. Parts

АММ			AIPC		
FIG	ITEM	NOMENCLATURE	SUBJECT	FIG	ITEM
401	1 2	Light Assembly Mounting Bolts Light Assembly	33-51-03-02	2	75 55

EFFECTIVITY-

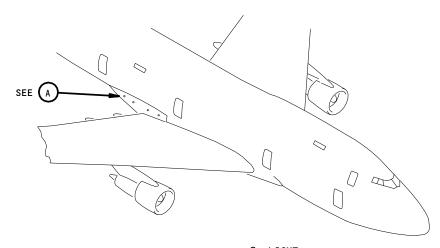
33-51-03

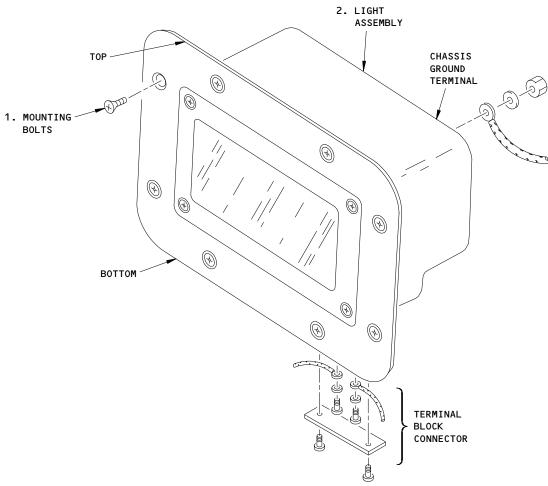
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TYPICAL LIGHT INSTALLATION (8 LOCATIONS)

Overwing Emergency Lights Installation Figure 401

EFFECTIVITY-ALL

33-51-03

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- B. References
  - (1) AMM 51-31-01/201, Seals and Sealings
  - (2) AIPC 33-51-03
  - (3) SSM 33-51-01 and SSM 33-51-02
- C. Access
  - (1) Location Zone

200 Upper Half of Fuselage, Exterior

D. Light Assembly Installation

s 394-023

(1) Apply a seal between the light assembly flange and the skin of the airplane (AMM 51-31-01/201).

s 434-024

(2) Connect the electrical wires.

s 214-033

(3) Make sure that the terminal block connector is on the bottom of the light assembly (2).

s 424-025

(4) Install the light assembly (2) with its fasteners (1).

s 394-026

(5) Apply an aerodynamic smoother between the light assembly (2) and the airplane skin (AMM 51-31-01/201).

s 864-031

- (6) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- E. Lamp Test

s 714-027

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.

(a) Make sure the light comes on correctly.

s 864-028

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

EFFECTIVITY-

33-51-03

ALL

01.1



## POWER SUPPLY - MAINTENANCE PRACTICES

### 1. General

- A. This procedure contains these tasks:
  - (1) Power Supply Battery Replacement
  - (2) Power Supply Removal
  - (3) Power Supply Installation

TASK 33-51-04-902-001

- Power Supply Battery Replacement (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) AIPC 33-51-04
    - (2) AMM 25-21-02/401, Upper Deck Window Reveal and Shade
    - (3) AMM 25-22-01/401, Main Passenger Cabin Ceiling Panels.
    - (4) AMM 25-22-03/401, Upper Deck Ceiling Panels
    - (5) AMM 25-23-01/201, Passenger Service Units
    - (6) SSM 33-51-01 thru 33-51-99
    - (7) WDM 33-51-12 thru 33-51-99
  - C. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

D. Battery Replacement

s 862-063

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

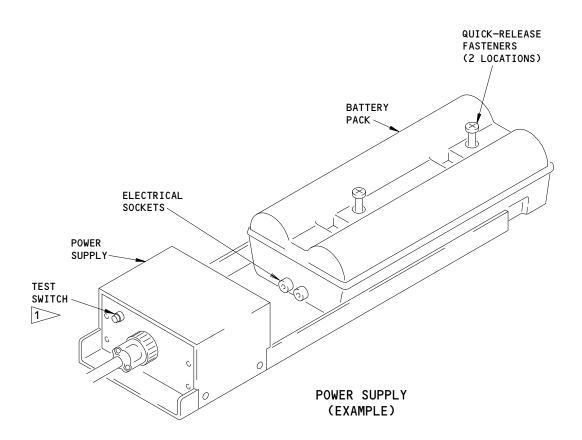
s 012-051

- (2) Get access to the power supply.
  - (a) On the main deck, for a power supply above a passenger service unit (PSU), open the PSU panel (AMM 25-23-01/201 and SSM 33-51-03 thru 33-51-05).
  - (b) On the main deck, for a power supply above a door, open the attendant's service panel (SSM 33-51-03 thru 33-51-05).
  - (c) On the upper deck, for a power supply above a ceiling panel, open the ceiling panel (AMM 25-22-03/401 and SSM 33-51-01 thru 33-51-06).

EFFECTIVITY-

33-51-04





NOT INSTALLED ON ALL POWER SUPPLIES

Power Supply Installation Figure 201

33-51-04

01

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- (d) On the upper deck, for a power supply installed on the bottom surface of a floor panel:
  Gain access from the main deck by opening the appropriate ceiling panel (Ref AMM 25-22-01/401 and SSM 33-51-01 thru 33-51-06).
- (e) On the upper deck, for a power supply installed on sidewall near the aft closet or crew rest: Gain access to the power supply through the aft closet (Ref SSM 33-51-01 thru 33-51-06).
- (f) On the upper deck, for a power supply outboard of the floor, remove the window reveal (sidewall) panel (AMM 25-21-02/401 and SSM 33-51-01 thru 33-51-06).

NOTE: It is not necessary to remove the seats.

s 962-052

- (3) Replace the battery pack.
  - (a) Remove the battery pack.
    - 1) Loosen the fasteners on the battery pack.

CAUTION: BEFORE YOU LIFT THE BATTERY PACK, MAKE SURE THE PINS ON THE BATTERY PACK ARE CLEAR OF THE SOCKET. FAILURE TO DO THIS CAN CAUSE DAMAGE TO THE PINS OR THE BATTERY PACK.

- 2) Move the battery pack away from the power supply until the pins are clear of the socket.
- (b) Install the replacement battery pack.
  - 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 do between the battery connector pins of the power supply.
- 2) Look at the installation date on the battery pack to make sure the battery pack can be used.
- 3) Put the replacement battery pack in its position on the power supply.
- 4) Move the battery pack forward to engage the pins.
- 5) Tighten the fasteners.

EFFECTIVITY-

33-51-04

01

ALL



s 862-064

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- E. Power Supply Test

NOTE: You can do a test of all the power supplies together. Each power supply with a test switch can be tested independently.

s 712-053

(1) To do a test of all the power supplies together, do these steps:

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE. THE BATTERIES MUST KEEP A SUFFICIENT CHARGE TO OPERATE THE EMERGENCY LIGHTS FOR 15 MINUTES.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - 1) Make sure the emergency lights connected to the power supply come on (SSM 33-51-02).
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Make sure the emergency lights go off.

s 712-054

- (2) To do a test of a power supply with its test switch, do these steps:
  - (a) At the power supply, set the test switch to the on position.
    - 1) Make sure the emergency lights connected to the power supply come on (SSM 33-51-02).
    - 2) Make sure the emergency lights go off automatically after approximately 1 minute.

s 412-055

(3) Close each panel that was opened to get access to the power supply.

TASK 33-51-04-002-017

- 3. Power Supply Removal
  - A. References
    - (1) AIPC 33-51-04
    - (2) AMM 20-41-02/201, Electrostatic Discharge Sensitive Devices
    - (3) AMM 25-21-02/401, Upper Deck Window Reveal and Shade
    - (4) AMM 25-22-01/401, Main Passenger Cabin Ceiling Panels.
    - (5) AMM 25-22-03/401, Upper Deck Ceiling Panels
    - (6) AMM 25-23-01/201, Passenger Service Units
    - (7) SSM 33-51-01 thru 33-51-99
    - (8) WDM 33-51-12 thru 33-51-99
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

EFFECTIVITY-

33-51-04

ALL



#### C. Remove the Power Supply

s 862-065

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 012-056

- (2) Get access to the power supply.
  - (a) On the main deck, for a power supply above a passenger service unit (PSU), open the PSU panel (AMM 25-23-01/201).
  - (b) On the main deck, for a power supply above a door, open the attendant's service panel (SSM 33-51-03 thru 33-51-05).
  - (c) On the upper deck, for a power supply above a ceiling panel, open the ceiling panel (AMM 25-22-03/401 and SSM 33-51-01 thru 33-51-06).
  - (d) On the upper deck, for a power supply installed on the bottom surface of a floor panel: Gain access from the main deck by opening the appropriate ceiling panel (Ref AMM 25-22-01/401 and SSM 33-51-01 thru 33-51-06).
  - (e) On the upper deck, for a power supply installed on sidewall near the aft closet or crew rest: Gain access to the power supply through the aft closet (Ref SSM 33-51-01 thru 33-51-06).
  - (f) On the upper deck, for a power supply outboard of the floor, remove the window reveal (sidewall) panel (AMM 25-21-02/401 and SSM 33-51-01 thru 33-51-06).

NOTE: It is not necessary to remove the seats.

s 022-057

(3) Remove the power supply.

<u>CAUTION</u>: DO NOT TOUCH THE POWER SUPPLY BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE POWER SUPPLY.

- (a) Do the procedure for devices that are sensitive to electrostatic discharge (AMM 20-41-01/201).
- (b) Disconnect the electrical connector.
- (c) Remove the fasteners and remove the power supply.

TASK 33-51-04-402-023

- 4. Power Supply Installation
  - A. References
    - (1) AIPC 33-51-04
    - (2) AMM 20-41-02/201, Electrostatic Discharge Sensitive Devices
    - (3) SSM 33-51-01 thru 33-51-99

EFFECTIVITY-

33-51-04



- (4) WDM 33-51-12 thru 33-51-99
- B. Access
  - (1) Location Zone

200 Upper Half of the Fuselage

Install the Power Supply

s 422-058

(1) Install the power supply.

NOTE: Make sure you install the correct power supply. It is

possible that the emergency lights will not operate correctly, if they are connected to a different power supply.

CAUTION: DO NOT TOUCH THE POWER SUPPLY BEFORE YOU DO THE PROCEDURE FOR DEVICES THAT ARE SENSITIVE TO ELECTROSTATIC DISCHARGE. ELECTROSTATIC DISCHARGE CAN CAUSE DAMAGE TO THE POWER SUPPLY.

- (a) Do the procedure for devices that are sensitive to electrostatic discharge (AMM 20-41-02/201).
- Put the power supply in its position and install the fasteners.
- (c) Connect the electrical connector.

s 862-067

- (2) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Do a Test of the Power Supply

You can do a test of all the power supplies together. Each power NOTE: supply with a test switch can be tested independently.

s 712-059

ALL

(1) To do a test of all the power supplies together, do these steps:

EFFECTIVITY-

33-51-04



CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE. THE BATTERIES MUST KEEP A SUFFICIENT CHARGE TO OPERATE THE EMERGENCY LIGHTS FOR 15 MINUTES.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - 1) Make sure the emergency lights connected to the power supply come on (SSM 33-51-02).
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Make sure the emergency lights go off.

#### s 712-060

- (2) To do a test a power supply with its test switch, do these steps:
  - (a) Push the test switch on the power supply.
    - 1) Make sure the emergency lights connected to the power supply come on (SSM 33-51-02).
    - 2) Make sure the emergency lights go off automatically after approximately 1 minute.

#### s 412-061

(3) Close each panel that was opened to get access to the power supply.

EFFECTIVITY-

ALL

33-51-04



## DOOR (SILL) LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure contains these tasks for the sill lights of a main deck door:
    - (1) Door (Sill) Light Lamp Replacement
    - (2) Door (Sill) Light Light Assembly Removal
    - (3) Door (Sill) Light Light Assembly Installation

TASK 33-51-05-962-031

- Door (Sill) Light Lamp Replacement (Fig. 201)
  - A. References
    - (1) AIPC 33-51-50
    - (2) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

S 862-045

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 012-002

WARNING: MAKE SURE THE SELECTOR LEVER IS IN THE MANUAL POSITION BEFORE YOU OPEN THE DOOR. THE LEVER MUST BE IN THE MANUAL POSITION TO PREVENT THE SLIDE DEPLOYMENT. DEPLOYMENT OF THE SLIDE CAN CAUSE DAMAGE TO EQUIPMENT OR INJURY TO PERSONS.

(2) Open the door.

s 492-003

WARNING: INSTALL A SAFETY BARRIER ACROSS THE OPEN DOOR WHEN YOU DO NOT HAVE THE GROUND ACCESS EQUIPMENT INSTALLED. WHEN YOU DO NOT HAVE THE BARRIER INSTALLED, YOU CAN FALL THROUGH THE OPEN DOOR.

(3) Install a safety barrier.

s 012-004

(4) Open the access panel in the top of the door frame to get access to the light assembly.

s 032-026

(5) Remove the lens.

s 962-027

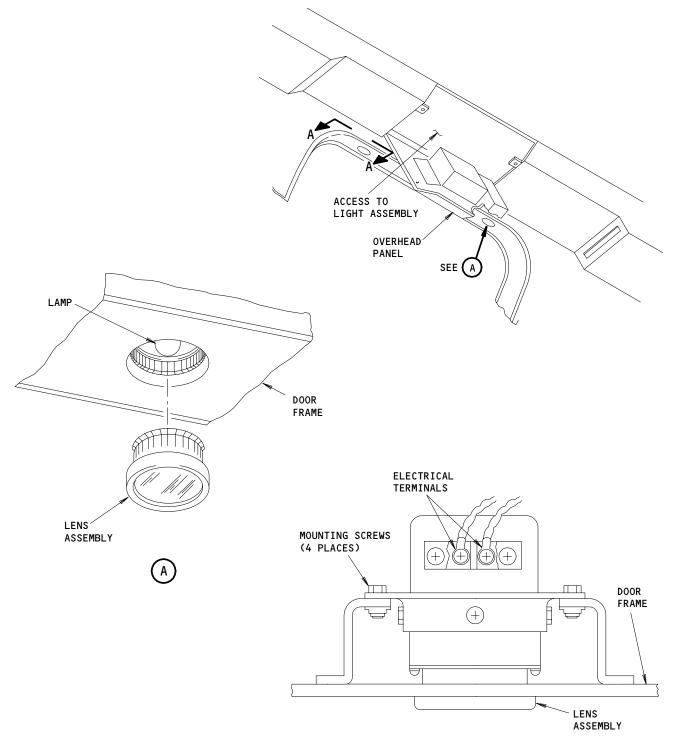
(6) Carefully replace the lamp.

EFFECTIVITY-

33-51-05

ALL





TYPICAL DOOR FRAME LIGHT ASSEMBLY INSTALLATION

A-A

Main Deck Floor Frame Light Installation Figure 201

EFFECTIVITY-ALL

33-51-05

01

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s 432-028

(7) Install the lens.

s 862-046

- (8) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Lamp Test

s 712-029

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.

(a) Make sure the new lamp comes on correctly.

s 862-030

(2) Set the EMER LIGHTS switch to the OFF position.

(a) Make sure the emergency lights go off.

s 412-031

(3) Remove the barrier and close the door.

TASK 33-51-05-002-007

- 3. <u>Door (Sill) Light Light Assembly Removal</u> (Fig. 201)
  - A. References
    - (1) AIPC 33-51-50
    - (2) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Removal

s 862-047

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD

EFFECTIVITY-

33-51-05

ALL



#### 2) 7G15, CHG EMER LT AFT

s 032-032

(2) Remove the lens.

s 012-033

(3) Open the panel to get access to the light assembly.

s 032-034

(4) Remove the electrical wires from the light assembly.

s 022-035

(5) Remove the mounting screws that hold the light assembly.

TASK 33-51-05-402-013

- 4. <u>Door (Sill) Light Light Assembly Installation</u> (Fig. 201)
  - A. References
    - (1) AIPC 33-51-50
    - (2) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Removal

s 032-036

(1) Remove the lens from the replacement light assembly.

s 422-037

(2) Install the light assembly with the mounting screws.

s 432-038

(3) Connect the electrical wires to the light assembly.

s 412-039

(4) Close the panel you opened to get access to the light assembly.

s 432-040

(5) Install the lens.

s 862-048

- (6) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Light Test

EFFECTIVITY-

33-51-05

01

ALL



s 712-041

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.(a) Make sure the light comes on correctly.

s 862-042

(2) Set the EMER LIGHTS switch to the OFF position.(a) Make sure the emergency lights go off.

s 412-043

(3) Close the access panel.

EFFECTIVITY-

33-51-05



## DOOR (SLIDE) LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has these tasks:
    - (1) Main Deck Door (Slide) Light Lamp Replacement
    - (2) Upper Deck Door (Slide) Light Lamp Replacement

TASK 33-51-06-962-001

- 2. Main Deck Door (Slide) Light Lamp Replacement (Fig. 201)
  - A. References
    - (1) AIPC 33-51-06
    - (2) SSM 33-51
    - (3) WDM 33-51
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

S 862-049

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 032-035

- (2) Remove the lens.
  - (a) LENS WITH BUTTONS;

Push the buttons on the lens and remove the lens.

(b) LENS WITHOUT BUTTONS; Twist and pull the lens to remove it.

s 962-036

(3) Carefully replace the lamp.

s 432-037

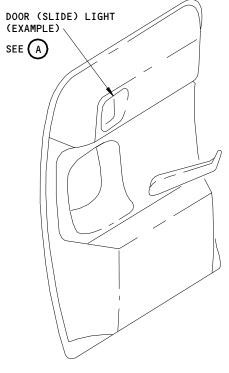
(4) Install the lens.

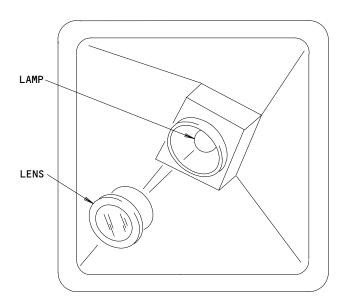
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EFFECTIVITY-

33-51-06



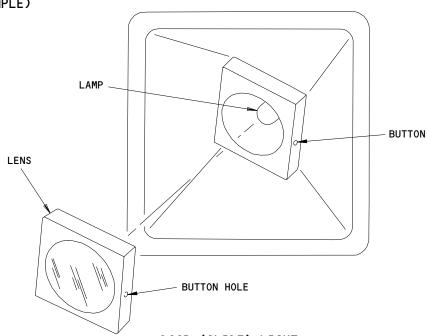




DOOR (SLIDE) LIGHT (LENS ASSEMBLY WITHOUT BUTTONS - EXAMPLE)



MAIN DECK DOOR (EXAMPLE)



DOOR (SLIDE) LIGHT (LENS ASSEMBLY WITH BUTTONS - EXAMPLE)



Door (Slide) Lights Lamp Replacement Figure 201 (Sheet 1)

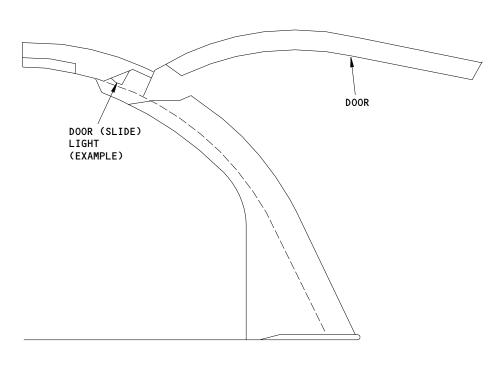
EFFECTIVITY-ALL

33-51-06

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UPPER DECK DOOR (EXAMPLE)

Door (Slide) - Lamp Replacement Figure 201 (Sheet 2)

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01

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s 862-050

- (5) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Lamp Test

s 712-038

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.

(a) Make sure the new lamp comes on correctly.

s 862-039

(2) Set the EMER LIGHTS switch to the OFF position.

(a) Make sure the emergency lights go off.

TASK 33-51-06-962-009

- Upper Deck Door (Slide) Light Lamp Replacement (Fig. 201)
  - A. Equipment
    - (1) 2PRE65b26200, Type A door safety barrier
  - B. References
    - (1) AMM 52-23-00/001, Type A Door
    - (2) AIPC 33-51-06
    - (3) SSM 33-51
    - (4) WDM 33-51
  - C. Access
    - (1) Location Zone

200 Upper Half of Fuselage

D. Lamp Replacement

s 862-051

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 012-041

WARNING: BE CAREFUL WHEN YOU ARE NEAR AN OPEN DOOR. MAKE SURE THAT YOU INSTALL A SAFETY BARRIER IN THE DOOR. IF YOU FALL FROM THE DOOR, IT CAN CAUSE INJURIES.

(2) Open the door sufficiently to get access to the light (AMM 52-23-00/001).

EFFECTIVITY-

33-51-06

ALL



s 492-046

(3) Install the safety barrier for the door.

S 962-042

- (4) Carefully replace the lamp.
  - (a) To get access to the lamp, put your hand between the door lining and the door.

s 862-052

- (5) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- E. Lamp Test

s 712-043

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - (a) Make sure the new lamp comes on correctly.

s 862-044

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

s 412-047

(3) Close the door (AMM 52-23-00/001).

S 092-045

(4) Remove the safety barrier.

EFFECTIVITY-

33-51-06



## DOOR (SLIDE) LIGHTS - REMOVAL/INSTALLATION

- 1. General
  - A. This procedure has these tasks:
    - (1) Upper Deck Door (Slide) Light Removal
    - (2) Upper Deck Door (Slide) Light Installation
    - (3) Main Deck Door (Slide) Light Removal
    - (4) Main Deck Door (Slide) Light Installation

TASK 33-51-06-004-001

- Upper Deck Door (Slide) Light Removal (Fig. 401)
  - A. Equipment
    - (1) 2PRE65B26200 Type A door safety barrier
  - B. References
    - (1) AMM 52-23-00/001, Upper Deck Door
    - (2) AIPC 33-51-06
    - (3) SSM 33-51-01 and 33-51-02
  - C. Access
    - (1) Location Zone

200 Upper Half of Fuselage

D. Light Assembly Removal

S 864-055

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 014-003

- WARNING: BE CAREFUL WHEN YOU ARE NEAR AN OPEN DOOR. MAKE SURE THAT YOU INSTALL A SAFETY BARRIER IN THE DOOR. IF YOU FALL FROM THE DOOR, IT CAN CAUSE INJURIES.
- (2) Open the upper deck door sufficiently to get access to the light (AMM 52-23-00/001).

s 494-041

(3) Install the safety barrier for the door.

s 034-032

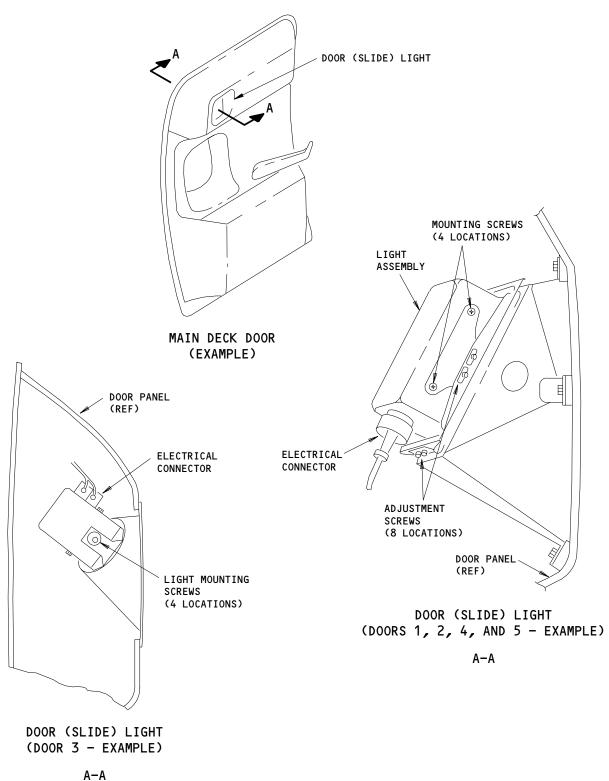
- (4) Remove the light assembly.
  - (a) Disconnect the electrical connector.

EFFECTIVITY-

33-51-06

ALL





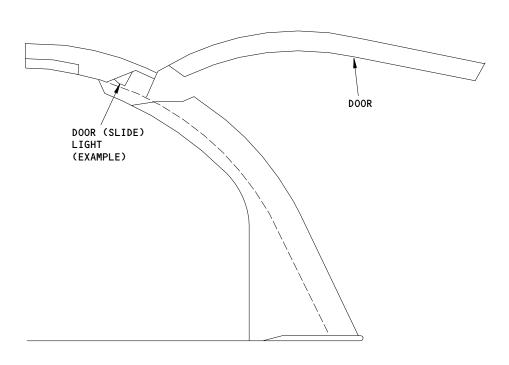
Door (Slide) Light Installation Figure 401 (Sheet 1)

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UPPER DECK DOOR (EXAMPLE)

Door (Slide) Light Installation Figure 401 (Sheet 2)

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(b) Remove the fasteners.

TASK 33-51-06-404-007

- 3. Upper Deck Door (Slide) Light Installation (Fig. 401)
  - A. References
    - (1) AMM 52-23-00/001, Upper Deck Door
    - (2) AIPC 33-51-06
    - (3) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Assembly Installation

s 434-033

- (1) Install the light assembly with the fasteners.
  - (a) Connect the electrical connector.

s 864-056

- (2) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Light Test

s 714-042

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - (a) Make sure the light comes on correctly.

S 864-043

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

s 414-044

(3) Close the upper deck door (AMM 52-23-00/001).

S 094-045

(4) Remove the safety barrier if it is not necessary.

TASK 33-51-06-004-016

- 4. <u>Main Deck Door (Slide) Light Removal</u> (Fig. 401)
  - A. References
    - (1) AMM 33-51-06/501, Door (Slide) Lights

EFFECTIVITY-

33-51-06

ALL



- (2) AIPC 33-51-06
- (3) SSM 33-51-01 and 33-51-02
- B. Access
  - (1) Location Zone

200 Upper Half of Fuselage

C. Light Assembly Removal

S 864-057

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 014-047

(2) Release the latch and open the panel at the top of the door.

S 024-048

- (3) Remove the light assembly.
  - (a) Disconnect the electrical connector.
  - (b) Remove the mounting screws.

NOTE: Make sure you remove the screws that hold the light assembly to the adjustable bracket. If you loosen or remove the adjustment screws on the bracket, you must adjust the light (AMM 33-51-06/501).

TASK 33-51-06-404-023

- 5. Main Deck Door (Slide) Light Installation (Fig. 401)
  - A. References
    - (1) AMM 33-51-06/501 Door (Slide) Lights
    - (2) AIPC 33-51-06
    - (3) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Assembly Installation

s 424-050

- (1) Install the light assembly with its bolts.
  - (a) Connect the electrical connector.

EFFECTIVITY-

33-51-06

ALL



s 414-051

(2) Close and latch the panel at the top of the door.

s 864-058

- (3) Remove the DO-NOT-CLOSE tags and close these circuit breakers: On the overhead circuit breaker panel, P7:
  - 1) 7G14, CHG EMER LT FWD
  - 2) 7G15, CHG EMER LT AFT
- D. Lamp Test

s 714-052

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position. (a) Make sure the light comes on correctly.

s 864-053

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

EFFECTIVITY-

ALL

33-51-06



## DOOR (SLIDE) LIGHT - ADJUSTMENT/TEST

#### 1. General

- A. This procedure contains a task for the adjustment of the slide lights on a main deck door.
- B. Make the adjustment to supply the maximum light to the escape slide area.
  Do the adjustment with the doors closed and latched.

NOTE: The tool (2MIT65B52785-1) has instructions on its top surface.

C. The lights at left door 3 and right door 3 are not adjustable.

TASK 33-51-06-825-001

- 2. Adjustment (Door Mounted Lights) (Fig. 501)
  - A. Special Tools and Equipment
    - (1) 2MIT65b52785-1 Fixture, Door Mounted Light Installation
  - B. References
    - (1) IPC 33-51-06
    - (2) SSM 33-51-01 and 33-51-02
  - C. Access
    - (1) Location Zone

200 Main Deck Passenger Compartment

D. Procedure

s 035-009

- (1) Do these steps to loosen the light bracket:
  - (a) Loosen the adjustment screws on the bracket.
  - (b) Make sure that you can move the light assembly with your hand.

<u>NOTE</u>: You can not adjust the light correctly if the screws are too loose.

s 495-010

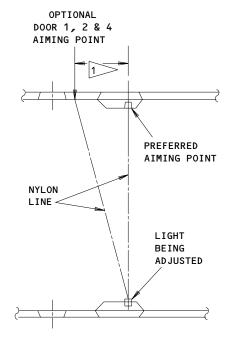
(2) Install the adjustment tool on the door.

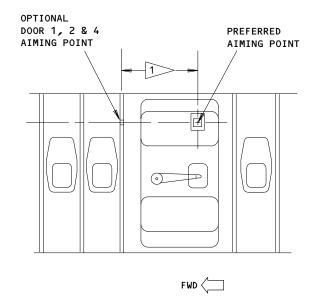
EFFECTIVITY-

33-51-06

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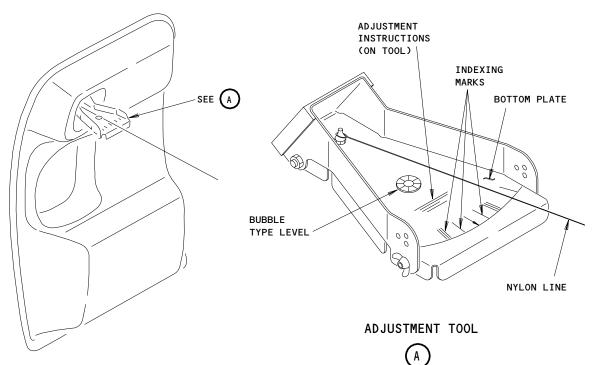






1 MEASUREMENTS

DOOR 1-53 INCHES DOOR 2-61 INCHES DOOR 4-45 INCHES AIMING POINTS FOR LEFT SIDE LIGHTS (RIGHT SIDE OPPOSITE)



NOTE: DOOR 3 HAS FIXED LIGHT.
AIMING INSTRUCTIONS
DO NOT APPLY TO DOOR 3.

Door Mounted Light Adjustment Figure 501

33-51-06

01

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#### s 825-011

- (3) Do these steps to adjust the light:
  - (a) Adjust the tool bottom plate to correctly align with the door and the applicable door light.
  - (b) Make sure you hold the adjustment tool tight against the light.
  - (c) Make sure that the light turns while you turn the tool.
  - (d) Extend the nylon line to the target point as shown on the bottom plate of the tool (Fig. 501).
  - (e) Turn the tool to set up the conditions that follow:
    - 1) The nylon line is above the index mark on the tool.
    - 2) The bubble on the level is in the center.

#### s 095-006

- (4) Remove the adjustment tool from the door.
  - (a) Make sure the light does not change its position while you remove the tool.

#### s 435-007

- (5) Tighten the adjustment screws on the door light.
  - (a) Make sure the door light does not change its position while you tighten the screws.

#### s 825-008

- (6) Do these steps to do a check of the light adjustment:
  - (a) Use your hand to hold the adjustment tool in its correct position on the door.
  - (b) Extend the nylon line to the target point as shown on the bottom plate of the tool (Fig. 501).
  - (c) Make sure the nylon line is:
    - 1) Above the index mark on the tool.
    - 2) The bubble on the level is in the center.

EFFECTIVITY-

ALL

33-51-06



## CEILING LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has these tasks:
    - (1) Ceiling Light Lamp Replacement
    - (2) Ceiling Light Removal
    - (3) Ceiling Light Installation
  - B. The ceiling lights are also referred to as aisle lights, crew lights, overdoor lights, and entryway lights.

TASK 33-51-07-962-001

- 2. <u>Ceiling Light Lamp Replacement</u> (Fig. 201)
  - A. References
    - (1) AMM 23-31-03/401, Main Cabin Speaker
    - (2) AIPC 33-51-07
    - (3) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Lamp Replacement

S 862-041

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 962-024

(2) LIGHT IN A CEILING PANEL;

Do these steps to replace the lamp:

- (a) Remove the lens.
- (b) Carefully replace the lamp.
- (c) Install the lens.

s 962-003

(3) LIGHT IN A SPEAKER/EMERGENCY LIGHT PANEL;

Do these steps to replace the lamp:

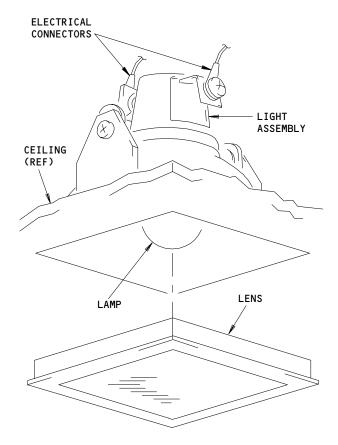
- (a) Open the panel for the speaker/emergency light (AMM 23-31-03/401).
- (b) Pull the socket/bracket assembly away from the ceiling light assembly.

EFFECTIVITY-

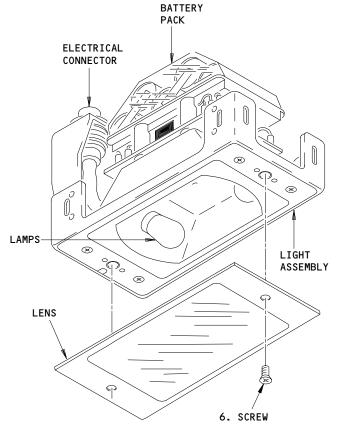
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CEILING LIGHT (INSTALLED IN A CEILING PANEL OF THE MAIN DECK - EXAMPLE)



CEILING LIGHT (INSTALLED IN A CEILING PANEL OF THE UPPER DECK - EXAMPLE)

Ceiling Lights Installation Figure 201 (Sheet 1)

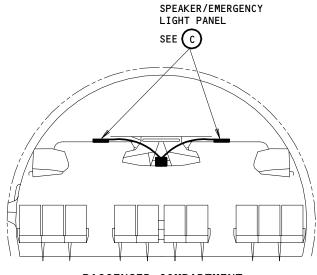
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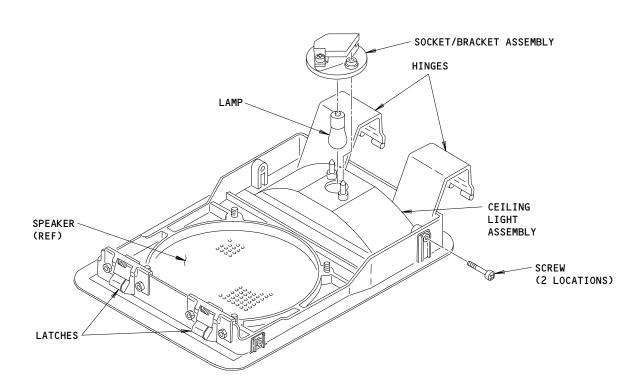
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PASSENGER COMPARTMENT (MAIN DECK - EXAMPLE)



## SPEAKER/EMERGENCY LIGHT PANEL (EXAMPLE)



Ceiling Lights Installation Figure 201 (Sheet 2)

33-51-07

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- (c) Carefully replace the lamp.
- (d) Install the socket/bracket assembly.
- (e) Close the panel for the speaker/emergency light.

s 862-042

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Lamp Test

s 712-029

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.

(a) Make sure the new lamp comes on correctly.

s 862-030

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

TASK 33-51-07-002-009

- Ceiling Light Removal (Fig. 201)
  - A. References
    - (1) AIPC 33-51-07
    - (2) AMM 23-31-03/401, Main Cabin Speaker
    - (3) SSM 33-51-01 and 33-51-01
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Light Assembly Removal

S 862-043

ALL

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD

EFFECTIVITY-

33-51-07



#### 2) 7G15, CHG EMER LT AFT

s 862-034

- (2) LIGHT IN A CEILING PANEL ON THE MAIN DECK OF A PASSENGER AIRPLANE; Do these steps to remove the light:
  - (a) Open the ceiling panel to get access to the light assembly.
  - (b) Disconnect the electrical connectors.
  - (c) Remove the screws and remove the light assembly.

s 022-012

- (3) LIGHT IN A CEILING PANEL OF THE UPPER DECK OF A PASSENGER AIRPLANE; Do these steps to remove the light:
  - (a) Remove the screws and remove the lens.
  - (b) Release the fasteners and lower the light assembly.
  - (c) Disconnect the electrical connector.

s 022-013

- (4) LIGHT IN A SPEAKER/EMERGENCY LIGHT PANEL OF A PASSENGER AIRPLANE;
  Do these steps to remove the light:
  - (a) Open the panel for the speaker/emergency light (AMM 23-31-03/401).
  - (b) Disconnect the electrical connectors from the light assembly.
  - (c) Remove the screws and remove the light assembly.

TASK 33-51-07-402-015

- 4. Ceiling Light Installation (Fig. 201)
  - A. References
    - (1) AIPC 33-51-07
    - (2) SSM 33-51-01 and 33-51-02
  - B. Access
    - (1) Location Zone

200 Upper Half of Fuselage

C. Procedure

s 862-037

- (1) LIGHT IN A CEILING PANEL OF THE MAIN DECK OF A PASSENGER AIRPLANE; Do these steps to install the light:
  - (a) Install the light assembly with its screws.
  - (b) Connect the electrical connectors.
  - (c) Close the ceiling panel.

s 422-016

- (2) LIGHT IN A CEILING PANEL OF THE UPPER DECK OF A PASSENGER AIRPLANE; Do these steps to install the light:
  - (a) Hold the light assembly and connect the electrical connector.

EFFECTIVITY-

33-51-07



- (b) Install the light assembly with its fasteners.
- (c) Install the lens with its screws.

s 422-017

- (3) LIGHT IN A CEILING PANEL OF THE MAIN DECK OF A PASSENGER AIRPLANE; Do these steps to install the light:
  - (a) Install the light with its screws.
  - (b) Connect the electrical connector.
  - (c) Close the panel for the speaker/emergency light.

S 862-044

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- D. Light Test

s 712-031

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

- (1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - (a) Make sure the light comes on correctly.

s 862-032

ALL

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

EFFECTIVITY-

33-51-07



## SLIDE LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure has these tasks:
    - (1) Slide Light Lamp Replacement
    - (2) Slide Light Removal
    - (3) Slide Light Installation
  - B. This procedure is for a slide light installed on the outer side of the fuselage.

TASK 33-51-10-962-001

- 2. <u>Slide Light Lamp Replacement</u>
  - A. Access
    - (1) Location Zone

200 Upper Half of Fuselage

B. Lamp Replacement

s 862-032

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 032-011

(2) Remove the screws and remove the lens.

s 962-012

(3) Carefully replace the lamp.

NOTE: Install the lamp with the filament parallel to the lens.

s 162-013

(4) Clean the lens and the gasket.

s 432-014

(5) Install the lens with its screws.

EFFECTIVITY-

33-51-10



s 862-033

- (6) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- C. Lamp Test

s 712-019

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.

(a) Make sure the new lamp comes on correctly.

s 862-018

(2) Set the EMER LIGHTS switch to the OFF position.

(a) Make sure the emergency lights go off.

TASK 33-51-10-002-003

- Slide Light Removal
  - A. Access
    - (1) Location Zone

200 Upper Half of Fuselage

B. Light Assembly Removal

s 862-034

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 032-015

(2) Remove the screws and remove the lens.

s 032-016

(3) Disconnect the electrical wires.

s 022-020

(4) Remove the screws and the remove the light assembly.

TASK 33-51-10-402-005

- Slide Light Installation
  - A. Consumable Materials
    - (1) A00247 Compound Sealing BMS 5-95, Class B
    - (2) B00083 Solvent Aliphatic Naphtha TT-N-95

EFFECTIVITY-

33-51-10

ALL



- B. Reference
  - (1) AMM 51-31-01/201, Seals and Sealing
- C. Access
  - (1) Location Zone

200 Upper Half of Fuselage

D. Procedure

s 392-021

(1) Clean the fuselage to prepare it for the aerodynamic smoother you will apply around the light (AMM 51-31-01/201).

s 142-022

(2) If it is necessary, use sandpaper to clean the base of the light.

s 422-023

(3) Install the light assembly with its screws.

s 432-024

(4) Connect the electrical wires.

s 432-029

(5) Install the lens with the screws.

s 392-030

(6) With the sealing compound, apply an aerodynamic smoother around the base of the light (AMM 51-31-01/201).

s 862-035

- (7) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT
- E. Light Test

s 712-008

CAUTION: KEEP THE OPERATION OF THE EMERGENCY LIGHTS TO LESS THAN A ONE MINUTE TIME. THE BATTERIES THAT SUPPLY THE ELECTRICAL POWER TO THE EMERGENCY LIGHTS WILL ONLY OPERATE FOR 15 MINUTES WHEN FULLY CHARGED.

(1) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.

(a) Make sure the light comes on correctly.

s 862-009

- (2) Set the EMER LIGHTS switch to the OFF position.
  - (a) Make sure the emergency lights go off.

EFFECTIVITY-

33-51-10

ALL



## FLOOR PROXIMITY LIGHTS - MAINTENANCE PRACTICES

- 1. General
  - A. This procedure contains these tasks for the floor proximity lights:
    - (1) Aisle Locator Light Lamp Replacement
    - (2) Exit Indicator Sign Replacement
    - (3) Aisle Locator Light Light Strip Removal
    - (4) Aisle Locator Light Light Strip Installation
    - (5) Inverter Fuse Replacement
    - (6) Inverter Assembly Replacement

#### TASK 33-51-12-962-126

- 2. Aisle Locator Light Lamp Replacement
  - A. References
    - (1) IPC 33-51-12
    - (2) SSM 33-51-03 thru 33-51-06
    - (3) WDM 33-51-15 thru 33-15-65
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 862-108

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 032-012

(2) Carefully lift up the edges of the floor track housing and remove it from the floor track.

s 962-013

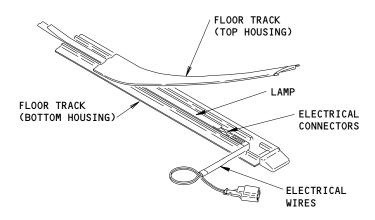
ALL

- (3) 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 its position in the floor track.
  - (d) Connect the ends of the lamp.

EFFECTIVITY-

33-51-12





AISLE LOCATOR LIGHT (EXAMPLE OF LIGHT STRIP)

Floor Proximity Lights - Lamp Replacement Figure 201

EFFECTIVITY-ALL

C80472

33-51-12

03

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s 862-109

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 712-076

(5) Do a test of the new lamp.

CAUTION: DO NOT LEAVE THE SWITCH IN THE ON POSITION FOR LONGER THAN IT IS NECESSARY FOR THE TEST. THE POWER SUPPLY BATTERIES WILL DISCHARGE WHILE THE SWITCH IS IN THE ON POSITION.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - 1) Make sure the new lamp comes on correctly.
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Make sure the emergency lights go off.

TASK 33-51-12-962-127

- 3. <u>Exit Indicator Sign Replacement</u>
  - A. References
    - (1) IPC 33-51-12
    - (2) SSM 33-51-03 thru 33-51-06
    - (3) WDM 33-51-12 thru 33-51-65
  - B. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

C. Procedure

s 862-112

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 032-038

- (2) Remove the exit indicator sign.
  - (a) Remove the screws from the front of the exit indicator sign.
  - (b) Carefully pull the assembly from the wall until you can get access to the electrical connector.
  - (c) Disconnect the electrical connector.

s 422-014

- (3) Install the new exit indicator sign.
  - (a) Connect the electrical connector.
  - (b) Install the screws in the surface of the exit indicator sign.

EFFECTIVITY-

33-51-12

ALL



s 862-113

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 712-078

(5) Do a test of the exit indicator sign.

CAUTION: DO NOT KEEP THE SWITCH IN THE ON POSITION FOR LONGER THAN IT IS NECESSARY TO DO THE TEST. THE POWER SUPPLY BATTERIES WILL DISCHARGE WHILE THE SWITCH IS IN THE ON POSITION.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - 1) Make sure the exit indicator sign comes on correctly.
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Make sure the emergency lights go off.

TASK 33-51-12-002-023

- 4. <u>Aisle Locator Light Light Strip Removal</u>
  - A. References
    - (1) AMM 25-25-01/401, Track-Mounted Passenger Seats
    - (2) AMM 25-27-01/401, Main Deck Floor Covering
    - (3) AMM 25-27-05/401, Upper Deck Floor Covering
    - (4) IPC 25-27-08
    - (5) SSM 33-51-03 thru 33-51-06
    - (6) WDM 33-51-15 thru 33-51-65
  - B. Access
    - (1) Location Zone

200 Upper Half the Fuselage

C. Procedure

s 862-118

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 012-082

(2) Remove the passenger seats as it is necessary for access to the light strip (AMM/25-25-01/401).

s 012-083

(3) Remove the floor cover as it is necessary for access to the light strip (AMM 25-27-01/401 and AMM 25-27-05/401).

EFFECTIVITY-

33-51-12

ALL



s 022-084

- (4) To remove a light strip in a main aisle, do these steps:
  - (a) Remove the tape that holds the electrical wires to the floor.
  - (b) Disconnect the electrical wires.
  - (c) Lift up the light strip to remove it from the floor.

NOTE: Each lens with an arrow must be installed with the arrow pointed in the correct direction. Each colored lens must be installed in the correct location. For each lens with an arrow, identify the direction of the arrow. For each colored lens, identify the location of the lens.

s 022-085

- (5) To remove a light strip between the main aisles (cross-aisle locator light), do these steps:
  - (a) Remove the threshold that holds the light strip to the floor.
  - (b) Lift up the light strip to remove it from the floor.
    - NOTE: Each lens with an arrow must be installed with the arrow pointed in the correct direction. Each colored lens must be installed in the correct location. For each lens with an arrow, identify the direction of the arrow. For each colored lens, identify the location of the lens.
  - (c) Disconnect the electrical wires below the light strip and put them away.

TASK 33-51-12-422-022

- 5. Aisle Locator Light Light Strip Installation
  - A. General
    - (1) Use new tape as it is necessary to install each light strip and its electrical wires.
  - B. Consumable Materials
    - (1) GO2129 Permacel Silver Tape P29
    - (2) GO1356 Tape Doubleback, Orcon BMS 5-133
  - C. References
    - (1) AMM 25-25-01/401, Track-Mounted Passenger Seats
    - (2) AMM 25-27-01/401, Main Deck Floor Covering
    - (3) AMM 25-27-05/401, Upper Deck Floor Covering
    - (4) AMM 33-51-00/501, Emergency Lights
    - (5) IPC 25-27-08
    - (6) SSM 33-51-03 thru 33-51-06
    - (7) WDM 33-51-15 thru 33-51-65
  - D. Access
    - (1) Location Zone

200 Upper Half the Fuselage

 33-51-12



#### E. Procedure

s 422-088

- (1) To install a aisle locator light in a main aisle, do these steps:
  - (a) Attach the light strip to the floor with doubleback tape.

NOTE: For each lens with an arrow, make sure you point the arrow in the correct direction. For each colored lens, make sure the lens is installed in the correct location.

- (b) Connect the electrical wires.
- (c) Attach the electrical wires to the floor with tape.

s 422-089

- (2) To install a light strip between the main aisles (cross-aisle locator light), do these steps:
  - (a) Connect the electrical wires to the light strip.
  - (b) Attach the light strip to the floor with doubleback tape.

NOTE: For each lens with an arrow, make sure you point the arrow in the correct direction. For each colored lens, make sure the lens is installed in the correct location.

(c) Install the thresholds to attach the light strip to the floor.

s 862-120

- (3) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 712-091

(4) Do a test of the aisle locator lights.

CAUTION: DO NOT KEEP THE SWITCH IN THE ON POSITION FOR LONGER THAN IT IS NECESSARY TO DO THE TEST. THE POWER SUPPLY BATTERIES WILL DISCHARGE WHILL THE SWITCH IS IN THE ON POSITION.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - 1) Make sure the aisle locator lights come on correctly.
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Make sure the emergency lights go off.

s 412-092

(5) Install the passenger seats that were removed (AMM 25-25-01/401).

s 412-093

(6) Install the floor cover that was removed (AMM 25-27-01/401 and AMM 25-27-05/401).

EFFECTIVITY-

33-51-12

ALL



TASK 33-51-12-962-139

- Inverter Fuse Replacement (Fig. 202)
  - A. General
    - (1) Electroluminescent floor proximity lights operate with electrical power from an inverter. The inverter changes the 6 volts dc from the batteries in the power supply to 115 volts ac.
    - (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 and 33-51-02
    - (2) WDM 33-51-11 thru 33-51-99
  - C. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

D. Procedure

s 862-143

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 012-144

(2) Remove the access panel or air grill to get access to the inverter.

NOTE: Refer to Table VI of SSM 33-51-02 for the location of the inverter.

s 962-145

- (3) 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.
  - (d) Install the access plate on the inverter with the screws.
  - (e) Connect the electrical connector to the inverter.

S 862-148

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 712-146

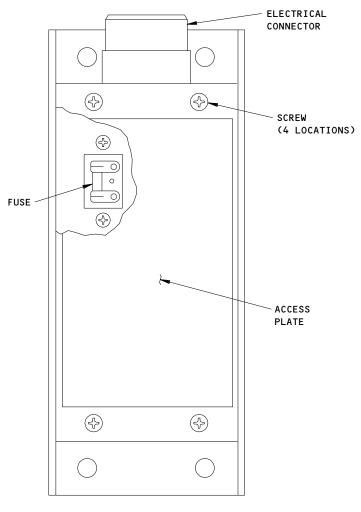
(5) Do a test of the inverter.

EFFECTIVITY-

33-51-12

ALL





INVERTER (EXAMPLE)

# Floor Proximity Lights Installation Figure 202

H05155

33-51-12

10

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CAUTION: DO NOT LEAVE THE SWITCH IN THE ON POSITION FOR LONGER THAN IT IS NECESSARY FOR THE TEST. THE POWER SUPPLY BATTERIES WILL DISCHARGE WHILE THE SWITCH IS IN THE ON POSITION.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - 1) Make sure the lights connected to the inverter come on.
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Make sure the emergency lights go off.

s 412-147

(6) Install the access panel or air grill.

TASK 33-51-12-962-149

- 7. <u>Inverter Assembly Replacement</u> (Fig. 202)
  - A. General
    - (1) Electroluminescent floor proximity lights operate with electrical power from an inverter. The inverter changes the 6 volts dc from the batteries in the power supply to 115 volts ac.
  - B. Reference
    - (1) SSM 33-51-01 and 33-51-02
    - (2) WDM 33-51-11 thru 33-51-99
  - C. Access
    - (1) Location Zone

200 Upper Half of the Fuselage

D. Procedure

s 862-153

- (1) Open these circuit breakers and attach DO-NOT-CLOSE tags:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT AFT
    - 2) 7G15, CHG EMER LT AFT

s 012-154

(2) Remove the access panel or air grill to get access to the inverter.

NOTE: Refer to Table VI of SSM 33-51-02 for the location of the inverter.

EFFECTIVITY-

33-51-12

ALL



s 962-155

- (3) 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 862-156

- (4) Remove the DO-NOT-CLOSE tags and close these circuit breakers:
  - (a) On the overhead circuit breaker panel, P7:
    - 1) 7G14, CHG EMER LT FWD
    - 2) 7G15, CHG EMER LT AFT

s 712-157

(5) Do a test of the new inverter.

CAUTION: DO NOT LEAVE THE SWITCH IN THE ON POSITION FOR LONGER THAN IT IS NECESSARY FOR THE TEST. THE POWER SUPPLY BATTERIES WILL DISCHARGE WHILE THE SWITCH IS IN THE ON POSITION.

- (a) On the pilot's overhead panel, P5, set the EMER LIGHTS switch to the ON position.
  - Make sure that the lights connected to the inverter come on.
- (b) Set the EMER LIGHTS switch to the OFF position.
  - 1) Male sure the emergency lights go off.

s 412-158

ALL

(6) Install the access panel or air grill.

EFFECTIVITY-

33-51-12