

### LIGHTING

#### **2A-33-10: General**

The lighting system for the Gulfstream V provides internal and external illumination, excluding warning lights, for individual systems and self-illuminating signs.

The lighting system is divided into the following subsystems:

- 2A-33-20: Flight Compartment Lighting System
- 2A-33-30: Passenger Compartment (Cabin) Lighted Panels and Signs System
- 2A-33-40: Cargo and Service Compartment Lighting System
- 2A-33-50: Exterior Lighting System
- 2A-33-60: Emergency Lighting System

#### **2A-33-20: Flight Compartment Lighting System**

##### **1. General Description:**

The flight compartment lighting system provides direct and indirect lighting of the flight deck areas, for the flight crew to effectively operate the aircraft. It is composed of the following subsystems:

- Annunciator Lights Dimming and Testing
- Instrument And Overlay Lighting
- Overhead Lighting
- Side Console Lighting and Flood Lighting
- Flight Panel and Glareshield Lighting
- Overhead and Yoke Map Lighting
- Master Lighting Control

##### **2. Description of Subsystems, Units and Components:**

###### **A. Annunciator Lights Dimming and Testing:**

The Annunciator Lights Dim and Test subsystem provides brightness control and testing of cockpit annunciator lights through use of the following components:

- (1) Annunciator Lights Test Switch: Located on the Cockpit Overhead Panel (COP) in the SYSTEM TEST section and labeled ANN LIGHTS TEST, depressing and holding this switch causes all annunciator lights on the COP and center pedestal to be illuminated until the switch is released.
- (2) Annunciator Lights Brightness Control Knobs: Annunciator lights brightness is achieved by rotation of two control rheostats (control knobs), located on the COP on the COCKPIT LIGHTS Control Panel, labeled OVHD PNL and PED PNL. Each control knob has an outer ring and inner post section. The inner post section of each control knob, labeled LTS, controls the brightness of the annunciator lights.

###### **B. Instrument and Overlay Lighting Control:**

This subsystem is controlled by the COCKPIT LIGHTS Control Panel. It enables the flight crew to select the desired amount of cockpit lighting to

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the following components:

(1) Cockpit Overhead Panel (COP) Lighting:

Cockpit Overhead Panel (COP) lighting consists of the edgelit panels, indicator dials and Liquid Crystal Display (LCD) backlights located on the COP. Control is accomplished by the use of the outer ring of the OVHD PNL knob, labeled PNL.

(2) Pilot's Overhead Circuit Breaker Panel (POP) and Copilot's Overhead Circuit Breaker Panel (CPOP) Lighting:

Control of POP and CPOP lighting is accomplished by the use of the CB PANELS knob.

(3) Center Pedestal Lighting:

Control of center pedestal lighting is accomplished by the use of the outer ring of the PED PNL knob, labeled PNL.

(4) Standby Instruments Lighting:

Control of lighting for the standby instruments is accomplished by the use of the MASTER CONTROL knob.

The Pilot's Radio Frequency Management Unit (RFMU) and the Cabin Pressure Selector Panel, both located in the cockpit center pedestal, are also capable of being controlled in conjunction with the Standby Instruments Lighting system during certain electrical power configurations. In this situation, the MASTER CONTROL knob has exclusive dimming control of these components.

### NOTE:

The OVHD PNL, CB PANELS and PED PNL knobs have a minimum brightness detent incorporated to establish a lighting level suitable for night flying. If necessary, this level can be adjusted by use of a trimming screw located adjacent to the respective knob.

### C. Overhead Lighting Control:

This subsystem enables the flight crew to select the desired amount of overhead lighting, and consists of the following items:

(1) Cockpit Overhead Floodlights:

Floodlight dimming is controlled by rotation of the OVHD FLOOD control knob, located on the COCKPIT LIGHTS Control Panel.

(2) Dome Light:

The dome light is selected on and off by a switch on the dome light mounting panel. There is no dimming control.

(3) Observer's Light:

The observer's light provides illumination for the jump seat occupant. It is operated by a control knob located on observer's light mounting panel and can be adjusted for brightness. Rotation of the MASTER CONTROL knob has no effect on the observer's light.

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### D. Side Console Lighting and Flood Lighting Control:

Control of side console lights and console flood lights is achieved by the use of two COCKPIT LIGHTS control panels: the Left (Pilot's) COCKPIT LIGHTS control panel, located on the forward end of the Pilot's Left Hand Console, and the Right (Copilot's) COCKPIT LIGHTS control panel, located on the forward end of the Copilot's Right Hand Console. The panels are similar in design and function, yet differ in that each side controls its respective side console and portion of the flight panel. Each panel enables the flight crew to select the desired amount of lighting to the following components:

(1) Left (or Right) Console Edgelights and Dial Face Lights:

Are controlled by the LEFT (or RIGHT) CONSOLE control knob. Lighting for the Left (or Right) Audio Control Panel, located on the Pilot's and Copilot's consoles and normally controlled by LEFT (or RIGHT) CONSOLE control knob, is also capable of being controlled in conjunction with the Standby Instruments Lighting system during certain electrical power system configurations. In this situation, the MASTER CONTROL knob has exclusive dimming control of the Left (or Right) Audio Control Panel lighting.

(2) The Left (or Right) Console Fluorescent Floodlights:

Is controlled by the FLOOD L (or R) CONSOLE control knob. Rotation of the control knob linearly dims the left (or right) side console fluorescent flood light.

#### NOTE:

The LEFT (or RIGHT) CONSOLE control knob has a minimum brightness detent incorporated to establish a lighting level suitable for night flying. If necessary, this level can be adjusted by use of a trimming screw located adjacent to the respective knob.

### E. Flight Panel and Glareshield Lighting Control:

Control of the left (or right) flight panel and glareshield lights is also achieved by the use of the Left (Pilot's) [or Right (Copilot's)] COCKPIT LIGHTS control panel.

The L (or R) GLRSHLD FLT PNL control knob is a dual (outer ring and inner post) arrangement. The outer ring controls the brightness of the edgelighting and LCDs on the left (or right) half of the glareshield and flight panel, and is labeled PNL. The inner post controls the brightness of annunciator lights located in the left (or right) glareshield and flight panel, and is labeled LTS.

#### NOTE:

The left (or right) glareshield control knob (labeled PNL) has a minimum brightness detent incorporated to establish a lighting level suitable for night flying. If necessary, this level can be adjusted by use of a trimming screw located adjacent to the respective knob.

### F. Overhead and Yoke Map Lighting Control:

Control of the Pilot's (or Copilot's) Overhead and Yoke Map lights is also achieved by the use of the Left (Pilot's) [or Right (Copilot's)] COCKPIT LIGHTS control panel.

The PILOT (or COPILOT) MAP LIGHTS control knob is a dual (outer ring and inner post) arrangement. The outer ring controls the pilot's (or copilot's) yoke map light and the inner post controls the pilot's (or copilot's) overhead map light. All wiring provisions are provided for the pilot's (or copilot's) overhead map light during construction of the aircraft. The customer's choice of an overhead map light fixture is installed by the outfitter.

### G. Master Lighting Control:

Master lighting control is provided by the MASTER CONTROL knob. The position of this knob affects the brightness of the following lighting:

- Annunciator Lighting
- Instrument and Overlay Lighting
- Cockpit Overhead Floodlights
- Side Console Lighting and Flood Lighting
- Flight Panel and Glareshield Lighting
- Standby Instruments Lighting

When the MASTER CONTROL knob is turned fully counterclockwise to the OFF position, cockpit lighting is configured for daylight flying. All annunciator lighting, LCDs and backlit indicators are fully bright. All other lighting is off.

Rotation of the MASTER CONTROL knob clockwise from the OFF position to the minimum brightness detent configures affected cockpit lighting for night flying, provided the associated control knobs are also in the minimum brightness detent. Specific desired lighting levels can be adjusted by rotation of the associated control knob.

Further clockwise rotation of the MASTER CONTROL knob past the minimum brightness detent results in the MASTER CONTROL knob increasing brightness of all affected cockpit lights. Full clockwise rotation brings all cockpit lighting to fully bright. Further clockwise rotation to the ORIDE detent illuminates the cockpit overhead floodlights and console floodlights.

### 3. Controls and Indications:

(See Figure 1 through Figure 3.)

#### A. Circuit Breakers (CBs):

The flight compartment lighting system is protected by the following CBs:

Circuit Breaker Name:	CB Panel:	Location:	Power Source:
ANN LTS CONTROL MAIN	LEER	C-6	L ESS DC Bus
ANN LTS CONTROL STBY	LEER	C-5	L MN DC Bus
OVHD ANN LTS PWR # 1	LEER	A-6	L ESS DC Bus
OVHD ANN LTS PWR # 3	LEER	A-4	L ESS DC Bus
ANN LTS PWR # 4	LEER	B-9	L ESS DC Bus

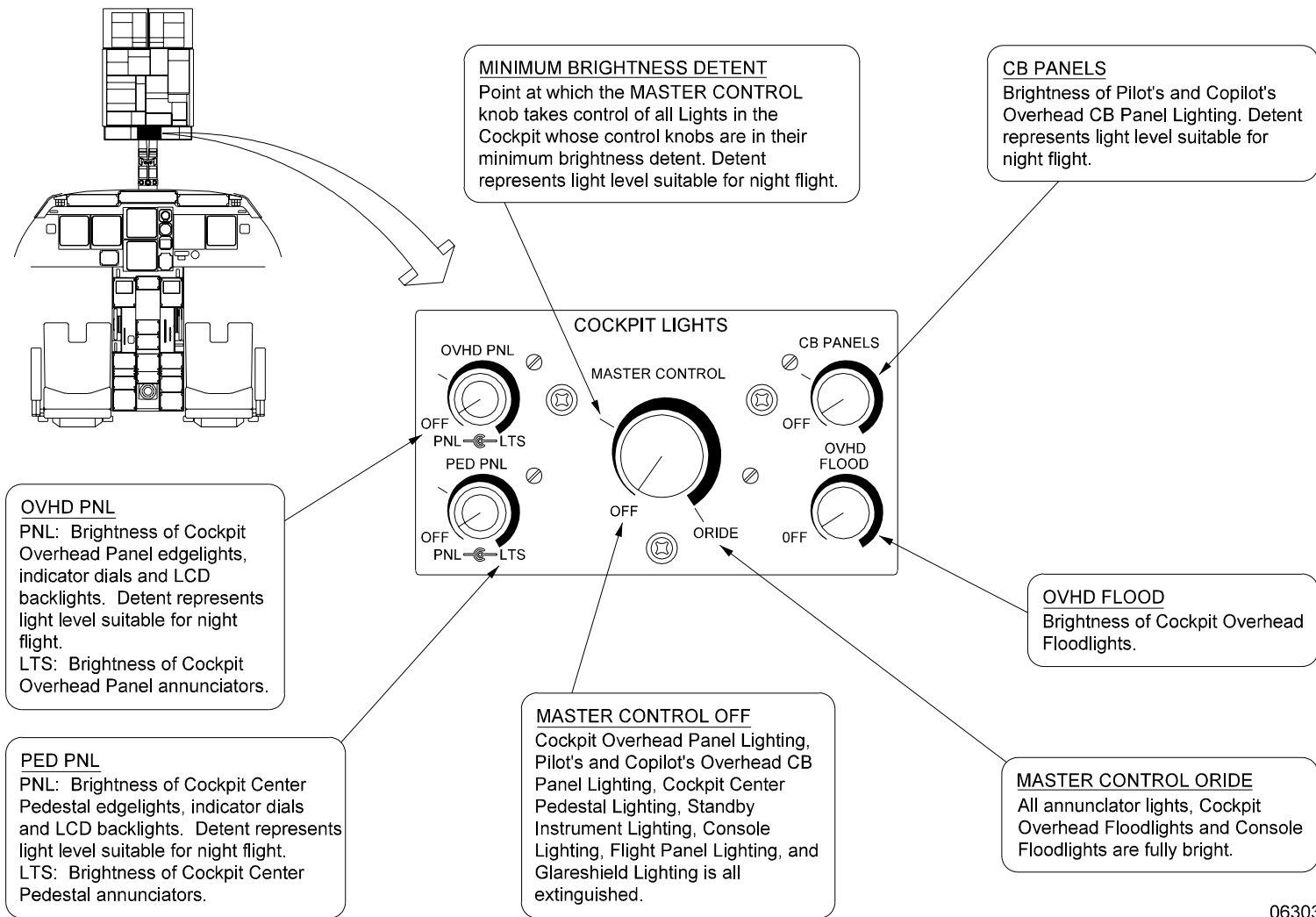
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<b>Circuit Breaker Name:</b>	<b>CB Panel:</b>	<b>Location:</b>	<b>Power Source:</b>
ANN LTS PWR # 6	LEER	B-7	L ESS DC Bus
ANN LTS PWR # 7	REER	B-24	R ESS DC Bus
ANN LTS PWR # 8	REER	B-25	R ESS DC Bus
ANN LTS PWR # 9	LEER	B-6	L ESS DC Bus
ANN LTS PWR # 10	LEER	B-5	L ESS DC Bus
PED PWR # 1	LEER	H-3	L MN DC Bus
PED PWR # 2	REER	F-18	R MN DC Bus
PED PWR # 3	REER	E-20	R MN DC Bus
OVHD PWR # 1	LEER	G-4	L ESS DC Bus
OVHD PWR # 2	REER	E-17	R MN DC Bus
ANN TEST	LEER	C-7	L ESS DC Bus
PILOT OVHD MAP LTS	LEER	G-3	L MN DC Bus
COPILOT OVHD MAP LTS	REER	E-18	R MN DC Bus
L CONSOLE PWR	LEER	G-2	L MN DC Bus
R CONSOLE PWR	REER	E-19	R MN DC Bus
L FLT PNL / GSHLD PWR	LEER	H-4	L ESS DC Bus
R FLT PNL / GSHLD PWR	REER	F-17	R MN DC Bus
L CONSOLE FLOOD	LEER	H-2	L MN DC Bus
R CONSOLE FLOOD	REER	F-19	R MN DC Bus
CKPT CB PANEL LTS	LEER	J-4	L MN DC Bus
COCKPIT FLOOD LTS	LEER	J-3	L MN DC Bus
STBY INST LTS PWR	LEER	J-2	ESS FLT INST Bus
DOME LT	REER	F-20	R ESS DC Bus

#### 4. Limitations:

There are no limitations established for this system as of this revision.



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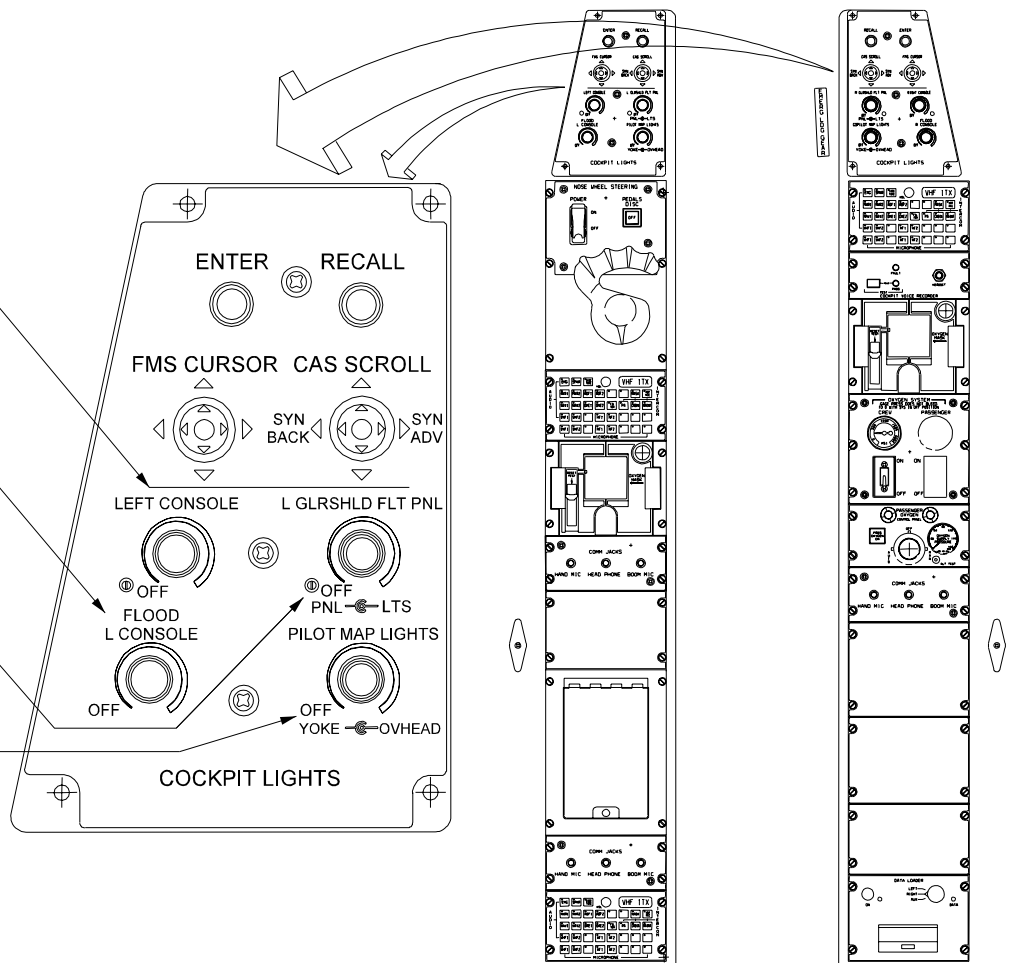
COCKPIT LIGHTS Control Panel  
Figure 1

**LEFT (RIGHT) CONSOLE**  
Brightness of Left (Right) Side Console edgelights and dial face lights. Detent represents light level suitable for night flight.

**FLOOD L (R) CONSOLE**  
Brightness of Left (Right) Side Console fluorescent floodlight.

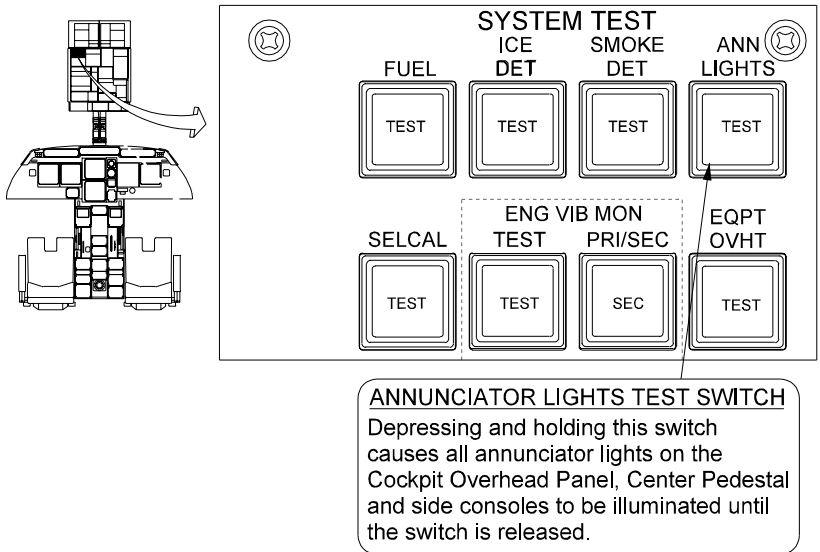
**L (R) GLRSHLD FLT PNL**  
PNL: Brightness of edgelighting and LCDs on left (right) half of the glareshield / flight panel. Detent represents light level suitable for night flight.  
LTS: Brightness of annunciator lights on left (right) half of the glareshield / flight panel.

**PILOT (COPILOT) MAP LIGHTS**  
YOKE: Brightness of pilot's (copilot's) yoke map light.  
OVHD: Brightness of pilot's (copilot's) overhead map light.



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COCKPIT LIGHTS Control Panel (Console)  
Figure 2



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Cockpit Overhead Panel: SYSTEM TEST Section  
Figure 3

## **2A-33-30: Passenger Compartment (Cabin) Lighted Panels and Signs System**

### **1. General Description:**

The passenger compartment (cabin) lighted panels and signs system provides lighted panels and signs and their controls for the cabin area of the aircraft. It provides and controls the following functions for the flight crew:

- Fasten Seat Belts Annunciation
- No Smoking Annunciation

### **2. Description of Subsystems, Units and Components:**

#### **A. Fasten Seat Belts (SEAT BELT) Switch:**

Located on the Cockpit Overhead Panel (COP) in the PASS WARN section, this switch controls the Fasten Seat Belts indicator sign(s) in the cabin.

#### **B. Fasten Seat Belts Indicator Sign(s):**

Located in various places in the aircraft, these indicator signs are illuminated by the flight crew during situations requiring the fastening of seat belts.



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### C. No Smoking (NO SMOKE) Switch:

Also located in the PASS WARN section, this switch controls the No Smoking indicator sign(s) in the cabin.

### D. No Smoking Indicator Sign(s):

Located in various places in the aircraft, these indicator signs are illuminated by the flight crew during situations requiring the extinguishing of all smoking materials.

## 3. Controls and Indications:

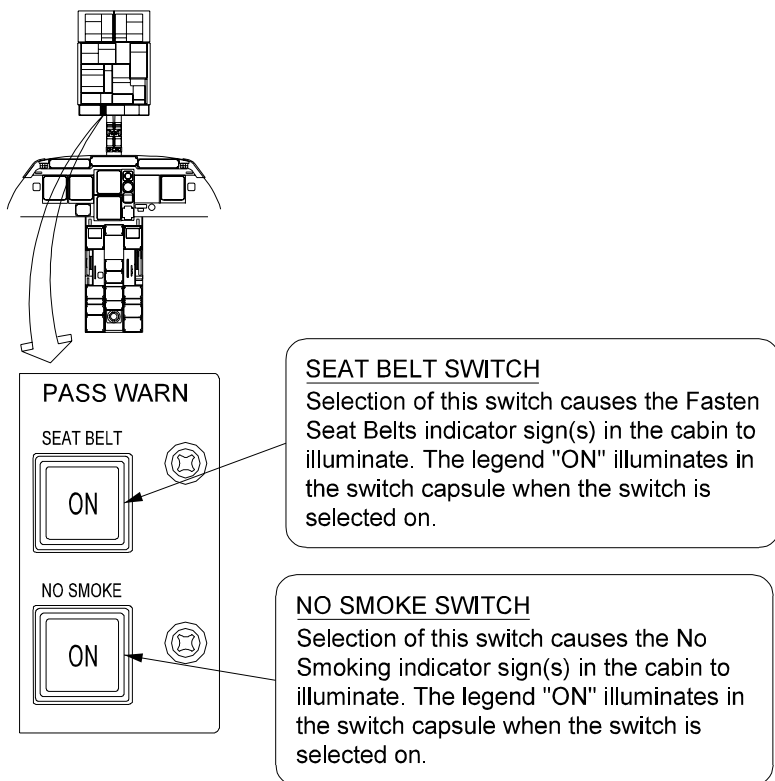
(See Figure 4.)

### A. Circuit Breakers:

Circuit breakers for this system are installed in the aircraft during outfitting.

## 4. Limitations:

There are no limitations established for this system as of this revision.



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Cockpit Overhead Panel: PASS WARN Section  
Figure 4

## **2A-33-40: Cargo and Service Compartment Lighting System**

### **1. General Description:**

The cargo and service compartment lighting system provides lighting for loading and unloading of the baggage compartment, for inspection and maintenance in the tail compartment, and for single point refueling. It is composed of the following subsystems, units and components:

- Baggage Compartment Lighting
- Tail Compartment Lighting
- Service Panel Lighting

### **2. Description of Subsystems, Units and Components:**

#### **A. Baggage Compartment Lighting:**

The baggage compartment lighting system provides the baggage compartment with sufficient lighting to facilitate loading and unloading of baggage and stored gear. The production standard lighting installation consists of a single incandescent light mounted on the baggage compartment overhead. While the controls used depend on the airplane serial number (SN), customer preferences during final outfitting may also differ from the production standard installation described here.

(1) SN 501 through 639:

The baggage compartment light is controlled by the TAIL / BAGGAGE COMPARTMENT LT toggle switch located in the baggage compartment. See Figure 5. In addition to illuminating the baggage compartment light, selection of the TAIL / BAGGAGE COMPARTMENT LT switch to ON also illuminates the tail compartment utility lights.

(2) SN 640 and subsequent:

The baggage compartment light is controlled by the BAG light rocker switch, located in the baggage compartment on the LIGHTS switch panel. See Figure 6.

#### **B. Tail Compartment Lighting:**

The tail compartment lighting system provides the tail compartment with sufficient lighting to allow inspection and perform tasks. While the type of system installed and controls used depend on the airplane serial number, customer preferences during final outfitting may also differ from the production standard installation described here.

(1) SN 501 through 639:

Three (3) incandescent dome lights are mounted on the tail compartment overhead: one forward, one center and one aft. The lights are controlled by either of two switches. The UTILITY LTS toggle switch, located in the tail compartment on the ground service panel near the entrance at the top of the ladder, switches the lights on only when the tail compartment access door is open. See Figure 7. This arrangement prevents leaving the lights on unnecessarily. The TAIL / BAGGAGE COMPARTMENT LT toggle switch, located in the baggage compartment, bypasses the tail door warning and limit switch and will control the tail compartment utility lights regardless of tail compartment door position. This allows the flight crew to view

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the interior of the tail compartment through the inspection window in the center of the pressure dome bulkhead.

### NOTE:

With the tail compartment access door open and the UTILITY LTS switch in the tail compartment selected on, the lights will illuminate regardless of the position of the TAIL / BAGGAGE COMPARTMENT LT switch in the baggage compartment.

(2) SN 640 and subsequent:

Two (2) fluorescent lights and three (3) incandescent dome lights are typically mounted on the tail compartment overhead. The lights are controlled by either of two switches. The UTILITY LTS toggle switch, located in the tail compartment on the ground service panel near the entrance at the top of the ladder, switches the lights on only when the tail compartment access door is open. This arrangement prevents leaving the lights on unnecessarily. The EQUIP light rocker switch, located in the baggage compartment on the LIGHTS switch panel, bypasses the tail door warning and limit switch and will control the tail compartment utility lights regardless of tail compartment door position. See Figure 6. This allows the flight crew to view the interior of the tail compartment through the inspection window in the center of the pressure dome bulkhead.

### NOTE:

With the tail compartment access door open and the UTILITY LTS switch in the tail compartment selected on, the lights will illuminate regardless of the position of the EQUIP light switch in the baggage compartment.

### C. Service Panel Lighting:

The service panel lighting provides lighting for single point refueling operations. It is controlled by a switch located on the single point refueling receptacle access door. When the Ground Service bus is powered and the access door is open, the light will illuminate. The light will extinguish when power is removed from the Ground Service bus or when the access door is closed.

### 3. Controls and Indications:

(See Figure 5 through Figure 7.)

#### A. Circuit Breakers (CBs):

The cargo and service compartment lighting system is protected by the following CBs:

Circuit Breaker Name:	CB Panel:	Location:	Power Source:
UTILITY LTS	REER	C-20	GND SVC bus
SERVICE DOORS	REER	C-19	GND SVC bus

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### **B. Indications:**

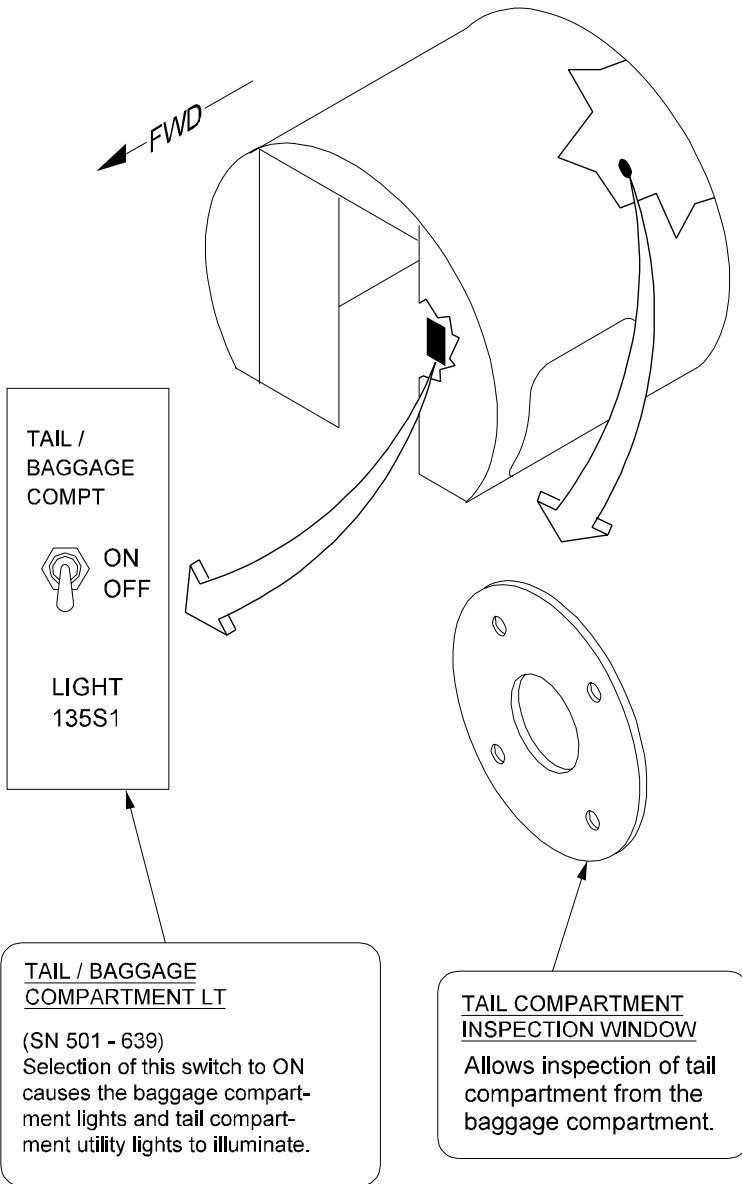
There is no indication in the cockpit when the baggage compartment utility lights, tail compartment utility lights or service panel utility lights are illuminated.

### **4. Limitations:**

There are no limitations established for this system as of this revision.

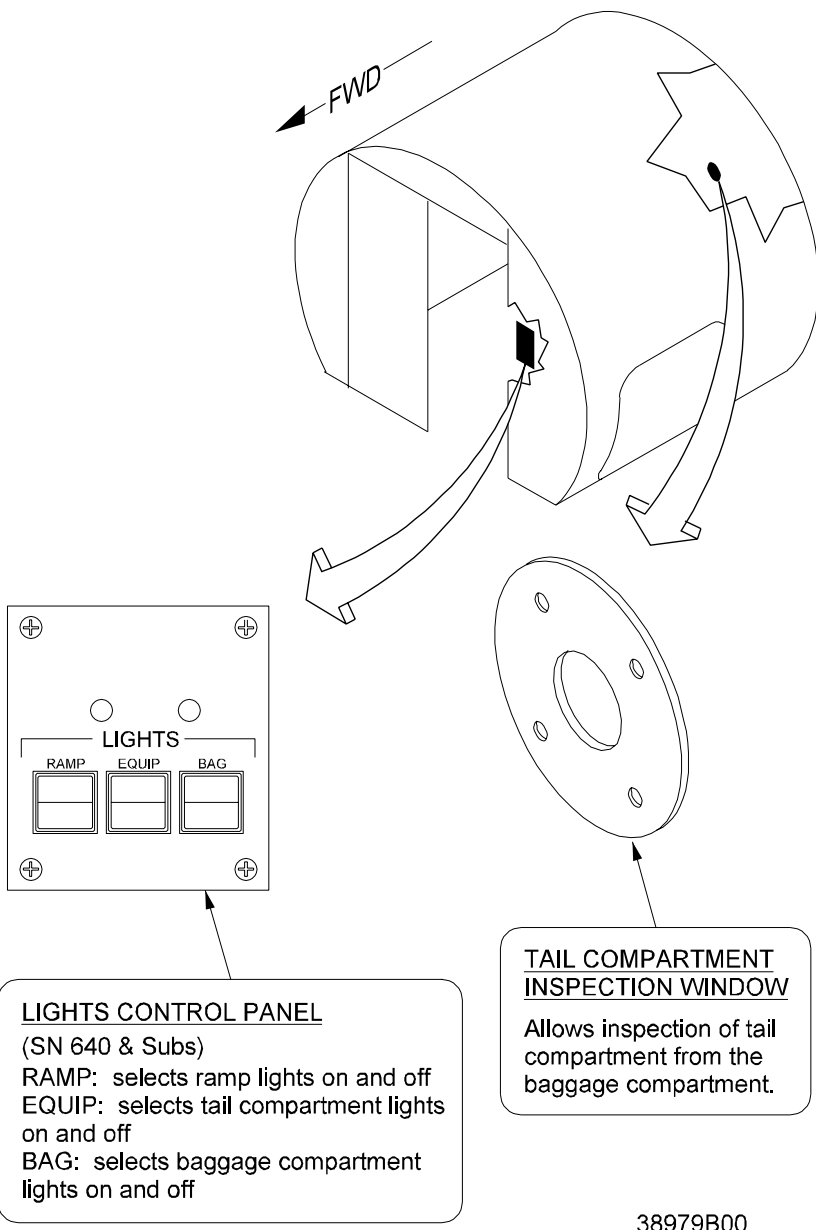
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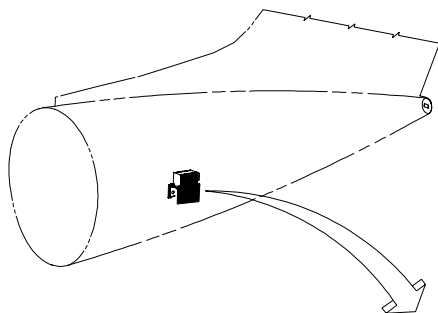


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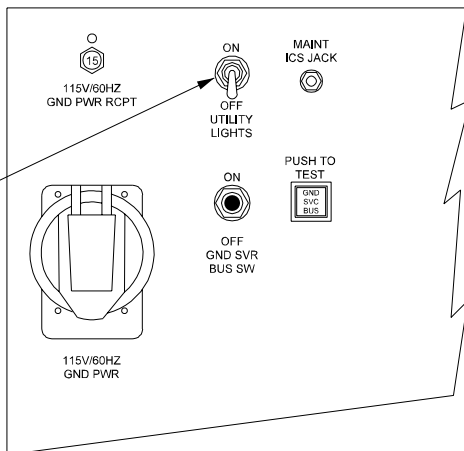
Baggage / Tail Compartment Lighting Controls (SN 501 through 639)  
Figure 5



Baggage / Tail Compartment Lighting Controls (SN 640 and Subs)  
Figure 6



**UTILITY LIGHTS**  
Selection of this switch to ON causes the Tail Compartment Utility Lights to illuminate.



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Tail Compartment Lighting Controls (All SNs)  
Figure 7

## **2A-33-50: Exterior Lighting System**

### **1. General Description:**

The exterior lighting system provides a means of illumination and visibility while operating the aircraft in the air and on the ground. It is composed of the following subsystems, units and components:

- Beacon Light
- Strobe Lights
- Navigation Lights
- Ice Inspection Lights

- Logo Lights
- Ramp Lights
- Landing Lights
- Pulse Lights
- Taxi Lights
- Wing Tip Taxi Lights
- Wheel Well Lights

The location of exterior lights is shown in Figure 8.

## 2. Description of Subsystems, Units and Components:

### A. Beacon Light:

The beacon light primarily functions to alert outside observers that the aircraft engines are operating. It also provides an indication to the ground crew that the EXTERNAL BATTERY switch is on. It consists of one flashing halogen light mounted on the bottom center fuselage between the main wheel well doors and flashes 70 to 90 times per minute. The beacon light control switch is located on the Cockpit Overhead Panel (COP) in the EXTERIOR LTS section, and is labeled BCN.

### B. Strobe Lights:

The strobe lights provide the aircraft with a lighting system that will make it more visible to other aircraft in low light conditions. It consists of three strobe light assemblies, one located in each wing tip and one in the tailcone. Each strobe assembly consists of a light assembly with two flashtubes, a dedicated power supply and a locally mounted fault indicator. The strobe lights control switch is located in the EXTERIOR LTS section of the COP, and is labeled STROBE. Each strobe light is synchronized to the other strobe lights and all flash 42 to 52 times per minute.

There are two flashtubes in each strobe light assembly. During normal operation, only one of the flashtubes is used. Failure of the flashtube causes two events to occur. First, the second flashtube is automatically selected to operate as the primary flashtube. Second, a signal is sent from the power supply to a locally-mounted fault indicator. This fault signal latches the fault indicator, providing a visual indication that the first flashtube has failed. The fault indicator can be reset manually.

### C. Navigation Lights:

The navigation lights (sometimes referred to as position lights) provide the aircraft with a lighting system for navigational and directional recognition. Each installation is equipped with dual lights. Regulations require that a navigation light at each position be operable for dispatch, thus with dual lights, failure of one light will not deter flight operations. Arrangement of the lights are as follows:

- Two red position lights on the left wingtip
- Two green position lights on the right wingtip
- Two white position lights on the tailcone

The navigation lights control switch is located in the EXTERIOR LTS section of the COP, and is labeled NAV. Also, whenever the MAIN BATTERIES are selected to ON, a single position light from each of the



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three pairs can be illuminated by selection of the NAV lights to ON.

### D. Ice Inspection Lights:

The ice inspection lights provide a means of illuminating the leading edge of the wings to inspect for ice accumulation and can be used to enhance aircraft visibility while operating at night in congested areas. It consists of two light assemblies, one mounted on each side of the fuselage above the wing. The ice inspection lights control switch is located in the EXTERIOR LTS section of the COP, and is labeled ICE.

### E. Logo Lights:

Two logo lights are installed as production standard equipment on SN 680 and subsequent airplanes. The lights are mounted in the underside of the horizontal stabilizer on each side and canted inward to illuminate the left and right sides of the vertical stabilizer. The logo lights control switch is located on the COP in the EXTERIOR LTS section, and is labeled LOGO.

### F. Ramp Lights:

Ramp lights are installed as production standard equipment on SN 640 and subsequent airplanes. They are installed to illuminate the areas around the baggage door and beneath the engine pylons to facilitate loading and servicing. The installation consists of three identical lights, one installed on the underside of the aft pylon fairings of each engine, and one in the underside of the left engine pylon above the cargo door. The ramp lights control switch is located on the COP in the EXTERIOR LTS section, and is labeled RAMP. In addition to the cockpit switch, SN 640 and subsequent airplanes also have a ramp lights switch (also labeled RAMP) in the baggage compartment on the LIGHTS control panel.

### G. Landing Lights:

The landing lights provide exterior lighting for night landing and identification. The installation consists of one sealed-beam, fixed-aim light assembly located on each wing in the leading edge at the wing root fairing. The lights are mounted behind removable clear lens installations that conform to the curvature of the wing. The lamp is rated at 600,000 candle power, with a horizontal beam spread of 12° and vertical beam spread of 8°. Each landing light has its own cockpit control indicator/switch. The switches are located in the EXTERIOR LTS section of the COP, and are labeled L LDG and R LDG.

#### NOTE:

The landing lights will automatically extinguish upon reaching 18,000 feet, if not previously selected OFF. This prevents bulb failure caused by thermal shock at high altitudes. On descent through 18,000 feet, the landing lights will automatically illuminate if not previously selected OFF.

### H. Pulse Lights:

Provisions for the Precise Flight Pulselight System are installed on SN 640 and subsequent airplanes. The provisions consist of the control switch and necessary wiring. The system itself, however, is installed under a Supplemental Type Certificate (STC). The pulse lights control switch is

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located on the COP in the EXTERIOR LTS section, and is labeled PULSE.

### I. Taxi Lights:

The taxi lights provide exterior lighting for night ground taxi operation. The installation consists of three identical and interchangeable taxi light assemblies (left, center and right) mounted on the steerable portion of the nose landing gear shock strut. The taxi lights control switch is located in the EXTERIOR LTS section of the COP, and is labeled TAXI.

#### NOTE:

The nose landing gear must be extended and locked for the taxi lights to operate. Therefore, the taxi lights will extinguish when the landing gear is retracted even if still selected ON. The ON legend in the switch will also automatically extinguish.

### J. Wing Tip Taxi Lights:

Wing tip taxi lights are installed as production standard equipment on SN 680 and subsequent airplanes. These lights supplement the taxi lights by providing increased assurance of wingtip clearance during ground operations in low visibility. The wingtip taxi lights consist of a dual light installation on each wingtip. One of the lights is directed forward of the wingtip, and the other is directed down, illuminating the area beneath the wingtip. The wing tip taxi lights control switch is located on the COP in the EXTERIOR LTS section, and is labeled WINGTIP.

### K. Wheel Well Lights:

Wheel well lights are installed as production standard equipment on serial number (SN) 645 and subsequent airplanes. These lights provide lighting of the nose wheel well and both main wheel wells for inspection and servicing. The wheel well lights control switch is located on the COP in the EXTERIOR LTS section, and is labeled WHL WELL.

## 3. Controls and Indications:

(See Figure 9.)

### A. Circuit Breakers (CBs):

The exterior lighting system is protected by the following CBs:

Circuit Breaker Name:	CB Panel:	Location:	Power Source:
BOT AC LT	REER	A-21	GND SVC Bus
BOT AC LT GND OPER	REER	A-22	R ESS DC Bus
STROBE LTS CONT	REER	C-18	R ESS DC Bus
STROBE LTS	REER	C-17	R MN AC Bus
TAXI LTS CONT	REER	B-20	R MN DC Bus
L TAXI LT PWR	REER	B-17	R MN DC Bus
CTR TAXI LT PWR	REER	B-18	R MN DC Bus
R TAXI LT PWR	REER	B-19	R MN DC Bus
R LDG LT PWR	REER	A-17	R MN AC Bus
R LDG LT CONT	REER	A-18	R MN DC Bus
WHEEL WELL LTS	REER	C-21	GND SVC Bus

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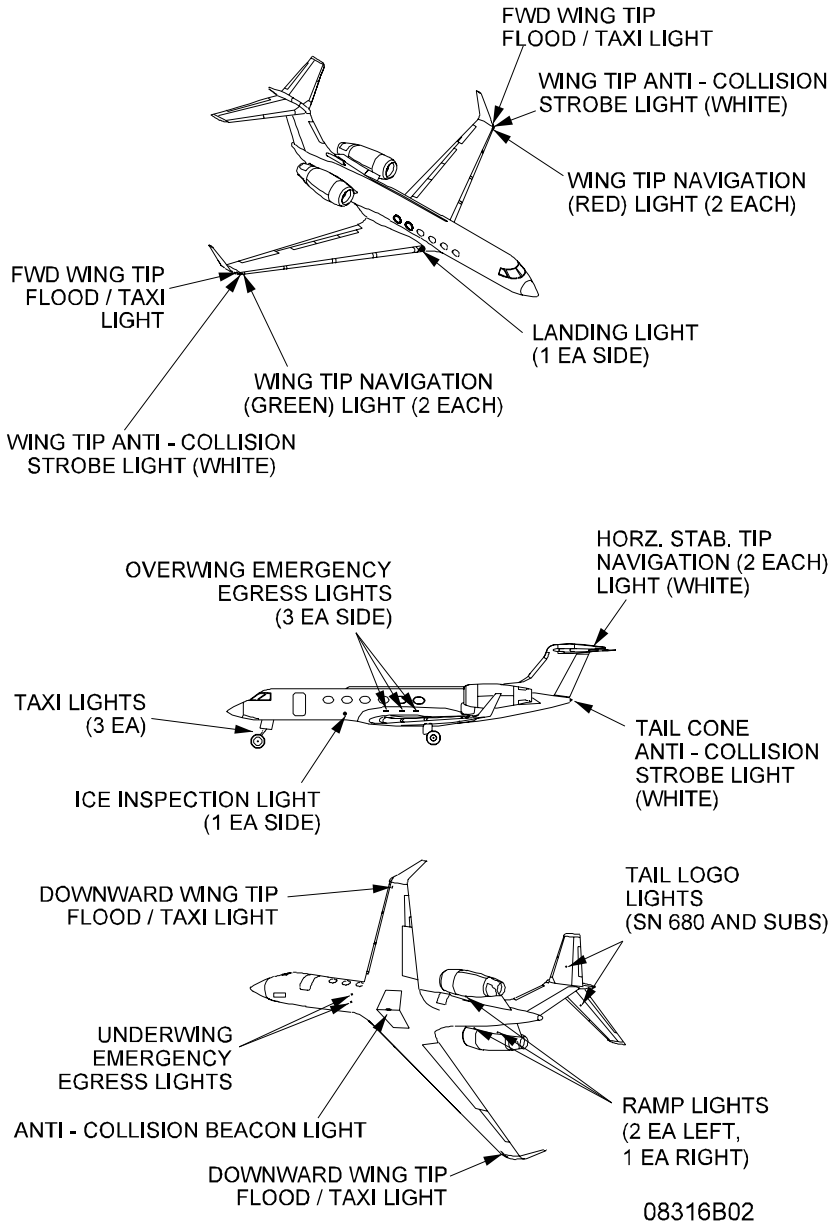
<b>Circuit Breaker Name:</b>	<b>CB Panel:</b>	<b>Location:</b>	<b>Power Source:</b>
SIGN LTS	REER	C-22	R MN DC Bus
NAV LTS CONT	LEER	F-14	L ESS DC Bus
NAV LTS #1	LEER	F-15	L MN DC Bus
NAV LTS #2	LEER	F-13	L ESS DC Bus
INSP LTS CONT	LEER	E-14	L ESS DC Bus
WING INSP LTS	LEER	E-15	L ESS DC Bus
L LDG LT PWR	LEER	D-15	L MN AC Bus
L LDG LT CONT	LEER	D-14	L MN DC Bus

#### 4. Limitations:

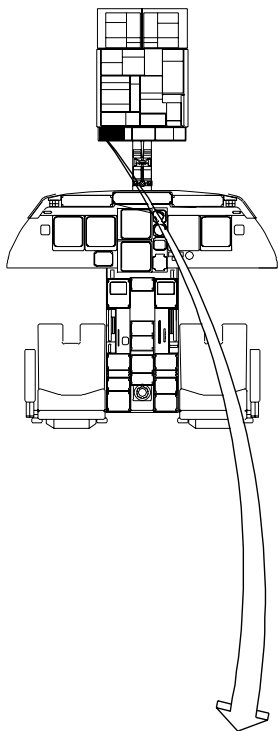
There are no limitations for the exterior lighting system at the time of this revision.

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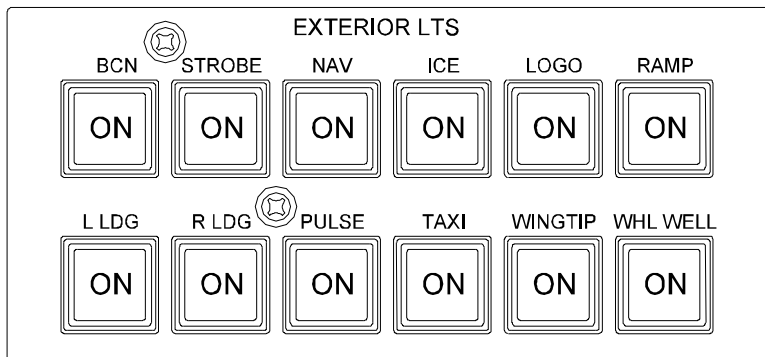
Exterior Light Locations  
Figure 8



### LEGEND

Selection of the following switches to ON illuminates the indicated lights. The "ON" legend in the switch capsule will also illuminate.

- BCN: lower anti-collision beacon light
- STROBE: wingtip / tailcone strobe lights
- NAV: wingtip / vertical stabilizer position lights
- ICE: wing ice inspection lights
- LOGO: logo lights
- L LDG: left landing light
- R LDG: right landing light
- PULSE: pulse lights (provisions only)
- TAXI: taxi lights
- WINGTIP: wingtip taxi lights
- WHL WELL: wheel well lights



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Cockpit Overhead Panel: EXTERIOR LTS Section  
Figure 9

## **2A-33-60: Emergency Lighting System**

### **1. General Description:**

The emergency lighting system provides the aircraft with lighting to facilitate safe evacuation in the event of an emergency in low light conditions. It is composed of the following subsystems, units and components:

- Overwing Egress Lights
- Underwing Egress Lights
- Main Entrance Door Emergency Lighting (SN 630 and subsequent)
- Emergency Lighting Battery Packs
- Emergency Lighting Control Switches

### **2. Detailed Description of Subsystems, Units and Components:**

#### **A. Overwing Egress Lights:**

There are three overwing egress light assemblies located on the fuselage above each wing. There are two lamps in each light assembly. These lights illuminate the wing surface adjacent to the emergency window exits to aid evacuation of the aircraft through the emergency windows and onto the wing.

#### **B. Underwing Egress Lights:**

There are two underwing egress light assemblies located in the fillet area of the forward lower wing. There is a single lamp in each light assembly. When activated, the underwing lights will illuminate the ground to aid evacuation off the wing.

#### **C. Main Entrance Door Emergency Lighting:**

Automatic activation of the main entrance door emergency lighting is enabled on aircraft Serial Number (SN) 630 and subsequent. If the main entrance door is open and the EMERGENCY POWER system is activated (either automatically or manually), the emergency batteries will automatically power the main entrance door emergency lighting.

#### **D. Emergency Lighting Battery Packs:**

Power for the emergency lighting system is supplied from two Emergency Lighting Battery Packs (ELBPs): forward and aft.

The forward ELBP is located in the Right Electrical Equipment Rack (REER). It supplies power to the forward lamps in the overwing egress light assemblies, and both underwing egress lights.

The aft ELBP is located in the baggage compartment electrical equipment rack. It supplies power to the aft lamps in the overwing egress light assemblies, and both underwing egress lights.

#### **E. Emergency Lighting Control Switches:**

The emergency lighting system is controlled by three guarded, momentary action switches located in the EMERGENCY POWER section of the Cockpit Overhead Panel (COP). The switches are labeled ON, ARM, and OFF. Each switch has a split legend labeled LIGHTS on the upper half and AV PWR on the lower half. The legends illuminate amber when commanded by logic signals from the ELBPs.

The function and logic of each switch, based on intentional selection, is

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## OPERATING MANUAL

described as follows:

(1) ON Switch:

When the ON switch is selected, the following events occur:

- The forward and aft ELBPs are activated.
- The overwing and underwing egress lights are illuminated.
- The legend "LIGHTS" is illuminated in the ON switch capsule.
- A blue FWD E LTG BATT ON message is displayed on the Crew Alerting System (CAS).
- A blue AFT E LTG BATT ON message is displayed on CAS.
- If an ELBP should fail, a blue FWD (or AFT) E LTG BATT FAIL message is displayed on CAS.

### NOTE:

If the EMERGENCY POWER system is activated and an EMERGENCY POWER system fault message is displayed on CAS, it may have been caused by the battery pack experiencing an overcurrent trip condition from one of its output sources. An attempt to restore normal operation is accomplished by selection of the ON switch. This causes the battery pack to reactivate the output switches. If the overcurrent fault in the aircraft has cleared, the tripped switch will be reset, and the fault message on CAS will extinguish.

(2) ARM Switch:

When the ARM switch is selected, all legends in the emergency lighting control switches capsules are extinguished and the system monitors the Essential DC (ESS DC) bus. If ESS DC bus power falls below 20V DC or is lost, the EMERGENCY POWER system is activated.

(3) OFF Switch:

When the OFF switch is selected and ESS DC bus voltage is above 20V DC, the EMERGENCY POWER system is shut off and all legends in the ARM switch and OFF switch are illuminated.

### CAUTION

THE EMERGENCY POWER SYSTEM CAN ONLY BE SELECTED OFF IF ESS DC BUS IS ABOVE 20V DC. THEREFORE, IT IS IMPORTANT THAT THE OFF SWITCH BE SELECTED PRIOR TO SELECTION OF THE LEFT AND RIGHT MAIN BATTERIES TO OFF.

### 3. Controls and Indications:

(See Figure 10.)

#### A. Circuit Breakers:

The emergency lighting system is protected by the following circuit breakers:

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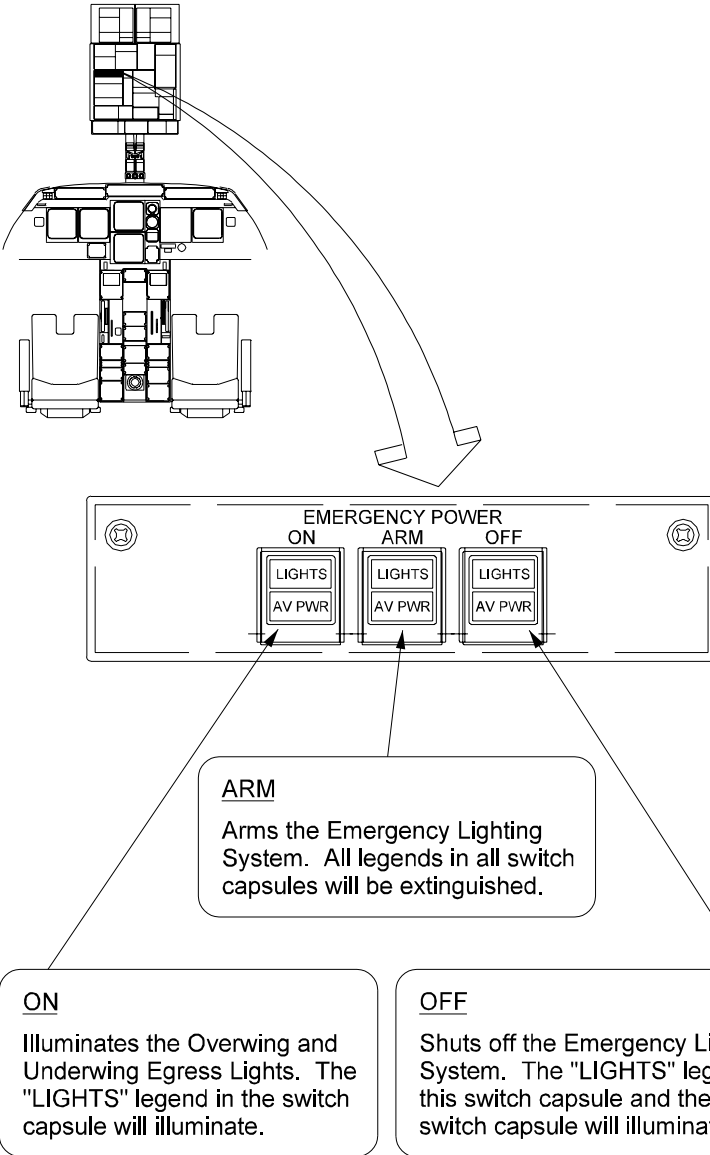
## OPERATING MANUAL

<b>Circuit Breaker Name:</b>	<b>CB Panel:</b>	<b>Location:</b>	<b>Power Source:</b>
FWD E-LTG CHRGR	LEER	D-12	L MN AC bus
FWD E-LTG CONT	LEER	D-13	L ESS DC bus
AFT E-LTG CHRGR	REER	A-20	R MN AC bus
AFT E-LTG CONT	REER	A-19	R ESS AC bus

#### 4. Limitations:

There are no limitations established at the time of this revision.





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Cockpit Overhead Panel: EMERGENCY POWER Section  
Figure 10