

LIGHTING

INTERIOR LIGHTING

Interior lighting is provided for the flight compartment and cabin through a series of direct, indirect, fluorescent and incandescent lighting arrangements.

Cockpit lighting includes electroluminescent panels, glareshield lighting, flood lighting and back lit instrument lighting. Most cockpit lights are controlled from the PANEL LIGHT sub panel, located below the pilot's primary flight display. It contains rheostats for the left, right and center instrument panel (LEFT, CTR PNL and RIGHT), the electroluminescent panels (EL), and the cockpit flood lights (FLOOD). In addition, the sub-panel contains the ON / OFF switch for panel lighting.

Two individually controlled map lights are located in the overhead panel above the pilot and copilot. Intensity controls are located at the forward end of each side console.

Cabin lighting includes overhead fluorescent lighting, individually controlled overhead reading lights for each passenger and in the aft lavatory area, and two additional lights in the aft compartment. An illuminated switch on the forward door post turns on exit lights over the main and emergency doors and one aft baggage compartment light. These lights are powered by the hot battery bus and are available any time the battery is installed and serviceable.

In addition to this cabin lighting, a passenger advisory message light is installed in the cabin. This advisory is controlled by a three-position switch on the tilt panel labeled PASS SAFETY ON / OFF / SEAT BELT ON.

Provisions are made to power certain lighting systems in emergency conditions. Refer to Emergency Lighting for a description.

EXTERIOR LIGHTING

Exterior lighting consists of landing lights, position/anti-collision lights, wing inspection lights, tail flood lights and a ground recognition beacon.

The landing lights are located under the belly fairing (2) and in the outer left and right wingtips (4). The landing light are controlled by separate left and right LANDING LIGHT toggle switches located on the pedestal. When set to the ON position, all six lights are powered. When set to REC (which also serves as the taxi position), both belly lights and a single light at each wing tip are powered.

The position lights are located in each wingtip and on the aft end of the vertical tail. The position system includes red and green wingtip lights, and a white vertical tail light. Selecting the nav switch to the NAV ON position powers the position lights.

The wing inspection lights are mounted on each side of the fuselage just above each wing's leading edge and are used to detect the presence of ice on the wing. Selecting the tilt-panel mounted switch to the WING INSP ON position powers both lights.

The tail flood lights are installed on the upper surface of the horizontal stabilizer. Selecting the tilt-panel mounted switch to the TAIL FLOOD position powers lights which illuminate both sides of the vertical stabilizer.

A ground recognition light is mounted on top of the vertical tail for optimum line of sight visibility and is used during ground taxi operation. The anti-collision light system includes strobes at each wingtip. Selecting the tilt panel-mounted switch to the GND REC ON position powers the beacon. Selecting the switch in the GND REC / ANTI-COLL ON position powers the ground recognition and anti-collision lights.

TAILCONE LIGHTING

Detachable lights located in the tailcone inspection and baggage areas provide interior lighting for tailcone inspection. Power is from the hot battery bus. The OFF/ON switch is mounted on the access doorframe and is wired through the door-closed microswitch. Closing the tailcone compartment door will extinguish the respective light, regardless of OFF/ON switch position.

EMERGENCY LIGHTING

Emergency lighting is a separate and independent system used to provide illumination in case of a primary electrical power failure or in a hard landing situation. The emergency lighting system consists of two emergency battery packs (with 5G inertia switch control), five illuminated emergency exit marking and locating signs, four overhead lights for illumination of exit areas, two strips of floor proximity escape path lighting along the cabin dropped aisle, six cabin door step lights, and two exterior lights for external overwing illumination during night evacuation.

The emergency lights are normally powered from the main DC power system, with the emergency battery packs being trickle charged by the DC power system. In the event of power failure, the 2.5 amp, 17 cell battery powers the following items:

FORWARD BATTERY - The forward battery provides power to illuminate the exit indicators on either side of the cabin door, an exit sign over the cabin door, six lights on the cabin door steps, an overhead light opposite the cabin door, an overhead light aft of the cabin door, and floor proximity lights along one side of the cabin's dropped aisle.

AFT BATTERY - The aft emergency battery pack provides power to illuminate an exit sign above the rear escape hatch, an exit sign on the cabin's aft divider, an overhead light above the escape hatch, an overhead light forward of the cabin's aft divider, two exterior light for overwing escape, and floor proximity lights along the other side of the cabin's dropped aisle.

The lights are controlled by a three position EMER LTS switch located at the bottom of the left instrument panel. When the switch is in the OFF position, none of the emergency lights are illuminated. With normal DC power on and the switch in the OFF position, an amber light adjacent to the switch is illuminated to remind the pilot to place the switch to either the ON or ARM position before flight.

In the ARM position (normal flight mode), the amber light next to the switch extinguishes, but the emergency lights do not illuminate unless either the passenger safety switch is placed in the PASS SAFETY ON position, normal airplane power is lost, or a 5G impact is sustained to the airplane.

In the ON position, the amber light adjacent to the switch extinguishes and all emergency lights are illuminated. These lights will be powered from either the main power bus or, if not available, from the emergency battery packs.

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