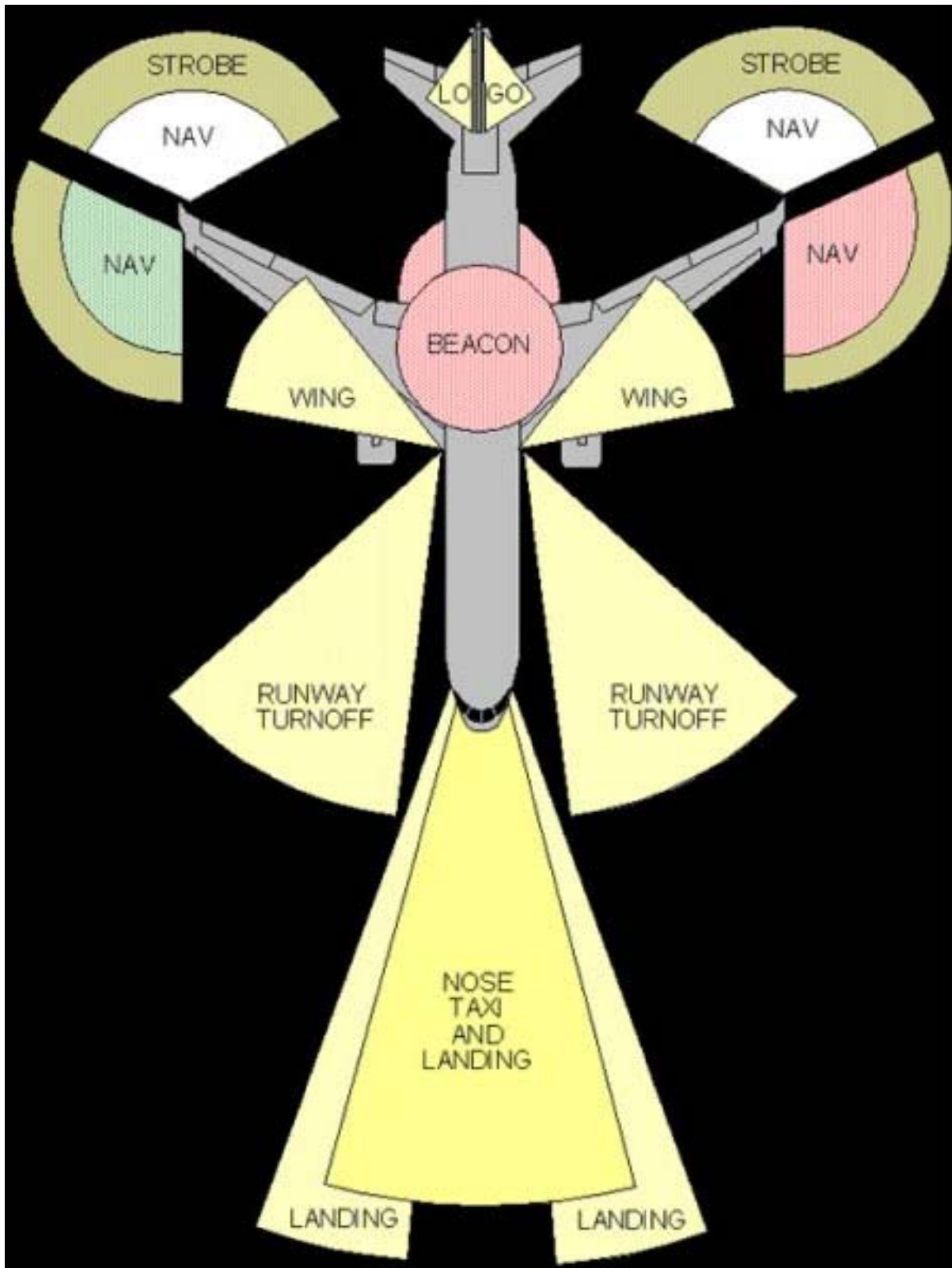


Learning Goals

Lights configurations Airplane





The external lights on aircraft fall into two general categories. The first is navigation lights or beacons that are always illuminated while the aircraft is in operation. A second type includes takeoff and landing lights that are used to improve visibility when the plane is close to or on the ground. Several of these lights are discussed in greater detail below.

Navigation lights: All aircraft are equipped with a steady light near the leading edge of each wingtip. When facing forward from the perspective of the pilot, the light on the right wingtip is green while that on the left wing is red. The different colors make it possible for an outside observer, such as the pilot of another aircraft, to determine which direction the plane is flying. These navigation lights are most useful at night when it is more difficult to tell the direction the plane is going without them.

Navigation or Position lights: In addition to the red and green lights, most planes are also fitted with other steady white navigation lights in various locations. Large airliners, in particular, will often have such lighting on the trailing edge of each wingtip. These lights are also sometimes placed along the trailing edges of the horizontal tail. Another popular location is at the very aft end of the fuselage or at the top of the vertical tail. One of these latter lights placed along the aircraft centerline is especially common on smaller airliners and commuter planes. Whatever the location, the purpose of these steady white lights is to improve the plane's visibility from behind the aircraft.

Anti-Collision Beacon lights: Two beacon lights are fitted to aircraft near the center of the fuselage. One is located on top of the fuselage and the other on the bottom. These lights are colored reddish orange and rotate to produce a flashing effect. The beacons are turned on just before the engines are started and they remain active until the last engine is shut down. The beacons help to serve as a safety warning to ground personnel that the engines are operational.

Strobe lights: High-intensity strobe lights that flash a white-colored light are located on each wingtip. Most smaller planes are only equipped with one of these strobes near the leading edge just behind the red or green navigation light. Larger airliners may be equipped with an additional strobe at the trailing edge as well. These flashing lights are very bright and intended to attract attention during flight. They are sometimes also used on the runway and during taxi to make the plane more conspicuous.

Logo lights: These lights are not required but are common on most commercial aircraft. The lights are usually located on the surface of or at the tips of the horizontal stabilizer. The steady white lights are used to illuminate the company's logo painted on the vertical tail. While useful for advertising, the primary purpose of these lights is safety since the bright lights help to make the plane more visible.



Wing lights: Many airliners feature lights along the root of the wing leading edge that can be used to illuminate the wing and engine pylons in flight. These lights may be used to make the plane more visible during takeoff and landing or to inspect the wings for damage in flight. Pilots can also use the wing lights to inspect the wings and slats for any ice accretion that might build up when flying through clouds.

Taxi lights: A bright white lamp is located on the nose landing gear strut of most planes. This light is typically turned on whenever the aircraft is in motion on the ground for greater visibility during taxi, takeoff, and landing.

Landing lights: Bright white landing lights are usually fitted to most planes for enhanced visibility during the landing approach. These lights can also be used to illuminate the runway at poorly lit airports. They are often required for night landings but also commonly used during the day as well to make the plane more noticeable. While the usage of these lights is common, their location can vary from plane to plane. Landing lights may be located in the wing root, in the outboard wing, or somewhere along the forward fuselage. Some aircraft are equipped with multiple sets of landing lights in more than one of these locations. The 737, for example, has inboard landing lights located in the wing root as well as outboard landing lights in the outboard flap fairings.



Runway Turnoff lights: Usually located in the leading edge of the wing root, these bright white lamps are intended to provide side and forward lighting during taxi and when turning off the runway. These lights are most useful at poorly lit airports but are usually unnecessary. The lights can also be used in flight if greater visibility is required.

Wheel Well lights: Some planes are equipped with additional lights in the nose and main gear wheel wells. These lights are provided primarily to assist ground personnel in making pre-flight inspections of a plane at night.



LIGHTS PROCEDURE ON HEAVY AIRCRAFT

WHEN GOING FROM GATE TO CRUISE:

ENTERING COCKPIT

- NAVIGATION LIGHT ON
- LOGO ON

CONTROL OF AIRPLANE OUTSIDE

- WING LIGHTS ON

PREPARE FOR PUSHBACK

- EMERGENCY EXIT LIGHTS ON
- BEACON ON

TAXI TO RUNWAY

- TAXI LIGHTS ON

ON THE RUNWAY WITH TAKE OFF CLEARANCES

- STROBE LIGHTS ON
- LANDING LIGHTS ON

GEAR UP

- TAXI LIGHTS OFF

PASSING 10.000FT

- LANDING LIGHTS OFF



PASSING 18.000FT

- LOGO OFF

WHEN GOING FROM CRUISE TO GATE:

PASSING 18.000FT

- LOGO ON

PASSING 10.000FT

- LANDING LIGHTS ON

GEAR DOWN

- TAXI LIGHTS ON
- RUNWAY TURNOFF LIGHTS ON

VACATING RUNWAY

- LANDING LIGHTS OFF
- STROBE OFF
- RUNWAY TURNOFF LIGHTS OFF

AT GATE AND ENGINE SHUTDOWN

- TAXI LIGHTS OFF
- EMERGENCY LIGHTS OFF
- BEACON OFF

PARKING AT GATE

- NAVIGATION LIGHTS ON (always)
- LOGO ON (if required)

