

Lighting

CASR Part 91 MOS Division 26.7.

External Aircraft and Navigational Lighting

At night and in conditions of poor visibility, all external lights required for VFR flight must be displayed. If any lights required for night VFR fail in flight, air traffic control must be notified immediately. If you are unable to notify air traffic control, you must land as soon as possible. Under VFR, the following external and navigational lighting must be fitted for flight:

- one landing light;

Note. In the case of air transport flights with passengers, two landing lights are required but a single lamp with two separately energised filaments is acceptable.

- a steady red light (the port navigation light), which must be projected above and below the horizontal plane through to the left of the aircraft;
- a steady green light (the starboard navigation light), which must be projected above and below the horizontal plane through an angle from dead ahead to the right of the aircraft;
- a white light (tail light), which must project above and below the horizontal plane rearward (either side of the tail);
- an anti-collision light, which must consist of a flashing red light visible in all directions above and below the horizontal plane of the aeroplane; and

Note. Two anti-collision lights are usually fitted – one on the upper fuselage or fin and the other on the underside of the fuselage.

- wingtip clearance lights, which are required if the wingtips of the aircraft are more than 2 metres from the navigation lights (wingtip clearance lights must be steady and of appropriate colours).

Any aircraft parked on or adjacent to a movement area at night must be clearly illuminated or lit, unless the area the aircraft occupies is marked by obstruction lights.

Internal Aircraft Lighting

Instrument Illumination. Instruments and equipment essential for the safe operation of the aircraft and used by the flight crew must be illuminated and must meet the following requirements:

- any illuminated instrumentation or equipment must be easily readable or discernible (as applicable);
- any direct or reflected rays must be shielded from the pilot's eyes;

Private, Airwork and Air Transport under Night VFR
CASR Part 135 MOS 11.06.

The flight manual (or approved alternative) for each aircraft will stipulate the instruments and indicators required for flight. The airspeed indicator and altimeter must be able to be supplied by either a normal or an alternate static source, but not both sources simultaneously. Alternatively, the airspeed indicator and altimeter may be connected to a balanced pair of flush static ports.

For aircraft operating under the air transport category, the attitude indicator, direction indicator (DI) and turn-and-slip indicator must have duplicated sources of power unless the turn-and-slip indicator (or a second attitude indicator) has a separate source of power which is independent of the power supply for the gyroscopic instruments.

The instruments must be serviceable prior to take-off for all air transport flights unless:

- flight with the unserviceable instrument is permitted by CASA;
- the unserviceability is a permissible unserviceability as set out in the minimum equipment list for the aircraft; or
- in the case of an approval to fly with an unserviceable instrument, any conditions stipulated by CASA are followed.

Any unserviceable instruments must be either removed from the aircraft or placarded as 'Unserviceable'.

Emergency Equipment

CASR part 91 MOS Division 26.13.

The pilot in command is responsible for ensuring that appropriate and adequate equipment is available on board an aircraft for emergency situations. The pilot in command must make provisions for equipment and other resources appropriate to terrain and climate as required for sustaining life.

Over Water Flights

Life jackets, life rafts and emergency signalling equipment are required under the circumstances outlined below.

Life Jackets. Life jackets are required for:

- single-engine aircraft when the aircraft is flying out of gliding range of land; and
- multi-engine when flights over water exceed 50 nm.

Note. All occupants *must* wear life jackets during flight over water at or below 2,000 ft in single-engine aircraft outside gliding range of land.

There must be one life jacket on board for each occupant, and life jackets must be stowed at – or adjacently to – each occupied seat. If infants are carried, suitable life jackets must be made available and they must be easily accessible.

Life Rafts and Signalling Equipment. Life rafts are required when flying a distance over water equivalent to 30 minutes at normal cruising speed or 100 nm, whichever is the lesser (single-engine aircraft). Life rafts are carried in addition to compulsory life jackets, and there must be sufficient places available in life rafts for all occupants on board the aircraft. Life rafts must be clearly marked if stowed in compartments or containers, and they must be readily accessible in the event of any ditching situation. Signalling equipment must be carried on all flights requiring life rafts. This equipment includes:

- one *emergency locator transmitter* (ELT) when one life raft is carried and at least two beacon transmitters when two or more life rafts are carried; and
- a supply of pyrotechnic distress signals.

Briefing of Passengers

CASR part 91 MOS 20.06

On flights where survival equipment is required, all passengers must be briefed on the location and use of all emergency equipment before take-off.

For air transport operations, this briefing must be specified in the aircraft's operations manual or in another document as specified in the company's operations manual.

The briefing must take place before take-off if the flight is to depart directly over water, otherwise it must take place and be completed before the over water segment of the flight.

Emergency Locator Transmitter

CASR part 91 MOS division 26.12

An ELT must be carried on all flights except:

- flights conducted wholly within 50 nm of the departure aerodrome;
- when conducting agricultural operations; and
- when special permission has been granted by CASA.