

§ 25.858

(2) There is a separate approved smoke or fire detector system to give warning at the pilot or flight engineer station;

(3) There are means to shut off the ventilating airflow to, or within, the compartment, and the controls for these means are accessible to the flight crew in the crew compartment;

(4) There are means to exclude hazardous quantities of smoke, flames, or noxious gases, from the flight crew compartment; and

(5) The required crew emergency exits are accessible under any cargo loading condition.

(f) Class F. A Class F cargo or baggage compartment must be located on the main deck and is one in which—

(1) There is a separate approved smoke detector or fire detector system to give warning at the pilot or flight engineer station;

(2) There are means to extinguish or control a fire without requiring a crewmember to enter the compartment; and

(3) There are means to exclude hazardous quantities of smoke, flames, or extinguishing agent from any compartment occupied by the crew or passengers.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-32, 37 FR 3972, Feb. 24, 1972; Amdt. 25-60, 51 FR 18243, May 16, 1986; Amdt. 25-93, 63 FR 8048, Feb. 17, 1998; Doc. No. Docket FAA-2014-0001, Amdt. 25-142, 81 FR 7704, Feb. 16, 2016]

§ 25.858 Cargo or baggage compartment smoke or fire detection systems.

If certification with cargo or baggage compartment smoke or fire detection provisions is requested, the following must be met for each cargo or baggage compartment with those provisions:

(a) The detection system must provide a visual indication to the flight crew within one minute after the start of a fire.

(b) The system must be capable of detecting a fire at a temperature significantly below that at which the structural integrity of the airplane is substantially decreased.

(c) There must be means to allow the crew to check in flight, the functioning of each fire detector circuit.

(d) The effectiveness of the detection system must be shown for all approved

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operating configurations and conditions.

[Amdt. 25-54, 45 FR 60173, Sept. 11, 1980, as amended by Amdt. 25-93, 63 FR 8048, Feb. 17, 1998]

§ 25.859 Combustion heater fire protection.

(a) *Combustion heater fire zones.* The following combustion heater fire zones must be protected from fire in accordance with the applicable provisions of §§ 25.1181 through 25.1191 and §§ 25.1195 through 25.1203;

(1) The region surrounding the heater, if this region contains any flammable fluid system components (excluding the heater fuel system), that could—

(i) Be damaged by heater malfunctioning; or

(ii) Allow flammable fluids or vapors to reach the heater in case of leakage.

(2) The region surrounding the heater, if the heater fuel system has fittings that, if they leaked, would allow fuel or vapors to enter this region.

(3) The part of the ventilating air passage that surrounds the combustion chamber. However, no fire extinguishment is required in cabin ventilating air passages.

(b) *Ventilating air ducts.* Each ventilating air duct passing through any fire zone must be fireproof. In addition—

(1) Unless isolation is provided by fireproof valves or by equally effective means, the ventilating air duct downstream of each heater must be fireproof for a distance great enough to ensure that any fire originating in the heater can be contained in the duct; and

(2) Each part of any ventilating duct passing through any region having a flammable fluid system must be constructed or isolated from that system so that the malfunctioning of any component of that system cannot introduce flammable fluids or vapors into the ventilating airstream.

(c) *Combustion air ducts.* Each combustion air duct must be fireproof for a distance great enough to prevent damage from backfiring or reverse flame propagation. In addition—

(1) No combustion air duct may have a common opening with the ventilating airstream unless flames from backfires