

§ 23.1125

motion could exist must have means for flexibility.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-43, 58 FR 18974, Apr. 9, 1993]

§ 23.1125 Exhaust heat exchangers.

For reciprocating engine powered airplanes the following apply:

(a) Each exhaust heat exchanger must be constructed and installed to withstand the vibration, inertia, and other loads that it may be subjected to in normal operation. In addition—

(1) Each exchanger must be suitable for continued operation at high temperatures and resistant to corrosion from exhaust gases;

(2) There must be means for inspection of critical parts of each exchanger; and

(3) Each exchanger must have cooling provisions wherever it is subject to contact with exhaust gases.

(b) Each heat exchanger used for heating ventilating air must be constructed so that exhaust gases may not enter the ventilating air.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-17, 41 FR 55465, Dec. 20, 1976]

POWERPLANT CONTROLS AND ACCESSORIES

§ 23.1141 Powerplant controls: General.

(a) Powerplant controls must be located and arranged under § 23.777 and marked under § 23.1555(a).

(b) Each flexible control must be shown to be suitable for the particular application.

(c) Each control must be able to maintain any necessary position without—

(1) Constant attention by flight crew members; or

(2) Tendency to creep due to control loads or vibration.

(d) Each control must be able to withstand operating loads without failure or excessive deflection.

(e) For turbine engine powered airplanes, no single failure or malfunction, or probable combination thereof, in any powerplant control system may cause the failure of any powerplant function necessary for safety.

14 CFR Ch. I (1-1-08 Edition)

(f) The portion of each powerplant control located in the engine compartment that is required to be operated in the event of fire must be at least fire resistant.

(g) Powerplant valve controls located in the cockpit must have—

(1) For manual valves, positive stops or in the case of fuel valves suitable index provisions, in the open and closed position; and

(2) For power-assisted valves, a means to indicate to the flight crew when the valve—

(i) Is in the fully open or fully closed position; or

(ii) Is moving between the fully open and fully closed position.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-7, 34 FR 13095, Aug. 13, 1969; Amdt. 23-14, 38 FR 31823, Nov. 19, 1973; Amdt. 23-18, 42 FR 15042, Mar. 17, 1977; Amdt. 23-51, 61 FR 5137, Feb. 9, 1996]

§ 23.1142 Auxiliary power unit controls.

Means must be provided on the flight deck for the starting, stopping, monitoring, and emergency shutdown of each installed auxiliary power unit.

[Doc. No. 26344, 58 FR 18974, Apr. 9, 1993]

§ 23.1143 Engine controls.

(a) There must be a separate power or thrust control for each engine and a separate control for each supercharger that requires a control.

(b) Power, thrust, and supercharger controls must be arranged to allow—

(1) Separate control of each engine and each supercharger; and

(2) Simultaneous control of all engines and all superchargers.

(c) Each power, thrust, or supercharger control must give a positive and immediate responsive means of controlling its engine or supercharger.

(d) The power, thrust, or supercharger controls for each engine or supercharger must be independent of those for every other engine or supercharger.

(e) For each fluid injection (other than fuel) system and its controls not provided and approved as part of the engine, the applicant must show that the flow of the injection fluid is adequately controlled.