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§ 29.1123 Exhaust piping.

(a) Exhaust piping must be heat and corrosion resistant, and must have provisions to prevent failure due to expansion by operating temperatures.

(b) Exhaust piping must be supported to withstand any vibration and inertia loads to which it would be subjected in operation.

(c) Exhaust piping connected to components between which relative motion could exist must have provisions for flexibility.

§ 29.1125 Exhaust heat exchangers.

For reciprocating engine powered rotorcraft the following apply:

(a) Each exhaust heat exchanger must be constructed and installed to withstand the vibration, inertia, and other loads to which it would be subjected in 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 inspecting the critical parts of each exchanger;

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

(4) No exhaust heat exchanger or muff may have stagnant areas or liquid traps that would increase the probability of ignition of flammable fluids or vapors that might be present in case of the failure or malfunction of components carrying flammable fluids.

(b) If an exhaust heat exchanger is used for heating ventilating air used by personnel—

(1) There must be a secondary heat exchanger between the primary exhaust gas heat exchanger and the ventilating air system; or

(2) Other means must be used to prevent harmful contamination of the ventilating air.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–12, 41 FR 55473, Dec. 20, 1976; Amdt. 29–41, 62 FR 46173, Aug. 29, 1997]

POWERPLANT CONTROLS AND ACCESSORIES

§ 29.1141 Powerplant controls: general.

(a) Powerplant controls must be located and arranged under § 29.777 and marked under § 29.1555.

(b) Each control must be located so that it cannot be inadvertently operated by persons entering, leaving, or moving normally in the cockpit.

(c) Each flexible powerplant control must be approved.

(d) Each control must be able to maintain any set position without—

(1) Constant attention; or

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

(e) Each control must be able to withstand operating loads without excessive deflection.

(f) Controls of powerplant valves required for safety 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.

(Secs. 313(a), 601, and 603, 72 Stat. 752, 775, 49 U.S.C. 1354(a), 1421, and 1423; sec. 6(c), 49 U.S.C. 1655(c))

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29–13, 42 FR 15046, Mar. 17, 1977; Amdt. 29–26, 53 FR 34219, Sept. 2, 1988]

§ 29.1142 Auxiliary power unit controls.

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

(Secs. 313(a), 601, 603, 604, Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424), sec. 6(c), Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Amdt. 29–17, 43 FR 50602, Oct. 30, 1978]

§ 29.1143 Engine controls.

(a) There must be a separate power control for each engine.