

§ 25.933

this part and in the portions of Appendix O of this part for which the airplane is approved for flight on propellers or on accessories where ice accumulation would jeopardize engine performance.

(b) If combustible fluid is used for propeller deicing, §§ 25.1181 through 25.1185 and 25.1189 apply.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-140, 79 FR 65525, Nov. 4, 2014]

§ 25.933 Reversing systems.

(a) For turbojet reversing systems—

(1) Each system intended for ground operation only must be designed so that during any reversal in flight the engine will produce no more than flight idle thrust. In addition, it must be shown by analysis or test, or both, that—

(i) Each operable reverser can be restored to the forward thrust position; and

(ii) The airplane is capable of continued safe flight and landing under any possible position of the thrust reverser.

(2) Each system intended for inflight use must be designed so that no unsafe condition will result during normal operation of the system, or from any failure (or reasonably likely combination of failures) of the reversing system, under any anticipated condition of operation of the airplane including ground operation. Failure of structural elements need not be considered if the probability of this kind of failure is extremely remote.

(3) Each system must have means to prevent the engine from producing more than idle thrust when the reversing system malfunctions, except that it may produce any greater forward thrust that is shown to allow directional control to be maintained, with aerodynamic means alone, under the most critical reversing condition expected in operation.

(b) For propeller reversing systems—

(1) Each system intended for ground operation only must be designed so that no single failure (or reasonably likely combination of failures) or malfunction of the system will result in unwanted reverse thrust under any expected operating condition. Failure of structural elements need not be consid-

14 CFR Ch. I (1-1-19 Edition)

ered if this kind of failure is extremely remote.

(2) Compliance with this section may be shown by failure analysis or testing, or both, for propeller systems that allow propeller blades to move from the flight low-pitch position to a position that is substantially less than that at the normal flight low-pitch position. The analysis may include or be supported by the analysis made to show compliance with the requirements of § 35.21 of this chapter for the propeller and associated installation components.

[Amdt. 25-72, 55 FR 29784, July 20, 1990]

§ 25.934 Turbojet engine thrust reverser system tests.

Thrust reversers installed on turbojet engines must meet the requirements of § 33.97 of this chapter.

[Amdt. 25-23, 35 FR 5677, Apr. 8, 1970]

§ 25.937 Turbopropeller-drag limiting systems.

Turbopropeller power airplane propeller-drag limiting systems must be designed so that no single failure or malfunction of any of the systems during normal or emergency operation results in propeller drag in excess of that for which the airplane was designed under § 25.367. Failure of structural elements of the drag limiting systems need not be considered if the probability of this kind of failure is extremely remote.

§ 25.939 Turbine engine operating characteristics.

(a) Turbine engine operating characteristics must be investigated in flight to determine that no adverse characteristics (such as stall, surge, or flame-out) are present, to a hazardous degree, during normal and emergency operation within the range of operating limitations of the airplane and of the engine.

(b) [Reserved]

(c) The turbine engine air inlet system may not, as a result of air flow distortion during normal operation, cause vibration harmful to the engine.

[Amdt. 25-11, 32 FR 6912, May 5, 1967, as amended by Amdt. 25-40, 42 FR 15043, Mar. 17, 1977]