§ 25.1461 Equipment containing high energy rotors.  

(a) Equipment containing high energy rotors must meet paragraph (b), (c), or (d) of this section.  

(b) High energy rotors contained in equipment must be able to withstand damage caused by malfunctions, vibration, abnormal speeds, and abnormal temperatures. In addition—  

(1) Auxiliary rotor cases must be able to contain damage caused by the failure of high energy rotor blades; and  

(2) Equipment control devices, systems, and instrumentation must reasonably ensure that no operating limitations affecting the integrity of high energy rotors will be exceeded in service.

(c) It must be shown by test that equipment containing high energy rotors can contain any failure of a high energy rotor that occurs at the highest speed obtainable with the normal speed control devices inoperative.  

(d) Equipment containing high energy rotors must be located where rotor failure will neither endanger the occupants nor adversely affect continued safe flight.

[Amend. 25–41, 42 FR 36971, July 18, 1977]

Subpart G—Operating Limitations and Information

§ 25.1501 General.  
(a) Each operating limitation specified in §§ 25.1503 through 25.1533 and other limitations and information necessary for safe operation must be established.  

(b) The operating limitations and other information necessary for safe operation must be made available to the crewmembers as prescribed in §§ 25.1541 through 25.1587.

[Amdt. 25–42, 43 FR 2323, Jan. 16, 1978]

OPERATING LIMITATIONS

When airspeed limitations are a function of weight, weight distribution, altitude, or Mach number, limitations corresponding to each critical combination of these factors must be established.

§ 25.1505 Maximum operating limit speed.  
The maximum operating limit speed ($V_{MO}/M_{MO}$ airspeed or Mach Number, whichever is critical at a particular altitude) is a speed that may not be deliberately exceeded in any regime of flight (climb, cruise, or descent), unless a higher speed is authorized for flight test or pilot training operations. $V_{MO}/M_{MO}$ must be established so that it is not greater than the design cruising speed $V_C$ and so that it is sufficiently below $V_{DF}/M_{DF}$ or $V_{DF}/M_{DF}$ to make it highly improbable that the latter speeds will be inadvertently exceeded in operations. The speed margin between $V_{MO}/M_{MO}$ and $V_{DF}/M_{DF}$ may not be less than that determined.
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§ 25.1521 Powerplant limitations.

(a) General. The powerplant limitations prescribed in this section must be established so that they do not exceed the corresponding limits for which the engines or propellers are type certified and do not exceed the values on which compliance with any other requirement of this part is based.

(b) Reciprocating engine installations. Operating limitations relating to the following must be established for reciprocating engine installations:

(1) Horsepower or torque, r.p.m., manifold pressure, and time at critical pressure altitude and sea level pressure altitude for—
   (i) Maximum continuous power (relating to unsupercharged operation or to operation in each supercharger mode as applicable); and
   (ii) Takeoff power (relating to unsupercharged operation or to operation in each supercharger mode as applicable).

(2) Fuel grade or specification.

(3) Cylinder head and oil temperatures.

(4) Any other parameter for which a limitation has been established as part of the engine type certificate except that a limitation need not be established for a parameter that cannot be exceeded during normal operation due to the design of the installation or to another established limitation.