

Code of Federal Regulations

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Part 25 AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES	
Subpart B--Flight	Miscellaneous Flight Requirements

Sec. 25.253

High-speed characteristics.

- (a) *Speed increase and recovery characteristics.* The following speed increase and recovery characteristics must be met:
- (1) Operating conditions and characteristics likely to cause inadvertent speed increases (including upsets in pitch and roll) must be simulated with the airplane trimmed at any likely cruise speed up to V_{MO}/M_{MO} . These conditions and characteristics include gust upsets, inadvertent control movements, low stick force gradient in relation to control friction, passenger movement, leveling off from climb, and descent from Mach to airspeed limit altitudes.
 - (2) Allowing for pilot reaction time after effective inherent or artificial speed warning occurs, it must be shown that the airplane can be recovered to a normal altitude and its speed reduced to V_{MO}/M_{MO} , without-
 - (i) Exceptional piloting strength or skill;
 - (ii) Exceeding V_D/M_D , V_{DF}/M_{DF} , or the structural limitations; and
 - (iii) Buffeting that would cause structural damage.
 - (3) There may be no control reversal about any axis at any speed up to V_{DF}/M_{DF} . Any reversal of elevator control force or tendency of the airplane to pitch, roll, or yaw must be mild and readily controllable, using normal piloting techniques.
- (b) *Maximum speed for stability characteristics*, V_{FC}/M_{FC} . V_{FC}/M_{FC} is the maximum speed at which the requirements of Secs. 25.147(e), 25.175(b)(1), 25.177, 25.181, and 25.187 must be met with flaps and landing gear retracted. It may not be less than a speed midway between V_{MO}/M_{MO} and V_{DF}/M_{DF} , except that, for altitudes where Mach number is the limiting factor, M_{FC} need not exceed the Mach number at which effective speed warning occurs.