Federal Aviation Administration, DOT

§ 23.161 Trim.

(a) General. Each airplane must meet the trim requirements of this section

(b) With the airplane in trim, or as nearly as possible in trim and without the trimming control being moved throughout the maneuver;

(c) At an approach gradient equal to the steepest used in the landing distance demonstration of § 23.75; and

(d) With only those power changes, if any, that would be made when landing normally from an approach at VREF.

[Doc. No. 27807, 61 FR 5189, Feb. 9, 1996]

§ 23.157 Rate of roll.

(a) Takeoff. It must be possible, using a favorable combination of controls, to roll the airplane from a steady 30-degree banked turn through an angle of 60 degrees, so as to reverse the direction of the turn within:

(1) For an airplane of 6,000 pounds or less maximum weight, 5 seconds from initiation of roll; and

(2) For an airplane of over 6,000 pounds maximum weight, (W+500)/1,300 seconds, but not more than 10 seconds, where W is the weight in pounds.

(b) The requirement of paragraph (a) of this section must be met when rolling the airplane in each direction with—

(1) Flaps in the takeoff position;

(2) Landing gear retracted;

(3) For a single-engine airplane, at maximum takeoff power; and for a multiengine airplane with the critical engine inoperative and the propeller in the minimum drag position, and the other engines at maximum takeoff power; and

(4) The airplane trimmed at a speed equal to the greater of 1.2 V S1 or 1.1 V MC, or as nearly as possible in trim for straight flight.

(c) Approach. It must be possible, using a favorable combination of controls, to roll the airplane from a steady 30-degree banked turn through an angle of 60 degrees, so as to reverse the direction of the turn within:

(1) For an airplane of 6,000 pounds or less maximum weight, 4 seconds from initiation of roll; and

(2) For an airplane of over 6,000 pounds maximum weight, (W+2,800)/2,200 seconds, but not more than 7 seconds, where W is the weight in pounds.

(d) The requirement of paragraph (c) of this section must be met when rolling the airplane in each direction in the following conditions—

(1) Flaps in the landing position(s);

(2) Landing gear extended;

(3) All engines operating at the power for a 3 degree approach; and

(4) The airplane trimmed at VREF.