Federal Aviation Administration, DOT

§ 23.1323 Airspeed indicating system.

(a) Each airspeed indicating instrument must be calibrated to indicate true airspeed (at sea level with a standard atmosphere) with a minimum practicable instrument calibration error when the corresponding pitot and static pressures are applied.

(b) Each airspeed system must be calibrated in flight to determine the system error. The system error, including position error, but excluding the airspeed indicator instrument calibration error, may not exceed three percent of the calibrated airspeed or five knots, whichever is greater, throughout the following speed ranges:

(1) $1.3 V_{S1}$ to $V_{MO}$ or $V_{NE}$, whichever is appropriate with flaps retracted.

(2) $1.3 V_{S1}$ to $V_{FE}$ with flaps extended.

(c) The design and installation of each airspeed indicating system must provide positive drainage of moisture from the pitot static plumbing.

(d) If certification for instrument flight rules or flight in icing conditions is requested, each airspeed system must have a heated pitot tube or an equivalent means of preventing malfunction due to icing.

(e) In addition, for commuter category airplanes, the airspeed indicating system must be calibrated to determine the system error during the accelerate-takeoff ground run. The ground run calibration must be obtained between $0.8$ of the minimum value of $V_1$, and $1.2$ times the maximum value of $V_1$, considering the approved ranges of altitude and weight. The ground run calibration must be determined assuming an engine failure at the minimum value of $V_1$.

(f) For commuter category airplanes, where duplicate airspeed indicators are required, their respective pitot tubes

The color differs sufficiently from the colors prescribed in paragraphs (a) through (c) of this section to avoid possible confusion.

(e) Effective under all probable cockpit lighting conditions.

[Amdt. 23–17, 41 FR 55465, Dec. 20, 1976, as amended by Amdt. 23–43, 58 FR 18976, Apr. 9, 1993]