Federal Aviation Administration, DOT

§ 27.1325

(1) The system has previously been shown to comply with special conditions for HIRF, prescribed under §21.16, issued before December 1, 2007;

(2) The HIRF immunity characteristics of the system have not changed since compliance with the special conditions was demonstrated; and

(3) The data used to demonstrate compliance with the special conditions is provided.


§ 27.1323 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) The airspeed indicating system must be calibrated in flight at forward speeds of 20 knots and over.

(c) At each forward speed above 80 percent of the climbout speed, the airspeed indicator must indicate true airspeed, at sea level with a standard atmosphere, to within an allowable installation error of not more than the greater of—

(1) ±3 percent of the calibrated airspeed; or

(2) Five knots.

[Secs. 313(a), 601, 603, 604, and 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424, and 1425); and sec. 6(c) of the Dept. of Transportation Act (49 U.S.C. 1655(c))]

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27–13, 42 FR 36972, July 18, 1977]

§ 27.1325 Static pressure systems.

(a) Each instrument with static air case connections must be vented so that the influence of rotorcraft speed, the opening and closing of windows, airflow variation, and moisture or other foreign matter does not seriously affect its accuracy.

(b) Each static pressure port must be designed and located in such manner that the correlation between air pressure in the static pressure system and true ambient atmospheric static pressure is not altered when the rotorcraft encounters icing conditions. An anticicing means or an alternate source of static pressure may be used in showing compliance with this requirement. If the reading of the altimeter, when on the primary static system, differs from the reading of the altimeter when on the primary static system by more than 50 feet, a correction card
§ 27.1327 Magnetic direction indicator.
(a) Except as provided in paragraph (b) of this section—
   (1) Each magnetic direction indicator must be installed so that its accuracy
       is not excessively affected by the rotorcraft’s vibration or magnetic
       fields; and
   (2) The compensated installation may not have a deviation, in level flight,
       greater than 10 degrees on any heading.
(b) A magnetic nonstabilized direction indicator may deviate more than
    10 degrees due to the operation of electrically powered systems such as
    electrically heated windshields if either a magnetic stabilized direction
    indicator, which does not have a deviation in level flight greater than 10 degrees
    on any heading, or a gyroscope direction indicator, is installed. Deviations
    of a magnetic nonstabilized direction indicator of more than 10 degrees must
    be placarded in accordance with §27.1547(e).

§ 27.1329 Automatic pilot system.
(a) Each automatic pilot system must be designed so that the automatic
    pilot can—
   (1) Be sufficiently overpowered by one pilot to allow control of the rotor-
       craft; and
   (2) Be readily and positively disengaged by each pilot to prevent it from
       interfering with control of the rotorcraft.
(b) Unless there is automatic synchronization, each system must have a
    means to readily indicate to the pilot the alignment of the actuating device
    in relation to the control system it operates.
(c) Each manually operated control for the system’s operation must be
    readily accessible to the pilots.
(d) The system must be designed and adjusted so that, within the range of
    adjustment available to the pilot, it cannot produce hazardous loads on the
    rotorcraft or create hazardous deviations in the flight path under any
    flight condition appropriate to its use, either during normal operation or in
    the event of a malfunction, assuming that corrective action begins within a
    reasonable period of time.
(e) If the automatic pilot integrates signals from auxiliary controls or fur-
    nishes signals for operation of other equipment, there must be positive
    interlocks and sequencing of engagement to prevent improper operation.
(f) If the automatic pilot system can be coupled to airborne navigation
    equipment, means must be provided to indicate to the pilots the current mode
    of operation. Selector switch position is not acceptable as a means of indica-
    tion.

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