

Title 14—AERONAUTICS AND SPACE

Chapter I—Federal Aviation Administration, Department of Transportation

[Docket No. 9653; Amdts. Nos. 25-24; 91-76; 121-60]

REQUIREMENTS FOR ATTITUDE INSTRUMENT REPLACEMENT OF RATE-OF-TURN INDICATOR

The purpose of these amendments to Parts 25, 91, and 121 of the Federal Aviation Regulations is to require that the third attitude indicating instrument system be capable of providing reliable reference through 360° of pitch and 360° of roll when that instrument replaces the gyroscopic rate-of-turn indicator, as authorized by Amendments 25-22, 91-71, and 121-57 (35 F.R. 304).

In adopting those amendments, the FAA reached the conclusion, and all commentators apparently agreed, that in large transport category airplanes the rate-of-turn indicator is no longer as useful as an instrument which gives both horizontal and vertical information. However, for such a conclusion to be valid, in those cases in which the third attitude indicating system is to be used as a replacement for a gyroscopic rate-of-turn instrument, it must be capable of reliable reference through 360° of pitch and roll so it can be used for recovery from extreme attitudes. While such a requirement is deemed essential for reasons of safety, it is not expressly stated in the rule prescribed in Amendments 25-22, 91-71, and 121-57. This clarifying amendment makes such a requirement explicit.

In addition to the use of full range gyroscopic attitude instruments, it is the intent of this amendment to permit the use of an instrument which uses controlled precession of short duration at about 90° of pitch to achieve the required range, if the instrument provides a horizon display before and after the precession which is sufficiently accurate to enable recovery to be made to approximately level flight.

Since these amendments are clarifying in nature, I find that public procedure is unnecessary and good cause exists for making them effective on less than 30 days notice.

In consideration of the foregoing, Parts 25, 91, and 121 of the Federal Aviation Regulations are amended, effective May 9, 1970, as follows:

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

1. Section 25.1303(b)(4) is amended

to read:

§ 25.1303 Flight and navigation instruments.

(b) * * *

(4) A gyroscopic rate-of-turn indicator combined with an integral slip-skid indicator (turn-and-bank indicator) except that only a slip-skid indicator is required on large airplanes with a third attitude instrument system useable through flight attitudes of 360° of pitch and roll and installed in accordance with § 121.305(j) of this title.

PART 91—GENERAL OPERATING AND FLIGHT RULES

2. Section 91.33(d)(3) is amended to read:

§ 91.33 Powered civil aircraft with standard category U.S. airworthiness certificates; instrument and equipment requirements.

(d) * * *

(3) Gyroscopic rate-of-turn indicator, except on large aircraft with a third attitude instrument system useable through flight attitudes of 360° of pitch and roll and installed in accordance with § 121.305(j) of this title.

PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

3. Section 121.305(f) is amended to read:

§ 121.305 Flight and navigational equipment.

(f) A gyroscopic rate-of-turn indicator combined with an integral slip-skid indicator (turn-and-bank indicator) except that only a slip-skid indicator is required when a third attitude instrument system useable through flight attitudes of 360° of pitch and roll is installed in accordance with paragraph (j) of this section.

(Secs. 313, 601, 603 Federal Aviation Act of 1958, 49 U.S.C. 1354, 1421, 1423; sec. 6(c), Department of Transportation Act 49 U.S.C. 1655(c))

Issued in Washington, D.C., on April 29, 1970.

J. H. SHAFFER,
Administrator.

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