UNITED STATES OF AMERICA
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Civil Air Regulations Amendment 43-16
Effective: July 1,1963
Issued: January 11, 1963

[Reg. Docket No. 751; Amdt. 43-16]

PART 43—GENERAL OPERATION RULES

Airborne Distance Measuring Equipment Requirement

This amendment provides that after June 30, 1963, an airplane which is required by the Civil Air Regulations to be equipped with VOR navigational equipment and operates at and above 24,000 feet MSL in the 48 contiguous states and the District of Columbia, must also be equipped with an approved distance measuring equipment unit, capable of receiving and indicating distance information from VORTAC facilities. When sufficient VORTAC facilities become available for use in Alaska and Hawaii, DME will also be required in these areas.

The Federal Aviation Agency published as a notice of proposed rule making (26 F.R. 4455) and circulated as Civil Air Regulations Draft Release No. 61-11, dated May 24, 1961, a proposal to amend Parts 40, 41, 42, and 43 of the Civil Air Regulations to require the installation of distance measuring equipment (DME) in certain United States civil airplanes in accordance with a specific schedule.

Distance measuring equipment is that portion of the Rho Theta System of Short-range Navigation, the standard internationally adopted short-range system of navigation, which indicates to a pilot the distance his aircraft is from the ground station transmitter. To achieve the maximum safety and efficiency of operation possible from the use of the Rho Theta System of Short-range Navigation, or VORTAC System as commonly known, distance information is equally as important as bearing or azimuth information. The distance information obtained from distance measuring equipment assists a pilot in staying within the limits of the air space assigned him by his air traffic control clearance. It is invaluable information particularly with respect to jet aircraft approaching terminal areas at high speeds. It reduces the margin of error in estimating position and the proper time to begin a deceleration. Distance information also facilitates the accurate navigation of aircraft in the avoidance of severe weather turbulence, in holding, and in rerouting by air traffic control.

In 1957, the President's Air Coordinating Committee, with representation from all segments of the aviation industry, concluded that traffic volume, complexity of operations, safety requirements efficient use of air space, and the expeditious movement of air traffic dictate that maximum use of both the azimuth and distance measuring capabilities of VORTAC be required by at least 1965 in the navigation of aircraft subject to positive separation and in the performance of air traffic control service for such aircraft. The committee recommended that by that time all aircraft to be operated under Instrument Flight Rules and those to be operated under Visual Flight Rules in such a manner that they will be subject to positive separation be required to have both distance measuring and azimuth capability. In accord with this recommendation, Draft Release No. 61-11 was published.

Subsequent to the publication of Draft Release 61-11, the report of the Task Force on Air Traffic Control, known as Project Beacon, set forth a long-range plan to insure the efficient and safe control of the nation's air traffic. This report, around which the nation's air navigation system is being built, firmly reiterated the need for DME in order to attain the degree of accuracy in navigation necessary for the safe control of air traffic.

In this connection the Agency conducted a public symposium in Washington, D.C., in February 1962, to discuss airborne equipment requirements associated with implementation of Project Beacon. The Agency emphasized that the RHO THETA system of air navigation, toward which the Federal government and the aviation industry had so long striven required that VOR and DME be used in conjunction with each other. It was pointed out that the system had originally been adopted and developed with the concurrence of industry users and at considerable public expense. It was also stated that maximum safe utilization of the system is dependent on airborne navigation equipment being compatible with the ground environment, and that consideration must be given to the environment in which the airplane operates in determining the need for all navigational equipment, including DME.

All civil airplanes operating in the 48 contiguous states and the District of Columbia at altitudes of 24,000 feet and above are operating within the continental control area airspace. Additionally, they are in an environment of very high-speed air traffic which necessitates continuous position fixing capabilities and very accurate airborne navigational information. Therefore, in keeping with the concept that equipment requirements should be determined by the operational environment, it has been determined that distance measuring equipment should be required on all civil airplanes operating in the 48 contiguous states and the District of Columbia at altitudes of 24,000 feet and above after June 30, 1963, if VOR navigational equipment is required.

At the Symposium in February 1962, the FAA also advised industry that, although DME would ultimately be required on all aircraft operating in the IFR system, the applicable TSO's would recognize the need for less sophisticated equipment (i.e., low cost, lightweight) for general aviation aircraft operating in the system. These TSO's are presently in the development stage.

The industry was also advised at the Symposium that the FAA plans eventually to extend positive controlled airspace to the lower operating altitudes and to certain high density terminal areas. It may be expected, therefore, that all civil airplanes operating in these areas will also be required to have DME installed. Accordingly, the requirement for DME on general aviation airplanes may well be extended beyond the provisions of this amendment when the FAA determines that (a) there is a safety need for such, (b) a sufficient supply of satisfactory general aviation DME is available, and (c) when FAA ground installation of DME has progressed to a point which will assure adequate reception coverage for all routes at the lower altitudes.

All DME ground installations serving the high-altitude route structure are scheduled to be completed by January 1, 1964. However, it is anticipated that virtually complete DME coverage for this route structure will be available by June 30, 1963. Other DME ground installations are proceeding rapidly and DME coverage in both the lower route structures and in terminal areas will be extensive by 1964–1965. These facts, together with the availability of airborne DME meeting appropriate standards, have been considered in the preparation of this amendment and in those which pertain to the operation of air carriers. They will also be considered in future rule making as it pertains to general aviation operations.

Public safety requires that all air car-

rier operations be conducted with the highest level of safety and with the best and most accurate navigational information available. In view thereof, and in consideration of the fact that large air carrier airplanes generally operate at higher speeds, in the higher density terminal areas, and in that airspace in which facilities and procedures for the use of DME are receiving priority, large air carrier airplanes operating in the 48 contiguous states and the District of Columbia should be required to have DME installed in accordance with a prescribed schedule. It is further believed that only those general aviation airplanes which operate at and above 24,000 feet MSL in the 48 contiguous states and the District of Columbia, should be required at this time to have DME installed.

The format of this amendment will be subject to such change as may be necessary for its recodification under the Agency's Recodification Program, announced in Draft Release No. 61-25 (26 F.R. 10698).

Interested persons have been afforded an opportunity to participate in the making of this regulation (26 F.R. 4455), and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, Part 43 of the Civil Air Regulations (14 CFR Part 43, as amended) is hereby amended by adding a new § 43.33 to read as follows, effective July 1, 1963:

§ 43.33 Distance measuring equipment.

(a) No person may operate an airplane in the 48 contiguous states or the District of Columbia, at and above 24,000 feet MSL, after June 30, 1963, unless the airplane is equipped with at least one approved distance measuring equipment unit (DME), if VOR navigaitonal equipment is required under § 43.30(c)(2).

(b) If the distance measuring equipment required by paragraph (a) of this section becomes inoperative while operating at and above 24,000 feet MSL, the pilot shall notify Air Traffic Control of such failure as soon as it occurs, and operations may continue at and above 24,000 feet MSL to the next airport of intended landing where repairs or replacement of this equipment can be made.

(Secs. 313(a), 601, 604, 605; 72 Stat. 752, 775, 778; 49 U.S.C. 1354, 1421, 1424, 1425)

Issued in Washington, D.C., on January 11, 1963.

N. E. HALABY,
Administrator.

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(As published in the Federal Register /28 F.R. 484/ January 18, 1963)

CORRECTION

[Reg. Docket No. 751; Amdt. 43-16]

PART 43—GENERAL OPERATION RULES

Airborne Distance Measuring Equipment Requirements; Correction

Amendment 43-16 to Part 43 of the Civil Air Regulations was published in the FEDERAL REGISTER (28 F.R. 484) on January 18, 1963, to become effective after June 30, 1963. The amendment inadvertently applied the rule contained therein to "airplane" instead of "civil aircraft of the United States" as used in the Notice of Proposed Rule Making (26 F.R. 4455—Draft Release 61-11).

Amendment 43-16 is hereby corrected by striking the words "an airplane" and "airplane" as they appear in § 43.33(a) of that amendment and inserting in lieu thereof the words "civil aircraft of the United States" and "aircraft", respectively.

Issued in Washington, D.C., on January 31, 1963.

N. E. HALABY,
Administrator.

[F.R. Doc. 63-1268; Filed, Feb. 5, 1963; 8:45 a.m.]

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