UNITED STATES OF AMERICA
CIVIL AERONAUTICS BOARD
WASHINGTON, D. C.

Civil Air Regulations Amendment 42-4
Effective: July 25, 1955
Adopted: July 25, 1955

IRREGULAR AIR CARRIER AND OFF-ROUTE RULES

APPLICABILITY OF CONTROL OF ENGINE ROTATION AND INSTRUMENTATION AND EQUIPMENT REQUIREMENTS TO TURBINE-POWERED AIRPLANES

The current engine rotation requirements and the engine instrument and equipment requirements prescribed in Part 42 of the Civil Air Regulations are not entirely appropriate for turbine-powered airplanes for the reason that these requirements have been developed on the basis of experience with reciprocating engine airplanes, which until the present time have been the only airplanes operated under Part 42. Since it was evident that airplanes with turbine engines would be introduced into air transportation in the immediate future, a notice of proposed rule making was published in the Federal Register (20 F.R. 4593) and circulated to the industry in Civil Air Regulations Draft Release No. 55-16 on June 23, 1955, which proposed to revise the engine rotation and engine instrument requirements of Part 42 so as to render them appropriate to turbine-powered airplanes. Comment received in response to Draft Release No. 55-16 expressed objection to the authority proposed to be given the Administrator in establishing engine rotation and instrument and equipment requirements for turbine-powered airplanes. Such a policy, however, has been used in the airworthiness certification of these airplanes and the Board believes it is desirable to continue this policy with respect to the operating rules discussed herein until detailed requirements based upon operational experience can be prescribed.

Currently effective § 42.13 of Part 42 requires that multiengine aircraft having any engine rated at more than 480 h.p. for maximum continuous operation shall be so equipped that the rotation of each engine may be stopped promptly in flight. However, on the basis of current information, it does not appear that the extremely slow rotation of feathered propellers of some turbo-propeller airplanes will jeopardize safety. On the contrary, to stop the propeller completely will, in some instances, either involve additional hazards or require unduly burdensome modifications. Similarly, the rotation of a turbine engine, following engine failure, may not be as hazardous as would be stopping the engine completely in flight. This amendment, therefore, requires means for completely stopping rotation on turbine engine installations only if the Administrator finds that rotation could jeopardize the safety of the airplane.

Currently effective § 42.21 of Part 42 requires the installation of specified engine instruments and equipment. Although the required instruments and equipment can be installed on reciprocating engine airplanes, it is clear that some are not appropriate for turbine-powered airplanes. Furthermore, it is recognized that turbine engines may require instrumentation or equipment different from that for which provision is currently made in § 42.21. In view of the limited experience in air carrier operations with such engines, the Board believes it is desirable that a determination as to what different instrumentation or equipment may be required should, for the present, be made by the Administrator on a basis of equivalent safety. Accordingly, this amendment gives the Administrator such authority with respect to turbine engine instrumentation and equipment.

Interested persons have been afforded an opportunity to participate in the making of this amendment, and due consideration has been given to all relevant matter presented. Since this amendment relieves a restriction and imposes no additional burden on any person it may be made effective without prior notice.

In consideration of the foregoing, the Civil Aeronautics Board hereby amends Part 42 of the Civil Air Regulations (14 CFR Part 42, as amended) as follows: effective July 25, 1955:

1. By amending § 42.13 to read as follows:

42.13 Engine rotation. Multiengine aircraft having any engine rated at more than 480 h.p. for maximum continuous operation shall be so equipped that the rotation of each such engine can be stopped promptly in flight, except that for turbine engine installations means for completely stopping the rotation need be provided only if the Administrator finds that rotation could jeopardize the safety of the aircraft.

2. By amending the introductory sentence of § 42.21 to read as follows:

42.21 Basic required instruments and equipment for aircraft. The following instruments and equipment acceptable to the Administrator for the type of operations specified shall be installed and in serviceable condition in all aircraft, except that the Administrator may permit or require different instrumentation or equipment for turbine-powered aircraft to provide equivalent safety:

(Sec. 205 (a), 52 Stat. 984; 49 U.S.C. 425 (a). Interpret or apply secs. 601, 604, 52 Stat. 1007, 1010, as amended; 49 U.S.C. 551, 554)

By the Civil Aeronautics Board:

/s/M. C. Mulligan

(SEAL)

M. C. Mulligan
Secretary

Part 42 last printed December 15, 1954.