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

Civil Air Regulations Amendment 41-19
Effective: May 19, 1948
Adopted: April 14, 1948

ADDITIONAL FLIGHT CREW COMPLEMENT FOR FOREIGN AND OVERSEAS SCHEDULED AIR CARRIER AIRCRAFT

The Civil Aeronautics Board on October 6, 7, and 8, 1947, conducted a public hearing on the question of whether, and under what circumstances and conditions, if any, additional flight crew complement should be required on air carrier aircraft. Upon due consideration of the evidence presented the Board has determined that certain changes in the present requirements of the regulations affecting scheduled foreign and overseas air carrier aircraft are desirable. These changes will be treated separately with respect to the particular airman involved.

A. Flight Engineer

Part 41 presently requires flight engineers when "the design of the aircraft used or the type of operation is such as to require engineer personnel." In the light of present operating circumstances it appears desirable to promulgate additional specifications to more clearly define the circumstances under which a flight engineer should be required. In the hearing above referred to extensive testimony was presented to the Board with respect to the desirability of a flight engineer on various aircraft, such as the Douglas DC-6, the Boeing 377, and the Douglas DC-4. As a result of this testimony the Board has concluded that the multiplicity of instrumentation and complexity of operational controls on certain of these aircraft limit the pilot's ability to focus his attention on all of the critical instruments and controls. It is believed that a competent flight engineer, by assuming certain mechanical duties, will enable the pilot to concentrate his attention on the actual flight of the aircraft, radio operation, and receipt of traffic control clearances particularly during instrument conditions where this is imperative. The Board considers that a flight engineer is required on aircraft of the size and complexity of the Douglas DC-6 and the Boeing 377. Under certain operating conditions, such as some extended over water flights, the safe operation of the Douglas DC-4 may require the assignment of a flight engineer. Therefore, the regulation herein established will require flight engineers on aircraft such as the Boeing 377 and Douglas DC-6, and will permit the Administrator to require flight engineers on other aircraft including the DC-4 where such airmen are essential for safe operation. The Board is cognizant that compliance with this amendment may require the training of additional personnel and for this reason has established the date of December 1, 1948 as being sufficiently advanced to constitute a firm compliance date.

B. Flight Navigator

Part 41 presently requires a crew member holding a flight navigator certificate in all operations where "celestial navigation is necessary, either as a primary or secondary means of navigation." In view of the varying interpretations of this requirement, it is deemed desirable to establish more specific requirements for full time flight navigators. Current changes in navigational aids and the constant improvement in the quantity, usage, and efficiency of such aids require flexibility in any rule governing the assignment of flight navigators. For this reason, the Administrator, who has all of the information relative to the navigational aids available for use on a particular route or segment thereof, should continue to make the determination as to when a flight navigator is required based upon the necessity for the use of celestial navigationnor such other specialized means of navigation as cannot adequately be accomplished from the pilot's station.

C. Flight Radio Operator

Part 41 presently requires a flight radio operator "when radiotelegraphy is used for communication with ground stations during flight." In view of the varying interpretations of this requirement, the Board feels it desirable to provide more specifically that where radiotelegraphy is necessary the sole duty of an airman shall be that of a flight radio operator, and that such operator shall be required over that segment of the route for which radiotelegraphy is necessary for communication with ground stations.

In order to adequately determine the full required crew complement this amendment also provides that the Administrator shall make such determination by applying the established standards on proving flights to be conducted by the carrier under his direction. Where proving flightshave already been accomplished the Administrator shall make this determination upon a review thereof, taking into account the latest information available. Where such review is inconclusive, the Administrator may make such additional investigation as is necessary.

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.

In consideration of the foregoing the Civil Aeronautics Board hereby amends Part 41 of the Civil Air Regulations (14 CFR, Part 41, as amended) effective May 12, 1948:

1. By adding a new § 41.309 to read as follows:

41.309 Composition of flight crew. The minimum flight crew shall be determined by the Administrator on the proving flights by applying the standards hereinafter prescribed for each route or segment thereof to be flown. Where such flights already have been accomplished, the Administrator shall make the determination by review of the proving flights and such other inspection as he finds necessary. The kind and number of crew members thus determined shall be specified in the air carrier operating certificate.

2. By amending § 41.310 to read as follows:

41.310 When required. An airman holding a flight radio operator certificate shall be required solely for communication for that route or segment thereof over which the Administrator has determined that radiotelegraphy is necessary for communication with ground stations during flight.

3. By amending § 41.320 to read as follows:

41.320 When required. After December 1, 1948, an airman holding a flight engineer certificate shall be required solely as a flight engineer on all aircraft certificated for more than 80,000 pounds maximum take-off weight, and on all other aircraft certificated for more than 30,000 pounds maximum take-off weight where the Administrator has found that the design of the aircraft used or the type of operation is such as to require engineer personnel for the safe operation of the aircraft.

41. By amending § 41.330 to read as follows:

41.330 When required. An airman holding a flight navigator certificate shall be required solely for navigation for that route or segment thereof for which the Administrator has determined that:

(a) celestial navigation is necessary, or

(b) other specialized means of navigation necessary for the safe conduct of flight cannot be adequately accomplished from the pilot station.

(Secs. 205 (a), 601, 604, 52 Stat. 984, 1007, 1010; 49 U.S.C. 425 (a), 551, 554)

By the Civil Aeronautics Board:

/s/ M. C. Mulligan

(SEAL)

M. C. Mulligan
Secretary

Part 41 last printed May 1, 1946.