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

Civil Air Regulations Amendment 61-6
Effective Dates: October 21, 1949
March 1, 1950
Adopted: August 17, 1949

OXYGEN REQUIREMENTS FOR AIR CARRIER AIRCRAFT

Part 61 currently provides that aircraft which are operated continuously for more than 30 minutes at an altitude exceeding 10,000 feet above sea level, or for any length of time at an altitude exceeding 12,000 feet above sea level, shall be equipped with effective oxygen apparatus and an adequate supply of oxygen available for use by the flight crew. There is no present requirement with regard to furnishing oxygen for the use of passengers or for pressurized cabin airplanes.

This amendment is designed to require a more adequate supply of oxygen to be provided for both flight crew and passengers, to require use of oxygen at critical altitudes by the flight crew on flight deck duty, to make provision for oxygen supply in pressurized cabin airplanes in the event of pressure failure, and to require an adequate supply of oxygen and equipment to protect the flight crew on flight deck duty from the effects of dangerous concentrations of smoke and harmful gases.

It is contemplated that the Administrator will usually require, as part of the equipment required to protect the flight crew on flight deck duty from the effects of dangerous concentrations of smoke and harmful gases, suitable portable oxygen equipment to permit at least one such crew member to inspect the airplane to determine the source of smoke and gases.

It should be noted that the amendment permits a degree of flexibility in required passenger oxygen supply at altitudes above 14,000 feet to and including 15,000 feet. This flexibility is provided to permit an air carrier to operate older-type aircraft at such altitudes for the short periods of time necessary to clear terrain in certain areas of the country or to fly over localized weather or traffic conditions along the route without imposing the economic penalty that strict compliance with these regulations would require and which flight experience in the past several years would not indicate to be necessary. It will continue to be a primary responsibility of the air carrier to carry a sufficient supply of oxygen for passenger safety and comfort at any altitude flown including altitudes above 14,000 to and including 15,000 feet.

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 61 of the Civil Air Regulations (14 CFR, Part 61, as amended):

1. By amending § 61.263 effective March 1, 1950, to read as follows:

61.263 Supplemental oxygen. Except where supplemental oxygen is provided in accordance with the requirements of § 61.264, supplemental oxygen shall be furnished and used as set forth below: Provided, That upon application by an air carrier prior to March 1, 1950, the Administrator may authorize such air carrier to operate without full compliance with the following requirements where the Administrator finds that the air carrier has made a diligent effort to meet such requirements by March 1, 1950, and that the air carrier has shown that it will comply with such requirements by a date certain. The amount of supplemental oxygen required for a particular operation to comply with these rules shall be determined on the basis of flight altitudes and flight duration consistent with the operating procedures established for such operation and route. As used in the oxygen requirements hereinafter set forth, "altitude" shall mean the pressure altitude corresponding with the pressure in the cabin of the airplane, and "flight altitude" shall mean the altitude above sea level at which the airplane is operated.

(a) Crew members.

(1) At altitudes above 10,000 feet to and including 12,000 feet oxygen shall be provided for, and used by, each member of the flight crew on flight deck duty, and provided for all other crew members, during the portion of the flight in excess of 30 minutes within this range of altitudes.

(2) At altitudes above 12,000 feet oxygen shall be provided for, and used by, each member of the flight crew on flight deck duty, and provided for all other crew members, during the entire flight time at such altitudes.

(b) Passengers. Each air carrier shall provide a supply of oxygen for passenger safety as approved by the Administrator in accordance with the following requirements:

(1) For flights of over 30-minute duration at altitudes above 8,000 feet to and including 14,000 feet a supply of oxygen sufficient to furnish oxygen for 30 minutes to 10 percent of the number of passengers carried shall be required.

(2) For flights at altitudes above 14,000 feet to and including 15,000 feet a supply of oxygen sufficient to provide oxygen for the duration of the flight at such altitudes for 30 percent of the number of passengers carried shall generally be considered adequate.

(3) For flights at altitudes above 15,000 feet a supply of oxygen sufficient to provide oxygen for each passenger carried during the entire flight at such altitudes shall be required.

2. By adding § 61.264 effective March 1, 1950, to read as follows:

61.264 Supplemental oxygen requirements for pressurized cabin airplanes. When operating pressurized cabin airplanes, the air carrier shall so equip such airplanes as to permit compliance with the following requirements in the event of cabin pressurization failure: Provided, That upon application by an air carrier prior to March 1, 1950, the Administrator may authorize such air carrier to operate without full compliance with such requirements where the Administrator finds that the air carrier has made a diligent effort to meet such requirements by March 1, 1950, and that the air carrier has shown that it will comply with such requirements by a date certain.

(a) For crew members. When operating such airplanes at flight altitudes above 10,000 feet, the air carrier shall provide sufficient oxygen for all crew members for the duration of the flight at such altitudes: Provided, That not less than a two-hour supply of oxygen shall be provided for the flight crew members on flight deck duty. (The oxygen supply required by § 61.266 may be considered in determining the supplemental breathing supply required for flight crew members on flight deck duty in the event of cabin pressurization failure.)

(b) For passengers. When operating such airplanes at flight altitudes above 8,000 feet, the air carrier shall provide the following amount of oxygen:

(1) Where an airplane is not flown at a flight altitude of over 25,000 feet a supply of oxygen sufficient to furnish oxygen for 30 minutes to 10 percent of the number of passengers carried shall be considered adequate, if at any point along the route to be flown the airplane can safely descend to a flight altitude of 14,000 feet or less within 4 minutes.

(2) In the event that such airplane cannot descend to a flight altitude of 14,000 feet or less within 4 minutes, the following supply of oxygen shall be provided:

(i) for the duration of the flight in excess of 4 minutes at altitudes above 15,000 feet, a supply sufficient to comply with § 61.263 (b) (3);

(ii) for the duration of the flight at altitudes above 14,000 feet to and including 15,000 feet, a supply sufficient to comply with § 61.263 (b) (2); and

(iii) for flight at altitudes above 8,000 feet to

and including 14,000 feet, a supply sufficient to furnish oxygen for 30 minutes to 10 percent of the number of passengers carried.

(3) Where an airplane is flown at an altitude above 25,000 feet, sufficient oxygen shall be furnished in accordance with the following requirements to permit the airplane to descend to an appropriate flight altitude at which the flight can be safely conducted. Sufficient oxygen shall be furnished to provide oxygen for 30 minutes to 10 percent of the number of passengers carried for the duration of the flight above 8,000 feet to and including 14,000 feet and to permit compliance with § 61.263 (b) (2) and (b) (3) for flight above 14,000 feet.

(c) For purposes of this section it shall be assumed that the cabin pressurization failure will occur at a time during flight which is critical from the standpoint of oxygen need and that after such failure the airplane will descend, without exceeding its normal operating limitations, to altitudes permitting safe flight with respect to terrain clearance.

3. By adding § 61.265 effective March 1, 1950, to read as follows:

61.265 Equipment standards. The oxygen apparatus, the minimum rates of oxygen flow, and the supply of oxygen necessary to comply with the requirements of § 61.263 shall meet the standards established in §§ 4b.831 and 4b.832: Provided, That where full compliance with such standards is found by the Administrator to be impractical, he may authorize such changes in these standards as he finds will provide an equivalent level of safety: And provided further, That upon application by an air carrier prior to March 1, 1950, the Administrator may authorize such air carrier to operate without full compliance with such requirements where the Administrator finds that the air carrier has made a diligent effort to meet such requirements by March 1, 1950, and that the air carrier has shown that it will comply with such requirements by a date certain.

4. By adding § 61.266 effective October 21, 1949, to read as follows:

61.266 Protective breathing equipment for the flight crew.

(a) Pressurized cabin airplanes. Each flight crew member on flight deck duty shall have easily available at his station protective breathing equipment covering the eyes, nose, and mouth, or the nose and mouth where accessory equipment is provided to protect the eyes, to protect him from the effects of smoke, carbon dioxide, and other harmful gases.

(1) Not less than a 300-liter STPD supply of oxygen for each flight crew member on flight deck duty shall be provided for this purpose.

(b) Nonpressurized cabin airplanes. The requirement stated in paragraph (a) shall apply to nonpressurized cabin airplanes, if the Administrator finds that it is possible to obtain a dangerous concentration of smoke, carbon dioxide, or other harmful gases in the flight crew compartments in any attitude of flight which might occur when the aircraft is flown in accordance with either the normal or emergency procedures approved by the Administrator.

(Secs. 205(a), 601, 603, 604, 52 Stat. 984, 1007, 1009, 1010, 62 Stat. 1216; 49 U.S.C. 425(a), 551, 553, 554; P.L. 872, 80th Congress. 2d Sess.)

By the Civil Aeronautics Board:

/s/ M. C. Mulligan

M. C. Mulligan
Secretary

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This is the 6th amendment to Part 61 printed as of June 15, 1948. The Civil Air Regulations were reprinted and renumbered in July 16, 1949 issue of Federal Register (Part II, Section 1), which included amendments Nos. 61-1 through 61-4.