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

Civil Air Regulations Amendment 4b-5
Effective: April 9, 1957
Adopted: March 5, 1957

AIRPLANE AIRWORTHINESS; TRANSPORT CATEGORIES

EMERGENCY EVACUATION PROVISIONS

The presently effective emergency evacuation provisions contained in § 4b.362 of Part 4b of the Civil Air Regulations were adopted on November 15, 1951, and were considered appropriate for airplanes which were then in the design stage. Airplanes currently undergoing development are considerably larger in passenger capacity; consequently, the emergency evacuation provisions heretofore effective are considered in need of revision. Furthermore, experience with these requirements indicates a need for additional revision to make them more practicable for application to all airplanes subject to these provisions.

This amendment makes certain changes in the number, size, and location of emergency exits. Also, provision is made for a somewhat greater flexibility of application of these regulations. In addition, this amendment prescribes exit configurations for high-wing airplanes, and provides for evacuation means in case of unplanned ditching in water for all airplanes.

Pursuant to the provisions of § 4b.11 (c) of Part 4b, an applicant for type certification may elect to show compliance with this amendment even though the date of application for type certification was made prior to the effective date of this amendment. However, it is considered that the provisions of § 4b.362 are so interrelated that if the applicant elects to show compliance with any portion of the section, he should be required to show compliance with the entire section.

Interested persons have been afforded an opportunity to participate in the making of this amendment (21 F.R. 7688), and due consideration has been given to all relevant matter presented.

In consideration of the foregoing, the Civil Aeronautics Board hereby amends Part 4b of the Civil Air Regulations (14 CFR Part 4b, as amended) effective April 9, 1957.

1. By amending the introductory paragraph of § 4b.362 to read as follows:

4b.362 Emergency evacuation. Crew and passenger areas shall be provided with emergency evacuation means to permit rapid egress in the event of crash landings, whether with the landing gear extended or retracted, taking into account the possibility of the airplane being on fire. If the airplane is divided into separate compartments arranged so that the minimum unobstructed passageway between such compartments is not available as required by paragraph (g) of this section, requirements of this section shall be applied to each compartment independently. Passenger and crew entrances and service doors shall be considered as emergency exits if they meet the applicable requirements of this section.

2. By amending § 4b.362 (a) to read as follows:

4b.362 Emergency evacuation. * * *

(a) Flight crew emergency exits. Flight crew emergency exits shall be located in the flight crew area, one on each side of the airplane, or, alternatively, a top hatch shall be provided. Such exits shall be of sufficient size and shall be so located as to permit rapid evacuation by the crew. Such exits shall not be required in airplanes having a passenger capacity of 20 or less if the Administrator finds that the proximity of passenger emergency exits to the flight crew area offers a convenient and readily accessible means of evacuation for the flight crew.

3. By amending § 4b.362 (b) to read as follows:

(b) Passenger emergency exits; type and location. All required exits shall be in such specific locations as will afford the most effective means of passenger evacuation. The type of exits and their general location shall be as follows:

(1) Type I: A rectangular opening of not less than 24 inches wide by 48 inches high, with corner radii not greater than 1/3 the width of the exit. The first Type I exit on each side of the fuselage shall be located in the aft portion of the passenger compartment unless the configuration of the airplane is such that some other location would afford a more effective means of passenger evacuation. All Type I exits shall be floor level exits.

(2) Type II: A rectangular opening of not less than 20 inches wide by 44 inches high, with corner radii not greater than 1/3 the width of the exit. Unless Type I exits are required, one Type II exit on each side of the fuselage shall be located in the aft portion of the passenger compartment except where the configuration of the airplane is such that some other location would afford a more effective means of passenger evacuation. Type II exits shall be floor level exits unless located over the wing in which case they shall have a step-up inside the airplane of not more than 10 inches and a step-down outside the airplane of not more than 17 inches.

(3) Type III: A rectangular opening of not less than 20 inches wide by 36 inches high, with corner radii not greater than 1/3 the width of the exit, located over the wing with a step-up inside the airplane of not more than 20 inches and a step-down outside the airplane of not more than 27 inches.

(4) Type IV: A rectangular opening of not less than 19 inches wide by 26 inches high, with corner radii not greater than 1/3 the width of the exit, located over the wing with a step-up inside the airplane of not more than 29 inches and a step-down outside the airplane of not more than 36 inches.

NOTE: Larger openings than those specified in paragraph (b) of this section shall be acceptable, whether or not of rectangular shape, provided that the specified rectangular openings can be inscribed therein, and provided further that the base of the inscribed rectangular opening meets the specified step-up and step-down heights.

4. By amending § 4b.362 (c) to read as follows:

(c) Passenger emergency exits; number required. Emergency exits of the type and location prescribed in paragraph (b) of this section shall be accessible to the passengers and shall be provided in accordance with subparagraphs (1) through (5) of this paragraph.

(1) The relation between the passenger seating capacity and the type and number of exits provided on each side of the airplane shall be as follows:

Passenger seating capacity	Emergency exits required on each side of the fuselage			
	Type I	Type II	Type III	Type IV
1 to 19 inclusive			1	
20 to 39 inclusive		1		1
40 to 59 inclusive	1			1
60 to 79 inclusive	1		1	
80 to 109 inclusive	1		1	1
110 to 139 inclusive	2		1	
140 to 179 inclusive	2		2	
180 to 219 inclusive	2	2		

NOTE: Although similar exits and their locations are prescribed for each side of the fuselage, it is not the intent of this regulation to require that the exits necessarily be at locations diametrically opposite each other.

(2) Additional exits shall be provided on airplanes having 220 or more passengers. The additional exits shall provide an effective means of passenger evacuation consistent with the minima provided in the table in subparagraph (1) of this paragraph.

(3) In applying subparagraph (1) of this paragraph, it shall be acceptable to install 2 Type IV exits in lieu of each required Type III exit.

(4) If the Administrator finds that there exist compensating factors in the emergency evacuation means provided, it shall be permissible to increase the passenger seating capacity beyond that shown in subparagraph (1) of this paragraph, except that such increase in seating capacity shall in no case exceed 10 passengers.

(5) On airplanes where the vertical location of the wing does not permit the installation of over-wing exits, an exit the dimensions of which are not less than those prescribed in paragraph (b) (3) of this section shall be installed for each Type III and each Type IV exit required by subparagraph (1) of this paragraph.

5. By amending § 4b.362 (d) to read as follows:

(d) Ditching emergency exits. It shall be shown that there is not less than one emergency exit located above the water line for every 35 passengers and at least one such exit per side shall meet the minimum dimensions of the exit specified in paragraph (b) (3) of this section. It shall be permissible to substitute for any side exit an easily accessible overhead hatch of not less than the clear dimensions of the exit specified in paragraph (b) (3) of this section.

6. By amending § 4b.362 (e) (7) by deleting the words, "other than Type IV (see paragraph (b) of this section)" and substituting in lieu thereof the words, "other than exits located over the wing."

7. By amending § 4b.362 (g) by adding the following sentence at the end thereof: "Access shall be provided from the main aisle to all Type III and Type IV exits and such access shall not be obstructed by seats, berths, or other protrusions to an extent which would reduce the effectiveness of the exit, except that minor obstructions shall be permissible if the Administrator finds that compensating factors are present to maintain the effectiveness of the exit."

8. By amending § 4b.362 (h) by adding the following sentence at the end thereof: "For airplanes having a maximum passenger seating capacity of 19 or less, these aisle widths shall not be less than 12 inches wide up to a height above the floor of 25 inches and not less than 20 inches above that height."

(Sec. 205 (a), 52 Stat. 984; 49 U.S.C. 425 (a). Interpret or apply secs. 601, 603, 52 Stat. 1007, 1009, as amended; 49 U.S.C. 551. 553)

By the Civil Aeronautics Board:

/s/ M. C. Mulligan

M. C. Mulligan
Secretary

(SEAL)

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