

that is displayed under paragraph (b)(1) of this section.

(c) No person may operate an aircraft under paragraph (a) or (b) of this section—

(1) In an ADIZ or DEWIZ described in Part 99 of this chapter unless it temporarily bears marks in accordance with §§ 45.21 and 45.23 through 45.33;

(2) In a foreign country unless that country consents to that operation; or

(3) In any operation conducted under Part 121, 133, 135, or 137 of this chapter.

(d) If, due to the configuration of an aircraft, it is impossible for a person to mark it in accordance with §§ 45.21 and 45.23 through 45.33, he may apply to the Administrator for a different marking procedure.

[Doc. No. 8093, Amdt. 45-5, 33 FR 450, Jan. 12, 1968, as amended by Amdt. 45-13, 46 FR 48603, Oct. 1, 1981; Amdt. 45-19, 54 FR 39291, Sept. 25, 1989; Amdt. 45-18, 54 FR 34330, Aug. 18, 1989; Amdt. 45-21, 56 FR 65653, Dec. 17, 1991; Amdt. 45-22, 66 FR 21066, Apr. 27, 2001]

§ 45.23 Display of marks; general.

(a) Each operator of an aircraft shall display on that aircraft marks consisting of the Roman capital letter “N” (denoting United States registration) followed by the registration number of the aircraft. Each suffix letter used in the marks displayed must also be a Roman capital letter.

(b) When marks include only the Roman capital letter “N” and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words “limited,” “restricted,” “light-sport,” “experimental,” or “provisional,” as applicable.

[Doc. No. 8093, Amdt. 45-5, 33 FR 450, Jan. 12, 1968, as amended by Amdt. 45-9, 42 FR 41102, Aug. 15, 1977; Amdt. 45-24, 69 FR 44863, July 27, 2004]

§ 45.25 Location of marks on fixed-wing aircraft.

(a) The operator of a fixed-wing aircraft shall display the required marks on either the vertical tail surfaces or

the sides of the fuselage, except as provided in § 45.29(f).

(b) The marks required by paragraph (a) of this section shall be displayed as follows:

(1) If displayed on the vertical tail surfaces, horizontally on both surfaces, horizontally on both surfaces of a single vertical tail or on the outer surfaces of a multivertical tail. However, on aircraft on which marks at least 3 inches high may be displayed in accordance with § 45.29(b)(1), the marks may be displayed vertically on the vertical tail surfaces.

(2) If displayed on the fuselage surfaces, horizontally on both sides of the fuselage between the trailing edge of the wing and the leading edge of the horizontal stabilizer. However, if engine pods or other appurtenances are located in this area and are an integral part of the fuselage side surfaces, the operator may place the marks on those pods or appurtenances.

[Amdt. 45-9, 42 FR 41102, Aug. 15, 1977]

§ 45.27 Location of marks; nonfixed-wing aircraft.

(a) *Rotorcraft.* Each operator of a rotorcraft shall display on that rotorcraft horizontally on both surfaces of the cabin, fuselage, boom, or tail the marks required by § 45.23.

(b) *Airships.* Each operator of an airship shall display on that airship the marks required by § 45.23, horizontally on—

(1) The upper surface of the right horizontal stabilizer and on the under surface of the left horizontal stabilizer with the top of the marks toward the leading edge of each stabilizer; and

(2) Each side of the bottom half of the vertical stabilizer.

(c) *Spherical balloons.* Each operator of a spherical balloon shall display the marks required by § 45.23 in two places diametrically opposite and near the maximum horizontal circumference of that balloon.

(d) *Nonspherical balloons.* Each operator of a nonspherical balloon shall display the marks required by § 45.23 on each side of the balloon near its maximum cross section and immediately above either the rigging band or the points of attachment of the basket or cabin suspension cables.

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(e) *Powered parachute and weight-shift-control aircraft.* Each operator of a powered parachute or a weight-shift-control aircraft must display the marks required by § 45.23. The marks must be displayed horizontally and in two diametrically opposite positions on any fuselage structural member.

[Doc. No. 2047, 29 FR 3223, Mar. 11, 1964, as amended by Amdt. 45–15, 48 FR 11392, Mar. 17, 1983; Amdt. 45–24, 69 FR 44863, July 27, 2004]

§ 45.29 Size of marks.

(a) Except as provided in paragraph (f) of this section, each operator of an aircraft shall display marks on the aircraft meeting the size requirements of this section.

(b) *Height.* Except as provided in paragraph (h) of this part, the nationality and registration marks must be of equal height and on—

(1) Fixed-wing aircraft, must be at least 12 inches high, except that:

(i) An aircraft displaying marks at least 2 inches high before November 1, 1981 and an aircraft manufactured after November 2, 1981, but before January 1, 1983, may display those marks until the aircraft is repainted or the marks are repainted, restored, or changed;

(ii) Marks at least 3 inches high may be displayed on a glider;

(iii) Marks at least 3 inches high may be displayed on an aircraft for which the FAA has issued an experimental certificate under § 21.191 (d), § 21.191 (g), or § 21.191 (i) of this chapter to operate as an exhibition aircraft, an amateur-built aircraft, or a light-sport aircraft when the maximum cruising speed of the aircraft does not exceed 180 knots CAS; and

(iv) Marks may be displayed on an exhibition, antique, or other aircraft in accordance with § 45.22.

(2) Airships, spherical balloons, non-spherical balloons, powered parachutes, and weight-shift-control aircraft must be at least 3 inches high; and

(3) Rotorcraft, must be at least 12 inches high, except that rotorcraft displaying before April 18, 1983, marks required by § 45.29(b)(3) in effect on April 17, 1983, and rotorcraft manufactured on or after April 18, 1983, but before December 31, 1983, may display those marks until the aircraft is repainted or

the marks are repainted, restored, or changed.

(c) *Width.* Characters must be two-thirds as wide as they are high, except the number “1”, which must be one-sixth as wide as it is high, and the letters “M” and “W” which may be as wide as they are high.

(d) *Thickness.* Characters must be formed by solid lines one-sixth as thick as the character is high.

(e) *Spacing.* The space between each character may not be less than one-fourth of the character width.

(f) If either one of the surfaces authorized for displaying required marks under § 45.25 is large enough for display of marks meeting the size requirements of this section and the other is not, full-size marks shall be placed on the larger surface. If neither surface is large enough for full-size marks, marks as large as practicable shall be displayed on the larger of the two surfaces. If any surface authorized to be marked by § 45.27 is not large enough for full-size marks, marks as large as practicable shall be placed on the largest of the authorized surfaces.

(g) *Uniformity.* The marks required by this part for fixed-wing aircraft must have the same height, width, thickness, and spacing on both sides of the aircraft.

(h) After March 7, 1988, each operator of an aircraft penetrating an ADIZ or DEWIZ shall display on that aircraft temporary or permanent nationality and registration marks at least 12 inches high.

[Doc. No. 2047, 29 FR 3223, Mar. 11, 1964, as amended by Amdt. 45–2, 31 FR 9863, July 21, 1966; Amdt. 45–9, 42 FR 41102, Aug. 15, 1977; Amdt. 45–13, 46 FR 48604, Oct. 1, 1981; Amdt. 45–15, 48 FR 11392, Mar. 17, 1983; Amdt. 45–17, 52 FR 34102, Sept. 9, 1987; 52 FR 36566, Sept. 30, 1987; Amdt. 45–24, 69 FR 44863, July 27, 2004]

§ 45.31 Marking of export aircraft.

A person who manufactures an aircraft in the United States for delivery outside thereof may display on that aircraft any marks required by the State of registry of the aircraft. However, no person may operate an aircraft so marked within the United States, except for test and demonstration flights for a limited period of time, or