

PART 45—IDENTIFICATION AND REGISTRATION MARKING

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Subpart A—General

§45.1 Applicability.

This part prescribes the requirements for—

(a) Marking products and articles manufactured under—

(1) A type certificate;

(2) A production approval as defined under part 21 of this chapter; and

(3) The provisions of an agreement between the United States and another country or jurisdiction for the acceptance of products and articles; and

(b) Nationality and registration marking of aircraft registered in the United States in accordance with part 47.

Subpart B—Marking of Products and Articles

§45.10 Marking.

No person may mark a product or article in accordance with this subpart unless—

(a) That person produced the product or article —

(1) Under part 21, subpart F, G, K, or O of this chapter; or

(2) For export to the United States under the provisions of an agreement between the United States and another country or jurisdiction for the acceptance of products and articles; and

(b) That product or article conforms to its approved design, and is in a condition for safe operation; and, for a TSO article; that TSO article meets the applicable performance standards.

§45.11 Marking of products.

(a) *Aircraft.* A manufacturer of aircraft covered under §21.182 of this chapter must mark each aircraft by attaching a fireproof identification plate that—

- (1) Includes the information specified in §45.13 using an approved method of fireproof marking;
- (2) Must be secured in such a manner that it will not likely be defaced or removed during normal service, or lost or destroyed in an accident; and
- (3) Except as provided in paragraphs (d) through (h) of this section, must be secured to the aircraft fuselage exterior so that it is legible to a person on the ground, and must be either adjacent to and aft of the rear-most entrance door or on the fuselage surface near the tail surfaces.

(b) *Aircraft engines.* A manufacturer of an aircraft engine produced under a type certificate or production certificate must mark each engine by attaching a fireproof identification plate. Such plate—

- (1) Must include the information specified in §45.13 using an approved method of fireproof marking;
- (2) Must be affixed to the engine at an accessible location; and
- (3) Must be secured in such a manner that it will not likely be defaced or removed during normal service, or lost or destroyed in an accident.

(c) *Propellers and propeller blades and hubs.* Each person who produces a propeller, propeller blade, or propeller hub under a type certificate or production certificate must mark each product or part. Except for a fixed-pitch wooden propeller, the marking must be accomplished using an approved fireproof method. The marking must—

- (1) Be placed on a non-critical surface;
- (2) Contain the information specified in §45.13;
- (3) Not likely be defaced or removed during normal service; and
- (4) Not likely be lost or destroyed in an accident.

(d) *Manned free balloons.* A manufacturer of manned free balloons must mark each balloon by attaching the identification plate described in paragraph (a) of this section. The plate must be secured to the balloon envelope and must be located, if practicable, where it is legible to the operator when the balloon is inflated. In addition, the basket and heater assembly must be permanently and legibly marked with the manufacturer's name, part number (or equivalent), and serial number (or equivalent).

(e) *Aircraft manufactured before March 7, 1988.* The owner or operator of an aircraft manufactured before March 7, 1988 must mark the aircraft by attaching the identification plate required by paragraph (a) of this section. The plate must be secured at an accessible exterior or interior location near an entrance, if the model designation and builder's serial number are also displayed on the exterior of the aircraft fuselage. The model designation and builder's serial number must be—

- (1) Legible to a person on the ground,

(2) Located either adjacent to and aft of the rear-most entrance door or on the fuselage near the tail surfaces, and

(3) Displayed in such a manner that they are not likely to be defaced or removed during normal service.

(f) For powered parachutes and weight-shift-control aircraft, the identification plate required by paragraph (a) of this section must be secured to the exterior of the aircraft fuselage so that it is legible to a person on the ground.

(g) The identification plate described in paragraph (a) of this section may be secured to the aircraft at an accessible location near an entrance for—

(1) Aircraft produced for—

(i) Operations under part 121 of this chapter,

(ii) Commuter operations (as defined in §110.2 of this chapter), or

(iii) Export.

(2) Aircraft operating under part 121 of this chapter and under an FAA-approved continuous airworthiness maintenance program; or

(3) Aircraft operating in commuter air carrier operations (as defined in §110.2 of this chapter) under an FAA-approved continuous airworthiness maintenance program.

(h) *Gliders.* Paragraphs (a)(3) and (e) of this section do not apply to gliders.

§45.13 Identification data.

(a) The identification required by §45.11 (a) through (c) must include the following information:

(1) Builder's name.

(2) Model designation.

(3) Builder's serial number.

(4) Type certificate number, **if any.**

(5) Production certificate number, **if any.**

(6) For aircraft engines, the established rating.

(7) On or after January 1, 1984, for aircraft engines specified in part 34 of this chapter, the date of manufacture as defined in §34.1 of this chapter, and a designation, approved by the FAA, that indicates compliance with the applicable exhaust emission provisions of part 34 of this chapter and 40 CFR part 87. Approved designations include COMPLY, EXEMPT, and NON-US, as appropriate. After December 31, 2012, approved designations also include EXEMPT NEW, and EXCEPTED SPARE, as appropriate.

(i) The designation COMPLY indicates that the engine is in compliance with all of the applicable exhaust emissions provisions of part 34. For any engine with a rated thrust in excess of 26.7 kilonewtons (6000 pounds) which is not used or intended for use in commercial operations and which is in compliance with the applicable provisions of part 34, but does not comply with the hydrocarbon emissions standard of §34.21(d), the statement "May not be used as a commercial

aircraft engine” must be noted in the permanent powerplant record that accompanies the engine at the time of manufacture of the engine.

(ii) The designation EXEMPT indicates that the engine has been granted an exemption pursuant to the applicable provision of §34.7 (a)(1), (a)(4), (b), (c), or (d), and an indication of the type of exemption and the reason for the grant must be noted in the permanent powerplant record that accompanies the engine from the time of manufacture of the engine.

(iii) The designation NON-US indicates that the engine has been granted an exemption pursuant to §34.7(a)(1), and the notation “This aircraft may not be operated within the United States”, or an equivalent notation approved by the FAA, must be inserted in the aircraft logbook, or alternate equivalent document, at the time of installation of the engine.

(iv) The designation EXEMPT NEW indicates that the engine has been granted an exemption pursuant to the applicable provision of §34.7(h) of this chapter; the designation must be noted in the permanent powerplant record that accompanies the engine from the time of its manufacture.

(v) The designation EXCEPTED SPARE indicates that the engine has been excepted pursuant to the applicable provision of §34.9(b) of this chapter; the designation must be noted in the permanent powerplant record that accompanies the engine from the time of its manufacture.

(8) Any other information the FAA finds appropriate.

(b) Except as provided in paragraph (d)(1) of this section, no person may remove, change, or place identification information required by paragraph (a) of this section, on any aircraft, aircraft engine, propeller, propeller blade, or propeller hub, without the approval of the FAA.

(c) Except as provided in paragraph (d)(2) of this section, no person may remove or install any identification plate required by §45.11, without the approval of the FAA.

(d) Persons performing work under the provisions of Part 43 of this chapter may, in accordance with methods, techniques, and practices acceptable to the FAA—

(1) Remove, change, or place the identification information required by paragraph (a) of this section on any aircraft, aircraft engine, propeller, propeller blade, or propeller hub; or

(2) Remove an identification plate required by §45.11 when necessary during maintenance operations.

(e) No person may install an identification plate removed in accordance with paragraph (d)(2) of this section on any aircraft, aircraft engine, propeller, propeller blade, or propeller hub other than the one from which it was removed.

§45.15 Marking requirements for PMA articles, TSO articles, and Critical parts.

(a) *PMA articles.* The manufacturer of a PMA article must permanently and legibly mark—

(1) Each PMA article, with the PMA holder's name, trademark, symbol, or other FAA approved identification and part number; and

(2) The letters “FAA-PMA”.

(b) *TSO articles.* The manufacturer of a TSO article must permanently and legibly mark —

- (1) Each TSO article with the TSO holder's name, trademark, symbol, or other FAA approved identification and part number; and
 - (2) Each TSO article, unless otherwise specified in the applicable TSO, with the TSO number and letter of designation, all markings specifically required by the applicable TSO, and the serial number or the date of manufacture of the article or both.
- (c) *Critical parts.* Each person who manufactures a part for which a replacement time, inspection interval, or related procedure is specified in the Airworthiness Limitations section of a manufacturer's maintenance manual or Instructions for Continued Airworthiness must permanently and legibly mark that part with a serial number (or equivalent) unique to that part in addition to the other applicable requirements of this section.
- (d) If the FAA finds a part or article is too small or otherwise impractical to mark with any of the information required by this part, the manufacturer must attach that information to the part or its container.

§45.16 Marking of life-limited parts.

When requested by a person required to comply with §43.10 of this chapter, the holder of a type certificate or design approval for a life-limited part must provide marking instructions, or must state that the part cannot be practicably marked without compromising its integrity.

Subpart C—Nationality and Registration Marks

§45.21 General.

- (a) Except as provided in §45.22, no person may operate a U.S.-registered aircraft unless that aircraft displays nationality and registration marks in accordance with the requirements of this section and §§45.23 through 45.33.
- (b) Unless otherwise authorized by the FAA, no person may place on any aircraft a design, mark, or symbol that modifies or confuses the nationality and registration marks.
- (c) Aircraft nationality and registration marks must—
 - (1) Except as provided in paragraph (d) of this section, be painted on the aircraft or affixed by any other means insuring a similar degree of permanence;
 - (2) Have no ornamentation;
 - (3) Contrast in color with the background; and
 - (4) Be legible.
- (d) The aircraft nationality and registration marks may be affixed to an aircraft with readily removable material if—
 - (1) It is intended for immediate delivery to a foreign purchaser;
 - (2) It is bearing a temporary registration number; or
 - (3) It is marked temporarily to meet the requirements of §45.22(c)(1) or §45.29(h) of this part, or both.

§45.22 Exhibition, antique, and other aircraft: Special rules.

(a) When display of aircraft nationality and registration marks in accordance with §§45.21 and 45.23 through 45.33 would be inconsistent with exhibition of that aircraft, a U.S.-registered aircraft may be operated without displaying those marks anywhere on the aircraft if:

(1) It is operated for the purpose of exhibition, including a motion picture or television production, or an airshow;

(2) Except for practice and test flights necessary for exhibition purposes, it is operated only at the location of the exhibition, between the exhibition locations, and between those locations and the base of operations of the aircraft; and

(3) For each flight in the United States:

(i) It is operated with the prior approval of the responsible Flight Standards office, in the case of a flight within the lateral boundaries of the surface areas of Class B, Class C, Class D, or Class E airspace designated for the takeoff airport, or within 4.4 nautical miles of that airport if it is within Class G airspace; or

(ii) It is operated under a flight plan filed under either §91.153 or §91.169 of this chapter describing the marks it displays, in the case of any other flight.

(b) A small U.S.-registered aircraft built at least 30 years ago or a U.S.-registered aircraft for which an experimental certificate has been issued under §21.191(d) or 21.191(g) for operation as an exhibition aircraft or as an amateur-built aircraft and which has the same external configuration as an aircraft built at least 30 years ago may be operated without displaying marks in accordance with §§45.21 and 45.23 through 45.33 if:

(1) It displays in accordance with §45.21(c) marks at least 2 inches high on each side of the fuselage or vertical tail surface consisting of the Roman capital letter “N” followed by:

(i) The U.S. registration number of the aircraft; or

(ii) The symbol appropriate to the airworthiness certificate of the aircraft (“C”, standard; “R”, restricted; “L”, limited; or “X”, experimental) followed by the U.S. registration number of the aircraft; and

(2) It displays no other mark that begins with the letter “N” anywhere on the aircraft, unless it is the same mark 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 FAA for a different marking procedure.

§45.23 Display of marks; general.

(a) Each operator of an aircraft must 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.

§45.25 Location of marks on fixed-wing aircraft.

(a) The operator of a fixed-wing aircraft must 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 must 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.

§45.27 Location of marks; nonfixed-wing aircraft.

(a) *Rotorcraft.* Each operator of a rotorcraft must 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 must 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 must 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 must 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.

(e) *Powered parachutes 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 and 45.29(b)(2) of this part. The marks must be displayed in two diametrically opposite positions on the fuselage, a structural member, or a component of the aircraft and must be visible from the side of the aircraft.

§45.29 Size of marks.

(a) Except as provided in paragraph (f) of this section, each operator of an aircraft must 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, nonspherical 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 must be placed on the larger surface. If neither surface is large enough for full-size marks, marks as large as practicable must be displayed on the larger of the two surfaces. If no surface authorized to be marked by §45.27 is large enough for full-size marks, marks as large as practicable must be placed on the largest of the authorized surfaces. However, powered parachutes and weight-shift-control aircraft must display marks at least 3 inches high.

(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 must display on that aircraft temporary or permanent nationality and registration marks at least 12 inches high.

§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 while in necessary transit to the purchaser.

§45.33 Sale of aircraft; removal of marks.

When an aircraft that is registered in the United States is sold, the holder of the Certificate of Aircraft Registration must remove, before its delivery to the purchaser, all United States marks from the aircraft, unless the purchaser is—

- (a) A citizen of the United States;
- (b) An individual citizen of a foreign country who is lawfully admitted for permanent residence in the United States; or
- (c) When the aircraft is to be based and primarily used in the United States, a corporation (other than a corporation which is a citizen of the United States) lawfully organized and doing business under the laws of the United States or any State thereof.