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ROTORCRAFT FLIGHT MANUAL AND APPROVED MANUAL MATERIAL

§ 27.1581 General.

(a) *Furnishing information.* A Rotorcraft Flight Manual must be furnished with each rotorcraft, and it must contain the following:

(1) Information required by §§ 27.1583 through 27.1589.

(2) Other information that is necessary for safe operation because of design, operating, or handling characteristics.

(b) *Approved information.* Each part of the manual listed in §§ 27.1583 through 27.1589, that is appropriate to the rotorcraft, must be furnished, verified, and approved, and must be segregated, identified, and clearly distinguished from each unapproved part of that manual.

(c) [Reserved]

(d) *Table of contents.* Each Rotorcraft Flight Manual must include a table of contents if the complexity of the manual indicates a need for it.

(Secs. 313(a), 601, 603, 604, and 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424, and 1425); and sec. 6(c) of the Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Amdt. 27–14, 43 FR 2325, Jan. 16, 1978]

§ 27.1583 Operating limitations.

(a) *Airspeed and rotor limitations.* Information necessary for the marking of airspeed and rotor limitations on, or near, their respective indicators must be furnished. The significance of each limitation and of the color coding must be explained.

(b) *Powerplant limitations.* The following information must be furnished:

(1) Limitations required by § 27.1521.

(2) Explanation of the limitations, when appropriate.

(3) Information necessary for marking the instruments required by §§ 27.1549 through 27.1553.

(c) *Weight and loading distribution.* The weight and center of gravity limits required by §§ 27.25 and 27.27, respectively, must be furnished. If the variety of possible loading conditions warrants, instructions must be included to allow ready observance of the limitations.

(d) *Flight crew.* When a flight crew of more than one is required, the number and functions of the minimum flight crew determined under § 27.1523 must be furnished.

(e) *Kinds of operation.* Each kind of operation for which the rotorcraft and its equipment installations are approved must be listed.

(f) [Reserved]

(g) *Altitude.* The altitude established under § 27.1527 and an explanation of the limiting factors must be furnished.

(Secs. 313(a), 601, 603, 604, and 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424, and 1425); and sec. 6(c) of the Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27–2, 33 FR 965, Jan. 26, 1968; Amdt. 27–14, 43 FR 2325, Jan. 16, 1978; Amdt. 27–16, 43 FR 50599, Oct. 30, 1978]

§ 27.1585 Operating procedures.

(a) Parts of the manual containing operating procedures must have information concerning any normal and emergency procedures and other information necessary for safe operation, including takeoff and landing procedures and associated airspeeds. The manual must contain any pertinent information including—

(1) The kind of takeoff surface used in the tests and each appropriate climbout speed; and

(2) The kind of landing surface used in the tests and appropriate approach and glide airspeeds.

(b) For multiengine rotorcraft, information identifying each operating condition in which the fuel system independence prescribed in § 27.953 is necessary for safety must be furnished, together with instructions for placing the fuel system in a configuration used to show compliance with that section.

(c) For helicopters for which a V_{NE} (power-off) is established under § 27.1505(c), information must be furnished to explain the V_{NE} (power-off) and the procedures for reducing airspeed to not more than the V_{NE} (power-off) following failure of all engines.

(d) For each rotorcraft showing compliance with § 27.1353 (g)(2) or (g)(3), the operating procedures for disconnecting the battery from its charging source must be furnished.

(e) If the unusable fuel supply in any tank exceeds five percent of the tank capacity, or one gallon, whichever is greater, information must be furnished which indicates that when the fuel quantity indicator reads ''zero'' in level flight, any fuel remaining in the fuel tank cannot be used safely in flight.

(f) Information on the total quantity of usable fuel for each fuel tank must be furnished.

(g) The airspeeds and rotor speeds for minimum rate of descent and best glide angle as prescribed in §27.71 must be provided.

(Secs. 313(a), 601, 603, 604, and 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424, and 1425); and sec. 6(c) of the Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Amdt. 27–1, 32 FR 6914, May 5, 1967, as amended by Amdt. 27–14, 43 FR 2326, Jan. 16, 1978; Amdt. 27–16, 43 FR 50599, Oct. 30, 1978; Amdt. 27–21, 49 FR 44435, Nov. 6, 1984]

§27.1587 Performance information.

(a) The Rotorcraft Flight Manual must contain the following information, determined in accordance with §§27.49 through 27.87 and 27.143(c) and (d):

(1) Enough information to determine the limiting height-speed envelope.

(2) Information relative to—

(i) The steady rates of climb and descent, in-ground effect and out-of-ground effect hovering ceilings, together with the corresponding airspeeds and other pertinent information including the calculated effects of altitude and temperatures;

(ii) The maximum weight for each altitude and temperature condition at which the rotorcraft can safely hover in-ground effect and out-of-ground effect in winds of not less than 17 knots from all azimuths. These data must be clearly referenced to the appropriate hover charts. In addition, if there are other combinations of weight, altitude and temperature for which performance information is provided and at which the rotorcraft cannot land and take off safely with the maximum wind value, those portions of the operating envelope and the appropriate safe wind conditions must be stated in the Rotorcraft Flight Manual;

(iii) For reciprocating engine-powered rotorcraft, the maximum atmospheric temperature at which compliance with the cooling provisions of §§27.1041 through 27.1045 is shown; and

(iv) Glide distance as a function of altitude when autorotating at the speeds and conditions for minimum rate of descent and best glide as determined in §27.71.

(b) The Rotorcraft Flight Manual must contain—

(1) In its performance information section any pertinent information concerning the takeoff weights and altitudes used in compliance with §27.51; and

(2) The horizontal takeoff distance determined in accordance with §27.65(a)(2)(i).

(Secs. 313(a), 601, 603, 604, and 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421, 1423, 1424, and 1425); and sec. 6(c) of the Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Doc. No. 5074, 29 FR 15695, Nov. 24, 1964, as amended by Amdt. 27–14, 43 FR 2326, Jan. 16, 1978; Amdt. 27–21, 49 FR 44435, Nov. 6, 1984; Amdt. No. 27–44, 73 FR 11000, Feb. 29, 2008; 73 FR 33876, June 16, 2008]

§27.1589 Loading information.

There must be loading instructions for each possible loading condition between the maximum and minimum weights determined under §27.25 that can result in a center of gravity beyond any extreme prescribed in §27.27, assuming any probable occupant weights.

APPENDIX A TO PART 27—INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

A27.1 *General.*

(a) This appendix specifies requirements for the preparation of Instructions for Continued Airworthiness as required by §27.1529.

(b) The Instructions for Continued Airworthiness for each rotorcraft must include the Instructions for Continued Airworthiness for each engine and rotor (hereinafter designated 'products'), for each appliance required by this chapter, and any required information relating to the interface of those appliances and products with the rotorcraft. If Instructions for Continued Airworthiness are not supplied by the manufacturer of an appliance or product installed in the rotorcraft, the Instructions for Continued Airworthiness for the rotorcraft must include the information essential to the continued airworthiness of the rotorcraft.