

operation, including the applicable procedures, such as those involving minimum speeds, to be followed if an engine fails.

(b) For multiengine rotorcraft, information identifying each operating condition in which the fuel system independence prescribed in § 29.953 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 § 29.1505(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 § 29.1353 (c)(6)(ii) or (c)(6)(iii), the operating procedures for disconnecting the battery from its charging source must be furnished.

(e) If the unusable fuel supply in any tank exceeds 5 percent of the tank capacity, or 1 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) For Category B rotorcraft, the airspeeds and corresponding rotor speeds for minimum rate of descent and best glide angle as prescribed in § 29.71 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), Dept. of Transportation Act (49 U.S.C. 1655(c)))

[Amdt. 29-2, 32 FR 6914, May 5, 1967, as amended by Amdt. 29-15, 43 FR 2328, Jan. 16, 1978; Amdt. 29-17, 43 FR 50602, Oct. 30, 1978; Amdt. 29-24, 49 FR 44440, Nov. 6, 1984]

§ 29.1587 Performance information.

Flight manual performance information which exceeds any operating limitation may be shown only to the extent necessary for presentation clarity or to determine the effects of approved optional equipment or procedures. When data beyond operating limits are

shown, the limits must be clearly indicated. The following must be provided:

(a) *Category A.* For each category A rotorcraft, the Rotorcraft Flight Manual must contain a summary of the performance data, including data necessary for the application of any operating rule of this chapter, together with descriptions of the conditions, such as airspeeds, under which this data was determined, and must contain—

(1) The indicated airspeeds corresponding with those determined for takeoff, and the procedures to be followed if the critical engine fails during takeoff;

(2) The airspeed calibrations;

(3) The techniques, associated airspeeds, and rates of descent for autorotative landings;

(4) The rejected takeoff distance determined under § 29.62 and the takeoff distance determined under § 29.61;

(5) The landing data determined under § 29.81 and § 29.85;

(6) The steady gradient of climb for each weight, altitude, and temperature for which takeoff data are to be scheduled, along the takeoff path determined in the flight conditions required in § 29.67(a)(1) and (a)(2):

(i) In the flight conditions required in § 29.67(a)(1) between the end of the takeoff distance and the point at which the rotorcraft is 200 feet above the takeoff surface (or 200 feet above the lowest point of the takeoff profile for elevated heliports);

(ii) In the flight conditions required in § 29.67(a)(2) between the points at which the rotorcraft is 200 and 1000 feet above the takeoff surface (or 200 and 1000 feet above the lowest point of the takeoff profile for elevated heliports); and

(7) Out-of-ground effect hover performance determined under § 29.49 and the maximum weight for each altitude and temperature condition at which the rotorcraft can safely hover 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.

(b) *Category B.* For each category B rotorcraft, the Rotorcraft Flight Manual must contain—

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(1) The takeoff distance and the climbout speed together with the pertinent information defining the flight path with respect to autorotative landing if an engine fails, including the calculated effects of altitude and temperature;

(2) The steady rates of climb and in-ground-effect hovering ceiling, together with the corresponding airspeeds and other pertinent information, including the calculated effects of altitude and temperature;

(3) The landing distance, appropriate airspeed, and type of landing surface, together with all pertinent information that might affect this distance, including the effects of weight, altitude, and temperature;

(4) The maximum safe wind for operation near the ground;

(5) The airspeed calibrations;

(6) The height-speed envelope except for rotorcraft incorporating this as an operating limitation;

(7) Glide distance as a function of altitude when autorotating at the speeds and conditions for minimum rate of descent and best glide angle, as determined in § 29.71;

(8) Out-of-ground effect hover performance determined under § 29.49 and the maximum safe wind demonstrated under the ambient conditions for data presented. In addition, the maximum weight for each altitude and temperature condition at which the rotorcraft can safely hover 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; and

(9) Any additional performance data necessary for the application of any operating rule in this chapter.

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29-21, 48 FR 4392, Jan. 31, 1983; Amdt. 29-24, 49 FR 44440, Nov. 6, 1984; Amdt. 29-39, 61 FR 21901, May 10, 1996; Amdt. 29-40, 61 FR 21908, May 10, 1996; Amdt. 29-44, 64 FR 45338, Aug. 19, 1999; Amdt. 29-51, 73 FR 11001, Feb. 29, 2008]

§ 29.1589 Loading information.

There must be loading instructions for each possible loading condition between the maximum and minimum weights determined under § 29.25 that can result in a center of gravity beyond

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any extreme prescribed in § 29.27, assuming any probable occupant weights.

APPENDIX A TO PART 29—INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

a29.1 General

(a) This appendix specifies requirements for the preparation of Instructions for Continued Airworthiness as required by § 29.1529.

(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.

(c) The applicant must submit to the FAA a program to show how changes to the Instructions for Continued Airworthiness made by the applicant or by the manufacturers of products and appliances installed in the rotorcraft will be distributed.

a29.2 Format

(a) The Instructions for Continued Airworthiness must be in the form of a manual or manuals as appropriate for the quantity of data to be provided.

(b) The format of the manual or manuals must provide for a practical arrangement.

a29.3 Content

The contents of the manual or manuals must be prepared in the English language. The Instructions for Continued Airworthiness must contain the following manuals or sections, as appropriate, and information:

(a) *Rotorcraft maintenance manual or section.*

(1) Introduction information that includes an explanation of the rotorcraft’s features and data to the extent necessary for maintenance or preventive maintenance.

(2) A description of the rotorcraft and its systems and installations including its engines, rotors, and appliances.

(3) Basic control and operation information describing how the rotorcraft components and systems are controlled and how they operate, including any special procedures and limitations that apply.

(4) Servicing information that covers details regarding servicing points, capacities of tanks, reservoirs, types of fluids to be used, pressures applicable to the various systems, location of access panels for inspection and servicing, locations of lubrication points, the lubricants to be used, equipment required for