

maneuvers, as applicable, prescribed in paragraph (c) of this section.

[Doc. No. 1529, 29 FR 603, Jan. 24, 1964, as amended by Amdt. 133-5, 41 FR 55475, Dec. 20, 1976; Amdt. 133-9, 51 FR 40709, Nov. 7, 1986]

§ 133.43 Structures and design.

(a) *External-load attaching means.* Each external-load attaching means must have been approved under—

(1) Part 8 of the Civil Air Regulations on or before January 17, 1964;

(2) Part 133, before February 1, 1977;

(3) Part 27 or 29 of this chapter, as applicable, irrespective of the date of approval; or

(4) Section 21.25 of this chapter.

(b) *Quick release devices.* Each quick release device must have been approved under—

(1) Part 27 or 29 of this chapter, as applicable;

(2) Part 133, before February 1, 1977; or

(3) Section 21.25 of this chapter, except the device must comply with §§ 27.865(b) and 29.865(b), as applicable, of this chapter.

(c) *Weight and center of gravity—*

(1) *Weight.* The total weight of the rotorcraft-load combination must not exceed the total weight approved for the rotorcraft during its type certification.

(2) *Center of gravity.* The location of the center of gravity must, for all loading conditions, be within the range established for the rotorcraft during its type certification. For Class C rotorcraft-load combinations, the magnitude and direction of the loading force must be established at those values for which the effective location of the center of gravity remains within its established range.

[Doc. No. 14324, 41 FR 55475, Dec. 20, 1976, as amended by Amdt. 133-12, 55 FR 8006, Mar. 6, 1990]

§ 133.45 Operating limitations.

In addition to the operating limitations set forth in the approved Rotorcraft Flight Manual, and to any other limitations the Administrator may prescribe, the operator shall establish at least the following limitations and set them forth in the Rotorcraft-Load Combination Flight Manual for rotorcraft-load combination operations:

(a) The rotorcraft-load combination may be operated only within the weight and center of gravity limitations established in accordance with § 133.43(c).

(b) The rotorcraft-load combination may not be operated with an external load weight exceeding that used in showing compliance with §§ 133.41 and 133.43.

(c) The rotorcraft-load combination may not be operated at airspeeds greater than those established in accordance with § 133.41 (b), (c), and (d).

(d) No person may conduct an external-load operation under this part with a rotorcraft type certificated in the restricted category under § 21.25 of this chapter over a densely populated area, in a congested airway, or near a busy airport where passenger transport operations are conducted.

(e) The rotorcraft-load combination of Class D may be conducted only in accordance with the following:

(1) The rotorcraft to be used must have been type certificated under transport Category A for the operating weight and provide hover capability with one engine inoperative at that operating weight and altitude.

(2) The rotorcraft must be equipped to allow direct radio intercommunication among required crewmembers.

(3) The personnel lifting device must be FAA approved.

(4) The lifting device must have an emergency release requiring two distinct actions.

[Doc. No. 1529, 29 FR 603, Jan. 24, 1964, as amended by Amdt. 133-1, 30 FR 883, Jan. 28, 1965; Amdt. 133-5, 41 FR 55476, Dec. 20, 1976; Amdt. 133-6, 42 FR 24198, May 12, 1977; Amdt. 133-9, 51 FR 40709, Nov. 7, 1986]

§ 133.47 Rotorcraft-load combination flight manual.

The applicant must prepare a Rotorcraft-Load Combination Flight Manual and submit it for approval by the Administrator. The manual must be prepared in accordance with the rotorcraft flight manual provisions of subpart G of part 27 or 29 of this chapter, whichever is applicable. The limiting height-speed envelope data need not be listed as operating limitations. The manual must set forth—