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changing conditions of airspeed, engine power, and attitude.

(c) If compliance with § 23.145(b)(3) necessitates wing flap retraction to positions that are not fully retracted, the wing flap control lever settings corresponding to those positions must be positively located such that a definite change of direction of movement of the lever is necessary to select settings beyond those settings.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-49, 61 FR 5165, Feb. 9, 1996]

§ 23.699 Wing flap position indicator.

There must be a wing flap position indicator for—

(a) Flap installations with only the retracted and fully extended position, unless—

(1) A direct operating mechanism provides a sense of “feel” and position (such as when a mechanical linkage is employed); or

(2) The flap position is readily determined without seriously detracting from other piloting duties under any flight condition, day or night; and

(b) Flap installation with intermediate flap positions if—

(1) Any flap position other than retracted or fully extended is used to show compliance with the performance requirements of this part; and

(2) The flap installation does not meet the requirements of paragraph (a)(1) of this section.

§ 23.701 Flap interconnection.

(a) The main wing flaps and related movable surfaces as a system must—

(1) Be synchronized by a mechanical interconnection between the movable flap surfaces that is independent of the flap drive system; or by an approved equivalent means; or

(2) Be designed so that the occurrence of any failure of the flap system that would result in an unsafe flight characteristic of the airplane is extremely improbable; or

(b) The airplane must be shown to have safe flight characteristics with any combination of extreme positions of individual movable surfaces (mechanically interconnected surfaces are to be considered as a single surface).

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(c) If an interconnection is used in multiengine airplanes, it must be designed to account for the unsummetrical loads resulting from flight with the engines on one side of the plane of symmetry inoperative and the remaining engines at takeoff power. For single-engine airplanes, and multiengine airplanes with no slipstream effects on the flaps, it may be assumed that 100 percent of the critical air load acts on one side and 70 percent on the other.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-14, 38 FR 31821, Nov. 19, 1973; Amdt. 23-42, 56 FR 353, Jan. 3, 1991; 56 FR 5455, Feb. 11, 1991; Amdt. 23-49, 61 FR 5165, Feb. 9, 1996]

§ 23.703 Takeoff warning system.

For all airplanes with a maximum weight more than 6,000 pounds and all jets, unless it can be shown that a lift or longitudinal trim device that affects the takeoff performance of the airplane would not give an unsafe takeoff configuration when selected out of an approved takeoff position, a takeoff warning system must be installed and meet the following requirements:

(a) The system must provide to the pilots an aural warning that is automatically activated during the initial portion of the takeoff role if the airplane is in a configuration that would not allow a safe takeoff. The warning must continue until—

(1) The configuration is changed to allow safe takeoff, or

(2) Action is taken by the pilot to abandon the takeoff roll.

(b) The means used to activate the system must function properly for all authorized takeoff power settings and procedures and throughout the ranges of takeoff weights, altitudes, and temperatures for which certification is requested.

(c) For the purpose of this section, an unsafe takeoff configuration is the inability to rotate or the inability to prevent an immediate stall after rotation.

[Doc. No. 27806, 61 FR 5166, Feb. 9, 1996, as amended by Amdt. 23-62, 76 FR 75757, Dec. 2, 2011]