

## § 25.1141

## 14 CFR Ch. I (1–1–12 Edition)

### POWERPLANT CONTROLS AND ACCESSORIES

#### § 25.1141 Powerplant controls: general.

Each powerplant control must be located, arranged, and designed under §§ 25.777 through 25.781 and marked under § 25.1555. In addition, it must meet the following requirements:

(a) Each control must be located so that it cannot be inadvertently operated by persons entering, leaving, or moving normally in, the cockpit.

(b) Each flexible control must be approved or must be shown to be suitable for the particular application.

(c) Each control must have sufficient strength and rigidity to withstand operating loads without failure and without excessive deflection.

(d) Each control must be able to maintain any set position without constant attention by flight crewmembers and without creep due to control loads or vibration.

(e) The portion of each powerplant control located in a designated fire zone that is required to be operated in the event of fire must be at least fire resistant.

(f) For powerplant valve controls located in the flight deck there must be a means:

(1) For the flightcrew to select each intended position or function of the valve; and

(2) To indicate to the flightcrew:

(i) The selected position or function of the valve; and

(ii) When the valve has not responded as intended to the selected position or function.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25–40, 42 FR 15044, Mar. 17, 1977; Amdt. 25–72, 55 FR 29785, July 20, 1990; Amdt. 25–115, 69 FR 40527, July 2, 2004]

#### § 25.1142 Auxiliary power unit controls.

Means must be provided on the flight deck for starting, stopping, and emergency shutdown of each installed auxiliary power unit.

[Amdt. 25–46, 43 FR 50598, Oct. 30, 1978]

#### § 25.1143 Engine controls.

(a) There must be a separate power or thrust control for each engine.

(b) Power and thrust controls must be arranged to allow—

(1) Separate control of each engine; and

(2) Simultaneous control of all engines.

(c) Each power and thrust control must provide a positive and immediately responsive means of controlling its engine.

(d) For each fluid injection (other than fuel) system and its controls not provided and approved as part of the engine, the applicant must show that the flow of the injection fluid is adequately controlled.

(e) If a power or thrust control incorporates a fuel shutoff feature, the control must have a means to prevent the inadvertent movement of the control into the shutoff position. The means must—

(1) Have a positive lock or stop at the idle position; and

(2) Require a separate and distinct operation to place the control in the shutoff position.

[Amdt. 25–23, 35 FR 5677, Apr. 8, 1970, as amended by Amdt. 25–38, 41 FR 55467, Dec. 20, 1976; Amdt. 25–57, 49 FR 6849, Feb. 23, 1984]

#### § 25.1145 Ignition switches.

(a) Ignition switches must control each engine ignition circuit on each engine.

(b) There must be means to quickly shut off all ignition by the grouping of switches or by a master ignition control.

(c) Each group of ignition switches, except ignition switches for turbine engines for which continuous ignition is not required, and each master ignition control must have a means to prevent its inadvertent operation.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25–40, 42 FR 15044 Mar. 17, 1977]

#### § 25.1147 Mixture controls.

(a) If there are mixture controls, each engine must have a separate control. The controls must be grouped and arranged to allow—

(1) Separate control of each engine; and

(2) Simultaneous control of all engines.