

(2) The condition of a completely depleted battery with the generator running at its normal operating speed; and

(3) The condition of a completely depleted battery with the generator operating at idling speed, if there is only one battery.

(d) Magneto ground wiring (for separate ignition circuits) that lies on the engine side of the fire wall, must be installed, located, or protected, to minimize the probability of simultaneous failure of two or more wires as a result of mechanical damage, electrical faults, or other cause.

(e) No ground wire for any engine may be routed through a fire zone of another engine unless each part of that wire within that zone is fireproof.

(f) Each ignition system must be independent of any electrical circuit, not used for assisting, controlling, or analyzing the operation of that system.

(g) There must be means to warn appropriate flight crewmembers if the malfunctioning of any part of the electrical system is causing the continuous discharge of any battery necessary for engine ignition.

(h) Each engine ignition system of a turbine powered airplane must be considered an essential electrical load.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-23, 35 FR 5677, Apr. 8, 1970; Amdt. 25-72, 55 FR 29785, July 20, 1990]

#### § 25.1167 Accessory gearboxes.

For airplanes equipped with an accessory gearbox that is not certificated as part of an engine—

(a) The engine with gearbox and connecting transmissions and shafts attached must be subjected to the tests specified in § 33.49 or § 33.87 of this chapter, as applicable;

(b) The accessory gearbox must meet the requirements of §§ 33.25 and 33.53 or 33.91 of this chapter, as applicable; and

(c) Possible misalignments and torsional loadings of the gearbox, transmission, and shaft system, expected to result under normal operating conditions must be evaluated.

[Amdt. 25-38, 41 FR 55467, Dec. 20, 1976]

#### POWERPLANT FIRE PROTECTION

#### § 25.1181 Designated fire zones; regions included.

(a) Designated fire zones are—

(1) The engine power section;

(2) The engine accessory section;

(3) Except for reciprocating engines, any complete powerplant compartment in which no isolation is provided between the engine power section and the engine accessory section;

(4) Any auxiliary power unit compartment;

(5) Any fuel-burning heater and other combustion equipment installation described in § 25.859;

(6) The compressor and accessory sections of turbine engines; and

(7) Combustor, turbine, and tailpipe sections of turbine engine installations that contain lines or components carrying flammable fluids or gases.

(b) Each designated fire zone must meet the requirements of §§ 25.863, 25.865, 25.867, 25.869, and 25.1185 through 25.1203.

[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-11, 32 FR 6913, May 5, 1967; Amdt. 25-23, 35 FR 5677, Apr. 8, 1970; Amdt. 25-72, 55 FR 29785, July 20, 1990; Amdt. 25-115, 69 FR 40527, July 2, 2004]

#### § 25.1182 Nacelle areas behind firewalls, and engine pod attaching structures containing flammable fluid lines.

(a) Each nacelle area immediately behind the firewall, and each portion of any engine pod attaching structure containing flammable fluid lines, must meet each requirement of §§ 25.1103(b), 25.1165 (d) and (e), 25.1183, 25.1185(c), 25.1187, 25.1189, and 25.1195 through 25.1203, including those concerning designated fire zones. However, engine pod attaching structures need not contain fire detection or extinguishing means.

(b) For each area covered by paragraph (a) of this section that contains a retractable landing gear, compliance with that paragraph need only be shown with the landing gear retracted.

[Amdt. 25-11, 32 FR 6913, May 5, 1967]

#### § 25.1183 Flammable fluid-carrying components.

(a) Except as provided in paragraph (b) of this section, each line, fitting,