

of the compartment with the contents of a hand fire extinguisher.

§ 91.527 Operating in icing conditions.

(a) No pilot may take off an airplane that has frost, ice, or snow adhering to any propeller, windshield, stabilizing or control surface; to a powerplant installation; or to an airspeed, altimeter, rate of climb, or flight attitude instrument system or wing, except that takeoffs may be made with frost under the wing in the area of the fuel tanks if authorized by the FAA.

(b) No pilot may fly under IFR into known or forecast light or moderate icing conditions, or under VFR into known light or moderate icing conditions, unless—

(1) The aircraft has functioning deicing or anti-icing equipment protecting each rotor blade, propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system;

(2) The airplane has ice protection provisions that meet section 34 of Special Federal Aviation Regulation No. 23; or

(3) The airplane meets transport category airplane type certification provisions, including the requirements for certification for flight in icing conditions.

(c) Except for an airplane that has ice protection provisions that meet the requirements in section 34 of Special Federal Aviation Regulation No. 23, or those for transport category airplane type certification, no pilot may fly an airplane into known or forecast severe icing conditions.

(d) If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing conditions that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast, the restrictions in paragraphs (b) and (c) of this section based on forecast conditions do not apply.

[Doc. No. 18334, 54 FR 34314, Aug. 18, 1989, as amended by Amdt. 91–310, 74 FR 62696, Dec. 1, 2009]

§ 91.529 Flight engineer requirements.

(a) No person may operate the following airplanes without a flight crewmember holding a current flight engineer certificate:

(1) An airplane for which a type certificate was issued before January 2, 1964, having a maximum certificated takeoff weight of more than 80,000 pounds.

(2) An airplane type certificated after January 1, 1964, for which a flight engineer is required by the type certification requirements.

(b) No person may serve as a required flight engineer on an airplane unless, within the preceding 6 calendar months, that person has had at least 50 hours of flight time as a flight engineer on that type airplane or has been checked by the Administrator on that type airplane and is found to be familiar and competent with all essential current information and operating procedures.

§ 91.531 Second in command requirements.

(a) Except as provided in paragraph (b) of this section, no person may operate the following airplanes without a pilot designated as second in command:

(1) Any airplane that is type certificated for more than one required pilot.

(2) Any large airplane.

(3) Any commuter category airplane.

(b) A person may operate the following airplanes without a pilot designated as second in command:

(1) Any airplane certificated for operation with one pilot.

(2) A large airplane or turbojet-powered multiengine airplane that holds a special airworthiness certificate, if:

(i) The airplane was originally designed with only one pilot station; or

(ii) The airplane was originally designed with more than one pilot station, but single pilot operations were permitted by the airplane flight manual or were otherwise permitted by a branch of the United States Armed Forces or the armed forces of a foreign contracting State to the Convention on International Civil Aviation.

(c) No person may designate a pilot to serve as second in command, nor may any pilot serve as second in command, of an airplane required under