

(with respect to particle size and density) that is greater than that established for the engine during its type certification.

(e) In addition, for commuter category airplanes, unless means are provided in the fuel system to prevent the accumulation of ice on the filter, a means must be provided to automatically maintain the fuel flow if ice clogging of the filter occurs.

[Amdt. 23-15, 39 FR 35459, Oct. 1, 1974, as amended by Amdt. 23-29, 49 FR 6847, Feb. 23, 1984; Amdt. 23-34, 52 FR 1832, Jan. 15, 1987; Amdt. 23-43, 58 FR 18973, Apr. 9, 1993]

§ 23.999 Fuel system drains.

(a) There must be at least one drain to allow safe drainage of the entire fuel system with the airplane in its normal ground attitude.

(b) Each drain required by paragraph (a) of this section and § 23.971 must—

(1) Discharge clear of all parts of the airplane;

(2) Have a drain valve—

(i) That has manual or automatic means for positive locking in the closed position;

(ii) That is readily accessible;

(iii) That can be easily opened and closed;

(iv) That allows the fuel to be caught for examination;

(v) That can be observed for proper closing; and

(vi) That is either located or protected to prevent fuel spillage in the event of a landing with landing gear retracted.

[Doc. No. 4080, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23-17, 41 FR 55465, Dec. 20, 1976; Amdt. 23-43, 58 FR 18973, Apr. 9, 1993]

§ 23.1001 Fuel jettisoning system.

(a) If the design landing weight is less than that permitted under the requirements of § 23.473(b), the airplane must have a fuel jettisoning system installed that is able to jettison enough fuel to bring the maximum weight down to the design landing weight. The average rate of fuel jettisoning must be at least 1 percent of the maximum weight per minute, except that the time required to jettison the fuel need not be less than 10 minutes.

(b) Fuel jettisoning must be demonstrated at maximum weight with flaps and landing gear up and in—

(1) A power-off glide at $1.4 V_{S1}$;

(2) A climb, at the speed at which the one-engine-inoperative enroute climb data have been established in accordance with § 23.69(b), with the critical engine inoperative and the remaining engines at maximum continuous power; and

(3) Level flight at $1.4 V_{S1}$, if the results of the tests in the conditions specified in paragraphs (b)(1) and (2) of this section show that this condition could be critical.

(c) During the flight tests prescribed in paragraph (b) of this section, it must be shown that—

(1) The fuel jettisoning system and its operation are free from fire hazard;

(2) The fuel discharges clear of any part of the airplane;

(3) Fuel or fumes do not enter any parts of the airplane; and

(4) The jettisoning operation does not adversely affect the controllability of the airplane.

(d) For reciprocating engine powered airplanes, the jettisoning system must be designed so that it is not possible to jettison the fuel in the tanks used for takeoff and landing below the level allowing 45 minutes flight at 75 percent maximum continuous power. However, if there is an auxiliary control independent of the main jettisoning control, the system may be designed to jettison all the fuel.

(e) For turbine engine powered airplanes, the jettisoning system must be designed so that it is not possible to jettison fuel in the tanks used for takeoff and landing below the level allowing climb from sea level to 10,000 feet and thereafter allowing 45 minutes cruise at a speed for maximum range.

(f) The fuel jettisoning valve must be designed to allow flight crewmembers to close the valve during any part of the jettisoning operation.

(g) Unless it is shown that using any means (including flaps, slots, and slats) for changing the airflow across or around the wings does not adversely affect fuel jettisoning, there must be a placard, adjacent to the jettisoning control, to warn flight crewmembers against jettisoning fuel while the