§ 29.977 Fuel tank outlet.

(a) There must be a fuel strainer for the fuel tank outlet or for the booster pump. This strainer must—
(1) For reciprocating engine powered airplanes, have 8 to 16 meshes per inch; and
(2) For turbine engine powered airplanes, prevent the passage of any object that could restrict fuel flow or damage any fuel system component.

(b) The clear area of each fuel tank outlet strainer must be at least five times the area of the outlet line.

(c) The diameter of each strainer must be at least that of the fuel tank outlet.

(d) Each finger strainer must be accessible for inspection and cleaning.


§ 29.979 Pressure refueling and fueling provisions below fuel level.

(a) Each fueling connection below the fuel level in each tank must have means to prevent the escape of hazardous quantities of fuel from that tank in case of malfunction of the fuel entry valve.

(b) For systems intended for pressure refueling, means in addition to the normal means for limiting the tank content must be installed to prevent damage to the tank in case of failure of the normal means.

(c) The rotorcraft pressure fueling system (not fuel tanks and fuel tank vents) must withstand an ultimate load that is 2.0 times the load arising from the maximum pressure, including surge, that is likely to occur during fueling. The maximum surge pressure must be established with any combination of tank valves being either intentionally or inadvertently closed.

(d) The rotorcraft defueling system (not including fuel tanks and fuel tank vents) must withstand an ultimate load that is 2.0 times the load arising from the maximum permissible defueling pressure (positive or negative) at the rotorcraft fueling connection.

which relative motion could exist must have provisions for flexibility.
   (c) Each flexible connection in fuel lines that may be under pressure or subjected to axial loading must use flexible hose assemblies.
   (d) Flexible hose must be approved.
   (e) No flexible hose that might be adversely affected by high temperatures may be used where excessive temperatures will exist during operation or after engine shutdown.

§ 29.995 Fuel valves.
   In addition to meeting the requirements of §29.1189, each fuel valve must—
   (a) [Reserved]
   (b) Be supported so that no loads resulting from their operation or from accelerated flight conditions are transmitted to the lines attached to the valve.
   (Secs. 313(a), 601, and 603, 72 Stat. 759, 775, 49 U.S.C. 1354(a), 1421, and 1423; sec. 6(c), 49 U.S.C. 1655 (c))

§ 29.997 Fuel strainer or filter.
   There must be a fuel strainer or filter between the fuel tank outlet and the inlet of the first fuel system component which is susceptible to fuel contamination, including but not limited to the fuel metering device or an engine positive displacement pump, whichever is nearer the fuel tank outlet. This fuel strainer or filter must—
   (a) Be accessible for draining and cleaning and must incorporate a screen or element which is easily removable;
   (b) Have a sediment trap and drain, except that it need not have a drain if the strainer or filter is easily removable for drain purposes;
   (c) Be mounted so that its weight is not supported by the connecting lines or by the inlet or outlet connections of the strainer or filter itself, unless adequate strength margins under all loading conditions are provided in the lines and connections; and
   (d) Provide a means to remove from the fuel any contaminant which would jeopardize the flow of fuel through the rotorcraft or engine fuel system components required for proper rotorcraft or engine fuel system operation.

§ 29.1001 Fuel jettisoning.
   If a fuel jettisoning system is installed, the following apply:
   (a) Fuel jettisoning must be safe during all flight regimes for which jettisoning is to be authorized.
   (b) In showing compliance with paragraph (a) of this section including the drains prescribed in §29.971 must—
      (1) Discharge clear of all parts of the rotorcraft;
      (2) Have manual or automatic means to ensure positive closure in the off position; and
      (3) Have a drain valve—
         (i) That is readily accessible and which can be easily opened and closed; and
         (ii) That is either located or protected to prevent fuel spillage in the event of a landing with landing gear retracted.

§ 29.999 Fuel system drains.
   (a) There must be at least one accessible drain at the lowest point in each fuel system to completely drain the system with the rotorcraft in any ground attitude to be expected in service.
   (b) Each drain required by paragraph (a) of this section including the drains prescribed in §29.971 must—
      (1) Discharge clear of all parts of the rotorcraft;
      (2) Have manual or automatic means to ensure positive closure in the off position; and
      (3) Have a drain valve—
         (i) That is readily accessible and which can be easily opened and closed; and
         (ii) That is either located or protected to prevent fuel spillage in the event of a landing with landing gear retracted.