§ 23.1011 General.

(a) For oil systems and components that have been approved under the engine airworthiness requirements and where those requirements are equal to or more severe than the corresponding requirements of subpart E of this part, that approval need not be duplicated. Where the requirements of subpart E of this part are more severe, substantiation must be shown to the requirements of subpart E of this part.

(b) Each engine must have an independent oil system that can supply it with an appropriate quantity of oil at a temperature not above that safe for continuous operation.

(c) The usable oil tank capacity may not be less than the product of the endurance of the airplane under critical operating conditions and the maximum oil consumption of the engine under the same conditions, plus a suitable margin to ensure adequate circulation and cooling.

(d) For an oil system without an oil transfer system, only the usable oil tank capacity may be considered. The amount of oil in the engine oil lines, the oil radiator, and the feathering reserve, may not be considered.

(e) If an oil transfer system is used, and the transfer pump can pump some of the oil in these lines that can be pumped by the transfer pump may be included in the oil capacity.

[Doc. No. 4980, 29 FR 17955, Dec. 18, 1964, as amended by Amdt. 23–43, 58 FR 18973, Apr. 9, 1993]
§ 23.1017 Oil lines and fittings.

(a) Oil lines. Oil lines must meet §23.993 and must accommodate a flow of oil at a rate and pressure adequate for proper engine functioning under any normal operating condition.

(b) Breather lines. Breather lines must be arranged so that—

(1) Condensed water vapor or oil that might freeze and obstruct the line cannot accumulate at any point;

(2) The breather discharge will not constitute a fire hazard if foaming occurs, or cause emitted oil to strike the pilot’s windshield;

(3) The breather does not discharge into the engine air induction system; and

(4) For acrobatic category airplanes, there is no excessive loss of oil from the breather during acrobatic maneuvers, including short periods of inverted flight.

(f) Flexible liners. Each flexible oil tank liner must be of an acceptable kind.

(g) Each oil tank filler cap of an oil tank that is used with an engine must provide an oiltight seal.

§23.1015 Oil tank tests.

Each oil tank must be tested under §23.965, except that—

(a) The applied pressure must be five p.s.i. for the tank construction instead of the pressures specified in §23.965(a);

(b) For a tank with a nonmetallic liner the test fluid must be oil rather than fuel as specified in §23.965(d), and the slosh test on a specimen liner must be conducted with the oil at 250 °F.; and

(c) For pressurized tanks used with a turbine engine, the test pressure may not be less than 5 p.s.i. plus the maximum operating pressure of the tank.

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(f) Flexible liners. Each flexible oil tank liner must be of an acceptable kind.

(g) Each oil tank filler cap of an oil tank that is used with an engine must provide an oiltight seal.