Federal Aviation Administration, DOT

§ 29.1027 Transmission and gearboxes: general.

(a) The oil system for components of the rotor drive system that require continuous lubrication must be sufficiently independent of the lubrication systems of the engine(s) to ensure—

1. Operation with any engine inoperative; and

2. Safe autorotation.

(b) Pressure lubrication systems for transmissions and gearboxes must comply with the requirements of §§29.1013, paragraphs (c), (d), and (f) only, 29.1015, 29.1017, 29.1021, 29.1023, and 29.1337(d). In addition, the system must have—

1. An oil strainer or filter through which all the lubricant flows, and must—

   (i) Be designed to remove from the lubricant any contaminant which may damage transmission and drive system components or impede the flow of lubricant to a hazardous degree; and
   (ii) Be equipped with a bypass constructed and installed so that—
       A. The lubricant will flow at the normal rate through the rest of the system with the strainer or filter element completely blocked; and
       B. The release of collected contaminants is minimized by appropriate location of the bypass to ensure that collected contaminants are not in the bypass flowpath;

   (iii) Be equipped with a means to indicate collection of contaminants on the filter or strainer at or before opening of the bypass;

2. For each lubricant tank or sump outlet supplying lubrication to rotor drive systems and rotor drive system components, a screen to prevent entrance into the lubrication system of any object that might obstruct the

§ 29.1025 Oil valves.

(a) Each oil shutoff must meet the requirements of §29.1189.

(b) The closing of oil shutoffs may not prevent autorotation.

(c) Each oil valve must have positive stops or suitable index provisions in the “on” and “off” positions and must be supported so that no loads resulting from its operation or from accelerated flight conditions are transmitted to the lines attached to the valve.

§ 29.1021 Oil system drains.

A drain (or drains) must be provided to allow safe drainage of the oil system. Each drain must—

(a) Be accessible; and

(b) Have manual or automatic means for positive locking in the closed position.

§ 29.1023 Oil radiators.

(a) Each oil radiator must be able to withstand any vibration, inertia, and oil pressure loads to which it would be subjected in operation.

(b) Each oil radiator air duct must be located, or equipped, so that, in case of fire, and with the airflow as it would be with and without the engine operating, flames cannot directly strike the radiator.

§ 29.1305(a)(18).