

Chapter 3

OIL DILUTION SYSTEMS

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Introduction

1. The oil dilution system is employed to reduce the effort required to start aero-engines in cold weather. The system is based on the principle that satisfactory lubrication can be obtained by cold oil thinned with fuel, so long as the correct viscosity is preserved. In addition to easier starting, the system ensures a flow of lubricant to all parts of the engine practically at normal working pressure, immediately after the start.

DESCRIPTION

2. A typical layout of the oil dilution system is shown in fig. 1. The equipment consists of a pipeline from the delivery side of the fuel pump or reducing valve, through a solenoid valve, to the suction side of the oil pump.

The valve, which is controlled by a push-switch from the cockpit, incorporates a metering jet, so that when the switch is operated a regulated flow of fuel is admitted to the engine oil in circulation.

3. It is important that the relevant operating instructions as to the oil dilution period should be correctly followed; over-dilution then can only occur if the solenoid valve leaks, or if the push-switch sticks in the ON position. Consequently it is vital to keep these two items in good working order.

4. A description of the various types of oil dilution solenoid valves is given in A.P.4343E, Vol. 1, Sect. 1.

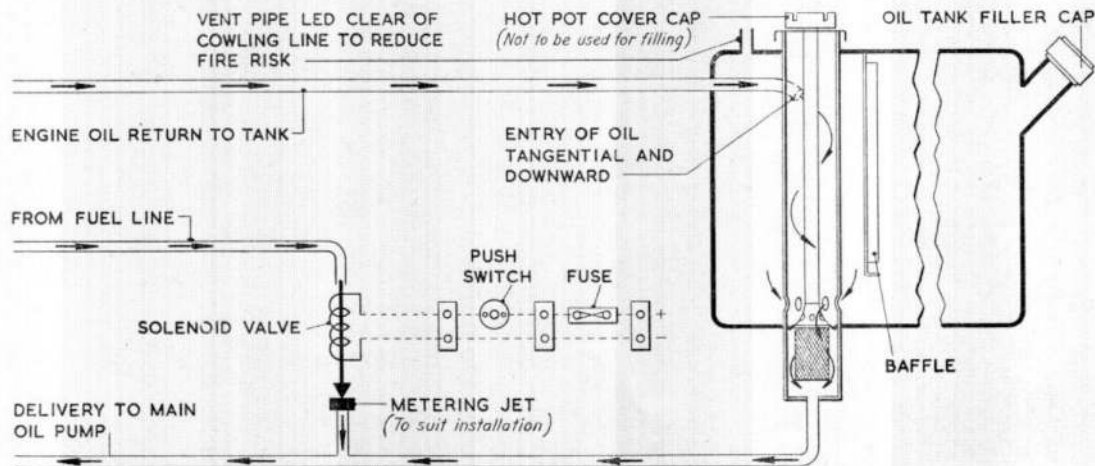
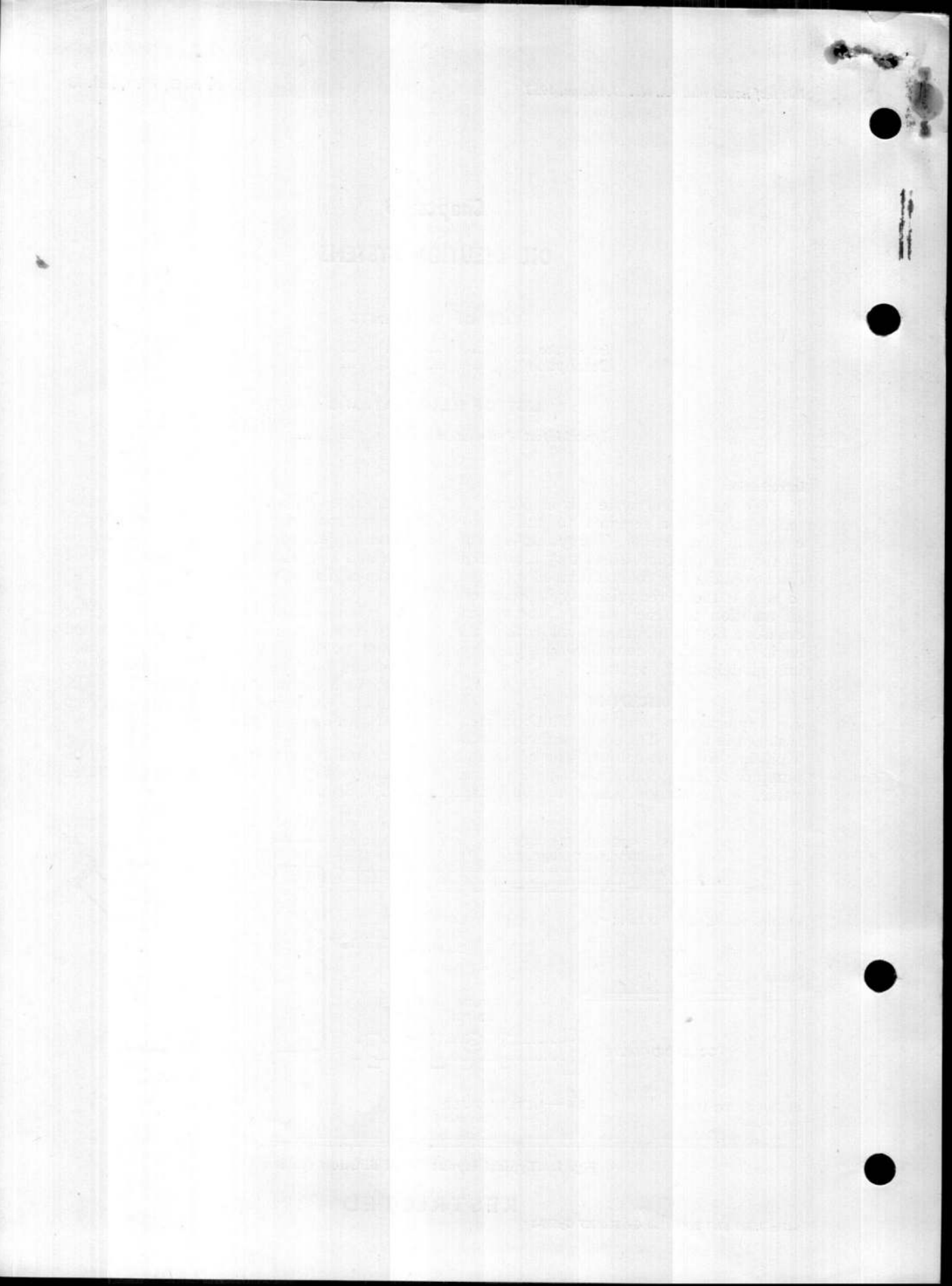


Fig. 1. Typical layout of oil dilution system

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