

CHAPTER

79

OIL

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EFFECTIVITY: All

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GENERAL

The engine sump creates oil tank. The oil quantity in engine sump may be checked by dipstick. The maximum oil filling is 11,4 litres (12 quarts).

The oil is supplied by oil pump through the oil filter to the lubricated spots of the engine. When the oil reaches 85 °C the oil is supplied through the oil radiator.

OIL SYSTEM

DESCRIPTION AND OPERATION

The oil tank is created by engine sump.

The oil is supplied by oil pump (Fig. 79-1, item 1) through oil filter (2) to the lubricated spots of the engine.

As soon as 85 °C (175 °F) is reached the thermostatic valve (3) shuts the direct oil flow to the engine and opens oil passage through hose (4), oil radiator (5), hose (6) and oil filter (2) to the engine. The oil pressure is controlled by oil reduction valve (7).

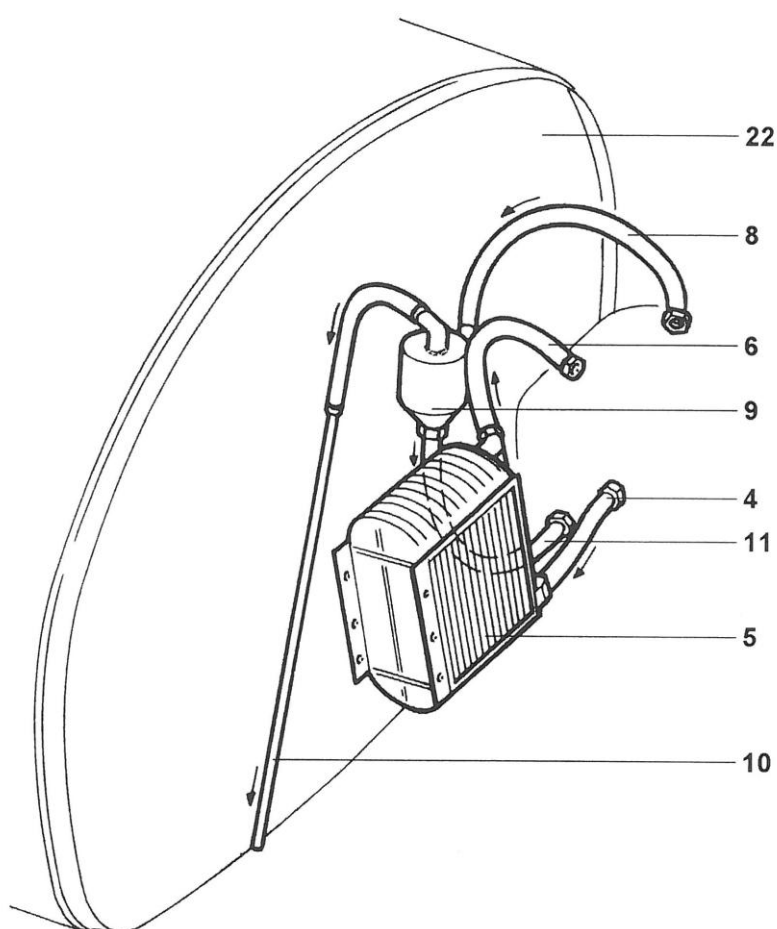
The oil radiator (5) is joined to engine mount structure behind right rear cylinder and it is cooled by air. The ambient air enters right air inlet in fwd engine cowling, cools right cylinder row and oil radiator (Fig. 75-3, item 11).

The engine casing with sump is vented through hose (Fig. 79-1, item 8) joined to separator (9) and further on through pipe (10) under the airplane to ambient air. The oil collected in separator (9) returns through the hose (11) to the engine. The oil separator (9) is joined to engine mount behind right rear engine cylinder. The pipe (10) is joined to the firewall (22).

The oil is filled to the engine through oil filler (12) upon the upper side of the engine. The oil filler cap is provided with dipstick for measurement of oil quantity (section 79-30-00).

The oil is drained from the engine through the drain valve with hose (13) upon the bottom side of the engine. The drain valve use is illustrated in detail A.

Installation diagram



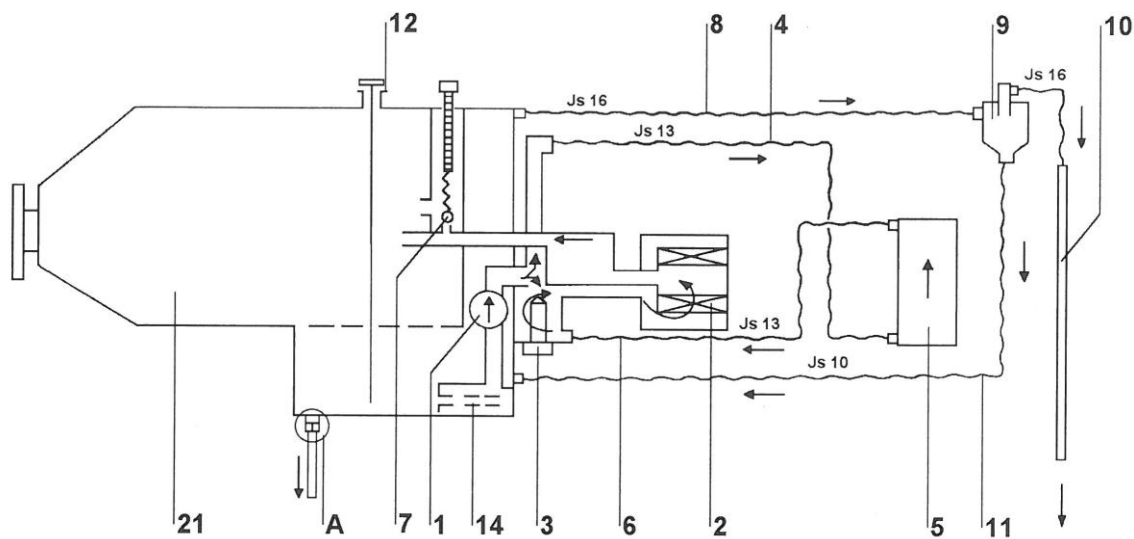
*Fig. 79-1 Oil system
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EFFECTIVITY: All

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Operation diagram



A ... drain valve

1 ... oil pump

2 ... oil filter

3 ... thermostatic valve

4 ... hose

5 ... oil radiator

6 ... hose

7 ... reduction valve

8 ... hose

9 ... separator

10 ... pipe

11 ... hose

12 ... filler port

13 ... drain valve with hose

14 ... filter screen

For information only:

21 ... engine

22 ... firewall

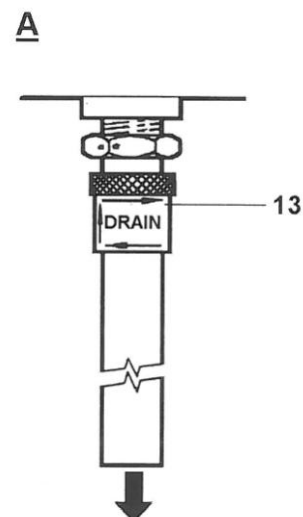


Fig. 79-1 Oil system
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MAINTENANCE

REMOVAL / INSTALLATION

REMOVAL OF OIL RADIATOR

Preparatory works

- a) Remove upper engine cowling (section 71-10-00, REMOVAL / INSTALLATION).

Removal of oil radiator

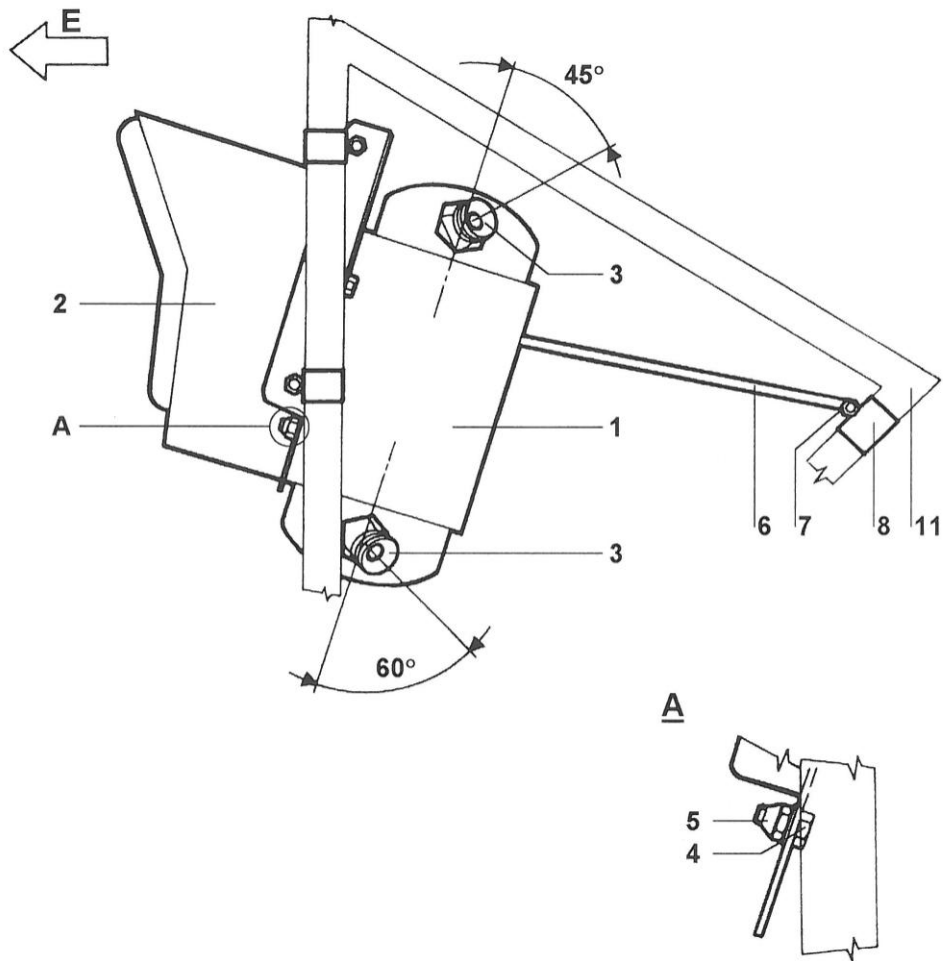
- a) Uncouple the hoses (Fig. 79-1, item 4; 6); from the oil radiator and plug the hose ends and radiator elbows (Fig. 79-2, item 3).
- b) Remove three screwed joints (detail A) joining the oil radiator (1) to air pit (2):
 - unscrew nuts (5)
 - remove bolts (4) with washers.
- c) Remove nut with washer screwed to the brace (6) from the air pit side (2).
- d) Remove nut (7) with washer being screwed to brace (6) at sleeve (8).
- e) Remove oil radiator from the airplane.

INSTALLATION OF OIL RADIATOR

- a) Clean the oil radiator and fit it together with the brace (6) to air pit (2).
- b) Join the oil radiator to air pit (2) with three bolts (4) and brace (6):
 - provide screws and brace with washers and screw the nuts in.
- c) Fix brace (6) to air pit (8) by nut (7) with washer.
- d) Remove plugs and couple the hoses (Fig. 79-1, items 4; 6) to oil radiator elbows (3). Lock the couplings with safety wire.

Final works

- a) Check oil quantity in the engine.
- b) Install upper engine cowling (section 71-10-00, REMOVAL / INSTALLATION).



A ... fixing the oil radiator (1) to air pit (2)
E ... direction of flight

- 1 ... oil radiator
- 2 ... air pit
- 3 ... elbow
- 4 ... bolt
- 5 ... nut
- 6 ... brace
- 7 ... nut
- 8 ... sleeve

For information only:
11 ... engine mount

Fig. 79-2 Oil radiator

APPROVED REPAIRS

REPAIR OF ENGINE OIL SYSTEM

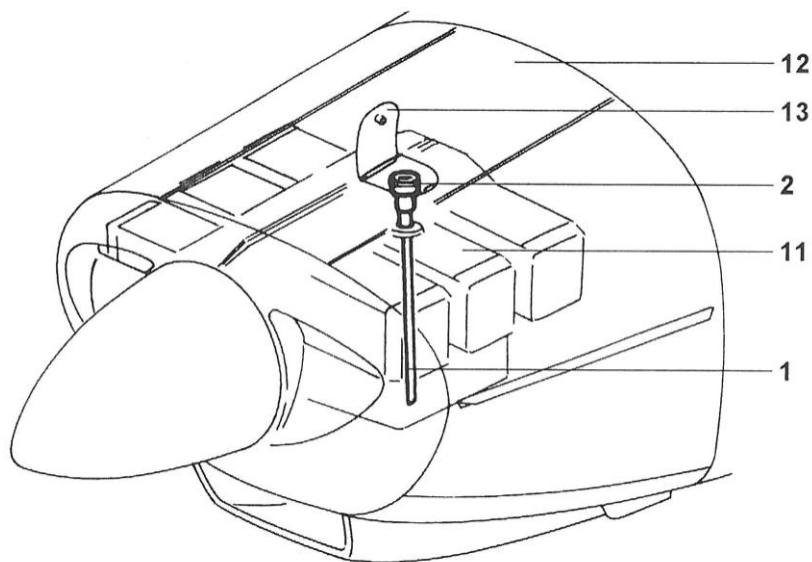
| Fault | Remedy |
|--|---|
| 1) Hoses and pipes a) damage b) expired rubber hoses (section 05-10-00). | Replace faulty hoses and pipes. Replace expired rubber hoses. The lifetime of AEROQUIP hoses is unlimited. |
| 2) Untaught couplings. | Tighten the untaught nuts, replace faulty sealing rings. Lock taught nuts with safety wire. It is recommended to tighten the thread couplings with LOCTITE 542 cement. |
| 3) Untaught oil radiator. | Repair or replace oil radiator according to detected fault |
| 4) Metal particles upon oil filter element. | Consult the metal particle occurrence with engine manufacturer or authorized repair shop. |
| 5) Dirty filtering screen in oil suction branch. | Clean the dirty screen without metal particles and install back to the engine. Consult the metal particle occurrence with engine manufacturer or authorized repair shop. |

EFFECTIVITY: All

MEASUREMENT OF OIL QUANTITY

DESCRIPTION AND OPERATION

The oil quantity check is made by dipstick (Fig. 79-3, item 1). The filler cap (2) with dipstick is accessible after opening the access port door (13) in upper engine cowling (12).



- 1 ... dipstick
- 2 ... oil filler cap

For information only:

- 11 ... engine
- 12 ... upper engine cowling
- 13 ... access port door

Fig. 79-3 Dipstick