

B. Disassembly and Repair of Fuel Feed Pump

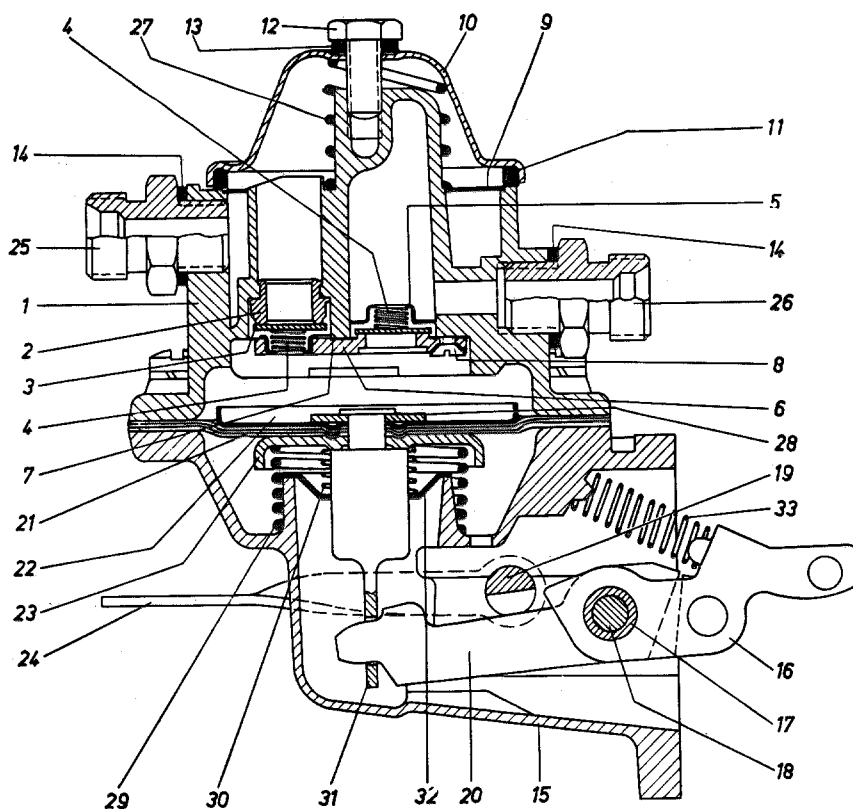


Fig. 09 — 5/4

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|---|--------------------------|----------------------|-----------------------|
| 1 Upper part of housing | 9 Screen | 17 Bushing | 25 Threaded union |
| 2 Valve seat | 10 Cap | 18 Shaft | 26 Threaded union |
| 3 Valve disk | 11 Gasket | 19 Shaft | 27 Spring |
| 4 Valve spring | 12 Hexagon screw | 20 Link lever | 28 Washer |
| 5 Spring retainer | 13 Sealing ring | 21 Diaphragm | 29 Diaphragm spring |
| 6 Valve plate | 14 Sealing ring | 22 Diaphragm plate | 30 Spring |
| 7 Gasket | 15 Lower part of housing | 23 Spring base plate | 31 Link lever |
| 8 Countersunk screw with toothed washer | 16 Pump lever | 24 Manual lever | 32 Oil cover plate |
| | | | 33 Compression spring |

If the engine does not develop full power this may also be due to the fuel pump.

Apart from leakage in pipes, the following faults may be responsible:

- Pump diaphragm defective.
- Leaking valves in the pump, valve springs either too weak or broken.
- Spring under the diaphragm too weak or broken.

Before removing the fuel pump it is advisable to check whether the delivery pressure of 0.15 to 0.20 atmospheres at an engine

speed of 700—750 r.p.m. is being developed.

A useful gage for measuring the delivery pressure is Test Gage 000 589 30 21 (see Job No. 01 — 3, Section G). The fuel feed pump must only be removed and replaced or disassembled and repaired if the above-quoted figures are not obtained.

Note: The diaphragm does not deliver at every stroke of the tappet as the free-wheel link, which is fitted in the pump lever between the tappet and the diaphragm, only works when insufficient gasoline is being delivered.

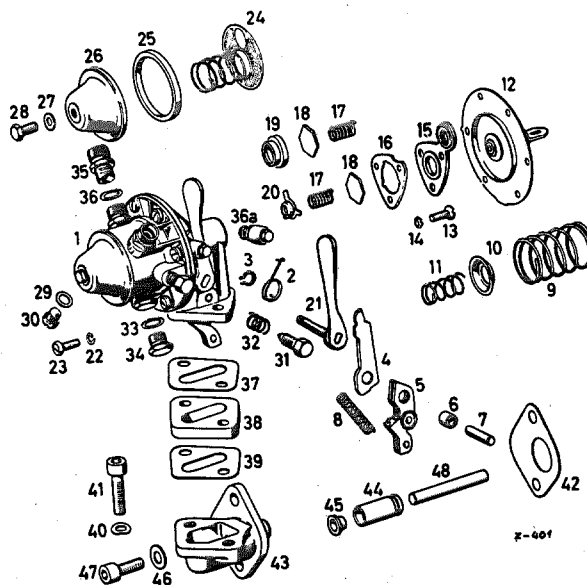


Fig. 09 — 5/5

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|----------------------------------|-----------------------------------|-------------------------|
| 1 Fuel feed pump | 17 Valve spring | 32 Compression spring |
| 2 Return spring for manual lever | 18 Valve disk | 33 Sealing ring |
| 3 Snap ring | 19 Valve seat | 34 Screw plug |
| 4 Link lever | 20 Spring retainer | 35 Threaded union |
| 5 Pump lever | 21 Manual lever with shaft | 36 Sealing ring |
| 6 Bushing | 22 Lock washer | 37 Gasket |
| 7 Shaft | 23 Oval-head screw | 38 Insulation flange |
| 8 Compression spring | 24 Screen with compression spring | 39 Gasket |
| 9 Diaphragm spring | 25 Gasket | 40 Spring washer |
| 10 Oil cover plate | 26 Cap | 41 Hexagon socket screw |
| 11 Spring | 27 Sealing ring | 42 Sealing flange |
| 12 Diaphragm assembly | 28 Hexagon screw | 43 Jointing flange |
| 13 Countersunk screw | 29 Sealing ring | 44 Bushing |
| 14 Toothed washer | 30 Screw plug | 45 Shoulder sleeve |
| 15 Valve plate | 31 Water drain plug | 46 Washer |
| 16 Gasket | | 47 Hexagon socket screw |
| | | 48 Tappet |

Disassembly:

1. Remove the tappet (48) from the jointing flange (43) and unscrew the jointing flange from the fuel feed pump (Fig. 09 — 5/5).
2. If it is necessary to replace the shoulder sleeve (45) or the bushing (44), a suitable puller should be used to pull the bushing out of the jointing flange.
3. Loosen the hexagon screw (28) and take off the cap (26) with the gasket (25). Then lift off the screen together with the compression spring (24).
4. Unscrew the upper part of the housing from the lower part. Detach the diaphragm (12) from the link lever (4). To do this, press the diaphragm into the housing and at the same time turn it to the right. Take out the springs (9) and (11) and the oil cover plate (10). The diaphragm (12) must not be disassembled and can only be replaced as a complete assembly.
5. Remove the snap ring (3) from the shaft carrying the manual lever (21), press the shaft out of the housing and remove the return spring (2).
6. The pump lever (5) and the toggle lever (4) should only be removed if this is found to be absolutely necessary. To remove, tap out the shaft (7) and then take out the pump lever (5), together with the toggle lever (4), and the spring (8).
7. Unscrew the valve plate (15) and take out the valve disks (18), the valve springs (17) and the spring retainer (20). If it is necessary to replace the valve seat (19), it must be pressed out and a new one pressed in.

Assembly:

8. Put the spring retainer (20), the valve springs (17) and the valve disks (18) in the upper part of the housing and screw on the valve plate (15) together with the gasket (16). Do not forget the toothed washers (14) under the countersunk screws (13). Then check to make sure that the valve disks are not jammed and can easily be lifted off the valve seat.
9. Install the pump lever and the link lever in the lower part of the housing. Before doing this, press the bushing (6) into the pump lever (5) and the link lever (4).
Then press in the shaft (7) and secure it on both sides by peening at three points.
10. Fit the spring (2) on the shaft carrying the manual lever (21), insert the shaft into the bore in the housing and push on the snap ring (3).
11. Place the oil cover plate (10) and the two springs (9) and (11) in the lower part of the housing and hook the diaphragm (12) onto the link lever (4). To do this, press the link lever toward the diaphragm with the aid of a screw driver.
12. Screw the upper part of the housing onto the lower part. **The screws should only be lightly installed at first. Then pull the diaphragm downward by actuating the manual lever and only tighten up the screws after this has been done.**
13. Place the screen with the compression spring (24) on the upper part of the housing, insert a new gasket (25) in the cap (26) and screw on the cap. Fit a new sealing ring (27) under the fixing screw (28).
14. Press the shoulder sleeve (45) into the bore in the jointing flange and press in the bushing (44).

15. Screw the jointing flange (43) together with the insulation flange (38) and the two gaskets (37) and (39) onto the fuel feed pump (Fig. 09 — 5/5).

Before screwing the parts together, pack the space in the fuel feed pump and in the jointing flange with grease (Fig. 09 — 5/6).

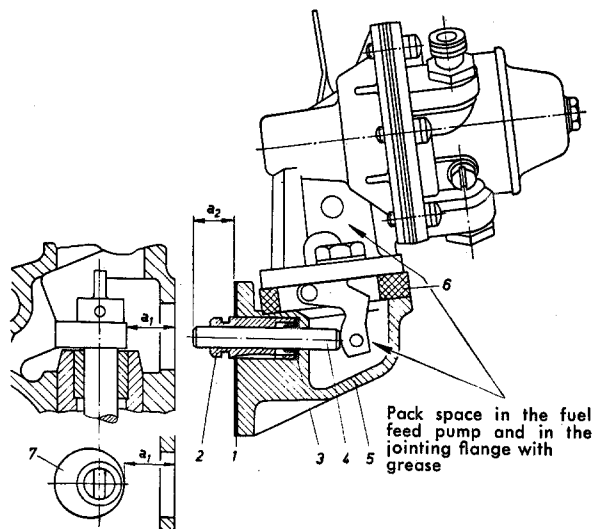


Fig. 09 — 5/6

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|-------------------|----------------------------------|
| 1 Sealing flange | 4 Tappet |
| 2 Bushing | 5 Jointing flange |
| 3 Shoulder sleeve | 6 Insulation flange with gaskets |

Checking:

16. Check working of fuel feed pump. The following test values should be obtained:

Delivery pressure 0.25—0.30 atmospheres;
Output 35—40 liters/hour at a camshaft speed of 2500 r. p. m. and feeding through a float needle valve of 2.0 diameter.

The check should be carried out with a suction head of 900 mm and a delivery head of 400 mm. Use gasoline as a testing fluid.