Removal and Installation of Nozzle Holder with Injection Nozzle

Job No. 07–17

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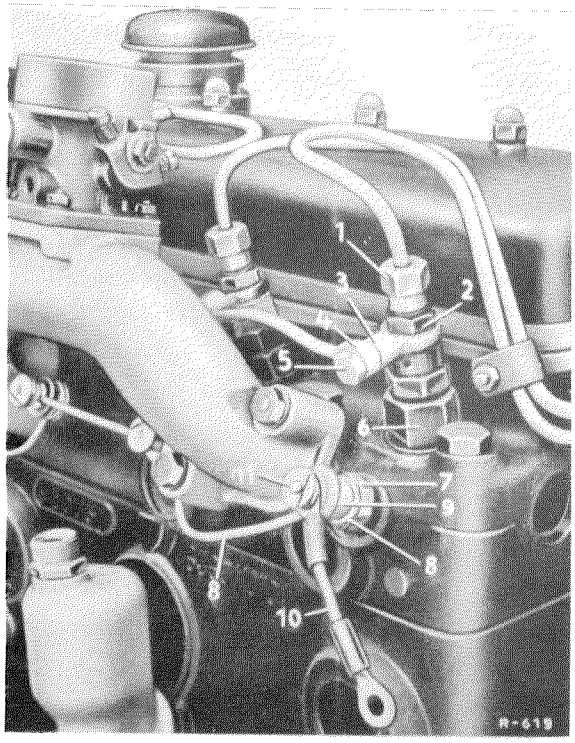

Fig. 07–17/1 OM 636

1 Union nut for mounting injection line
2 Hex nut for mounting fitting
3 Fitting
4 Connection head for leak oil line
5 Hollow screw
6 Union nut for nozzle holder
7 Glow plug
8 Bus rail
9 Insulator
10 Connection cable
11 Knurled nut

Removal:

1. Dismount the air filter, or the oil-bath air filter, or the air hose (depending on the design).

2. Unscrew the union nut (1) for mounting the injection line (see Fig. 07–17/1).

3. Unscrew the hex nut (2) for mounting the fitting (3), as well as the hollow screw (5) for the connection and the mounting of the leak oil line (4) (Fig. 07–17/1). If all four nozzle holders should be dismounted, then also disconnect the leak oil line from the T-fitting (connection fitting for leak oil line, overflow line and return flow line) and remove the leak oil line.

Note: First loosen the hollow screw (5) for mounting the leak oil line (4) after the hex nut (2) for the fitting (3) has been loosened. This prevents the nozzle holder (6) from becoming loose at the hex nut (2) if the hex nut is jamming. If this occurs nevertheless, do not fail to retain the nozzle holder with a fork wrench of size 24 mm (see Fig. 07–17/1).

4. Unscrew the nozzle holder (1) including nozzle using the socket part No. 312589 00 09 and remove the gasket (4) (also called nozzle plate, see Figure 07–17/4). Cover the bore to prevent dust or foreign bodies from penetrating.

Note: Checking and adjusting of the nozzle opening or injection pressure and observing the spray pattern (see Job No. 07–18). Disassembly, cleaning and assembly of the nozzle holder or the injection nozzle resp. (see Job No. 07–18).

Installation:

5. Crank the engine with the help of the starter motor to blow residues out of the combustion chamber, if any.

   Place gasket (4) into the pre-chamber to provide sealing between nozzle and pre-chamber (see Figure 07–17/4). To do this, observe that, when using the gasket (4) part No. 636 017 01 20, the cylindrical part faultlessly sits in the bore of the pre-chamber and that the threaded ring (2) is only 11 mm high.

Note: Regarding the OM 636: In order to avoid Diesel knock during start or operation, the gasket (4) between nozzle holder and pre-chamber (see Figure 07–17/4) has been modified. The new gasket, part No. 636 017 01 20 (Figure 07–17/3) with a total height of 2 mm is lower by 2 mm compared to that of the 1st version, part No. 312 017 04 20 (Figure 07–17/2); for recent production it is standard in the engines OM 621 and OM 636 of all types.

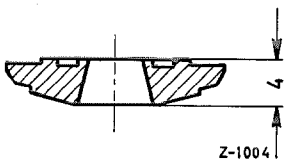

Figure 07–17/2

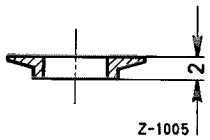

Figure 07–17/3

The cylindrical part of the gasket acc. to Figure 07–17/3 has now been lengthened by 1 mm and the bottom thickness increased by 0.5 mm, the total height of the gasket amounting now to 3.5 mm (refer to Figure 01–1/8a).

The new gasket part No. 636 017 01 20 (see Figure 07–17/3 and 01–1/8a) can be subsequently installed in all OM 636 engines. To do this observe that the threaded ring part No. 636 017 02 03 for mounting the pre-chamber should be exchanged for the threaded ring part No. 636 017 03 03 or its lower contact surface should be turned off by 2.5 mm to 11 mm (see Figure 07–17/5); this is necessary because when using the new gasket (4) the nozzle holder (1) projects by 2.5 mm deeper into the pre-chamber, consequently it would contact the threaded ring (2), and the nozzle would not contact the gasket (4) (see Figure 07–17/4).

6. Screw the nozzle holder with injection nozzle into the pre-chamber and tighten

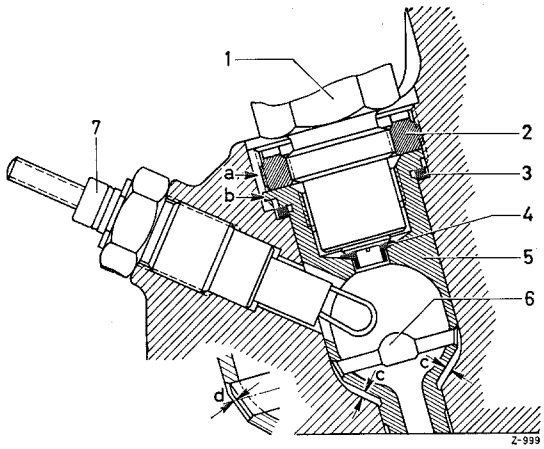

Fig. 07–17/4

OM 636

a Groove in cylinder head
b Lug securing pre-chamber against turning
c Distance between pre-chamber (5) and cylinder head
d 0.5 mm: maximum permissible retreat of a ball pin with respect to the outer dia. of the pre-chamber
1 Nozzle holder
2 Threaded ring
3 Seal ring between pre-chamber and cylinder head
4 Gasket between pre-chamber and nozzle holder
5 Pre-chamber (ball pin version)
6 Ball pin in the pre-chamber
7 Glow plug

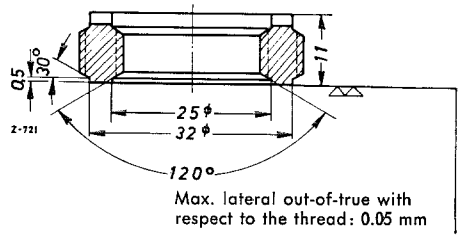

Fig. 07–17/5

with 7–8 mkg using the socket part No. 312 589 00 09. Before screwing in the nozzle holder (1), check again whether the cylindrical part of gasket (4) faultlessly sits in the bore of the pre-chamber (see Figure 07–17/4).

7. Place the fitting (3) onto the nozzle holder (6) (see Figure 07–17/1). The contact surfaces to nozzle holder and fitting should be absolutely even and clean to ensure a leak-proof connection. If necessary, machine the sealing surfaces or replace the fitting.

8. Screw on the hex nut (2) for mounting the fitting (3), but do not tighten, because the leak oil line (4) should be connected first (see Figure 07–17/1).

9. Tighten the leak oil line (4) with the hollow screw (5) on the fitting (3), using new gaskets on both sides (see Figure 07–17/1).

10. Tighten the hex nut (2) with 5 mkg using a torque wrench. Do not tighten beyond this torque to make a connection leak-proof. Excessive tightening elongates the threaded connection rendering the nozzle holder unserviceable. Leaks are always caused by bad sealing surfaces on fitting and nozzle holder.

11. Connect the injection line by screwing the union nut (1) on the nozzle holder (see Figure 07–17/1).

12. Mount the air filter or the oilbath air filter or the air hose onto the throttle duct. Operate the engine, check all connections for leaks.