Removal and Installation of Glow Plug

Job No. 15–31

Removal:

1. Loosen the connection cable (10) from the 1st or 4th glow plug by unscrewing the knurled nut (11) (see Figure 15–31/1).

2. Also unscrew the other knurled nuts, remove the connection insulators (9) and the bus rails (8) (see Figure 15–31/1).

3. Use a socket wrench size 21 mm to unscrew the glow plug.

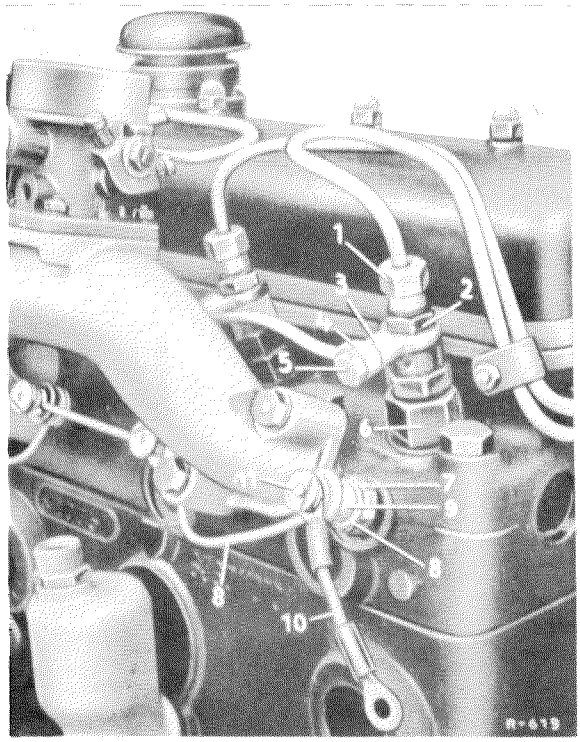

Figure 15–31/1

1 Union nut for mounting the injection line
2 Hex. nut for mounting the fitting
3 Fitting
4 Connection head of leak oil line
5 Hollow screw
6 Nozzle holder
7 Glow plug
8 Bus rail
9 Connection insulator
10 Connection cable or ground cable resp. (on both outer glow plugs)
11 Knurled nut

4. Before installing the glow plugs, clean the ducts and the bores in the pre-chambers using the reamer part No. 636 509 03 53. To do this, fill the grooves of the reamer

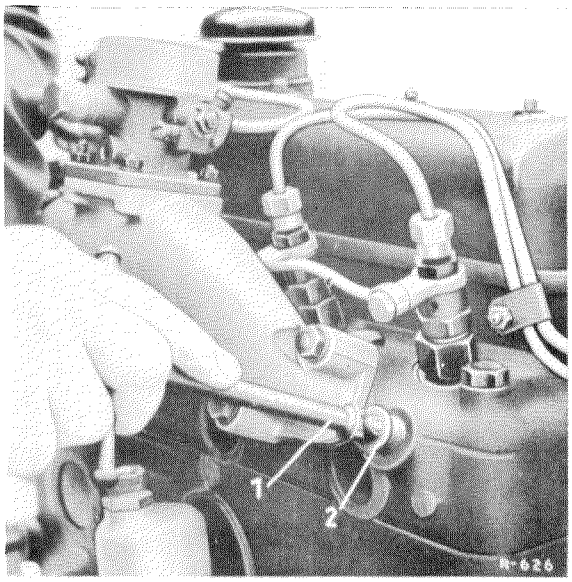

Figure 15–31/2

1 Reamer part. No. 636 589 03 53
2 Limiting collar on the reamer

with grease and ream the glow plug ducts (Figure 15–31/2).

Also a commercial reamer with 11 mm dia. can be used for cleaning the glow plug ducts. To do this, observe the following:

The reamer should only be inserted up to approx. 55 mm to avoid damaging of the ball pin in the pre-chamber (see Figure 15–31/3). Therefore, it is imperative to fit a stop on the reamer (tightly seated rubber ring or similar objects).

Note: After some time, oil carbon will deposit in the glow plug ducts. This may eventually cause shorting to ground of the glow plugs and starting troubles; therefore, the glow plug ducts should be cleaned on the occasion of larger repairs on the cylinder head and when exchanging the glow plugs i. e., also outside the normal service routine.

5. If the glow plugs had been cleaned with the cylinder head mounted, then crank the engine several times to blow the residues out of the combustion chamber.

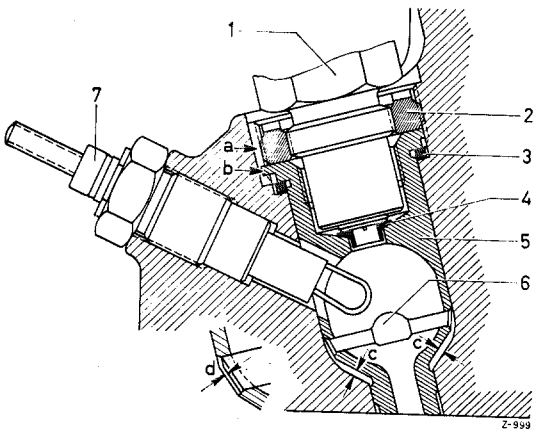

Figure 15–31/3

a Groove in the cylinder head
b Lug securing pre-chamber against turning
c Distance between pre-chamber (5) and cylinder head
d 0.5 mm: max. permissible measure of a retreated 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 Seal ring between pre-chamber and nozzle holder (nozzle plate)
5 Pre-chamber (ball pin version)
6 Ball pin in the pre-chamber
7 Glow plug

6. Apply some graphited oil to the thread of the glow plug. Screw the glow plug into the cylinder head and tighten with 5 mkg.

7. Connect the glow plugs with the bus rails (8). First place the two outer rails with the larger connection eyes, which connect the 1st and 2nd as well as the 3rd and 4th glow plug. Place the connection insulators (9) and the bus rail connecting the 2nd and 3rd plug and tighten with the knurled nuts (11). Depending on the type, connect the cable (10) to the 1st or 4th glow plug with the knurled nut (11). Also mount the ground cable (10) on the opposite side with the knurled nut (see Figure 15–31/1).

8. Check glow plugs for proper function (see also Job No. 15–32).