

# Replace Sealing between Pipe Connection and Pressure Valve Holder

Job No.

07-10

For engines of type OM 621 it is recommended to replace the sealing rings (42) between the pipe connections (3) and the pressure valve holders (6) if there are complaints about too heavily knocking combustion noises under thrust or when the engine is shaking while idling and at lower speed range. Such irregularities may be the consequence of too heavily tightened clamping jaws (15) of the injection pump, which will warp the pipe connections (3) in such a manner that the sealing rings (42) no longer seal cleanly (refer to Fig. 07-10/1). Because of such inefficient sealing the diesels fuel may fill the pump housing, run beyond the overflow and will then reach the governor vacuum chamber and prevent the control rod from attaining full idling speed position under thrust.

As a remedy the wedge effect of the clamping jaws was reduced when around the beginning of April 1962 Bosch introduced new clamping jaws widened to 20-22 mm as standard equipment; up to then the jaws were 14-15 mm wide.

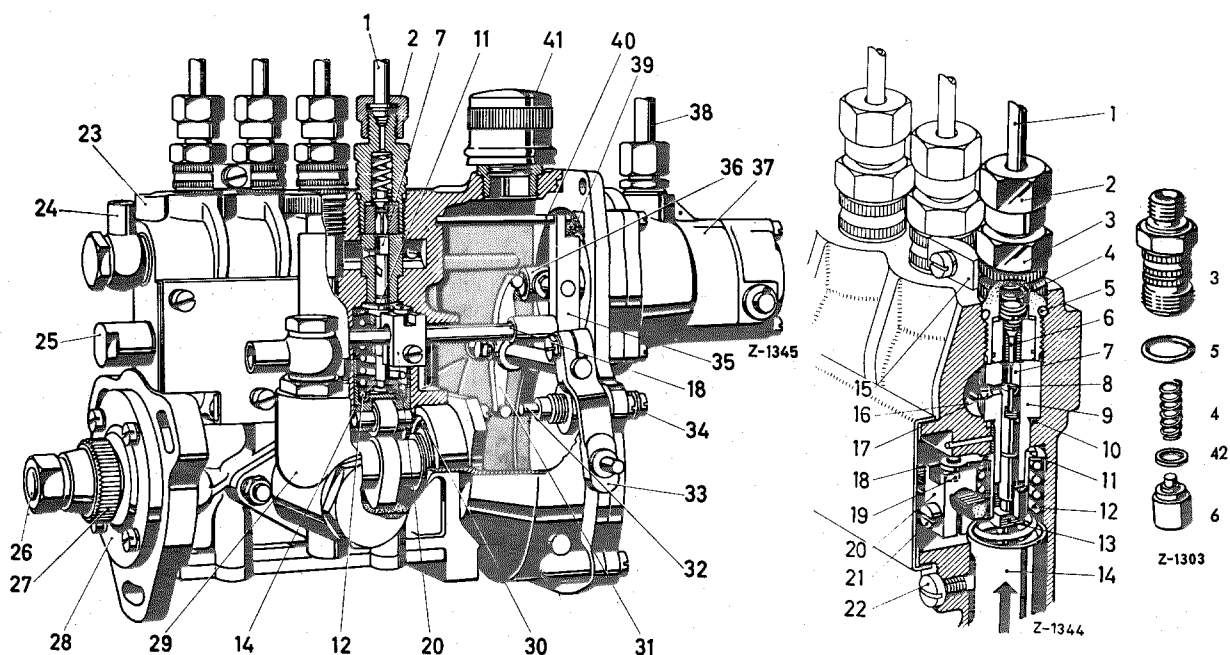


Fig. 07-10/1

- 1 Pressure line (injection line)
- 2 Cap nut
- 3 Pipe connection
- 4 Valve spring
- 5 Sealing ring between pipe connection and injection pump housing
- 6 Pressure valve with pressure valve holder
- 7 Pressure area
- 8 Piston } = Pump element
- 9 Cylinder }
- 10 Seal
- 11 Control sleeve with guide lever
- 12 Tappet spring
- 13 Piston lug
- 14 Roller tappet
- 15 Clamping jaws (for holding pipe connections)

- 16 Suction area
- 17 Control bore (feed and return bore)
- 18 Control rod
- 19 Bolt at guide lever of control sleeve
- 20 Adjustable clamping piece with guide groove
- 21 Clamp screw
- 22 Tappet guide screw
- 23 Injection pump housing
- 24 Fuel feed connection
- 25 Control rod guide sleeve and starting quantities-stop
- 26 Camshaft (drive end)
- 27 Carrier
- 28 Bearing cap with sealing ring and centering insert
- 29 Fuel feed pump
- 30 Collar-ball bearing

- 31 Double lever
- 32 Stop bolt for full load stop
- 33 Adjusting lever
- 34 Adjusting lever stop or adjusting screw with full load stop
- 35 Guide lever
- 36 Diaphragm bolt with thrust bolt and compensating spring
- 37 Diaphragm block
- 38 Vacuum line
- 39 Diaphragm
- 40 Guide bolt
- 41 Air filter and oil filler hole
- 42 Sealing ring between pipe connection and pressure valve holder

In the event of trouble, sealing rings (42) should be replaced. Proceed as follows:

1. Loosen fastening screws of clamp jaws (15), remove clamp jaws and wash injection pump at pipe connections thoroughly with gasoline (Fig. 07-10/1).

2. Unscrew pipe connection (3) from cylinder 1 with rubber sealing ring (5) and remove valve spring (4).

**Note:** The injection pumps of engine types OM 636 do not yet have the rubber sealing ring (5).

3. The pressure valve holder with pressure valve (6) and copper sealing ring (42) (Fig. 07-10/1).

**Note:** In the injection pumps of OM 636 engines the pressure valve holder with pressure valve and seal is removed with puller part No. 000 589 62 33 00, upon which the sealing ring can be removed.

4. Flush suction space of pump while operating hand pump on fuel delivery pump several times. Remove foreign bodies, if any, on cylinder face end (seat area for pressure valve holder) with cleaner part No. 000 589 23 68 00 (Bosch designation of cleaner EFEP 426).

5. Clean seat of pressure valve holder. Place new rubber seal (42) on pressure valve holder and insert together with pressure valve into injection pump (Part No. of copper seal of injection pump of engine type OM 621 001 997 34 40, type OM 636 000 997 23 40).

6. Set valve spring (4) on pressure valve (6). Slide a new rubber sealing ring (5), part No. 001 997 50 40 on pipe connection (3) and screw pipe connection down (injection pumps of engines OM 636 do not have rubber sealing ring [5]).

The be sure of obtaining a proper seat of sealing ring (42) **tighten pipe connection (3) with torque wrench as follows:**

Tighten to 4.5 mkg and loosen,  
tighten again to 4.5 mkg and loosen again,  
tighten finally to 4.5 + 0.5 mkg.

7. Proceed with steps according to items 2 to 6 in sequence also on other pipe connections.

8. Insert new clamp jaws (15) of a width of 20-22 mm and cylinder screw.

Clamp Jaws	Part No.	Bosch Designation
with thread	000 078 03 35	EPBE 76 S 2 X
with hole	000 078 02 35	EPBE 76 S 1 X
pertinent cylinder head screw <sup>1)</sup>	AM 6 x 28, DIN 84-86	NSR 52 65/35 X

<sup>1)</sup> The tightening torque for the fastening screw of the new as well as of the former clamp jaws is now specified uniformly at 80-90 cmkg. This value should be particularly maintained when the former 14-15 mm clamp jaws will be reused.

9. Loosen fastening screws of diaphragm block housing (37), raise diaphragm block housing (37) slightly and drain the governor vacuum chamber from any diesel fuel that

may have entered, then retighten diaphragm block housing.

10. Vent fuel system and run engine.