

## B. OM 621

### I. Injection pump

For the OM 621, a new Bosch injection pump with the designation PES 4 M 50/320 R is used. This new pump of the type M is essentially smaller than that used for the OM 636 of type 'A' and features a so-called suction space scavenging. The overflow valve hitherto mounted to the fuel main filter, has been dislocated to the end of the suction space of the injection pump. Thus the fuel in the suction space is constantly kept under pressure which is produced by the fuel feed pump, and the excessively fed fuel quantity scavenges the entire suction space and only flows off into the return flow line at the end of the suction space at a pressure of 1.0 to 1.5 atü via the overflow valve, and via the overflow line.

The essential feature which makes the pump of type 'M' different from that of type 'A' is the different way of transferring the control rod travel. This transfer is no longer effected via a tothing on the control rod and the control sleeve and/or the gear but via a control sleeve mounted lever arm, which engages with a pin in the slot of an adjustable clamping piece on the control rod (see Figure 07-4/25). When the control rod is moved, the lever with the control sleeve is also moved through the clamping piece on the control rod transmitting the movement on the control sleeve and on the pump plunger.

The pump plunger is directly seated on the roller tappet, contrary to the pump 'A' where it is seated on an adjusting screw in the roller tappet.

The feed begin (advance stroke) or the re-setting of the individual cylinders is adjusted by exchanging the rollers of the tappet.

The feed quantity can be adjusted by lateral movement of the clamping pieces on the control rod. Moving of the clamping pieces in direction '**VOLL**' (full) **increases**, in direction **STOP** **decreases** the quantity.

The control rod travel (approx. 21 mm) is limited in direction STOP through a lock ring and in direction '**VOLL**' (full) through a stop sleeve.

The pressure valve of pump 'M' is completely arranged within the pipe connection. The seal between pressure valve and pipe connection is, therefore, effected through an additional seal ring (4) (see Figure 07-4/26).

The governor housing is cast to the pump housing (spray cast). Optionally, it can be prepared for fitting a pneumatic governor or for a centrifugal governor. For the time being, the pump is delivered only with pneumatic governor.

The oil dip stick as hitherto used for checking the oil level has been replaced by an oil check screw. To ascertain the correct oil level in the housing of the injection pump, some oil should flow out of the bore when unscrewing the oil check screw.

The two bleeder screws hitherto arranged at the side are omitted and are replaced by a bleeder screw at the top of the injection pump, i.e., at the rear end of the suction space. The injection pumps of the initial production are still equipped with two bleeder screws. As for the rest of the construction of the injection pump, it corresponds in principle to the design of the type 'A' (see Section A of Job No. 07-4).

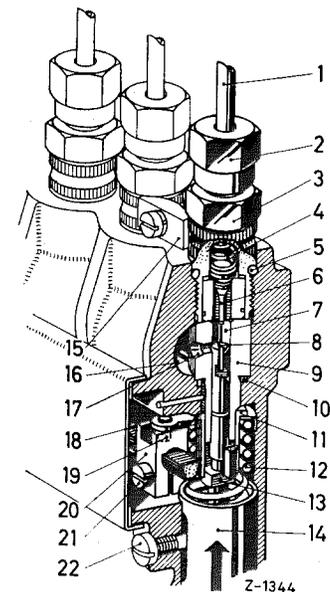
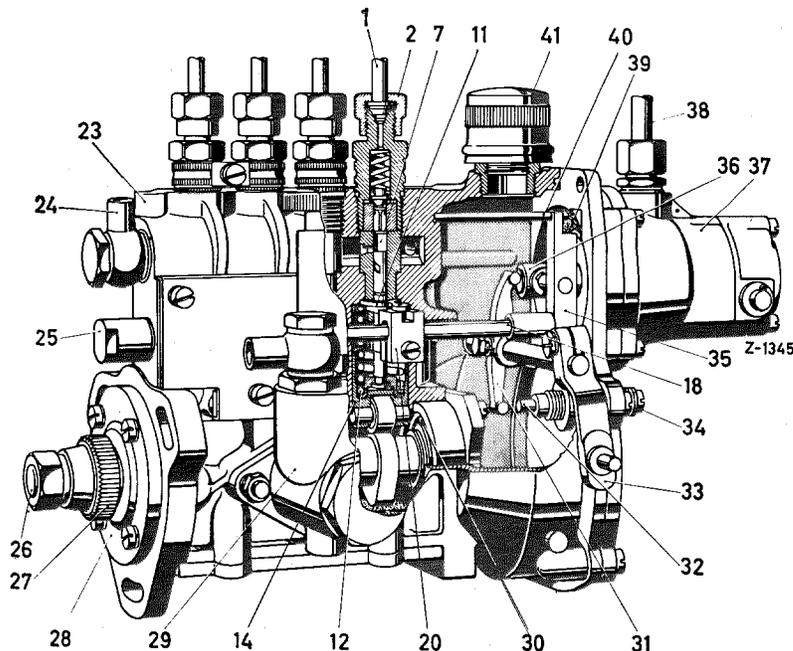


Figure 07-4/25

- |   |  |
|---|--|
| 1 Pressure pipe (injection line)                  | 23 Injection pump housing                                      |
| 2 Union nut                                       | 24 Fuel feed connection  |
| 3 Pipe connection                                 | 25 Control rod guide bushing and starting quantity stop        |
| 4 Valve spring                                    | 26 Camshaft (driving side)                                     |
| 5 Seal ring                                       | 27 Follower  |
| 6 Pressure valve                                  | 28 Bearing cover with oil seal ring and centering fit          |
| 7 Pressure space                                  | 29 Fuel feed pump  |
| 8 Plunger } = pump element                        | 30 Ball bearing  |
| 9 Cylinder }                                      | 31 Double lever  |
| 10 Gasket   | 32 Stop pin for full load stop                                 |
| 11 Control sleeve with lever arm                  | 33 Adjusting lever   |
| 12 Tappet spring                                  | 34 Adjusting lever stop or adjusting screw with full load stop |
| 13 Plunger lug                                    | 35 Guide lever   |
| 14 Roller tappet                                  | 36 Diaphragm pin with pressure pin and adapting spring         |
| 15 Clamping jaws (for fixing of pipe connections) | 37 Diaphragm assembly  |
| 16 Suction space                                  | 38 Vacuum line   |
| 17 Control bore (feed and return flow bore)       | 39 Diaphragm   |
| 18 Control rod                                    | 40 Guide pin   |
| 19 Pin on lever arm of control sleeve             | 41 Air filter and oil filling bore                             |
| 20 Adjustable clamping piece with guide groove    |  |
| 21 Clamping screw                                 |  |
| 22 Tappet guide screw                             |  |

## II. Pressure valve

The pressure valve of the pump 'M' is completely arranged within the pipe connection. The seal between pressure valve and pipe connection is effected, however, by an additional seal ring (4) (see Figure 07-4/26). The function and construction of the pressure valve corresponds in principle to the design of the type 'A' (see section A, item II of Job No. 07-4).

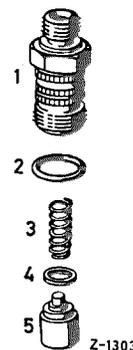


Figure 07-4/26

- |  |
|--|
| 1 Pipe connection  |
| 2 Seal ring between pipe connection and injection pump housing |
| 3 Spring   |
| 4 Seal ring between pipe connection and pressure valve         |
| 5 Pressure valve   |

## III. Pneumatic governor

The pneumatic governor EP/MN 60 M used in the OM 621 is identical to the governor for the OM 636 with the exception of the linkage controlled 'Stupser'. In connection with the throttle duct, it controls idling, maximum speed, partial load and full load. Corresponding to the respective accelerator position, load and speed, it adjusts the fuel quantity, shuts off the injection quantity when the vehicle is coasting (e.g. on downhill drives) and prevents that the maximum speed is exceeded (for the OM 621 approx. 4000 r.p.m. when loaded and approx. 4300 r.p.m. when unloaded). For completion sake, we repeat the description of the functioning of the pneumatic governor: