

Figure 07-4/25

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|---|--|
| 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).

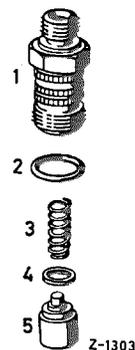


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|--|
| 1 Pipe connection |
| 2 Seal ring between pipe connection and injection pump housing |
| 3 Spring |
| 4 Seal ring between pipe connection and pressure valve |
| 5 Pressure valve |

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:

The vacuum produced in the intake pipe of the engine is conducted into the vacuum chamber of the governor via a vacuum line which is mounted on the throttle duct. The atmospheric chamber of the governor is connected with the ambient air via an air filter. A diaphragm separates both chambers air-tight from one another. The control rod mounted to the diaphragm is moved by the differential pressure between atmospheric chamber and vacuum chamber and consequently controls the injection quantity.

The control spring presses the diaphragm and the control rod in direction 'full' up to the double lever (full load), which contacts the full load stop with its other end. The full load stop adjusts the maximum permissible injection quantity. The full load stop is spring seated to ensure that during starting via the Bowden cable, the lever can be pulled beyond the full load position, i.e., into the starting position. For starting, the engine is supplied with a larger injection quantity than the full load quantity. In the vacuum chamber also the so-called 'Stupser' is fitted besides the control spring.

On the pump type 'A' used in the OM 636, the Stupser (6, 7, 8 and 9, see Figure 07-4/10) the Stupser is fixed through an adjusting screw with counternut featuring a spring-loaded idling stop; whereas on the pump type 'M', used in the OM 621, it serves as mechanical additional control for the idling and partial load ranges (see Figure 07-4/26, No. 15a, 15b, 16, 17, 18 and 19). It is its function to limit the vibrations of the control rod in the lower speed and load range, as well as in the idling range and consequently to avoid faltering and hunting of the engine. In the idling and partial load range, the control rod is balanced between the forces of the vacuum, the control spring and the Stupser (see Figure 07-4/26).

Since dampening in the upper speed range is not required and because a not disengageable Stupser still in effect in the partial load range would prevent governing when the maximum speed is exceeded, the spring loaded Stupser of the OM 621 has a sliding seat. It is controlled through a cam which is actuated via the additional control linkage so that it is moved into the respective position corresponding to the throttle position (see Figure 07-4/26).

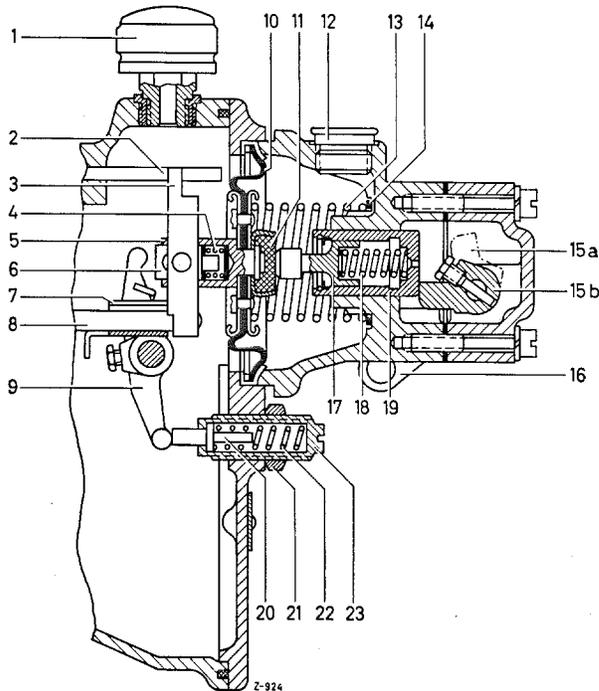


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- 1 Air filter
- 2 Guide pin
- 3 Guide lever
- 4 Adapting spring
- 5 Diaphragm pin
- 6 Pressure pin of adapting spring
- 7 Starting quantity stop
- 8 Control rod
- 9 Double lever
- 10 Diaphragm
- 11 Rubber buffer
- 12 Vacuum connection to vacuum chamber
- 13 Control spring
- 14 Spacer ring
- 15a Engaging cam, full-load position
- 15b Engaging cam, idling, position
- 16 Lever for mechanical additional control
- 17 Stop pin (Stupser)
- 18 Additional spring
- 19 Stupser housing and spring capsule, sliding
- 20 Stop pin for full load stop
- 21 Fixing nut
- 22 Spring
- 23 Adjusting screw with full load stop

The control linkage connects the accelerator with the throttle duct, i.e., the throttle shaft, and from the other side of the throttle shaft it extends via the cylinder head cover (see Figure 07-4/27, connection rod 6) to the angular lever (7) and from the angular lever (7) the connection rod (9) extends to the lever for the mechanical additional control on the injection pump governor (Stupser). The linkage is adjusted in such a way that the 'Stupser' is completely front in direction 'full' (lever, bottom at stop) with the throttle in idling position and is completely rear in direction 'stop' (lever top) with fully opened throttle (see Figure 07-4/26).

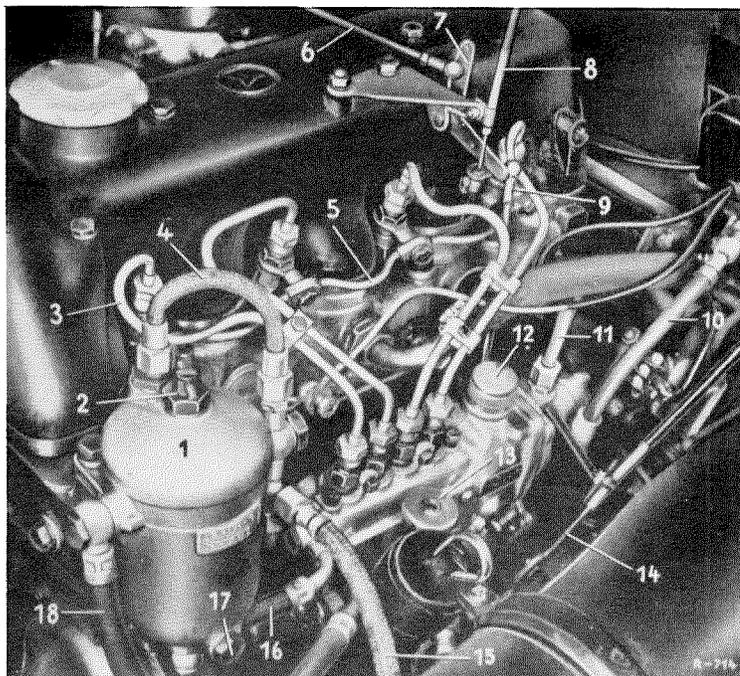


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|---|---|
| 1 Fuel main filter | 10 Hose for oil pressure gauge |
| 2 Bleeder screw | 11 Vacuum line |
| 3 Injection line | 12 Air filter |
| 4 Bleeder line | 13 Hand pump |
| 5 Leakage line | 14 Starting and stopping cable |
| 6 Connection rod from throttle duct to angular lever | 15 Fuel return flow line |
| 7 Angular lever | 16 Fuel line from main filter to injection pump |
| 8 Wire cable for manual control | 17 Screw plug |
| 9 Connection rod from angular lever to lever for mech. additional control (Stupser) | 18 Fuel line from feed pump to main filter |

In principle, the throttle duct, the diaphragm assembly, the adapting device, the speed ranges, the centrifugal governor, the injection timing device, the injection nozzle DNO SD 151 and the fuel feed pump are identical to the version for the OM 636 (see Section A, Model OM 636).