

## 07.1–210 Replacement of pipe connection, delivery valve or copper sealing ring on injection pump

Job no. of flat rates or standard texts and flat rates data 07–8627.

Tightening torques	Nm
Pipe connection for delivery valve	40–50
Injection line	25

### Special tools

Box wrench socket open, 17 mm  
1/2" drive for injection lines



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### Conventional tool

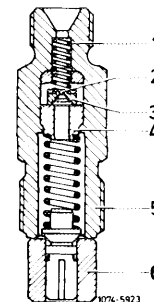
Torque wrench 1/2" drive, 15–65 Nm

### Note

To reduce hydrocarbons in exhaust gases, relief throttles are installed in pipe connections of injection pump.

Relief throttle (2) is a poppet valve (3) with an orifice of 0.6 mm dia. opening in direction of injection nozzle. Valve seat (4) is riveted into pipe connection.

- 1 Compression spring
- 2 Relief throttle
- 3 Poppet valve
- 4 Valve seat
- 5 Pipe connection
- 6 Delivery valve holder with valve



The relief throttle allows fuel to pass through freely in the direction of the injection nozzle. The pressure wave travelling toward the injection pump from the injection nozzle is caused by the secondary pumping action of the needle valve as it closes; this is attenuated by the relief throttle and prevented from returning to the injection nozzle where it would otherwise cause secondary injection. This in turn would increase the hydrocarbon content of the exhaust gases.

## Removal

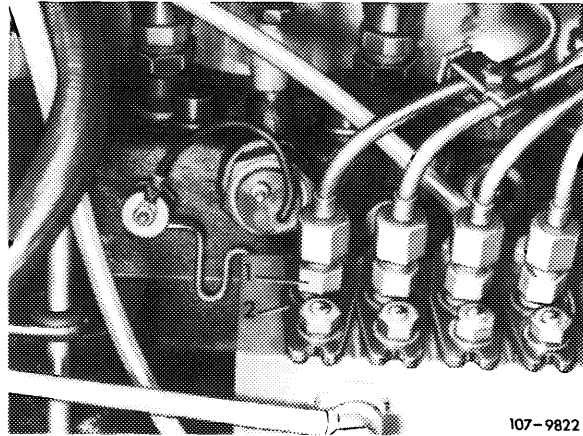
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- 1 Clean injection pump at injection line cap nuts and at pipe connections.
- 2 Unscrew injection lines and pipe connection.

### Attention:

Do not release assembly (2) because basic injection pump adjustment will otherwise have to be corrected on injection pump test bed.

- 3 Remove compression spring, copper sealing ring and delivery valve with holder.
- 4 Flush out injection pump suction chamber, using hand-operated feed pump. Remove foreign matter if necessary.



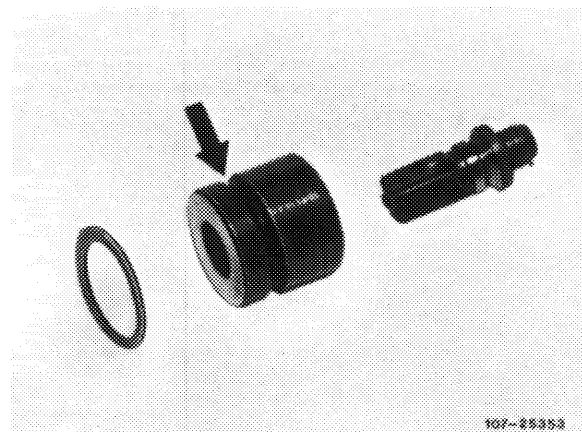
## Installation

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- 5 Clean delivery valve and holder, checking for damage and freedom of movement.

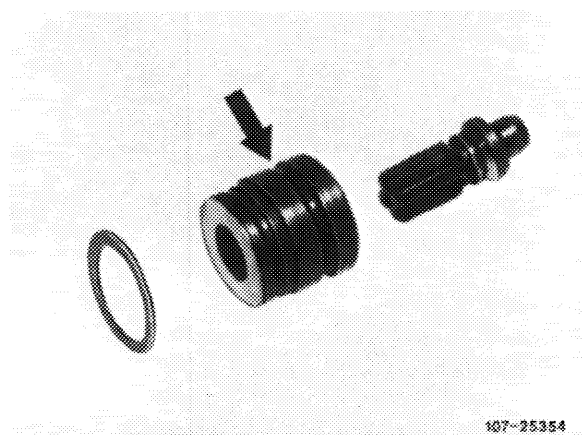
6 Position new copper sealing ring (5) **beneath** delivery valve holder (6).

On 1st version, the annular groove (arrow) must point in downward direction toward pump element.



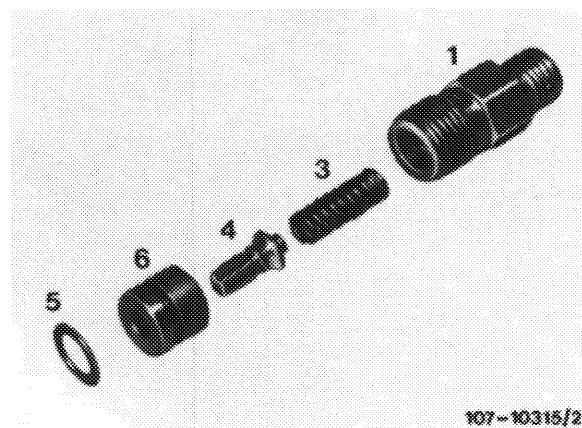
1st version

On 2nd version, the annular groove (arrow) must point toward delivery valve.



2nd version

- 1 Pipe connection
- 3 Compression spring
- 4 Delivery valve
- 5 Copper sealing ring
- 6 Delivery valve holder



7 Smear thread of pipe connection (1) with oil, insert and torque to 40–50 Nm in **one step**.

8 Connect injection lines and vent injection system (07.1–140).

9 Run engine, checking for leakage and smooth idling.