

07.1–145 Checking fuel pump and overflow valve

Test values

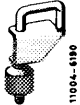
Fuel pump

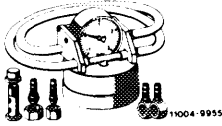
| | | | | | |
|--------------------------------|-------------------------------------|-----------------|--|-----------------|------------------|
| Injection pump – abbreviation | M | | MW | | MRSF |
| Engine | 615, 616 | | 617 | 616, 617 | 615, 616, 617 |
| Model | 115.1 | 123.1 | 115.1 | 123.1 | 123.1 |
| Fuel pump Bosch designation | FP/K 22 M 13 | FP/K 22 M 14 | FP/K 22 MW 3 | FP/K 22 MW 7 | FP/K 22 M 101 |
| Vacuum | Measuring point | | prior to pump input | | |
| | at idle speed bar gauge pressure | | 0.1 | | |
| Delivery pressure | Measuring point | | between fuel main filter and injection pump | | |
| | at idle speed bar gauge pressure | | 0.6–0.8 | | |
| | at 3000/min bar gauge pressure | | min 0.8 | | |
| Delivery end pressure | at idle speed bar gauge pressure | | min 1.1 | | |
| | at 3000/min bar gauge pressure | | min 1.3 | | |

Fuel overflow valve

| | | |
|------------|---------------|--|
| Engine | | Opening pressure in bar gauge pressure |
| 615 616 | at idle speed | 0.6–0.8 |
| 617 | at 3000/min | min 1.3 |

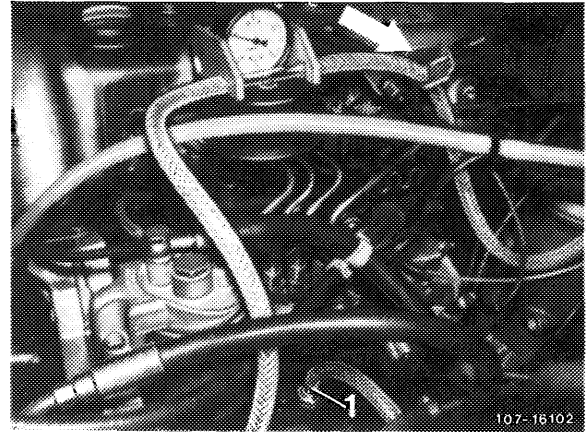
Special tools

| | | |
|---------------------|---|------------------|
| Clamp for fuel hose |  | 000 589 40 37 00 |
|---------------------|---|------------------|

| | | |
|----------------------|---|------------------|
| Tester for fuel pump |  | 617 589 04 21 00 |
|----------------------|---|------------------|

Measuring vacuum

1 Connect tester at fuel input (1) on fuel pump. For this purpose, remove fuel feed line. Vent injection system (07.1–140).



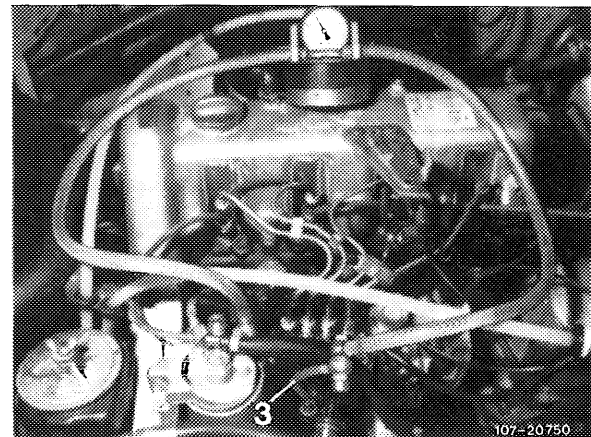
Measure vacuum at idle speed. For this purpose, pinch hose (arrow) on tester behind pressure gauge with a clamp.

If the value is not attained, replace suction and pressure valves or replace fuel pump (07.1–235).

Checking fuel delivery pressure

2 Unscrew fuel line (3) between fuel pump and fuel main filter.

3 Connect tester. For this purpose, connect fuel line together with hose line for tester to a double hollow screw and closing nut. Connect other hose line of tester to fuel filter.



4 Vent injection system (07.1–140).

5 Run engine to operating temperature.

6 Measure fuel delivery pressure at idle speed and at 3000/min.

At idle speed 0.6–0.8 bar gauge pressure.

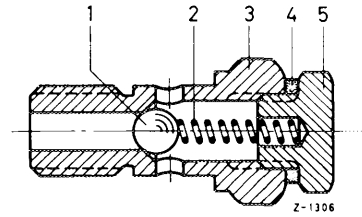
At 3000/min at least 0.8 bar gauge pressure.

7 If delivery pressure is too low:

a) Check overflow valve, while removing, disassembling and cleaning overflow valve on injection pump.

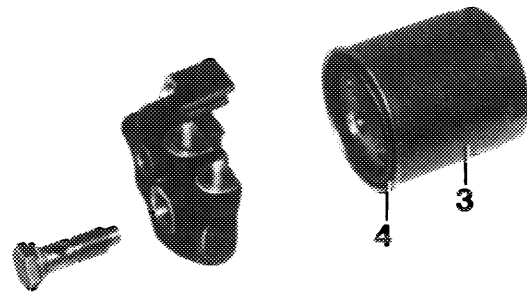
Increase preload of compression spring (2). For this purpose, lengthen compression spring to 26–27 mm.

- | | |
|----------------------|----------------|
| 1 Ball | 4 Sealing ring |
| 2 Compression spring | 5 Closing plug |
| 3 Housing | |



b) Check fuel filter for contamination. Mount new filter element with housing (3) and gasket (4), if required.

c) Replace suction and pressure valve or replace fuel pump (07.1–235).



107-11361

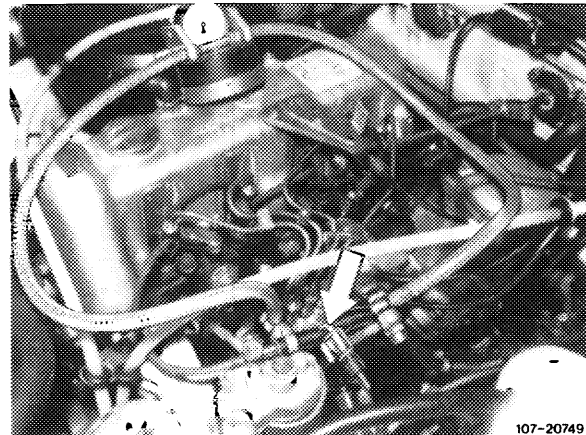
Checking fuel delivery end pressure

8 Pinch fuel return hose with a clamp (arrow).

9 Measure fuel delivery end pressure at idle speed and at 3000/min.

At idle speed min. 1.1 bar gauge pressure.

At 3000/min at least 1.3 bar gauge pressure.



107-20749

10 If the delivery end pressure is too low, replace suction and pressure valves or replace fuel pump (07.1–235).