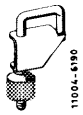
07.4–120 Checking fuel pressure and for leaks in ring line

Test values

Measuring specifications at idle with delivery pump energized		min 11.5 V
Delivery pressure in ring line	Measuring point	in front of cold starting valve in ring line
	bar gauge pressure	2.0 + 0.1
Capacity[1])	Measuring point	following pressure regulator in return line
	1 litre	in max 30 seconds

[1]) When measuring delivery capacity, the fuel tank should be filled to at least 50%.

Special tool

Clamp		000 589 40 37 00

Conventional tools

Pressure gauge with calibrated measuring range of 0–2.5 bar gauge pressure

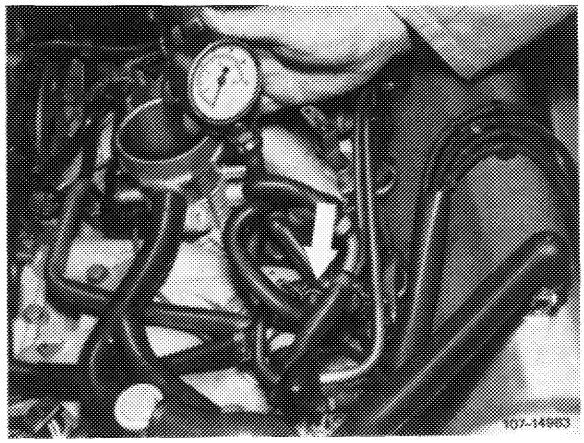
Checking fuel pressure

1 Remove air filter.

2 Remove fuel pressure for **safety reasons.** Pull electric plug connection from cold starting valve. Connect cold starting valve with separate cable to B + and ground for approx. 20 seconds.

Then return plug connection to cold starting valve.

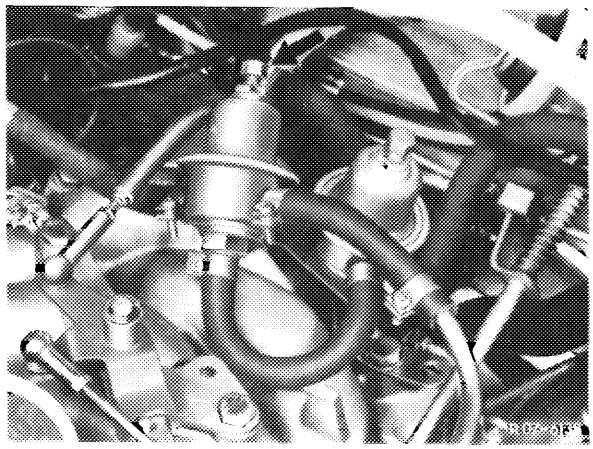
3 Connect pressure gauge in front of cold starting valve to ring line. For this purpose, pull fuel hose from ring line (arrow) and place pressure gauge in-between by means of a T-fitting.



4 Run engine at idle speed, check fuel pressure.

Nominal pressure 2.0 + 0.1 bar gauge pressure. Adjust by means of adjusting screw (arrow) on pressure regulator, if required.

If following a slight turn of adjusting screw no difference in pressure results, replace pressure regulator.

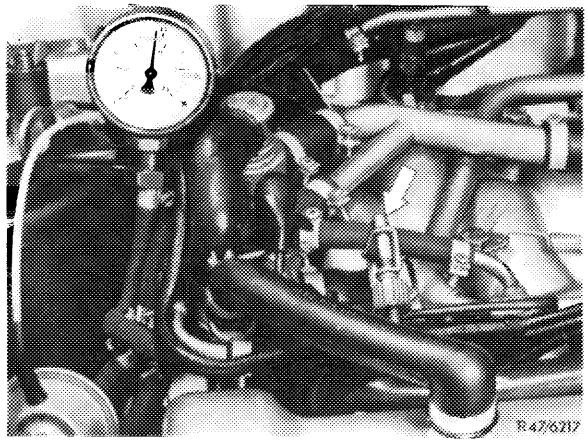


Checking for leaks

5 Disconnect engine. Fuel pressure may drop to 1.7 bar gauge pressure. After another approx. 5 minutes, a pressure drop to 1.5 bar gauge pressure is permitted. On fuel pumps with Bosch designation 0 580 970 002 the fuel pressure drops to 1.2 bar gauge pressure. If the fuel pressure drops uniformly to 0 bar gauge pressure, **an internal leak may be present at the following points.**

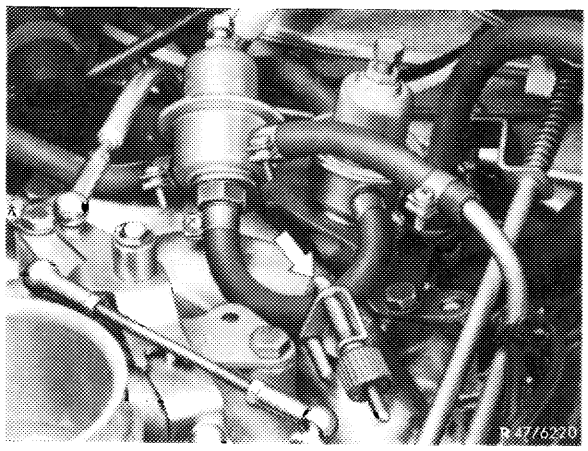
a) Check cold starting valve while switching-on ignition and disconnecting (pinching) fuel hose at cold starting valve (arrow).

If pressure gauge shows no reduction of fuel pressure, the cold starting valve is leaking and should be replaced.



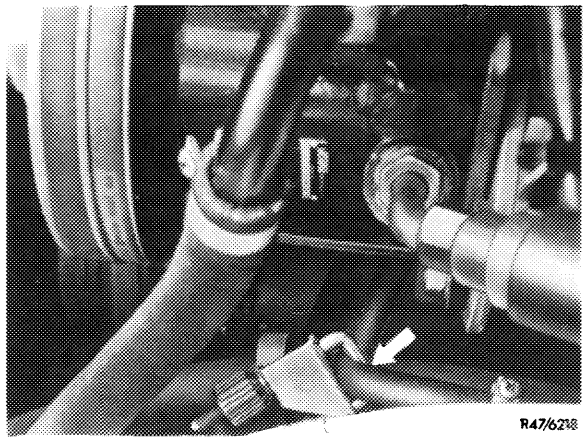
b) Check with pressure regulator by switching-on ignition and disconnecting (pinching) fuel return hose, behind pressure regulator (arrow) the moment the fuel pump stops.

If the pressure gauge shows no reduction of fuel pressure, the pressure regulator is leaking and should be replaced.

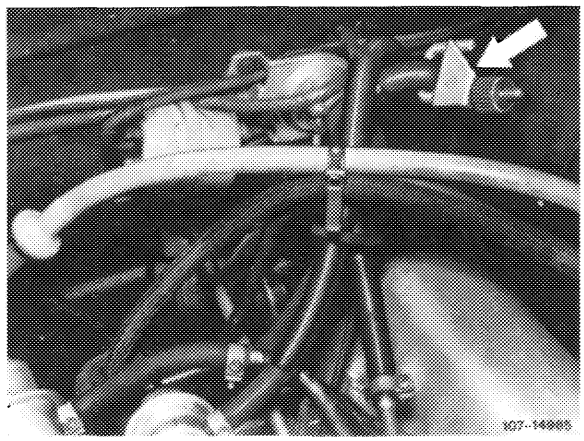


c) Check ball valve in pressure connection of fuel pump by switching-on ignition while disconnecting (pinching) fuel hose of fuel feed line in front of ring line (arrow) the moment the fuel pump stops.

If the fuel pressure at pressure gauge is not reduced, renew fuel pump.



1st version



2nd version

d) Check injection valves (07.4···135).

6 Check injection valves for electric function. For this purpose, switch-on ignition. Floor accelerator pedal slowly, the injection valves of the first group (cylinders 1 and 5) should then audibly eject. Rotate engine for approx. one additional revolution. Repeat procedure, now the injection valves of the second group (cylinders 4 and 8) should audibly eject. Repeat procedure, during which the injection valves of the third group (cylinders 6 and 3) should audibly eject. Continue rotating engine for approx. one more revolution. Repeat procedure, during which the injection valves of the fourth group (cylinders 7 and 2) should audibly eject.

7 Disconnect pressure gauge while slowly reducing fuel pressure as described under item 2.

8 Run engine and check for external leaks.