Fuel system pressure and residual pressure, checking

CAUTION!

Fire hazard! Do not smoke, work near heaters or open flame, or have anything in the area that could ignite fuel.

Checking requirements:

- Fuel pump relay OK; checking ⇒ page 24-24
- Fuel pump OK:

⇒ *Repair Manual, 2.8 Liter V6 2V Engine Mechanical, Engine Code(s): AFC, Repair Group 20*

- Correct fuel filter installed
- Battery positive voltage (B+): 12 volts minimum

Checking system pressure

- Connect VAG 1318 pressure tester between fuel supply and fuel return

lines (tester handle shown in open position).

- Disconnect vacuum line (from fuel pressure regulator to intake manifold) at fuel pressure regulator and plug line.

Note:

If during subsequent pressure tests, fuel leaks from the pressure regulator vacuum connector, replace it.

24-21

- Use scan tool "Output Diagnostic Test Mode" function 03 to trigger Fuel Pump (FP) relay -J17- ⇒ Repair Group 01.

If fuel pump does not run:

- Check fuel pump:

⇒ *Repair Manual, 2.8 Liter V6 2V Engine Mechanical, Engine Code(s): AFC, Repair Group 20*

Specified value: 3.8 to 4.2 bar (55 - 61 psi)

If the specified value is not obtained:

- Replace fuel pressure regulator and perform pressure test again.

If the value is again not obtained:

- Check whether fuel pump or supply line is damaged (e.g. pinched), and replace if necessary.

If the specified value is exceeded:

- Check return line for damage (e.g. pinched locations), and replace if necessary.

Note:

During subsequent testing the engine should not run for an unnecessarily long time with the vacuum hose disconnected, because the increased fuel pressure will cause mixture enrichment which in turn may cause the oxygen sensor control limits to be exceeded and a malfunction to be registered and stored.

- Let engine idle.

  This will automatically halt the output DTM sequence.

- Switch off all electrical consumers (A/C etc.).

- Connect vacuum hose to pressure regulator and observe pressure drop on gauge.

  - Connecting the vacuum hose must reduce fuel pressure by approx. 0.5 bar (7 psi)

If change in pressure does not occur:

- Check vacuum hose for leaks (cracks, damage).

- Check vacuum hose on intake manifold for flow by disconnecting hose and blowing through it.

If there is no leakage and the vacuum connection is open:

- Replace fuel pressure regulator.

Residual pressure, checking

Residual pressure 10 minutes after stopping engine:

- With cold engine: 2.2 bar (32 psi) minimum
- With a hot engine: 3.0 bar (44 psi) minimum

Note:

The pressure increase for a hot engine is caused by fuel expansion and is normal.

If residual pressure is too low:

- Check pressure tester connections for leaks.
- Check fuel lines for leaks.
- Check fuel pump check valve:

⇒ *Repair Manual, 2.8 Liter V6 2V Engine Mechanical, Engine Code(s): AFC, Repair Group 20*

- Check fuel injectors for leaks ⇒ page 24-33 .

If there are no leaks and the fuel pump check valve is OK:

- Replace fuel pressure regulator and repeat residual pressure test.