

FUEL-01, Fuel Pressure - Checking

Tools

- Fuel Pressure Gauge (P 378 or VW 1318)
- Adapter for Fuel Rail Connection (12 x 1.50 mm threads) (if factory gauge is not used) *
- Catch Rags

* Refer to [FUEL-20](#) for instructions on how to make an adapter for fuel pressure gauges with non-metric threads.

Fuel Pressure Specifications	
All 8V 944s and 944 Turbos	
Engine Stopped - Relay Jumpered	2.5 bar +/- 0.2 bar (36 psig +/- 3 psig)
Engine Running at Idle	2 bar +/- 0.2 bar (29 psig +/- 3 psig)
20 Minute Leakdown Pressure	1 bar (14.5 psig)
All 16V 944s	
Engine Stopped - Relay Jumpered	3.8 bar +/- 0.2 bar (55 psig +/- 3 psig)
Engine Running at Idle	3.3 bar +/- 0.2 bar (48 psig +/- 3 psig)
20 Minute Leakdown Pressure	2 bar (29 psig)

Procedure

NOTE

Have rags ready to catch any fuel which might escape from the fuel rail when the end cap is removed. Be careful when removing fuel rail end cap as the fuel rail may be under high pressure.

1. Remove the cap from the end of the fuel rail (8V cars). There is a sealing ball (essentially a ball bearing) in the end of the fuel rail. Be sure to catch the sealing ball when removing the cap. On 16V cars, the cap is on the side of the fuel rail closest to the intake manifold between intake runners 1 and 2.
2. Attach the fuel pressure gauge to the end of the fuel rail. With most gauges you'll need some type of adapter to attach the gauge. The more expensive fuel pressure gauge kits will include metric adapters. I fabricated my own adapter using an old fuel rail end cap which I drilled and tapped to accept an adapter (Pipe thread to SAE thread) which would work with my Craftsman 0-100 psi fuel pressure gauge.
3. On early (pre-1985.5) cars remove the fuel pump relay located on the relay/fuse panel under the dash on the driver's side (left-hand drive).

4. On late model cars, remove the DME relay located on the relay/fuse panel under the hood.
5. On the panel where the relay was removed, jumper terminals 30 and 87b. If unsure about the terminal numbers, look at the terminal labeling on the bottom side of the relay. When the jumper is installed the fuel pump should start.
6. Check fuel pressure gauge reading against the "Engine Stopped - Relay Jumpered" values in the fuel pressure specification table for your vehicle.
7. Remove the jumper, install relay, and start engine.
8. Check the fuel pressure gauge reading against the "Engine Running at Idle" value in the fuel pressure specification table for you vehicle.
9. Values which are significantly higher than the specification values typically indicate a problem with the fuel pressure regulator. Values significantly below the specification values typically indicate a problem with the fuel pump or a clogged fuel filter.
10. After the engine has been run at idle, stop the engine and allow the car to sit for 20 minutes to check the fuel system leakdown.
11. After 20 minutes, check the fuel pressure gauge reading against the "20 Minute Leakdown" values the the fuel pressure specification table.
12. Values significantly below the specification value are typically the result of a bad check valve (supply side of fuel pump).

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13. When all testing is complete, remove the fuel pressure gauge from the fuel rail.
14. Replace the sealing ball and end cap on the end of the fuel rail. Tighten cap to 22 Nm (16 ft-lb).

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