

NO: 14-05-99

SUBJECT: Fuel System Pressure Diagnostic Procedures

DATE: Oct. 8, 1999

OVERVIEW:

This bulletin involves diagnostic procedures that may be used to determine the cause of a loss of fuel system pressure.

SYMPTOM/CONDITION:

A loss of pressure in the fuel system may occur at any rate depending upon the cause of the fuel leakage. Because the rate of fuel pressure loss may vary between vehicles, the symptoms of this condition may be different from one vehicle to another.

The condition may be more noticeable when the vehicle engine is started. Low or no fuel pressure may cause, a long crank time, a start and stall, an initial sag or hesitation, and other engine performance conditions. The condition may vary depending upon engine temperature and/or ambient temperature.

DIAGNOSIS:

1. Perform a preliminary inspection of the vehicle powertrain to determine if components other than the fuel system are operating correctly. Correct any Diagnostic Trouble Codes (DTC) which may be present.
2. If the fuel system is determined to be the possible cause of the above condition, then perform a visual inspection of the overall fuel system. Note if there are any fuel system related DTC's. Determine if the DTC would be affected by low fuel pressure.
3. If the visual inspection of the fuel system has determined that all components appear to be in proper operating order, then perform the Diagnostic Procedure.

EQUIPMENT REQUIRED:

Qty	Part No.	Description
1	5069	Kit, Pressure Test
2	6539	Adapter, Fuel Pressure (for 5/16" fuel lines)

DIAGNOSTIC PROCEDURE:

NOTE: REFER TO THE 2000 GRAND CHEROKEE SERVICE MANUAL, GROUP 14 – FUEL SYSTEM (PUBLICATION NO. 81-370-0047) FOR ADDITIONAL TECHNICAL SUPPORT.

1. Release the fuel system pressure. Refer to the 2000 Grand Cherokee Service Manual (Publication No. 81-370-0047) page 14-12 to 14-15 for information regarding fuel system pressure release, fuel tubes/lines/hoses and clamps, and quick-connect fittings.
2. Raise and support the vehicle.
3. The fuel filter/pressure regulator is mounted on the vehicle sill (frame rail) above the rear

axlecrossmember. Disconnect the metal 45° 5/16" by 5/16" female quick connect from the fuel filter/pressure regulator.

4. Install Fuel Pressure Adapter Tool #6539 between the fuel filter/pressure regulator inlet and the fuel pressure line from the fuel pump module. [Figure 1](#).
5. Lower the vehicle.
6. Remove the air cleaner assembly to obtain access to the fuel injector rail.
7. Using a 5/16" quick disconnect tool, disconnect the vehicle fuel line from the fuel injector rail.
8. Install a second Fuel Pressure Adapter Tool #6539 between the fuel injector rail and the vehicle fuel line.
9. From Pressure Test Kit #5069, connect the 0 – 414 kPa (0 – 60 psi) fuel pressure test gauge (#6002) to Test Port "T" on the second Fuel Pressure Adapter Tool. This second Fuel Pressure Adapter Tool was connected previously between the fuel injector rail and the vehicle fuel line in [Step 8](#). [Figure 2](#).

NOTE: ALL FITTINGS AND CONNECTIONS ON BOTH TOOLS MUST BE IN GOOD CONDITION AND FREE OF ANY SMALL LEAKS BEFORE PROCEEDING WITH FURTHER TESTING.

10. Start and run the engine. Bring the engine to normal operating temperature.
11. Observe the test gauge. Normal fuel system operating pressure should be 339 kPa +/- 34 kPa (49.2 psi +/- 5 psi).
12. Shut off the engine.
13. Observe the test gauge. Normal fuel system pressure should not fall below 207 kPa (30 psi) for five minutes.

If the fuel system pressure falls below 207 kPa (30 psi) before five minutes has lapsed, then the cause of the fuel system pressure loss must be determined.

Testing For Fuel Injector Or Fuel Injector Rail Leakage

14. Start and run the engine. Bring the engine to normal operating temperature.
15. Shut off the engine.
16. Using a suitable clamping tool, clamp off the rubber hose portion of the Fuel Pressure Adapter Tool connected to the fuel injector rail. The clamp should be positioned on the rubber adapter hose between the fuel injector rail and the fuel pressure gauge.

NOTE: BE CERTAIN THAT THE CLAMPING TECHNIQUE USED IS ADEQUATE TO PROVIDE A GOOD SEAL AND WILL NOT DAMAGE THE FUEL PRESSURE ADAPTER TOOL HOSE.

17. Observe the test gauge. If the fuel system pressure does not fall below 207 kPa (30 psi) for five minutes, then a leaking fuel injector, fuel injector rail, or fuel connection is the cause of the fuel system pressure loss.

A leakage at a fuel line connection or fuel injector rail will be external to the fuel system and may often be found visually or by odor. If no external leakage is present, then the fuel injector(s) may be leaking fuel inside the intake manifold.

18. Remove the clamping tool.

Testing For Fuel Filter/Regulator Or Fuel Module Leakage

19. Start and run the engine. Bring the engine to normal operating temperature.
20. Shut off the engine.
21. Using a suitable clamping tool, again clamp off the rubber hose portion of the Fuel Pressure Adapter Tool connected to the engine fuel injector rail. The clamp should be positioned on the rubber adapter hose between the fuel injector rail and the fuel pressure gauge.
22. Raise and support the vehicle.
23. Using a second clamping tool, clamp off either rubber hose portion of the Fuel Pressure Adapter Tool that is connected between the fuel module supply line and the fuel filter/regulator. The Fuel Pressure Adapter Tool was previously installed during [Step 4](#).

NOTE: BE CERTAIN THAT THE CLAMPING TECHNIQUE USED IS ADEQUATE TO PROVIDE A GOOD SEAL AND WILL NOT DAMAGE THE FUEL PRESSURE ADAPTER TOOL HOSE.

24. Observe the test gauge. If the fuel system pressure does fall below 207 kPa (30 psi) for five minutes, then a fuel filter/regulator or fuel line connection may be the cause of the fuel system pressure loss.

Leakage at a fuel line connection will be external to the fuel system and may often be found visually or by odor. If no external leakage is present, then the fuel filter/pressure regulator may be leaking fuel internally back into the fuel tank.

25. If the fuel system pressure does not fall below 207 kPa (30 psi) for five minutes, then a component of the fuel pump module or a fuel line connection at the fuel module may be the cause of the fuel system pressure loss.

Leakage at a fuel line connection will be external to the fuel system and may often be found visually or by odor. If no external leakage is present, then a component within the fuel module may be leaking fuel internally back into the fuel tank.

POLICY: Information Only

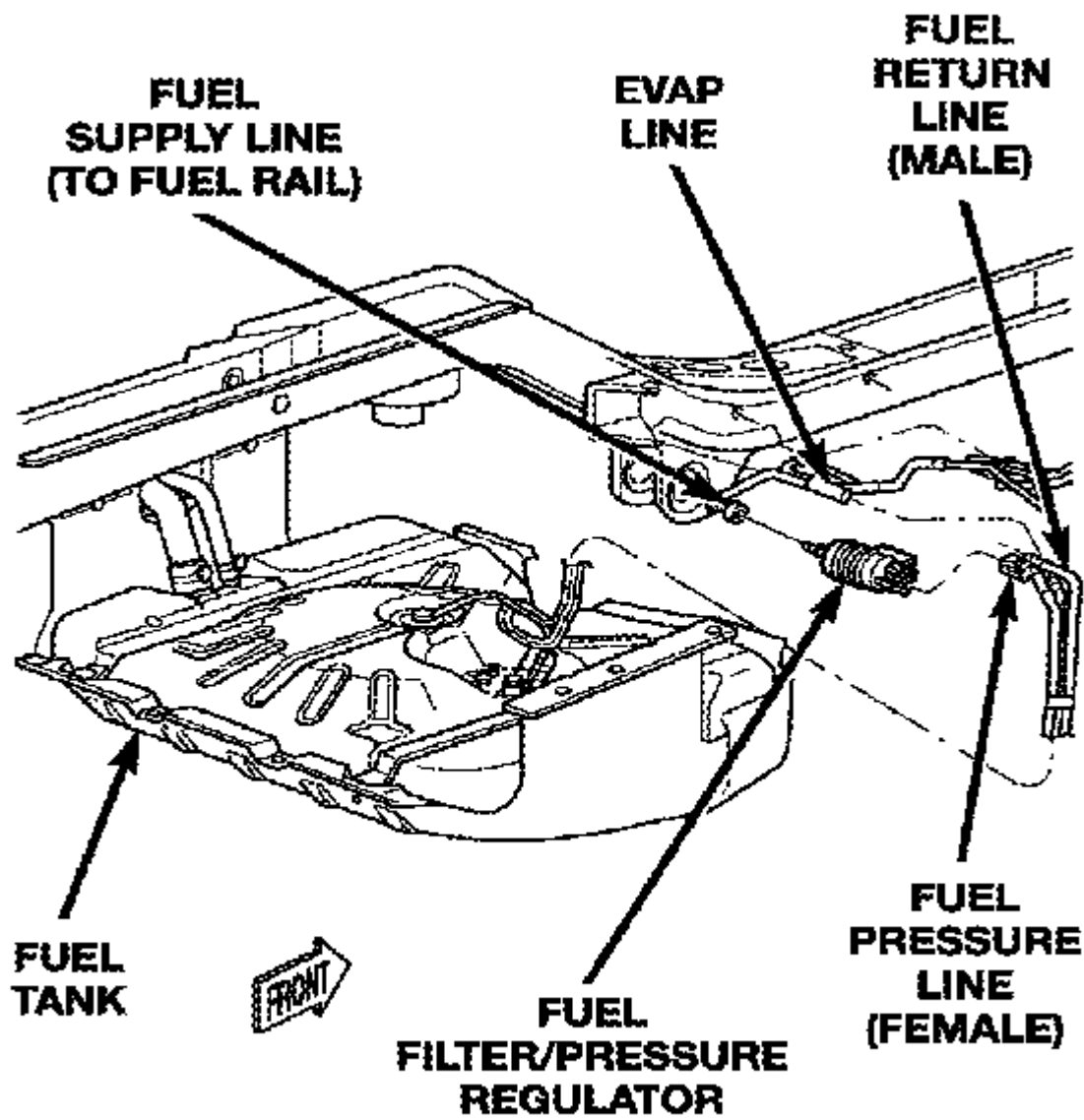


Figure 1

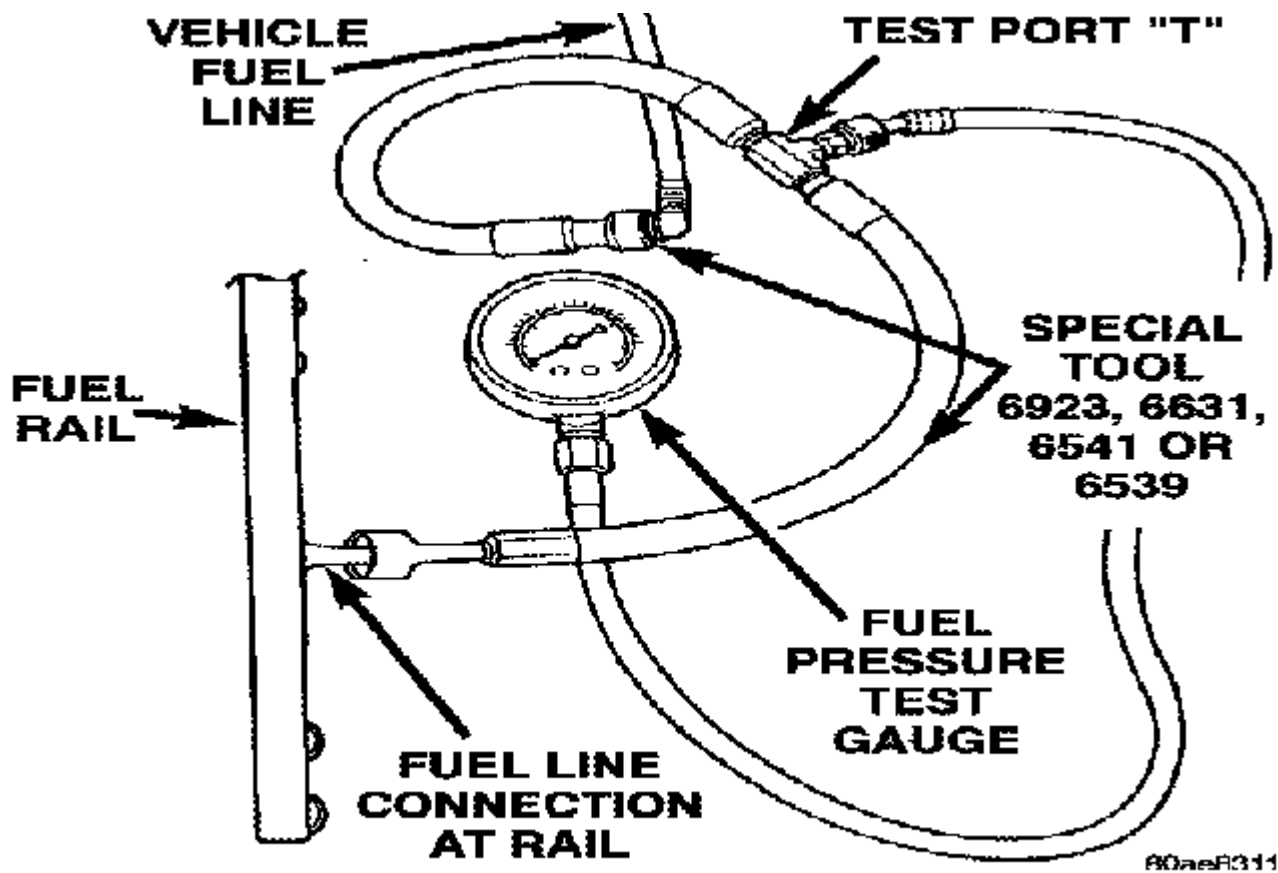


Figure 2