

Wheels: A question from Randy says, “I am a mechanic and wonder if you can help me with a problem I cannot seem to solve. I have had a couple of Jeep Cherokees – a 1989 and a 1993. Both have 4.0 6-cylinder, automatic transmission and air, 4 x 4, and both just over 100,000 miles. The problem is that they have long crank time before starting hot or cold. By long I mean you have to hold the key in the start position for 2 to 3 seconds before they start. I have asked other mechanics about this and they do not know what to do. Have you ever experienced this with this model of Jeep?”

Halderman: I asked Mike Taylor, College Coordinator of the DaimlerChrysler College Automotive Program at Sinclair College for his advice and here is his answer.

“It is common on older high-mileage Jeeps to have a long crank period because of a defective check valve in the fuel pump or a defective fuel pressure regulator. Test the fuel pressure. The pressure for both the 1989 and 1993 Jeep is 31 psi with the engine running and the vacuum hose connected to the fuel pressure regulator. Disconnect the hose from the regulator and pressure should increase 8 to 10 psi (normal is 31 psi with vacuum and 39 psi without vacuum plus or minus 2 psi). Shut down the engine and allow the vehicle to sit for ½ hour. The fuel pressure should fall no more than 0 to 20 psi (after ½ hour, pressure should read no lower than 11 psi). If fuel pressure remains within the specification, the pump and regulator are okay and you need to look elsewhere for the long crank problem.

If the system loses more than 20 psi during this period, either the pressure regulator or the fuel pump check valve is defective and more testing is needed. Restart the vehicle and allow the fuel pressure to build to normal. Shut down the engine and immediately pinch off the fuel return line. (The service manual recommends using an accurate gauge that reads at least 150 psi and pinching off the return line while the engine is running.) You must be quick to shut down the engine because fuel pressure can reach 90 to 120 psi. That is why I prefer to run the engine to normal pressure, shut down the engine and then pinch off the fuel return line. (You may need to use Chrysler’s method if the system drops pressure immediately after shut down.) Observe the gauge. If pressure drops more than the allowed 20 psi, the check valve is defective and the fuel pump needs replacement. If the pressure does not fall below the allowed 20 psi, then the regulator is bad and needs to be replaced. Chrysler has available an improved fuel pump for 1994 and later 4.0 L Cherokees, but I have not seen a bulletin for an improved unit for 1993 back.”

Thanks, Mike.

