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How to Fix the P0091 Code on a T1N 2002-2006 Sprinter Van

CLICK ON LINKS FOR TOOLS AND PRODUCTS NEEDED TO FIX

The **P0091 code** indicates a problem with the **Fuel Pressure Regulator Control Circuit Low**, which means the Engine Control Module (ECM) is detecting a fault in the electrical circuit that controls the fuel pressure regulator. This can lead to performance issues such as hard starting, stalling, or poor acceleration.

Here's how you can diagnose and fix the P0091 code:

Tools and Materials Needed:

- OBD-II scanner CLICK FOR PRODUCT INFO
- Multimeter (for voltage and continuity testing)
- Basic hand tools (screwdrivers, wrenches, socket set)
- Electrical contact cleaner
- Wire brushes or sandpaper
- Replacement <u>fuel pressure regulator</u> or wiring (if necessary)
- Sprinter service manual (for reference)

Step 1: Understand the Common Causes

The P0091 code is usually caused by:

- 1. Faulty fuel pressure regulator.
- 2. Wiring issues (e.g., shorts, open circuits, or corrosion in the harness).
- 3. ECM problems (rare but possible).
- 4. Low fuel pressure caused by a failing fuel pump.

Step 2: Scan and Confirm the Code

- 1. Use an OBD-II scanner to confirm the presence of the P0091 code.
- Record any freeze-frame data, which can help determine under what conditions the code was set.

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Step 3: Inspect the Fuel Pressure Regulator

1. Locate the regulator:

o The fuel pressure regulator is typically mounted on or near the high-pressure fuel pump.

2. Check for physical damage:

o Inspect the regulator for signs of wear, damage, or contamination.

3. Clean the connector:

Disconnect the electrical connector and clean the pins with electrical contact cleaner.

Step 4: Test the Wiring Harness

1. Inspect for visible damage:

 Follow the wiring harness from the regulator to the ECM. Look for frayed wires, corrosion, or loose connections.

2. Test for continuity:

- Use a multimeter to check for continuity between the regulator connector and the ECM connector.
- o Ensure there are no open circuits or shorts to ground.

3. Repair damaged wires:

o Splice and solder damaged wires or replace sections of the harness if necessary.

Step 5: Test the Fuel Pressure Regulator

1. Measure resistance:

- Disconnect the fuel pressure regulator and measure its resistance using a multimeter (refer to your service manual for the correct range).
- Replace the regulator if it is out of spec.

2. Test voltage supply:

- With the ignition ON (engine OFF), check the voltage at the fuel pressure regulator connector.
- You should see a specified voltage (usually around 5V for the signal and 12V for the power supply). If not, the problem could be with the ECM or wiring.

Step 6: Check the Fuel Pump

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- 1. Inspect for proper operation:
 - If the regulator is functioning properly, check the fuel pump to ensure it is delivering adequate pressure.
- 2. Replace the fuel pump if failing:
 - A weak or failing pump can trigger a P0091 code.

Step 7: Clear the Code and Test Drive

- 1. Use an OBD-II scanner to clear the P0091 code.
- 2. Start the engine and test drive the vehicle, monitoring for performance issues or the code reappearing.
- 3. If the code persists, the ECM may require further diagnosis or replacement.

Tips and Precautions:

- Always disconnect the battery before working on electrical components.
- Be cautious when working around the high-pressure fuel system to avoid injury.
- If the issue is beyond your expertise, consult a professional mechanic experienced with Sprinter vans.

By following these steps, you should be able to resolve the P0091 code on your T1N Sprinter van. If the problem persists.

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