

CHRYSLER · POWERTRAIN

P1501

OBD-II TROUBLE CODE

P1501 · Chrysler

Vehicle Speed Sensor Circuit Intermittent

P1501 on Chrysler vehicles means the powertrain control module (PCM) has detected an intermittent fault in the vehicle speed sensor (VSS) circuit. The PCM monitors the VSS signal and flags this code when the signal drops out or becomes erratic for a brief period, often without storing a permanent hard failure.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The speedometer needle may flicker, jump, or drop to zero intermittently while driving.
- The anti-lock brake system (ABS) warning light may illuminate because the ABS module also relies on vehicle speed data.
- The transmission may shift erratically or fail to shift out of first gear if the PCM loses speed input.
- The cruise control may disengage or fail to engage because it requires a steady speed signal.
- Often no symptoms besides the warning light, especially if the intermittent fault is brief.
- A stored P1501 code may be the only sign, with no drivability complaints reported by the driver.

Common causes, most likely first

- 1 A faulty vehicle speed sensor (VSS) that intermittently drops its signal due to internal failure or heat sensitivity.
- 2 Damaged or corroded wiring in the VSS circuit, especially at connectors or where the harness passes near moving components.
- 3 A poor ground connection for the VSS or PCM, causing voltage fluctuations that mimic a sensor fault.
- 4 Debris or metallic particles on the VSS tip or tone ring, disrupting the magnetic pickup.
- 5 A failing PCM driver circuit for the VSS input, though this is less common than sensor or wiring issues.
- 6 Intermittent connection at the PCM connector, often due to loose pins or water intrusion.



How to diagnose and fix it

- 1 Inspect the VSS and its connector for physical damage, corrosion, or loose pins, and clean or repair as needed.
- 2 Check the VSS signal with a scan tool or oscilloscope while wiggling the harness to identify intermittent wiring faults.
- 3 Measure resistance and continuity of the VSS circuit from the sensor to the PCM, comparing to factory specifications.
- 4 Remove the VSS and check for metallic debris on the tip; clean the sensor and inspect the tone ring for damage.
- 5 Verify ground connections for the VSS and PCM are clean and tight, and perform a voltage drop test under load.
- 6 If the sensor is suspect, replace it with a quality part and clear the code to see if it returns.
- 7 As a last resort, test the PCM for intermittent driver faults or replace it if all other components check out.

Intermittent VSS faults that fool technicians

- A common misdiagnosis is replacing the VSS when the real problem is a chafed wire in the harness that only shorts when the engine moves under torque.
- The VSS signal is shared with the ABS and cruise control systems, so a fault in those modules can sometimes cause the PCM to set P1501 even when the VSS itself is fine.
- Heat and vibration can cause a failing VSS to test good when cold, so always test the sensor when the fault is present or use a heat gun to simulate operating conditions.
- Aftermarket stereos or alarm systems tapped into the VSS wire for speed-sensitive volume can introduce interference that sets this code.
- A loose or damaged tone ring on the transmission output shaft can mimic a bad VSS, so inspect the ring whenever the sensor is removed.

Can I keep driving with P1501?

You can usually drive with P1501, but avoid relying on cruise control and be prepared for erratic shifting or speedometer behavior. If the transmission starts shifting harshly or the engine stumbles, have it diagnosed promptly to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope (for signal analysis)
- Wire piercing probes and jumper wires
- Factory service information for wiring diagrams and specifications



Reading P1501

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Chrysler): its meaning depends on the make.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 01** The exact fault within that area.

Often seen with

P0500 Vehicle Speed Sensor Malfunction · **P0501** Vehicle Speed Sensor Range/Performance · **P0502** Vehicle Speed Sensor Low Input · **P0720** Output Speed Sensor Circuit Malfunction · **P0721** Output Speed Sensor Range/Performance

See it working

Watch the animated explainer [How a Jet Engine Works: Two-Spool Turbofan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1501/>

