

GENERIC · POWERTRAIN

P2159

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2159

Vehicle Speed Sensor 'B' Range/Performance

P2159 means the powertrain control module (PCM) has detected that the signal from vehicle speed sensor 'B' is outside the expected range or is not performing reliably compared to other speed inputs. The PCM monitors this sensor to know how fast the vehicle is moving, and when the signal is erratic, missing, or implausible, it stores this code and turns on the check engine light.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Fuel and air metering

Symptoms you may notice

- The check engine light (malfunction indicator lamp) is illuminated on the dashboard.
- The speedometer may read zero, fluctuate, or show an incorrect speed while driving.
- The transmission may shift erratically or refuse to shift out of a gear because the PCM lacks a reliable speed signal.
- The cruise control may stop working or fail to engage.
- The anti-lock braking system (ABS) warning light may also come on if the ABS module shares the same speed sensor signal.
- Often no symptoms besides the warning light, especially if the fault is intermittent.

Common causes, most likely first

- 1 A faulty vehicle speed sensor 'B' itself, such as internal failure or a damaged sensing element.
- 2 Wiring damage between the sensor and the PCM, including chafed wires, corroded connectors, or broken pins.
- 3 A dirty or damaged sensor reluctor ring or tone wheel that the sensor reads, causing an erratic signal.
- 4 Poor electrical connections at the sensor or PCM, such as loose terminals or water intrusion.
- 5 A malfunctioning PCM or transmission control module (TCM) that misinterprets a good signal, though this is less common.
- 6 Aftermarket electronic accessories or improper wiring repairs that introduce electrical interference into the speed sensor circuit.



How to diagnose and fix it

- 1 Use an OBD-II scanner to read all stored codes and freeze-frame data, then clear the code and test-drive to see if it returns.
- 2 Visually inspect the vehicle speed sensor 'B' and its wiring for obvious damage, corrosion, or loose connections, and repair as needed.
- 3 Check the sensor's reluctor ring or tone wheel for debris, cracks, or missing teeth, and clean or replace it if faulty.
- 4 Measure the sensor's resistance and compare it to the manufacturer's specification, and check for an alternating current (AC) voltage signal while spinning the wheels.
- 5 Perform a voltage drop test on the sensor's power and ground circuits to rule out excessive resistance in the wiring.
- 6 If the sensor and wiring test good, substitute a known-good sensor and retest to confirm the fault.
- 7 As a last resort, diagnose the PCM or TCM for internal faults, following the manufacturer's diagnostic flow chart.

Speed Sensor B Is Not Always the Culprit

- Many technicians replace the vehicle speed sensor 'B' only to find the real problem is a damaged tone ring or corroded connector that corrupts the signal.
- A weak battery or charging system fault can cause erratic sensor signals and set this code, so always check battery voltage and ground connections first.
- This code can be set by interference from aftermarket electronics, such as poorly installed audio equipment or alarm systems, that introduce electrical noise into the speed sensor circuit.
- On some vehicles, vehicle speed sensor 'B' is the input speed sensor inside the transmission, not the output speed sensor, so consult the service information to locate the correct sensor.
- The PCM may set P2159 even when the speedometer works normally, because the code can be triggered by an implausible signal only under specific driving conditions.

Can I keep driving with P2159?

You can usually drive the vehicle with this code, but avoid sustained high speeds or heavy loads because erratic speed signals can affect transmission shifting and cruise control. If the speedometer is dead or the transmission behaves poorly, have it diagnosed promptly to prevent further damage.

Tools that help

- OBD-II scanner with live data capability
- Digital multimeter
- Jack and jack stands or a lift for wheel sensor access
- Basic hand tools for sensor removal
- Oscilloscope for waveform analysis (optional but helpful)



Reading P2159

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 59** 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 Crank and Cam Position Sensors Work](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2159/>

