

GENERIC · POWERTRAIN

P0318

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0318

Rough Road Sensor 'A' Signal Circuit

P0318 indicates that the powertrain control module (PCM) has detected an abnormal signal from the rough road sensor 'A' circuit, which is used to identify when the vehicle is traveling on a rough or uneven surface. The PCM monitors this sensor to adjust engine and transmission operation, and when the signal is outside expected parameters, it sets this code.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough running or misfire-like symptoms because the PCM may misjudge road conditions and alter fuel or timing.
- Transmission shift quality changes, such as harsh or delayed shifts, as the PCM may use rough road data for shift scheduling.
- Activation of other stability or traction control warnings if the rough road sensor shares data with those systems.
- In rare cases, a slight hesitation or stumble during acceleration on smooth roads.

Common causes, most likely first

- 1 Faulty rough road sensor 'A' itself, due to internal failure or contamination.
- 2 Damaged or corroded wiring or connector at the rough road sensor or PCM.
- 3 Open or short circuit in the signal or ground circuit of the rough road sensor.
- 4 Poor electrical connection at the PCM, such as loose pins or water intrusion.
- 5 Mechanical issues such as a loose sensor mounting or damaged tone ring if the sensor is a wheel-speed type.
- 6 PCM internal fault, though this is less common and should be diagnosed last.



How to diagnose and fix it

- 1 Use an OBD-II scanner to retrieve all codes and verify that P0318 is current or pending, and check for related codes.
- 2 Visually inspect the rough road sensor and its wiring for damage, corrosion, or loose connections.
- 3 Check the sensor's resistance or voltage output according to the manufacturer's specifications using a multimeter.
- 4 Inspect the sensor mounting and the area around it for debris or mechanical damage that could affect its signal.
- 5 Test the continuity and integrity of the signal and ground circuits from the sensor to the PCM.
- 6 If the sensor and wiring test good, check for technical service bulletins (TSBs) or software updates for the PCM that may address false rough road detection.
- 7 Replace the rough road sensor if it fails testing, clear the codes, and verify the repair with a test drive.

Rough road sensor faults often misdiagnosed

- A rough road sensor is sometimes integrated into the antilock braking system (ABS) wheel speed sensor, so a failing wheel speed sensor can set P0318 without any ABS codes.
- The PCM may set P0318 intermittently due to temporary rough road conditions, and the code may clear itself after several good drive cycles.
- Corroded connectors at the sensor or PCM are a frequent cause, especially in areas with road salt or high humidity.
- A bad ground connection for the sensor or PCM can mimic a failed sensor, so always check grounds before replacing parts.
- Some vehicles use the rough road signal for engine misfire detection, so a P0318 can cause false misfire codes to set as well.

Can I keep driving with P0318?

The vehicle is generally safe to drive with P0318 alone, as it does not affect basic operation, but avoid prolonged driving on rough roads until the fault is repaired to prevent potential drivability issues. If the check engine light is flashing or accompanied by other warning lights, have the vehicle inspected promptly.

Tools that help

- OBD-II scanner
- Digital multimeter
- Vehicle service manual or wiring diagrams
- Basic hand tools (screwdrivers, socket set)
- Jack and jack stands (if sensor is underneath)



Reading P0318

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 3** Ignition system and misfire.
- 18** The exact fault within that area.

Often seen with

P0315 Crankshaft Position System Variation Not Learned · **P0316** Misfire Detected on Startup (First 1000 Revolutions) · **P0317** Rough Road Hardware Not Present · **P0319** Rough Road Sensor 'B' · **P0320** Ignition/Distributor Engine Speed Input Circuit

See it working

Watch the animated explainer [How a Refrigerator Works: The Cooling Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0318/>

