

GENERIC · CHASSIS

C0053

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0053

Left Rear Wheel Speed Sensor Circuit High

C0053 means the antilock braking system (ABS) control module has detected an abnormally high voltage on the left rear wheel speed sensor circuit, which usually indicates an open circuit or a signal that is out of range. The module expects a fluctuating alternating current (AC) signal from the sensor as the wheel turns, and a high-voltage condition tells it the circuit is not completing properly or the sensor is reporting an impossible speed.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- The ABS warning light is illuminated on the dashboard, often accompanied by the traction control and stability control lights.
- The antilock braking function is disabled, so the wheels can lock during hard braking on slippery surfaces.
- Traction control and electronic stability control may stop working because they rely on the same wheel speed signal.
- A scan tool may show an implausible or zero wheel speed for the left rear wheel while the other three wheels read normally.
- Often no symptoms besides the warning light, because the base braking system still functions normally.
- In some vehicles, the speedometer or cruise control may act erratically if the left rear signal is used for vehicle speed.

Common causes, most likely first

- 1 A damaged or disconnected left rear wheel speed sensor connector, often from road debris or corrosion.
- 2 A broken, chafed, or open wire in the left rear sensor harness, frequently at flex points near the suspension.
- 3 A failed left rear wheel speed sensor that has an internal open circuit or is contaminated with metallic debris.
- 4 Excessive air gap between the sensor tip and the tone ring, caused by a worn wheel bearing or a loose sensor mount.
- 5 A damaged or corroded tone ring (reluctor ring) on the left rear hub or axle that produces an erratic signal.
- 6 High resistance in the sensor circuit from corroded terminals or a poor ground connection.
- 7 A faulty ABS control module, though this is the least likely cause and should only be suspected after all circuit checks pass.



How to diagnose and fix it

- 1 Connect a scan tool and read the live wheel speed data for all four wheels to confirm the left rear signal is missing or erratic while driving.
- 2 Visually inspect the left rear sensor, its connector, and the wiring harness for damage, corrosion, or loose pins, and repair any obvious faults.
- 3 Measure the sensor resistance with a multimeter and compare it to the manufacturer's specification, then check for an open or short in the harness.
- 4 Inspect the tone ring for cracks, missing teeth, or heavy contamination, and clean or replace it if damaged.
- 5 Check the air gap between the sensor and tone ring with a feeler gauge, and verify the wheel bearing has no excessive play.
- 6 If the circuit and sensor test good, perform a wiggle test on the harness while watching live data to catch an intermittent open circuit.
- 7 Clear the code and test-drive the vehicle to confirm the repair, and replace the ABS module only if all other checks pass and the code returns.

Why a high voltage code is rarely the sensor itself

- A high voltage code on a wheel speed sensor circuit almost always points to an open circuit or a bad connection rather than a sensor that has failed internally, so check the wiring before replacing parts.
- Corrosion inside the left rear connector is a common cause that many technicians miss because the outside of the connector looks clean until it is unplugged and inspected.
- A worn wheel bearing can increase the air gap and produce a high-voltage signal that mimics a sensor failure, so always check bearing play before condemning the sensor.
- Some vehicles set this code when the left rear sensor signal is lost at low speeds only, which can be caused by a cracked tone ring that is hard to see without removing the wheel.
- The ABS module may store this code intermittently due to a chafed wire that only opens when the suspension moves, so a static resistance test can pass while the fault is still present.

Can I keep driving with C0053?

You can usually drive the vehicle with this code because normal braking still works, but the antilock braking system (ABS) and traction control are disabled, so avoid hard braking on wet or slippery roads and get the fault diagnosed soon.

Tools that help

- OBD-II scan tool with live wheel speed data capability
- Digital multimeter
- Feeler gauge set
- Jack and jack stands
- Wire repair kit with crimp connectors and heat shrink



Reading C0053

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Brakes, steering and suspension.
- 53** The exact fault within that area.

Often seen with

C0050 Right Rear Wheel Speed Sensor Circuit Malfunction · **C0051** Front Left ABS Solenoid 1 Circuit Malfunction · **C0052** Left Rear Wheel Speed Sensor Circuit Low · **C0054** Left Rear Wheel Speed Sensor Signal Erratic · **C0055** Left Rear Wheel Speed Sensor No Signal

See it working

Watch the animated explainer [How ABS Works: Anti-Lock Brakes in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0053/>

