

GENERIC · CHASSIS

C0045

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0045

Left Rear Wheel Speed Sensor Circuit Malfunction

The C0045 code indicates that the anti-lock brake system (ABS) control module has detected a malfunction in the left rear wheel speed sensor circuit, which can include an open circuit, short to ground or power, or an erratic signal. The computer monitors the sensor's output and sets this code when the signal is missing, out of range, or inconsistent with the other wheel speed sensors.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the ABS warning light on the dashboard
- Traction control or stability control warning light may also turn on
- Often no symptoms besides the warning light
- ABS may be disabled, leading to longer stopping distances on slippery surfaces
- Possible intermittent or permanent loss of speedometer accuracy if the sensor is used for that function
- In some vehicles, the transmission may shift erratically or the cruise control may not engage

Common causes, most likely first

- 1 Damaged or corroded wiring or connector at the left rear wheel speed sensor
- 2 Failed left rear wheel speed sensor
- 3 Debris or metallic particles on the sensor tip or tone ring
- 4 Damaged or missing teeth on the tone ring (reluctor wheel)
- 5 Excessive air gap between the sensor and tone ring due to worn hub or bearing
- 6 Faulty ABS control module (less common)
- 7 Electrical interference or poor ground connection



How to diagnose and fix it

- 1 Inspect the left rear wheel speed sensor and its wiring for visible damage, corrosion, or loose connections
- 2 Clean the sensor tip and tone ring of any debris or metallic particles
- 3 Check the tone ring for missing or damaged teeth
- 4 Measure the resistance of the wheel speed sensor and compare to specifications
- 5 Perform a voltage drop test on the sensor circuit while wiggling the harness to check for intermittent faults
- 6 Use a scan tool to monitor live wheel speed data and compare the left rear sensor to the other wheels while driving
- 7 If all else checks out, diagnose the ABS control module or replace the sensor as needed

Common misdiagnosis traps for C0045

- A dirty or debris-covered sensor tip is a frequent cause that is often overlooked, so cleaning it before replacement can save time and money.
- The tone ring may be integrated into the wheel bearing or hub assembly on some vehicles, so a damaged ring might require replacing the entire hub.
- Intermittent faults can be caused by a broken wire inside the insulation that only acts up when the suspension moves, so a wiggle test is essential.
- The ABS control module rarely fails, but a poor ground connection can mimic a sensor fault, so always check grounds before condemning the module.
- This code can be set by a mismatched tire size or uneven tire wear, which affects wheel speed readings and triggers the sensor circuit malfunction.

Can I keep driving with C0045?

You can usually continue driving with the ABS light on, but the anti-lock braking system may be disabled, increasing stopping distances in emergency situations. Avoid driving in slippery conditions or at high speeds until the fault is repaired, and be prepared for reduced braking performance.

Tools that help

- OBD-II scan tool with ABS capability
- Digital multimeter
- Jack and jack stands
- Wheel chocks
- Basic hand tools (socket set, screwdrivers)
- Feeler gauge or air gap tool



Reading C0045

- 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.
- 45** The exact fault within that area.

Often seen with

C0040 Left Rear Wheel Speed Sensor Circuit · **C0041** Left Rear Wheel Speed Sensor Circuit Range/Performance · **C0042** Right Front Wheel Speed Sensor Circuit Low · **C0043** Right Front Wheel Speed Sensor Circuit High · **C0044** Right Front Wheel Speed Sensor Signal Erratic

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/c0045/>

