

GENERIC · CHASSIS

C0042

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0042

Right Front Wheel Speed Sensor Circuit Low

C0042 means the antilock brake system (ABS) module has detected an abnormally low voltage or current on the right front wheel speed sensor circuit, so it cannot reliably read that wheel's speed. The module compares the signal against expected values and flags the circuit as low when the return signal falls below the threshold.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- ABS warning light illuminated on the dashboard
- Traction control or stability control warning light also on, since those systems share the same sensor
- ABS disabled, with possible wheel lockup under hard braking
- Speedometer fluctuation or inaccuracy on some vehicles that derive speed from wheel sensors
- Often no symptoms besides the warning light, with normal braking in everyday driving

Common causes, most likely first

- 1 Damaged or corroded wiring harness or connector at the right front wheel speed sensor
- 2 Failed right front wheel speed sensor itself, often from road debris or moisture intrusion
- 3 Debris, rust, or a damaged tone ring on the right front hub preventing a clean signal
- 4 Excessive wheel bearing play or hub runout altering the sensor air gap
- 5 Open or high-resistance circuit in the sensor pigtail or main harness
- 6 Corroded or loose ABS module connector pins on the right front sensor circuit

How to diagnose and fix it

- 1 Scan all modules and record the exact C0042 status plus any companion codes before touching anything
- 2 Inspect the right front sensor connector and harness for corrosion, chafing, or a loose pigtail
- 3 Measure sensor circuit resistance and compare it to the manufacturer's specification
- 4 Check the tone ring and hub for debris, rust, or damage, and verify the sensor air gap
- 5 Back-probe the sensor signal at the ABS module and compare it with a known-good wheel while spinning the wheel
- 6 Repair or replace the faulty sensor, pigtail, or tone ring as indicated by the tests
- 7 Clear codes and perform a road test to confirm the ABS light stays off and live wheel speeds match



Why a low signal is not always the sensor

- A low signal code frequently comes from a corroded connector or chafed harness rather than a failed sensor, so inspect the wiring before replacing parts.
- Debris or rust on the tone ring can mimic a bad sensor by weakening the signal, and cleaning the ring often resolves the code.
- Excessive wheel bearing play changes the sensor air gap and can set a low-signal code even when the sensor and wiring test good.
- Some vehicles set C0042 when the ABS module itself has a faulty internal circuit, so a module connector check belongs in the diagnosis.
- A weak battery or charging system can cause low-voltage sensor codes on multiple wheels, so check system voltage before chasing a single wheel.

Can I keep driving with C0042?

You can usually drive the vehicle with the warning light on because normal braking remains, but ABS and traction control are disabled, so avoid hard braking or slippery conditions until the fault is repaired.

Tools that help

- OBD-II scan tool with ABS and live wheel-speed data capability
- Digital multimeter
- Jack and jack stands
- Basic hand tools
- Feeler gauge or non-magnetic gap tool

Reading C0042

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

Often seen with

C0035 Left Front Wheel Speed Sensor Circuit Range/Performance · **C0040** Left Rear Wheel Speed Sensor Circuit · **C0041** Left Rear Wheel Speed Sensor Circuit Range/Performance · **C0045** Left Rear Wheel Speed Sensor Circuit Malfunction · **C0050** Right Rear Wheel Speed Sensor Circuit Malfunction



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/c0042/>

