

GENERIC · CHASSIS

C0508

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0508

Right Front Wheel Speed Sensor A Circuit Low

C0508 means the antilock brake system (ABS) module has detected an abnormally low voltage signal on the right front wheel speed sensor's 'A' circuit, which is the primary sensor signal line. The module compares this signal against expected values and flags the code when the voltage stays below the normal threshold for a set period.

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
- Often no symptoms besides the warning light
- ABS may deactivate, leaving conventional braking only
- Possible intermittent or erratic speedometer behavior if the signal is shared
- Reduced or disabled traction control and stability assist

Common causes, most likely first

- 1 Damaged or chafed sensor wiring harness near the right front wheel
- 2 Corroded or loose electrical connector at the sensor or ABS module
- 3 Failed right front wheel speed sensor
- 4 Debris or metallic particles stuck to the sensor tip or tone ring
- 5 Damaged or cracked tone ring (reluctor ring) on the right front hub
- 6 Water intrusion into the sensor connector or wiring
- 7 Faulty ABS control module (less common)



How to diagnose and fix it

- 1 Inspect the right front sensor wiring and connector for damage, corrosion, or looseness
- 2 Clean the sensor tip and tone ring of debris and check the ring for cracks or missing teeth
- 3 Measure sensor circuit resistance and compare to manufacturer specification
- 4 Check for short-to-ground or open circuit on the signal wire with a multimeter
- 5 Swap the right front sensor with a known-good unit to see if the code follows
- 6 Verify signal output with an oscilloscope or scan tool live data while spinning the wheel
- 7 Replace the faulty sensor, wiring, or tone ring as indicated by test results

What the low signal really tells you

- A low signal code often comes from a wiring problem rather than a failed sensor, so inspect the harness before replacing parts.
- Metallic debris or a loose sensor mounting can cause a low signal without any sensor failure.
- A damaged tone ring can mimic a sensor fault, so always inspect the ring when the sensor is removed.
- Intermittent low signal codes can be caused by water intrusion that only appears in wet conditions.
- The ABS module rarely fails, but a shorted sensor circuit can damage it, so fix wiring faults promptly.

Can I keep driving with C0508?

You can usually drive with this code because conventional brakes remain functional, but ABS and traction control may be disabled. Avoid hard braking or slippery conditions until repaired, and address the fault promptly to prevent further damage.

Tools that help

- OBD-II scan tool with ABS capability
- Digital multimeter
- Oscilloscope (optional for signal analysis)
- Jack and jack stands
- Basic hand tools

Reading C0508

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| C | Chassis: brakes, steering and suspension. |
| 0 | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| 5 | Brakes, steering and suspension. |
| 08 | 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 · **C0507** Right Front Wheel Speed Sensor A Range/Performance · **C0509** Right Front Wheel Speed Sensor A Circuit High · **C0510** Hill Hold Function Disabled

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/c0508/>

