

GENERIC · CHASSIS

C0518

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0518

Left Front Wheel Speed Sensor - Mechanical

C0518 indicates that the anti-lock brake system (ABS) control module has detected a mechanical fault in the left front wheel speed sensor circuit, meaning the sensor's signal is present but does not behave as expected mechanically. The computer typically sees an erratic, intermittent, or out-of-range signal from that sensor while the vehicle is moving, rather than a complete loss of signal.

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 with no other noticeable symptoms.
- The traction control system (TCS) warning light may also be on if the vehicle is equipped with stability control.
- The ABS may activate unexpectedly at low speeds or during light braking, causing a pulsating brake pedal.
- The ABS may fail to activate during hard braking or slippery conditions, increasing stopping distance.
- A wheel speed signal dropout can cause the speedometer to read incorrectly or fluctuate on some vehicles.
- In rare cases, the transmission may shift erratically if the speed signal is shared with the powertrain control module.

Common causes, most likely first

- 1 A damaged or missing tone ring (reluctor wheel) on the left front hub or axle, such as cracked teeth or excessive rust.
- 2 Debris, metallic particles, or corrosion buildup on the sensor tip or tone ring, disrupting the magnetic signal.
- 3 An incorrectly installed or loose wheel speed sensor that is not seated properly in its mounting hole.
- 4 A worn or damaged left front wheel bearing that allows excessive play and changes the air gap between the sensor and tone ring.
- 5 A faulty left front wheel speed sensor that produces a mechanically inconsistent signal despite intact wiring.
- 6 Physical damage to the sensor or tone ring from road debris, curb impact, or improper service procedures.
- 7 An air gap between the sensor and tone ring that is out of specification due to hub or knuckle wear.



How to diagnose and fix it

- 1 Inspect the left front wheel speed sensor and tone ring for visible damage, debris, or corrosion, and clean them if necessary.
- 2 Check the sensor mounting for tightness and proper seating, and verify the air gap if the manufacturer specifies one.
- 3 Raise the vehicle and check the left front wheel bearing for excessive play or roughness by rocking the wheel and listening for noise.
- 4 Use a scan tool to view live wheel speed data from all four wheels while driving to confirm the left front signal is erratic compared to the others.
- 5 Perform a visual inspection of the tone ring for cracks, missing teeth, or heavy rust, and replace the hub or axle if the ring is damaged.
- 6 Replace the left front wheel speed sensor if the tone ring and bearing are in good condition but the signal remains inconsistent.
- 7 Clear the code and perform a road test to verify the repair, ensuring the ABS light stays off and live data shows a stable signal.

Mechanical faults often hide in the tone ring

- A common misdiagnosis is replacing the wheel speed sensor when the real problem is a cracked or rusty tone ring that distorts the magnetic signal.
- Excessive wheel bearing play can set a mechanical code even when the sensor and tone ring look perfect, because the air gap changes as the wheel rotates.
- Metallic debris from brake dust or road grit can accumulate on the sensor tip and mimic a failing sensor, so cleaning is often the cheapest fix.
- This code does not always mean the sensor is dead; it specifically flags a mechanical inconsistency, so a sensor that tests fine electrically can still trigger it.
- After replacing a hub or bearing, the tone ring may be damaged during installation if not handled carefully, leading to a repeat C0518.

Can I keep driving with C0518?

You can usually drive the vehicle with this code, but the ABS may not function correctly in an emergency, so avoid hard braking and slippery conditions until it is repaired. If the brake pedal pulsates unexpectedly or the ABS activates at low speeds, have the vehicle inspected promptly.



Tools that help

- OBD-II scan tool with live wheel speed data capability
- Jack and jack stands or a vehicle lift
- Feeler gauge or air gap gauge
- Micrometer or caliper for measuring tone ring wear
- Socket set and torque wrench
- Brake cleaner and a soft brush for cleaning sensor and tone ring

Reading C0518

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.
18	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 · **C0517** Right Rear Wheel Speed Sensor A Correlation · **C0519** Right Front Wheel Speed Sensor - Mechanical · **P0500** Vehicle Speed Sensor 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/c0518/>

