

GENERIC · CHASSIS

C0652

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0652

Left Front Wheel Speed Sensor B Range/Performance

C0652 indicates that the anti-lock brake system (ABS) control module has detected a range or performance problem with the left front wheel speed sensor circuit, meaning the signal is erratic, intermittent, or outside the expected voltage or frequency range. The module compares the left front sensor signal to the other wheel speed sensors and flags this code when the left front signal is not plausible for the vehicle speed.

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
- Intermittent or complete loss of ABS function during braking
- Speedometer fluctuation or inaccuracy if the left front sensor feeds the speedometer
- Often no symptoms besides the warning light, with normal braking performance
- Possible activation of the traction control system without driver input

Common causes, most likely first

- 1 Damaged or corroded left front wheel speed sensor wiring harness or connector
- 2 Debris or metallic particles stuck to the sensor tip or tone ring
- 3 Worn or damaged tone ring (reluctor ring) on the left front hub or CV joint
- 4 Faulty left front wheel speed sensor
- 5 Excessive wheel bearing play or hub runout affecting sensor air gap
- 6 Water intrusion or contamination in the sensor connector
- 7 ABS control module internal fault (less common)



How to diagnose and fix it

- 1 Inspect the left front wheel speed sensor and tone ring for debris, damage, or looseness, and clean or replace as needed
- 2 Check the sensor connector and wiring for corrosion, chafing, or loose pins, and repair or replace the harness
- 3 Measure the sensor resistance and compare to specification, and check for an AC voltage signal while spinning the wheel by hand
- 4 Verify the tone ring condition and air gap, and replace the hub or tone ring if worn or damaged
- 5 Check for excessive wheel bearing play and replace the hub bearing if necessary
- 6 Clear the code and test-drive the vehicle to see if it returns, monitoring live wheel speed data for dropouts or erratic readings
- 7 If all external components test good, diagnose the ABS control module or have it professionally tested

What the code does not always mean

- A range/performance code often results from an intermittent signal caused by a loose or corroded connector, not a failed sensor, so always wiggle-test the harness while watching live data.
- Metallic debris from brake dust or a failing wheel bearing can collect on the sensor tip and mimic a bad sensor, so clean the sensor and tone ring before replacing parts.
- On some vehicles, a worn CV joint or axle can cause the tone ring to wobble and set this code even though the sensor itself is fine.
- The ABS module may set this code if the left front signal is plausible but does not match the other wheels during a self-test, so comparing live wheel speed data from all four wheels is essential.
- A weak battery or charging system fault can cause erratic sensor signals and set this code, so check battery voltage and ground connections first.

Can I keep driving with C0652?

You can usually drive with this code because normal braking remains functional, but the ABS and traction control systems may be disabled, which increases stopping distance on slippery surfaces. Avoid hard braking or driving in low-traction conditions until the fault is repaired.

Tools that help

- OBD-II scan tool with ABS live data capability
- Digital multimeter
- Jack and jack stands
- Wheel chocks
- Basic hand tools (sockets, wrenches, screwdrivers)
- Feeler gauge or non-magnetic feeler gauge for air gap measurement



Reading C0652

- C** Chassis: brakes, steering and suspension.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Brakes, steering and suspension.
- 52** 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 · **C0651** Left Front Wheel Speed Sensor B Circuit/Open · **C0653** Left Front Wheel Speed Sensor B Circuit Low · **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/c0652/>

