

GENERIC · CHASSIS

C0653

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0653

Left Front Wheel Speed Sensor B Circuit Low

C0653 means the antilock brake system (ABS) module has detected an abnormally low voltage or current on the left front wheel speed sensor's 'B' signal circuit, which is the second channel on sensors that use a dual-wire or dual-output design. The module compares this signal against expected values and flags the circuit as low when the voltage stays below the calibrated 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, often with no other noticeable symptoms
- Traction control or stability control warning light also on, since those systems rely on the same wheel speed signal
- ABS may deactivate, leaving normal braking but no antilock function during hard stops
- Intermittent or permanent loss of cruise control if the vehicle uses wheel speed data for speed regulation
- A diagnostic trouble code (DTC) stored in the ABS module with a freeze-frame of vehicle speed and sensor voltage at the time of failure
- Rarely, a slight pull or uneven braking feel if the module misinterprets the low signal as a wheel locking

Common causes, most likely first

- 1 Damaged or chafed wiring harness between the left front wheel speed sensor and the ABS module, often near the strut or steering knuckle
- 2 Corroded or loose electrical connector at the left front wheel speed sensor or at the ABS module
- 3 Failed left front wheel speed sensor, particularly the 'B' output element inside a dual-element sensor
- 4 Metal debris or a damaged tone ring on the left front hub causing an erratic signal that the module reads as low
- 5 Excessive wheel bearing play or hub runout altering the sensor-to-ring air gap
- 6 Water intrusion into the sensor connector or harness splice, creating a high-resistance path
- 7 Faulty ABS control module input circuitry, though this is the least common cause



How to diagnose and fix it

- 1 Scan all modules and record the freeze-frame data for C0653, then clear the code and test-drive to confirm whether it returns immediately or only under specific conditions
- 2 Visually inspect the left front sensor harness from the wheel well to the first body connector for chafing, pinch points, or corrosion, and check the connector pins for tightness
- 3 Measure resistance and voltage on the sensor 'B' circuit at the sensor connector and compare with the manufacturer's specification, looking for an open or short to ground
- 4 Perform a wiggle test on the harness while watching live wheel speed data on a scan tool to catch intermittent faults
- 5 Remove the left front wheel and inspect the tone ring and sensor tip for metal shavings, cracks, or excessive air gap, cleaning or replacing as needed
- 6 If the sensor and wiring test good, back-probe the ABS module connector to check the 'B' circuit signal directly and rule out an internal module fault
- 7 Replace the faulty sensor or repair the harness, clear codes, and verify with a road test that the ABS and traction control lamps stay off and live data matches the other wheels

What the 'B' circuit really tells you

- Many technicians replace the left front sensor first and still face C0653 because the actual fault is a chafed wire inside the harness loom near the strut mount, which only shows up when the suspension moves.
- A dual-output wheel speed sensor can have one good channel and one bad channel, so a simple resistance check across the two sensor wires may look normal while the 'B' signal circuit is still failing.
- Debris stuck to the tone ring or a worn wheel bearing can create a signal dropout that the module interprets as a low circuit, so always inspect the hub area before condemning the sensor.
- C0653 can set intermittently from water intrusion after a car wash or heavy rain, and the code may not return until the connector dries out, making a wiggle test and live data review essential.
- Some vehicles set this code when the ABS module loses its ground reference, so a quick voltage drop test on the module ground circuit can save you from replacing good parts.

Can I keep driving with C0653?

You can usually drive the vehicle with C0653 because normal braking remains, but the ABS and traction control systems may be disabled, so avoid hard stops and slippery conditions until the fault is repaired. If the brake pedal feels abnormal or the warning light is accompanied by a red brake lamp, stop driving and have the system inspected immediately.



Tools that help

- OBD-II scan tool with ABS live data capability
- Digital multimeter with back-probe pins
- Wiring diagram for the ABS wheel speed circuit
- Jack and jack stands or a lift
- Basic hand tools for wheel removal and connector access

Reading C0653

- C** Chassis: brakes, steering and suspension.
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- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 6** Brakes, steering and suspension.
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- 53** 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 · **C0652** Left Front Wheel Speed Sensor B Range/Performance · **C0654** Left Front Wheel Speed Sensor B Circuit High · **P0501** Vehicle Speed Sensor Range/Performance

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/c0653/>

