

GENERIC · CHASSIS

C0651

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0651

Left Front Wheel Speed Sensor B Circuit/Open

C0651 means the anti-lock brake system (ABS) control module has detected an open circuit or abnormal voltage on the left front wheel speed sensor's 'B' signal circuit. The module monitors the sensor's electrical loop and flags this code when the expected signal is missing, intermittent, or out of range, which prevents reliable wheel speed data for that corner.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Chassis	Generic (all makes)	Medium	Intermediate	Brakes, steering and suspension

Symptoms you may notice

- ABS warning light illuminated on the dashboard, often accompanied by the traction control and stability control lights
- No noticeable change in braking feel during normal driving, especially at low speeds
- ABS may not activate during hard braking or slippery conditions, increasing stopping distance
- Traction control or electronic stability control may be disabled, reducing intervention on low-grip surfaces
- Intermittent warning light that comes and goes over bumps or during turns, pointing to a wiring fault
- Speedometer or cruise control may behave erratically if the module shares wheel speed data with other systems

Common causes, most likely first

- Damaged or corroded wheel speed sensor connector at the left front hub, often from road splash or debris
- Broken, chafed, or stretched sensor wiring between the hub and the body harness, commonly at flex points
- Failed left front wheel speed sensor itself, either an internal open winding or a cracked sensor body
- Water or road salt intrusion into the sensor-to-harness connector causing high resistance or an open circuit
- Loose or damaged sensor mounting bracket allowing the sensor to back away from the tone ring
- Corroded or pushed-back terminals in the ABS module connector affecting the left front sensor circuit
- Aftermarket or incorrectly routed replacement sensor wiring that does not match the original harness length or shielding



How to diagnose and fix it

- 1 Inspect the left front wheel speed sensor connector and wiring for corrosion, chafing, or a loose fit, and clean or repair as needed
- 2 Check the sensor's mounting and air gap to the tone ring, and verify the tone ring is clean and undamaged
- 3 Measure the sensor's resistance and compare it to the manufacturer's specification for that vehicle
- 4 Back-probe the sensor circuit at the ABS module connector and check for continuity and short-to-ground or short-to-power faults
- 5 Perform a wiggle test on the harness while watching live wheel speed data on a scan tool to catch intermittent opens
- 6 Replace the left front wheel speed sensor if resistance or signal testing confirms an internal fault
- 7 Clear the code and verify the repair by test-driving while monitoring left front wheel speed on the scan tool

What the B circuit really monitors

- Many vehicles use a two-wire sensor where the 'B circuit' refers to the signal return or second wire, so a code for the B circuit can be set by a fault in the harness rather than the sensor itself.
- A common misdiagnosis is replacing the sensor when the real problem is a corroded connector pin or a broken wire inside the loom near the strut tower.
- Some ABS modules set C0651 only after an intermittent open is seen during a self-test at startup, so the fault may not be present when the vehicle is stationary.
- Debris or a damaged tone ring can produce a signal that looks like an open circuit on a basic multimeter, so visual inspection of the ring is essential before condemning the sensor.
- The code does not always mean the ABS is fully disabled; some systems retain normal braking but suspend ABS and stability functions, which drivers may not notice until an emergency stop.

Can I keep driving with C0651?

The vehicle remains safe to drive under normal conditions because base braking is unaffected, but avoid hard braking or slippery surfaces where ABS and stability control would normally intervene. Have the fault diagnosed promptly, since the loss of ABS can lengthen stopping distances in an emergency.

Tools that help

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



Reading C0651

- 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.
- 51** 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 · **C0050** Right Rear Wheel Speed Sensor Circuit Malfunction · **C0650** Brake Pressure Sensor N Range/Performance · **C0652** Left Front Wheel Speed Sensor B 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/c0651/>

