

GENERIC · CHASSIS

C0523

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0523

Multi-axis Acceleration Sensor Module B Intermittent/Erratic

C0523 indicates that the multi-axis acceleration sensor module B has produced an intermittent or erratic signal that the stability control module considers unreliable. The computer detects this when the sensor's output voltage or digital message momentarily drops out, spikes, or becomes inconsistent with the other acceleration sensors during a self-test or while the vehicle is in motion.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- The stability control (ESC) warning light illuminates steadily or flashes intermittently.
- The traction control system may be disabled, and the vehicle may feel less stable in slippery conditions.
- A message such as 'Service StabiliTrak' or 'ESC Off' appears on the driver information center.
- The anti-lock brake system (ABS) may also be disabled if the fault affects shared sensor data.
- Often no symptoms besides the warning light, especially if the fault is intermittent and does not occur during the current drive cycle.

Common causes, most likely first

- 1 A failing multi-axis acceleration sensor module B, often due to internal electronics or a cracked housing.
- 2 Corroded, loose, or damaged electrical connectors at the sensor or the stability control module.
- 3 Wiring harness damage such as chafed wires, broken strands, or water intrusion along the sensor circuit.
- 4 A weak or failing vehicle battery or poor ground connection causing voltage fluctuations that affect sensor signals.
- 5 Software issues or outdated calibration in the stability control module that misinterpret sensor data.
- 6 Physical damage to the sensor mounting location, such as a bent bracket or debris interfering with the sensor.



How to diagnose and fix it

- 1 Inspect the sensor and its connectors for corrosion, water intrusion, or loose pins, and clean or repair as needed.
- 2 Check the battery voltage and ground connections to ensure stable power supply to the stability control system.
- 3 Use a scan tool to read live data from the multi-axis acceleration sensors and compare readings for consistency.
- 4 Perform a wiggle test on the sensor wiring harness while monitoring live data to identify intermittent connections.
- 5 If the sensor signal is erratic, replace the multi-axis acceleration sensor module B and perform calibration.
- 6 Update the stability control module software if a known calibration issue exists for the vehicle.
- 7 Clear the codes and perform a road test to verify the repair and ensure the code does not return.

Before you replace the acceleration sensor

- A common oversight is a weak battery or poor ground that causes voltage spikes, which the module interprets as an erratic sensor signal.
- The code can be set by a loose sensor mounting bolt, so always check that the sensor is securely fastened before condemning it.
- Intermittent faults often leave no stored freeze-frame data, making a wiggle test of the harness essential during diagnosis.
- After replacing the sensor, a calibration procedure is required on many vehicles, and skipping it will cause the code to return.
- Related systems such as the anti-lock brakes and traction control may set companion codes, so diagnose the root cause rather than chasing every code.

Can I keep driving with C0523?

You can usually continue driving if the warning light is steady and the brakes feel normal, but avoid aggressive maneuvers or slippery conditions because stability control may be disabled. If the light flashes or the vehicle behaves erratically, have it inspected promptly.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the stability control system
- Socket set and trim removal tools
- Calibration tool or scan tool with calibration function



Reading C0523

- 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.
- 23** The exact fault within that area.

Often seen with

C0050 Right Rear Wheel Speed Sensor Circuit Malfunction · **C0110** ABS Pump Motor Circuit Malfunction · **C0521** Multi-axis Acceleration Sensor Module B Range/Performance · **C0522** Multi-axis Acceleration Sensor Module B Missing Calibration · **C0524** Multi-axis Acceleration Sensor Module B Correlation

See it working

Watch the animated explainer [Four-Stroke Engine Cutaway: Intake to Exhaust](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0523/>

