

GENERIC · CHASSIS

C0554

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

C0554

Longitudinal Acceleration Sensor Circuit High

C0554 indicates that the vehicle's stability control module has detected an abnormally high voltage signal from the longitudinal acceleration sensor, which measures forward and backward acceleration forces. The computer sets this code when the sensor output exceeds the expected voltage range for a specified time, often due to a wiring short to voltage or a faulty sensor.

SYSTEM

Chassis

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Brakes, steering and suspension

Symptoms you may notice

- Illumination of the stability control (ESC) warning light, often accompanied by the traction control and ABS lights.
- The stability control system may be disabled, reducing the vehicle's ability to prevent skids or loss of control.
- Some vehicles may enter a reduced power or limp mode as a precaution.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- In rare cases, the vehicle may exhibit unusual braking behavior or poor traction control performance.

Common causes, most likely first

- 1 Short to voltage in the sensor signal circuit, such as a chafed wire contacting a power source.
- 2 Faulty longitudinal acceleration sensor, internally shorted or damaged.
- 3 Corroded or loose electrical connector at the sensor or stability control module.
- 4 Damaged or improperly routed wiring harness causing intermittent short.
- 5 Internal failure in the stability control module (less common).
- 6 Water intrusion into the sensor or connector, leading to signal corruption.



How to diagnose and fix it

- 1 Perform a visual inspection of the sensor and its wiring for obvious damage, corrosion, or loose connections.
- 2 Use a scan tool to read live data from the longitudinal acceleration sensor and compare to expected values; check for voltage above normal range.
- 3 Disconnect the sensor and measure reference voltage and ground at the connector to rule out wiring issues.
- 4 Check for continuity and short to voltage on the signal circuit between the sensor and the stability control module.
- 5 If wiring is intact, test the sensor with a multimeter or oscilloscope for abnormal output; replace if faulty.
- 6 Clear the code and perform a road test to verify the repair; if code returns, further diagnose the stability control module.
- 7 If all else fails, consult factory service information for specific voltage thresholds and diagnostic procedures.

Common Misdiagnosis Traps for C0554

- A short to voltage in the signal circuit is often caused by a wire rubbing against a power wire in the same harness, which can be missed if only the sensor is replaced.
- The longitudinal acceleration sensor is sometimes integrated into the stability control module or the airbag control module, so replacing the sensor may require reprogramming or module replacement.
- Intermittent codes can be caused by a poor ground connection at the sensor or module, which may not show up in static voltage tests.
- After replacing the sensor, a calibration or zero-point reset is often required using a scan tool, otherwise the code may persist.
- This code can be set by a low battery or charging system issue that causes voltage spikes, so always check battery health and charging voltage first.

Can I keep driving with C0554?

It is generally safe to drive with this code as long as the vehicle is not in limp mode and brakes are functioning normally, but stability control and traction control may be disabled, so avoid aggressive driving or slippery conditions. Have the fault diagnosed promptly to restore full safety system functionality.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope (optional for signal analysis)
- Factory service information or wiring diagrams
- Basic hand tools for trim and connector removal



Reading C0554

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

Often seen with

C0550 Encoder Position Switch Circuit · **C0551** Longitudinal Acceleration Sensor Circuit/Open · **C0552** Longitudinal Acceleration Sensor Range/Performance · **C0553** Longitudinal Acceleration Sensor Circuit Low · **C0555** Lateral Accelerometer Voltage Out of Range

See it working

Watch the animated explainer [Helicopter Simulator: Take Off, Hover and Land](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/c0554/>

