

GENERIC · BODY

B0054

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

B0054

Second Row Center Seat Belt Sensor

B0054 indicates that the body control module (BCM) or occupant classification system has detected a fault in the second row center seat belt sensor circuit, which typically monitors whether the belt is buckled or the seat is occupied. The computer compares expected voltage or resistance values from the sensor against actual readings and sets this code when the signal is out of range, intermittent, or missing entirely.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Body	Generic (all makes)	Low	Intermediate	Airbags, seats, doors, lights and comfort systems

Symptoms you may notice

- The supplemental restraint system (SRS) warning light or seat belt reminder light stays illuminated on the dashboard.
- The seat belt chime may sound continuously or intermittently even when the second row center belt is buckled.
- The passenger airbag may be disabled or the airbag warning light may illuminate if the vehicle uses seat occupancy data from this sensor.
- The remote start system may be disabled on vehicles that require all seat belts to be buckled for activation.
- Often no symptoms besides the warning light, especially if the sensor only fails intermittently.

Common causes, most likely first

- A faulty seat belt buckle sensor (also called a buckle switch) in the second row center position.
- Damaged, pinched, or corroded wiring in the seat belt sensor circuit, often under the seat or at the buckle connector.
- A loose or disconnected electrical connector at the seat belt buckle or at the BCM.
- Water intrusion or corrosion in the connector or sensor due to spills or leaks in the second row area.
- A failed BCM or occupant classification module that is unable to process the sensor signal correctly.
- Aftermarket seat covers or accessories that interfere with the sensor or its wiring.



How to diagnose and fix it

- 1 Inspect the second row center seat belt buckle and its connector for physical damage, corrosion, or loose pins, and clean or reseat as needed.
- 2 Use a scan tool to read live data from the seat belt sensor and compare the indicated buckle status with the actual belt position.
- 3 Check the wiring harness between the buckle and the BCM for continuity, shorts to ground, or shorts to voltage using a digital multimeter.
- 4 Test the seat belt buckle sensor with a multimeter to verify it changes resistance or continuity when the belt is buckled and unbuckled.
- 5 If the sensor is faulty, replace the second row center seat belt buckle assembly as a unit.
- 6 Clear the diagnostic trouble codes and perform a road test to verify the repair, ensuring the SRS light does not return.
- 7 If the code persists after sensor and wiring checks, diagnose the BCM or occupant classification module according to the manufacturer's service information.

Before you replace the seat belt buckle

- A common oversight is assuming the buckle sensor is bad when the real problem is a bent pin or corrosion in the connector under the seat, which can be fixed without parts.
- On some vehicles, the second row center seat belt sensor shares a ground circuit with other seat sensors, so a bad ground can set multiple codes and mislead diagnosis.
- After a collision repair or seat removal, the connector may not be fully latched, causing an intermittent B0054 that appears only when the seat is occupied.
- The code can be set by a low battery or voltage spike that temporarily disrupts the BCM, so always check for other low-voltage codes before condemning the sensor.
- Seat belt buckle sensors are often part of the SRS system and may require battery disconnection and waiting time before service to avoid accidental airbag deployment.

Can I keep driving with B0054?

The vehicle remains safe to drive because the second row center seat belt still functions mechanically, but the airbag may not deploy correctly for that occupant if the sensor fault affects occupancy detection. Avoid carrying a passenger in the second row center seat until the fault is repaired, and have the system diagnosed promptly to restore full supplemental restraint function.



Tools that help

- OBD-II scan tool with body control module and live data capability
- Digital multimeter
- Trim removal tools
- Torque wrench
- Service manual or wiring diagram for the specific vehicle

Reading B0054

- B** Body: airbags, seats, doors, lights and comfort systems.
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- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 0** Airbags, seats, doors, lights and comfort systems.
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- 54** The exact fault within that area.

Often seen with

B0050 Driver Pretensioner Deployment Control · **B0051** Driver Frontal Deployment Control Open · **B0052** Passenger Seat Belt Sensor · **B0053** Passenger Pretensioner Deployment Control · **B0055** Second Row Right Seat Belt Sensor

See it working

Watch the animated explainer [How a Turbocharger Works, Step by Step](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/b0054/>

