

GENERIC · BODY

B0052

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

B0052

Passenger Seat Belt Sensor

B0052 is a body code indicating that the occupant classification system or seat belt buckle sensor for the passenger seat has reported an implausible or out-of-range signal to the restraint control module. The computer detects a mismatch between the expected seat belt status and the actual sensor voltage, often setting the airbag warning light.

SYSTEM

Body

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Airbags, seats, doors, lights and comfort systems

Symptoms you may notice

- Airbag or supplemental restraint system (SRS) warning light illuminated on the dashboard
- Passenger seat belt reminder chime may not activate when an occupant is present
- Passenger airbag may be automatically disabled even with an adult seated
- Intermittent warning light that comes and goes over bumps or when the seat is moved
- Often no symptoms besides the warning light, with all systems appearing to function normally

Common causes, most likely first

- 1 Faulty passenger seat belt buckle sensor or occupant detection sensor mat
- 2 Damaged or chafed wiring under the passenger seat from seat movement
- 3 Loose or corroded electrical connector at the seat belt buckle or seat module
- 4 Failed occupant classification system (OCS) module or sensor mat calibration
- 5 Seat belt buckle mechanism physically damaged or contaminated with debris
- 6 Water intrusion or spill damage affecting the seat sensor or wiring harness

How to diagnose and fix it

- 1 Inspect the passenger seat belt buckle and under-seat wiring for visible damage, debris, or loose connectors
- 2 Check for stored codes in the restraint control module and note any freeze-frame data to confirm the fault condition
- 3 Measure resistance and voltage at the seat belt buckle sensor connector and compare to manufacturer specifications
- 4 Perform a seat occupancy sensor calibration or relearn procedure if the vehicle supports it
- 5 Replace the passenger seat belt buckle sensor or occupant detection mat if resistance is out of range
- 6 Repair or replace damaged wiring and connectors, then clear codes and verify the warning light stays off



Why the passenger seat belt code misleads

- A common misdiagnosis is replacing the seat belt buckle when the actual fault is a chafed wire under the seat that only shorts when the seat is adjusted.
- The occupant classification system often uses a weight-sensing mat that can fail from spills or compression, setting B0052 without any visible damage to the buckle.
- Some vehicles require a scan tool to re-zero the occupant sensor after any seat removal, and skipping this step will immediately reset the code.
- B0052 can be set by a weak battery or low voltage during cranking, so always check the charging system before condemning sensors.
- The code does not always mean the passenger airbag is disabled; the system may still deploy, but the warning light will remain on until repaired.

Can I keep driving with B0052?

You can generally continue driving, but the passenger airbag may not deploy correctly in a crash, so avoid carrying a passenger in the front seat until the fault is repaired. Have the system diagnosed promptly to restore full supplemental restraint function.

Tools that help

- OBD-II scan tool with body code and live data capability
- Digital multimeter
- Trim removal tool set
- Torque wrench for seat belt anchor bolts
- Manufacturer service information for wiring diagrams and calibration procedures

Reading B0052

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

Often seen with

B0051 Driver Frontal Deployment Control Open · **B0053** Passenger Pretensioner Deployment Control · **B0054** Second Row Center Seat Belt Sensor · **B0055** Second Row Right Seat Belt Sensor



See it working

Watch the animated explainer [How the PCV System Works: Crankcase Ventilation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/b0052/>

