

GENERIC · BODY

B0541

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

B0541

Passenger Door Ajar Switch Circuit

B0541 indicates that the body control module (BCM) has detected a fault in the passenger door ajar switch circuit, meaning the signal from that switch is outside the expected voltage range or inconsistent with other door status inputs. The BCM uses this switch to determine whether the passenger door is open or closed for dome light control, door lock logic, and security system arming.

SYSTEM

Body

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Airbags, seats, doors, lights and comfort systems

Symptoms you may notice

- Passenger door ajar warning light stays on or flashes even when the door is fully closed
- Dome light or puddle lamp remains illuminated after all doors are shut
- Door lock functions may not work correctly, such as the door not locking with the key fob or interior switch
- Security system may fail to arm or may trigger false alarms
- Battery drain if the interior light stays on for extended periods
- Often no symptoms besides the warning light, especially if the switch is only intermittently faulty

Common causes, most likely first

- 1 Faulty passenger door ajar switch, worn or contaminated internally
- 2 Damaged or corroded wiring in the door jamb boot, where the harness flexes with door movement
- 3 Loose or corroded electrical connector at the switch or BCM
- 4 Water intrusion into the switch or connector causing intermittent shorts
- 5 Misadjusted striker or door latch assembly preventing the switch from closing properly
- 6 Failed body control module (BCM) input circuit, though rare



How to diagnose and fix it

- 1 Verify the passenger door is fully closed and the latch is not obstructed; check for debris or misalignment
- 2 Inspect the door ajar switch and its connector for corrosion, damage, or loose pins; clean or repair as needed
- 3 Check the wiring harness in the door jamb boot for chafed or broken wires; repair any damage
- 4 Test the switch operation with a multimeter or scan tool live data to confirm it changes state when the door opens and closes
- 5 If the switch tests faulty, replace the passenger door ajar switch
- 6 Clear the code and verify the repair by cycling the door and checking that the warning light and live data behave correctly
- 7 If the fault persists, check the BCM input circuit and consult factory wiring diagrams for further diagnosis

Common traps with passenger door ajar codes

- A door that appears closed may not fully depress the ajar switch due to a worn striker or latch, causing a false 'door open' signal that sets B0541.
The door jamb wiring boot is a frequent failure point because constant flexing breaks strands inside the insulation, creating intermittent opens that only appear when the door is moved.
 - Aftermarket accessories or previous repairs that tap into the door wiring can introduce resistance or shorts that mimic a faulty switch.
 - Some vehicles use a hall-effect sensor instead of a mechanical switch, and a weak magnet or misalignment can cause the same code without any visible damage.
- B0541 can be set by a low battery or voltage spike that corrupts the BCM's learned door status, so clearing the code after restoring proper voltage may resolve it without parts replacement.

Can I keep driving with B0541?

The vehicle remains safe to drive because the passenger door ajar switch does not affect engine, braking, or steering systems. However, you should avoid leaving the vehicle unattended for long periods with the interior light on, as it can drain the battery, and address the fault promptly to maintain security system function.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Trim removal tool set
- Torx or Phillips screwdriver set
- Electrical contact cleaner
- Factory service information or wiring diagrams



Reading B0541

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

Often seen with

B0540 Driver Door Ajar Switch Circuit · **U0140** Lost Communication With Instrument Panel Cluster

See it working

Watch the animated explainer [How a Helicopter Flies: Rotor and Tail in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/b0541/>

