

GENERIC · BODY

B0150

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

B0150

HVAC Mode Door Range/Performance

B0150 indicates that the heating, ventilation, and air conditioning (HVAC) control module has detected a problem with the mode door's range or performance, meaning the door is not moving through its full expected travel or is not reaching commanded positions within the expected time. The computer typically monitors the door's position feedback signal or actuator motor current and sets the code when the signal falls outside the calibrated range or the door fails to respond as commanded.

SYSTEM

Body

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Airbags, seats, doors, lights and comfort systems

Symptoms you may notice

- Airflow may be stuck on defrost, floor, or panel regardless of the setting selected.
- A clicking, popping, or buzzing noise from behind the dashboard when changing airflow modes.
- The mode door may move partially but not reach all positions, causing weak or misdirected airflow.
- The HVAC control head may flash or show erratic behavior when a mode button is pressed.
- Often no symptoms besides the warning light, especially if the door is only slightly out of range.

Common causes, most likely first

- 1 Failed or binding mode door actuator motor.
- 2 Obstruction in the mode door travel path, such as a broken door flap or debris.
- 3 Worn or damaged mode door linkage or pivot points.
- 4 Open or shorted wiring in the actuator circuit, including poor connector contact.
- 5 Faulty HVAC control module or body control module (BCM) not commanding the actuator correctly.
- 6 Mode door position sensor failure (if equipped separately from the actuator).
- 7 Low system voltage or poor ground causing erratic actuator operation.



How to diagnose and fix it

- 1 Connect a scan tool and command the mode door through its full range while watching the position feedback and actuator current to confirm the fault.
- 2 Inspect the actuator connector and wiring for corrosion, loose pins, or damage, and verify power and ground at the actuator.
- 3 Remove the actuator and manually move the mode door through its travel to check for binding or obstruction.
- 4 Check for technical service bulletins (TSBs) or calibration procedures specific to the vehicle before replacing parts.
- 5 Replace the mode door actuator if it fails to move or feedback is erratic, then clear codes and re-test.
- 6 If the actuator is good, test the control module outputs and repair or replace the HVAC control module as needed.
- 7 After repair, perform any required actuator calibration or relearn procedure with the scan tool.

Mode door actuator diagnosis pitfalls

- A binding mode door can mimic a failed actuator, so always check for free movement of the door before condemning the motor.
- Some vehicles require a calibration or relearn procedure after actuator replacement, and skipping it will set the code again immediately.
- The mode door position sensor may be integrated into the actuator on many models, so a sensor fault often means replacing the whole actuator assembly.
- Poor ground connections at the HVAC control module or body control module can cause intermittent mode door codes that are misdiagnosed as actuator failure.
- A weak battery or charging system issue can cause the HVAC module to lose calibration and set a range/performance code without any hard part failure.

Can I keep driving with B0150?

The vehicle remains safe to drive because the mode door only affects airflow direction, not engine operation or safety systems. You can continue driving, but avoid extreme temperatures if the defrost function is needed for visibility, and address the issue soon to prevent discomfort or window fogging.

Tools that help

- OBD-II scan tool with HVAC bidirectional controls
- Digital multimeter
- Trim removal tools
- Socket and ratchet set
- Flashlight or inspection mirror



Reading B0150

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

Often seen with

B0152 Driver Buckle Switch Circuit Malfunction · **B0154** Passenger Buckle Switch Circuit Malfunction

See it working

Watch the animated explainer [How a Manual Transmission Works: Four-Speed Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/b0150/>

