

GENERIC · BODY

B0156

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

B0156

Sun Load Sensor Circuit

B0156 indicates that the body control module (BCM) has detected an abnormal signal from the sun load sensor, which is a photodiode that measures sunlight intensity for the automatic climate control system. The computer expects a voltage within a specific range that varies with light level, and it sets this code when the signal is out of range, stuck, or missing entirely.

SYSTEM

Body

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Airbags, seats, doors, lights and comfort systems

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the climate control still works manually
- Automatic climate control may default to a fixed temperature or blow at maximum fan speed
- The air conditioning may not adjust cooling effort based on how sunny it is
- Temperature may fluctuate or feel inconsistent between the driver and passenger sides
- The climate control panel may show erratic or incorrect settings

Common causes, most likely first

- 1 Failed sun load sensor (photodiode) due to age or heat exposure
- 2 Open or shorted wiring between the sensor and the body control module
- 3 Corroded or loose electrical connector at the sensor or BCM
- 4 Blown fuse or poor ground connection for the sensor circuit
- 5 Body control module internal fault affecting the sensor reference voltage
- 6 Physical obstruction such as dirt, a dashboard cover, or a sticker blocking the sensor lens



How to diagnose and fix it

- 1 Inspect the sun load sensor lens for dirt, obstructions, or damage and clean it gently
- 2 Check the sensor connector for corrosion, tightness, and proper pin fit
- 3 Measure reference voltage and ground at the sensor connector with a multimeter and compare to specifications
- 4 Test the sensor resistance or voltage output while varying light exposure to confirm it responds
- 5 Check continuity and resistance of the signal wire between the sensor and the BCM to rule out opens or shorts
- 6 If wiring and sensor test good, substitute a known-good sensor to see if the code clears
- 7 Clear the code and verify the repair by monitoring live data for the sun load sensor while covering and uncovering it

Sun load sensor faults that fool technicians

- A dirty or covered sensor lens is a common cause that gets overlooked because the sensor is often mounted on the dashboard top and collects dust or gets blocked by aftermarket dash mats.
- The sun load sensor shares its reference voltage or ground with other sensors on some vehicles, so a fault in a neighbouring circuit can set B0156 even when the sensor itself is fine.
- A weak or failing battery can cause the BCM to log this code intermittently, so always check charging system health before condemning the sensor.
- After replacing the sensor, some vehicles require a calibration or relearn procedure through the scan tool, and skipping it can leave the code stored or the climate control acting strangely.
- The code can set from a momentary glitch during extreme temperature swings, so clearing it and seeing if it returns before any parts replacement is a smart first step.

Can I keep driving with B0156?

This code does not affect engine operation, braking, or safety systems, so the vehicle is safe to drive. You may notice reduced climate control comfort, but you can continue driving until a convenient time to diagnose the fault.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Trim removal tool for dashboard panels
- Flashlight and inspection mirror
- Electrical contact cleaner



Reading B0156

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

Often seen with

B0158 Ambient Air Temperature Sensor Circuit · **B0159** Outside Temperature Sensor Range/Performance · **B0160** In-Vehicle Temperature Sensor Circuit

See it working

Watch the animated explainer [How a Padlock Works: Pin Tumbler Lock in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/b0156/>

