

GENERIC · POWERTRAIN

P0655

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0655

Engine Hot Lamp Output Control Circuit

P0655 indicates that the powertrain control module (PCM) has detected an abnormal condition in the output control circuit for the engine hot lamp, which is the warning light that alerts the driver when the engine is overheating. The PCM monitors the circuit for expected voltage or current and sets this code when the signal falls outside the normal range, often due to a wiring fault, a failed lamp, or a problem inside the PCM itself.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- The engine hot lamp may fail to illuminate when the ignition is turned on or when the engine is actually overheating.
- The lamp may stay illuminated continuously even when the engine is cold or operating normally.
- Often no symptoms besides the warning light, and the vehicle may drive normally with no drivability issues.
- If the lamp is inoperative, the driver may not receive a critical overheating warning, leading to potential engine damage.
- In some cases, other dashboard warning lights or messages may appear if the PCM detects a broader communication or power issue.

Common causes, most likely first

- A burned-out or faulty engine hot lamp bulb or light-emitting diode (LED) assembly.
- Damaged, corroded, or disconnected wiring or connector at the lamp, the PCM, or inline harness connectors.
- A short to ground or short to voltage in the control circuit between the PCM and the lamp.
- An open circuit in the control wire, such as a broken wire or poor terminal tension.
- A failed PCM driver or internal fault in the PCM affecting the lamp output control.
- Water intrusion or corrosion in the lamp housing or connector, especially on vehicles with age-related seal degradation.
- Aftermarket accessories or improper wiring repairs that interfere with the lamp circuit.



How to diagnose and fix it

- 1 Verify the condition by turning the ignition on and observing whether the engine hot lamp briefly illuminates as a bulb check; if not, inspect the bulb first.
- 2 Check the lamp bulb or LED assembly for continuity or visible damage and replace if defective.
- 3 Inspect the wiring harness and connectors between the PCM and the lamp for chafing, corrosion, or loose pins, and repair as needed.
- 4 Measure resistance and voltage on the control circuit to detect opens or shorts, using the manufacturer's wiring diagram for pin locations.
- 5 Test the PCM output by commanding the lamp on with a scan tool if supported, or by back-probing the PCM connector to verify the driver is functioning.
- 6 If the circuit and lamp are good but the PCM does not control the lamp, diagnose the PCM power and ground circuits before condemning the PCM.
- 7 Clear the diagnostic trouble code (DTC) and verify the repair by cycling the ignition and confirming the lamp operates correctly and the code does not return.

When the hot lamp circuit fools you

- A common oversight is replacing the PCM when the actual fault is a poor ground connection at the lamp housing or a corroded splice in the harness, which can mimic a failed driver.
- Some vehicles use the same lamp for multiple functions, such as a combined hot lamp and low coolant warning, so a fault in the coolant level sensor circuit can set P0655 indirectly.
- The PCM may set P0655 even if the lamp works intermittently, because the monitor detects a brief out-of-range condition that does not always produce a visible symptom.
- Aftermarket alarm systems or remote starters that tap into the dashboard warning lamp wiring are frequent culprits for this code on older vehicles.
- On vehicles with a CAN bus, a communication fault elsewhere can cause the PCM to lose control of the lamp circuit, so check for related communication codes before chasing the lamp wiring.

Can I keep driving with P0655?

You can generally continue driving if the engine temperature gauge reads normal and there are no signs of overheating, but be aware that the hot lamp may not warn you of a genuine overheating event. Avoid heavy loads or long idles until the circuit is repaired, and pull over immediately if you notice steam, a rising temperature gauge, or any other overheating symptom.



Tools that help

- Scan tool with bidirectional control capability
- Digital multimeter
- Test light
- Wiring diagram for the specific vehicle
- Trim removal tools for accessing the lamp assembly

Reading P0655

- P** Powertrain: engine, transmission and emissions.
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- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 6** Computer and output circuits.
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- 55** The exact fault within that area.

Often seen with

P0654 Engine RPM Output Circuit · **P0656** Fuel Level Output Circuit · **P0657** Actuator Supply Voltage 'A' Circuit/Open · **P0658** Actuator Supply Voltage 'A' Circuit Low · **P0659** Actuator Supply Voltage 'A' Circuit High

See it working

Watch the animated explainer [How a Jet Engine Works: Two-Spool Turbofan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0655/>

