

GENERIC · POWERTRAIN

P06E1

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06E1

Cylinder 11 Glow Plug Control Circuit High

P06E1 indicates that the engine control module (ECM) has detected an abnormally high voltage on the control circuit for cylinder 11's glow plug, which typically means the circuit is open, shorted to voltage, or the glow plug itself has failed. The ECM expects to see a specific voltage drop when it commands the glow plug on, and a high reading tells it that current is not flowing as designed.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Hard starting or rough idle when the engine is cold, especially in low temperatures
- Extended cranking time before the engine fires
- White smoke from the exhaust after a cold start due to incomplete combustion
- Slightly increased fuel consumption during warm-up
- In some vehicles, a glow plug-related message or reduced power warning

Common causes, most likely first

- 1 Failed glow plug on cylinder 11 (open internal element)
- 2 Damaged or disconnected electrical connector at the cylinder 11 glow plug
- 3 Open or high-resistance wire in the glow plug control circuit
- 4 Faulty glow plug control module (GPCM) or relay not supplying voltage correctly
- 5 Corroded or loose ground connection for the glow plug circuit
- 6 Short to voltage on the control wire between the GPCM and the glow plug
- 7 ECM internal fault misreading the circuit voltage (rare)



How to diagnose and fix it

- 1 Inspect the cylinder 11 glow plug connector and wiring for damage, corrosion, or looseness; clean or repair as needed
- 2 Measure the resistance of the cylinder 11 glow plug with a multimeter and compare to the manufacturer's specification (typically 0.5–2 ohms)
- 3 Check for battery voltage at the glow plug connector when the key is first turned on (during glow plug pre-heat) using a test light or multimeter
- 4 Test the glow plug control circuit for continuity and shorts to voltage or ground; repair any damaged wires
- 5 Verify the glow plug control module is functioning by checking its outputs and grounds according to the service manual
- 6 If the glow plug fails the resistance test, replace it with a quality part and clear the code
- 7 After repairs, clear the diagnostic trouble codes (DTCs) and perform a cold-start drive cycle to confirm the code does not return

Glow Plug Circuit High Voltage Traps

- A high voltage reading on the glow plug control circuit often indicates an open circuit rather than a short, so a disconnected plug or broken wire is more likely than a shorted glow plug.
- Many technicians replace the glow plug control module prematurely when the actual fault is a corroded connector pin or a chafed wire hidden under the engine cover.
- Cylinder 11 is typically found on V12 engines or as part of a bank on some V8/V10 configurations, so confirm the cylinder numbering before ordering parts.
- The ECM may set this code only after a cold-start strategy runs, so the fault might not appear during a warm engine diagnostic session.
- A weak battery or poor ground can cause false high-voltage readings on glow plug circuits, so always load-test the battery and check grounds before condemning components.

Can I keep driving with P06E1?

You can generally drive the vehicle with this code, but cold starting may be difficult and prolonged cranking can strain the starter and battery. Avoid extended driving in cold weather until the fault is repaired, and do not ignore the check engine light if it begins flashing.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light
- Socket set and extensions
- Wiring diagram for the glow plug circuit
- Torque wrench (for glow plug replacement)



Reading P06E1

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- E1** The exact fault within that area.

Often seen with

P0380 Glow Plug/Heater Circuit A Malfunction · **P0670** Glow Plug Module Control Circuit · **P06E0** Cylinder 11 Glow Plug Control Circuit Low · **P06E2** Cylinder 12 Glow Plug Control Circuit Low · **P06E3** Cylinder 12 Glow Plug Control Circuit High

See it working

Watch the animated explainer [Fuel Trims Explained: Short-Term and Long-Term](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06e1/>

