

GENERIC · POWERTRAIN

P06B9

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06B9

Cylinder 1 Glow Plug Circuit Range/Performance

P06B9 indicates that the powertrain control module (PCM) has detected an out-of-range or performance fault in the glow plug circuit for cylinder 1, meaning the electrical current or voltage behavior does not match expected values during the glow plug's operation. The PCM monitors the circuit during the glow plug's preheat and afterglow phases and sets this code when the signal falls outside the calibrated range for a calibrated time.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Hard cold starting or extended cranking before the engine fires
- Rough idle or misfire immediately after a cold start
- White smoke from the exhaust during cold running
- Increased fuel consumption during warm-up
- Reduced engine performance or power until the engine reaches operating temperature

Common causes, most likely first

- 1 Faulty glow plug on cylinder 1 (open or shorted element)
- 2 Damaged or corroded glow plug electrical connector
- 3 Chafed, broken, or shorted wiring in the glow plug circuit
- 4 Failed glow plug control module or relay
- 5 Poor ground connection for the glow plug circuit
- 6 PCM internal fault affecting the glow plug driver circuit



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related glow plug or electrical codes
- 2 Inspect the glow plug connector and wiring for damage, corrosion, or loose pins
- 3 Measure the resistance of the cylinder 1 glow plug and compare it to the manufacturer's specification
- 4 Check for battery voltage at the glow plug connector during the preheat phase using a multimeter or test light
- 5 Test the glow plug control module or relay for proper operation and replace if faulty
- 6 Repair or replace any damaged wiring or connectors in the glow plug circuit
- 7 Clear the code and perform a cold start to verify the repair and ensure the code does not return

Glow plug circuit checks that prevent misdiagnosis

- A glow plug that tests good on resistance can still cause this code if the control module's current monitoring circuit is faulty, so always verify the control module's output before condemning the plug.
- Corroded connectors are a frequent cause of range/performance codes because they add resistance that skews the current signature the PCM expects, even when the glow plug itself is healthy.
- This code can be set by a weak battery or charging system issue that causes low voltage during the glow plug preheat phase, so check battery condition and connections before replacing parts.
- Some vehicles use a glow plug control module that communicates over a data bus, and a module that fails to report correctly can set this code without any physical glow plug fault.
- After replacing a glow plug, always clear the adaptive learning values for the glow plug system if the manufacturer specifies it, otherwise the code may reappear until the PCM relearns the circuit.

Can I keep driving with P06B9?

You can generally drive the vehicle with this code, but cold starting may be difficult and prolonged driving with a faulty glow plug can lead to excessive white smoke and increased emissions. Avoid heavy loads or high speeds until the engine is fully warmed, and address the fault promptly to prevent further damage to the glow plug system.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Test light
- Socket set and extensions
- Manufacturer service information for glow plug specifications



Reading P06B9

- 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.
- B9** The exact fault within that area.

Often seen with

P0671 Cylinder 1 Glow Plug Circuit · **P0672** Cylinder 2 Glow Plug Circuit · **P06BA** Cylinder 2 Glow Plug Circuit Range/Performance · **P06BB** Cylinder 3 Glow Plug Circuit Range/Performance · **P06BC** Cylinder 4 Glow Plug Circuit Range/Performance

See it working

Watch the animated explainer [How Drive-by-Wire Works: Electronic Throttle Body](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06b9/>

