

GENERIC · POWERTRAIN

P06BA

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06BA

Cylinder 2 Glow Plug Circuit Range/Performance

P06BA indicates that the engine control module has detected an out-of-range or performance fault in the glow plug circuit for cylinder 2, meaning the electrical current through that glow plug does not match the expected profile during the afterglow or preheat phase. The computer monitors voltage and current feedback to verify that the glow plug heats correctly and that the wiring and control module are functioning within specification.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Low

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light or glow plug warning lamp, often with no other noticeable symptoms.
- Hard starting or extended cranking when the engine is cold, especially in low ambient temperatures.
- Rough idle or misfire immediately after a cold start that may improve as the engine warms.
- Excessive white smoke from the exhaust during cold running due to incomplete combustion.
- Reduced fuel economy or increased regeneration frequency for the diesel particulate filter.
- In rare cases, a no-start condition if multiple glow plugs fail simultaneously, though P06BA alone typically affects only cylinder 2.

Common causes, most likely first

- 1 Failed glow plug on cylinder 2, such as an open heating element or shorted internal coil.
- 2 Damaged or corroded electrical connector at the cylinder 2 glow plug, causing high resistance or intermittent contact.
- 3 Chafed, broken, or shorted wiring in the glow plug harness between the control module and cylinder 2.
- 4 Faulty glow plug control module that cannot deliver or monitor the correct current to cylinder 2.
- 5 Poor engine ground connection that affects the glow plug circuit's return path.
- 6 Carbon buildup or mechanical damage to the glow plug tip that alters its electrical characteristics.
- 7 Engine control module software calibration issue or internal driver fault, though this is less common.



How to diagnose and fix it

- 1 Inspect the cylinder 2 glow plug connector and wiring for corrosion, looseness, or physical damage, and clean or repair as needed.
- 2 Measure the resistance of the cylinder 2 glow plug with a multimeter and compare it to the manufacturer's specification; replace the plug if out of range.
- 3 Check the glow plug control module output for cylinder 2 using a bidirectional scan tool or oscilloscope to verify command and feedback signals.
- 4 Perform a voltage drop test on the glow plug circuit while activated to identify excessive resistance in the wiring or connections.
- 5 Verify engine ground integrity and clean or tighten ground points if resistance is excessive.
- 6 If all electrical checks pass, substitute a known-good glow plug from another cylinder to see if the fault follows the plug or stays with the circuit.
- 7 After repairs, clear the diagnostic trouble codes and perform a cold-start drive cycle to confirm the code does not return.

Glow Plug Circuit Checks That Techs Often Skip

- A glow plug can pass a simple resistance test at room temperature yet still fail to draw correct current when hot, so current waveform analysis with a scope is more reliable than a basic ohm check.
- The glow plug control module often shares power or ground with other circuits, so a fault in an unrelated component can cause a false P06BA if the shared feed is compromised.
- Carbon fouling on the glow plug tip can change its resistance enough to set a performance code without causing a complete open circuit, so visual inspection after removal is valuable.
- Some vehicles require a software update to the engine control module to correct overly sensitive glow plug monitoring thresholds that trigger P06BA intermittently.
- A weak battery or charging system fault can cause voltage drops during glow plug activation that mimic a circuit performance issue, so always verify battery condition first.

Can I keep driving with P06BA?

You can generally continue driving with P06BA, but cold starting may be harder and white smoke may be noticeable until the engine warms. Avoid extended driving with a flashing glow plug light or if the engine runs roughly, and address the fault before winter temperatures drop.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with resistance and voltage drop functions
- Oscilloscope for current waveform analysis
- Glow plug socket and torque wrench
- Wiring diagram and manufacturer service information



Reading P06BA

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

Often seen with

P0380 Glow Plug/Heater Circuit A Malfunction · **P0672** Cylinder 2 Glow Plug Circuit · **P06B9** Cylinder 1 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 Push-Button Start Works: Keyless Ignition](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06ba/>

