

GENERIC · POWERTRAIN

P06BB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06BB

Cylinder 3 Glow Plug Circuit Range/Performance

P06BB indicates that the engine control module has detected a range or performance error in the glow plug circuit for cylinder 3, meaning the circuit's electrical behavior is outside the expected parameters during self-test or operation. The module monitors voltage and current on the glow plug control circuit and sets this code when the signal does not match the commanded state within the allowed time or voltage window.

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

Symptoms you may notice

- Illumination of the glow plug or check engine light, often with no other symptoms
- Hard cold starting or extended cranking before the engine fires
- Rough idle and white smoke from the exhaust immediately after a cold start
- Reduced fuel economy during warm-up and increased emissions
- In rare cases, a misfire code for cylinder 3 may accompany this code

Common causes, most likely first

- 1 Faulty glow plug on cylinder 3 with excessive resistance or an open element
- 2 Damaged or corroded electrical connector at the cylinder 3 glow plug
- 3 Chafed, broken, or shorted wiring in the glow plug harness near the cylinder 3 circuit
- 4 Failed glow plug control module or relay affecting only the cylinder 3 output
- 5 Poor engine ground connection causing voltage drop on the glow plug circuit
- 6 Carbon buildup or oil contamination on the glow plug tip altering its electrical characteristics



How to diagnose and fix it

- 1 Clear the code and perform a road test or cold-start cycle to confirm whether P06BB returns
- 2 Inspect the cylinder 3 glow plug connector and harness for corrosion, looseness, or chafing
- 3 Measure the resistance of the cylinder 3 glow plug and compare it to the manufacturer's specification
- 4 Check for voltage and ground pulses at the glow plug connector during the glow phase using a multimeter or oscilloscope
- 5 Test the glow plug control module output for cylinder 3 and verify the command signal from the engine control module
- 6 Replace the faulty glow plug, repair damaged wiring, or replace the control module as indicated by test results
- 7 Clear codes and verify the repair with a cold-start test and a scan tool glow plug monitor

What the glow plug code hides

- A glow plug that tests good on a bench can still set P06BB when the control module's current monitoring circuit is degraded, so always verify the module's output before condemning the plug.
Corrosion inside the glow plug connector often mimics a failed glow plug, and simply reseating the connector can temporarily clear the code without fixing the underlying issue.
- P06BB can be set by a voltage drop on the ground side of the circuit that affects only cylinder 3, so check engine and chassis grounds before replacing parts.
- Some vehicles set this code during a key-on glow plug self-test even when the plug works perfectly, and a weak battery or low ambient temperature can trigger a false range error.
A cylinder 3 glow plug that is carbon-fouled from a leaking injector or excessive oil carryover may pass a resistance test when cold but fail the module's performance check when hot.

Can I keep driving with P06BB?

You can usually drive the vehicle, but cold starting will be harder and the engine may run rough with white smoke until it warms up; avoid long cranking periods and have the circuit diagnosed soon to prevent starter and battery wear.

Tools that help

- OBD-II scan tool with glow plug monitoring capability
- Digital multimeter
- Oscilloscope for circuit waveform analysis
- Glow plug socket and torque wrench
- Electrical contact cleaner and dielectric grease



Reading P06BB

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

Often seen with

P0380 Glow Plug/Heater Circuit A Malfunction · **P0673** Cylinder 3 Glow Plug Circuit · **P06B9** Cylinder 1 Glow Plug Circuit Range/Performance · **P06BA** Cylinder 2 Glow Plug Circuit Range/Performance · **P06BC** Cylinder 4 Glow Plug Circuit Range/Performance

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06bb/>

