

GENERIC · POWERTRAIN

P2B0C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2B0C

Cold Start Cylinder 5 Injection Pulse Performance

P2B0C indicates that the engine control module has detected an abnormal fuel injection pulse for cylinder 5 during a cold start, meaning the injector did not deliver the expected amount of fuel or the electrical pulse was outside the expected range. The computer monitors injector performance during the first few seconds after a cold start and flags this code when the cylinder 5 injection pulse does not match the commanded value.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Hybrid propulsion

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire immediately after a cold start that may improve as the engine warms
- Slight hesitation or stumble during the first few seconds of driving after a cold start
- Increased fuel consumption due to improper fuel delivery on cylinder 5
- Occasional engine vibration or shaking felt through the steering wheel or seat during warm-up
- In rare cases, a noticeable loss of power if the injector is severely restricted or stuck

Common causes, most likely first

- 1 Clogged or restricted fuel injector on cylinder 5, often due to carbon buildup or contaminated fuel
- 2 Faulty electrical connection or damaged wiring to the cylinder 5 injector, including corroded terminals
- 3 Failed cylinder 5 fuel injector solenoid or internal mechanical failure
- 4 Low fuel pressure or volume during cold start, affecting all cylinders but most noticeable on one
- 5 Engine control module software issue or calibration error affecting cold-start injection timing
- 6 Intake manifold air leak near cylinder 5 causing a lean condition that the computer misinterprets as an injection pulse fault
- 7 Sticking or contaminated fuel injector due to ethanol content or lack of use



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to confirm the fault occurred during a cold start
- 2 Perform a visual inspection of the cylinder 5 injector connector and wiring for corrosion, chafing, or loose pins
- 3 Measure the resistance of the cylinder 5 injector and compare it to the manufacturer's specification to rule out an open or shorted coil
- 4 Check fuel pressure and volume during a cold start to ensure the pump and filter are delivering adequate fuel
- 5 Run a fuel injector balance test or cylinder contribution test to compare cylinder 5 to the others and confirm a weak or stuck injector
- 6 If electrical and fuel pressure tests pass, remove and flow-test the cylinder 5 injector, or replace it with a known-good unit and re-evaluate
- 7 After repair, clear codes and perform a cold-start relearn or drive cycle to verify the code does not return

Cold-start injector faults often misdiagnosed

- A clogged injector may only show symptoms during the first cold start of the day, so a warm-engine diagnostic can miss the fault entirely and lead to unnecessary parts replacement.
- The code can be set by a marginal fuel pump that delivers enough volume at operating temperature but cannot maintain pressure during the initial cold-start prime, so always check fuel pressure during a true cold start.
- Corroded injector connectors are a common cause on vehicles with age-related wiring degradation, and a simple wiggle test while monitoring injector pulse width can reveal an intermittent connection.
- Some technicians replace all injectors when only cylinder 5 is flagged, but the code is specific to that cylinder and a proper diagnosis should isolate the fault before condemning the entire rail.
- A vacuum leak at the intake manifold runner for cylinder 5 can mimic an injector fault because the lean condition alters the computer's expected pulse width, so a smoke test is a worthwhile check before injector replacement.

Can I keep driving with P2B0C?

You can generally drive the vehicle with this code, but avoid heavy acceleration or towing until the fault is repaired, because prolonged operation with a lean or rich cylinder can damage the catalytic converter and spark plugs. If the check engine light begins flashing or the engine runs very rough, stop driving and seek service immediately.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter for injector resistance and wiring checks
- Fuel pressure gauge
- Noid light or injector pulse tester
- Mechanic's stethoscope or screwdriver for listening to injector operation
- Basic hand tools for connector and component access

Reading P2B0C

P	Powertrain: engine, transmission and emissions.
2	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
B	Hybrid propulsion.
0C	The exact fault within that area.

Often seen with

P0171 System Too Lean (Bank 1) · **P0205** Injector Circuit/Open - Cylinder 5 · **P0305** Cylinder 5 Misfire Detected · **P2B0B** Cold Start Cylinder 4 Injection Pulse Performance · **P2B0D** Cold Start Cylinder 6 Injection Pulse Performance

See it working

Watch the animated explainer [Master the Four-Stroke Engine Cycle](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2b0c/>

