

GENERIC · POWERTRAIN

P2C31

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C31

Ignition Coil Primary Circuit Fuse B

P2C31 indicates that the powertrain control module has detected a fault in the primary circuit of an ignition coil that is protected by a fuse labeled 'B' in the fuse box. The computer monitors the voltage or current on the coil primary control circuit and sets this code when the signal falls outside the expected range, often because the fuse has blown or the circuit has excessive resistance.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illuminated check engine light or service engine soon light
- Engine misfire, rough idle, or hesitation during acceleration
- Reduced engine power or limp mode in some vehicles
- Difficulty starting or a no-start condition if the fuse is completely blown
- Often no symptoms besides the warning light if the fault is intermittent or affects a single coil among many

Common causes, most likely first

- 1 Blown fuse B in the ignition coil primary circuit
- 2 Corroded, loose, or damaged fuse box terminals or wiring to the ignition coil
- 3 Short to ground in the primary coil wiring or connector
- 4 Failed ignition coil with an internal short in the primary winding
- 5 Faulty ignition coil driver circuit inside the powertrain control module
- 6 Water intrusion or debris in the fuse box causing a short

How to diagnose and fix it

- 1 Locate fuse B in the underhood or interior fuse box and inspect it for a blown element
- 2 Replace the fuse with the correct amperage rating and recheck for the code
- 3 Inspect the ignition coil connector and primary wiring for chafing, corrosion, or loose pins
- 4 Measure resistance across the primary winding of the affected ignition coil and compare to specification
- 5 Check for a short to ground on the primary control wire between the coil and the powertrain control module
- 6 If the fuse blows again immediately, isolate the circuit by disconnecting the coil and testing for a short
- 7 Verify the repair by clearing the code and confirming the fuse does not blow during a test drive



Why fuse B keeps blowing on ignition coils

- A blown fuse B is often a symptom of a shorted ignition coil rather than the root cause, so replacing the fuse alone may lead to a repeat failure.
- The label 'B' refers to a specific fuse position in the fuse box, and its location varies by vehicle, so always consult the fuse diagram rather than assuming a universal layout.
- Intermittent code P2C31 can be caused by a loose fuse that heats up and loses contact, which is easily missed during a static inspection.
- Some vehicles use a single fuse to protect multiple ignition coils, so a fault in one coil can disable the entire ignition system and cause a no-start.
- A shorted primary coil can damage the powertrain control module driver if the fuse is repeatedly replaced without fixing the underlying coil fault.

Can I keep driving with P2C31?

If the check engine light is on but the engine runs smoothly, you can drive cautiously to a repair shop, but avoid hard acceleration or long trips. If the engine misfires, lacks power, or will not start, stop driving and have the vehicle towed to prevent damage to the catalytic converter or further electrical faults.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Fuse puller or needle-nose pliers
- Test light
- Vehicle-specific fuse diagram

Reading P2C31

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

Often seen with

P0351 Ignition Coil A Primary/Secondary Circuit Malfunction · **P0352** Ignition Coil B Primary/Secondary Circuit Malfunction · **P0353** Ignition Coil C Primary/Secondary Circuit Malfunction · **P0354** Ignition Coil D Primary/Secondary Circuit Malfunction · **P0355** Ignition Coil 'E' Primary/Secondary Circuit



See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2c31/>

