

GENERIC · POWERTRAIN

P031C

OBD-II TROUBLE CODE

P031C

Ignition C Control Signal Circuit High

P031C indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the ignition control circuit for cylinder C, which is part of the coil-on-plug or distributorless ignition system. The PCM expects a specific voltage range when commanding the ignition coil to fire, and a high signal suggests an open circuit, a short to voltage, or a failed ignition coil driver.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light (malfunction indicator lamp) with no other noticeable symptoms
- Engine misfire, often felt as a stumble or rough idle, especially under load
- Reduced engine power or limp mode in some vehicles
- Difficulty starting or a no-start condition if the fault affects multiple cylinders
- Poor fuel economy due to incomplete combustion
- Occasional backfire or popping from the exhaust

Common causes, most likely first

- 1 Faulty ignition coil for cylinder C (internal short or open in the primary winding)
- 2 Damaged or corroded wiring harness or connector at the ignition coil or PCM
- 3 Open circuit in the ignition control signal wire between the PCM and the coil
- 4 Short to voltage on the ignition control circuit (e.g., chafed wire contacting a power source)
- 5 Failed ignition control module (ICM) if the vehicle uses one
- 6 PCM driver failure for that specific ignition circuit (rare but possible)



How to diagnose and fix it

- 1 Scan all modules for stored codes and freeze-frame data to confirm P031C is the only ignition-related fault.
- 2 Inspect the ignition coil connector and wiring for corrosion, loose pins, or physical damage; repair as needed.
- 3 Swap the ignition coil from cylinder C with a known-good coil from another cylinder and see if the code follows the coil.
- 4 Use a digital multimeter to check for an open or short in the ignition control circuit between the PCM and the coil; compare resistance to specification.
- 5 Check for a short to voltage on the control wire with the key on and engine off; repair any chafed or grounded wires.
- 6 If the circuit and coil test good, test the PCM driver output with an oscilloscope or a noid light; replace the PCM if the driver is faulty.
- 7 Clear codes and perform a road test to verify the repair and ensure the code does not return.

Before you replace the ignition coil

- A high signal on the ignition control circuit often results from a poor ground at the coil mounting point, which can mimic a failed coil.
- Corrosion inside the coil boot or connector can cause intermittent high-voltage signals that only appear under vibration or damp conditions.
- Some vehicles set P031C when the ignition coil primary resistance drifts out of spec, even though the coil still fires and the engine runs fine.
- The PCM may set P031C as a companion code to a misfire code (P0300–P0308) if the misfire is severe enough to affect the ignition feedback signal.
- A faulty spark plug with an excessive gap can increase the coil's firing voltage and, over time, damage the coil driver, leading to a high-signal code.

Can I keep driving with P031C?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or sustained high speeds because a misfire can overheat the catalytic converter. If the engine is running very rough or stalling, stop driving and have it towed to prevent further damage.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM)
- Oscilloscope (for advanced signal analysis)
- Noid light or ignition spark tester
- Basic hand tools (socket set, screwdrivers, wire crimpers)



Reading P031C

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 3** Ignition system and misfire.
- 1C** The exact fault within that area.

Often seen with

P0300 Random/Multiple Cylinder Misfire Detected · **P0303** Cylinder 3 Misfire Detected · **P031A** Ignition C Control Signal Circuit/Open · **P031B** Ignition C Control Signal Circuit Low · **P0353** Ignition Coil C Primary/Secondary Circuit Malfunction

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/p031c/>

