

GENERIC · POWERTRAIN

P031A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P031A

Ignition C Control Signal Circuit/Open

P031A indicates that the powertrain control module has detected an open circuit or abnormal condition on the ignition control signal circuit for cylinder C, meaning the coil or ignition module is not receiving the command pulse it expects. The computer monitors the control wire for voltage changes consistent with a commanded spark event and flags the code when the signal is missing, intermittent, or outside the expected range.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or misfire sensation, especially under load or acceleration
- Hesitation or stumble during acceleration
- Reduced engine power or limp mode in some vehicles
- Shaking or vibration from the engine bay
- Difficulty starting or extended cranking in severe cases

Common causes, most likely first

- 1 Open or damaged wire in the ignition control circuit for cylinder C
- 2 Corroded or loose electrical connector at the ignition coil or module
- 3 Failed ignition coil or ignition control module for that cylinder
- 4 Faulty powertrain control module driver circuit (rare)
- 5 Poor ground connection affecting the ignition system
- 6 Aftermarket alarm or remote start wiring interfering with the ignition circuit

How to diagnose and fix it

- 1 Inspect the ignition coil connector and wiring for corrosion, looseness, or damage
- 2 Check for continuity and resistance on the control circuit between the PCM and coil
- 3 Swap the ignition coil from cylinder C with a known-good coil to see if the misfire moves
- 4 Test the control signal with an oscilloscope or noid light to confirm the PCM is commanding spark
- 5 Repair any open or shorted wiring and replace damaged connectors
- 6 Replace the faulty ignition coil or ignition control module if the circuit tests good
- 7 Clear the code and verify the repair with a test drive and live data monitoring



What the code does not always mean

- A P031A does not automatically condemn the ignition coil; a chafed wire or corroded pin in the connector is just as common and far cheaper to fix.
- Some vehicles set this code from a momentary glitch caused by a low battery or poor ground, so clearing the code and seeing if it returns is a valid first step.
- Aftermarket remote starters or alarm systems spliced into ignition wiring frequently cause open-circuit codes that look like component failures.
- The PCM driver circuit can fail, but it is rare; always rule out the coil and wiring before suspecting the computer.
- A misfire from a bad spark plug or fuel injector can sometimes trigger a control circuit code as the PCM sees abnormal feedback, so do not overlook secondary ignition components.

Can I keep driving with P031A?

You can usually drive the vehicle short distances to a repair shop, but avoid heavy acceleration or towing because a persistent misfire can overheat the catalytic converter. If the engine is running very rough or flashing the check engine light, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Oscilloscope or noid light
- Basic hand tools and socket set
- Wiring diagram for the ignition circuit

Reading P031A

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.
1A	The exact fault within that area.

Often seen with

P0300 Random/Multiple Cylinder Misfire Detected · **P0303** Cylinder 3 Misfire Detected · **P031B** Ignition C Control Signal Circuit Low · **P031C** Ignition C Control Signal Circuit High · **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/p031a/>

