

GENERIC · POWERTRAIN

P031E

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P031E

Ignition D Control Signal Circuit Low

P031E indicates that the powertrain control module (PCM) has detected a low-voltage condition on the ignition control circuit for cylinder D, which is the fourth cylinder in the engine's firing order. The PCM commands a ground signal to the ignition coil or igniter for that cylinder, and the feedback circuit reports that the signal is stuck low or below the expected threshold, meaning the coil is not being triggered properly.

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, often with no other noticeable symptoms
- Engine misfire, especially under load or acceleration, felt as a stumble or hesitation
- Rough idle or shaking that may worsen when the engine is cold
- Reduced fuel economy due to incomplete combustion in the affected cylinder
- Possible flashing check engine light if the misfire is severe enough to damage the catalytic converter
- In some cases, the engine may enter limp mode or shut down the affected cylinder to protect components

Common causes, most likely first

- Faulty ignition coil or igniter for cylinder D (internal short to ground)
- Damaged or chafed wiring in the ignition control circuit, causing a short to ground
- Corroded or loose electrical connector at the ignition coil or PCM
- Failed PCM driver for the ignition control circuit (rare but possible)
- Aftermarket alarm or remote start system improperly tapped into the ignition wiring
- Engine mechanical issue (such as a bad spark plug or compression problem) that mimics an ignition circuit fault

How to diagnose and fix it

- 1 Perform a visual inspection of the ignition coil, wiring, and connectors for cylinder D, looking for chafing, corrosion, or loose pins.
- 2 Swap the ignition coil from cylinder D with a known-good coil from another cylinder and see if the code moves to that cylinder, confirming a faulty coil.
- 3 Use a digital multimeter to check the resistance of the ignition control circuit between the PCM and the coil, and check for a short to ground on the control wire.
- 4 Inspect the spark plug and spark plug boot for cylinder D; replace if worn or damaged, as a bad plug can stress the coil and circuit.
- 5 Test the PCM driver output with an oscilloscope or a noid light to verify the PCM is commanding the coil correctly; if not, the PCM may need replacement or reprogramming.
- 6 Check for technical service bulletins (TSBs) or software updates for the PCM that address ignition control circuit faults.
- 7 After repairs, clear the diagnostic trouble codes (DTCs) and perform a road test to verify the code does not return.

Ignition circuit faults that fool technicians

- A shorted ignition coil is the most common cause, but a chafed wire harness near the exhaust manifold or under the intake manifold often goes unnoticed until the loom is opened.
- The code can be set by a faulty spark plug or boot that causes the coil to draw excessive current, which the PCM interprets as a low control signal.
- Aftermarket remote starters or alarm systems that splice into ignition wires are a frequent source of intermittent low-signal faults on cylinder D.
- A low control signal does not always mean the PCM is bad; the PCM driver is robust, and misdiagnosing it as the culprit leads to unnecessary replacement.
- Related codes such as P0304 (cylinder 4 misfire) or P0354 (ignition coil D primary/secondary circuit) are often stored alongside P031E, so always check all codes before diagnosing.

Can I keep driving with P031E?

You can drive the vehicle short distances to a repair shop, but avoid heavy acceleration or sustained high speeds because a persistent misfire can overheat and damage the catalytic converter. If the check engine light is flashing, stop driving and have the vehicle towed to prevent costly damage.



Tools that help

- OBD-II scan tool with live data and misfire counter capability
- Digital multimeter (DMM) with resistance and voltage measurement
- Oscilloscope or noid light for testing ignition control signals
- Basic hand tools (socket set, screwdrivers, wire crimpers)
- Factory service information or wiring diagrams for the specific vehicle

Reading P031E

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.
1E	The exact fault within that area.

Often seen with

P0300 Random/Multiple Cylinder Misfire Detected · **P0304** Cylinder 4 Misfire Detected · **P031D** Ignition D Control Signal Circuit/Open · **P031F** Ignition D Control Signal Circuit High · **P0354** Ignition Coil D 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/p031e/>

