

GENERIC · POWERTRAIN

P2303

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2303

Ignition Coil 'B' Primary Control Circuit Low

P2303 means the engine computer has detected an abnormally low voltage on the primary control circuit for ignition coil 'B', which is the low-voltage side that the computer uses to switch the coil on and off. The computer expects to see the circuit pull up to battery voltage when the coil is off and drop when it commands a spark, but instead it sees a persistently low signal that suggests a short to ground or a failed driver.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Ignition system and misfire

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Rough idle or misfire that may be intermittent
- Engine hesitation or stumble under acceleration
- Reduced power and poor fuel economy
- Shaking or vibration felt through the steering wheel or seat
- In some cases, a no-start condition if the affected coil is critical

Common causes, most likely first

- 1 Faulty ignition coil 'B' with an internally shorted primary winding
- 2 Chafed or shorted wiring in the primary control circuit between the coil and the computer
- 3 Corroded or loose electrical connector at the coil or computer
- 4 Failed ignition coil driver inside the engine control module (ECM)
- 5 Poor engine ground connection causing voltage irregularities
- 6 Aftermarket or damaged coil that does not meet resistance specifications

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm when the code sets
- 2 Inspect the coil 'B' connector and wiring for corrosion, chafing, or loose pins
- 3 Measure primary coil resistance with a multimeter and compare to specification
- 4 Check for a short to ground on the control wire with the coil disconnected and the key on
- 5 Swap coil 'B' with a known-good coil of the same part number and see if the code moves
- 6 Test the control circuit with a noid light or oscilloscope to verify the computer driver signal
- 7 If the driver is faulty, repair or replace the ECM and reflash as needed



What a low primary circuit really means

- A low primary control circuit code often points to a short to ground in the wiring rather than a failed coil, so always check the harness before condemning the coil.
- The coil driver inside the ECM can fail from heat or age, and replacing the coil alone will not fix the code if the driver is shorted.
- A poor engine ground can cause the computer to see a false low voltage on the control circuit, so inspect ground straps and battery terminals.
- This code can set intermittently due to a loose connector that only loses contact during vibration, so wiggle-test the harness while watching live data.
- Some aftermarket coils have incorrect primary resistance that mimics a short, so always compare resistance to the factory specification.

Can I keep driving with P2303?

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

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Test light or noid light
- Oscilloscope (optional for driver signal testing)
- Basic hand tools for connector and coil access

Reading P2303

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

Often seen with

P0352 Ignition Coil B Primary/Secondary Circuit Malfunction · **P2300** Ignition Coil 'A' Primary Control Circuit Low · **P2301** Ignition Coil 'A' Primary Control Circuit High · **P2302** Ignition Coil 'A' Secondary Circuit · **P2304** Ignition Coil 'B' Primary Control Circuit High



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/p2303/>

