

GENERIC · POWERTRAIN

P2669

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2669

Actuator Supply Voltage 'B' Circuit /Open

P2669 is a generic powertrain code that indicates the engine control module (ECM) has detected an open circuit or supply voltage fault on the 'B' actuator power feed, which is a shared voltage line that powers multiple actuators such as solenoids, relays, or motors. The ECM monitors the voltage on this circuit and sets the code when the voltage falls outside the expected range, typically because the circuit is open or the supply is missing.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light (malfunction indicator lamp, MIL), often with no other noticeable symptoms.
- One or more actuators (e.g., transmission shift solenoids, variable valve timing solenoids, or turbo wastegate actuators) may become inoperative, leading to degraded performance or shift quality.
- Rough running or reduced engine power if the affected actuator is critical to engine operation.
- Transmission may enter limp mode or fail to shift properly if the actuator supply feeds transmission solenoids.
- Intermittent operation of accessories or systems powered by the 'B' actuator supply, depending on which actuators share the circuit.

Common causes, most likely first

- 1 Open circuit in the actuator supply 'B' wiring, such as a broken wire, corroded terminal, or disconnected connector.
- 2 Blown fuse or fusible link that protects the actuator supply 'B' circuit.
- 3 Faulty actuator or solenoid that has an internal open circuit, causing the supply voltage to drop when it is commanded on.
- 4 Poor ground connection for the actuators on the 'B' circuit, leading to voltage drop under load.
- 5 Damaged or shorted wiring harness (e.g., chafed wire grounding the supply line) causing the ECM to detect an open or low-voltage condition.
- 6 Faulty ECM or power supply relay that feeds the actuator supply 'B' circuit, though this is less common.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes that might indicate a specific actuator or circuit fault.
- 2 Inspect the fuse and relay for the actuator supply 'B' circuit; replace any blown fuse or faulty relay.
- 3 Perform a visual inspection of the wiring harness and connectors for the actuators on the 'B' circuit, looking for corrosion, damage, or loose connections.
- 4 Use a digital multimeter to check for battery voltage at the supply wire of each actuator on the 'B' circuit with the key on; repair any open or high-resistance wiring.
- 5 Disconnect each actuator on the 'B' circuit and measure resistance across its terminals to check for an open coil; replace any actuator that is out of specification.
- 6 Check the ground circuit for the actuators, ensuring clean and tight connections and low resistance to the battery negative.
- 7 Clear the code and test-drive the vehicle to confirm the repair; if the code returns, further diagnose the ECM and its power supply.

What the 'B' Supply Really Feeds

- The 'B' actuator supply is often shared by multiple components, so a single failed actuator or corroded connector can disable several systems and set this code without any obvious driveability symptom.
- A common misdiagnosis is to replace the ECM when the actual fault is a simple blown fuse or a chafed wire in the harness, so always check the basics first.
- Intermittent open circuits can be caused by vibration or temperature changes, so wiggle-testing the harness while monitoring voltage is a valuable diagnostic step.
- Some vehicles use a power supply module or relay to feed the 'B' circuit, and a failing relay can cause this code without any wiring fault.
- The code does not always mean the supply is completely dead; a voltage drop under load can trigger it, so loaded circuit testing is more reliable than a simple voltage check.

Can I keep driving with P2669?

You can usually drive the vehicle with this code, but if the check engine light is accompanied by reduced power, harsh shifting, or other performance issues, avoid heavy loads and seek service soon. If the vehicle enters limp mode, drive only to a safe location and arrange for repairs.

Tools that help

- OBD-II scan tool
- Digital multimeter (DMM)
- Test light
- Wiring diagram for the specific vehicle
- Basic hand tools (screwdrivers, socket set, wire crimpers)



Reading P2669

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- 69** The exact fault within that area.

Often seen with

P0641 Sensor Reference Voltage 'A' Circuit/Open · **P0651** Sensor Reference Voltage 'B' Circuit/Open · **P06A6** Sensor Reference Voltage A Circuit Range/Performance · **P2668** Fuel Mode Indicator Lamp Control Circuit · **P2670** Actuator Supply Voltage 'B' Circuit Low

See it working

Watch the animated explainer [How a Catalytic Converter Works: 3D Cutaway](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2669/>

