

GENERIC · POWERTRAIN

P027D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P027D

### Fuel Pump Module B Control Circuit High

P027D indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the control circuit for fuel pump module B, which is often the secondary or auxiliary fuel pump in a dual-pump system. The PCM commands the pump on or off via a low-side driver, and it monitors the circuit for expected voltage behavior; a high voltage reading typically means the circuit is open, shorted to voltage, or the driver inside the PCM has failed.

| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA                                      |
|------------|---------------------|----------|----------------|-------------------------------------------|
| Powertrain | Generic (all makes) | Medium   | Intermediate   | Fuel and air metering (injector circuits) |

### Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Engine may crank but fail to start if the secondary pump is needed for startup
- Rough running or stalling under high fuel demand conditions such as heavy acceleration or towing
- Reduced engine power or limp mode in some vehicles
- Intermittent fuel pump operation leading to sporadic no-start conditions
- Fuel gauge reading may be erratic if the module shares a level sensor circuit

### Common causes, most likely first

- 1 Open circuit in the control wire between the PCM and the fuel pump module, such as a broken wire or corroded connector
- 2 Short to voltage on the control circuit, often from chafed wiring contacting a power source
- 3 Failed fuel pump module B, where the internal driver or motor has an open circuit
- 4 Faulty powertrain control module (PCM) driver for the fuel pump control circuit
- 5 Poor electrical connection at the fuel pump module harness, including loose pins or water intrusion
- 6 Aftermarket accessories or alarm systems improperly tapped into the fuel pump circuit



## How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related diagnostic trouble codes (DTCs) in the fuel pump and PCM systems
- 2 Inspect the fuel pump module B harness and connector for corrosion, loose pins, or damage, and repair as needed
- 3 Measure resistance of the control circuit from the PCM connector to the fuel pump module connector to check for an open circuit
- 4 With the circuit disconnected, check for voltage on the control wire with the key on to rule out a short to voltage
- 5 Test the fuel pump module B directly by applying power and ground to confirm it operates; replace if it does not
- 6 If all wiring and the pump module test good, suspect the PCM; perform a driver test or substitute a known-good PCM for diagnosis
- 7 Clear the code and perform a road test to verify the repair, ensuring the fuel pump operates under all demand conditions

## High Voltage Does Not Always Mean a Bad Pump

- A high voltage code on a control circuit often points to an open circuit rather than a shorted component, so technicians who replace the fuel pump module first may be wasting time and money.
- The PCM monitors the control circuit by watching for a voltage drop when the pump is commanded on; an open circuit will show high voltage because no current flows, mimicking a failed driver.
- In dual-pump systems, fuel pump module B may only activate under certain conditions such as low fuel level or high engine load, so the code may not set during a simple idle test.
- Corrosion inside the fuel pump module connector is a common cause that is easily overlooked, especially on vehicles driven in wet or salty environments.
- Aftermarket remote starters or alarm systems that tap into the fuel pump wiring can introduce voltage spikes or opens that trigger this code.

## Can I keep driving with P027D?

It is generally safe to drive with this code if the vehicle runs normally, but avoid heavy acceleration or towing because the secondary pump may not activate when needed. If the engine stalls or fails to start, have the vehicle towed to a repair shop to prevent a dangerous breakdown.

## Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter (DMM) with voltage and resistance measurement
- Wiring diagram for the specific vehicle
- Fuel pump module connector pin removal tools
- Test light or power probe for circuit testing



## Reading P027D

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- 7D** The exact fault within that area.

## Often seen with

**P0230** Fuel Pump Primary Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High · **P027C** Fuel Pump Module B Control Circuit Low · **P027E** Cold Start Fuel Injection Quantity A Lower Than Expected

## See it working

Watch the animated explainer [How an EGR Valve Works: Exhaust Gas Recirculation](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p027d/>

