

GENERIC · POWERTRAIN

P2C02

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C02

Fuel Pressure Regulator D Control Circuit/Open

P2C02 indicates that the powertrain control module has detected an open circuit or excessive resistance in the electrical path for the fuel pressure regulator D control circuit. The computer commands a specific fuel pressure, but the feedback signal from the regulator circuit does not match the expected value, so it flags the circuit as open.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or stumbling during acceleration due to incorrect fuel pressure
- Reduced engine power or limp mode when the PCM limits operation to protect the fuel system
- Hard starting or extended cranking, especially when the engine is cold
- Poor fuel economy or rich/lean exhaust smell from unburned fuel
- Intermittent misfire codes or hesitation under load

Common causes, most likely first

- 1 Broken, chafed, or corroded wire in the fuel pressure regulator control circuit
- 2 Loose or damaged electrical connector at the fuel pressure regulator or PCM
- 3 Failed fuel pressure regulator solenoid or actuator
- 4 Open winding inside the fuel pressure regulator control solenoid
- 5 Faulty powertrain control module driver circuit (rare but possible)
- 6 High resistance in a ground connection shared with the regulator circuit



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P2C02 is the primary fault and not a secondary code
- 2 Visually inspect the fuel pressure regulator connector and wiring for damage, corrosion, or loose pins
- 3 Measure resistance of the fuel pressure regulator control solenoid and compare to manufacturer specification
- 4 Check for battery voltage and ground at the regulator connector with the key on and engine off
- 5 Perform a wiggle test on the harness while monitoring the circuit with a multimeter or scan tool to find intermittent opens
- 6 If the circuit tests good, command the regulator with a scan tool and observe fuel pressure response to verify actuator operation
- 7 Repair or replace the faulty wiring, connector, or regulator solenoid as indicated by test results, then clear codes and verify

What the open circuit really means

- An open circuit code does not always mean the regulator itself has failed; a simple unplugged connector or a broken wire in a flexible section of the harness is a common cause that technicians overlook.
- The fuel pressure regulator D circuit is often one of several circuits sharing a common ground or power feed, so a fault in a neighbouring circuit can set this code as a ghost and mislead diagnosis.
- Some vehicles use a fuel pressure control module that interprets the regulator command; a failure in that module can mimic a wiring open and set P2C02 even when the regulator and harness test perfectly.
- After any repair, the PCM may need to relearn the fuel pressure regulator adaptive values, and clearing codes without a relearn can cause the code to return immediately.

Can I keep driving with P2C02?

You can usually drive the vehicle to a repair shop, but avoid heavy acceleration and towing because incorrect fuel pressure can cause misfires and damage the catalytic converter. If the engine runs rough or enters limp mode, stop driving and have it towed.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter with resistance and voltage measurement
- Wiring diagram for the fuel pressure regulator circuit
- Fuel pressure gauge
- Back probe pins and jumper wires



Reading P2C02

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 02** The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0088** Fuel Rail/System Pressure - Too High · **P0190** Fuel Rail Pressure Sensor Circuit Malfunction · **P2C01** Fuel Pressure Regulator D Performance · **P2C03** Fuel Pressure Regulator D Control Circuit Low

See it working

Watch the animated explainer [How a MAF Sensor Works: Hot-Wire Airflow Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2c02/>

