

GENERIC · POWERTRAIN

P0233

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0233

Fuel Pump Secondary Circuit Intermittent

P0233 means the engine computer has detected an intermittent electrical fault in the secondary side of the fuel pump circuit, which is the control or feedback path rather than the main power feed to the pump. The computer saw the circuit voltage or current behave erratically for brief moments, enough to log the fault without necessarily disabling the pump.

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

Symptoms you may notice

- Often no symptoms besides the warning light, especially if the intermittent glitch is brief and the pump keeps running.
- An engine that stumbles or momentarily loses power under load when the circuit cuts out.
- Intermittent no-start or a crank-no-start condition that comes and goes.
- A fuel pump that runs erratically or sounds like it is cycling on and off.
- Occasional hesitation or surging while driving as fuel delivery is interrupted.
- A stored code that returns after clearing, sometimes with no drivability complaint at all.

Common causes, most likely first

- A loose, corroded or partially backed-out connector terminal in the fuel pump secondary circuit.
- Chafed or broken wiring in the harness between the fuel pump control module and the pump, often at a flex point or near a body seam.
- A failing fuel pump control module or relay that intermittently drops the secondary signal.
- An intermittent open or high resistance inside the fuel pump assembly itself.
- Poor ground connection for the fuel pump or control module causing erratic circuit behavior.
- Water or contaminant intrusion into a connector causing intermittent contact.
- A failing fuel pump driver module on vehicles that use a pulse-width-modulated pump control.



How to diagnose and fix it

- 1 Clear the code and road-test the vehicle while watching live fuel pump circuit data to confirm the fault is still present.
- 2 Inspect the fuel pump connector and control module connectors for corrosion, loose terminals or pushed-out pins.
- 3 Perform a wiggle test on the harness while monitoring fuel pump voltage or current to locate the intermittent point.
- 4 Check the fuel pump ground circuit for resistance and clean or tighten any suspect ground points.
- 5 Measure the secondary circuit voltage and current with a scope or meter to compare against the manufacturer's specification.
- 6 If the circuit tests good, substitute a known-good fuel pump control module or relay to rule out an intermittent internal fault.
- 7 Replace the faulty harness section, connector or fuel pump assembly only after the intermittent fault is isolated to that component.

Why an intermittent pump circuit fools diagnosis

- A P0233 can set from a fault that lasts only milliseconds, so a static meter test often shows a perfectly healthy circuit and sends people chasing the wrong part.
- The secondary circuit is not the main power feed to the pump, so a technician who only checks pump power and ground can miss a control-side or feedback-side fault entirely.
- Heat and vibration are common triggers, so the fault may only appear after the engine bay warms up or after driving over rough pavement.
- A weak fuel pump ground can mimic a failing pump control module and cause the code to return even after the module is replaced.
- Some vehicles set P0233 when the fuel pump driver module overheats and momentarily shuts down, which leaves no permanent wiring defect to find.

Can I keep driving with P0233?

You can usually drive short distances to a repair shop, but avoid heavy acceleration, towing or long trips because an intermittent pump circuit can suddenly leave you with a no-start or a stall. If the engine stumbles or loses power, pull over safely and have the vehicle towed rather than risk a stall in traffic.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with min/max recording
- Oscilloscope for capturing intermittent voltage or current glitches
- Wiring diagram and connector pinout for the fuel pump circuit
- Back-probe kit and terminal release tools
- Fuel pressure gauge for confirming delivery during the fault

Reading P0233

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).
33	The exact fault within that area.

Often seen with

P0087 Fuel Rail/System Pressure - Too Low · **P0089** Fuel Pressure Regulator 1 Performance · **P0230** Fuel Pump Primary Circuit Malfunction · **P0231** Fuel Pump Secondary Circuit Low · **P0232** Fuel Pump Secondary Circuit High

See it working

Watch the animated explainer [How a Wideband Air-Fuel Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0233/>

