

GENERIC · POWERTRAIN

P2602

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2602

Coolant Pump Control Circuit Low

P2602 indicates the engine control module (ECM) has detected an abnormally low voltage on the control circuit for the engine coolant pump, which is often an electric auxiliary pump used for turbocharger cooling or cabin heat. The ECM commands the pump on and monitors the circuit, but the feedback voltage stays below the expected threshold, suggesting a short to ground, an open circuit, or a faulty pump.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Computer and output circuits

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Engine may enter limp mode or reduced power mode on some vehicles
- Overheating or elevated coolant temperatures, especially after the engine is shut off
- The coolant pump may not run, leading to poor cabin heat or turbocharger cooling issues
- A whining or grinding noise from the pump area if the pump is failing mechanically

Common causes, most likely first

- 1 Faulty coolant pump (electrical failure or seized motor)
- 2 Damaged or corroded wiring harness or connector at the pump
- 3 Short to ground in the control circuit wiring
- 4 Open circuit in the power or ground circuit to the pump
- 5 Failed coolant pump relay or fuse (if applicable)
- 6 Faulty engine control module (ECM) driver circuit (rare)

How to diagnose and fix it

- 1 Inspect the coolant pump connector and wiring for corrosion, damage, or loose pins
- 2 Check the coolant pump fuse and relay (if equipped) and replace if blown or faulty
- 3 Measure resistance of the coolant pump motor and compare to specification
- 4 Test the control circuit for a short to ground or open circuit using a multimeter
- 5 Command the coolant pump on with a scan tool and verify operation and current draw
- 6 Replace the coolant pump if it fails electrical or mechanical testing
- 7 Clear the diagnostic trouble codes and verify the repair with a test drive



Common Misdiagnosis Traps for P2602

- A low voltage code on the control circuit does not always mean the pump is bad; a chafed wire shorting to ground can set the same code and replacing the pump will not fix it.
- Some vehicles use the coolant pump for turbocharger cooling after shutdown, so a failure may not cause overheating while driving but can lead to turbo damage over time.
- The ECM may set P2602 if the pump is disconnected during service; always check for recent repairs before condemning parts.
- On certain models, the coolant pump is controlled by a separate module, and a communication fault with that module can mimic a circuit low code.
- A weak battery or charging system issue can cause low voltage on the control circuit and set P2602 intermittently.

Can I keep driving with P2602?

It is generally safe to drive short distances to a repair shop, but avoid heavy loads, extended idling, or aggressive driving that increases engine heat. If the temperature gauge rises above normal or you notice coolant loss, stop driving and have the vehicle towed.

Tools that help

- OBD-II scan tool with bidirectional control
- Digital multimeter
- Wire probe set
- Socket and ratchet set
- Vehicle service information (wiring diagrams)

Reading P2602

- 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.
- 02** The exact fault within that area.

Often seen with

P2183 Engine Coolant Temperature Sensor 2 Circuit Range/Performance · **P2600** Coolant Pump Control Circuit/Open · **P2601** Coolant Pump Control Circuit Range/Performance · **P2603** Coolant Pump Control Circuit High · **P2604** Intake Air Heater 'A' Circuit Range/Performance



See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2602/>

