

GENERIC · POWERTRAIN

P2D05

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D05

Motor Electronics Coolant Pump B Stuck/Stalled

P2D05 indicates that the engine control module has detected a stuck or stalled condition in the electric coolant pump circuit designated as 'B', which is typically the motor electronics cooling pump responsible for circulating coolant through the inverter or power electronics. The computer monitors pump operation via feedback signals and sets this code when the pump fails to respond to commands or reports an implausible speed or current draw.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	High	Professional	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the pump is only intermittently stalling
- Reduced power or limp mode due to overheating protection for the electronics
- Overheating warning message or temperature gauge fluctuation
- Cooling fan running excessively or continuously after shutdown
- Audible whining or lack of pump noise when the ignition is turned on

Common causes, most likely first

- 1 Failed electric coolant pump motor or impeller seized due to debris or corrosion
- 2 Open or shorted wiring in the pump power or ground circuit
- 3 Blown fuse or faulty relay supplying power to the pump
- 4 Corroded or loose electrical connector at the pump or control module
- 5 Faulty coolant temperature sensor providing incorrect feedback to the control module
- 6 Software glitch or internal fault in the control module driving the pump



How to diagnose and fix it

- 1 Verify battery voltage and check all fuses related to the cooling pump circuit
- 2 Inspect the pump connector and wiring for corrosion, damage, or loose pins
- 3 Command the pump on with a scan tool and listen for operation; check for power and ground at the pump
- 4 Perform a voltage drop test on the pump power and ground circuits under load
- 5 Compare actual pump speed or current feedback with commanded values using live data
- 6 If electrical checks pass, remove the pump and inspect for mechanical binding or debris in the impeller
- 7 Replace the coolant pump if it fails to operate or is mechanically stuck, then clear codes and verify repair

What the coolant pump B code hides

- A pump that runs quietly but draws excessive current can set this code without any visible overheating, so always check current draw against specifications.
- Debris from a deteriorating coolant hose or failing water pump can lodge in the impeller and cause a stall condition that mimics an electrical failure.
- The control module may set this code if the pump feedback signal is missing even when the pump is physically functional, so do not overlook wiring integrity.
- On some vehicles, low coolant level or air pockets can cause the pump to cavitate and stall, triggering the code without a defective pump.
- After replacing the pump, some systems require a bleed procedure or a scan tool activation to purge air and prevent recurrence of the code.

Can I keep driving with P2D05?

Do not continue driving with this code active, as a stalled coolant pump can quickly lead to overheating of the power electronics and cause expensive damage. If the vehicle must be moved, keep the drive short and monitor temperature closely, but it is safer to have it towed to a repair facility.

Tools that help

- OBD-II scan tool with bidirectional control and live data
- Digital multimeter with voltage drop capability
- Fuse puller and test light
- Socket set and trim removal tools
- Coolant vacuum fill tool or bleed kit



Reading P2D05

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

Often seen with

P0A01 Motor Electronics Coolant Temperature Sensor Circuit Range/P · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P2183** Engine Coolant Temperature Sensor 2 Circuit Range/Performance · **P2D04** Motor Electronics Coolant Pump A Control Module Overtemperature · **P2D06** Motor Electronics Coolant Pump B Overspeed/Air in System

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/p2d05/>

