

GENERIC · POWERTRAIN

P0C74

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0C74

Motor Electronics Coolant Pump B Control Performance

P0C74 means the engine control module (ECM) has detected that the electric coolant pump for the motor electronics cooling circuit is not performing as commanded, typically because the pump's feedback signal does not match the expected speed or current draw. The ECM monitors the pump's control circuit and internal feedback to verify the pump is running when requested and delivering the correct flow for the conditions.

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
- Reduced engine power or limp mode if the ECM limits output to protect the electronics
- Overheating warning or elevated temperature gauge reading in some vehicles
- Cooling fan running excessively or at high speed more often than normal
- A whining or humming noise from the pump area that changes with engine speed or load
- Intermittent warning light that comes and goes with temperature or driving conditions

Common causes, most likely first

- 1 Faulty electric coolant pump (worn brushes, seized bearing, or internal electronics failure)
- 2 Damaged or corroded wiring or connector at the pump or ECM
- 3 Blown fuse or faulty relay supplying power to the pump circuit
- 4 Low coolant level or air trapped in the cooling system causing the pump to run dry or cavitate
- 5 Restricted coolant flow from a clogged passage, degraded hose, or stuck thermostat
- 6 Failing pump control module or integrated control unit within the pump assembly
- 7 Software or calibration issue in the ECM requiring reprogramming



How to diagnose and fix it

- 1 Check coolant level and condition; top off or bleed the system if low or aerated
- 2 Inspect the pump connector and wiring for corrosion, damage, or loose pins; repair as needed
- 3 Test the pump fuse and relay; replace any blown fuse or faulty relay
- 4 Command the pump on with a scan tool and listen for operation; measure voltage and current at the pump
- 5 Perform a bidirectional pump test and compare actual pump speed or current to commanded values
- 6 If the pump fails to respond or draws abnormal current, replace the electric coolant pump
- 7 After repair, clear codes and verify the pump operates correctly during a road test with live data monitoring

Pump performance codes often misdiagnosed

- A low coolant level or trapped air is a common cause of this code because the pump cavitates and cannot meet the commanded speed, so always bleed the system before condemning the pump.
- The pump may run quietly and appear to work during a quick visual check, but the ECM sets the code based on feedback signal accuracy, so live data comparison is essential.
- Corroded terminals at the pump connector can mimic a failed pump, and replacing the pump without repairing the connector will lead to a repeat failure.
- Some vehicles use the same pump for both motor electronics and cabin heating, so a fault in the heating circuit can trigger this code even when engine cooling seems fine.
- After replacing the pump, some ECMs require a relearn or adaptation procedure to recognize the new pump's feedback signal and prevent a false repeat code.

Can I keep driving with P0C74?

It is generally safe to drive short distances to a repair shop, but avoid heavy loads, sustained high speeds, or hot ambient conditions that increase cooling demand. If the engine temperature gauge rises above normal or a red overheating warning appears, stop safely and shut off the engine to prevent damage.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter for voltage and current measurements
- Coolant refractometer or hydrometer for concentration testing
- Basic hand tools (sockets, wrenches, screwdrivers) for connector and pump access
- Vacuum refill tool or coolant bleeding kit to remove air from the system



Reading P0C74

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

Often seen with

P0217 Engine Over-Temperature Condition · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0C75** Hybrid/EV Battery System Discharge Time Too Short · **P0C76** Hybrid/EV Battery System Discharge Time Too Long · **P2183** Engine Coolant Temperature Sensor 2 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/p0c74/>

