

GENERIC · POWERTRAIN

P0E74

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E74

Coolant Bypass Valve A Control Circuit Low

P0E74 indicates that the powertrain control module (PCM) has detected a low-voltage condition on the control circuit for the coolant bypass valve 'A'. This valve routes coolant away from the heater core or radiator during warm-up to speed engine heating, and a low circuit typically means a short to ground, an open circuit, or a faulty valve coil.

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
- Prolonged engine warm-up times or the temperature gauge rising more slowly than usual
- Poor heater performance, especially in cold weather, due to reduced coolant flow through the heater core
- Possible slight decrease in fuel economy as the engine runs richer during extended warm-up
- In some vehicles, a stored code may be the only sign, with no drivability complaints at all

Common causes, most likely first

- 1 Damaged or disconnected electrical connector at the coolant bypass valve
- 2 Open or shorted wire in the control circuit between the PCM and the valve
- 3 Failed coolant bypass valve solenoid or actuator coil
- 4 Corroded or pushed-back pins in the valve connector or PCM connector
- 5 Blown fuse or poor ground connection serving the valve circuit
- 6 Internal PCM driver fault, though this is less common

How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related pending or history codes
- 2 Inspect the coolant bypass valve connector and wiring for obvious damage, corrosion, or looseness
- 3 Measure resistance across the valve solenoid terminals and compare to the manufacturer's specification
- 4 Check for battery voltage at the valve connector with the key on, and inspect the ground circuit for continuity
- 5 Perform a wiggle test on the harness while monitoring the circuit with a multimeter or scan tool to reveal intermittent faults
- 6 If the circuit tests good, command the valve on and off with a scan tool to confirm it responds and to rule out a stuck valve
- 7 Replace the coolant bypass valve if electrically faulty, then clear codes and verify the repair with a test drive

What a low circuit code really tells you

- A low circuit code does not automatically mean the valve is bad; a shorted wire or a poor ground can produce the same voltage drop the PCM sees.
- Many technicians replace the valve only to find the connector pins are corroded or the harness is chafed, so always inspect the wiring first.
- On some vehicles, the coolant bypass valve shares a ground with other components, so a fault elsewhere can set this code as a side effect.
- The valve may be mechanically stuck open or closed without setting an electrical code, so a functional test with a scan tool is still necessary.
- In cold climates, a failed bypass valve can cause the engine to never reach operating temperature, leading to carbon buildup and poor heater output.

Can I keep driving with P0E74?

You can usually continue driving with this code, but avoid long periods of idling or heavy loads until it is repaired, as prolonged warm-up can affect fuel economy and emissions. If the engine overheats or the heater stops working entirely, stop driving and have the system inspected promptly.

Tools that help

- OBD-II scan tool with live data and bidirectional control
- Digital multimeter
- Wire probe set or back-probe kit
- Service information for wiring diagrams and resistance specifications
- Basic hand tools for connector and component access

Reading P0E74

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

Often seen with

P0128 Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0597** Thermostat Heater Control Circuit/Open · **P0E75** Coolant Bypass Valve A Control Circuit High · **P0E76** Coolant Bypass Valve A Performance · **P0E77** Coolant Bypass Valve B Control Circuit/Open



See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0e74/>

