

GENERIC · POWERTRAIN

P0E1D

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E1D

Hybrid/EV Battery Pack Coolant Pump B Control Performance

P0E1D indicates that the hybrid or electric vehicle battery pack coolant pump 'B' is not performing as commanded by the control module, meaning the pump's actual speed or current draw does not match the expected value. The computer monitors the pump circuit and detects a performance fault when the feedback signal falls outside the acceptable range for the given operating 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 or hybrid system warning light, often with no other noticeable symptoms.
- Reduced hybrid system power or a forced limp mode to protect the battery pack from overheating.
- A noticeable whirring or humming noise from the coolant pump that may be louder than normal or absent entirely.
- Overheating of the high-voltage battery pack, which may trigger additional warnings or shutdown of electric drive.
- Inconsistent cabin heating or cooling if the battery coolant loop shares a circuit with the HVAC system.
- In rare cases, the vehicle may fail to start or enter ready mode due to safety interlocks.

Common causes, most likely first

- 1 A failing coolant pump 'B' motor or impeller, often due to wear, debris, or electrical winding degradation.
- 2 Low coolant level or air trapped in the battery coolant loop, causing the pump to cavitate or run dry.
- 3 A blocked or restricted coolant passage, radiator, or heat exchanger that increases pump load beyond specification.
- 4 Damaged or corroded wiring and connectors between the pump and the control module, leading to intermittent signals.
- 5 A faulty pump control module or relay that fails to supply the correct voltage or ground.
- 6 Software calibration issues in the hybrid control module that misjudge pump performance under certain conditions.
- 7 A failing coolant temperature sensor that provides inaccurate feedback, causing the control module to command incorrect pump speeds.



How to diagnose and fix it

- 1 Check the coolant level in the hybrid battery loop and top up with the specified coolant if low; inspect for leaks and bleed air from the system.
- 2 Use a scan tool to command the coolant pump on and off while monitoring live data for pump speed, current draw, and coolant temperature to verify the fault.
- 3 Visually inspect the pump connector and wiring harness for corrosion, chafing, or loose pins, and perform a voltage drop test on the power and ground circuits.
- 4 Test the pump motor directly with a known-good power source or a bidirectional scan tool to confirm whether the pump itself is seized or weak.
- 5 Check for technical service bulletins (TSBs) or software updates for the hybrid control module that address pump performance monitoring.
- 6 If the pump is faulty, replace it and refill/bleed the cooling system according to the manufacturer's procedure, then clear the code and verify the repair.
- 7 After repair, perform a road test with the scan tool connected to ensure the pump maintains commanded speed and the code does not return.

Before you replace the coolant pump

- A low coolant level or trapped air is a common cause of this code that is often overlooked because the pump may still run but cavitate, triggering a performance fault.
- The code can be set by a restricted coolant passage or a failing temperature sensor rather than the pump itself, so always verify live data before condemning the pump.
- Intermittent wiring faults at the pump connector are frequently misdiagnosed as a failed pump, especially on vehicles with exposure to road salt or debris.
- Some vehicles require a coolant bleed procedure using a scan tool to open the thermostat and run the pump, and skipping this step can cause the code to return immediately.
- The pump may be controlled by a pulse-width modulated (PWM) signal, and a failing driver in the control module can mimic a pump failure, so module testing is essential.

Can I keep driving with P0E1D?

It is not recommended to continue driving with this code because the battery pack may overheat, leading to reduced power or a shutdown that could strand you. If you must drive, avoid heavy acceleration and long trips, and have the vehicle inspected as soon as possible.



Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter for circuit testing
- Coolant refractometer or hydrometer to check concentration
- Vacuum refill tool or bleed kit for the cooling system
- Basic hand tools for connector and pump access

Reading P0E1D

P	Powertrain: engine, transmission and emissions.
0	Generic (SAE) code: it means the same thing on every OBD-II vehicle.
E	Hybrid propulsion.
1D	The exact fault within that area.

Often seen with

P0A0D High Voltage System Interlock Circuit A High · **P0A93** Inverter A Cooling System Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0E1C** Hybrid/EV Battery Pack Coolant Pump B Control Circuit High · **P0E1E** Hybrid/EV Battery Pack Coolant Pump B Control Circuit Driver

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/p0e1d/>

