

GENERIC · POWERTRAIN

# P2CF6

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P2CF6

### Hybrid/EV Battery Pack Coolant Pump B Overspeed /Air in System

P2CF6 indicates that the hybrid or electric vehicle battery pack coolant pump B has been commanded to run at a speed that the control module considers excessive, or that air has been detected in the coolant system, causing the pump to overspeed. The computer monitors pump speed and coolant flow, and when the actual speed exceeds the expected value for the given conditions, it sets this code.

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

### Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Reduced electric driving range or performance due to battery thermal management entering a limp mode
- Audible whining or grinding noise from the coolant pump area
- Overheating of the high-voltage battery pack, which may trigger additional codes or power reduction
- Often no symptoms besides the warning light, especially if the overspeed is intermittent

### Common causes, most likely first

- 1 Air trapped in the coolant system, causing the pump to run dry and overspeed
- 2 Low coolant level due to a leak or improper filling procedure
- 3 Faulty coolant pump B, such as internal wear or a failing bearing
- 4 Blocked or restricted coolant passage in the battery pack or hoses
- 5 Damaged wiring or connector at the coolant pump, causing erratic speed signals
- 6 Failed coolant pump control module or relay
- 7 Incorrect coolant mixture causing cavitation and air bubbles

### How to diagnose and fix it

- 1 Check coolant level and inspect for leaks; top up with the specified coolant if low
- 2 Perform a coolant bleed procedure using a vacuum fill tool to remove trapped air
- 3 Scan live data for coolant pump speed and compare commanded versus actual speed
- 4 Inspect the coolant pump wiring and connectors for corrosion or damage
- 5 Test the coolant pump for mechanical binding or abnormal noise; replace if faulty
- 6 Check for restricted coolant hoses or a clogged battery pack coolant channel
- 7 Verify the coolant pump control module operation and replace if necessary



## Air in the system mimics a failed pump

- A common mistake is replacing the coolant pump when the real problem is air trapped in the system after a coolant service or repair.
- The code can set intermittently due to a loose pump connector that only loses contact during vibration or temperature changes.
- Some vehicles require a specific bleed procedure using a scan tool to activate the pump and purge air; skipping this step leads to repeat codes.
- A restricted coolant passage in the battery pack can cause the pump to overspeed as it tries to maintain flow, mimicking a pump fault.
- Always check for related codes such as P2CF5 or P0A93 that may indicate a pump performance issue rather than overspeed.

## Can I keep driving with P2CF6?

It is not advisable to continue driving with this code because battery overheating can lead to reduced power and potential damage to the high-voltage battery. If the warning light is on, limit driving to a short distance to a repair facility and avoid aggressive acceleration or high-speed driving.

## Tools that help

- OBD-II scan tool with live data capability
- Vacuum coolant fill tool
- Digital multimeter
- Coolant pressure tester
- Basic hand tools

## Reading P2CF6

|           |                                                                      |
|-----------|----------------------------------------------------------------------|
| <b>P</b>  | Powertrain: engine, transmission and emissions.                      |
| <b>2</b>  | Generic (SAE) code: it means the same thing on every OBD-II vehicle. |
| <b>C</b>  | Hybrid propulsion.                                                   |
| <b>F6</b> | The exact fault within that area.                                    |

## Often seen with

**P0A93** Inverter A Cooling System Performance · **P0A94** DC/DC Converter A Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P0C74** Motor Electronics Coolant Pump B Control Performance · **P2CF5** Hybrid/EV Battery Pack Coolant Pump B Stuck/Stalled



## 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/p2cf6/>

