

GENERIC · POWERTRAIN

P2C66

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C66

Hybrid/EV Electronics Coolant Pump A Underspeed

P2C66 indicates that the hybrid or electric vehicle electronics coolant pump A is running slower than the speed commanded by the control module, which can lead to overheating of power electronics. The computer compares the pump's actual speed, typically via a feedback signal, against the expected speed and sets this code when the actual speed falls below the threshold for a calibrated time.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other symptoms
- Reduced power output or limp mode as the vehicle protects the electronics from overheating
- Overheating warning message or temperature gauge fluctuation
- Audible whine or lack of pump noise when the vehicle is in ready mode
- Intermittent cooling fan operation at high speed due to elevated coolant temperatures

Common causes, most likely first

- 1 Low coolant level or air trapped in the electronics cooling loop
- 2 Faulty coolant pump A, such as worn brushes, seized bearing, or internal electrical failure
- 3 Damaged or corroded wiring or connector at the pump or control module
- 4 Blown fuse or faulty relay supplying power to the pump
- 5 Restricted coolant passage or clogged radiator in the electronics cooling circuit
- 6 Failed pump control module or driver circuit inside the hybrid control unit
- 7 Incorrect pump installed or wrong part number causing speed mismatch

How to diagnose and fix it

- 1 Check coolant level and inspect for leaks; top up and bleed the system if low
- 2 Perform a visual inspection of the pump connector, wiring, and fuse; repair any damage
- 3 Use a scan tool to command the pump on and observe actual speed versus commanded speed
- 4 Measure voltage and ground at the pump connector under load to rule out wiring issues
- 5 If the pump does not respond or runs slowly, remove and bench-test or replace the pump
- 6 Check for restricted coolant flow by measuring temperature drop across the radiator or using a flow meter
- 7 After repair, clear codes and verify the pump reaches commanded speed during a road test



Don't overlook the coolant loop itself

- A significant number of these codes are set by low coolant or air pockets after a coolant service, not by a failed pump.
- The pump may run at a lower speed during cold starts as part of a strategy, so a code during warm-up can be a false positive if the threshold is not met.
- Aftermarket pumps with incorrect flow characteristics can trigger this code even though they run, so always verify part compatibility.
- The electronics coolant pump is separate from the engine cooling pump on many hybrids, so a normal engine temperature does not rule out a problem.
- Intermittent wiring faults at the pump connector often cause this code only when the vehicle is hot or vibrating, making wiggle tests essential.

Can I keep driving with P2C66?

It is not safe to continue driving with this code because the electronics coolant pump may fail completely and cause overheating of the hybrid power electronics, leading to a breakdown or expensive damage. Avoid sustained high-speed driving or heavy loads and have the vehicle inspected promptly.

Tools that help

- OBD-II scan tool with hybrid/EV capability
- Digital multimeter
- Coolant refractometer or hydrometer
- Hose clamp pliers
- Vacuum coolant refill tool

Reading P2C66

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A93** Inverter A Cooling System Performance · **P0C73** Hybrid Battery Pack Cooling Pump Performance · **P2C65** O2 Sensor Out of Range During Deceleration Bank 1 Sensor 3 · **P2C67** Hybrid/EV Electronics Coolant Pump A Overspeed



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/p2c66/>

