

GENERIC · POWERTRAIN

P0A97

OBD-II TROUBLE CODE

P0A97

Hybrid/EV Battery Pack Cooling Fan 2 Performance/Stuck Off

P0A97 indicates that the hybrid or electric vehicle battery pack cooling fan number two is not performing as commanded, either running too slowly, not at all, or failing to meet the expected speed or current draw. The battery energy control module monitors the fan circuit and compares actual fan operation against its commanded output, setting this code when the performance falls outside the expected range for a calibrated period.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Professional

AREA

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 message to pull over safely, especially during aggressive driving or hot weather
- Battery pack temperature warning indicator on the dashboard
- Audible cooling fan noise that is absent, intermittent, or noticeably weaker than usual
- Reduced electric-only range or increased engine run time as the system limits battery usage
- In rare cases, the vehicle may enter a fail-safe mode that restricts speed or disables hybrid operation

Common causes, most likely first

- 1 Failed battery pack cooling fan number two motor, often due to worn brushes or seized bearings
- 2 Damaged or corroded wiring or connector at the fan, including chafed harnesses or water intrusion
- 3 Blown fuse or faulty relay in the fan power circuit
- 4 Open or shorted fan control circuit between the battery energy control module and the fan
- 5 Internal fault in the battery energy control module driver circuit for fan number two
- 6 Restricted or blocked cooling duct or fan blade obstruction preventing proper airflow
- 7 Software calibration issue in the battery energy control module requiring an update



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in the battery energy control module and hybrid system
- 2 Inspect the fan connector, wiring, and fuse for obvious damage, corrosion, or loose pins
- 3 Command the fan on with a bidirectional scan tool and observe whether it runs and at what speed
- 4 Measure voltage and ground at the fan connector while commanding the fan on to confirm power and control signals
- 5 Check the fan motor resistance and compare to specification, and inspect for mechanical binding or debris
- 6 If the fan motor is faulty, replace the cooling fan assembly and clear the code
- 7 If the circuit and fan are good, diagnose the battery energy control module control circuit and reprogram or replace the module as needed

What the battery cooling fan code hides

- A fan that spins freely by hand can still fail this code because the motor's internal Hall effect sensor or feedback circuit is faulty, so visual inspection alone is not enough.
- The battery energy control module often sets P0A97 only after a calibrated number of failed performance checks, so a fan that works intermittently may pass a quick test but still trigger the code on a long drive.
- On many hybrids, fan number two is a separate unit from fan number one, and a failure of fan one can cause the system to command fan two differently, leading to a misdiagnosis if both are not checked.
- Debris such as leaves or rodent nests in the cooling duct can cause the fan to draw excessive current and set a performance code without the motor being defective.
- A weak 12-volt auxiliary battery can cause the battery energy control module to command the cooling fan erratically, setting this code even though the fan itself is healthy.

Can I keep driving with P0A97?

It is generally safe to drive a short distance to a repair shop, but avoid heavy acceleration, sustained high speeds, and hot ambient temperatures because the battery pack may overheat and the vehicle can enter a reduced-power mode. If the hybrid system warning light is on or the battery temperature gauge is high, stop driving and have the vehicle towed.

Tools that help

- Bidirectional scan tool capable of commanding the cooling fan
- Digital multimeter with back-probing pins
- Factory service information for circuit diagrams and fan specifications
- Socket set and trim removal tools for accessing the fan assembly
- Infrared thermometer to verify battery pack temperature



Reading P0A97

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

Often seen with

P0A93 Inverter A Cooling System Performance · **P0A94** DC/DC Converter A Performance · **P0A95** High Voltage Fuse A · **P0A96** Hybrid/EV Battery Pack Cooling Fan 2 Control Circuit/Open · **P0A98** Hybrid/EV Battery Pack Cooling Fan 2 Stuck On

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0a97/>

