



P0AD0

Hybrid/EV Battery Pack Cooling Fan 3 Performance/Stuck Off

P0AD0 indicates that the hybrid or electric vehicle battery pack cooling fan number 3 is not performing as commanded, either running too slowly, not at all, or failing to reach the expected speed within a set time. The battery energy control module monitors fan speed and circuit feedback, and it sets this code when the fan's actual response does not match the requested output.

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 a hybrid system warning message on the dash
- Often no symptoms besides the warning light, especially if the battery pack remains within a safe temperature range
- Reduced hybrid system power or a forced limp mode if the battery pack begins to overheat
- Audible cooling fan noise that is absent, intermittent, or unusually loud from the battery pack area
- A noticeable drop in electric-only range or increased engine run time as the system protects the battery
- Overheating warning or a shutdown of the high-voltage battery during aggressive driving or fast charging

Common causes, most likely first

- 1 Failed battery pack cooling fan number 3 motor, such as worn brushes or seized bearings
- 2 Damaged or corroded wiring and connector pins between the fan and the battery energy control module
- 3 Blown fuse or faulty relay that supplies power to the fan circuit
- 4 Open or shorted fan control circuit, including a broken wire or chafed harness
- 5 Faulty battery energy control module driver circuit that cannot command the fan
- 6 Restricted airflow to the fan caused by debris, a blocked duct, or a stuck vent flap
- 7 Software calibration issue in the battery energy control module that misinterprets fan feedback



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to confirm the fan command and feedback values
- 2 Inspect the fan connector, wiring harness, and fuse for obvious damage, corrosion, or loose pins
- 3 Command the fan on with a scan tool and observe whether it runs and whether the feedback signal changes
- 4 Measure voltage and ground at the fan connector while commanding the fan on to verify power and control signals
- 5 Check for mechanical binding or debris in the fan blades and ducting, and clean or replace as needed
- 6 Perform a resistance and continuity test on the fan motor and control circuit, comparing to manufacturer specifications
- 7 If the circuit and fan test good, follow the diagnostic flow for the battery energy control module, including software updates or module replacement

Fan feedback faults that mislead

- A fan that spins freely by hand can still fail the performance test because the control module expects a specific speed ramp, so a lazy motor may set this code without ever seizing.
- Corroded connector pins at the fan are a frequent cause on vehicles that see road salt or humidity, and the corrosion often hides behind the connector seal where a visual inspection misses it.
- The battery energy control module may set P0AD0 when the fan runs but the feedback signal is erratic due to a bad ground, not because the fan itself is defective.
- A restricted cabin air filter or debris in the battery cooling duct can cause the fan to overwork and trigger a performance code without any electrical fault.
- Some vehicles use a pulse-width-modulated control signal, and a failed driver in the control module can command the fan on but never receive a valid feedback pulse, mimicking a stuck-off fan.

Can I keep driving with P0AD0?

You can usually drive the vehicle short distances at moderate speeds, but avoid sustained high-speed driving, rapid acceleration, and DC fast charging until the fault is repaired. Continued driving with a failed cooling fan risks overheating the high-voltage battery, which can lead to reduced power, a forced shutdown, or permanent battery damage.

Tools that help

- OBD-II scan tool with hybrid/EV battery system support and bidirectional fan control
- Digital multimeter with back-probing pins
- Wire terminal pick and connector release tools
- Service information for the specific vehicle's battery cooling fan circuit
- Infrared thermometer to verify battery pack temperature



Reading P0AD0

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- A** Hybrid propulsion.
- D0** The exact fault within that area.

Often seen with

P0A1F Battery Energy Control Module A Performance · **P0ACF** Hybrid/EV Battery Pack Cooling Fan 3 Control Circuit/Open · **P0AD1** Hybrid/EV Battery Pack Cooling Fan 3 Stuck On · **P0AD2** Hybrid/EV Battery Pack Cooling Fan 3 Control Circuit Low · **P0AFA** Hybrid/EV Battery System Voltage Low

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/p0ad0/>

