

GENERIC · POWERTRAIN

# P0A9A

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P0A9A

### Hybrid/EV Battery Pack Cooling Fan 2 Control Circuit High

P0A9A indicates that the hybrid or electric vehicle battery pack cooling fan 2 control circuit is showing an abnormally high voltage, which the battery energy control module interprets as an open circuit or a short to power. The computer monitors the fan control circuit and sets this code when the commanded signal does not match the expected voltage, typically because the fan cannot be energized.

| 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 battery performance or forced engine-only operation in hybrids
- The cooling fan for the high-voltage battery may not run at all, leading to battery overheating in extended driving
- A warning message on the dashboard indicating a hybrid system fault or reduced power
- Possible overheating of the battery pack, which may trigger additional codes or a limp mode

#### Common causes, most likely first

- 1 Open or damaged wiring in the cooling fan 2 control circuit, such as a broken wire or corroded connector
- 2 Failed cooling fan 2 motor or its internal control module
- 3 Faulty battery energy control module or fan control module, though less common
- 4 Short to voltage in the control circuit due to chafed wiring or moisture intrusion
- 5 Blown fuse or relay dedicated to the cooling fan circuit, though this often affects both fans
- 6 Poor ground connection for the fan motor or control module



## How to diagnose and fix it

- 1 Inspect the cooling fan 2 connector and wiring for corrosion, damage, or loose pins, and repair as needed
- 2 Check the fan control circuit for continuity and short to voltage using a multimeter, following the manufacturer's wiring diagram
- 3 Test the cooling fan 2 motor directly by applying power and ground to confirm it operates; replace if seized or open
- 4 Verify the fan relay and fuse are intact and functioning, replacing any faulty components
- 5 Check the ground circuit for the fan motor and control module, cleaning or tightening connections as necessary
- 6 If all external circuits and components test good, diagnose the battery energy control module or fan control module for internal faults
- 7 Clear the code and perform a road test to verify the repair, ensuring the fan activates when commanded

## Don't overlook the simple wiring fault

- A common oversight is assuming the fan motor is bad when the real issue is a corroded connector or chafed wire in the control circuit, so always perform a thorough visual and electrical inspection first.
- This code can be set by a short to voltage in the control circuit, which may be intermittent and only appear when the harness is moved or under certain temperature conditions.
- On some vehicles, the cooling fan for the hybrid battery is controlled by a module that also monitors fan speed; a fan that runs but at incorrect speed can set this code even if the motor spins freely.
- The battery energy control module may command the fan based on battery temperature, so a faulty temperature sensor can cause the fan not to run and set a circuit code, though this is less common.
- Replacing the fan motor without checking the control module output can lead to a repeat failure if the module is internally shorted and damages the new fan.

## Can I keep driving with P0A9A?

It is generally safe to drive short distances to a repair shop, but avoid heavy acceleration, long trips, or high ambient temperatures because the battery pack may overheat without proper cooling. If the hybrid system warning light is on or performance is reduced, seek service promptly.

## Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Manufacturer-specific wiring diagram
- Basic hand tools for connector and panel removal
- Test light or power probe



### Reading P0A9A

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- A** Hybrid propulsion.
- 9A** The exact fault within that area.

### Often seen with

**P0A9B** Hybrid/EV Battery Temperature Sensor A Circuit · **P0A9C** Hybrid/EV Battery Temperature Sensor A Circuit Range/Perform · **P0A9D** Hybrid/EV Battery Temperature Sensor A Circuit Low · **P0A9E** Hybrid/EV Battery Temperature Sensor A Circuit High · **P0A9F** Hybrid/EV Battery Temperature Sensor A Circuit Intermittent/

### 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/p0a9a/>

