



P0A2F

Drive Motor A Over Temperature

P0A2F indicates that the powertrain control module has detected the temperature of Drive Motor A, the primary electric traction motor, exceeding a safe operating threshold. The computer monitors a dedicated motor temperature sensor and sets this code when the reading stays above the calibrated limit for a specified time, typically to protect the motor windings and insulation from heat damage.

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

Symptoms you may notice

- Illumination of the check engine light or a dedicated hybrid/EV warning lamp
- Reduced power output or a limp-home mode that limits vehicle speed
- The vehicle may refuse to start or shift into drive when the motor is hot
- A burning or hot electrical smell from the motor area after a drive
- Often no symptoms besides the warning light, especially in early stages
- Possible shutdown of the electric drive system while driving in severe cases

Common causes, most likely first

- 1 Low or contaminated motor cooling fluid, or a coolant leak in the motor cooling circuit
- 2 A faulty motor temperature sensor or damaged sensor wiring/connector
- 3 A failed cooling pump, blocked radiator, or restricted coolant passage for the motor loop
- 4 Overheating due to prolonged heavy loads such as sustained high-speed driving or towing
- 5 A shorted or damaged motor winding causing excessive heat generation
- 6 A software or calibration issue in the motor control module that misinterprets temperature signals
- 7 Debris or mud packed around the motor or its cooling components reducing heat dissipation



How to diagnose and fix it

- 1 Check the motor cooling system fluid level and condition, and inspect for leaks or kinked hoses
- 2 Verify the motor temperature sensor reading with a scan tool against actual component temperature using an infrared thermometer
- 3 Inspect the sensor wiring and connector for corrosion, chafing, or loose pins, and repair as needed
- 4 Test the cooling pump operation and confirm coolant circulation through the motor circuit
- 5 Clean any debris from the motor housing and cooling radiator fins
- 6 If the sensor is faulty, replace it and clear the code, then road-test to confirm the fix
- 7 For persistent overheating with a good cooling system, perform a motor insulation and winding resistance test to rule out internal damage

Motor overheating is not always a sensor fault

- A common misdiagnosis is replacing the temperature sensor when the real problem is a weak cooling pump that only fails under load, so always verify actual coolant flow.
The code can set intermittently from a poor electrical connection at the motor temperature sensor, which may test fine when the harness is wiggled cold but fail when hot.
- Some vehicles use the motor temperature signal to derate power, so a driver may notice reduced performance before the warning light appears.
- Overheating can be caused by a failing motor bearing or drag in the drivetrain that makes the motor work harder than normal, so check for abnormal mechanical noise.
After any repair, the code may remain stored until the motor temperature returns to a normal range and a complete drive cycle is performed, so do not assume the fix failed immediately.

Can I keep driving with P0A2F?

Do not continue driving once this code is set, because continued operation with an overheated drive motor can cause permanent winding damage and leave you stranded. If you must move the vehicle, keep the speed and load minimal and stop as soon as it is safe to do so.

Tools that help

- OBD-II scan tool with live data capability
- Infrared thermometer
- Digital multimeter
- Coolant refractometer or test strips
- Basic hand tools for hose and connector inspection



Reading P0A2F

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

Often seen with

P0A2E Drive Motor A Temperature Sensor A Circuit Intermittent · **P0A30** Drive Motor B Temperature Sensor Circuit · **P0A3F** Drive Motor A Position Sensor Circuit · **P0A78** Drive Motor A Inverter Performance · **P0A7A** Generator Inverter Performance

See it working

Watch the animated explainer [How Regenerative Braking Works in Electric Cars](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0a2f/>

