

GENERIC · POWERTRAIN

P0A78

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0A78

Drive Motor A Inverter Performance

P0A78 indicates that the hybrid or electric vehicle's control module has detected a performance fault in the inverter that supplies three-phase alternating current to drive motor A, which is usually the primary traction motor. The computer monitors the inverter's output and internal switching behavior and sets this code when the actual electrical performance does not match the commanded values within a calibrated window.

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

Symptoms you may notice

- Illumination of the hybrid system warning light or service vehicle soon message
- Often no symptoms besides the warning light, especially if the fault is intermittent
- Reduced power output or a limp-home mode that limits vehicle speed
- The vehicle may refuse to start or shift into gear because the hybrid system will not ready
- A sudden loss of propulsion or shudder during acceleration
- Abnormal whining or buzzing noises from the inverter area under the hood

Common causes, most likely first

- 1 Failed or degraded inverter assembly, including worn insulated-gate bipolar transistors (IGBTs) or damaged internal gate driver circuits
- 2 Loose, corroded, or damaged high-voltage cables and connectors between the inverter and drive motor A
- 3 Coolant leaks or blockages that cause the inverter to overheat and derate its output
- 4 A failing drive motor A resolver or position sensor that sends incorrect rotor position feedback to the inverter
- 5 Low or contaminated inverter coolant, or a failed coolant pump that prevents proper thermal management
- 6 Internal short or open circuit in the motor stator windings that loads the inverter abnormally
- 7 Software calibration issues in the hybrid control module that miscommand the inverter



How to diagnose and fix it

- 1 Scan all modules for stored and pending codes, and record freeze-frame data to see the conditions when P0A78 set
- 2 Inspect the high-voltage cable connectors between the inverter and drive motor A for looseness, corrosion, or pin damage
- 3 Check the inverter coolant level, condition, and pump operation, and verify that the cooling fan runs when commanded
- 4 Perform a visual inspection of the inverter housing for cracks, coolant residue, or signs of overheating
- 5 Use a manufacturer-specific scan tool to run an inverter performance test or active test and compare commanded versus actual output
- 6 Measure the resistance of the three-phase cables and motor windings with a milliohm meter to rule out cable or stator faults
- 7 If all external checks pass, replace or repair the inverter assembly according to the manufacturer's service procedure and reflash the control module if required

What the inverter code does not always mean

- A loose or corroded high-voltage connector at the inverter can set P0A78 without any internal inverter fault, so always inspect and reseat connectors before condemning the inverter.
- Coolant leaks or a failing coolant pump often cause intermittent inverter performance codes because the unit derates when it overheats, and the code may not return until the vehicle is driven under load again.
- A failing resolver in drive motor A can mimic an inverter fault because the inverter relies on accurate rotor position to switch its transistors, so check resolver signals before replacing the inverter.
- Some manufacturers require a software update or calibration relearn after inverter replacement, and skipping that step can cause P0A78 to reset immediately.
- The code can be stored by a brief voltage spike or a low 12-volt battery during cranking, so clear the code and verify it returns under the same conditions before starting repairs.

Can I keep driving with P0A78?

Do not continue driving with P0A78 because the vehicle may enter a reduced-power mode or lose propulsion without warning. Have the vehicle towed to a qualified hybrid service facility and avoid driving at highway speeds or under heavy load until the fault is repaired.



Tools that help

- Hybrid-capable OBD-II scan tool with manufacturer-specific software
- Digital multimeter with high-voltage and milliohm measurement capability
- Insulation tester (megohmmeter) rated for high-voltage systems
- Coolant refractometer or hydrometer
- Basic hand tools for connector and panel access
- Personal protective equipment including high-voltage gloves and safety glasses

Reading P0A78

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

Often seen with

P0A3F Drive Motor A Position Sensor Circuit · **P0A79** Drive Motor B Inverter Performance · **P0A7A** Generator Inverter Performance · **P0A94** DC/DC Converter A Performance · **P0C00** Drive Motor A Current Low

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/p0a78/>

