



P00AD

Intake Air Temperature Sensor 1 Circuit High Bank 2

P00AD indicates that the powertrain control module has detected an abnormally high voltage signal on the intake air temperature sensor circuit for bank 2, which is the side of the engine that does not contain cylinder number one. The sensor's internal thermistor normally varies resistance with temperature, and a high voltage reading typically means the circuit is open or the sensor is reporting an unrealistically cold intake air charge.

SYSTEM Powertrain	CODE TYPE Generic (all makes)	SEVERITY Low	FIX DIFFICULTY Intermediate	AREA Fuel and air metering and auxiliary emission controls
-----------------------------	---	------------------------	---------------------------------------	--

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough idle or poor driveability when the engine is cold
- Reduced fuel economy as the computer enriches the mixture based on a false cold-air reading
- Hesitation or stumble during acceleration
- In rare cases, a no-start condition or stalling when the engine is cold
- Possible default activation of the cooling fan to a continuous high speed

Common causes, most likely first

- 1 Open or broken wire in the intake air temperature sensor signal circuit
- 2 Corroded, loose, or disconnected electrical connector at the sensor
- 3 Failed intake air temperature sensor with an open internal thermistor
- 4 Damaged or chafed wiring harness between the sensor and the powertrain control module
- 5 Poor ground connection for the sensor circuit
- 6 Faulty powertrain control module, though this is rare



How to diagnose and fix it

- 1 Inspect the sensor connector and wiring for corrosion, looseness, or physical damage, and repair as needed
- 2 Measure resistance across the intake air temperature sensor terminals and compare to the manufacturer's temperature-resistance chart
- 3 Check for continuity and voltage drop on the signal and ground circuits between the sensor and the powertrain control module
- 4 Verify the sensor's reference voltage at the connector with the key on and engine off
- 5 Replace the intake air temperature sensor if it is open or out of specification
- 6 Repair any open or shorted wiring in the harness and clear the diagnostic trouble code
- 7 Test-drive the vehicle to confirm the code does not return and monitor live intake air temperature data

Why bank 2 intake air temperature codes mislead

- Many vehicles use a single intake air temperature sensor shared across both banks, so a bank 2 code often points to a wiring or connector issue rather than a separate sensor failure.
A high voltage reading can be caused by a poor ground at the sensor, which technicians frequently overlook when replacing the sensor itself.
- The intake air temperature sensor is sometimes integrated into the mass airflow sensor, so a bank 2 code may require inspecting the shared housing and its connector.
- After a repair, the powertrain control module may need several drive cycles before the monitor runs and the code clears, so do not assume a recurring code means the fix failed.
Extreme cold weather can push the sensor signal near the high limit, but a true P00AD will set even after the engine warms up if the circuit is open.

Can I keep driving with P00AD?

The vehicle is generally safe to drive with this code because the powertrain control module substitutes a default intake air temperature value, but you should avoid heavy acceleration and long trips until the fault is repaired to prevent poor fuel economy and cold-start driveability issues.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the intake air temperature sensor circuit
- Basic hand tools for connector and sensor access
- Temperature-resistance chart for the sensor



Reading P00AD

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Fuel and air metering and auxiliary emission controls.
- AD** The exact fault within that area.

Often seen with

P00AC Intake Air Temperature Sensor 1 Circuit Low Bank 2 · **P00AE** Intake Air Temperature Sensor 1 Circuit Intermittent Bank 2 · **P0111** Intake Air Temperature Circuit Range/Performance · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input

See it working

Watch the animated explainer [Excavator Simulator: Hydraulics You Can Operate](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00ad/>

