

GENERIC · POWERTRAIN

P00A9

OBD-II TROUBLE CODE

P00A9

Intake Air Temperature Sensor 2 Circuit Intermittent/Erratic Bank 2

P00A9 indicates that the powertrain control module (PCM) has detected an intermittent or erratic signal from the intake air temperature (IAT) sensor 2 circuit on bank 2. The PCM expects a steady voltage or resistance value from this sensor, but the signal is dropping out or fluctuating unpredictably, which can affect fuel delivery and ignition timing calculations.

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

- Illumination of the check engine light, often with no other noticeable symptoms.
- Rough idle or stumbling during acceleration when the sensor signal fluctuates.
- Poor fuel economy or rich-running conditions due to incorrect temperature readings.
- Hesitation or surging while driving, especially during cold starts or warm-up.
- In rare cases, a no-start condition if the erratic signal severely skews fuel mixture.
- Intermittent driveability issues that come and go with temperature or vibration.

Common causes, most likely first

- 1 Damaged or chafed wiring in the IAT sensor 2 circuit, often near connectors or heat sources.
- 2 Corroded, loose, or water-intruded electrical connector at the sensor or PCM.
- 3 Failing IAT sensor 2 that produces an intermittent open or short internally.
- 4 Poor ground connection for the sensor circuit, causing voltage reference instability.
- 5 PCM software glitch or internal fault misinterpreting a momentary signal dropout.
- 6 Aftermarket accessories or modifications tapping into the sensor wiring and introducing noise.



How to diagnose and fix it

- 1 Inspect the IAT sensor 2 connector and wiring for corrosion, chafing, or loose pins, and repair as needed.
- 2 Perform a wiggle test on the sensor harness while monitoring live data to reproduce the intermittent signal.
- 3 Measure the sensor resistance with a multimeter and compare to the manufacturer's temperature-resistance chart.
- 4 Check the sensor reference voltage and ground circuit at the connector with a multimeter to rule out wiring faults.
- 5 Replace the IAT sensor 2 if resistance values are out of specification or erratic when tapped or heated.
- 6 Clear the diagnostic trouble codes and verify the repair by test-driving while monitoring IAT 2 data for stability.
- 7 If the code persists, check for PCM software updates or consult a dealer for advanced diagnostics.

Intermittent IAT codes often misdiagnosed

- A common oversight is replacing the sensor without checking the connector terminals, which frequently corrode and cause intermittent signals on bank 2 due to its location near heat and moisture.
The code can be set by a momentary glitch that does not affect driveability, so some vehicles may pass a road test but still store the code during specific temperature swings.
- Bank 2 IAT sensor 2 is often part of a combined mass airflow or manifold air temperature sensor on some engines, so technicians should verify the exact sensor location before ordering parts.
- Wiring repairs using crimp connectors without proper sealing can reintroduce intermittent faults, so soldered and heat-shrunk connections are preferred.
A failing thermostat or cooling system issue that causes abnormal temperature fluctuations can indirectly trigger this code by pushing the sensor signal outside expected ranges.

Can I keep driving with P00A9?

The vehicle is generally safe to drive with this code because the fault is intermittent and the PCM can often default to a substitute temperature value. Avoid heavy acceleration or towing until the issue is repaired, as erratic sensor data may cause brief driveability hiccups.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Heat gun and thermometer for sensor testing
- Terminal pick and electrical contact cleaner



Reading P00A9

- 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.
- A9** The exact fault within that area.

Often seen with

P0096 Intake Air Temperature Sensor 2 Circuit Range/Performance · **P00A8** Intake Air Temperature Sensor 2 Circuit High Bank 2 · **P00AA** Intake Air Temperature Sensor 1 Circuit Bank 2 · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input

See it working

Watch the animated explainer [How a CVT Works: Belt and Pulley Transmission](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00a9/>

