

GENERIC · POWERTRAIN

P00A6

OBD-II TROUBLE CODE

P00A6

Intake Air Temperature Sensor 2 Circuit Range/Performance Bank 2

P00A6 means the powertrain control module (PCM) has detected that the intake air temperature (IAT) sensor 2 circuit on bank 2 is reporting a value outside the expected range or is not behaving rationally compared with other temperature sensors. The PCM compares the sensor signal against a calculated model and other sensor inputs, and when the correlation or voltage stays out of bounds for a set time, it stores this code and may illuminate the check engine light.

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

Symptoms you may notice

- Check engine light illuminated, often with no other noticeable symptoms
- Rough idle or unstable engine operation when the engine is cold or during warm-up
- Poor fuel economy or a richer-than-normal air-fuel mixture
- Hesitation or stumble on acceleration, especially after a cold start
- In rare cases, a no-start condition or extended cranking when the sensor reads extremely out of range
- Possible default fan operation or reduced engine load protection depending on the vehicle's strategy

Common causes, most likely first

- Faulty intake air temperature sensor 2 on bank 2, internally shorted or open
- Damaged or corroded wiring harness or connector at the sensor or along the circuit
- Open or shorted signal or ground circuit between the sensor and the PCM
- Contaminated or obstructed sensor element from oil, dirt, or debris in the intake tract
- PCM software calibration issue or internal PCM driver fault (less common)
- Aftermarket intake or air filter modification that alters airflow and confuses the temperature model
- Extreme ambient temperature conditions combined with a marginal sensor (edge-case trigger)



How to diagnose and fix it

- 1 Connect a scan tool and record freeze-frame data and live IAT sensor 2 readings to confirm the fault and check for rationality compared with IAT sensor 1 and ambient temperature.
- 2 Visually inspect the sensor, connector, and wiring for damage, corrosion, or loose pins, and repair any obvious harness issues.
- 3 Measure resistance across the IAT sensor 2 terminals and compare with the manufacturer's temperature-resistance chart to verify sensor accuracy.
- 4 Back-probe the signal circuit at the PCM and check voltage with the key on, engine off, looking for a value that matches the expected range for the current temperature.
- 5 Perform a wiggle test on the harness while watching live data to expose intermittent opens or shorts.
- 6 If the sensor and wiring test good, check for technical service bulletins or PCM calibration updates before condemning the PCM.
- 7 Replace the IAT sensor 2 only after confirming the circuit and sensor are at fault, then clear codes and verify the repair with a road test and live data review.

What the IAT2 code often hides

- A P00A6 can be set by a perfectly functional sensor when the intake air temperature model in the PCM is skewed by a dirty mass airflow sensor or a leaking intake boot, so always check those before replacing the IAT sensor.
- Many vehicles use IAT sensor 2 to monitor air temperature after the intercooler or turbocharger, and a boost leak or stuck-open wastegate can cause temperature readings that trigger this code without any sensor fault.
- Intermittent connector fretting at the sensor pigtail is a common cause that a simple resistance check at the sensor will miss, so wiggle testing the harness while watching live data is essential.
- Some PCMs set P00A6 when battery voltage is low during cranking, so a weak battery or poor ground can mimic a sensor circuit failure and lead to unnecessary parts replacement.
- The code does not always mean the sensor is bad; a failed thermostat or cooling system issue that affects overall engine bay temperature can occasionally push the IAT2 reading outside the expected correlation window.

Can I keep driving with P00A6?

The vehicle is generally safe to drive with P00A6 because the PCM substitutes a default intake air temperature value and the engine remains driveable, but avoid heavy towing or aggressive driving until the fault is repaired to prevent poor fuel economy or driveability issues.



Tools that help

- OBD-II scan tool with live data and freeze-frame capability
- Digital multimeter with temperature probe
- Back-probe kit or pin probes
- Manufacturer's wiring diagram and resistance chart
- Basic hand tools for sensor and connector access

Reading P00A6

- 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.
-
- A6** The exact fault within that area.

Often seen with

P0096 Intake Air Temperature Sensor 2 Circuit Range/Performance · **P00A5** Intake Air Temperature Sensor 2 Circuit Bank 2 · **P00A7** Intake Air Temperature Sensor 2 Circuit Low Bank 2 · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input

See it working

Watch the animated explainer [Four-Stroke Engine Notebook: The Otto Cycle Explained](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00a6/>

