

GENERIC · POWERTRAIN

P00A4

OBD-II TROUBLE CODE

P00A4

Charge Air Cooler Temperature Sensor Circuit Intermittent/Erratic Bank 2

P00A4 indicates that the powertrain control module has detected an intermittent or erratic signal from the charge air cooler temperature sensor on bank 2. The sensor monitors the temperature of the compressed intake air after it passes through the cooler, and the circuit is reporting voltage swings that do not match expected values under current operating conditions.

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

- Illumination of the check engine light, often with no other noticeable symptoms
- Intermittent loss of power or hesitation during acceleration when the signal drops out
- Rough idle or stumbling after a cold start in some cases
- Reduced fuel economy if the fault causes the computer to default to a rich mixture
- A stored pending code or freeze-frame data showing the fault occurred under specific load conditions

Common causes, most likely first

- 1 A faulty charge air cooler temperature sensor that internally opens or shorts intermittently
- 2 Damaged or chafed wiring in the sensor circuit, often near hot or vibrating components
- 3 Corroded or loose electrical connector pins at the sensor or at the PCM
- 4 High resistance in a ground circuit shared with the sensor
- 5 Extreme temperature swings or heat soak causing the sensor element to behave erratically
- 6 Aftermarket or incorrect sensor installed previously that does not meet OEM specifications



How to diagnose and fix it

- 1 Inspect the sensor connector and wiring for corrosion, chafing, or loose pins, and repair as needed
- 2 Measure sensor resistance with a multimeter and compare to the manufacturer's temperature-resistance chart
- 3 Back-probe the sensor signal circuit at the PCM and watch for voltage dropouts while wiggling the harness
- 4 Check the sensor ground circuit for excessive resistance and repair any bad grounds
- 5 Replace the charge air cooler temperature sensor if resistance testing or live data confirms erratic behavior
- 6 Clear the diagnostic trouble codes and perform a road test to verify the repair under load and temperature changes
- 7 If the code returns, recheck the entire circuit from sensor to PCM for intermittent opens or shorts

Why this code often misleads

- A charge air cooler temperature sensor can test perfectly fine at room temperature yet fail only when the engine bay reaches operating temperature, so a cold bench test is not conclusive.
- The PCM may substitute a default charge air temperature value when the signal is erratic, which can mask driveability symptoms and make the fault appear intermittent to the driver.
- Wiring harness damage near the charge air cooler or turbocharger is a common cause that gets overlooked because the sensor itself tests good.
- This code can be set by a poor ground connection shared with other sensors, so checking ground integrity is as important as checking the sensor signal.
- On some vehicles, a failing charge air cooler temperature sensor is misdiagnosed as a boost leak or a faulty mass airflow sensor because the symptoms overlap.

Can I keep driving with P00A4?

The vehicle is generally safe to drive with this code because the fault is intermittent and the computer can default to a substitute temperature value. Avoid heavy towing or sustained high-load driving until the circuit is repaired, as erratic readings can affect fuel delivery and boost control.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Back-probe kit or breakout leads
- Wiring diagram for the specific vehicle
- Temperature-resistance chart for the sensor



Reading P00A4

- 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.
- A4** The exact fault within that area.

Often seen with

P007B Charge Air Cooler Temperature Sensor Circuit Range/Performance · **P007C** Charge Air Cooler Temperature Sensor Circuit Low Bank 1 · **P00A3** Charge Air Cooler Temperature Sensor Circuit High Bank 2 · **P00A5** Intake Air Temperature Sensor 2 Circuit Bank 2 · **P00A6** Intake Air Temperature Sensor 2 Circuit Range/Performance Bank 2

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00a4/>

