

GENERIC · POWERTRAIN

P00A2

OBD-II TROUBLE CODE

P00A2

Charge Air Cooler Temperature Sensor Circuit Low Bank 2

P00A2 means the engine computer has detected an abnormally low voltage signal from the charge air cooler temperature sensor on bank 2, which monitors the temperature of the compressed intake air after it leaves the turbocharger or supercharger. The low signal typically indicates a short to ground, a failed sensor, or a wiring problem rather than a genuine low-temperature condition.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

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
- Reduced engine power or limp mode under heavy load or acceleration
- Poor fuel economy or rough running when the engine is cold
- Black smoke from the exhaust or excessive turbo lag on diesel engines
- In rare cases, overheating or detonation if the fault causes incorrect fueling or timing

Common causes, most likely first

- 1 Faulty charge air cooler temperature sensor on bank 2
- 2 Short to ground in the sensor signal circuit
- 3 Corroded, loose, or damaged electrical connector at the sensor
- 4 Damaged wiring harness between the sensor and the engine control module
- 5 Failed engine control module (less common)
- 6 Intake air leak or restriction affecting the charge air cooler, though this usually sets a different code

How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm the code and check for related codes
- 2 Visually inspect the bank 2 charge air cooler temperature sensor and its connector for damage or corrosion
- 3 Measure sensor resistance and compare to the manufacturer's specification; replace if out of range
- 4 Check the signal circuit for a short to ground using a multimeter and wiring diagram
- 5 Repair any damaged wiring or connectors, then clear the code and verify the sensor reads correctly with a scan tool
- 6 If the sensor and wiring are good, test the engine control module input circuit before condemning the module



What the low voltage really tells you

- A low voltage signal almost always means the circuit is shorted to ground, not that the charge air is actually cold, so chasing a cooling problem is usually wasted effort.
- The bank 2 sensor is often located on the cold side of the charge air cooler, and its connector can be exposed to road splash, leading to corrosion that mimics a failed sensor.
- Some vehicles use a shared reference voltage for multiple sensors, so a short in one sensor can pull down the signal for others and set companion codes.
- Replacing the sensor without checking the wiring is a common misdiagnosis; the harness near the charge air cooler is prone to chafing against brackets.
- On engines with two charge air coolers, bank 2 refers to the side opposite bank 1, and the sensor may be hidden behind the intercooler, making visual inspection difficult without removing covers.

Can I keep driving with P00A2?

You can usually drive the vehicle with this code, but avoid heavy acceleration or towing because the engine may enter limp mode or run with incorrect fueling. Have the fault diagnosed soon to prevent potential damage to the turbocharger or catalytic converter.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket and ratchet set
- Contact cleaner and dielectric grease

Reading P00A2

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.
A2	The exact fault within that area.

Often seen with

P007B Charge Air Cooler Temperature Sensor Circuit Range/Performan · **P007C** Charge Air Cooler Temperature Sensor Circuit Low Bank 1 · **P00A1** Charge Air Cooler Temperature Sensor Circuit Range/Performan · **P00A3** Charge Air Cooler Temperature Sensor Circuit High Bank 2 · **P00A4** Charge Air Cooler Temperature Sensor Circuit Intermittent/Er



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/p00a2/>

