

GENERIC · POWERTRAIN

P0099

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0099

Intake Air Temperature Sensor 2 Circuit Intermittent/Erratic

P0099 indicates that the powertrain control module has detected an intermittent or erratic signal from the intake air temperature sensor 2 circuit, which monitors the temperature of the air entering the engine at a second location such as after the turbocharger or in a dual-intake system. The computer sees the sensor's voltage or resistance jumping unpredictably rather than holding a steady value, which prevents accurate fuel and timing calculations.

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 hesitation during acceleration when the sensor signal drops out
- Poor fuel economy or a rich-running condition as the computer defaults to a fixed temperature value
- Intermittent stalling or surging that correlates with engine bay temperature changes
- A slight loss of power or sluggish throttle response under load

Common causes, most likely first

- 1 A damaged or chafed wire in the sensor 2 signal or ground circuit, often near hot exhaust components
- 2 Corroded or loose electrical connector pins at the sensor or at the powertrain control module
- 3 A failing intake air temperature sensor 2 that reads erratically when exposed to heat or vibration
- 4 Moisture or oil contamination inside the sensor connector causing intermittent shorts
- 5 A poor ground connection shared with other sensors, leading to floating reference voltage
- 6 Rarely, an internal fault in the powertrain control module driver circuit for sensor 2



How to diagnose and fix it

- 1 Inspect the sensor 2 connector and wiring for chafing, corrosion, or loose pins, and repair as needed
- 2 Measure the sensor 2 resistance with a multimeter while wiggling the harness to catch intermittent opens
- 3 Compare sensor 2 live data against sensor 1 and against ambient temperature after a cold soak to spot erratic behavior
- 4 Backprobe the signal circuit at the powertrain control module and check for voltage drops or spikes during a wiggle test
- 5 Check and clean the ground points shared by the intake air temperature sensor circuit
- 6 Replace the intake air temperature sensor 2 if resistance testing confirms an erratic element
- 7 Clear the code and perform a road test with live data recording to verify the repair before returning the vehicle

Why intermittent IAT2 codes fool good technicians

- A sensor that tests perfectly on a cold engine can still fail intermittently once heat soak from the turbocharger or exhaust reaches the connector, so always wiggle-test and heat-test the harness.
P0099 is often set by a wiring fault rather than a failed sensor, and replacing the sensor without repairing a chafed wire will bring the code back within a few drive cycles.
- On vehicles with two intake air temperature sensors, a skewed sensor 1 can make sensor 2 look erratic in live data even when sensor 2 is healthy, so compare both against ambient temperature after an overnight cold soak.
- Intermittent codes like this one frequently appear alongside misfire or fuel trim codes because the computer substitutes a default temperature and miscalculates fuel delivery during the fault window.
- A loose or missing engine ground strap can create erratic sensor readings across multiple circuits, so check grounds before condemning any single sensor.

Can I keep driving with P0099?

The vehicle remains safe to drive because the computer substitutes a default intake air temperature and the engine stays in a protected calibration, but avoid heavy towing or sustained high-load driving until the intermittent fault is repaired. Address the code promptly to prevent drivability complaints and to keep fuel economy from degrading.

Tools that help

- OBD-II scan tool with live data and graphing capability
- Digital multimeter with backprobe pins
- Wiring diagram for the intake air temperature sensor 2 circuit
- Heat gun for thermal wiggle testing
- Contact cleaner and dielectric grease



Reading P0099

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

Often seen with

P0097 Intake Air Temperature Sensor 2 Circuit Low · **P0098** Intake Air Temperature Sensor 2 Circuit High · **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 [How a MAP Sensor Works: Engine Vacuum and Load](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0099/>

