

GENERIC · POWERTRAIN

P011C

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P011C

Charge Air Cooler Temperature/Intake Air Temperature Correlation Bank 1

P011C indicates that the powertrain control module has detected an implausible relationship between the charge air cooler temperature sensor and the intake air temperature sensor on bank 1. The computer compares their readings under specific operating conditions and flags the code when the temperature values do not correlate as expected, typically after a cold start or during steady driving.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Fuel and air metering

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine performance or power, especially during acceleration
- Decreased fuel economy due to incorrect air density calculations
- Rough idle or hesitation when the engine is cold
- In rare cases, a limp-home mode may be activated

Common causes, most likely first

- 1 Faulty charge air cooler temperature sensor
- 2 Faulty intake air temperature sensor
- 3 Damaged or corroded wiring or connectors in the sensor circuits
- 4 Intake air leaks or restrictions between the charge air cooler and the intake manifold
- 5 Charge air cooler efficiency issues, such as a clogged or damaged cooler
- 6 Engine control module software issues or internal faults



How to diagnose and fix it

- 1 Perform a visual inspection of the charge air cooler, intake air temperature sensor, and associated wiring for obvious damage or disconnection
- 2 Use a scan tool to read live data from both the charge air cooler temperature and intake air temperature sensors and compare their readings during a cold start and after warm-up
- 3 Check the sensor circuits for continuity, short circuits, and resistance according to the manufacturer's specifications
- 4 Test the charge air cooler temperature sensor and intake air temperature sensor with a multimeter to verify their resistance changes with temperature
- 5 Inspect the charge air cooler for restrictions, leaks, or debris that could affect its performance
- 6 Repair or replace any faulty sensors, wiring, or connectors as needed
- 7 Clear the diagnostic trouble codes and verify the repair by performing a test drive under the conditions that originally set the code

Sensor Correlation Checks Before Parts Replacement

- A common oversight is replacing the charge air cooler temperature sensor without first verifying the intake air temperature sensor's accuracy, as a skewed intake air temperature sensor can cause the correlation code to set.
- The code can be triggered by a dirty or contaminated mass airflow sensor that indirectly affects intake air temperature readings, so cleaning it is a worthwhile preliminary step.
- In some vehicles, the charge air cooler temperature sensor is integrated into the intake air temperature sensor, so a single faulty component can cause both readings to be implausible.
- A weak battery or charging system issue can cause erratic sensor readings and set this code, so always check the vehicle's electrical system health first.
- After repairs, the code may not clear immediately; a specific drive cycle, often including a cold start and steady-speed driving, is required for the monitor to run and confirm the fix.

Can I keep driving with P011C?

It is generally safe to continue driving with this code, but avoid heavy acceleration or towing until the issue is resolved, as the engine may be operating with reduced performance and efficiency. If the check engine light begins flashing or you notice severe power loss, stop driving and seek professional diagnosis.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Infrared thermometer
- Basic hand tools for sensor and connector removal
- Wiring diagram for the specific vehicle



Reading P011C

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 1** Fuel and air metering.
- 1C** 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 · **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 [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/p011c/>

