

GENERIC · POWERTRAIN

P0127

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0127

Intake Air Temperature Too High

P0127 means the engine computer has determined that the intake air temperature is higher than the maximum threshold for safe operation, based on the intake air temperature sensor signal. The computer compares the sensor voltage to expected values and flags the code when the calculated temperature stays above the calibrated limit for a set period.

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

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Reduced engine performance or power derating in some vehicles
- Poor fuel economy or rich-running condition
- Rough idle or hesitation when the engine is hot
- Possible overheating concerns if the high reading is caused by an actual heat source

Common causes, most likely first

- 1 Faulty intake air temperature sensor reading high
- 2 Damaged or corroded sensor wiring or connector
- 3 Sensor installed in a location exposed to excessive heat, such as near exhaust components
- 4 High ambient temperatures combined with a heat-soaked engine bay during extended idling
- 5 Restricted airflow or a missing intake duct component that allows hot underhood air into the intake
- 6 Engine overheating or cooling system faults raising underhood temperatures
- 7 Aftermarket intake modifications that place the sensor in a hot-air path

How to diagnose and fix it

- 1 Use a scan tool to read the intake air temperature sensor value and compare it to ambient temperature after a cold soak
- 2 Inspect the sensor and its connector for physical damage, corrosion, or loose pins
- 3 Check the sensor wiring for shorts to voltage or damage that would skew the signal high
- 4 Verify the sensor is mounted in the correct location and that intake ducting is intact and properly routed
- 5 Test the intake air temperature sensor resistance against the manufacturer's temperature-resistance chart
- 6 Replace the intake air temperature sensor if it reads incorrectly or fails the resistance test
- 7 Clear the code and verify the repair by confirming the live data reads a plausible temperature



When the sensor is not the real problem

- A heat-soaked engine bay during long idle periods in traffic can push intake air temperature above the threshold and set P0127 even when every component is working correctly.
- Aftermarket cold-air intakes or missing air box components often route hot underhood air past the sensor, causing this code without any electrical fault.
- A failing engine coolant temperature sensor or an actual overheating condition can raise underhood temperatures enough to trigger P0127, so always check cooling system health.
- Some vehicles set P0127 as a companion code when the mass airflow sensor or manifold absolute pressure sensor is skewed, because the computer cross-checks intake air temperature against other air models.
- Do not replace the intake air temperature sensor based on the code alone; confirm the live reading against ambient temperature after an overnight cold soak first.

Can I keep driving with P0127?

The vehicle is generally safe to drive to a repair shop, but avoid heavy load, extended idling in hot weather, and aggressive driving until the fault is diagnosed. If the engine temperature gauge rises or you notice overheating, stop driving and address the cooling system immediately.

Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Infrared thermometer
- Basic hand tools for sensor and duct removal
- Manufacturer service information for resistance specifications

Reading P0127

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.
27	The exact fault within that area.

Often seen with

P0111 Intake Air Temperature Circuit Range/Performance · **P0112** Intake Air Temperature Circuit Low Input · **P0113** Intake Air Temperature Circuit High Input · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P2184** Engine Coolant Temperature Sensor 2 Circuit Low



See it working

Watch the animated explainer [Disc Brake Trainer: How Car Brakes Stop a Wheel](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0127/>

