

GENERIC · POWERTRAIN

P00B6

OBD-II TROUBLE CODE

P00B6

Radiator Coolant Temperature/Engine Coolant Temperature Correlation

P00B6 indicates that the powertrain control module (PCM) has detected a mismatch between the radiator coolant temperature sensor and the engine coolant temperature sensor readings when the engine is running. The computer expects these two sensors to report similar temperatures once the engine has warmed and the thermostat has opened, so a sustained difference sets this correlation code.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	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
- Temperature gauge reading that fluctuates or sits lower than normal
- Poor heater performance or lukewarm air from the vents
- Cooling fans running constantly or not engaging when expected
- Slightly reduced fuel economy or rough running during warm-up
- Overheating in severe cases if coolant flow is restricted

Common causes, most likely first

- 1 Faulty radiator coolant temperature sensor or damaged wiring to it
- 2 Faulty engine coolant temperature sensor giving skewed readings
- 3 Low coolant level or trapped air in the cooling system
- 4 Sticking or incorrectly rated thermostat
- 5 Restricted radiator flow or a partially blocked coolant passage
- 6 Corroded or chafed sensor connector pins causing intermittent signals
- 7 PCM software calibration issue or internal fault in the temperature input circuit



How to diagnose and fix it

- 1 Check coolant level and inspect for leaks, then bleed any air from the cooling system
- 2 Use a scan tool to compare live radiator and engine coolant temperature readings during warm-up
- 3 Inspect the radiator temperature sensor connector and wiring for corrosion, chafing, or loose pins
- 4 Test both coolant temperature sensors with a multimeter against the manufacturer's resistance chart
- 5 Verify thermostat operation by monitoring coolant temperature rise and upper hose temperature
- 6 Check for radiator restriction or poor coolant flow with an infrared thermometer across the core
- 7 Replace the faulty sensor or repair wiring, clear the code, and verify correlation during a road test

Correlation codes often mislead parts swappers

- A low coolant level or air pocket can create a temperature split between the two sensors without either sensor being defective, so always bleed the system before replacing parts.
- The radiator coolant temperature sensor is frequently located in the lower tank or outlet hose, where it reads cooler than the engine sensor until the thermostat opens, so testing must be done at full operating temperature.
- A sticking thermostat can mimic a failed radiator sensor because the radiator stays cold while the engine warms, producing the exact correlation error the PCM flags.
- Aftermarket thermostats with the wrong opening temperature are a common cause of persistent P00B6 codes that return after sensor replacement.
- This code does not always mean a sensor has failed; wiring harness chafing near the radiator support or fan shroud often interrupts the signal intermittently.

Can I keep driving with P00B6?

You can usually drive short distances at moderate speed, but avoid heavy loads and long trips until the fault is diagnosed because a cooling system problem can escalate to overheating. Stop driving immediately if the temperature gauge climbs into the red or you see steam.

Tools that help

- OBD-II scan tool with live data capability
- Infrared thermometer
- Digital multimeter
- Coolant refractometer or hydrometer
- Basic socket and wrench set
- Coolant bleeding funnel kit



Reading P00B6

- 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.
- B6** The exact fault within that area.

Often seen with

P00B4 Radiator Coolant Temperature Sensor Circuit High · **P0117** Engine Coolant Temperature Circuit Low Input · **P0118** Engine Coolant Temperature Circuit High Input · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P2183** Engine Coolant Temperature Sensor 2 Circuit Range/Performanc

See it working

Watch the animated explainer [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p00b6/>

