

GENERIC · POWERTRAIN

P2C38

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2C38

Cylinder Head Temperature Sensor B Circuit

P2C38 indicates that the powertrain control module has detected an electrical fault in the circuit for Cylinder Head Temperature Sensor B, which is a second temperature sensor used on some engines to monitor head temperature independently. The computer compares the sensor signal against expected values and flags the code when the voltage or resistance falls outside the normal range, often due to a wiring or connection problem rather than a failed sensor.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Intermediate	Hybrid propulsion

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Rough running or misfire when the engine is cold or overheating
- Poor fuel economy or altered engine performance as the computer substitutes a default temperature value
- Incorrect or erratic temperature gauge readings on the dashboard
- Possible reduced engine power or limp mode in some vehicles
- Fan running constantly or not engaging when needed due to faulty temperature data

Common causes, most likely first

- 1 Damaged, chafed, or corroded wiring in the sensor circuit, especially near hot exhaust components
- 2 Loose or contaminated electrical connector at the sensor or at the powertrain control module
- 3 Failed cylinder head temperature sensor B itself, due to age or heat exposure
- 4 High resistance in the ground circuit for the sensor
- 5 Internal fault in the powertrain control module affecting the sensor input
- 6 Aftermarket or incorrect sensor installed previously with wrong resistance characteristics



How to diagnose and fix it

- 1 Use a scan tool to read live data for cylinder head temperature sensor B and compare it to ambient and engine temperature after a cold soak
- 2 Visually inspect the sensor, connector, and wiring harness for damage, corrosion, or loose pins, repairing as needed
- 3 Measure resistance across the sensor terminals and compare to the manufacturer's specification for the current temperature
- 4 Check the sensor reference voltage and ground circuit integrity with a multimeter, looking for opens or shorts
- 5 If wiring and sensor test good, substitute a known-good sensor to see if the code returns
- 6 Clear the code and perform a road test with the scan tool recording to confirm the repair
- 7 If the fault persists after all circuit checks, diagnose the powertrain control module or seek dealer-level programming

Don't overlook the wiring harness first

- A common mistake is replacing the cylinder head temperature sensor B without checking the harness, since heat and vibration often damage the wires long before the sensor fails.
- This code can set intermittently due to a poor connection that only acts up when the engine is hot or during certain driving conditions, so a wiggle test of the harness while watching live data is valuable.
- Some vehicles use cylinder head temperature sensor B primarily for monitoring and may not trigger noticeable symptoms, leading owners to ignore the code until a secondary fault develops.
- The sensor's resistance curve is temperature-dependent, so testing it at room temperature alone is not enough; you must compare readings at multiple temperatures or use a scan tool to verify the signal.
- A faulty thermostat or cooling system issue can cause the sensor to read out of range and set this code, so always verify actual engine temperature with an infrared thermometer before condemning the sensor.

Can I keep driving with P2C38?

You can usually continue driving with this code if the engine temperature gauge reads normally and there are no drivability symptoms, but avoid heavy loads or long trips until it is repaired. If the engine overheats or runs poorly, stop driving and have it diagnosed promptly to prevent damage.

Tools that help

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



Reading P2C38

- P** Powertrain: engine, transmission and emissions.
- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- C** Hybrid propulsion.
- 38** The exact fault within that area.

Often seen with

P0115 Engine Coolant Temperature Circuit Malfunction · **P0118** Engine Coolant Temperature Circuit High Input
 · **P2C35** Crankcase Pressure Sensor B Circuit High · **P2C36** Crankcase Pressure Sensor B Circuit Intermittent/Erratic · **P2C37** Cold Start Engine Coolant Pump Performance

See it working

Watch the animated explainer [Manual Car Driving Simulator: Learn Clutch Control](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2c38/>

