

GENERIC · POWERTRAIN

P06AB

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

## P06AB

# Control Module Internal Temperature Sensor B Circuit

P06AB indicates that the control module's internal temperature sensor B circuit is reporting a value outside the expected range, which the module uses to protect its own electronics from overheating. The computer has detected an abnormal voltage or signal from this internal sensor, often setting the code when the ignition is turned on or during a self-test.

| SYSTEM     | CODE TYPE           | SEVERITY | FIX DIFFICULTY | AREA                         |
|------------|---------------------|----------|----------------|------------------------------|
| Powertrain | Generic (all makes) | Medium   | Professional   | Computer and output circuits |

## Symptoms you may notice

- Illumination of the check engine light or service vehicle soon message, often with no other noticeable symptoms.
- Intermittent electrical glitches such as flickering dashboard lights or random warning chimes.
- Reduced engine performance or limp mode if the module limits output to protect itself from perceived overheating.
- Difficulty starting or stalling if the affected module controls engine or transmission functions.
- Erratic operation of systems controlled by the module, such as climate control or infotainment, in some vehicles.

## Common causes, most likely first

- 1 Faulty internal temperature sensor B inside the control module, often due to age or heat damage.
- 2 Corroded, loose, or damaged wiring or connector pins at the module harness.
- 3 Water intrusion or contamination inside the module causing sensor circuit damage.
- 4 Voltage supply or ground issues to the module affecting sensor reference voltage.
- 5 Software corruption or a known firmware bug in the module requiring reprogramming.
- 6 Failed module internal circuitry beyond the sensor itself, such as a damaged circuit board trace.



## How to diagnose and fix it

- 1 Use an OBD-II scanner to confirm P06AB and check for related codes in all modules, then record freeze-frame data.
- 2 Inspect the module connectors and harness for corrosion, loose pins, or signs of water intrusion, and clean or repair as needed.
- 3 Check the module's power and ground circuits with a multimeter to rule out supply voltage problems.
- 4 Consult the factory service information for the specific vehicle to perform pinpoint tests for the internal temperature sensor circuit.
- 5 If the sensor circuit tests within specification, check for technical service bulletins (TSBs) or software updates for the module.
- 6 Reprogram or replace the control module if internal sensor failure is confirmed, following proper programming procedures.

## What the code does not always mean

- P06AB is often set by a temporary voltage spike or low battery condition, so clearing the code after restoring proper voltage may resolve it without parts replacement.
- A weak or failing vehicle battery can cause modules to set internal sensor codes due to unstable reference voltages during cranking.
- The code can be stored in a module that is not the engine control module, such as the transmission control module or body control module, so scanning all modules is essential.
- Replacing the module without checking for software updates or TSBs can lead to repeat failures if the root cause is a firmware issue.
- Corrosion at the module ground point is a commonly overlooked cause that mimics an internal sensor failure.

## Can I keep driving with P06AB?

If the vehicle drives normally, you can drive it to a repair shop, but avoid long trips or heavy loads until the code is diagnosed. If the engine runs poorly or the transmission shifts erratically, stop driving and have the vehicle towed to prevent further damage.

## Tools that help

- OBD-II scanner with module-specific capabilities
- Digital multimeter
- Factory service information or wiring diagrams
- Terminal cleaning tools and electrical contact cleaner
- Module programming device (if reprogramming is required)



## Reading P06AB

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 6** Computer and output circuits.
- AB** The exact fault within that area.

## Often seen with

**P0601** Internal Control Module Memory Checksum Error · **P06AA** Control Module Internal Temperature B Too High · **P06AC** Control Module Internal Temperature Sensor B Range/Performan · **P06AD** Control Module Internal Temperature Sensor B Circuit Low · **P06AE** Control Module Internal Temperature Sensor B Circuit High

## See it working

Watch the animated explainer [How a Coolant Temperature Sensor Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06ab/>

