

GENERIC · POWERTRAIN

P053B

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P053B

PCV Heater A Control Circuit Low

P053B indicates that the powertrain control module (PCM) has detected a low-voltage condition on the control circuit for the positive crankcase ventilation (PCV) heater, specifically the 'A' circuit. The PCM commands the heater on under certain conditions to prevent crankcase vapors from freezing, and it monitors the circuit for expected voltage; a low reading means the circuit is shorted to ground or the heater element has failed.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Low	Intermediate	Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms.
- In cold weather, the PCV system may not heat properly, leading to rough idle or stalling shortly after a cold start.
- Possible presence of a stored freeze-frame showing low ambient temperatures when the fault was set.
- In some cases, a slight decrease in fuel economy or increased emissions due to improper crankcase ventilation.
- No drivability issues in warm weather or once the engine is at operating temperature.

Common causes, most likely first

- 1 Failed PCV heater element (open or shorted internally).
- 2 Short to ground in the control circuit wiring between the PCM and the PCV heater.
- 3 Corroded or damaged electrical connector at the PCV heater or PCM.
- 4 Faulty PCM driver for the PCV heater control circuit (rare).
- 5 Aftermarket or incorrect PCV heater installed that does not meet resistance specifications.
- 6 Moisture intrusion into the connector or wiring harness causing a low-resistance path to ground.



How to diagnose and fix it

- 1 Verify the code with a scan tool and check for any related codes in other modules.
- 2 Inspect the PCV heater connector and wiring for corrosion, damage, or loose pins; repair as needed.
- 3 Measure the resistance of the PCV heater element with a multimeter and compare to the manufacturer's specification; replace the heater if out of range.
- 4 Disconnect the PCM and check the control circuit for a short to ground using a multimeter; repair the harness if a short is found.
- 5 If the circuit and heater are good, test the PCM output with a bidirectional scan tool or oscilloscope; replace the PCM only if confirmed faulty.
- 6 Clear the code and perform a road test to verify the repair, ensuring the heater activates under the conditions that originally set the code.

PCV Heater Circuit Low: Don't Guess

- A low circuit code often results from a short to ground in the wiring, not a failed heater; always check the harness before replacing parts.
- The PCV heater is temperature-dependent; the PCM may only command it on below a certain ambient temperature, so the code may not reset in warm weather.
- Some vehicles use the PCV heater as part of an emissions strategy, and a fault can cause the PCM to inhibit certain diagnostics, leading to additional codes.
- Aftermarket PCV heaters with incorrect resistance can trigger this code even though they appear to function; always use OEM-specified parts.
- A shorted PCV heater can sometimes blow a fuse that powers other circuits, causing multiple unrelated codes; check fuses related to the heater circuit.

Can I keep driving with P053B?

The vehicle is generally safe to drive with this code because the PCV heater is an emissions and cold-weather aid, not a critical engine function. Avoid extended idling in freezing temperatures and have the fault repaired before winter to prevent crankcase ventilation issues.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Wiring diagram for the specific vehicle
- Socket set and trim removal tools
- Oscilloscope (optional for PCM output testing)



Reading P053B

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 5** Vehicle speed, idle control and auxiliary inputs.
- 3B** The exact fault within that area.

Often seen with

P0505 Idle Control System Malfunction · **P052E** PCV Regulator Valve Performance · **P053A** PCV Heater A Control Circuit/Open · **P053C** PCV Heater A Control Circuit High · **P053D** PCV Heater A Performance

See it working

Watch the animated explainer [Car Relay Test Bench: Test 4-Pin and 5-Pin Relays](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p053b/>

