

GENERIC · POWERTRAIN

P023B

OBD-II TROUBLE CODE

P023B

Charge Air Cooler Coolant Pump A Control Circuit Low

P023B means the engine computer has detected an abnormally low voltage on the control circuit for the electric coolant pump that circulates liquid through the charge air cooler. The computer expects to see a specific voltage range on the pump's command wire, and a reading below that threshold tells it the circuit is shorted to ground, open, or drawing excessive current.

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

Symptoms you may notice

- Illumination of the check engine light, often with no other noticeable symptoms
- Reduced engine power or limp mode under heavy acceleration or sustained load
- Poor fuel economy or sluggish throttle response as intake air temperatures rise
- A coolant pump that does not run when commanded, which may be inaudible at idle
- Overheating of the charge air cooler circuit, sometimes accompanied by a burning or hot coolant smell
- In rare cases, the engine may derate or set companion codes for intake air temperature or boost pressure

Common causes, most likely first

- 1 A failed charge air cooler coolant pump, typically an electric pump with an internal short or seized motor
- 2 Damaged or corroded wiring between the pump and the engine control module, including chafed insulation or a broken conductor
- 3 A poor ground connection at the pump mounting point or chassis ground stud
- 4 A short to ground on the pump control wire where it rubs against a bracket or heat shield
- 5 A faulty engine control module driver circuit, though this is uncommon
- 6 Coolant contamination or debris that seizes the pump and causes it to draw excessive current
- 7 A blown fuse or relay in the pump power supply circuit, which can mimic a control circuit fault



How to diagnose and fix it

- 1 Scan all modules and record freeze-frame data to confirm P023B is active and not a history code from a previous repair
- 2 Inspect the pump connector and wiring harness for corrosion, chafing, or loose pins, and repair any obvious damage
- 3 Measure resistance and voltage on the pump control circuit at the pump connector and compare with the manufacturer's specification
- 4 Command the pump on with a scan tool and listen for operation while watching live data for the pump command and feedback signals
- 5 Check the pump power supply fuse and relay, and verify battery voltage and ground integrity at the pump
- 6 If the circuit tests good but the pump does not run or draws excessive current, replace the charge air cooler coolant pump
- 7 Clear codes and road test under load to confirm the repair and ensure no companion codes return

What the low circuit code really means

- A low control circuit code does not automatically condemn the pump; a shorted or open command wire will set the same code and is far cheaper to fix.
- Many charge air cooler pumps only run when the engine is under boost or when intake air temperatures exceed a threshold, so a failed pump may be silent during a idle-only inspection.
- Technicians often overlook a shared ground or power feed between the charge air cooler pump and other engine bay components, so check for companion codes before replacing parts.
- Aftermarket or remanufactured pumps with incorrect internal resistance can set P023B even when the wiring is perfect, so verify the replacement part matches the original specification.
- A seized pump from coolant contamination can draw enough current to damage the control driver in the engine control module, so address the root cause before installing a new pump.

Can I keep driving with P023B?

You can usually drive the vehicle short distances at light throttle to reach a repair shop, but avoid sustained heavy acceleration or towing because the charge air cooler will lose cooling and intake air temperatures can climb quickly. If the engine enters limp mode or you notice overheating, stop and have the vehicle towed.

Tools that help

- OBD-II scan tool with bidirectional control and live data capability
- Digital multimeter with back-probing pins
- Wiring diagram and connector pinout for the specific vehicle
- Basic hand tools and socket set
- Fuse puller and test light



Reading P023B

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 2** Fuel and air metering (injector circuits).
- 3B** The exact fault within that area.

Often seen with

P00B4 Radiator Coolant Temperature Sensor Circuit High · **P023A** Charge Air Cooler Coolant Pump A Control Circuit/Open · **P023C** Charge Air Cooler Coolant Pump A Control Circuit High · **P023D** Manifold Absolute Pressure - Turbocharger/Supercharger Boost · **P2183** Engine Coolant Temperature Sensor 2 Circuit Range/Performanc

See it working

Watch the animated explainer [Turbocharger Trainer: Boost, Wastegate and Intercooler](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p023b/>

