

GENERIC · POWERTRAIN

P2D43

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2D43

A/C Compressor Motor Voltage B High

P2D43 indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the feedback circuit for the air conditioning (A/C) compressor motor's 'B' phase, which is one of the three electrical phases that drive the compressor. This high voltage reading typically points to an open circuit, a poor connection, or a fault inside the compressor inverter, rather than a problem with the refrigerant or the mechanical compressor itself.

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

Symptoms you may notice

- The A/C may stop blowing cold air entirely, or it may work intermittently.
- The climate control panel may show a flashing or steady A/C warning light.
- The engine may idle slightly rougher or the cooling fan may run constantly as a fail-safe.
- Often no symptoms besides the warning light, especially if the fault is intermittent.
- The compressor clutch may not engage, or the compressor may run at reduced capacity.
- In some vehicles, the A/C system may default to defrost mode only.

Common causes, most likely first

- A damaged or disconnected wire in the compressor motor 'B' phase circuit, often due to chafing or rodent damage.
- Corroded or loose terminals at the compressor connector or the PCM connector.
- An open winding or failed internal connection inside the A/C compressor motor.
- A faulty compressor inverter module, which is often integrated into the compressor assembly.
- A PCM software glitch or internal driver fault causing a false high-voltage reading.
- High resistance in a ground connection shared by the compressor and the PCM.



How to diagnose and fix it

- 1 Inspect the compressor motor 'B' phase wiring and connector for obvious damage, corrosion, or loose pins, and repair as needed.
- 2 Measure resistance of the 'B' phase circuit from the PCM connector to the compressor connector to check for an open circuit.
- 3 Check for short-to-voltage on the 'B' phase circuit with the key on and the compressor disconnected, which would indicate a wiring fault.
- 4 Perform a voltage drop test on the compressor ground circuit to rule out high resistance.
- 5 If wiring and connections are good, test the compressor motor windings for continuity and resistance balance across all three phases.
- 6 Substitute a known-good compressor or inverter module to confirm a failed component before replacement.
- 7 Reprogram or update the PCM software if a technical service bulletin (TSB) addresses this code for the specific vehicle.

Before you replace the A/C compressor

- A high voltage on the 'B' phase often results from a simple open circuit in the wiring harness, so always perform a thorough continuity and voltage drop test before condemning the compressor.
- Many technicians overlook a poor ground connection at the compressor mounting bracket, which can cause a false high-voltage reading on one phase.
- This code can be set by a failing inverter module even when the compressor motor windings test good, so component-level testing is essential.
- In some vehicles, the A/C compressor is driven by a high-voltage system, and P2D43 may be accompanied by other hybrid or electric vehicle codes that should be diagnosed first.
- A intermittent fault may only appear when the compressor is hot or under load, so wiggle-test the harness while monitoring live data.

Can I keep driving with P2D43?

You can usually continue driving with this code because the A/C system will be disabled and the engine will not be damaged, but avoid using the A/C until the fault is repaired to prevent further electrical damage. If the code is accompanied by overheating or charging system warnings, stop driving and seek professional diagnosis.

Tools that help

- Digital multimeter (DMM) with resistance and voltage drop capabilities
- OBD-II scan tool with live data and bidirectional controls
- Wiring diagram for the specific vehicle
- Terminal pick and electrical contact cleaner
- Insulation piercing probes or back-probe kit



Reading P2D43

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

Often seen with

P0532 A/C Refrigerant Pressure Sensor 'A' Circuit Low · **P0645** A/C Clutch Relay Control Circuit · **P2D42** A/C Compressor Motor Voltage B Low · **P2D44** A/C Compressor Motor Performance · **P2D45** Reductant Temperature Too Low

See it working

Watch the animated explainer [How a Supercharger Works: Roots Blower in X-Ray](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2d43/>

