

GENERIC · POWERTRAIN

P06A2

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P06A2

Variable A/C Compressor Control Circuit High

P06A2 indicates that the powertrain control module (PCM) has detected an abnormally high voltage on the control circuit for the variable air conditioning (A/C) compressor. The PCM expects a certain voltage range on this circuit when commanding the compressor, and a reading above the expected threshold triggers this code, often indicating an open circuit, a short to voltage, or a faulty compressor control solenoid.

SYSTEM

Powertrain

CODE TYPE

Generic (all makes)

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Computer and output circuits

Symptoms you may notice

- The air conditioning may blow warm air or not engage at all.
- The A/C compressor clutch may fail to engage or may cycle rapidly.
- The check engine light (malfunction indicator lamp) illuminates.
- Often no symptoms besides the warning light, especially if the A/C system still functions normally.
- In some vehicles, the engine may enter a reduced power mode or disable other accessory functions.

Common causes, most likely first

- 1 Open or high-resistance wiring in the compressor control circuit, such as a broken wire or poor connection.
- 2 Short to voltage on the control circuit, often due to chafed wiring contacting a power source.
- 3 Faulty A/C compressor control solenoid or variable displacement valve.
- 4 Failed PCM driver for the compressor control circuit.
- 5 Corroded or damaged electrical connectors at the compressor or PCM.
- 6 Aftermarket accessories or improper wiring repairs interfering with the circuit.

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 compressor control circuit wiring and connectors for damage, corrosion, or loose pins.
- 3 Measure resistance and voltage on the control circuit to identify opens or shorts; compare to manufacturer specifications.
- 4 Test the A/C compressor control solenoid for proper resistance and function.
- 5 Check the PCM connector and perform a wiggle test to detect intermittent faults.
- 6 If the circuit and solenoid test good, suspect the PCM and perform pinpoint tests before replacement.
- 7 Clear the code and verify the repair with a test drive and A/C operation check.



Don't Replace the Compressor Yet

- A common misdiagnosis is replacing the A/C compressor when the actual fault is a simple open wire in the control circuit, so always perform a thorough circuit test first.
- The variable A/C compressor control circuit often uses a pulse-width modulated signal, and a high voltage code can set if the signal wire is shorted to power, which may not affect A/C performance immediately.
- Some vehicles set P06A2 when the A/C system is low on refrigerant because the compressor control module detects abnormal operation, so check refrigerant charge before condemning electrical parts.
- Intermittent faults can be caused by wire chafing near sharp edges or hot components, so inspect the harness routing carefully, especially near the compressor and exhaust.
- A faulty A/C pressure sensor or a related control module can also cause this code, so don't overlook other components in the A/C control system.

Can I keep driving with P06A2?

You can generally continue driving with this code because the engine and transmission are not directly affected, but the air conditioning may not work. Avoid using the A/C system until the fault is repaired to prevent potential further damage to the compressor or control circuit.

Tools that help

- OBD-II scan tool
- Digital multimeter
- Wiring diagram for the specific vehicle
- Test light
- Socket set and basic hand tools

Reading P06A2

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.
A2	The exact fault within that area.

Often seen with

P0532 A/C Refrigerant Pressure Sensor 'A' Circuit Low · **P0533** A/C Refrigerant Pressure Sensor 'A' Circuit High
 · **P0645** A/C Clutch Relay Control Circuit · **P06A1** Variable A/C Compressor Control Circuit Low · **P06A3** Sensor Reference Voltage D Circuit/Open



See it working

Watch the animated explainer [Disc Brake Trainer: How Car Brakes Stop a Wheel](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p06a2/>

