

CHRYSLER · POWERTRAIN

P1543

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1543 · Chrysler

A/C System Performance

P1543 on Chrysler vehicles means the powertrain control module (PCM) has detected that the air conditioning (A/C) system is not performing as expected, typically because the refrigerant pressure or system response falls outside the programmed limits. The PCM monitors the A/C pressure transducer and compressor clutch operation, and it sets this code when the measured performance does not match the commanded state.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Vehicle speed, idle control and auxiliary inputs

Symptoms you may notice

- The A/C blows warm air or does not cool the cabin effectively
- The A/C compressor clutch may fail to engage or may cycle rapidly
- Often no symptoms besides the warning light, especially if the fault is intermittent
- The blower motor works but the air is not cold
- The A/C may work intermittently or only at certain engine speeds
- The engine cooling fan may run constantly or not at all when A/C is requested

Common causes, most likely first

- 1 Low refrigerant charge due to a slow leak in the system
- 2 Faulty A/C pressure transducer giving inaccurate readings to the PCM
- 3 Open or shorted wiring or connector at the A/C pressure transducer
- 4 Failed A/C compressor clutch or clutch coil
- 5 Restricted A/C system component such as the expansion valve or condenser
- 6 PCM software issue or internal driver fault for the A/C clutch relay
- 7 Blown fuse or faulty A/C clutch relay in the power distribution center



How to diagnose and fix it

- 1 Check for any stored or pending diagnostic trouble codes (DTCs) in the PCM and record freeze-frame data to understand the conditions when P1543 set
- 2 Inspect the A/C pressure transducer connector and wiring for corrosion, loose pins, or damage, and verify reference voltage and ground at the sensor
- 3 Connect a manifold gauge set and compare actual high and low side pressures to the transducer reading on a scan tool to confirm sensor accuracy
- 4 Recover the refrigerant charge, weigh it, and compare to the specified capacity to determine if the system is low or overcharged
- 5 Perform a leak test using ultraviolet dye or an electronic leak detector if the charge is low, and repair any leaks found
- 6 Test the A/C compressor clutch operation by commanding it on with a scan tool and checking for battery voltage and ground at the clutch coil
- 7 If all electrical and refrigerant checks pass, reflash the PCM with the latest calibration or replace the PCM if internal driver failure is confirmed

What most technicians overlook on P1543

- A common misdiagnosis is replacing the A/C compressor when the real problem is a \$40 pressure transducer that is skewing the reading and causing the PCM to disable the clutch.
- The PCM may set P1543 even when the A/C system is fully charged if the pressure transducer signal is intermittent due to a chafed wire near the compressor or condenser.
- On many Chrysler models, the A/C pressure transducer is also used for engine cooling fan control, so a faulty sensor can cause the fan to run constantly or not at all, leading to overheating complaints.
- A weak battery or poor ground connection can cause the PCM to misinterpret A/C clutch feedback and set P1543 without any actual A/C performance issue.
- After repairing the fault, the PCM may require several drive cycles with A/C operation before the code clears from history, so do not assume the repair failed if the light stays on briefly.

Can I keep driving with P1543?

You can usually drive the vehicle with P1543, but the A/C may not work and the engine cooling fan may behave abnormally, which could lead to overheating in traffic. Avoid using the A/C until the fault is repaired, and monitor engine temperature if you must drive.



Tools that help

- OBD-II scan tool with live data capability
- Digital multimeter
- Manifold gauge set for A/C pressures
- Refrigerant leak detector or UV dye kit
- Basic hand tools and test light

Reading P1543

P Powertrain: engine, transmission and emissions.

1 Manufacturer-specific code (Chrysler): its meaning depends on the make.

5 Vehicle speed, idle control and auxiliary inputs.

43 The exact fault within that area.

Often seen with

P1598 A/C Pressure Sensor Voltage Too High · **P1598** A/C Pressure Sensor Voltage Too High · **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

See it working

Watch the animated explainer **Four-Stroke Engine Cutaway: Intake to Exhaust** on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1543/>

