

CHRYSLER · POWERTRAIN

P1490

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1490 · Chrysler

Low Speed Fan CTRL Relay Circuit Open Or Shorted

P1490 on Chrysler vehicles means the powertrain control module (PCM) has detected an open or shorted circuit in the low-speed cooling fan relay control circuit. The PCM commands the relay on or off and monitors the control wire for expected voltage, so it sets this code when the circuit does not respond as designed.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Illuminated check engine light, often with no other noticeable symptoms
- Engine coolant temperature may rise above normal in stop-and-go traffic because the low-speed fan does not run
- Air conditioning performance may degrade when the vehicle is stationary because the condenser fan does not engage at low speed
- The cooling fan may run continuously at high speed or not at all, depending on whether the circuit is open or shorted
- In some cases the fan may run only when the engine is hot enough to trigger the high-speed fan, masking the fault in cool weather

Common causes, most likely first

- 1 Failed low-speed cooling fan relay, which is the most common cause on Chrysler vehicles
- 2 Open or corroded wiring between the PCM and the low-speed fan relay control terminal
- 3 Shorted control wire to ground or to battery voltage, often from chafing against a bracket or heat shield
- 4 Corroded or loose terminals at the relay socket or at the PCM connector
- 5 Failed cooling fan motor that draws excessive current and damages the relay or control circuit
- 6 Faulty PCM driver for the low-speed fan relay, though this is rare compared to wiring and relay failures



How to diagnose and fix it

- 1 Verify the code with a scan tool and check that the low-speed fan command actually changes when the PCM requests fan operation
- 2 Inspect the low-speed fan relay, swap it with an identical relay from the same fuse box, and retest the circuit
- 3 Check the relay socket and PCM connector for corrosion, loose terminals, or pushed-out pins
- 4 Measure resistance and voltage drop on the control wire between the PCM and the relay to find opens or shorts
- 5 Test the cooling fan motor for excessive current draw or a seized bearing that could stress the relay circuit
- 6 Repair or replace damaged wiring and terminals, then clear the code and confirm the low-speed fan runs when commanded
- 7 If the circuit tests good and the relay and fan are known-good, diagnose the PCM driver before condemning the module

What the low-speed fan relay circuit hides

- A relay that clicks does not prove the contacts are good, so always load-test the relay or swap it with a known-good one before chasing wiring
- The low-speed fan relay often shares a fuse box with the high-speed fan relay, and a corroded shared power feed can set P1490 while the high-speed fan still works
- Chrysler PCMs set P1490 based on control-circuit voltage, so a fan motor that is failing but still spinning can trigger the code without any obvious cooling problem
- Aftermarket fan relays with incorrect pinouts are a common cause of repeat P1490 codes on older Chrysler vehicles
- A shorted control wire can damage the PCM driver, so repair the wiring before installing a new PCM to avoid repeating the failure

Can I keep driving with P1490?

You can usually drive short distances at highway speed, but avoid prolonged idling or stop-and-go traffic until the low-speed fan is repaired because the engine may overheat. If the temperature gauge climbs above normal, pull over and shut the engine off.

Tools that help

- OBD-II scan tool with bidirectional fan control capability
- Digital multimeter
- Relay puller or small pick
- Test light
- Wiring diagram for the specific Chrysler model



Reading P1490

- P** Powertrain: engine, transmission and emissions.
- 1** Manufacturer-specific code (Chrysler): its meaning depends on the make.
- 4** Auxiliary emission controls.
- 90** The exact fault within that area.

Often seen with

P1491 Vacuum Cut Valve Bypass Valve · **P1492** EVAP Canister Purge Control Solenoid Valve Circuit · **P1492** Battery Temperature Sensor High Voltage · **P1491** EGR Valve Lift Insufficient Detected · **P1491** Radiator Fan Control Relay Circuit Open Or Shorted · **P1492** Battery Temperature Sensor Voltage Too High · **P1491** Radiator Fan Control Relay Circuit Open Or Shorted · **P1492** Battery Temperature Sensor Voltage Too High · **P0128** Coolant Thermostat (Coolant Temperature Below Thermostat Reg · **P0480** Cooling Fan 1 Control Circuit Malfunction · **P0481** Cooling Fan 2 Control Circuit Malfunction

See it working

Watch the animated explainer [How a Radiator Fan Relay Circuit Works](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/chrysler-p1490/>

