

CHRYSLER · POWERTRAIN

P1487

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1487 · Chrysler

Hi Speed Rad Fan CTRL Relay Circuit Open Or Shorted

P1487 on Chrysler vehicles indicates the powertrain control module (PCM) has detected an open or shorted circuit in the high-speed radiator fan control relay circuit. The PCM commands the relay on or off and monitors the circuit for expected voltage; when the feedback does not match the command, it stores this code and may default the fan to full speed for safety.

SYSTEM

Powertrain

CODE TYPE

Chrysler specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- The radiator cooling fan may run continuously at high speed regardless of engine temperature
- The radiator fan may not run at all, leading to overheating in traffic or at idle
- The check engine light (malfunction indicator lamp) is illuminated
- Engine temperature gauge may climb higher than normal during extended idling
- Often no symptoms besides the warning light, especially if the fan defaults to high speed
- Possible air conditioning performance degradation if the fan does not engage when demanded

Common causes, most likely first

- 1 Failed high-speed radiator fan relay (open coil or welded contacts)
- 2 Open or shorted wiring between the PCM and the relay control circuit
- 3 Corroded or loose connector terminals at the relay, fan, or PCM
- 4 Blown fuse or fusible link supplying the relay power circuit
- 5 Faulty radiator fan motor drawing excessive current or internally shorted
- 6 PCM driver circuit failure (less common but possible)



How to diagnose and fix it

- 1 Verify the battery is fully charged and inspect the radiator fan relay and its connector for corrosion or damage
- 2 Check the fuse and fusible link that supply power to the high-speed fan relay circuit
- 3 Swap the high-speed fan relay with a known-good identical relay and clear the code to see if it returns
- 4 Disconnect the fan motor and measure resistance and current draw; compare to specification
- 5 Backprobe the relay control wire at the PCM and check for open or short to ground/voltage while commanding the fan on with a scan tool
- 6 Inspect the wiring harness for chafing, pinched wires, or corrosion along the route from PCM to relay to fan
- 7 If all circuits test good, suspect the PCM driver and perform pinpoint tests per factory service information before replacement

Relay swaps and hidden wiring faults

- A common misdiagnosis is replacing the radiator fan motor when the actual fault is a corroded relay socket that creates an intermittent open circuit under vibration.
The PCM may command the fan to high speed as a fail-safe when this code sets, so the engine may not overheat even though the circuit is faulty, masking the problem.
- Chrysler vehicles often use a solid-state fan control module on some models, and the code can set from a failed module rather than a simple relay, so confirm the exact configuration before ordering parts.
- Wiring harness damage near the fan shroud or behind the radiator is a frequent cause that visual inspection from the top may miss; check from underneath as well.
A weak battery or charging system can cause the PCM to log this code falsely during engine cranking if voltage drops excessively.

Can I keep driving with P1487?

You can usually drive the vehicle short distances to a repair shop, but monitor the engine temperature gauge closely and avoid prolonged idling or heavy traffic. If the temperature rises above normal or the fan is not running, stop and shut off the engine to prevent overheating damage.

Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter
- Test light
- Relay puller or small screwdriver
- Factory service information or wiring diagram



Reading P1487

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

Often seen with

P1491 Vacuum Cut Valve Bypass Valve · **P1491** EGR Valve Lift Insufficient Detected · **P1491** Radiator Fan Control Relay Circuit Open Or Shorted · **P1491** Radiator Fan Control Relay Circuit Open Or Shorted · **P0480** Cooling Fan 1 Control Circuit Malfunction · **P0481** Cooling Fan 2 Control Circuit Malfunction · **P0482** Cooling Fan 3 Control Circuit Malfunction · **P0483** Fan Rationality Check

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-p1487/>

