

MITSUBISHI · POWERTRAIN

P1487

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P1487 · Mitsubishi

High Speed Radiator Fan Control Relay Circuit Fault

P1487 on Mitsubishi vehicles means the engine control module (ECM) has detected an electrical fault in the high-speed radiator fan control relay circuit, which is the circuit that commands the fan to run at full speed when coolant temperature rises or the air conditioning (A/C) is on. The ECM monitors the relay control wire for expected voltage changes and sets this code when the signal does not match what the commanded fan state should produce.

SYSTEM

Powertrain

CODE TYPE

Mitsubishi specific

SEVERITY

Medium

FIX DIFFICULTY

Intermediate

AREA

Auxiliary emission controls

Symptoms you may notice

- Often no symptoms besides the warning light, especially in cool weather or short trips
- Radiator fan does not run at high speed, leading to coolant temperature rising in traffic or when the A/C is on
- A/C cooling performance drops or the A/C compressor cuts out when the fan fails to engage
- Coolant temperature gauge climbs above normal during extended idling or hot-day driving
- Fan may run continuously at high speed if the relay control circuit is shorted to ground
- Possible engine overheating and coolant boil-over in severe cases

Common causes, most likely first

- 1 Failed high-speed radiator fan relay, often due to burned contacts or a cracked solder joint inside the relay
- 2 Open or corroded wiring between the ECM and the relay control coil, commonly at connector terminals in the underhood fuse box
- 3 Shorted relay control wire to ground or to power, often from chafing against a bracket or heat damage near the exhaust
- 4 Faulty radiator fan motor drawing excessive current or seized, which can stress the relay circuit
- 5 Poor ground connection at the relay mounting point or fan motor ground strap
- 6 ECM driver circuit failure, rare but possible after a shorted relay coil or water intrusion into the ECM connectors



How to diagnose and fix it

- 1 Verify the code with a scan tool and command the high-speed fan on and off while watching for relay click and fan operation
- 2 Inspect the underhood fuse box for the high-speed fan relay, check the fuse and swap the relay with an identical known-good relay to see if the fault follows
- 3 Measure resistance and voltage drop on the relay control wire from the ECM to the relay, looking for opens, shorts, or high resistance at connectors
- 4 Test the radiator fan motor directly with fused jumper wires to confirm it spins freely and does not draw excessive current
- 5 Check and clean the relay ground and fan motor ground connections, then retest the circuit
- 6 If the relay, wiring, and fan motor all test good, back-probe the ECM control wire to confirm the ECM is commanding the relay correctly before condemning the ECM
- 7 Clear the code and road-test with the A/C on and engine at operating temperature to confirm the high-speed fan engages and the code does not return

Why the high-speed fan relay code misleads

- A fan motor that is beginning to seize can pass a quick spin test but draw enough current to damage the relay contacts over time, so always check motor current draw rather than just free rotation.
- The high-speed fan relay is often shared with or controlled by the A/C system on Mitsubishi models, so an A/C pressure switch or A/C request fault can command the fan in a way that sets this code even when the fan circuit itself is sound.
- Corrosion inside the underhood fuse box terminals is a common cause on older Mitsubishi vehicles, and the relay can test good on the bench while the socket terminals fail under load.
- Some Mitsubishi ECMs set P1487 when the relay coil is open but the fan still runs on low speed through a separate circuit, so the driver may never notice a cooling problem until the engine is worked hard.
- Replacing the relay without checking the fan motor and wiring often leads to a repeat failure, because a shorted or high-current fan motor will burn out the new relay contacts.

Can I keep driving with P1487?

You can drive short distances with the warning light on if the temperature gauge stays normal, but avoid heavy traffic, long idles, and towing until the high-speed fan is repaired. If the temperature gauge climbs above normal or the A/C stops cooling, pull over and shut the engine off to prevent overheating damage.



Tools that help

- OBD-II scan tool with bidirectional control capability
- Digital multimeter with min/max and current clamp
- Fused jumper wires for direct fan motor testing
- Relay puller or small pick for fuse box terminals
- Wiring diagram for the specific Mitsubishi model

Reading P1487

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

Often seen with

P1486 EVAP Leak Monitor Pinched Hose Detected · **P1486** EGR Vacuum Control Solenoid Circuit Fault · **P1486** Evap Leak Monitor Pinched Hose · **P1486** Evap Leak Monitor Pinched Hose · **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 [Engine Cooling System Trainer: How Engines Stay Cool](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/mitsubishi-p1487/>

