

GENERIC · POWERTRAIN

P2030

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P2030

Fuel Fired Heater Performance

P2030 indicates that the powertrain control module (PCM) has detected a performance fault in the fuel-fired heater system, which is an auxiliary cabin and engine heater used on some diesel and flex-fuel vehicles. The PCM monitors the heater's electrical circuit and temperature rise, and it sets this code when the heater fails to ignite, does not reach the expected temperature within a calibrated time, or the feedback signal does not match commanded operation.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Fuel and air metering and auxiliary emission controls

Symptoms you may notice

- The heater does not produce heat when activated, leaving the cabin or engine cold in low ambient temperatures.
- A burning or fuel odor may be noticed near the heater unit if ignition is unsuccessful or combustion is incomplete.
- The heater may run for a short period and then shut down prematurely, cycling on and off without reaching operating temperature.
- Excessive white smoke or exhaust from the heater exhaust outlet may be visible during attempted startup.
- The check engine light (malfunction indicator lamp) illuminates, often with no other noticeable driveability symptoms.
- In some cases, the heater blower motor or coolant circulation pump may not activate as part of the heater's startup sequence.

Common causes, most likely first

- Clogged or restricted fuel supply line or fuel filter at the heater, preventing adequate fuel delivery for ignition.
- Faulty glow plug or ignition element inside the heater, which fails to light the fuel-air mixture.
- Carbon buildup or coking on the heater's combustion chamber or heat exchanger, reducing efficiency and causing performance faults.
- Defective flame sensor or temperature sensor that provides incorrect feedback to the heater control module.
- Failed heater control module or blower motor resistor, disrupting command signals or air flow.
- Wiring damage, corrosion, or loose connectors in the heater circuit, including power, ground, and communication lines.
- Low fuel level in the tank or a malfunctioning fuel pump that supplies the heater, especially if the heater draws from a separate pickup.



How to diagnose and fix it

- 1 Verify the fuel level and condition, and inspect the heater fuel line and filter for blockage or air locks; replace the filter if restricted.
- 2 Check all electrical connections and wiring at the heater unit, control module, and fuel pump for corrosion, looseness, or damage; repair as needed.
- 3 Test the glow plug and flame sensor with a multimeter according to the manufacturer's specifications; replace any component that is out of range.
- 4 Remove and inspect the heater combustion chamber and heat exchanger for carbon buildup; clean or replace the heater assembly if severely coked.
- 5 Use a scan tool to command the heater on and monitor live data for commanded versus actual temperature and flame status; diagnose communication faults if the heater does not respond.
- 6 Check the heater control module for power, ground, and communication signals; replace the module if it fails to command the heater correctly.
- 7 After repairs, clear the diagnostic trouble codes and perform a heater run cycle to confirm proper ignition and temperature rise, ensuring the code does not return.

Fuel-fired heater faults often misdiagnosed

- A common oversight is assuming the fuel-fired heater shares the engine's fuel system; many units have a separate fuel pickup and pump, so a fault can occur even when the engine runs perfectly.
- Carbon buildup from short run times or low-quality fuel is a frequent cause of performance codes, and simply cleaning the combustion chamber often resolves the issue without replacing major components.
- The heater's flame sensor can fail intermittently, setting a performance code only under certain temperature conditions, so a thorough live-data check during a cold start is essential.
- Wiring harness chafing near the heater exhaust or moving suspension components can cause intermittent open circuits that mimic component failures, so always inspect the harness routing.
- Some vehicles require a heater software update or recalibration to correct false performance codes, so check for technical service bulletins before replacing parts.

Can I keep driving with P2030?

The vehicle remains safe to drive because the fuel-fired heater is an auxiliary system and does not affect engine operation or safety, but you should avoid using the heater until the fault is repaired to prevent potential fuel leaks or excessive smoke. In cold weather, rely on the engine's standard heating system and dress warmly, and have the fault diagnosed soon to restore cabin comfort.



Tools that help

- OBD-II scan tool with live data and bidirectional control capability
- Digital multimeter for electrical testing
- Fuel pressure gauge and adapter for heater fuel line
- Basic hand tools (sockets, wrenches, screwdrivers) for component access
- Inspection mirror and flashlight for checking combustion chamber condition

Reading P2030

- P** Powertrain: engine, transmission and emissions.
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- 2** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
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- 0** Fuel and air metering and auxiliary emission controls.
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- 30** The exact fault within that area.

Often seen with

P2031 Exhaust Gas Temperature Sensor Circuit (Bank 1 Sensor 2) · **P2032** Exhaust Gas Temperature Sensor Circuit Low (Bank 1 Sensor 2) · **P2033** Exhaust Gas Temperature Sensor Circuit High (Bank 1 Sensor 2) · **P2034** Exhaust Gas Temperature Sensor Circuit (Bank 2 Sensor 2) · **P2035** Exhaust Gas Temperature Sensor Circuit Low (Bank 2 Sensor 2)

See it working

Watch the animated explainer [Car Won't Start? Step-by-Step No-Start Diagnosis](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p2030/>

