P2030: FUEL FIRED HEATER PERFORMANCE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	**$100-$1700**
Can I Still Drive?	:	**Yes**

What Does The P2030 Code Mean?

This diagnostic trouble code (DTC) is a generic powertrain code and applies to many OBD-II vehicles (1996-newer). That may include but is not limited to vehicles from Mercedes-Benz, Land Rover, Opel, Toyota, Volvo, Jaguar, etc. Although generic, the exact repair steps may vary depending on year, make, model and powertrain configuration.

If your vehicle has stored a code P2030, it means that the powertrain control module (PCM) has detected a malfunction in the auxiliary or fuel fired heater system. This type of code is applicable to vehicles with fuel fired heater systems only.

Creating cabin heat in vehicles with modern, clean-burning diesel engines can be challenging especially in geographic areas with extremely cold ambient temperatures. Due to the overall mass of the diesel engine, heating the engine enough for the thermostat to open (particularly at idle) may be impossible when temperatures plummet. This can create a problem inside the passenger compartment if warm coolant fails to flow into the heater core.

In order to correct this condition, some vehicles utilize a fuel fired heater system. Typically, a small, pressurized fuel reservoir supplies an enclosed burner with a precisely regulated amount of fuel whenever ambient temperature falls below a certain level. The fuel fired heater injector and igniter may be automatically activated or manually activated by vehicle occupants.

Coolant flows through the inline burner, where it is heated, and continues to the passenger

compartment. This allows the windshield and other components to be defrosted before the vehicle is put in motion and before the engine reaches normal operating temperature.

Most often, coolant temperature sensors are used to determine heater temperature but some models also use air temperature sensors. The PCM monitors the temperature sensors to ensure that the fuel fired heater is functioning properly.

If the PCM does not detect an appropriate degree of temperature differential between coolant entering the fuel fired heater and coolant exiting the fuel fired heater, a code P2030 may be stored and a malfunction indicator lamp (MIL) illuminated. Multiple ignition cycles (with a failure) may be required for MIL illumination.

What Are The Symptoms Of The P2030 Code?

Symptoms of a P2030 trouble code may include:

- No heat in passenger compartment
- Excessive heat in passenger compartment
- Climate control blower may be temporarily disabled
- No symptoms may be exhibited

What Are The Potential Causes Of The P2030 Code?

Causes for this code may include:

- Defective temperature sensor (air or coolant)
- Bad fuel fired heater injector
- Faulty fuel fired heater burner/igniter
- Shorted or open wiring or connectors in fuel fired heater circuit
- Faulty PCM or a programming error

How Can You Fix The P2030 Code?

A diagnostic scanner, a digital volt/ohmmeter (DVOM), and a source of vehicle specific diagnostic information will be required to diagnose a code P2030.

You may use your source of vehicle information to locate a technical service bulletin (TSB) that matches the vehicle year, make, and model; as well as the engine size, code/s stored, and symptoms exhibited. If you find one, it could yield helpful diagnostic information.

Use the scanner (connected to the vehicle diagnostic connector) to retrieve all stored codes and pertinent freeze frame data. It is a good idea to write this information down before clearing the codes then test-drive the vehicle until the PCM either enters readiness mode or the code is reset.

If the PCM enters readiness mode at this time, the code is intermittent and may be much more difficult to diagnose. If this is the case, the conditions which contributed to the code being stored may need to worsen before an accurate diagnosis can be made.

If the code is immediately reset, the next step of your diagnosis will require that you search your vehicle information source for diagnostic flow-charts, connector pin-out charts, connector face views, and component testing procedures/specifications.

Step 1

Use the DVOM to test temperature sensors (air or coolant) according to manufacturer specifications. Sensors which do not test within maximum allowable parameters should be considered defective.

Step 2

Use your source of vehicle diagnostic information and the DVOM to test fuel fired heater injectors and igniters with the system activated. If climate conditions won't permit activation, use the scanner to manually activate.

Step 3

If system switches and other components are functional, use the DVOM to test input and output signal circuits from the fuse panel, PCM, and ignition switch. Disconnect all controllers prior to using the DVOM for testing.

- Fuel fired heater systems are used primarily in diesel powered vehicles and in extremely cold markets

Severity Description

A stored code P2030 will likely be accompanied by a lack of heat in the passenger compartment. The stored code indicates that either an electrical issue or a serious mechanical failure has occurred. In really cold weather, conditions which contributed to a code of this nature being stored should be rectified as quickly as possible.

Reference Sources

P2030 Fuel Fired Heater Performance, OBD-Codes.