

P04A4: EXHAUST PRESSURE CONTROL VALVE B STUCK OPEN

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$100-\$300
Can I Still Drive?	:	Yes

What Does The P04A4 Code Mean?

A stored code P04A4 means that the powertrain control module (PCM) has detected a malfunction in one of the exhaust pressure control (regulator) valves. Valve "B" typically indicates the problem has occurred in the bank of the engine which does not contain the number one cylinder but designs vary between manufacturers. In this case, the valve appears to be stuck in the open position.

Exhaust pressure (also called back pressure) regulators are used in turbocharged gasoline and diesel engines. Exhaust back pressure control valve operation is often similar to that of the throttle body. It uses an electronically controlled plate to restrict exhaust flow as determined by the PCM. There is also an exhaust back pressure control valve position sensor and/or an exhaust back pressure sensor.

Increased exhaust back pressure is used to elevate engine and engine coolant temperature faster. This can be especially helpful in very cold climates.

This is a basic, generic overview of exhaust pack pressure valve operation. Check specifications for the vehicle in question before making any assumptions. When the PCM detects a cold air intake temperature that is below a minimum threshold, it will initiate exhaust back pressure valve operation and maintain it until the intake air temperature is normalized. Exhaust back pressure regulator activation usually only occurs once per each ignition cycle. The exhaust back pressure

control valve is designed to park in the wide open position once it is deactivated by the PCM.

If the PCM detects that the exhaust back pressure regulator is not in the desired position, or if the exhaust back pressure sensor indicates that it is out of position, a code P04A4 will be stored and a malfunction indicator lamp (MIL) may be illuminated.

What Are The Symptoms Of The P04A4 Code?

Symptoms of a P04A4 trouble code may include:

- Delayed engine warm up
- Engine stall or stumble when cold
- Diminished engine performance when cold
- Other exhaust back pressure codes

What Are The Potential Causes Of The P04A4 Code?

Causes for this P04A4 code may include:

- Defective exhaust back pressure control valve position sensor
- Bad exhaust pressure sensor
- Faulty exhaust pressure control valve
- Open or shorted wiring in one of the exhaust pressure control valve circuits

How Can You Fix The P04A4 Code?

Tools

A reliable vehicle information source will be required to diagnose a code P04A4. Other tools needed:

- A diagnostic scanner
- A digital volt/ohmmeter (DVOM)
- An infrared thermometer with a laser pointer

Procedure

After a careful visual inspection of system related wiring and connectors, find the vehicle diagnostic port. Connect the scanner to the port and retrieve all stored codes and freeze frame data. Write this information down because it may be helpful as your diagnosis proceeds.

Now, clear the codes and test drive the vehicle to see if the P04A4 immediately returns. If there are intake air temperature codes or engine coolant temperature codes present, diagnose and repair those before attempting to diagnose the P04A4.

Search technical service bulletins (TSB), which apply to the vehicle, codes, and symptoms in question. If you find one that matches, it will likely aid you greatly in your diagnosis.

- If no obvious wiring or connector issues are discovered, begin by testing the expected voltage signal at the exhaust pressure control valve (with the DVOM). You may need to use the scanner to simulate a cold start condition and activate the exhaust pressure control system.
- If the appropriate voltage/ground signal is not discovered at the exhaust pressure control valve connector, disconnect all related controllers and use the DVOM to test individual circuit resistance and continuity. Circuits which are found to be non-compliant must be repaired or replaced.
- If the correct degree of voltage/ground is discovered at the exhaust pressure control valve, follow manufacturer's recommendations for testing the exhaust pressure control valve (using the DVOM). If the exhaust pressure control valve pin out test does not parallel manufacturer's specifications, it should be replaced.
- If the exhaust pressure control valve and circuits are operable, test the exhaust pressure control valve position sensor or exhaust pressure sensor (as applicable) according to manufacturer's specifications. Replace failed components as necessary.

You may use the infrared thermometer to gain an actual exhaust temperature reading if no scanner data display is available. This could prove helpful to determine whether the exhaust pressure control valve is actually functioning or not. It may also detect a valve that is stuck in either the open or closed position.

- A defective catalytic converter or muffler will not cause a code P04A4 to be stored
- Exhaust pressure control systems are most often used in turbocharged/supercharged applications

Severity Description

Since exhaust back pressure may affect climate control and drivability functions, a stored code P04A4 should be addressed with a certain degree of urgency.

Reference Sources

[P04A4 Exhaust Pressure Control Valve B Stuck Open](#), OBD-Codes.