

P2070: INTAKE MANIFOLD TUNING (IMT) VALVE STUCK OPEN BANK 1

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$100-\$2050
Can I Still Drive?	:	Yes

What Does The P2070 Code Mean?

A stored code P2070 means that the powertrain control module (PCM) has detected an intake manifold tuning (IMT) valve that is stuck open for engine bank two. Bank 1 refers to the bank of the engine which contains the number one cylinder.

Intake manifold tuning is used to restrict and control intake air as it enters individual manifold ports. Not only is the volume of intake air regulated by the IMT, a swirling motion is also created. These two factors aid in more effective fuel atomization. Each intake manifold port is outfitted with a metal flap; not unlike the throttle plate.

A single shaft runs from one end of the manifold (per engine bank) to the other and through the middle of each port. The metal flaps are attached to the shaft which will be turned (slightly) to effect opening and closing of the flaps.

The IMT shaft is actuated by the PCM. Some systems use an electronic over vacuum system of actuators (valves). Other systems use an electronic motor to effect flap movement. The PCM sends the appropriate voltage signal and the IMT valve opens and closes the valve/s to the desired degree. The PCM monitors actual valve position to determine if the system is functioning as intended.

If the PCM detects that the IMT valve is stuck open, a code P2070 will be stored and a malfunction

indicator lamp (MIL) illuminated. MIL illumination may require multiple ignition cycles with a failure.

What Are The Symptoms Of The P2070 Code?

Symptoms of a P2070 trouble code may include:

- Diminished fuel efficiency
- Reduced engine performance
- Lean or rich exhaust codes
- No symptoms at all may be exhibited

What Are The Potential Causes Of The P2070 Code?

Causes for this code may include:

- Binding or loose IMT flaps
- Defective IMT actuator (valve)
- Vacuum leak
- Open or shorted wiring or connectors
- Faulty PCM or a PCM programming error

How Can You Fix The P2070 Code?

A diagnostic scanner, a digital volt/ohmmeter (DVOM), and a source of vehicle specific diagnostic information will be required to diagnose a code P2070.

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 your source of vehicle diagnostic information and the DVOM to test voltage, ground, and signal circuits at the appropriate IMT valve.

Step 2

Use the DVOM to test the appropriate IMT valve according to manufacturer specifications. Components which do not test within maximum allowable parameters should be considered defective.

Step 3

If the IMT valve is functional, use the DVOM to test input and output signal circuits from the fuse panel, and PCM. Disconnect all controllers prior to using the DVOM for testing.

- Failed IMT valves, linkages, and bushings are typically at the root of IMT related codes.

Severity Description

IMT system failure could adversely affect fuel efficiency and, in rare cases, involve hardware being drawn into a combustion chamber. Conditions which led to a code P2070 being stored should be rectified as quickly as possible.

Reference Sources

[Diagnostic Trouble Code \(DTC\) Charts and Descriptions for P2070](#) - Page 132.