

P0035: TURBO CHARGER BYPASS VALVE CONTROL CIRCUIT HIGH

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$100-\$400
Can I Still Drive?	:	No

What Does The P0035 Code Mean?

When I find this code stored in a turbocharged vehicle, I know that the powertrain control module (PCM) has detected a malfunction in the control circuit for the turbocharger boost pressure bypass valve. This electronically controlled valve is designed to relieve excessive turbocharger boost pressure. This code, in particular, indicates that a high boost condition or high boost pressure bypass valve circuit voltage has been detected.

While the boost controller is occasionally a stand-alone module, it is more frequently an integrated part of the PCM. The purpose of the turbocharger boost controller (as the name implies) is intended to calculate input data from various engine and transmission sensors and use the calculations to determine how much boost pressure is required for the engine to perform at optimum levels at any given time or circumstance.

The boost pressure control valve is then opened or closed as commanded by the PCM. If the desired boost pressure fails to coincide with actual boost pressure (as regulated by the PCM) a turbocharger bypass valve control circuit high code will be stored and a service engine soon lamp may be illuminated. Turbo bypass control valves, which are electronically controlled, are monitored through a signal circuit to the PCM. A turbocharger bypass valve control circuit high code will be stored if signal voltage falls below a programmed range for an unacceptable amount of time.

A turbo bypass control valve that is actuated with a small electric motor is the norm for most OBD-II

equipped vehicles. Nevertheless, there are a few manufacturers that still utilize a vacuum operated valve. Electronic valves are controlled directly by a voltage signal from the PCM; vacuum actuated valves are controlled using a vacuum control (or vacuum service) solenoid. The vacuum service solenoid is typically supplied with constant engine vacuum. A voltage signal from the PCM initiates opening (and closing) of the solenoid to allow or restrict vacuum to the valve as required. Always consult the service manual (or equivalent) for your vehicle (turbocharger bypass control system specifications) before attempting diagnosis.

Since the conditions for causing this code to be stored can lead to major engine damage from excessive or insufficient turbocharger boost pressure, this type of code should be checked out at your earliest convenience.

What Are The Symptoms Of The P0035 Code?

Symptoms of a P0035 engine code may include:

- Increased engine and/or transmission temperatures
- Random noises from the turbocharger wastegate and/or hoses
- Reduced engine performance
- Black smoke from the exhaust system
- Other turbocharger boost related codes, engine misfire codes, or knock sensor codes may also be stored
- The spark plugs may be fouled
- Hotter engine temperatures may also lead to cylinder detonation

What Are The Potential Causes Of The P0035 Code?

Potential causes for this P0035 code include:

- A defective boost pressure sensor is possibly the most common cause of a stored turbocharger bypass valve control circuit high code
- Turbocharger bypass valve failure
- Collapsed, disconnected, or split vacuum lines (applicable for vacuum actuated bypass valves)
- Turbocharger bypass valve actuator problems
- A shorted or open circuit in the turbocharger bypass control sensor circuit
- Loose, corroded, or disconnected electrical wiring/connectors in the turbocharger bypass control/boost pressure sensor reference circuit
- A bad PCM or boost controller

How Can You Fix The P0035 Code?

A good starting point is always to check for technical service bulletins (TSB) for your particular vehicle. Your issue may be a known issue with a known fix put out by the manufacturer and can

save you time and money during diagnosis.

Somewhere between nine and fourteen-pounds of boost pressure is typically the figure that most turbocharger boost controllers are programmed to effect. In order to maintain an acceptable degree of turbocharger boost pressure, the boost pressure bypass control valve is opened and closed to a calculated degree (via an electrical signal from the PCM).

I generally start with an inspection of all wiring and vacuum hoses related to the turbocharger and boost control system when attempting to diagnosis this code.

You may continue with reading and recording all stored trouble codes and snap-shot data, then clearing the codes from the system. If the code fails to reset, then you know that it is intermittent. Some vehicles place the boost pressure bypass valve in the wide-open position when this type of code is stored; clearing the stored codes will also allow the system to return to a normal operating mode before you begin physical testing.

Notes:

- System controllers and components may be damaged if you fail to disconnect them from system circuitry prior to testing continuity with a digital volt/ohmmeter (DVOM)
- Frequently, the boost control valve is condemned in error when the boost pressure sensor is actually the defective part
- Exhaustive testing for individual system circuits and components will prevent misdiagnosis that may lead to unnecessary component replacement
- To ensure that that system circuit voltage and continuity are within manufacturer's specifications, I normally use a (DVOM) for testing. A system wiring diagram or manufacturer's service manual (with diagnostic flow charts) will be indispensable

Reference Sources

[Technical Service Bulletin P0035](#) - Honda