

P245B: EXHAUST GAS RECIRCULATION COOLER BYPASS CONTROL CIRCUIT RANGE/PERFORMANCE

OVERVIEW

Severity	:	<div><div>Medium</div></div>
DIY Difficulty Level	:	<div><div>Intermediate</div></div>
Repair Cost	:	\$270-\$3700
Can I Still Drive?	:	Yes (Short-term only)

What Does The P245B Code Mean?

OBD-II trouble code P245B and related codes [P245A](#), [P245C](#), and [P245D](#) are associated with the Exhaust Gas Recirculation (EGR) cooler bypass control circuit.

The purpose of the EGR cooler bypass control circuit is to open and close the EGR bypass valve under predetermined conditions to prevent the EGR cooler from being overloaded known as fouling that effects the performance and efficiency of a diesel engine.

The Engine Control Module (ECM) monitors the operation of this circuit by receiving voltage references from the EGR temperature switch and other associated components to operate the EGR cooler bypass valve returning the exhaust gases to the intake for combustion in most configurations. The location of the EGR bypass valve, EGR cooler, temperature switch and associated components are vehicle specific and vary tremendously determined by the manufacture.

When the ECM detects improper voltage or resistance that is outside the normal expected value range within the exhaust gas recirculation cooler bypass control circuit, code P245B will be set and the check engine light, service engine soon light or both may be illuminated.

What Are The Symptoms Of The P245B Code?

Symptoms of a P245B trouble code may include:

- Engine may fail emissions test
- Ignition ping or knock on acceleration
- Increased fuel consumption
- Poor engine performance
- Service engine soon light illuminated
- Check engine light illuminated

What Are The Potential Causes Of The P245B Code?

Causes for this P245B code may include:

- Defective EGR cooler bypass valve
- Clogged or damaged EGR cooler
- Temperature switch malfunction
- Excessive carbon buildup
- Faulty or damaged wiring
- Corroded, damaged or loose connector
- Defective ECM

How Can You Fix The P245B Code?

The first step in the troubleshooting process for any malfunction is to research the Technical Service Bulletins (TSB's) for the specific vehicle by year, model and power plant. In some circumstances, this can save a lot of time in the long run by pointing you in the right direction.

The second step is to locate all components associated with the EGR cooler bypass circuit and examine for obvious physical damage. Based on the specific vehicle, this circuit may incorporate several components including the temperature switch, bypass valve, EGR valve, EGR cooler and the ECM. Perform a thorough visual inspection to check the associated wiring for obvious defects such as scraping, rubbing, bare wires, or burn spots.

Next is to check the connectors and connections for security, corrosion and damaged pins. This process must include all wiring connections to all the components including the EGR temperature switch and the ECM. Consult the specific tech data for the vehicle to verify the configuration of the EGR cooler bypass valve control circuit and confirm every component incorporated within the circuit which may include a fuse or a fuse-able link in some applications.

Advanced Steps

The advanced steps become very vehicle specific and require the appropriate advanced equipment to perform accurately. These procedures require a digital multi meter and the specific technical references for the vehicle.

Voltage Checks

The reference voltage and the acceptable ranges may vary based on the specific vehicle and the circuit configuration. Specific technical data will include troubleshooting charts and the appropriate sequence to follow assisting you with an accurate diagnosis.

If this process identifies the absence of a power source or ground, continuity testing may be required to check the integrity of the wiring, connectors and other components. Continuity tests should always be performed with the power removed from the circuit and the normal readings for wiring and connections should be 0 ohms of resistance. Resistance or no continuity is an indication of faulty wiring that is open, shorted or corroded and must be repaired or replaced.

Severity Description

The severity of this code can vary tremendously from moderate to severe depending on the specific symptoms of the malfunction and the serviceability level of the cooler and bypass valve. A malfunctioning EGR valve or control circuit can cause the engine to have excessive ignition and pre-ignition that may cause damage to the pistons, valves and other associated internal engine components.

Reference Sources

[P245B Exhaust Gas Recirculation Cooler Bypass Control Circuit Range/Performance](#), OBD-Codes.