P063B: GENERATOR VOLTAGE SENSE CIRCUIT RANGE/PERFORMANCE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$500-$2700**
Can I Still Drive?	:	No

What Does The P063B Code Mean?

The P063B OBDII trouble code is associated with the generator voltage sense circuit. When the Powertrain Control Module (PCM) detects improper signals within the generator voltage sense circuit code P063B will be set. Based on the vehicle and the specific malfunction the battery warning light, check engine light or both will be illuminated.

Related codes associated with this circuit are P063A, P063C, and P063D.

The purpose of the generator voltage sense circuit is to monitor the alternator and battery voltage during vehicle operation. The output voltage of alternator must be at a level that is capable of compensating for battery draws from electrical components including the starter, lighting and various other accessories.

In addition, the voltage regulator must adjust the output to provide sufficient voltage to charge the battery.

Code P063B is set by the PCM when it detects an out of range situation or performance problem within the generator (alternator) sense circuit.

What Are The Symptoms Of The P063B Code?

Symptoms of a P063B trouble code may include:

- Battery warning lamp illuminated
- The engine will not start
- The engine will crank over slower than normal
- Check engine light illuminated

What Are The Potential Causes Of The P063B Code?

Causes for this P063B code may include:

- Faulty alternator
- Defective voltage regulator
- Loose or damaged serpentine belt
- Defective serpentine belt tensioner
- Blown fuse or fuse-able link (if applicable)
- Corroded or damaged connector
- Corroded or damaged battery cable
- Faulty or damaged wiring
- Faulty PCM
- Defective battery

How Can You Fix The P063B 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 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 connectors and connections to the battery, alternator, PCM, and the voltage regulator. Some charging system configurations may be more complex including relays, fuse-able links and fuses in some circumstances. The visual inspection should also include the condition of the serpentine belt and the belt tensioner.

The belt should be tight with a sight amount of flexibility and the tensioner must move freely and apply the appropriate amount of pressure on the serpentine belt. Based on the vehicle and the charging system configuration a defective or damaged voltage regulator will require an alternator replacement in most circumstances.

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. The ideal tool to use in this situation is a charging system diagnostic device, if available. Voltage requirements will very based on the specific year and model of the vehicle.

Voltage Checks

The battery voltage should be appropriately 12 volts and the alternator output must be higher to compensate for electrical draws and charge the battery as well. The lack of voltage indicates a faulty alternator, voltage regulator or a wiring issue. If the alternator voltage output is in the appropriate range, this is an indication that the battery requires replacement or a wiring issue exists.

If this process identifies the absence of a power source or ground, continuity testing may be required to check the integrity of the wiring, alternator, voltage regulator 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 unless otherwise specified by the technical data.

Resistance or no continuity is an indication of faulty wiring that is open or shorted and must be repaired or replaced.

Severity Description

The severity of this code can vary tremendously from just an illuminated check engine light or battery warning light on a vehicle that starts and runs to an automobile that will not start at all.

Reference Sources

P063B Generator Voltage Sense Circuit Range/Performance, OBD-Codes.