P0620: GENERATOR CONTROL CIRCUIT MALFUNCTION

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$50-$250**
Can I Still Drive?	:	**Yes**

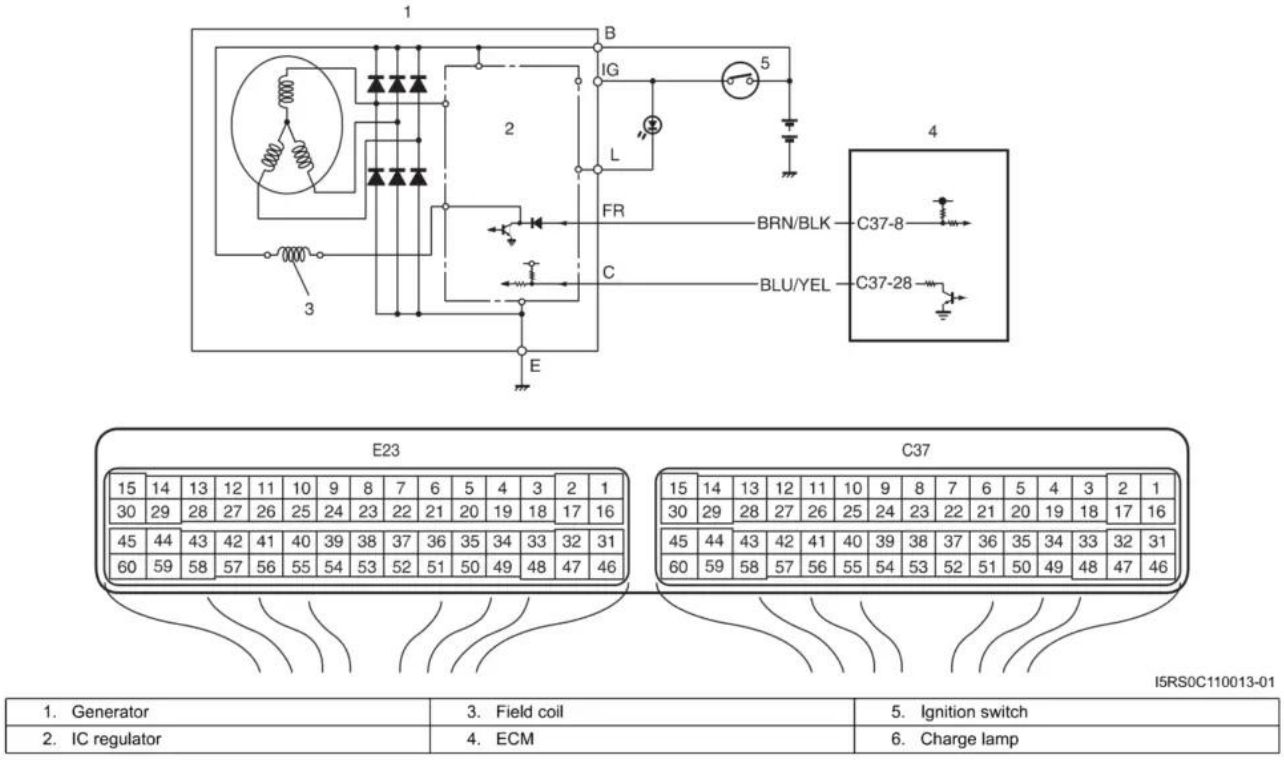
What Does The P0620 Code Mean?

A stored code P0620 means that the powertrain control module (PCM) has detected a malfunction with the generator control circuit.

The PCM typically energizes and monitors the generator control circuit whenever the engine is running.

Each time the ignition is turned on and the PCM is energized, multiple controller self-tests are performed. In addition to running internal controller self-tests, the controller area network (CAN) is used to compare signals from each individual module to ensure that the various controllers are interacting properly.

If a problem is detected in monitoring the generator control circuit, a code P0620 will be stored and a malfunction indicator lamp (MIL) may be illuminated. Depending upon the perceived severity of the malfunction, multiple failure cycles may be necessary for MIL illumination.



1. Generator	3. Field coil	5. Ignition switch
2. IC regulator	4. ECM	6. Charge lamp

What Are The Symptoms Of The P0620 Code?

Symptoms of a P0620 trouble code may include:

- Engine drivability issues
- Engine stall when idling
- Delayed engine cranking (especially when cold)
- Other stored codes

What Are The Potential Causes Of The P0620 Code?

Causes for this code may include:

- Faulty PCM
- PCM programming error
- Open or shorted generator control circuit
- Failed generator assembly
- Insufficient control module ground

How Can You Fix The P0620 Code?

A diagnostic scanner, a battery/alternator tester, a digital volt/ohmmeter (DVOM), and a source of reliable vehicle information will be required to diagnose a code P0620.

Search you vehicle information source for technical service bulletins (TSB) that parallel the code stored, vehicle (year, make, model, and engine), and symptoms exhibited. If you find the right TSB, it may yield diagnostic information that will aid you in a major way.

Step 1

Begin by connecting the scanner to the vehicle diagnostic port and retrieving all stored codes and freeze frame data. You will want to write this information down, just in case the code proves to be an intermittent one. After recording all pertinent information, clear the codes and test drive the vehicle until the code is reset or the PCM enters readiness mode.

If the PCM enters readiness mode, the code is intermittent and will be more difficult to diagnose. The condition, which caused the P0620 to be stored, may even need to worsen before a diagnosis can be made. If the code is reset, continue with your diagnosis.

Step 2

Use the battery/alternator tester to test the battery and make sure that it is sufficiently charged. If it is not, test the alternator/generator. Follow manufacturers recommended specifications for minimum and maximum voltage output requirements for the battery and alternator. If the alternator/generator is not charging, proceed to the next step in your diagnosis.

Step 3

Use your source of vehicle information to obtain connector face views, connector pin-out charts, component locators, wiring diagrams, and diagnostic flow charts related to the code and vehicle in question.

Step 4

Check to see if there is battery voltage at the alternator/generator by using the appropriate wiring diagram and your DVOM. If not check system fuses and relays and replace defective parts as required. If all fuses and relays are functioning normally, suspect that the alternator/generator is bad.

Step 5

If the alternator is charging and the P0620 continues to reset, use the DVOM to test controller power supply fuses and relays. Replace blown fuses as required. Fuses should be tested with the circuit loaded.

Step 6

If all fuses and relays appear to be functioning as intended, a visual inspection of controller related wiring and harnesses is in order. You will also want to check chassis and engine ground junctions. Use your vehicle information source to obtain ground locations for related circuits. Use the DVOM to test ground integrity.

Step 7

Visually inspect system controllers for signs of water, heat, or collision damage. Any controller that is damaged, especially by water, should be considered defective.

If controller power and ground circuits are intact, suspect a defective controller or a controller programming error. Controller replacement will require reprogramming. In some cases, you may purchase reprogrammed controllers through aftermarket sources. Other vehicles/controllers will require on-board reprogramming that may only be done through a dealership or other qualified source.

- Unlike most other codes, the P0620 is likely caused by a defective controller or a controller programming error
- Test system ground integrity by connecting the negative test lead of the DVOM to ground and the positive test lead to battery voltage

Severity Description

Internal control module codes must always be taken seriously. A stored code P0620 could result in a variety of drivability concerns, including a no-start and/or dead battery condition.

Reference Sources

P0620 Generator Control Circuit Malfunction, OBD-Codes.