P0610: CONTROL MODULE VEHICLE OPTIONS ERROR

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	**$300-$900**
Can I Still Drive?	:	No

What Does The P0610 Code Mean?

A stored code P0610 means that the powertrain control module (PCM) has detected an internal control module issue. The malfunction is related to the portion of the PCM that recognizes, monitors, and controls specific vehicle options.

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

If the PCM fails to recognize vehicle equipment options or if certain option characteristics do not match the vehicle identification number (and other protocol), a code P0610 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.

What Are The Symptoms Of The P0610 Code?

Symptoms of a P0610 trouble code may include:

- Engine drivability issues
- Erratic (automatic) transmission shifting
- Other stored codes
- Diminished fuel efficiency

What Are The Potential Causes Of The P0610 Code?

Causes for this code may include:

- Faulty PCM
- PCM programming error
- Open or shorted circuit or connectors in the CAN harness
- Failed PCM power source
- Insufficient control module ground

How Can You Fix The P0610 Code?

Even to the most experienced and well-equipped professional technician, diagnosing a code P0610 can prove to be quite a challenge. There is also the issue of reprogramming. Without the necessary reprogramming equipment, it will be impossible to replace a defective controller and complete a successful repair.

If there are ECM/PCM power supply codes present, they will obviously need to be rectified before attempting to diagnose a P0610.

There are several preliminary tests that can be performed prior to declaring any controller defective. A diagnostic scanner, a digital volt/ohmmeter (DVOM), and a source of reliable vehicle information will be required.

Step 1

Connect the scanner to the vehicle diagnostic port and retrieve 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 P0610 to be stored, may even need to worsen before a diagnosis can be made. If the code is reset, continue with this short list of preliminary tests.

Step 2

When attempting to diagnose a P0610, information may be your greatest tool. 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.

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 3

Use the DVOM to test controller power supply fuses and relays. Test and replace blown fuses as required. Fuses should be tested with the circuit loaded.

Step 4

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 5

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

Step 6

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.

Note:

- Unlike most other codes, the P0610 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 P0610 could result in a variety of drivability concerns, including a no-start condition.

Reference Sources

Diagnostic Trouble Code (DTC) Charts and Descriptions for P0610 - Page 92.