U0120: LOST COMMUNICATION WITH STARTER GENERATOR CONTROL MODULE

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Advanced
Repair Cost	:	**$75-$400**
Can I Still Drive?	:	No

What Does The U0120 Code Mean?

This code means that the Starter Generator Control Module (SGCM) and other control modules on the vehicle are not communicating with each other. The circuit most often used to communicate with is known as Controller Area Network bus communications, or simply put, CAN bus.

Without this CAN bus, control modules cannot exchange information, and your scan tool may not be able to get information from the vehicle, depending on which circuit is affected.

The SGCM determines how hot or cold the batteries are getting and modifies the charging system to insure the batteries stay at the correct state of charge. They also monitor the starting system to determine when a malfunction is likely to occur. This information is communicated to the PCM to turn on the Malfunction Indicator Light (MIL) or in the case of a hybrid, the Hybrid Warning Indicator Light.

Troubleshooting steps may vary depending upon manufacturer, type of communications system, number of wires and wire colors in the communication system.

What Are The Symptoms Of The U0120 Code?

Symptoms of a U0120 engine code may include:

- Malfunction Indicator Light (MIL) On
- Hybrid Warning Indicator On when applicable
- Vehicle may not start or run
- Vehicle may run but on gasoline engine only if hybrid

What Are The Potential Causes Of The U0120 Code?

Typically the causes for this code to set are:

- Open in the CAN bus + circuit
- Open in the CAN bus – circuit
- Short to power in either CAN bus circuit
- Short to ground in either CAN bus circuit
- Open power or ground to SGCM module – most common
- Rarely – faulty control module

How Can You Fix The U0120 Code?

Check for technical service bulletins (TSB)

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.

First, note if there are any other diagnostic fault codes. If any of them are bus communication related, or battery / hybrid related, diagnose them first. Misdiagnosis has been known to occur if you diagnose the U0120 code before any of the basic codes have been thoroughly diagnosed and dismissed.

If your scan tool can access fault codes and the only one you retrieve from other modules is the U0120, try to access the Starter Generator Control Module. If you can access codes from the SGCM module, then the U0120 code is either intermittent or a memory code. If unable to access codes for the SGCM module, then the U0120 code that the other modules are setting is active, and the problem is there now.

The most common failure is loss of power or ground to the SGCM module.

Before going any further, a word of caution: If this is a Hybrid vehicle: This is a High Voltage system! If warnings are not heeded, and/or the manufacturer's steps to protect and diagnose are not adhered to, damage to the vehicle is VERY likely and can lead to injury/personal harm to yourself. If unsure of any step in diagnosis, it is highly recommended that you leave the diagnosis of this code on this system to someone who has received training on it.

Check all fuses that power up the SGCM module

Check all fuses that power up the SGCM module on this vehicle. Check all grounds for the SGCM. Locate where the ground attaching points are on the vehicle and make sure that these connections are clean and tight. If you have to, take them off, get a small wire bristle brush and baking soda/water solution and clean each one, both the connector and where it connects.

If any repairs were made, clear the diagnostic trouble codes from memory, and see if the U0120 code returns or if you are able to communicate with the SGCM module. If the code does not return or communication is re-established, then the fuses/connections were most likely your problem.

Locate the CAN bus communication connections

If the code returns, locate the CAN bus communication connections on your particular vehicle, most importantly the SGCM module connector.

NOTE: When working on a hybrid vehicle, disable the high voltage system following all manufacturers safety precautions and procedures

Visually inspect the connectors and wiring

Disconnect the negative battery cable before unplugging the connector at the SGCM module. Once located, visually inspect the connectors and wiring. Look for scraping, rubbing, bare wires, burn spots or melted plastic. Pull the connectors apart and carefully inspect the terminals (the metal parts) inside the connectors. See if they look burned or have a green tint indicating corrosion. Use electrical contact cleaner and a plastic bristle brush if cleaning of the terminals is needed. Let dry and apply electric grease where the terminals contact. Reconnect all connectors. Clear all codes.

If all tests have passed and communication is still not possible, or you were unable to clear the U0120 fault code, the only thing left that can be done is to seek assistance from a trained automotive diagnostician, as this would indicate a failed SGCM module. Most of these SGCM modules must be programmed, or calibrated to the vehicle in order to be installed correctly.

Severity Description

Severity in this case depends upon the system. Because this powertrain control system provides safety during all operating conditions, safety is a concern when diagnosing these systems. Also, safety is a concern during servicing of these systems as well. ALWAYS consult service information prior to disassembly/diagnosing these systems.

Reference Sources

U0120 Lost Communication with Starter Generator Control Module, OBD-Codes.