

U0151: LOST COMMUNICATION WITH RESTRAINTS CONTROL (RCM) MODULE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$75-\$800
Can I Still Drive?	:	No

What Does The U0151 Code Mean?

This code means that the Restraints Control (RCM) Module 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 RCM is typically located behind the dash, usually in the center of the vehicle. It receives inputs from a variety of sensors, some hardwired directly to it, some are sent over the bus communications system. The most important of these sensors inputs are the crash or impact sensors.

These inputs allow the module to determine when an impact has occurred or if the vehicle is just slowing down rapidly. The difference between this is the RCM may take no action, may choose to activate the seatbelt pretensioners or activate pretensioners and passive restraints/airbags.

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 U0151 Code?

Symptoms of a U0151 engine code may include:

- Airbag Light On or Flashing

What Are The Potential Causes Of The U0151 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
- Rarely – faulty control module

How Can You Fix The U0151 Code?

Preparation

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, vehicle identification number (VIN) related or battery / ignition related, diagnose them first. Misdiagnosis has been known to occur if you diagnose the U0151 code before any of the basic codes have been thoroughly diagnosed and dismissed.

Step 1

If your scan tool can access fault codes and the only one you get from other modules is the U0151, try to access to the RCM module. If you can access codes from the RCM module, then the U0151 code is either intermittent or a memory code. If unable to access the RCM module, then the U0151 code that the other modules are setting is active, and the problem is there now.

Step 2

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

Check all fuses that power up the RCM module on this vehicle. Check all grounds for the RCM. 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 U0151 code returns or if you are able to communicate with the RCM module. If the code does not return or communication is re-established, then the fuses/connections were most likely your problem.

BEFORE DISCONNECTING THE CONNECTORS AT THE RCM, INSURE THAT THE SYSTEM HAS BEEN POWERED DOWN ACCORDING TO MANUFACTURER'S PROCEDURES! IF NOT, POSSIBLE DAMAGE TO THE VEHICLE OR PHYSICAL HARM IS POSSIBLE DUE TO UNINTENDED AIRBAG DEPLOYMENT. ALSO, INSURE AIRBAGS ARE DISCONNECTED DURING THE FOLLOWING TESTS AS A FINAL SAFETY MEASURE!

Step 3

If the code returns, locate the CAN bus communication connections on your particular vehicle, most importantly the RCM module connector. Disconnect the negative battery cable before unplugging the connector at the RCM control 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 electrical grease where the terminals contact.

Before connecting the connectors back to the RCM module, make these few voltage checks. You will need to have access to a digital volt-ohmmeter (DVOM). Verify that you have power and ground at the RCM module. Gain access to a wiring diagram and determine where the main powers and grounds come into the RCM module. Reconnect the battery before continuing, with the RCM module still disconnected.

Connect the red lead of your voltmeter to each B+ (battery voltage) supply coming into the RCM module connector and the black lead of your voltmeter to a good ground (if not sure, battery negative always works). You should see a reading of battery voltage. Verify that you have good grounds as well. Hook the red lead of your voltmeter to battery positive (B+) and the black lead to each ground circuit. Once again you should see battery voltage at each connection. If not, repair the power or ground circuit problem.

Before proceeding, check your wiring diagram and see if you have one or both of these different communication circuits at the RCM module; Perform the checks that apply to the circuits your vehicle has.

Step 4

Next, check the two communication circuits. Locate the CAN C+ (or HSCAN + circuit) and CAN C- (or HSCAN – circuit). With the black lead of your voltmeter connected to a good ground, connect the red lead to CAN C+. With the Key On, Engine Off, you should see about 2.6 volts and fluctuating

slightly. Next, connect the red voltmeter lead to the CAN C- circuit. You should see approximately 2.4 volts and fluctuating slightly.

Next, check the other two communication circuits. Locate the CAN B+ (or MSCAN + circuit) and CAN B- (or MSCAN – circuit). With the black lead of your voltmeter connected to a good ground, connect the red lead to CAN B+. With the Key On, Engine Off, you should see about 0.5 volts and fluctuating slightly. Next, connect the red voltmeter lead to the CAN B- circuit. You should see approximately 4.4 volts and fluctuating slightly.

If all tests have passed and communication is still not possible, or you were unable to clear the U0151 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 RCM module. Most of these RCM modules must be programmed, or calibrated to the vehicle in order to be installed correctly.

Severity Description

Severity in this case is always severe due to the safety issues that arise in a non-functional restraint controller system.

Safety is a concern ANY time you service these systems because they can still be LIVE even if there are warning lights on. ALWAYS treat these systems as if they could still function at any time.

Reference Sources

[U0151 Lost Communication with Restraints Control \(RCM\) Module](#), OBD-Codes.