U017C: LOST COMMUNICATION WITH RESTRAINTS SYSTEM SENSOR M

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$75-$200**
Can I Still Drive?	:	**Yes** (Short-term only)

What Does The U017C Code Mean?

This code means that the Restraints System Sensor M (RSS-M) 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 Restraints System Sensor M 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, most 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 U017C Code?

Symptoms of a U017C code may include:

- Airbag Light On or Flashing

What Are The Potential Causes Of The U017C 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
- No power or ground to RSS-M module
- Rarely – faulty control module

How Can You Fix The U017C Code?

Step 1

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 / ignition related, diagnose them first. Misdiagnosis has been known to occur if you diagnose the U017C 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 get from other modules is the U017C, try to access to the restraints system sensor m (RSS-M). If you can access codes from the RSS-M, then the U017C code is either intermittent or a memory code. If unable to access the RSS-M, then the U017C code that the other modules are setting is active, and the problem is there now.

Step 2

The most common failure is a circuit fault which causes the loss of power or ground to the restraints system sensor m.

Check all fuses that power up the RSS-M module on this vehicle. Check all grounds for the RSS-M. 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 U017C code returns or if you are able to communicate with the RSS-M module. If the code does not return or communication is re-established, then the fuses/connections were most likely your problem.

Note: Before disconnecting the connectors at the RSS-M, insure that the system has been powered down per 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 vehicle, most importantly the RSS-M connector, which is usually located behind the dash. Disconnect the negative battery cable before unplugging the connector at the RSS-M 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 RSS-M, 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 RSS-M. Gain access to a wiring diagram and determine where the main powers and grounds come into the RSS-M. Reconnect the battery before continuing, with the RSS-M still disconnected.

Connect the red lead of your voltmeter to each B+ (battery voltage) supply coming into the RSS-M 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 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. Other manufacturers show CAN C- at approximately .5 volts and fluctuating Key On Engine Off. Check the specifications for your manufacturer.

Step 5

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 U017C 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 RSS-M. Most of these RSS-M must be programmed, or calibrated to the vehicle 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

U017C Lost Communication With Restraints System Sensor M, OBD-Codes.