U0233: LOST COMMUNICATION WITH OBSTACLE DETECTION CONTROL MODULE - RIGHT

OVERVIEW

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

What Does The U0233 Code Mean?

This code means that the Obstacle Detection Control Module – Right (ODCM-R) 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.

The modules communicate with each other over a network, much like the network you have at home or at work. There are several network systems used by the vehicle manufacturers. Prior to 2004, the more common (not all inclusive) module-to-module communication systems were Serial Communications Interface or SCI; SAE J1850 or PCI bus; and Chrysler Collision Detection, or CCD.

The most common system used after 2004 is known as Controller Area Network bus communications, or simply put, CAN bus (was also used before 2004 on a small segment of vehicles). Without this CAN bus, control modules cannot exchange information, and your scan tool may or may not be able to get information from the vehicle, depending on which circuit is affected.

The Obstacle Detection Control Module – Right (ODCM-R) is typically located behind left side door panels, left side B, C or D pillars. It receives inputs from a variety of sensors, some hardwired directly to it, while most are sent over the bus communications system from the Powertrain Control Module (PCM). These inputs allow the module to inform the driver of an obstacle on that side of the vehicle. The module may also inform the Airbag Control Module of this obstacle so that it may take

preliminary measures.

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 U0233 Code?

Symptoms of a U0233 code may include:

- Airbag Warning Light On or Flashing
- Obstacle Detection Light On
- Obstacles not detected / always detecting
- ODCM-R won't power up / inoperative

What Are The Potential Causes Of The U0233 Code?

Typically the causes for this code to set are:

- Open in the CAN bus + or – circuit
- Short to power or ground in either CAN bus circuit
- No power or ground to ODCM-R module
- Rarely – faulty control module

How Can You Fix The U0233 Code?

Step 1

A good place to start for ALL electrical diagnosis is to check for technical service bulletins (TSB) for your vehicle. The problem you are having may be known to others in the field. A known fix may have been put out by the manufacturer and can save you time and money during diagnosis.

It is assumed at this point that a code reader is available to you, as you have been able to access codes so far. See if there were any other diagnostic fault codes that are bus communication related or battery / ignition related. If so, you should diagnose them first, as misdiagnosis has been known to occur if you diagnose the U0233 code before any of the basic codes have been thoroughly diagnosed and repaired.

If the only code you get from other modules is the U0233, try to access to the ODCM-R. If you can access codes from the ODCM-R, then the U0233 code is either intermittent or a memory code. If unable to access the ODCM-R, then the U0233 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 obstacle detection control module – right.

Check all fuses that power up the ODCM-R module on this vehicle. Check all grounds for the ODCM-R. Locate where the ground attaching points are on the vehicle and make sure that these connections are clean and tight. If you must, 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 all the modules that set the code in memory, and see if you can now communicate with the ODCM-R module. If communication is re-established with the ODCM-R, then the fuses/connections were most likely your problem.

Step 3

If the code returns or communication still cannot be established with the module, locate the CAN bus communication connections on your vehicle, most importantly the ODCM-R connector, which is usually located behind left side door panels, left side b, c or d pillars. Disconnect the negative battery cable before unplugging the connector at the ODCM-R. 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 ODCM-R, 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 ODCM-R. Gain access to a wiring diagram and determine where the main powers and grounds come into the ODCM-R. Reconnect the battery before continuing, with the ODCM-R still disconnected.

Connect the red lead of your voltmeter to each B+ (battery voltage) supply coming into the ODCM-R 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.

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.

If all tests have passed and communication is still not possible, or you were unable to clear the U0233 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 ODCM-R. Most of these ODCM-R 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 safety system.

Reference Sources

U0233 Lost Communication With Obstacle Detection Control Module - Right, OBD-Codes.