

U0121: LOST COMMUNICATION WITH ANTI-LOCK BRAKE SYSTEM (ABS) CONTROL MODULE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$75-\$900
Can I Still Drive?	:	No

What Does The U0121 Code Mean?

This code is concerned with the communications circuit between the Anti-Lock Brake (ABS) control module and other control modules on the vehicle.

This communications circuit is most often referred to 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 communicate with the vehicle, depending on which circuit is affected.

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 U0121 Code?

Symptoms of a U0121 engine code may include:

- Malfunction Indicator Lamp (MIL) on
- ABS indicator light on
- TRAC indicator light on (depending on manufacturer)
- ESP/ESC indicator light on (depending on manufacturer)

What Are The Potential Causes Of The U0121 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 U0121 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.

If your scan tool can access fault codes and the only one you retrieve from other modules is the U0121, try to access the ABS module. If you can access codes from the ABS module, then the U0121 code is either intermittent or a memory code. If unable to access codes for the ABS module, then the U0121 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.

Check all fuses that power up the ABS module on this vehicle. Check all grounds for the ABS module. 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 U0121 code returns or if you are able to communicate with the ABS module. If the code does not return or communication is re-established, then the fuses/connections were most likely your problem.

Step 3

If the code returns, locate the CAN C bus communication connections on your particular vehicle, most importantly the ABS module connector. Disconnect the negative battery cable before unplugging the connector at the ABS 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 at any parts store if cleaning of the terminals as needed. Let dry and apply dielectric silicone grease where the terminals contact.

Before connecting the connectors back to the ABS 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 ABS module. Gain access to a wiring diagram and determine where the main powers and grounds come into the ABS module. Reconnect the battery before continuing, with the ABS module still disconnected.

Connect the red lead of your voltmeter to each B+ (battery voltage) supply coming into the ABS module connector and the black lead of your voltmeter to a good ground (if not sure, battery negative always works). You 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.

If all tests have passed and communication is still not possible, or you were unable to clear the U0121 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 ABS module. Most of these ABS modules must be programmed, or calibrated to the vehicle in order to be installed correctly.

Reference Sources

[Diagnostic Trouble Code \(DTC\) Charts and Descriptions for U0121](#) - Page 152.