U0107: LOST COMMUNICATION WITH THROTTLE ACTUATOR CONTROL (TAC) MODULE

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$75-$450**
Can I Still Drive?	:	**Yes** (Short-term only)

What Does The U0107 Code Mean?

This code means that the Throttle Actuator Control (TAC) 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 TACM is also known as the Electronic Throttle Control (ETC) module. These modules control engine speed based upon information received from the Powertrain Control Module (PCM). The main component of the TAC/ETC system is the throttle body, which is located between the intake manifold and the air filter. Usually, it will have one or more TAC / ETC motors to move the throttle plate inside, and one or more throttle position sensors (TPS) to let the PCM know where the throttle plate is located at all times. If no information is received, the engine will only idle, usually at around 1000 rpm

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 U0107 Code?

Symptoms of a U0107 engine code may include:

- Malfunction Indicator Light (MIL) On
- Electronic Throttle Control Indicator On or Flashing
- No throttle response – engine will only idle

What Are The Potential Causes Of The U0107 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 U0107 Code?

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.

Step 1

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 U0107 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 U0107, try to communicate with the TAC module. If you can access codes from the TAC module, then the U0107 code is either intermittent or a memory code. If unable to communicate with the GPCM module, then the U0107 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 TAC module on this vehicle. Check all grounds for the TAC 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 all the modules that set the code in memory, and see if the U0107 code returns or if you are able to communicate with the TAC module. If the code does not return or communication is re-established with the TAC module, then the fuses/connections were most likely your problem.

Step 4

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

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

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

Step 5

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 the manufacturer of your vehicle is not using CAN bus for communication between the PCM and the TAC, you will need to determine the appropriate voltages for that communication circuit.

If all tests have passed and communication is still not possible, or you were unable to clear the

U0107 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 TAC module. Some TAC modules must be programmed, or calibrated to the vehicle in order to be installed correctly. Each has its own relearn program to go through once installed into the vehicle.

Reference Sources

U0107 Lost Communication with Throttle Actuator Control (TAC) Module, OBD-Codes.