

DTC U0107

Circuit Description

The throttle actuator control (TAC) module and the powertrain control module (PCM) communicate using a dedicated serial data circuit. This serial data circuit is separate from any other serial data circuit on the vehicle. Accurate transmitting and receiving of serial data requires not only good circuit integrity but also adequate system voltage. This diagnostic monitors the accuracy of the serial data transmitted between the TAC module and the PCM. If the PCM detects a loss of data or invalid data, or if the throttle limit is exceeded while operating in the Reduced Engine Power mode, DTC U0107 sets.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC U0107 Throttle Actuator Control (TAC) Module Serial Data Circuit

Conditions for Running the DTC

- The ignition is in the crank or run position.
- The Ignition 1 Signal parameter is more than 5.23 volts.
- The communication between the TAC module and the PCM must be valid.

Conditions for Setting the DTC

- Invalid or missing serial data messages are detected for a predetermined period of time
OR
- The throttle limit is exceeded while operating in the Reduced Engine Power mode.

Action Taken When the DTC Sets

- The control module illuminates the malfunction indicator lamp (MIL) when the diagnostic runs and fails.
- The control module records the operating conditions at the time the diagnostic fails. The control module stores this information in the Freeze Frame and/or the Failure Records.
- The control module commands the TAC system to operate in the Reduced Engine Power mode.
- A message center or an indicator displays Reduced Engine Power.
- Under certain conditions the control module commands the engine OFF.

Conditions for Clearing the MIL/DTC

- The control module turns OFF the malfunction indicator lamp (MIL) after 3 consecutive ignition cycles that the diagnostic runs and does not fail.
- A current DTC, Last Test Failed, clears when the diagnostic runs and passes.

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- A history DTC clears after 40 consecutive warm-up cycles, if no failures are reported by this or any other emission related diagnostic.
- Clear the MIL and the DTC with a scan tool.

Diagnostic Aids

- DTC U0107 sets if the battery voltage is low or the PCM is replaced or reflashed. If the customer's concern is slow cranking, or if the engine is not cranking because the battery voltage is low, ignore DTC U0107. Clear any DTCs from memory that may have set from the low battery voltage condition.
- If the condition is intermittent, refer to [Testing for Intermittent Conditions and Poor Connections](#).

Step	Action	Values	Yes	No
<i>Schematic Reference:</i> Engine Controls Schematics				
<i>Connector End View Reference:</i> Powertrain Control Module Connector End Views and Engine Controls Connector End Views				
1	Did you perform the Diagnostic System Check - Vehicle?	--	Go to Step 2	Go to Diagnostic System Check - Vehicle
2	Is DTC P0685 also set?	--	Go to Diagnostic Trouble Code (DTC) List - Vehicle	Go to Step 3
3	<ol style="list-style-type: none"> 1. Turn ON the ignition, with the engine OFF. 2. Probe both sides of the ETC fuse with a test lamp. Does the test lamp illuminate on at least one side of the fuse?	--	Go to Step 4	Go to Ignition Relay Diagnosis
4	<ol style="list-style-type: none"> 1. Turn ON the ignition, with the engine OFF. 2. Observe the TP sensor 1 and TP sensor 2 voltage parameters with a scan tool. 3. Observe the APP sensor 1 and APP sensor 2 voltage parameters with a scan tool. Is the voltage at the specified value for all sensors?	0 V	Go to Step 5	Go to Diagnostic Aids
5	<ol style="list-style-type: none"> 1. Turn OFF the ignition. 2. Disconnect the throttle body harness connector. 3. With the ignition OFF, measure the voltage of the throttle actuator control (TAC) module ignition 1 voltage circuit using a DMM that is connected to a 	0 V		

	good ground.			
	Is voltage at or near the specified value?		Go to Step 6	Go to Step 12
6	<ol style="list-style-type: none"> Turn ON the ignition, with the engine OFF. Measure the voltage from the TAC module ignition 1 voltage circuit using a DMM that is connected to a good ground. <p>Does the voltage measure at or near the specified value?</p>	B+		
			Go to Step 7	Go to Step 14
7	<ol style="list-style-type: none"> Turn OFF the ignition. Measure the resistance from the TAC module ground circuits using a DMM that is connected to a good ground. <p>Is the resistance less than the specified value for both circuits?</p>	5ohms		
			Go to Step 8	Go to Step 15
8	<p>Test for voltage between both serial data circuits and a good ground using a DMM.</p> <p>Does the voltage measure within the specified range?</p>	2-5 V		
			Go to Step 16	Go to Step 9
9	<p>Does the voltage measure more than the specified value?</p>	5 V	Go to Step 13	Go to Step 10
10	<p>Does the voltage measure less than the specified value?</p>	5 V	Go to Step 11	--
11	<p>Test for an open or for a short to ground in the serial data circuit. Refer to Circuit Testing and Wiring Repairs .</p> <p>Did you find and correct the conditions?</p>	--	Go to Step 21	Go to Step 19
12	<p>Repair the short to battery voltage in the ignition 1 voltage circuit. Refer to Wiring Repairs .</p> <p>Did you complete the repair?</p>	--	Go to Step 21	--
13	<p>Test for a short to voltage on the TAC module serial data circuit. Refer to Circuit Testing and Wiring Repairs .</p> <p>Did you find and correct the conditions?</p>	--	Go to Step 21	Go to Step 20
14	<p>Repair the open or short to ground in the ignition 1 voltage circuit. Refer to Wiring Repairs .</p> <p>Did you complete the repair?</p>	--	Go to Step 21	--
	<p>Repair the open or high resistance in the TAC module ground circuit. Refer to Wiring</p>			

15	Repairs . Did you complete the repair?	--	Go to Step 21	--
16	Test the ETC ignition 1 voltage circuit for the high resistance. Refer to Circuit Testing and Wiring Repairs . Did you find and correct the condition?	--	Go to Step 21	Go to Step 17
17	Test for an intermittent and for a poor connection at the throttle body. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs . Did you find and correct the condition?	--	Go to Step 21	Go to Step 18
18	Replace the throttle body assembly. Refer to Throttle Body Assembly Replacement . Did you complete the replacement?	--	Go to Step 21	--
19	Test for an intermittent and for a poor connection at the powertrain control module (PCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs . Did you find and correct the condition?	--	Go to Step 21	Go to Step 20
20	Replace the PCM. Refer to Control Module References for replacement, setup, and programming. Did you complete the replacement?	--	Go to Step 21	--
21	1. Clear the DTCs with a scan tool. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. Did the DTC fail this ignition?	--	Go to Step 2	Go to Step 22
22	Important: Be aware that repairing 1 individual condition may correct more than 1 DTC. Observe the Capture Info with a scan tool. Are there any DTCs that have not been diagnosed?	--	Go to Diagnostic Trouble Code (DTC) List - Vehicle	System OK