P0120 TCM receives invalid throttle position data

Circuit Description

The engine control module (ECM) sends throttle position data to the transmission control module (TCM). The TCM uses this data to modify shift speeds. The data is sent to the TCM through a communication network called the controller area network (CAN). Two circuits are used to communicate CAN data between the ECM and TCM. A fault in the CAN will not cause DTC P0120 to set by itself. If a CAN fault occurs, other DTCs will set before DTC P0120. When the TCM receives invalid throttle position data from the ECM, then DTC P0120 will set. DTC P0120 is a type B DTC.

Conditions for Running the DTC

- The engine run time is greater than 5 seconds.
- No other CAN errors are present.

Conditions for Setting the DTC

The TCM receives no valid throttle position data from the ECM for 2 seconds.

Action Taken When the DTC Sets

- The TCM requests the ECM to illuminate the malfunction indicator lamp (MIL) during the second consecutive trip in which the Conditions for Setting the DTC are met.
- The TCM uses the ECM default throttle position value for determining shift speeds.
- The TCM commands maximum line pressure.
- The TCM freezes transmission adaptive functions.
- The TCM disables the TCC.
- At the time of the first failure, the TCM records the operating conditions when the Conditions for Setting the DTC are met. The TCM stores this information as a Failure Record.
- At the time of the second failure, the ECM records the operating conditions when the Conditions for Setting the DTC are met. The ECM stores this

information as a Freeze Frame.
- The TCM stores DTC P0120 in TCM history.

Conditions for Clearing the DTC

- The ECM turns OFF the MIL after the sixth consecutive drive trip in which the TCM does not send a MIL illumination request.
- A scan tool can clear the DTC.
- The TCM clears the DTC from TCM history if the vehicle completes 40 warm-up cycles without a non emission related diagnostic fault occurring.
- The TCM cancels the DTC default actions when the ignition is OFF long enough in order to power down the TCM.

DTC P0120

Step	Action	Value (s)	Yes	No
1	Did you perform the Diagnostic System Check – Vehicle?	—	Go to Step 2	Go to Diagnostic System Check -Vehicle in Vehicle DTC Information
2	1).Install a scan tool. 2).Turn ON the ignition with the engine OFF. **Important:** ● Before clearing the DTC, use the scan tool in order to record the ECM Freeze Frame and the TCM Failure Records. Using the Clear Info function erases the Freeze Frame and Failure Records from the ECM and the TCM. ● Using the Clear Info function erases stored DTCs in both the ECM and TCM. 3). Record the DTC Failure Records. Did you record any ECM Failure Records?	—	Go to Diagnostic Trouble Code (DTC) List -Vehicle in Vehicle DTC Information	Go to Step 3

Step	Action	Value (s)	Yes	No
3	1).Clear the DTC. 2).Turn the ignition OFF for at least 30 seconds. 3).Start, and allow the engine to idle. Did DTC P0120 reset?	—	Go to Step 4	Go to Intermittent Conditions on page 6-391 in Engine Controls – 4.6L
4	Did any other DTCs set?	—	Go to Diagnostic Trouble Code (DTC) List -Vehicle on page 10-2 in Vehicle DTC Information	Go to Step 5
5	Replace the TCM. Is the action complete?	—	Go to Step 6	—
6	Perform the following operation to verify the repair: 1).Select DTC on the scan tool. 2).Select Clear Info. 3).Start, and allow the engine to idle. 4).Select Specific DTC. 5).Enter DTC P0120. Has the test run and passed?	—	Go to Step 7	Go to Step 2
7	With the scan tool, observe the stored information, capture info and DTC info. Does the scan tool display any DTCs that you have not diagnosed?	—	Go to Diagnostic Trouble Code (DTC) List -Vehicle in Vehicle DTC Information	System OK