CORPORATE AUTOMOTIVE BULLETIN

Date: January 12, 2011

From: Corporate Automotive Engineering – Delivery Equipment Team

Subject: **E-GM Throttle Body Trouble-Shooting**

Bulletin #: D11-02

This bulletin is an addendum to bulletin D10-22 (GM Throttle Body Maintenance) and includes trouble-shooting procedures for the throttle body on 2008 model and newer Workhorse and Freightliner package cars equipped with a GM 4.8L or 6.0L engine. Fuel system failures causing flash codes related to the TPS or TAC may result in an "idle only" or "derate" condition if not corrected. If a vehicle exhibits flash codes related to the TPS or TAC, the following maintenance procedure must be followed to thoroughly clean throttle body, inspect terminal connections and perform idle learn reset.

Throttle Body Cleaning

1) Remove the air cleaner outlet duct.

   Caution: Turn OFF the ignition before inserting fingers into the throttle bore. Unexpected movement of the throttle blade could cause personal injury. Notice: Do not insert any tools into the throttle body bore in order to avoid damage to the throttle valve plate.

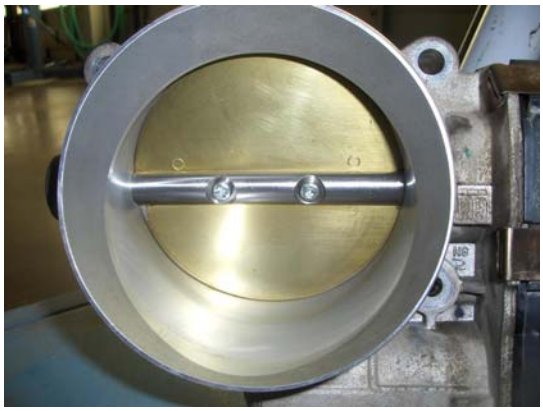
2) Unplug and remove throttle body then thoroughly clean bore, throttle plate, throttle plate edges and throttle plate pivots with an approved cleaning solvent or carburetor cleaner, clean shop rag, and a soft brush. *Notice: Do not use any solvent that contains Methyl Ethyl Ketone (MEK). This solvent may damage fuel system components.*

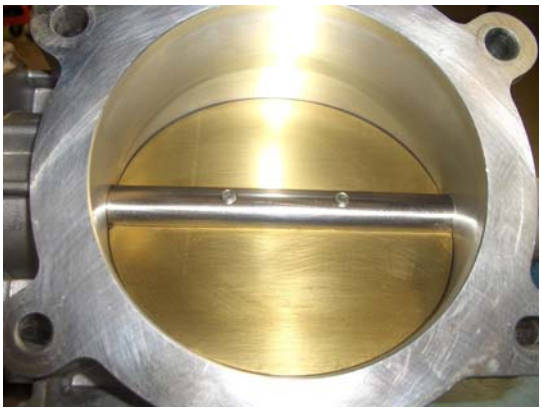
Before cleaning - Throttle body shows signs of "coking" (carbon build up).

Fresh Air Side of Throttle Body

Engine Side of Throttle Body

After Cleaning





Fresh Air Side of Throttle Body

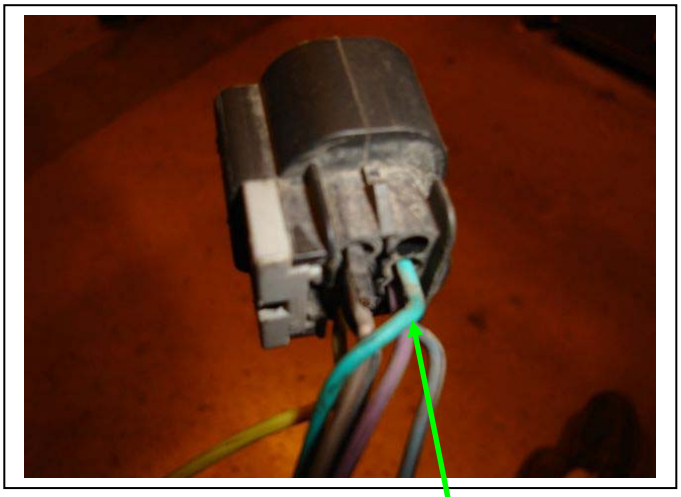
Engine Side of Throttle Body

3) While the throttle body is removed from the vehicle, remove the side cover by unsnapping retainer clips and verify that female connectors are making a strong contact with male connectors on the cover. Slightly pinch the female connectors if necessary to ensure good connectivity.

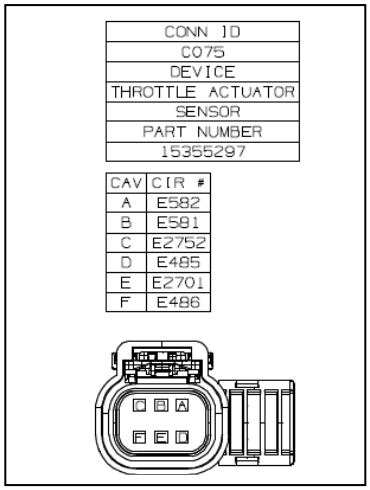
Verify that contacts in side cover have good connectivity.

4) Reinstall the throttle body.

5) Inspect the throttle body wiring harness for damaged wiring and potential loose wire terminal connections inside the C075 connector. The connector must be disconnected to view the wire terminals. See connector diagram below.



Wires can be broken internally due to the 90-degree bend and vibration. See bulletin D09-25.



Inspect CO75 Connector to ensure good connectivity at terminals.

6) Perform the Idle Learn Reset with a Tech 2 scan tool. This procedure may be performed by the listed alternative method if a Tech 2 is not available.

Throttle Learn

Description

The engine control module (ECM) learns the airflow through the throttle body to ensure the correct idle. The learned airflow values are stored within the ECM. These values are learned to adjust for production variation and will continuously learn during the life of the vehicle to compensate for reduced airflow due to coking. Anytime the throttle body airflow rate changes, for example due to cleaning or replacing, the values must be relearned.

A vehicle that had a heavily coked throttle body that has been cleaned or replaced may take several drive cycles to learn out the coking. To accelerate the process, the scan tool has the ability to reset all learned values back to zero. A new ECM will also have values set to zero.

The idle may be unstable or a DTC may set if the learned values do not match the actual airflow.

Throttle Learn

With Scan Tool - Reset Procedure

a. Ignition ON, engine OFF, with a scan tool, perform the Idle Learn Reset in Module Setup.

b. Start the engine; monitor the TB Idle Airflow Compensation parameter. The TB Idle Airflow Compensation value should equal 0 percent and the engine should be idling at a normal idle speed.

c. Clear the DTCs and return to the diagnostic that referred you here.

Without Scan Tool - Learn Procedure

Important: Do NOT perform this procedure if DTCs are set. Refer to **Diagnostic Trouble Code (DTC) List.**

a. Start and idle the engine in PARK for 3 minutes.

b. The ECM will start to learn the new idle cells and Desired RPM should start to decrease.

c. Ignition OFF for 60 seconds

d. Start and idle the engine in PARK for 3 minutes.

e. After the 3 minutes running time, the engine should be idling normal.
Important: During the drive cycle, the check engine light may come on with idle speed DTCs. If idle speed codes are set, clear codes, so the ECM can continue to learn.
If the engine idle speed has not been learned the vehicle will need to be driven at speeds above 44 mph (70 km/h) with several decelerations and extended idles.

f. After the drive cycle, the engine should be idling normally. If the engine idle speed has not been learned, turn OFF the ignition for 60 seconds and repeat step e.

g. Once the engine speed has returned to normal, clear DTCs and return to the diagnostic that referred you here

If the above procedures do not correct the condition, replace the throttle body.