



# Service Bulletin

File in Section: 06 - Engine

Bulletin No.: 11-06-04-007C

Date: November, 2012

## TECHNICAL

**Subject:** Diagnosis and Repair - Malfunction Indicator Lamp (MIL) Illuminated, Reduced Engine Power Message Displayed, DTC P2135 Set

**Models:** 2008-2011 Cadillac Escalade Models  
2009-2011 Cadillac Escalade Two-Mode Hybrid  
2008-2009 Chevrolet TrailBlazer  
2008-2011 Chevrolet Avalanche, Colorado, Express, Silverado, Suburban, Tahoe  
2008-2011 Chevrolet Tahoe Two-Mode Hybrid  
2009-2011 Chevrolet Silverado Two-Mode Hybrid  
2008-2009 GMC Envoy  
2008-2011 GMC Canyon, Savana, Sierra, Sierra Denali, Yukon Models  
2008-2011 GMC Yukon Two-Mode Hybrid  
2009-2011 GMC Sierra Two-Mode Hybrid  
2008-2009 HUMMER H2  
2008-2010 HUMMER H3  
Equipped with Engine RPO LFA, LY2, L20, LMG, LC9, LH6, LMF, LH8, LH9, L76, LS2, LY5, LY6, L92, L96, LZ1, L94 or L9H

**Attention:** If a vehicle is encountered with this condition, DO NOT replace the throttle body. Instead follow this procedure below. ALL Model Year 2008-2011 vehicles MUST have the engine control module (ECM) reprogrammed with the latest software calibration as indicated in Step 35 of the procedure AFTER the installation of the throttle position (TP) sensor cover. ALL 2011 Model Year vehicles will receive the enhanced oil life monitor (OLM) algorithm as part of the new ECM calibration. The enhanced OLM algorithm will provide a maximum mileage of 7,500 miles (12,000 km) between oil changes.

This bulletin is being revised to add 2011 Model Year vehicles to the reprogramming statement in the Attention and to identify that the 2011 ECM calibration includes the enhanced oil life monitor (OLM) algorithm that has a maximum of 7,500 miles (12,000 km) between oil changes. Please discard Corporate Bulletin Number 11-06-04-007B (Section 06 – Engine/Propulsion System).

### Condition

Some customers may comment on an illuminated malfunction indicator lamp (MIL), with a Reduced Engine Power message displayed.

The technician may observe on a scan tool  
DTC P2135: Throttle Position (TP) Sensor 1-2  
Correlation set as Current or in History.

### Cause

This condition may be caused by the difference between the TP Sensor 1 and TP Sensor 2 exceeding a calibrated value for more than 2 seconds.

## Correction

**Caution:** Handle the electronic throttle control components carefully. Use cleanliness in order to prevent damage. Do not drop the electronic throttle control components. Do not roughly handle the electronic throttle control components. Do not immerse the electronic throttle control components in cleaning solvents of any type.

**Warning:** Approved safety glasses and gloves should be worn when performing this procedure to reduce the chance of personal injury.

1. With a scan tool, verify that DTC P2135 is set as Current or in History.
  - ⇒ If DTC P2135 is set as Current or in History, proceed to Step 2.
  - ⇒ If DTC P2135 is not set as Current or in History, refer to Diagnostic Trouble Code (DTC) List - Vehicle or Symptoms - Engine Controls in SI.
2. Turn OFF the ignition.
3. Open the hood.

**Important:** If at any time during this procedure the throttle body is dropped, abort this procedure and REPLACE it with a new throttle body assembly.

4. Remove the throttle body and discard the throttle body gasket. Refer to Throttle Body Assembly Replacement in SI.
5. Remove any loose debris and dirt from the throttle body assembly and the TP sensor cover. Inspect the throttle body for damage.

**Caution:** Do not use any solvent that contains Methyl Ethyl Ketone (MEK). This solvent may damage fuel system components.

6. Clean the throttle body bore and the throttle plate using a clean shop towel with GM Top Engine Cleaner, P/N 1052626 (in Canada, P/N 993026), or ACDelco Upper Engine and Fuel Injector Cleaner, P/N 88861803, or an equivalent product.



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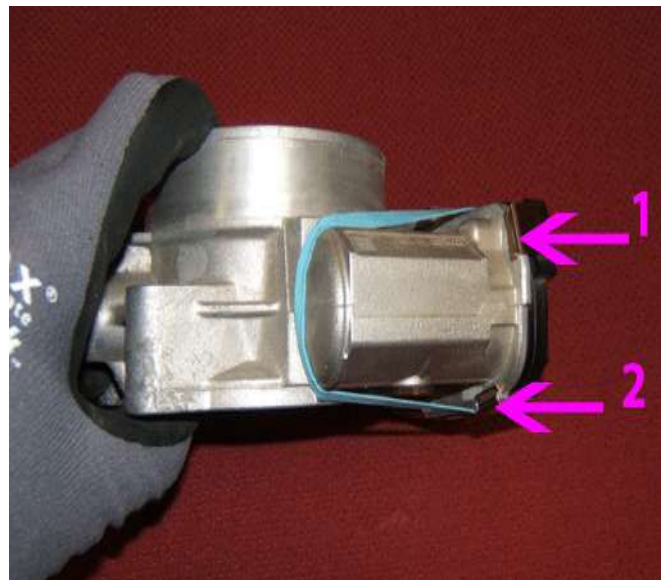
**Notice:** DO NOT mount the throttle body in a vise. The throttle body can be set on the top of a soft protected workbench area.

7. Hold the throttle body with your hand, so that the throttle position (TP) sensor cover is facing upward as shown.



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8. Secure a rubber band around the throttle body and TP sensor cover as shown.



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9. Turn over the throttle body and use a flathead screwdriver to remove the two clips (1, 2) as shown. Discard the clips.



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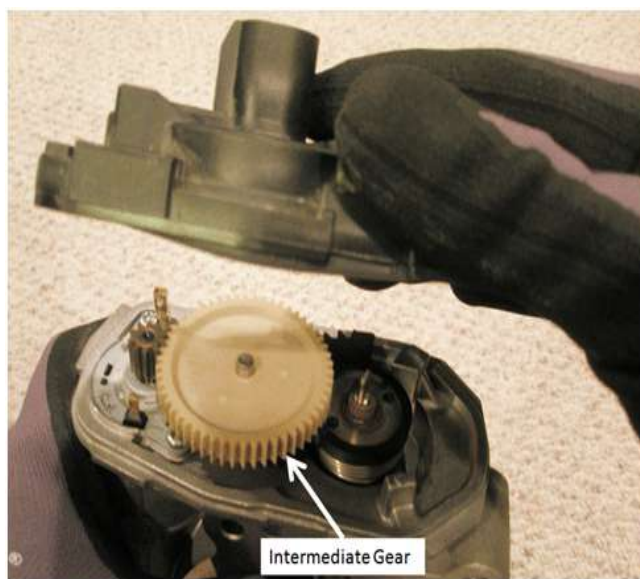
**Notice:** DO NOT PRY ON THE MACHINED SEALING SURFACE OF THE THROTTLE BODY INLET DUCT.

10. Turn over the throttle body and use a flathead screwdriver to remove the four remaining clips from the TP sensor cover. Discard the clips.



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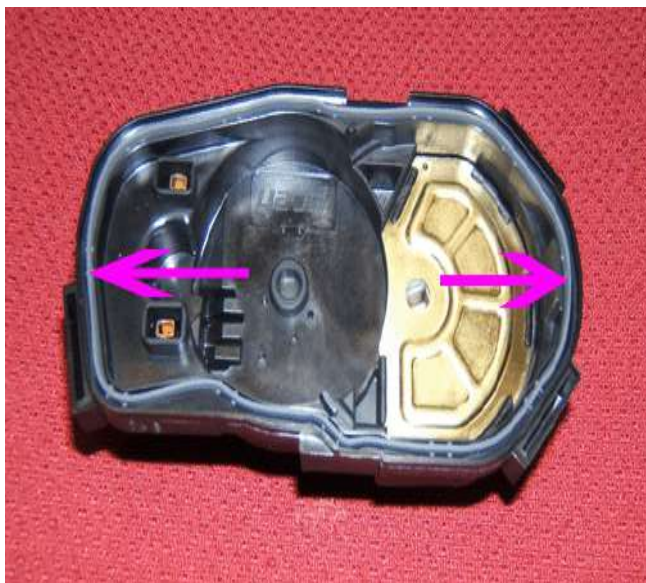
11. Hold the throttle body with your hand, so that the TP sensor cover is facing upward. Grasp the TP sensor cover and carefully lift it up and separate it from the throttle body.



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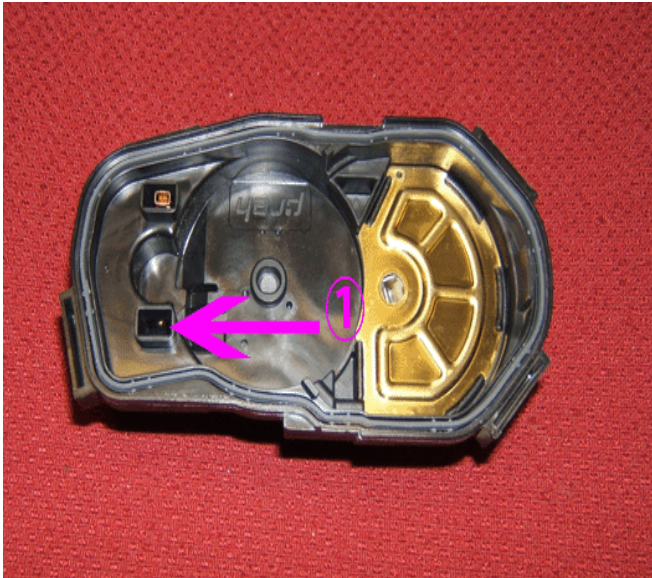
**Notice:** DO NOT allow the intermediate gear to fall out.

12. Maintain the throttle body in an upward position. Use your thumb to maintain contact with the intermediate gear.
- ⇒ If the intermediate gear falls out and impacts a hard workbench surface or the floor, abort this procedure and REPLACE with a new throttle body assembly.



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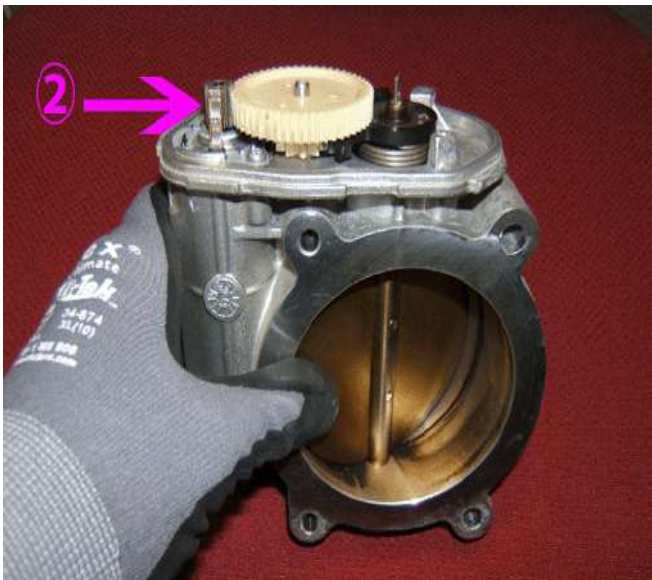
13. Verify that the TP sensor cover gasket HAS REMAINED in the TP sensor cover as shown. Ensure that the gasket is accounted for and remains with the old TP sensor cover.



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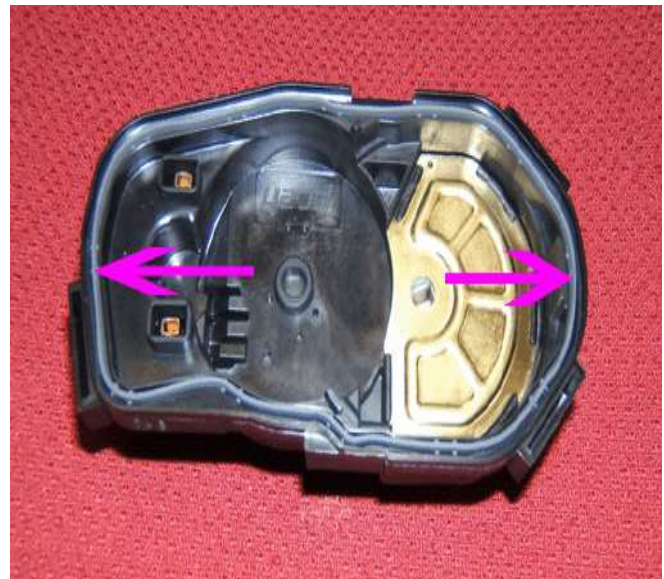
14. Observe the TP sensor cover for missing female throttle actuator motor terminals (1). Verify that the female throttle actuator motor terminals HAVE REMAINED in the TP sensor cover and HAVE NOT been retained on the throttle actuator motor male terminals (2). Discard the old TP sensor cover, gasket and terminals.

⇒ If one or both of the TP sensor cover female throttle actuator motor terminals HAVE BEEN retained on the throttle actuator motor male terminals (2), remove and discard those female terminals.

15. Remove the new TP sensor cover from the protective shipping wrapper.

16. Place the TP sensor cover in the position as shown. Confirm the TP sensor drive slot orientation is aligned in the TP sensor cover as shown.

⇒ If the TP sensor drive slot orientation is not aligned as shown, use a small flathead screwdriver to gently rotate the TP sensor drive slot **clockwise** to the wide open throttle (WOT) position as shown.

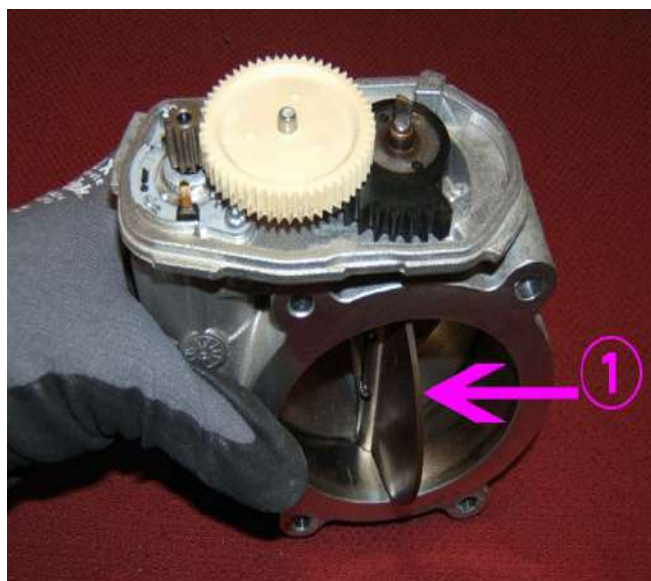


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17. Verify that the TP sensor cover gasket is secure and properly positioned.



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**Notice:** The three TP sensor cover alignment tabs are highlighted in white for identification purposes only.

18. Verify that all three of the TP sensor cover alignment tabs are present and are not damaged.
19. Grasp and hold the throttle body in the previously hand held upward position. Lightly depress the intermediate gear to verify that it is fully seated and the gears are engaged.

20. Rotate the throttle body plate to the WOT position (1).



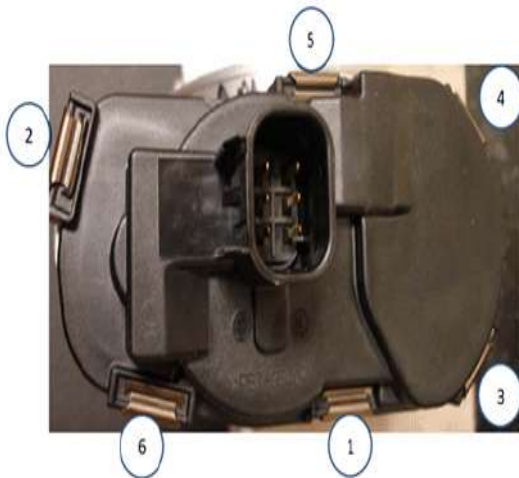
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21. Position and install the TP sensor cover to the throttle body. Hold the TP sensor cover in position. If necessary for ease of the clip installation, secure a rubber band around the throttle body and TP sensor cover.



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22. Install the first TP sensor cover clip (1) in the position shown.



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23. Install the remaining TP sensor cover clips in the sequence shown.
24. Install a NEW throttle body gasket to the intake manifold.
25. Install the throttle body, bolts and nuts. DO NOT tighten the fasteners yet.
26. Connect the electrical connector to the throttle body.
27. Turn ON the ignition. Clear the DTC with a scan tool.
28. Observe the scan tool TP Sensor 1 and 2 Agree/Disagree parameter while slowly depressing the accelerator pedal to WOT and then slowly returning the pedal to closed throttle. Repeat the procedure several times. Rapidly depress the accelerator pedal from the rest position to the wide open

throttle position (WOT) and release pedal. Repeat the procedure several times. The TP Sensor 1 and 2 Agree/Disagree parameter should display **Agree**.

- ⇒ If TP Sensor 1 and 2 Agree/Disagree parameter displays **Agree**, proceed to Step 29.
  - ⇒ If TP Sensor 1 and 2 Agree/Disagree parameter displays **Disagree**, replace the throttle body assembly.
29. Observe the ECM module DTC information. Are DTC P1516, P2101 and/or P2176 set?
- ⇒ If DTC P1516, P2101 and/or P2176 are set, replace the throttle body.
  - ⇒ If DTC P1516, P2101 and/or P2176 are not set, proceed to Step 30.
30. Tighten the throttle body fasteners.

### Tighten

Tighten the fasteners to 10 N•m (89 lb in).

31. Install any remaining components that were removed during this procedure.
32. Verify the battery voltage is more than 12 volts but less than 16 volts before proceeding with ECM reprogramming.
33. During reprogramming, the battery voltage must be maintained within the proper range of 12-15 volts. Connect the approved Midtronics® PSC 550 Battery Maintainer (SPS Programming Support Tool EL-49642) to the vehicle.
- ⇒ If the above recommended tool is not available, DO NOT connect a battery charger to the vehicle. Connect a fully charged 12V jumper or booster pack that is disconnected from the AC voltage supply.
34. Use a Tech 2® or a multiple diagnostic interface (MDI) module for reprogramming. Ensure that either device is updated with the latest available software version before performing the reprogramming event.

**Notice: Customers that own 2011 Model Year vehicles should be advised of the enhanced OLM algorithm that has a maximum of 7,500 miles (12,000 km) between oil changes.**

35. Reprogram the ECM using the Service Programming System (SPS) with the latest calibration available on TIS2WEB. Refer to the SPS procedures in SI.
36. Perform the Throttle Learn Reset Procedure. Refer to Throttle/Idle Learn > Throttle Learn > Reset Procedure in SI.

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## Part Information

**Important:** The initial inventory for P/N 19259452 (Sensor Kit) will be distributed via RIM through a special stocking policy. The dealership parts department personnel will need to approve the stocking policy in order to receive the initial shipment. Subsequent replenishment will also be via RIM.

If the parts department is out of inventory of P/N 19259452 (Sensor Kit), then to complete the repair utilize the throttle body assembly.

| Part Number | Description                         | Quantity |
|-------------|-------------------------------------|----------|
| 19259452    | Throttle Position (TP) Sensor Cover | 1        |

## Warranty Information

- For 2008-2009 vehicles repaired under the 5 year/ 100,000 mile (160,000 km) Powertrain Coverage (Code P) warranty, use:
- For 2010-2011 Cadillac vehicles repaired under the 4 year/50,000 mile (80,000 km) Bumper-to-Bumper warranty (in Canada, Base Warranty Coverage), use:

- For 2010-2011 Chevrolet, GMC or HUMMER vehicles repaired under the 3 year/ 36,000 mile (60,000 km) Bumper-to-Bumper warranty (in Canada, Base Warranty Coverage), use:
- For 2010-2011 Chevrolet, GMC or HUMMER vehicles repaired under the 3 year/ 50,000 mile (80,000 km) California Emission Coverage (Code E) warranty, use:

| Labor Operation                                                                                                                                                                                                                                                                        | Description                                     | Labor Time |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------|
| J7949*                                                                                                                                                                                                                                                                                 | Throttle Position (TP) Sensor Cover Replacement | 1.3 hrs**  |
| J7949*<br>Express and Savana Vans                                                                                                                                                                                                                                                      | Throttle Position (TP) Sensor Cover Replacement | 1.7 hrs**  |
| <p>*This is a unique labor operation for bulletin use only. It will not be published in the Labor Time Guide.</p> <p>**This time includes diagnosis, throttle body removal, cleaning and installation, reprogramming the ECM, and performing the Throttle Learn / Reset Procedure.</p> |                                                 |            |