

Service Bulletin

File in Section: 06 - Engine

Bulletin No.: 09-06-04-026M

Date: June, 2016

INFORMATION

Subject: Identifying Non-GM (Aftermarket) Engine Calibrations for Gasoline Engines Using

Tech 2® or GDS 2 (U.S. and Canada)

Models: 2005-2006 Chevrolet Corvette — Equipped with any V8 Gasoline Engine

2007-2017 GM Passenger Cars and Light Duty Trucks - Equipped with any V8 Gasoline

Engine

2012-2017 GM Passenger Cars and Light Duty Trucks – Equipped with any HFV6

Gasoline Engine

2012-2017 GM Passenger Cars and Light Duty Trucks - Equipped with any

Turbocharged 4 Cylinder Gasoline Engine

Attention: Always refer to the GM Service Policy and Procedures Manual for the latest GM Policy

and Procedures Information. This Bulletin also applies to any of the above models that

may be Export from North America vehicles.

This Bulletin has been revised to add all turbocharged 4 cylinder engines. Please discard Corporate Bulletin Number 09-06-04-026L

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1. Engine, Transmission, Transfer Case, Rear Axle Components and Catalytic Converter Failures Due to Non-GM ECM Calibrations Being Installed

Notice:

- Be advised that GM REQUIRES retrieving the Calibration Information and performing the Calibration Verification Procedure as outlined in this Bulletin, whenever diagnostics determine a hard part failure may have occurred on internal engine parts and BEFORE disassembly, repair or replacement of an engine assembly under warranty.
- Be advised that GM strongly recommends retrieving the Calibration Information and performing the Calibration Verification Procedure as outlined in this Bulletin, whenever diagnostics determine a hard part failure may have occurred on transmission, transfer case or rear axle components and before disassembly, repair or replacement of a transmission, transfer case or rear axle assembly under warranty. It is also recommended that the ECM Calibration Verification Procedure be performed whenever diagnostics determine that catalytic converter replacement is necessary.
- It is not a requirement to verify transmission control module calibrations on gasoline engine applications.

General Motors is identifying an increasing number of engine, transmission and catalytic converter part failures that are the result of non-GM ECM calibrations being installed.

When alteration to the GM-released ECM calibration occurs, it subjects powertrain and driveline components such as engine, transmission, transfer case, driveshaft and the rear axle to stresses that were not tested by General Motors. It is because of these unknown stresses, and the potential to alter reliability, durability and emissions performance, that GM has adopted a policy that prevents any **UNAUTHORIZED** Service Agent Warranty Transaction submissions to any remaining warranty coverage, to the powertrain and driveline components whenever the presence of a non-GM calibration is confirmed, even if the non-GM ECM calibration is subsequently removed.

Warranty coverage is based on the equipment and ECM calibrations that were released on the vehicle at time of sale, or subsequently updated by GM. That's because GM testing and validation matches the calibration to a host of criteria that is essential to assure reliability, durability and emissions performance over the life of the warranty coverage and beyond. Stresses resulting from calibrations that are different from those tested and released by GM can damage and/or weaken components, leading to poor performance and/or shortened life.

Additionally, non-GM issued ECM modifications often do not meet the same emissions performance standards as GM issued calibrations. Depending on state statutes, individuals who install ECM calibrations that put the vehicle outside the parameters of emissions certification standards may be subject to fines and/or penalties.

This bulletin outlines the Calibration Retrieval and Calibration Verification Procedures for ALL Service Agents including Service Agents NOT Required to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization and Service Agents Required to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization, using the Tech 2® or GDS 2 to identify the presence of non-GM control module calibrations.

If a non-GM calibration is found and verification has taken place through GM, the remaining powertrain and driveline warranty **may** be blocked and notated in Global Warranty Management (GWM) and the dealership will be notified. This block prevents any **UNAUTHORIZED** warranty claim submission.

2. Calibration Retrieval and Calibration Verification Procedure for Service Agents NOT REQUIRED to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization

Notice:

- The Service Agent Service Department Personnel is NOT REQUIRED TO E-MAIL TAC the digital Calibration Verification photos from the Tech 2® screen or GDS 2 screen shot, UNLESS non-GM calibrations are found.
- The Service Agent Service Department Personnel is REQUIRED TO RETAIN ALL of the related documentation showing the Calibration Information was Retrieved and the Calibration Verification Procedure was completed, in the Service Agent Vehicle History Service File.
- Depending on the vehicle being serviced, the Service Department Personnel is required to complete one of the following procedures, either Step 1.1 or Step 1.2 in order to ensure that there are not any non-GM ECM calibrations present:
 - 1.1. Section 4. Retrieving Engine Calibration ID and Verification No. (Number) Information Using the Tech 2®

 After retrieving the calibration information,

Go to Step 2.

OR

- 1.2. Section 6. Retrieving Calibration Information From Global A Vehicles Using GDS 2
 - After retrieving the calibration information, Go to Step 2.
- After retrieving the Calibration Information and performing Section: 8. Calibration Verification Procedure — For Service Agents NOT REQUIRED to Call PQC for Powertrain/ Drivetrain Assembly Replacement Authorization — Using the Tech 2® or GDS 2 the Service Department Personnel is required to

retain all of the related documentation showing the procedures were completed in the Service Agent Vehicle History Service File.

- ⇒ If the Calibration Verification Procedure determines that THERE ARE non-GM ECM calibrations present, the Service Department Personnel MUST follow the procedure as instructed in: Section 10. Procedure for All Service Agents for E-mailing .jpg or .jpeg Files to the Calibration Group at — TACCVN@gm.com
- When returning an engine assembly a printed copy of the Tech 2® Vehicle Information - Engine Calibration ID and Verification No. (Number/CVN) screen or the GDS 2 Calibration History (Events) screen shot must be attached to the documentation being returned with the unit.

Notice: For additional information regarding: Service Agents NOT Required to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization, refer to the latest version of Corporate Bulletin #12-07-30-001 Information for Service Agents Not Required to Contact Product Quality Center (PQC) for CNG, LPG or Gasoline Engine, Transmission and/or Transfer Case Replacement Authorization

3. Calibration Retrieval and Calibration Verification Procedure for Service Agents REQUIRED to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization

Notice:

- The Service Agent Service Department Personnel is REQUIRED TO E-MAIL TAC the digital Calibration Verification photos from the Tech 2® screen or GDS 2 screen shot in .jpg or .jpeg format only, to the following e-mail address: TACCVN@gm.com
- The Service Agent Service Department Personnel is REQUIRED TO RETAIN ALL of the related documentation showing the Calibration Information was Retrieved and the Calibration Verification Procedure was performed by the Calibrations Group which is their e-mail response, in the Service Agent Vehicle History Service File.
- Depending on the vehicle being serviced, the Service Department Personnel is required to complete one of the following procedures, either Step 1.1 or Step 1.2 in order to ensure that there are not any non-GM ECM calibrations present:
 - 1.1. Section 4. Retrieving Engine Calibration ID and Verification No. (Number) Information Using the Tech 2®
 - 1.2. Section 6. Retrieving Calibration Information From Global A Vehicles Using GDS 2

- After retrieving the Calibration Information and referring to Section: 9. Calibration Verification Procedure — For Service Agents Required to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization — MUST be Performed by the Calibrations Group, follow the procedure in Section 10. Procedure for All Service Agents for E-mailing.jpg or.jpeg Files to the Calibration Group at — TACCVN@gm.com
- The Service Department Personnel is required to retain all of the related documentation showing the procedures were completed in the Service Agent Vehicle History Service File.
- 4. When returning an engine assembly a printed copy of the Tech 2® Vehicle Information Engine Calibration ID and Verification No. (Number/CVN) screen OR the GDS 2 Calibration History (Events) screen shot must be attached to the documentation being returned with the unit.

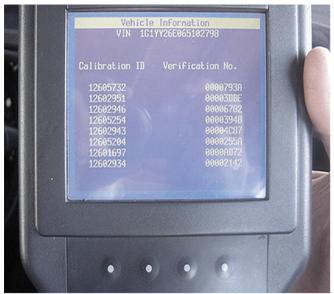
Notice: For additional information regarding: Service Agents Required to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization, refer to the latest version of Corporate Bulletin #02-07-30-029 Product Quality Center (PQC) Assembly Replacement Process

4. Retrieving Engine Calibration ID and Verification No. (Number) Information Using the Tech 2® - This Action is Required for ALL Service Agents (Model Dependent)

Notice: This information applies to vehicles that are Tech 2® compatible and is typical of the procedure that will be used.

- 1. Connect the **Tech 2**® to the vehicle.
- 2. Go to: Diagnostics and build the vehicle.
- 3. Select: Powertrain.
- 4. Select: Engine.
- 5. Select: Engine Control Module or PCM.
- Select: Module ID Information or I/M Information System if the Module ID Information selection is not available.
- 7. If: "I/M information System" was selected, it may be necessary to select "Vehicle Information" in order to display the calibration information.
 - ⇒ If the CVN information is displayed as "N/A", it will be necessary to contact the TCSC at 1-800-828-6860 for English or 1-800-503-3222 for French to obtain the CVN information.
 - ⇒ If the CVN Information is displayed as all zeroes, refer to Section: 5. Tech 2® Displaying All Zeroes for the Verification Numbers on the Vehicle Information - Calibration ID and Verification No. (Number/CVN) Screen

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Calibration ID	Verification No.
Engine 12653674	9000C51F
Ingine 12647447	00005530
Ingine 12647433	00006C37
Engine 12625892	000036F2
Engine 12647443	00005C9A
Engine 12647455	000051FI
Engine 12647464	00000335 0000EE49
Engine 12647459	0000CC43

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Notice:

- Two examples of the Tech 2® Vehicle Information - (Engine) Calibration ID and Verification No. screens are shown.
- The Tech 2® Vehicle Information -Calibration ID and Verification No. screen will differ slightly depending on vehicle and model year.
- 8. Take a CLEAR digital picture(s) of the Tech 2® Vehicle Information screen showing the entire VIN, (Engine) Calibration ID and Verification No. (Number/CVN) and save it in .jpg format.

Notice: It is recommended that an electronic copy of the Tech 2® screen photograph(s) also be saved.

Retain the printout information and the Tech 2® screen photograph(s) with the repair order.

5. Tech 2® Displaying All Zeroes for the Verification Numbers on the Vehicle Information - Calibration ID and Verification No. (Number/CVN) Screen



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If the Tech 2® that is being used displays all zeroes for the Verification Numbers as shown, then perform the following steps:

- Update the Tech 2® with the latest software from TIS2WEB.
- 2. Turn **OFF** the ignition for 90 seconds.
- 3. Connect the Tech 2® to the vehicle.
- Turn ON the ignition, and build the vehicle.
 Observe the Tech 2® Vehicle Information Calibration ID and Verification No. (Number/CVN)
 screen for proper operation.
 - ⇒ If the Tech 2® screen still does not display properly, then turn OFF the ignition for 90 seconds again. Turn ON the ignition and observe the same screen for proper operation.

6. Retrieving Calibration Information From Global A Vehicles Using GDS 2 -This Action is Required for ALL Service Agents (Model Dependent)

Notice: This information applies to Global A - GDS 2 compatible vehicles and is typical of the procedure that will be used.

- 1. Turn **OFF** the ignition.
- Connect the MDI to the Data Link Connector (DLC) of the vehicle.

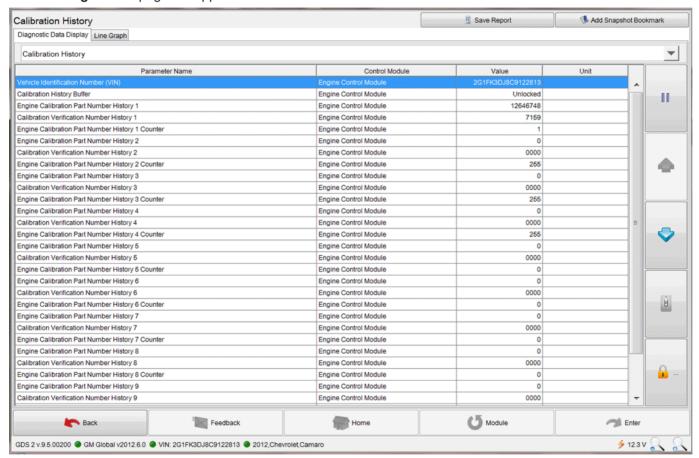
Notice: Use the USB port to make the following MDI connection:

Connect the MDI to a PC or laptop that has been downloaded with the GDS 2 application from TIS2WEB. Notice: At least one Diagnostic Package must be installed on the PC to perform diagnostics. If GDS 2 was just installed, select: Add New Diagnostic Package and then select a: Diagnostic Package to download.

- 4. Select: GDS 2 icon on the PC.
- 5. Select: Diagnostics icon.
- 6. Select: serial number of the MDI being used.
- 7. Select: Enter icon.
- 8. Select: Module Diagnostics.
- 9. Select: Engine Control Module.

Notice: Due to the model selected, vehicle build, software and RPO variations, GDS 2 may ask for additional information in Step 10.

- 10. Select: Engine ID, if prompted.
- 11. Select: ID Information.
- 12. The Diagnostics page will appear.



13.

Notice: This is a typical view of a GDS 2 Calibration History Events Screen. GDS 2 is capable of displaying up to 10 Calibration History Events.

Select: **Calibration History** from the drop down menu in order to display the following items on the screen, including the VIN:

- Calibration History Buffer
- Number of Calibration History Events Stored

- Calibration Part Number History
- · Calibration Verification Number History

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- 14. Select: Save Report.
- 15. Select: Print.

Notice: It is recommended that an electronic copy of the GDS 2 Calibration History also be saved. Refer to Section: 7. Creating a .jpg or .jpeg File From a GDS 2 Calibration History Screen Shot Using Microsoft Paint

16. Retain a copy of the printed screen shot with the repair order.

7. Creating a .jpg or .jpeg File From a GDS 2 Calibration History Screen Shot Using Microsoft Paint

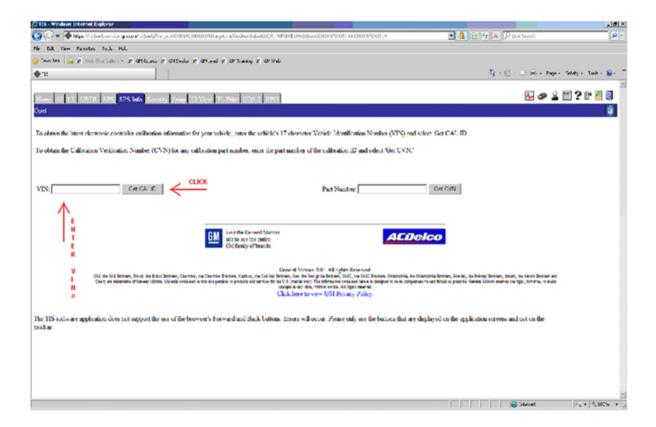
- 1. Select: Start icon.
- 2. Select: All Programs.
- 3. Select: Accessories.
- 4. Select: Paint.
- 5. Navigate to: Calibration History.
- 6. Press the: Print Scrn button.
- 7. Open: Microsoft Paint.
- 8. Select: Paste.
- 9. Select: Save As.
- 10. Select: Desktop.
- Select: File name. Name the file. As an example use the VIN.
- 12. Select: **Save as type**, using the drop down menu.
- 13. Select: JPEG

8. Calibration Verification Procedure — For Service Agents NOT REQUIRED to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization — Using the Tech 2® or GDS 2

1. Go to: TIS2WEB Home Page.

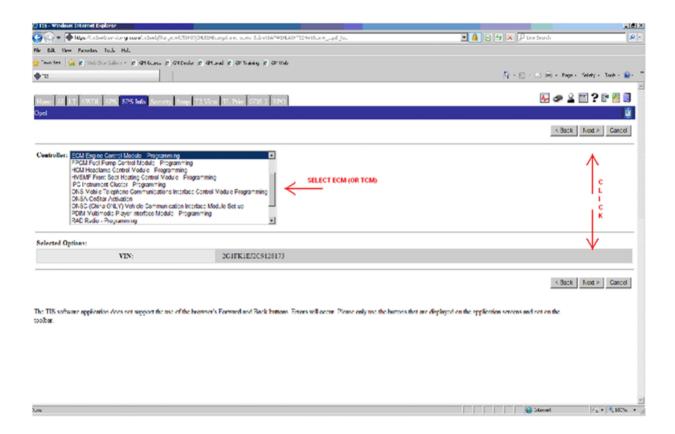


2. Select: Calibration Information (SPS Info).

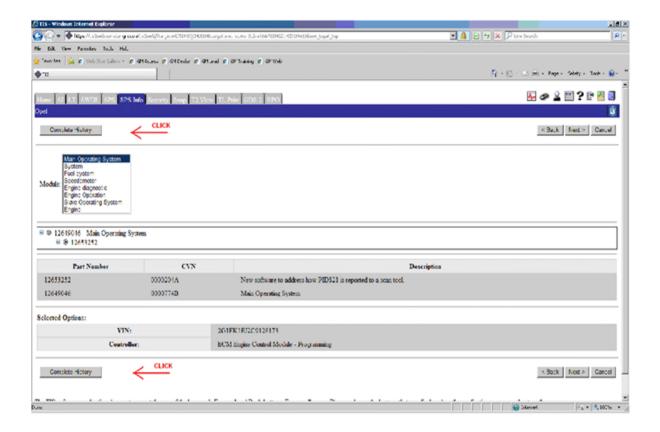


3. Enter the: VIN.

4. Select: Get Cal ID.



 Select: ECM Engine Control Module — Programming from the Controller dropdown menu and select: Next.



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- Select: Complete History at the top left or bottom left of the page to access the GM Vehicle Calibration Information screen, which displays all of the GM Approved Calibrations and CVNs (Calibration Verification Numbers).
 - ⇒ If the vehicle being serviced requires using the Tech 2®, Go to subsection: 8. A. Calibration Verification Procedure Using the Tech 2®
 - ⇒ If the vehicle being serviced requires using GDS 2, Go to subsection: 8. B. Calibration Verification Procedure — Using GDS 2
- 8. A. Calibration Verification Procedure Using the Tech 2^{\circledR}

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GM Vehicle Calibration Information

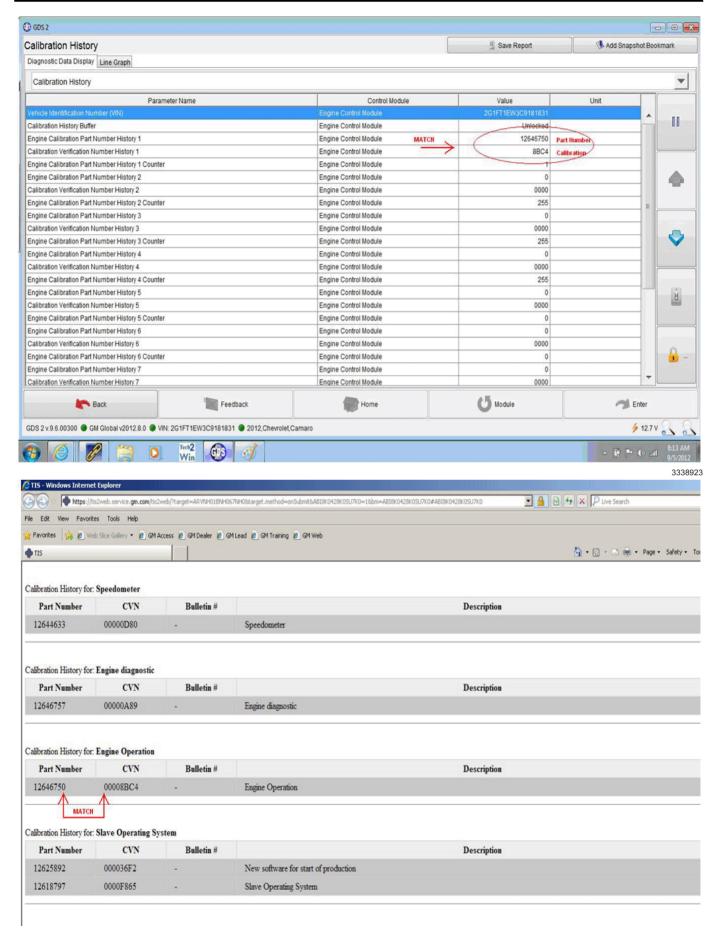


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Compare each: Calibration ID Part Number and Verification No. (Number/CVN) from your Tech 2® photo to the corresponding Calibration ID Part Number and Verification No. (Number/CVN) listed in the TIS2WEB GM Vehicle Calibration Information screen of TIS2WEB to ensure that they are ALL an EXACT MATCH.

⇒ If ANY of the Calibration ID Part Number and Verification No. (Number/CVN) when COMPARED to the Calibration ID Part Number and Verification No. (Number/CVN) listed in the TIS2WEB GM Vehicle Calibration Information screen, DO NOT MATCH, then non-GM calibrations may be present and you should follow the procedure in Section: 10. Procedure for All Service Agents for E-mailing .jpg or JPEG Files to the Calibration Group at — TACCVN@gm.com in order to e-mail your findings to the Calibration Group, who will then document your information with the appropriate Brand Quality Manager in the Brand Quality Team.

8. B. Calibration Verification Procedure — Using GDS 2



Compare each: Engine Calibration Part Number History parameter and Calibration Verification Number History parameter from the GDS 2 Calibration History screen to the Calibration Part Number and Calibration Verification Number (CVN) listed in the GM Vehicle Calibration Information screen of TIS2WEB to ensure that they are ALL an EXACT MATCH.

- ⇒ If ANY Engine Calibration Part Number History parameter and Calibration Verification Number History parameter when COMPARED to the Engine Calibration Part Number History parameter and Calibration Verification Number History listed in the TIS2WEB GM Vehicle Calibration Information screen, DO NOT MATCH, then non-GM calibrations may be present and you should follow the procedure in Section: 10. procedure for All Service Agents for E-mailing .jpg or JPEG Files to the Calibration Group at TACCVN@gm.com in order to e-mail your findings to the Calibration Group, who will then document your information with the appropriate Brand Quality Manager in the Brand Quality Team.
- 9. Calibration Verification Procedure —
 For Service Agents REQUIRED to Call
 PQC for Powertrain/Drivetrain
 Assembly Replacement Authorization
 This Procedure MUST be Performed
 by the Calibrations Group

Notice: For Service Agents Required to Call PQC for Powertrain/Drivetrain Assembly Replacement Authorization, the Calibration Verification Procedure MUST be Performed by the Calibrations Group

- Assemble the Calibration Information that was retrieved when you performed Section: 4. Retrieving Engine Calibration ID and Verification No. (Number) Information Using the Tech 2® - This Action is Required for ALL Service Agents (Model Dependent)
- Assemble the Calibration Information that was retrieved when you performed Section: 6.
 Retrieving Calibration Information From Global A Vehicles Using GDS 2 - This Action is Required for ALL Service Agents (Model Dependent)
- Go to Section: 10. Procedure for ALL Service Agents for E-mailing .jpg or JPEG Files to the Calibration Group at — TACCVN@gm.com .

10. Procedure for ALL Service Agents for E-mailing .jpg or .jpeg Files to the Calibration Group at — TACCVN@gm.com

Notice:

 ALL screen shots MUST be sent as a .jpg or .jpeg file. Keep all photos in ONE e-mail.

- DO NOT e-mail photos from the GDS 2 in the automatic format of a .png file. Your e-mail will arrive at the Calibrations Group with the .png file(s) having been stripped by the security firewall.
- 1. Create an e-mail to be sent to: TACCVN@gm.com
- Attach the Tech 2® digital .jpg or .jpeg photos or the GDS 2 .jpg or .jpeg files to the e-mail. Keep ALL photos in one e-mail.
- In the Subject Line of the e-mail include the following:
 - 3.1. The phrase: "V6 Cal" or "V8 Cal".
 - 3.2. The complete: VIN.
 - 3.3. The Service Agent BAC.
- 4. In the **Body** of the e-mail include the following:
 - 4.1. The complete: VIN.
 - 4.2. The Mileage.
 - 4.3. The **Service Agent BAC**.
 - 4.4. The Repair Order (R.O.) or Job Card number.
 - 4.5. The Customer Complaint.
 - 4.6. The Cause of the Condition.

Notice: Requests that are sent to the Calibrations Group are handled in the order in which they were received.

- The Service Agent will receive an e-mail reply after the calibrations have been validated. The e-mail reply will advise the Service Agent if the calibrations are OEM.
 - ⇒ If non-GM ECM calibrations are determined to be present, the Calibrations Group will forward the case to the appropriate Brand Quality Manager for review. The Brand Quality Manager will then determine whether the warranty will be blocked and will respond to all parties concerned.
- 6. You may call the PQC two hours after submitting the e-mail to the Calibrations Group (or after the results have been received by e-mail) for authorization to replace the assembly. This time allows the Calibrations Group to receive, review, verify the calibrations and set up a case for the request. The Calibrations Group will also update the PQC or TAC case with the results of the Calibration Verification Request.

Be prepared to provide all the usual documentation that is normally required when requesting an assembly authorization from the PQC.

Notice: DO NOT contact GM Technical Assistance (TAC) to discuss warranty concerns on the non-GM calibrations. ALL questions and concerns about warranty should be directed to the District Manager Aftersales (DMA), in Canada the DM-CCSP (District Manager-Customer Care and Service Process).

11. Calibrations Group - New E-mail Address - TACCVN@gm.com

The Calibrations Group has a new e-mail address to be used when mailing the digital .jpg or .jpeg photographs of the Engine Calibration ID and Verification No. (Number) Information taken from the Tech 2® or .jpg or .jpeg photographs from the GDS 2 Calibration History screen shot.

E-mail all .jpg or .jpeg files to this address: TACCVN@gm.com

12. Warranty Information

- The Dealership Service Management must be involved in any situation that would justify the use of labor operation 0600014.
- Notify the District Manager Aftersales (DMA), in Canada the DM-CCSP (District Manager-Customer Care and Service Process) of the situation.

- All claims will have to be routed to the Warranty Support Center (WSC) for approval.
- Please refer to Corporate Bulletin Number 09-00-89-016, Labor Operation 0600014 -Suspected Tampering or Vehicle Modifications for important information.

For vehicles repaired under warranty, use:

Labor Operation	Description	Labor Time
0600014	Suspected Tampering or Vehicle Modifications	0.2 hr