# TECHNICAL

**Subject:** Malfunction Indicator Lamp (MIL) Illuminated, Service Emission System and/or DEF Level Low Message on Driver Information Center (DIC), DEF Level Sensor Reading Incorrectly, DEF Level Sensor Being Erratic, DEF Level Sensor Stuck

| Brand: | Model: | Model Year: | | VIN: | | Engine: | Transmission: |
|---|---|---|---|---|---|---|---|
| | | from | to | from | to | | |
| Cadillac | Escalade Models | 2021 | 2023 | | | LM2, L5P | |
| Chevrolet | Silverado 1500 | 2020 | 2021 | | | | |
| | Silverado 1500 LTD (RPO J21, VIN Digit 5 = W/Y) | 2022 | 2022 | | | | |
| | Silverado 1500 New (RPO J22, VIN Digit 5 = A/D) | | | | | | |
| | Silverado 2500HD/3500HD | 2020 | 2023 | | | | |
| | Suburban | 2021 | | | | | |
| | Tahoe | 2021 | | | | | |
| GMC | Sierra 1500 | 2020 | 2021 | | | | |
| | Sierra 1500 Limited (RPO J21, VIN Digit 5 = 8/9) | 2022 | 2022 | | | | |
| | Sierra 1500 New (RPO J22, VIN Digit 5 = H/U) | | | | | | |
| | Sierra 2500HD/3500HD | 2020 | 2023 | | | | |
| | Yukon Models | 2021 | | | | | |

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|---|---|
| **Involved Region or Country** | North America |
| **Condition** | Some customers may comment on one or more of the following conditions:<br>• MIL illuminated<br>• Service Emission System and/or DEF Level Low Message Displayed on the DIC<br>• DEF Level Sensor Reading Incorrectly<br>• DEF Level Sensor Being Erratic<br>• DEF Level Sensor Stuck |
| **Cause** | This condition may be caused by a software anomaly. |
| **Correction** | Perform the following:<br>1. Update the K115 Reductant Control Module with the latest calibration.<br>2. Make sure that the level in the DEF tank reads at least 35% in GDS2. For LM2, this % value is found in the Exhaust After-treatment Data. If not, add one gallon of Diesel Exhaust Fluid to the tank. Take note of initial level shown and after 1 gal refill if done; add this info into the verbatim.<br>3. Using GDS2, perform the Reductant Fluid Tank Level Reset. Take note of level shown after reset and add it into the verbatim.<br>4. Fill the remainder of the Emission Reductant Fluid Tank with Diesel Exhaust Fluid. |

**Important:  Service agents must comply with all International, Federal, State, Provincial, and/or Local laws applicable to the activities it performs under this bulletin, including but not limited to handling, deploying, preparing, classifying, packaging, marking, labeling, and shipping dangerous goods. In the event of a conflict between the procedures set forth in this bulletin and the laws that apply to your dealership, you must follow those applicable laws.**
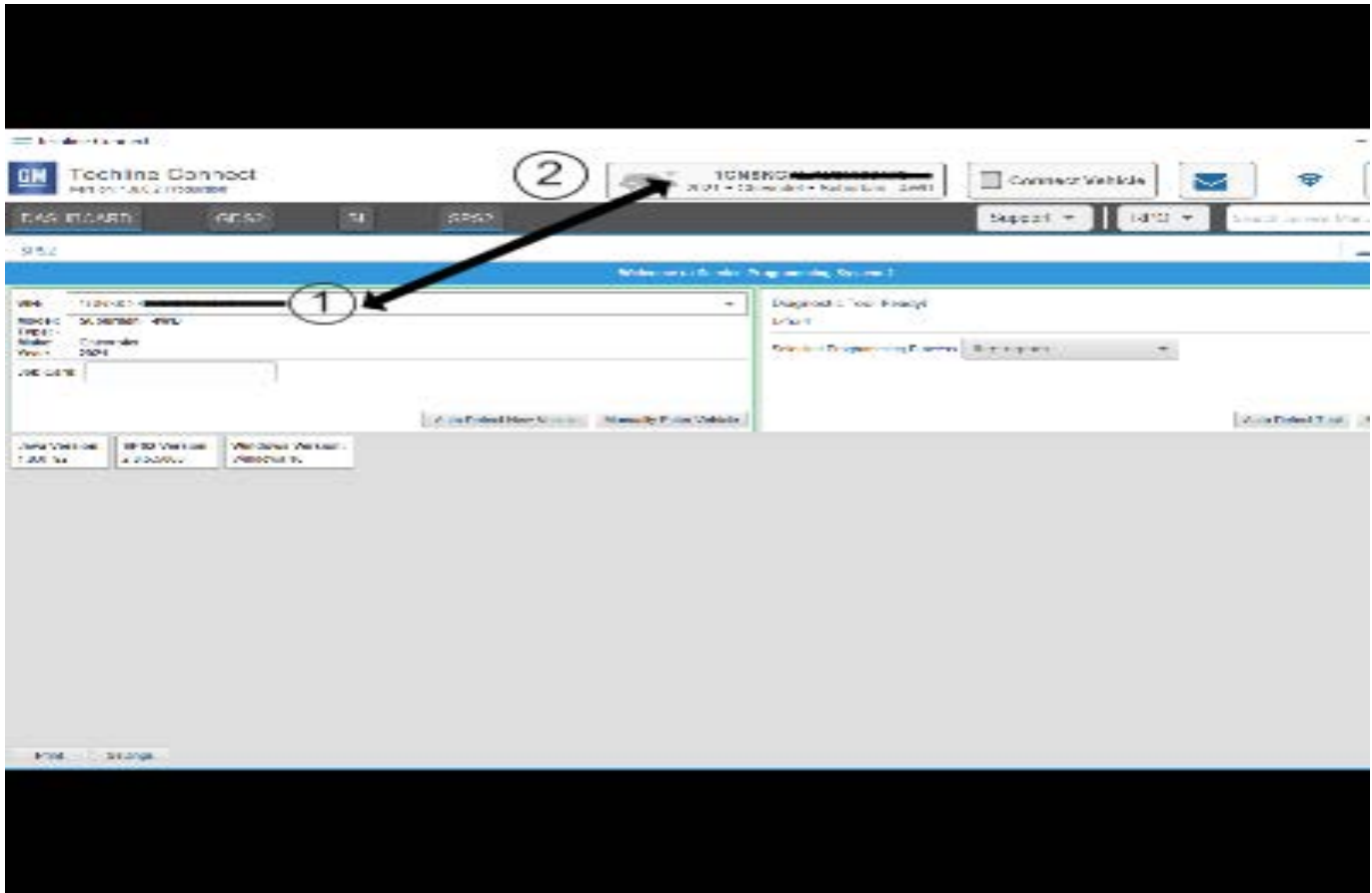
## Service Procedure

**Caution:**  Before downloading the update files, be sure the computer is connected to the internet through a network cable (hardwired). DO NOT DOWNLOAD or install the files wirelessly. If there is an interruption during programming, programming failure or control module damage may occur.

- Ensure the programming tool is equipped with the latest software and is securely connected to the data link connector. If there is an interruption during programming, programming failure or control module damage may occur.

- Stable battery voltage is critical during programming. Any fluctuation, spiking, over voltage or loss of voltage will interrupt programming. Install a GM Authorized Programming Support Tool to maintain system voltage. Refer to www.gmdesolutions.com for further information. If not available, connect a fully charged 12 V jumper or booster pack disconnected from the AC voltage supply. DO NOT connect a battery charger.

- Follow the on-screen prompts regarding ignition power mode, but ensure that anything that drains excessive power (exterior lights, HVAC blower motor, etc) is off.

- Please verify that the radio time and date are set correctly before inserting USB drive into vehicle for programming, otherwise an error will result. .

- Clear DTCs after programming is complete. Clearing powertrain DTCs will set the Inspection/ Maintenance (I/M) system status indicators to NO.

**Important:**  The service technician always needs to verify that the VIN displayed in the TLC left side drop down menu and the top center window match the VIN plate of the vehicle to be programmed prior to using Service Programming System 2 (SPS2) for programming or reprogramming a module.
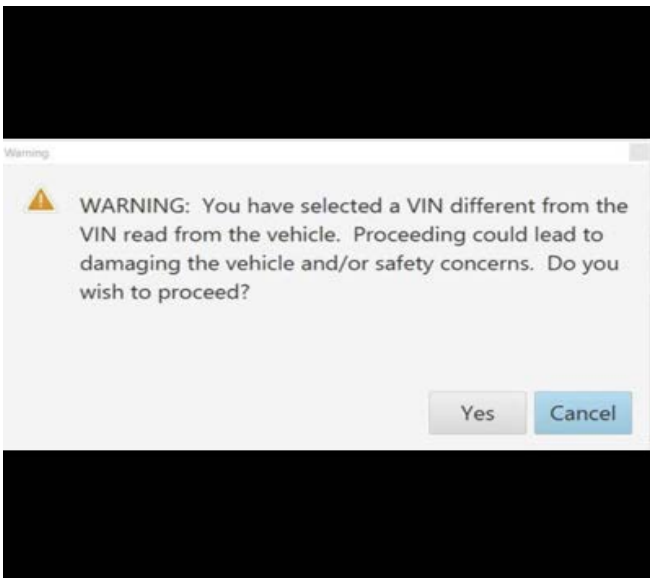
- For the TLC application, service technicians need to always ensure that the power mode (ignition) is "ON" before reading the VIN from the vehicle's VIN master module and that they do not select a VIN that is already in the TLC application memory from a previous vehicle.

- If the VIN that shows up in the TLC top center window after correctly reading the VIN from the vehicle does not match the VIN plate of the vehicle, manually type in the VIN characters from the vehicle VIN plate into the TLC top center window and use these for programming or reprogramming the subject module with the correct vehicle VIN and software and/or calibrations.

- The Engine Control Module (ECM) is the master module (for VIP vehicles) that TLC reads to determine the VIN of the vehicle. If the VIN read from the vehicle by TLC does not match the VIN plate of the vehicle, the ECM also needs to be reprogrammed with the correct VIN, software and calibrations that match the vehicle's VIN plate.

- The Body Control Module (BCM) is the master module (for GEM vehicles) that TLC reads to determine the VIN of the vehicle. If the VIN read from the vehicle by TLC does not match the VIN plate of the vehicle, the BCM also needs to be reprogrammed with the correct VIN, software and calibrations that match the vehicle's VIN plate.

**Caution:** Be sure the VIN selected in the drop down menu (1) is the same as the vehicle connected (2) before beginning programming.
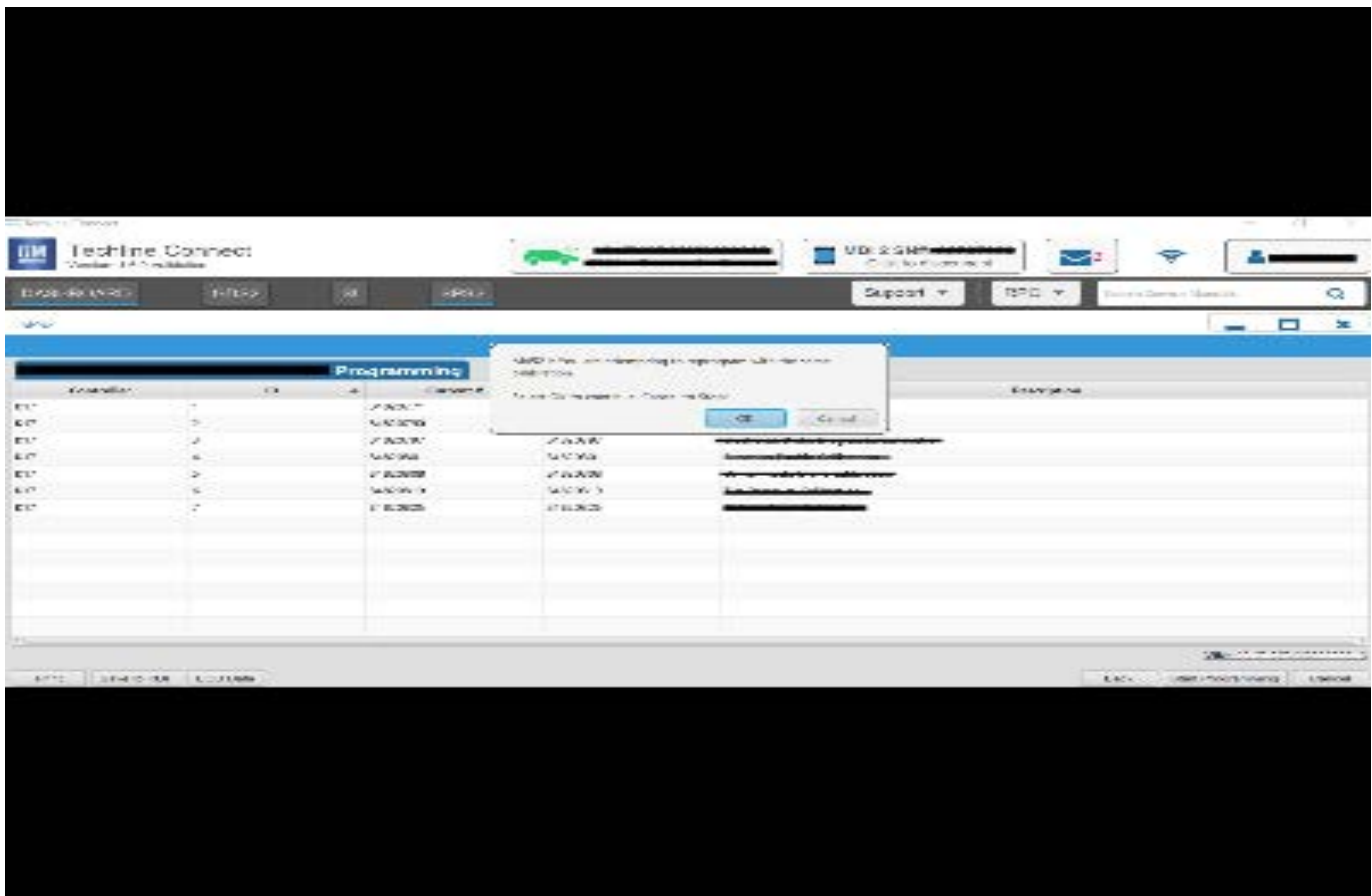


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**Important:** If the vehicle VIN DOES NOT match, the message below will be shown



Warning

⚠ WARNING: You have selected a VIN different from the VIN read from the vehicle. Proceeding could lead to damaging the vehicle and/or safety concerns. Do you wish to proceed?

[ Yes ]   [ Cancel ]

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**Important:** Techline Connect screens shown above.

**Important:** If the same calibration/software warning is noted on the TLC Summary screen, select OK and follow screen instructions. After a successful programming event, the WCC is located in the Service Programming System dialogue box of the SPS Summary screen. No further action is required. Refer to the Warranty section of the bulletin.

1. Reprogram the K115 Reductant Control Module. *Refer to Reductant Control Module Programming and Setup in SI.*

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**Note:** The screenshot above is an example of module programming and may not be indicative of the specific module that is being programmed. Module selection and VIN information have been blacked out.

**Important:** To avoid warranty transaction rejections, you MUST record the warranty claim code provided on the Warranty Claim Code (WCC) screen shown above on the job card. Refer to callout 1 above for the location of the WCC on the screen.

2. Record SPS Warranty Claim Code on job card for warranty transaction submission.

## Parts Information

No parts are required for this repair.

## Warranty Information

For vehicles repaired under the Emission coverage, use the following labor operation. Reference the Applicable Warranties section of Investigate Vehicle History (IVH) for coverage information.
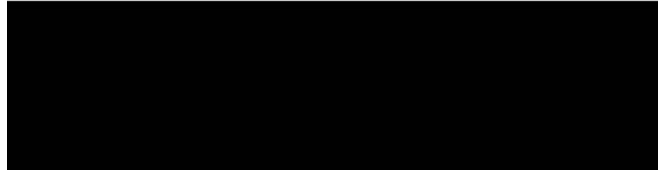
| Labor Operation | Description | Labor Time |
|---|---|---|
| 2888888* | Reductant Control Module Programming and Setup and Perform the Reductant Fluid Tank Level Reset | 0.9 hr |

*This is a unique Labor Operation for Bulletin use only.

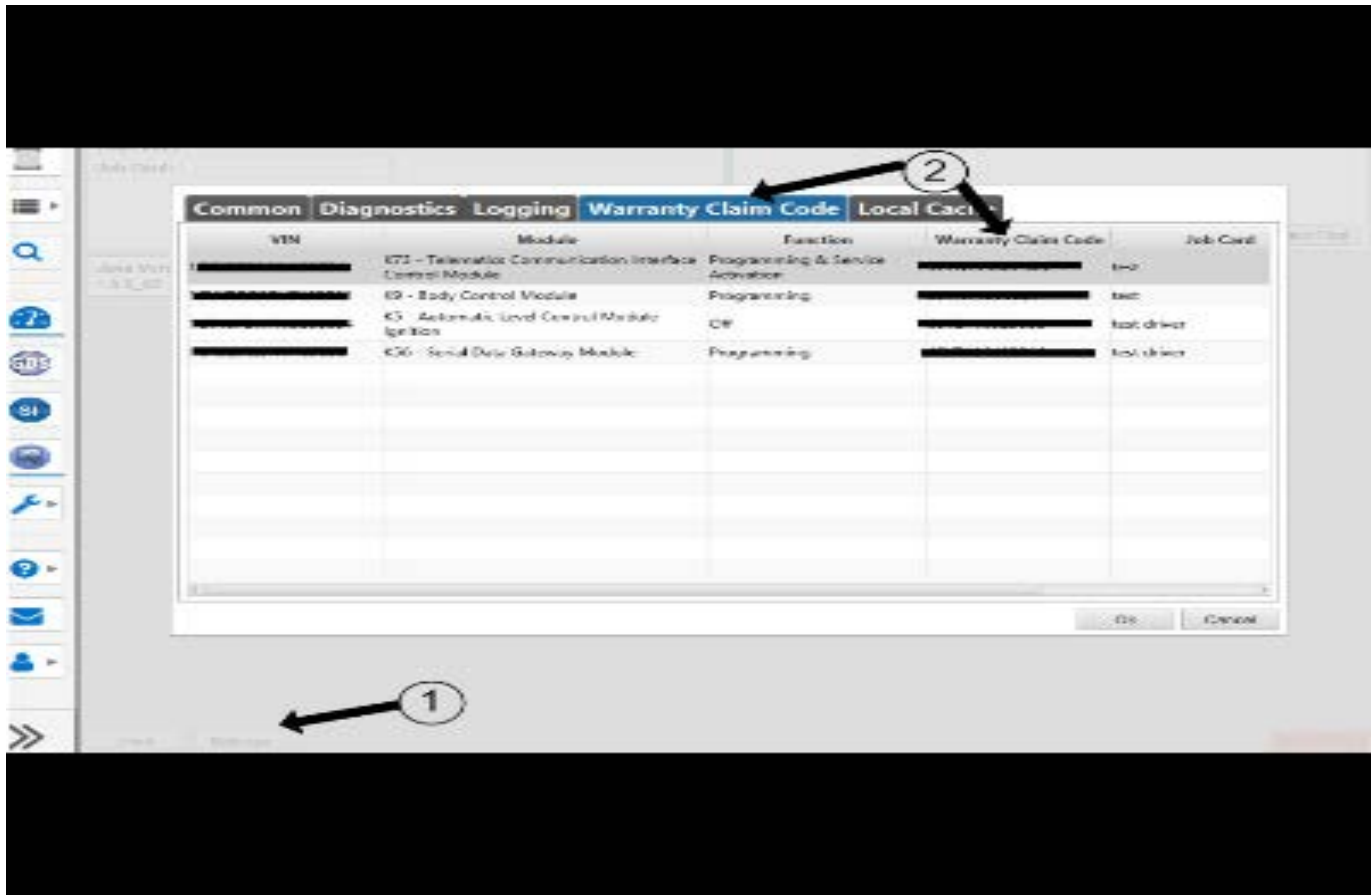**Important:** **To avoid warranty transaction rejections, carefully read and follow the instructions below:

Labour Time [Top]
Labour Operation Code:

Additional labour op code information:

SPS Warranty Claim Code:

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• The Warranty Claim Code must be accurately entered in the "Warranty Claim Code" field of the transaction.

• When more than one Warranty Claim Code is generated for a programming event, it is required to document all Warranty Claim Codes in the "Correction" field on the job card. Dealers must also enter one of the codes in the "Warranty Claim Code" field of the transaction, otherwise the transaction will reject. It is best practice to enter the FINAL code provided by SPS2.

**Warranty Claim Code Information Retrieval**



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If the Warranty Claim Code was not recorded on the Job Card, the code can be retrieved in the SPS2 system as follows:

1. Open TLC on the computer used to program the vehicle.
2. Select and start SPS2.
3. Select Settings (1).
4. Select the Warranty Claim Code tab (2).

The VIN, Warranty Claim Code and Date/Time will be listed on a roster of recent programming events. If the code is retrievable, dealers should resubmit the transaction making sure to include the code in the SPS Warranty Claim Code field.

**Overview of RPT**

Replacement Part Traceability (RPT) is a new dealer process to document and track critical part serial numbers via the Certified Service Mobile Toolbox (CSMT) application. A field action, service bulletin, or other communication will be issued any time there is a request for technicians to complete an RPT submission. Only critical parts will require an RPT, not every part replacement.

Submitting an RPT request is done using the RPT tool within the CSMT app. Technicians simply scan the VIN of the vehicle and the traceability barcode (barcode or QR code) of the new part being installed on the vehicle. Once scanned, the information is submitted through the CSMT app and stored in a GM database. That's the end of the process.

The free CSMT app, which also includes the Field Product Reporting and Pre-Repair Authorization tools, is available on the Google Play Store (Android devices) and the App Store (Apple devices).

By scanning critical part numbers using the Replacement Part Traceability function, GM will be able to reference replaced parts in the future. The exact parts that are on a vehicle will be known, even after a service part replacement.

The RPT process also simplifies the repair and claim submission processes. It eliminates the need of having technicians write down the 16-character serial number on the job card and for warranty administrators to input the serial number into GWM or DMS.

Refer to TSB 22-NA-070 for specific information on downloading the App to your mobile phone, and how to use/submit the new part serial number/QR code information claim and other related Q and A.

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If the App is already loaded to your phone, simply:

1. Scan the VIN (door pillar QR code or windshield VIN barcode) and
2. Scan the new part (QR code) and
3. Check the information and if correct then, Submit.

Failure to submit this serial number by RPT may cause the claim to reject.

| **Version** | 2 |
|---|---|
| **Modified** | Released August 01, 2022 |
| | Revised February 22, 2023 - Added 2023 to Model Year. |

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