**Service Bulletin**

# TECHNICAL

**Subject:** **Blue or Black Screen and Service Rear Vision System Message on Radio Display Shifting into Reverse**

**This bulletin replaces PIE0507A. Please discard PIE0507A.**

| Brand: | Model: | Model Year: | | Date Breakpoint: | | Engine: | Transmission: |
|---|---|---|---|---|---|---|---|
| | | **from** | **to** | | | | |
| Buick | Enclave | 2020 | 2022 | | — | | |
| | Encore GX | 2020 | 2022 | | — | | |
| | LaCrosse | 2019 | 2019 | | — | | |
| | LaCrosse (China only) | 2020 | 2022 | | — | | |
| Cadillac | CT6 | 2019 | 2020 | | — | | |
| | CT6 (China only) | 2021 | 2022 | | — | | |
| | XT4 | 2019 | 2022 | | — | | |
| | XT5 | 2020 | 2022 | | — | | |
| | XT6 | | | | | | |
| Chevrolet | Camaro | 2019 | 2022 | | — | | |
| | Blazer | 2019 | 2022 | | — | | |
| | Bolt EV | 2020 | 2022 | | — | | |
| | Bolt EUV | 2022 | 2022 | | — | | |
| | Equinox | 2019 | 2022 | SOP | — | All | All |
| | Silverado 1500 (New Model) | 2019 | 2019 | | — | | |
| | Silverado 1500 | 2020 | 2021 | | | | |
| | Silverado 1500 LTD (RPO J21, VIN Digit 5 = W / Y) Silverado 1500 New (RPO J22, VIN Digit 5 = A / D) | 2022 | 2022 | | — | | |
| | Traverse | 2020 | 2022 | | — | | |
| GMC | Acadia | 2020 | 2022 | | — | | |
| | Sierra 1500 (New Model) | 2019 | 2019 | | — | | |
| | Sierra 1500 | 2020 | 2021 | | | | |
| | Sierra 1500 Limited (RPO J21, VIN Digit 5 = 8 / 9) Sierra 1500 New (RPO J22, VIN Digit 5 = H / U) | 2022 | 2022 | | — | | |
| | Terrain | 2019 | 2022 | | — | | |

| Brand: | Model: | Model Year: | | Date Breakpoint: | | Engine: | Transmission: |
|---|---|---|---|---|---|---|---|
| | | from | to | | | | |
| Holden | Acadia | 2019 | 2020 | SOP | Prior to December 18, 2019 | All | All |
| | Equinox | | | | — | | |

| | |
|---|---|
| **Involved Region or Country** | North America, Argentina, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Europe, Uzbekistan, Middle East, Israel, Palestine, Japan, Cadillac Korea (South Korea), GM Korea Company, China, Egypt, Other Africa, Australia/New Zealand |
| **Additional Options (RPOs)** | Equipped with Rear View Camera (UVB), or Surround Camera System (UV2) or (UVS), or Trailer Camera System (UVI) |
| **Condition** | Some customers may comment on a blue or black screen with Service Rear Vision System message when shifting into Reverse. |

Some customers may comment on a blue or black screen with Service Rear Vision System message when shifting into Reverse.

**Tip: (Truck only)** Refer to Service Bulletin # **18-NA-383** for additional steps and how to identify if this is a water intrusion issue.

**Surround / Trailer Camera (UV2, UVS, or UVI) Systems**

The **blue** screen (with Service Rear Vision message), or **black** screen (with red triangle and no camera icon) condition can occur multiple times within the same power cycle and may return to normal functionality on the next power cycle. Or if this condition exists, it will occur every time the rear view is displayed to the customer within the same power cycle and may return to normal functionality on the next power cycle after the A11 radio enters and exits sleep cycle. A Diagnostic Trouble Code (DTC) B101D Symptom Byte 3C and/or 39 may be stored as a history DTC in the Video Processing Module (VPM) without any camera-related concern.



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Blue Screen

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Black Screen

Some customers with select vehicles may notice that after having vehicle in idle for an extended period of time (length of time for black screen to occur depends on ambient temperature), a black screen with a red triangle and no camera icon will appear when the vehicle is put in Reverse and the camera icon will be crossed out on the radio center screen.

**Important:** This condition can sometimes appear within approximately 25 minutes of starting a vehicle and is all dependent on the vehicle being in idle.

Please refer to *Rear Vision Camera System Malfunction (UV2)* in SI for any blue screen in Reverse with the message "Service Rear Vision System" situations with vehicles equipped with UV2, XVR. This particular scenario may become present when there is a B101D or B101E DTC that returns after replacing a VPM. It is advised with vehicles equipped with UV2 and XVR to remove the video recorder SD card from hub to see if this fixes this blue screen condition before further root causing.

**Rear View Camera (UVB) systems**
If the **blue** or **black** screen condition exists, it will occur every time the rear view is displayed to the customer within the same power cycle and may return to normal functionality on the next power cycle after the A11 radio enters and exits a sleep cycle. A DTC of B395A Symptom Byte 08, 72 and 3A will be stored as history together in the A11 Radio.

| | |
|---|---|
| **Cause** | The cause of the condition may be software anomalies in the Video Processing Module (VPM) or rear camera. |
| **Correction** | • Vehicles with UV2/UVI/UVS — reprogram the Video Processing Module (VPM).<br>• Vehicles with UVB — replace the rearview camera. |

## Service Procedure

**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.**

The intent of this bulletin is to show that in most cases DTC B101E or B101D should **NOT** result in the replacement of the Video Processing Module (VPM) or the Radio, but instead inspect for coax and connector issues as well as the SD Card to ensure it is not corrupt.

These counters are listed in priority order from most usefulness to least. The ones outlined in red are considered the most critical and usually most helpful in root causing surround viewing issues.

**Note:**  The VPM fail counters are not available on VIP architecture vehicles currently.

1.  Connect the scan tool to the vehicle's data link connector and open GDS2 in the Techline Connect application and write down all DTCs stored in the vehicle.

2.  Navigate to the VPM Module to observe the Fail Counters:

    *Module Diagnostics / K157 Video Processing Module / Video Processing Module Internal Status.*
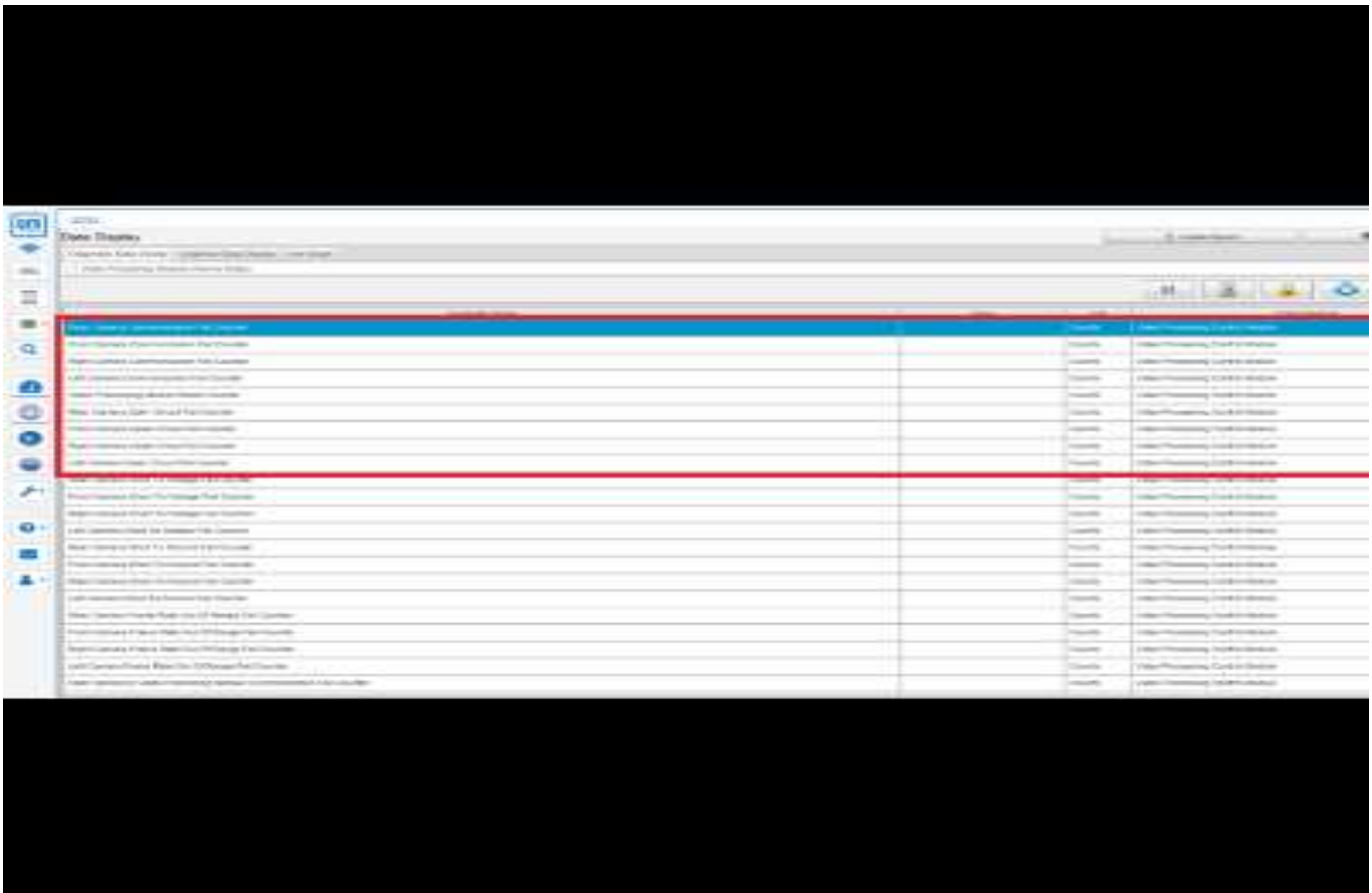


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3.  The three most critical parameters to look at are:
    *   Camera Communication Fail Counter
    *   Video Processing Module Reset Counter
    *   Camera Open Circuit Counter

4.  Write down the counters found in the VPM using the scan tool.

5.  Cross-reference the DTCs and counters with the troubleshooting table below to determine most probable cause.

| Module | DTCs | Symptom Byte | DTC Description | Video Processing Module Reset Counter >20 | Rear, Front, Right, or Left Camera Open Circuit Fail Counter >0 |
|---|---|---|---|---|---|
| A11 Radio | B395A | 08 | Loss of Video Frames | - | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter |
| A11 Radio | B395A | 72 | Froze Frames | - | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter |
| K157 Video Processing Module | B101E | 4A | Checksum Error | CHECK SD CARD / REPLACE K157 VIDEO PROCESSING MODULE | **DO NOT REPLACE** K157 VIDEO PROCESSING MODULE |
| K157 Video Processing Module | B101D | 3C | Internal Communication Failure | CHECK SD CARD / REPLACE K157 VIDEO PROCESSING MODULE | **DO NOT REPLACE** K157 VIDEO PROCESSING MODULE |
| K157 Video Processing Module | B390F | 08 | Camera OPEN DTC | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter |
| K157 Video Processing Module | B395B | | | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter |
| K157 Video Processing Module | B395C | | | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter |
| K157 Video Processing Module | B395A | | | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter | CHECK COAX/ CONNECTOR/ CAMERA<br><br>Based on Fail Counter |

**6.** If the condition continues, power cycle the K157 Video Processing Module to see if the issue goes away.

**Note:** Diagnostic steps vary based on the DTCs set, which module stored the DTCs, the vehicle model and camera system. Pay attention to the vehicle being diagnosed, what DTCs and symptom bytes are stored, and which module stored them to ensure the proper steps are followed.

| RPO | Condition | DTCs | Repair Step |
|---|---|---|---|
| UV2, UVI, or UVS | Persistent blue screen with service rear viewing system or black screen with a red triangle and a no camera icon, throughout a power cycle. | B101D 3C and/or 39 History in VPM<br><br>B395A 08, 72 and/or 3A in Radio or VPM | Step 2.1 – Reprogram VPM |
| UVB | Persistent blue screen with service rear viewing system and guidelines (if enabled) or a black screen with red triangle and no camera icon throughout a power cycle. | B395A 08,72 and/or 3A in VPM or Radio– Check Coax, refer to PIC6420 for specifics | Step 4.1 – Replace rearview camera |

1. Verify the RPO build of the vehicle being diagnosed to determine which camera system is in use (UVB, UV2 or UVI).

2. Record all DTCs stored in the vehicle.

   2.1. If the Video Processing Module (VPM) stores a history B101D symptom byte 3C and/or 39; or the A11 radio stores a history B395A symptom byte 08, 72 and/or 3A, do NOT replace the VPM. Reprogramming the VPM software may reduce sensitivity of the B101D setting. Refer to *K157 Video Processing Control Module: Programming and Setup* in SI. This software does not resolve non-camera related system issues. If a condition exists that is NOT related to the camera system, then follow published diagnostics for the condition reported by the customer.

   2.2. Select the appropriate procedure below based on vehicle build content.

      • Proceed to step 3 for UV2 or UVI systems.
      • Proceed to step 4 for UVB systems.

3. For UV2 or UVI equipped systems:

   3.1. If the A11 Radio has stored DTC B395A Symptom Bytes 08, 72, and may also set 3A, then reprogram the VPM software. Refer to *K157 Video Processing Control Module: Programming and Setup* in SI.

   3.2. If concern(s) persist, refer to published diagnostics in SI.

4. For UVB equipped systems (excluding Holden

Acadia):

**Note:** If the A11 Radio did not store <u>all three</u> history DTC B395A Symptom Bytes 08, 72, and 3A, then this bulletin does not apply. Refer to published bulletins, PIs and SI documents for further diagnostic steps.

   4.1. If the A11 Radio has stored all three history DTC B395A Symptom Bytes 08, 72, and 3A, and the blue screen with service rear vision system with guidelines (if enabled) is persistent throughout a power cycle, then replace the rearview camera. Refer to *Rearview Driver Information Camera Replacement* for the appropriate model in SI.

   4.2. If concern(s) persist, refer to published diagnostics in SI.

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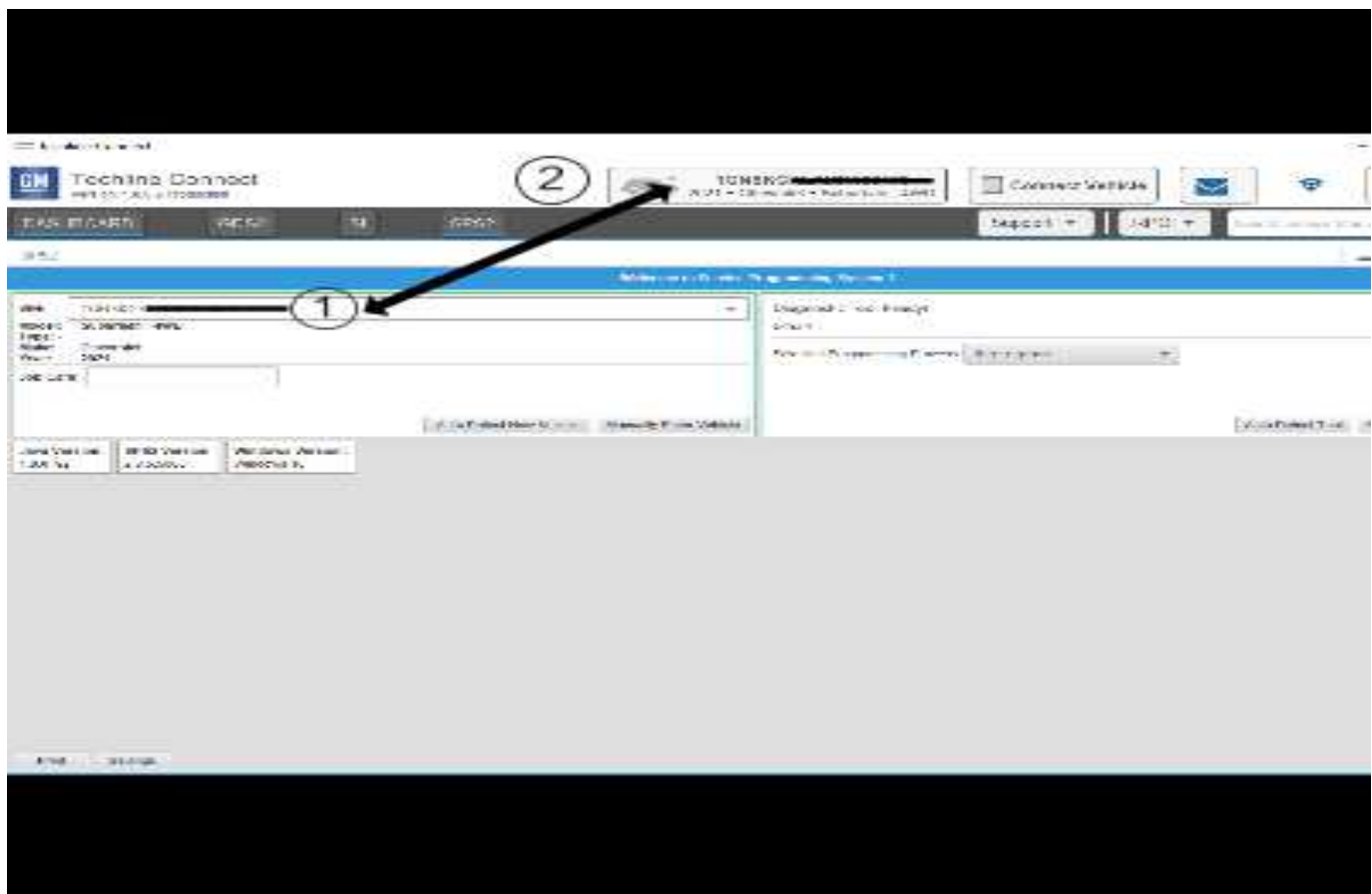
• Ensure the programming tool is equipped with the latest software and is securely connected to the data link connector. If there is an interruption during programming, programming failure or control module damage may occur.

• 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 <u>www.gmdesolutions.com</u> for further information. If not available, connect a fully charged 12V 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.

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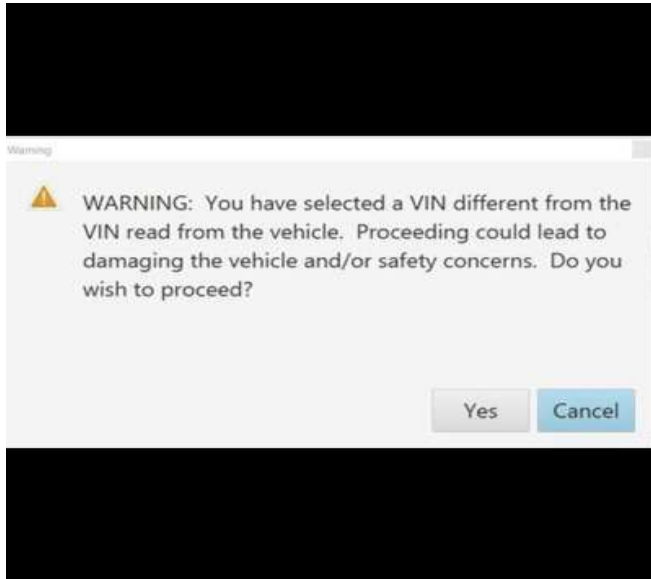
- The Engine Control Module (ECM) is the master module (for VIP vehicles) that TLC reads to determine the VIN of the vehicle. If the VIN read from the vehicle by TLC does not match the VIN plate of the vehicle, the ECM also needs to be reprogrammed with the correct VIN, software and calibrations that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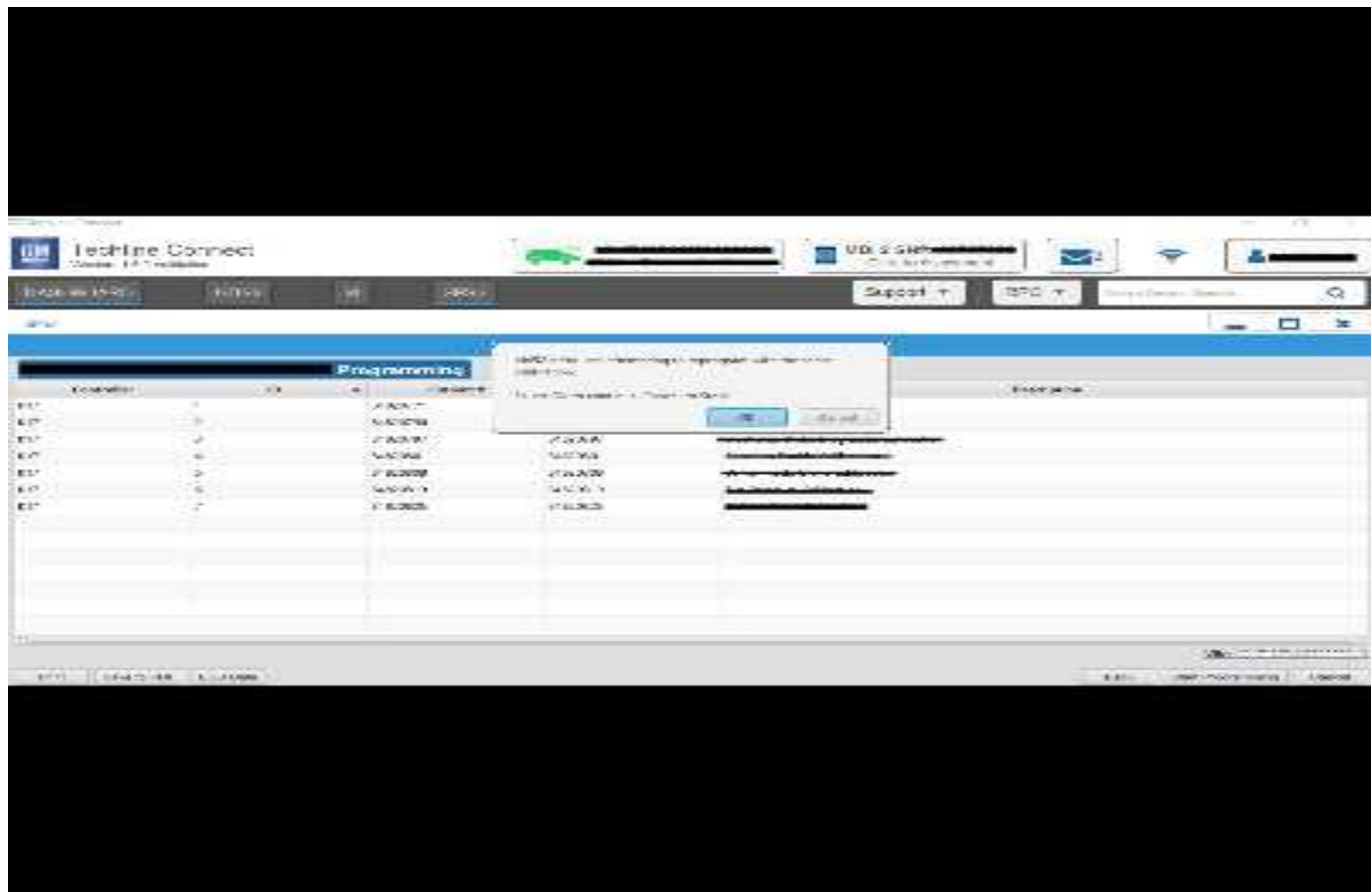


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**Important:** If the vehicle VIN DOES NOT match, the message below will be shown.



WARNING: 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?

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

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

1. Reprogram the Video Processing Control Module. Refer to *K157 Video Processing Control Module: Programming and Setup* in SI.
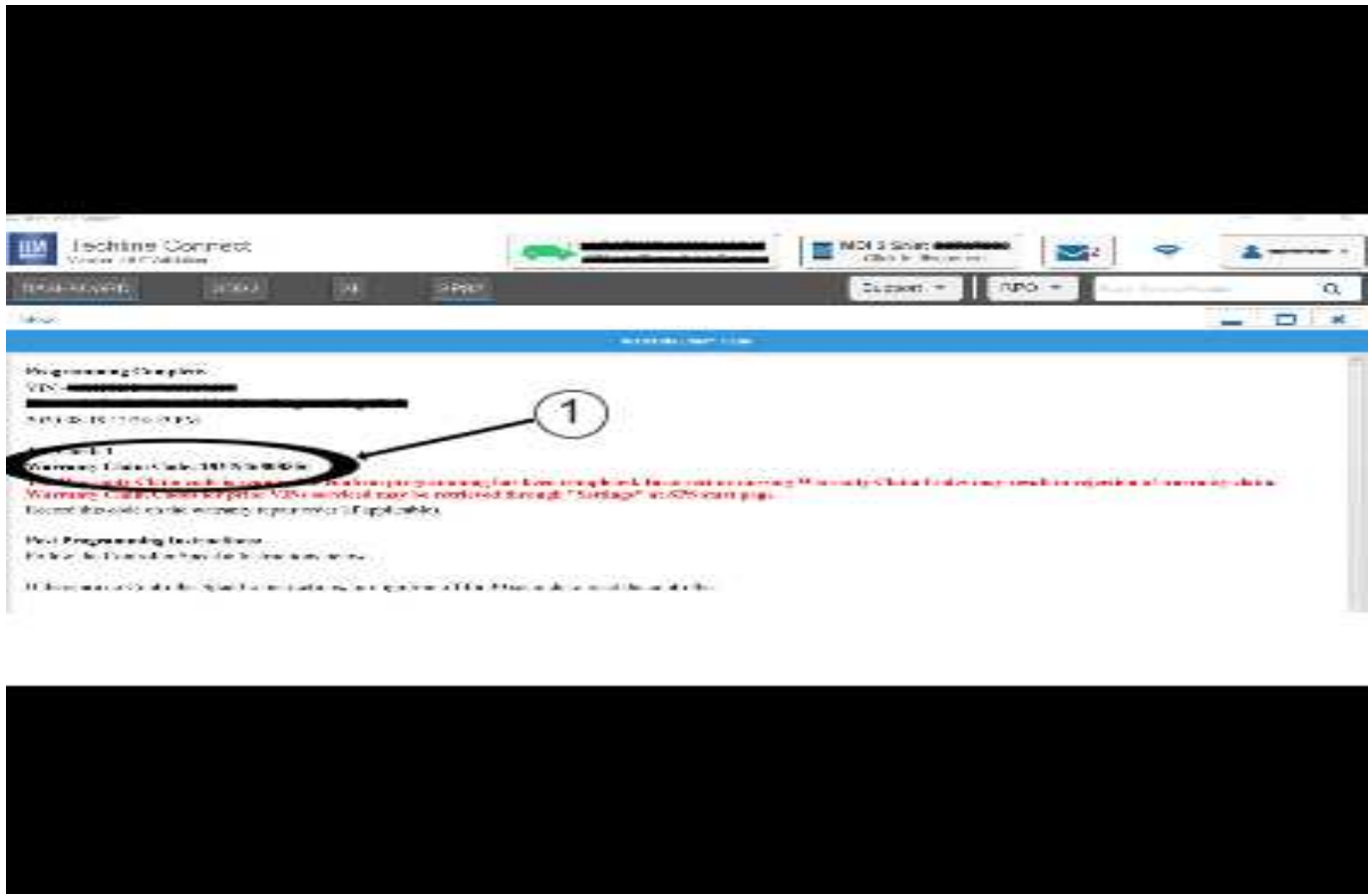
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**Note:** The screenshot above is an example of module programming and may not be indicative of the specific module that is being programmed. Module selection and VIN information have been blacked out.

**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 the Warranty Claim Code on the job card for warranty transaction submission.

## Parts Information

Use the VIN and the Electronic Parts Catalog (EPC) to determine the proper part number for your specific application.

| Causal Part | Description | Part Number | Qty |
|---|---|---|---|
| X | Video Processing Module | 84809742 | 1 |

## Warranty Information

For vehicles repaired under warranty, use:

| Labor Operation | Description | Labor Time |
|---|---|---|
| 2810845* | Video Processing Control Module Reprogramming with SPS | Use Published Labor Operation Time |
| 3450060 | Rearview Driver Information Camera Replacement | Use Published Labor Operation Time |

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

- The SPS Warranty Claim Code must be accurately entered in the "SPS 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 "SPS Warranty Claim Code" field of the transaction, otherwise the transaction will reject. It is best practice to enter the FINAL code provided by SPS/SPS2.

### Warranty Claim Code Information Retrieval

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

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

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.

| Version | 10 |
|---|---|
| **Modified** | Released April 09, 2019 |
| | Revised November 07, 2019 – Updated the Involved Region or Country section, added a programming Note to the Correction and SPS Warranty Claim Code information to the Warranty Information. |
| | Revised April 15, 2020 – Added the 2020 Model Year to all vehicles, added the 2020 Cadillac XT5, XT6, GMC Acadia Models, added date breakpoint information, added Palestine to Involved Region or Country section, and updated the Programming Template. |
| | Revised November 30, 2020 – Added the Buick Encore GX, Enclave, LaCrosse, Chevrolet Bolt EV, Camaro, Traverse models, updated the Involved Region or Country section, updated the Condition section with select vehicle conditions, updated the Cause and Correction sections, updated the programming procedure template and added a table to the Parts Information. |
| | Revised February 05, 2021 – Removed reference to Bootloader Part Numbers, added RPO UVS back into Correction section and RPO Table and updated Condition section with additional information and example graphics. |
| | Revised May 25, 2021 – Added the Holden Equinox model, updated the Condition section to clarify blue screen DTCs and scenarios and updated the programming information. |
| | Revised June 07, 2021 – Corrected a Service Bulletin reference in the Condition section. |
| | Revised March 25, 2022 – Added some 2021 and 2022 Model Years and models and updated programming information in Service Procedure |
| | Revised June 22, 2022 – Added first Important statement, steps and troubleshooting table under Service Procedure. |
| | Revised February 07, 2023 – Updated the Involved Region or Country section and removed a sentence from Condition section under Surround / Trailer Camera (UV2, UVS, or UVI) Systems. |

Additional SI Keywords: B101D

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