SUBARU.

QUALITY DRIVEN® SERVICE

PRODUCT ENHANCEMENT PROGRAM

APPLICABILITY: 2023MY Solterra

SUBJECT: 2.5 Product Enhancement Reprogramming File Availability

NUMBER: EEA-23

DATE: 09/26/23

INTRODUCTION:

This Product Enhancement Program announces the availability of a new reprogramming file package for the EV, EV Battery, Motor Generator, Rear Motor Generator, Plug-in Control, Air Conditioner, Combination Meter control modules. This software update package has been developed to:

- Enhance DC Fast-charging performance, reducing DC charging time.

- Enhance the displayed driving range accuracy.

- Display the State-of-Charge (SOC) during driving and when charging.

Customers may authorize or decline the reprogramming. If authorized, perform the reprogramming procedures outlined below to the applicable vehicles.

Continued...

CUW FILE INFORMATION:

System	Current Calibration ID		NEW Calibration ID	
EV-ECU	8A2524230200	SOP	8A2524230400	SU#2.5
	8A2524219100	Parts		
	8A2524230300	SU#1		
	8A2524230300	R/C		
	8A2524219200	Parts		
Motor Generator MG-F-ECU	8A2814202200	SOP	898844240000	SU#1
	8A2814208100	Parts		
	898844240000	SU#1	No Change	-
	8A2814202300	R/C		
	8A2814208200	Parts		
Rear Motor Generator MG-R-ECU	8A2914201200	SOP	898844241000	SU#1
	8A2914204100	Parts		
	898844241000	SU#1	No Change	-
	8A2914201300	R/C		
	8A2914204200	Parts		
EV Battery BAT-ECU	8989F4210100	SOP	8989F4210300	SU#2.5
	8989F4210200	SU#1		
Plug-in Control PWC-ECU	892634212000	SOP	892634233100	SU#2.5
	892634218000	SU#1		
	892634218000	R/C		
	892634233000	R/C		
A/C-ECU	8865F4213002	SOP	8865F4213100	SU#1
	8865F4213100	SU#1	No Change	-
	8865F4213100	R/C	No Change	-
Meter-ECU	8380042V410F	SOP	8380042V4113	SU#2.5
	8380042V4110	R/C		
	8380042V4111	R/C		
	8380042V4112	R/C		

Continued...

COMPONENT CONFIGURATION:
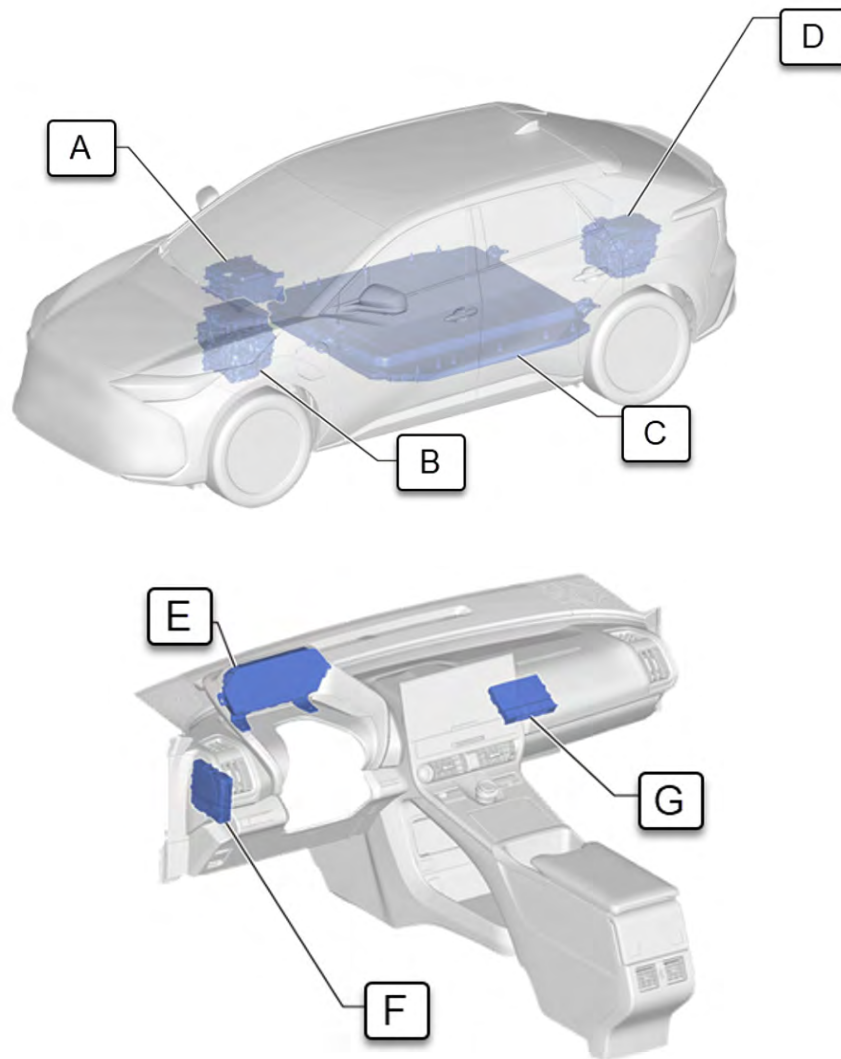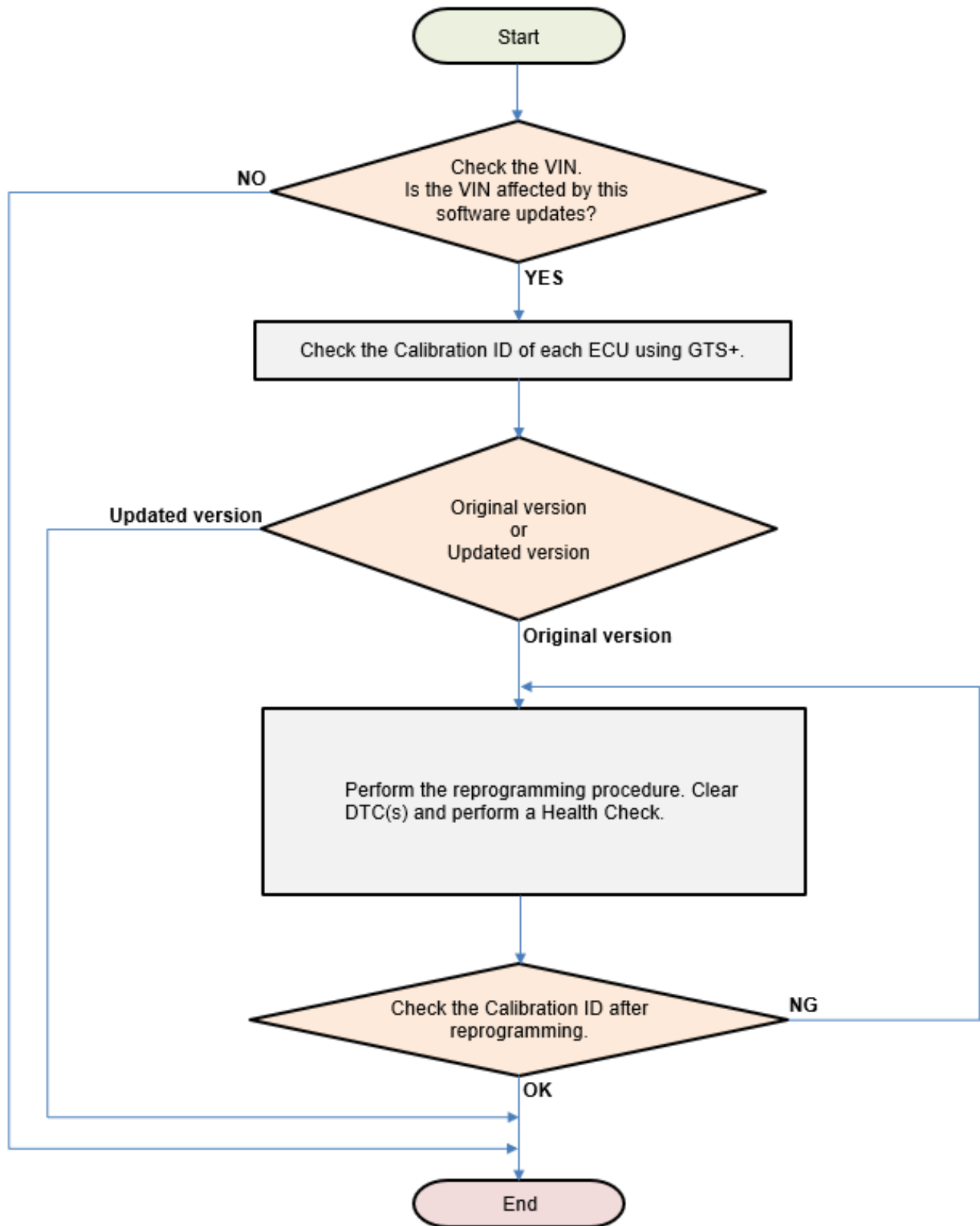

A	PWC ECU (ELECTRIC CONVERTER UNIT ASSEMBLY)	B	MG ECU (FR E-AXLE ASSEMBLY)
C	BAT ECU (EV SUPPLY BATTERY ASSEMBLY)	D	MG ECU (RR E-AXLE ASSEMBLY)
E	METER ECU (COMBINATION METER ASSEMBLY)	F	EV ECU (EV CONTROL ECU)
G	A/C ECU (AIR CONDITIONING AMPLIFIER ASSEMBLY)		

SERVICE PROCEDURE FLOWCHART:

```
                          ┌──────────┐
                          │  Start   │
                          └────┬─────┘
                               │
                               ▼
                         ╱◇◇◇◇◇◇◇◇◇╲
       NO ◄─────────────╱ Check the VIN. ╲
                        ╲ Is the VIN affected by this ╱
                         ╲ software updates? ╱
                          ╲◇◇◇◇◇◇◇◇◇◇╱
                               │ YES
                               ▼
                  ┌───────────────────────────────┐
                  │ Check the Calibration ID of    │
                  │ each ECU using GTS+.            │
                  └───────────────┬───────────────┘
                                  │
                                  ▼
                            ╱◇◇◇◇◇◇◇◇◇╲
 Updated version ◄─────────╱ Original version ╲
                          ╲      or      ╱
                           ╲ Updated version ╱
                            ╲◇◇◇◇◇◇◇◇◇◇╱
                                 │ Original version
                                 ▼
                  ┌───────────────────────────────┐
                  │ Perform the reprogramming       │
                  │ procedure. Clear DTC(s) and     │
                  │ perform a Health Check.         │
                  └───────────────┬───────────────┘
                                  │
                                  ▼
                            ╱◇◇◇◇◇◇◇◇◇╲
                           ╱ Check the Calibration ID ╲──► NG
                           ╲ after reprogramming. ╱
                            ╲◇◇◇◇◇◇◇◇◇◇╱
                                 │ OK
                                 ▼
                            ┌──────────┐
                            │   End    │
                            └──────────┘
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SERVICE PROCEDURE INFORMATION:

**STEP 1:** Turn off vehicle electrical systems to reduce electrical load.

- Turn off all electrical accessories (i.e., climate control, audio-navigation system, etc.).

- Set headlight switch to DRL OFF position.

- Set windshield wiper switch to OFF position.

- Set driver easy exit seat slide function to OFF position.

- Confirm all exterior lighting systems are off.

- Turn off interior lighting systems (confirm that no light comes on even if a door is opened)

- Disable the seat belt warning system (this can be turned off via the buckle switch).

- Turn off the seat heaters and/or ventilation system (only for the vehicle to which it is equipped).

- Disable the rain sensing function (only for the vehicle to which it is equipped).

- Confirm the rear defogger system is off.

- Confirm the steering wheel heater is off (only for the vehicle to which it is equipped).

- Disable any additional/aftermarket accessories (security system, etc.).

STEP 2: 12v auxiliary batter power supply.

A. Inspect vehicle 12v auxiliary battery. Confirm the battery is in good condition. Connect the power supply.

B. Push the power switch 🔘 **without** pressing brake pedal (Power-ON), wait for 1 minute, then check if battery voltage is at least 12.0 Volts. If the battery is below 12.0 Volts, charge the battery before performing reprogramming. Subaru of America, Inc. (SOA) highly recommends utilizing the Subaru Midtronics DCA8000 Dynamic Diagnostic Charging System to the vehicle in the Power Supply Mode feature anytime a vehicle control module is being reprogrammed. Once the Midtronics charger is connected to the vehicle, if the battery is fully charged, it will take less than three (3) minutes to boot-up the charger, select the Power Supply Mode, and have the battery voltage stabilized and ready for reprogramming.

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BATTERY CHARGER NOTES:
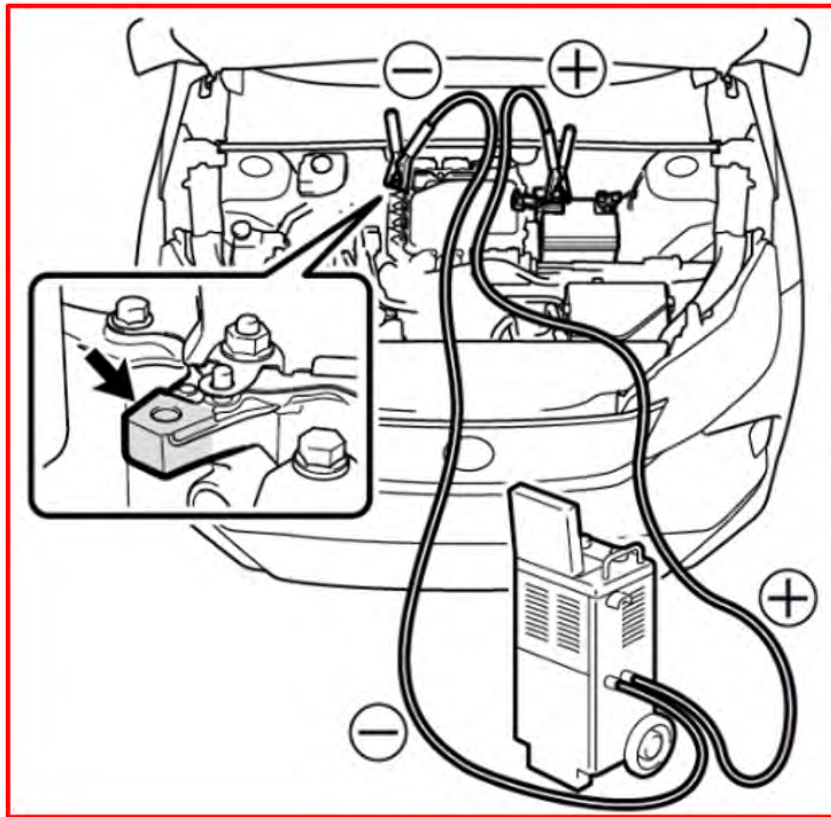
- For instructions on using the Power Supply Mode, reference the applicable User Manual for the Midtronics DCA-8000 Dynamic Diagnostic Charging on STIS.

- Select the correct battery type (Enhanced Flooded, Flooded, Gel, AGM or AGM Spiral).

- Input the CCA which matches the vehicle's battery.

- If using a DCA-8000 Dynamic Diagnostic Charging System, set the power supply voltage to 13.5 Volts.

- DO NOT connect the GTS+ until the Power Supply mode function has completed its battery test mode and the Charging Voltage has dropped to and shows a steady 13.5 Volts on the display.

- Once Power Supply Mode reaches a steady 13.5 Volts, connect the GTS+ to the OBD connector and proceed with initiating the normal reprogramming process.

- Amperage will fluctuate based upon the vehicle's demand for power. NOTE: If the voltage rises beyond 14 Volts while programming is in process, the procedure will abort. This can indicate a need to test or charge the vehicle battery before any further attempt at programming is made.

- ALWAYS set the power supply voltage to 13.5 Volts when using Power Supply Mode. NEVER turn the ignition switch on when charging at voltages 15 Volts or higher.

- Control module failures resulting from battery discharge during reprogramming are not a matter for warranty. Should any DTCs reset after the reprogramming update is performed, diagnose per the procedure outlined in the applicable Service Manual.

Continued...

REMINDER: If the DCA-8000 indicates the vehicle's battery must be charged, charge the battery fully before proceeding to reprogram the vehicle while using the Power Supply Mode.

STEP 3: Stabilize the power supply to Global TechStream Plus (GTS+).

      A. ALWAYS connect the GTS+ laptop to an external AC power supply.

      B. Turn off the screen saver and power saving mode of the laptop for continuous power supply to the HDD/SSD.

CAUTIONS:

- If the screen saver or power saving mode starts while reprogramming, the communication may be disconnected, resulting in the damage of the ECU.

- The ECU may be damaged if the battery voltage of the laptop drops while reprogramming.
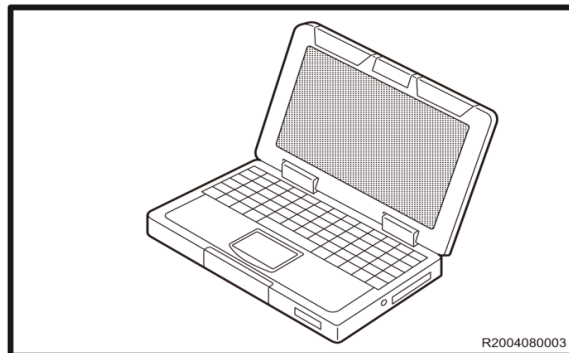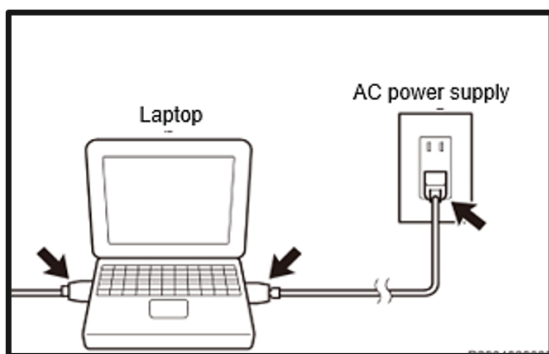
- **DO NOT** block the ventilation opening for the fan of the laptop. If the ventilation opening for the fan is blocked, the laptop may overheat, causing the laptop to stop and may damage the ECU as a result.

STEP 4: Secure the connection the of cables.

Confirm the power switch 🔘 is in the OFF position and connect the laptop to the vehicle.
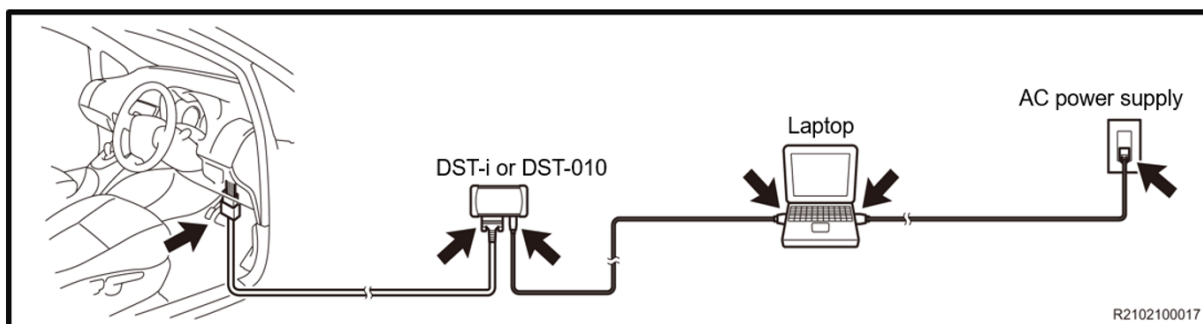
Continued...

STEP 5: Starting the GTS+ application.

    A. Click the GTS+ icon to start the GTS+ application.

    B. SSM will automatically close and the GTS+ browser will open. Set the GTS+ application region to "United States" and set the lower box to "USA" then click the Server Login link.

NOTE: In some instances, a user may have logged in previously. In these cases, if the PC has not been restarted, the screen bellow my appear when clicking on the GTS+ icon (Step 5-A). This is normal operation. Click the "GuestUser" link to directly login to GTS+.
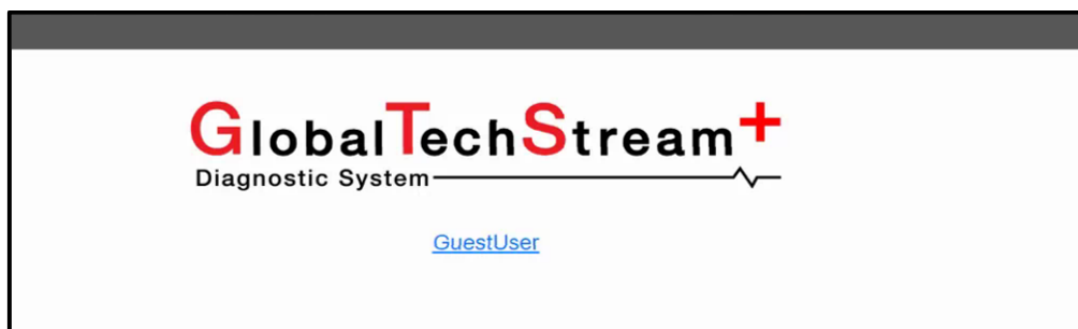
Continued...

C. A second window will open to the Subaru Single Sign On (SSO) page. Enter your Subaru username and password (Hint: Same as SubaruNet credentials). Click the "Login" button to continue.
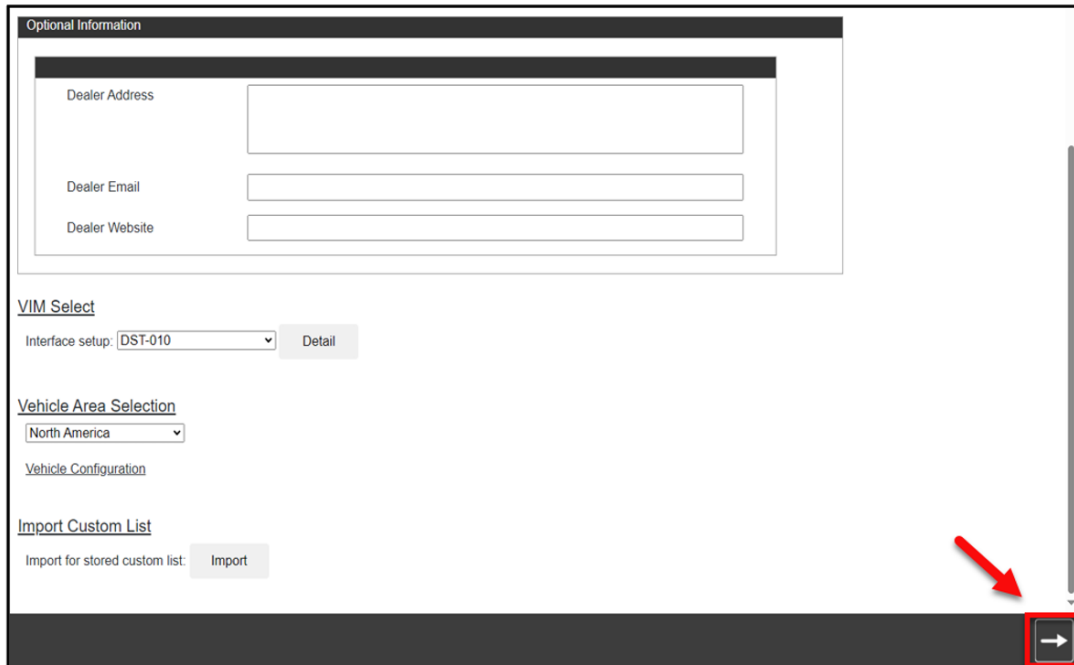
D. Turn the power switch to the ON position **WITHOUT** depressing the brake pedal. Click the "GTS+ Settings" button.
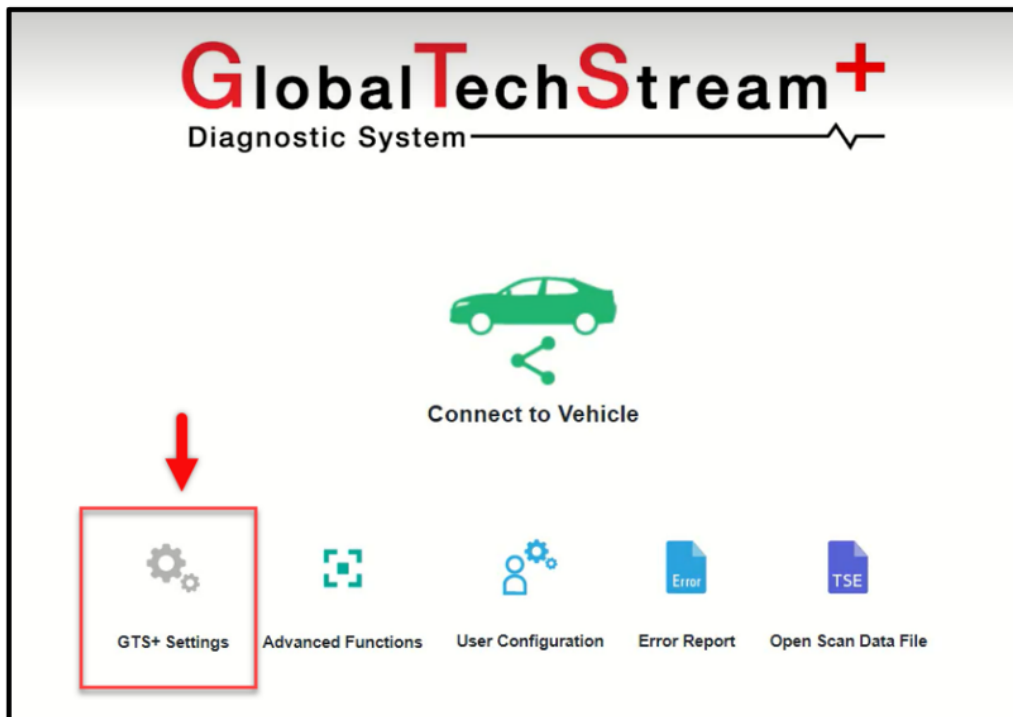
Continued...

E. In the lower portion of the GTS+ Settings page,select the appropriate Vehicle Interface Module (VIM) such as DTS-i or DST-010. Set the "Vehicle Area" selection to North America. Click the arrow in the right corner when complete.

F. Click the "Connect to Vehicle" button. Confirm the target VIN information and continue by clicking the "Next" button.
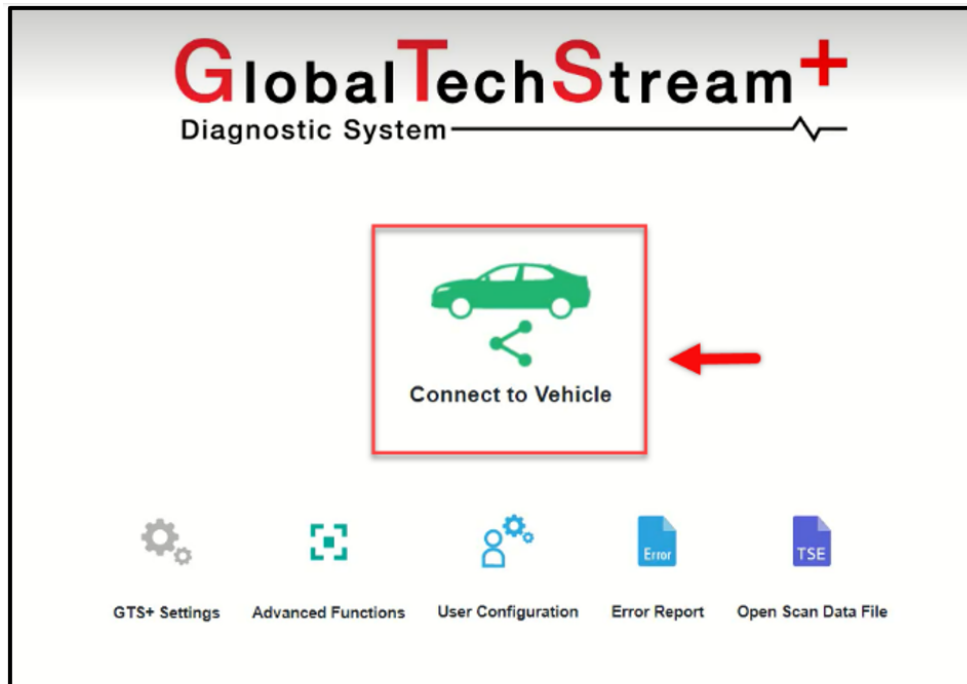
Continued...
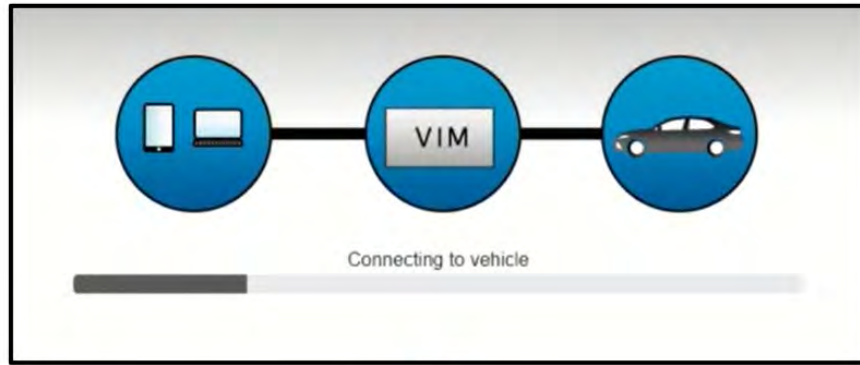
Connecting to vehicle

STEP 6: Click "Health Check" button located in the Main Menu.

STEP 7: Allow time for the Health Check to start.

Continued...

STEP 8: While the Health Check is being performed, a pop-up will be displayed asking if you would like additional information retrieved. Click the "Yes" button to continue.
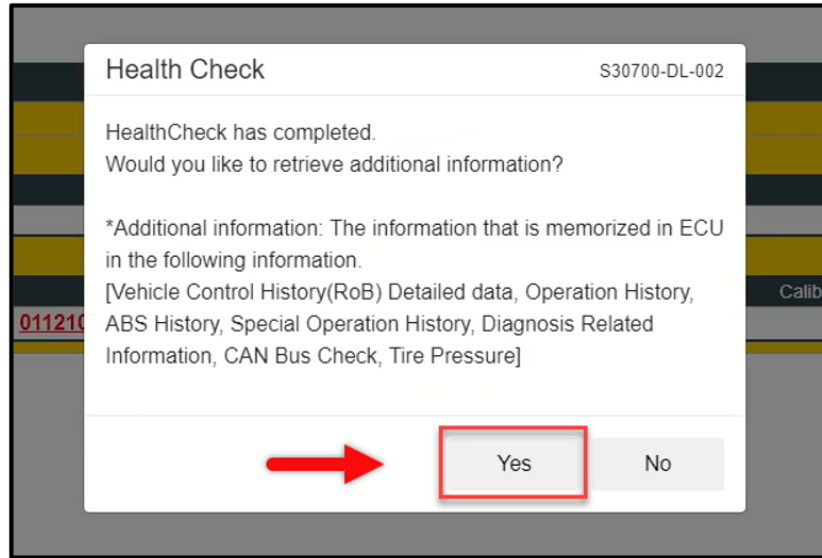
NOTE: Allow time for the Health Check retrieve the stored data. This may take up to five minutes.

STEP 9: Once the Health Check is completed, check the results for any stored DTC(s).
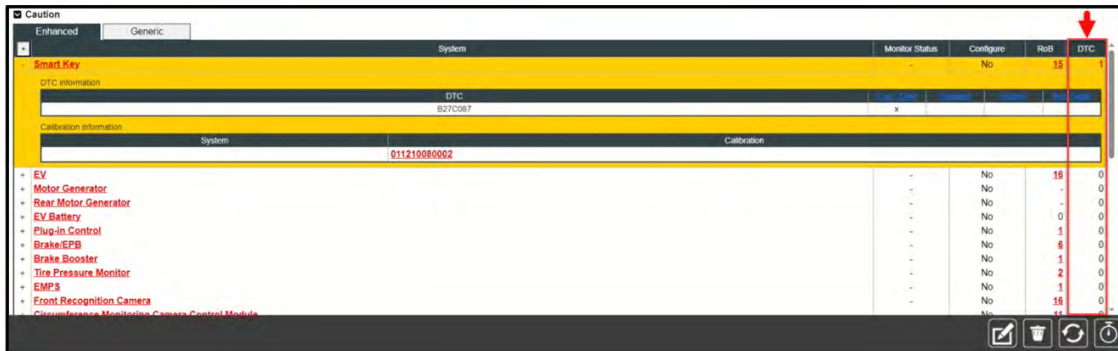
Are any DTC(s) stored?

> **YES:** Proceed to Step 10.
>
> **NO:** Proceed to Step 11.

STEP 10: Clear all DTC(s) by clicking the "Erase" button.
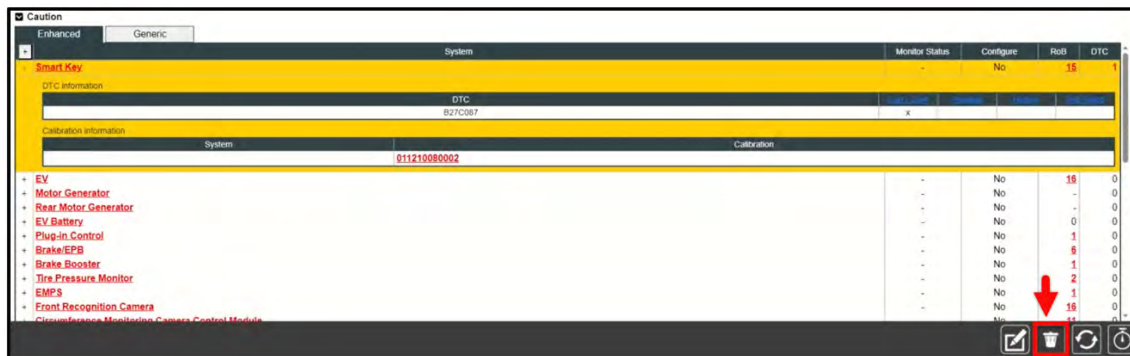
Continued...

A pop-up will display reminding all Freeze Frame and Monitor Data will be cleared. Click the "Yes" button to continue.
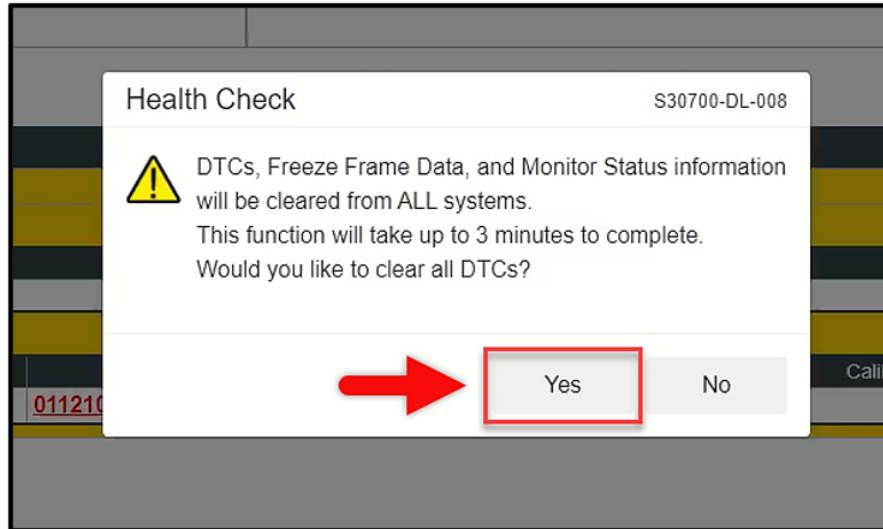
Once the clearing is complete, a second pop-up will display asking to refresh the Health Check to the updated status. Click the "Yes" button to continue. Proceed to Step 11 when no DTC(s) are detected.

IMPORTANT: If any DTC(s) continue to be stored, diagnose and repair as per the applicable Service Manual. Confirm the faults can be cleared prior to proceeding. If the DTC(s) are not cleared, the GTS+ cannot enter the reprogramming mode.
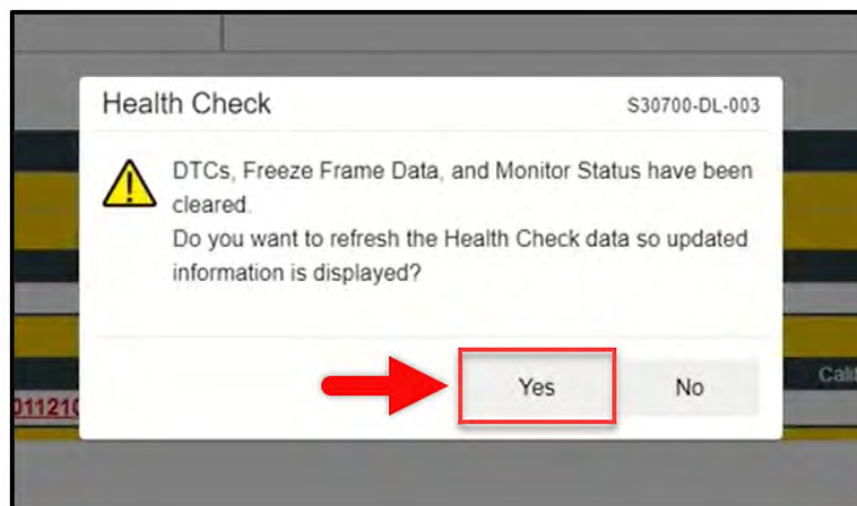
STEP 11: Click on the "Plus" symbol next to to the following control modules:

- EV
- EV Battery
- Motor Generator
- Rear Motor Generator
- Plug-in Control
- Air Conditioner
- Combination Meter

Continued...

This will expand the system information. Confirm the calibration IDs displayed match the current calibration IDs listed on page 2.

STEP 12: Prepare the 2.5 Reprogramming CUW file. Select the Subaru Desktop from the lower taskbar. Select The TechStream Files icon. Open the ECU Data folder. Locate the CUW file named:

**11_8A2524230400_898844240000_898844241000_8989F4210300_892634233100_8 865F4213100_8380042V4113_8380042V420D.cuw**

CAUTIONS:

- **ALWAYS** stay near the vehicle and **DO NOT** allow any others to operate the vehicle or GTS+.
- Never change the power switch position other than when instructed by GTS+. Unauthorized cycles of the power switch during reprogramming may cause control module failure.
- Pressing the "Cancel" button or the "X" button on the top will cancel reprogramming and could damage the ECU while reprogramming.
- Be sure to press "Retry" to continue reprogramming if the event of an error.

Continued...

STEP 13: Double-click the applicable CUW file icon. A pop-up will display requesting a manufacturer to be selected. Select "Subaru" and click the "OK" button to continue.
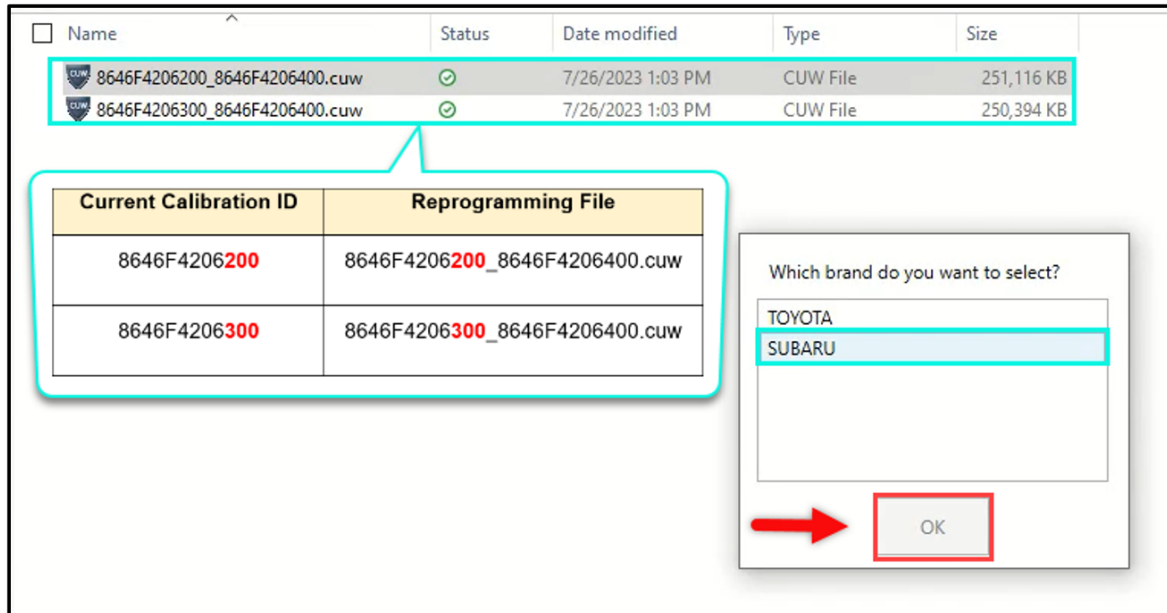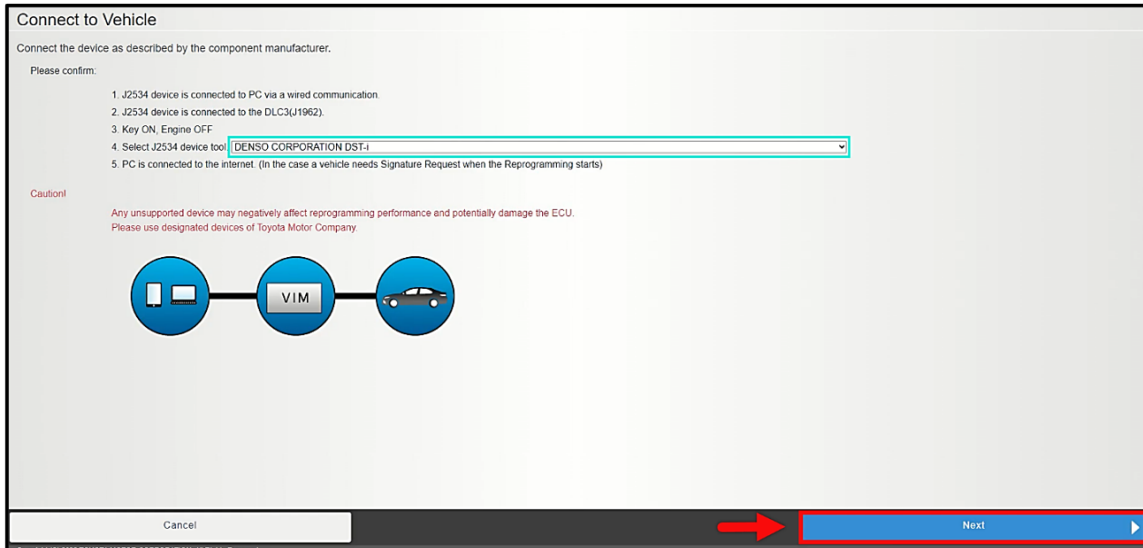

STEP 14: After double-clicking the file icon, the Calibration Update Wizard program is launched, and a new window will appear. Select the "Next" button to continue.
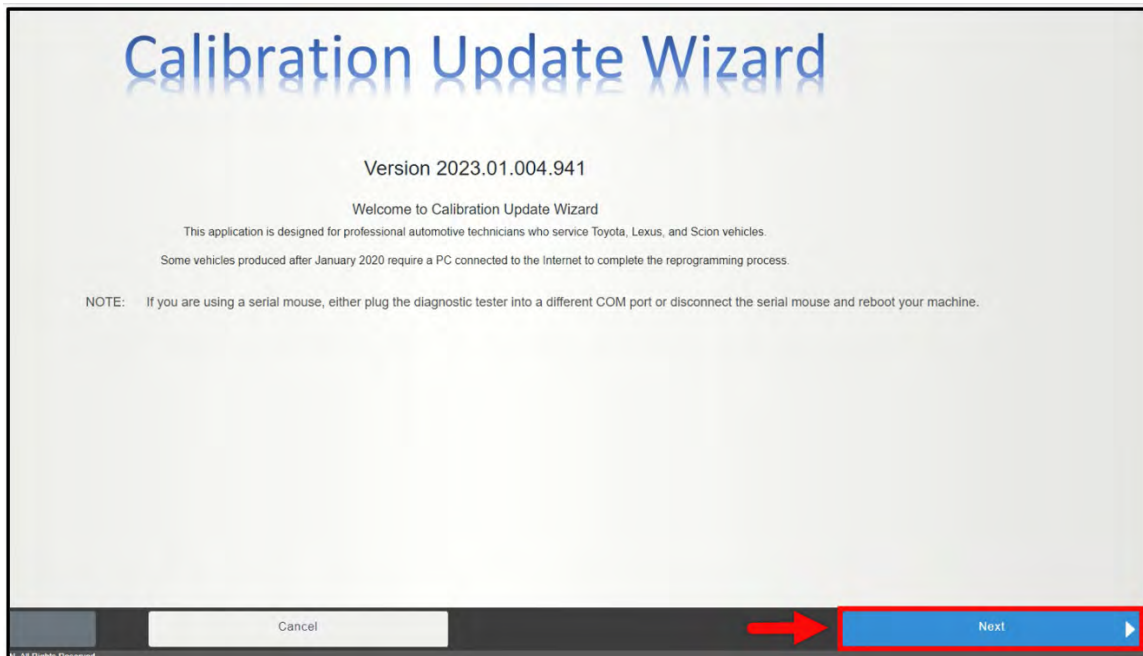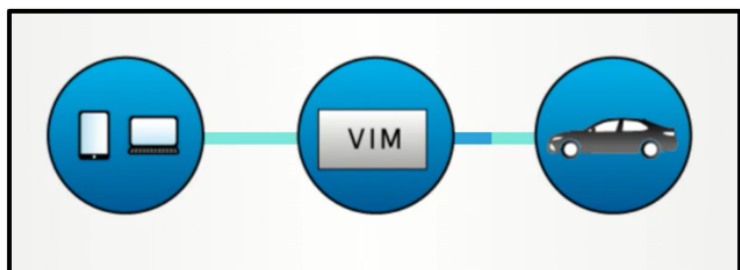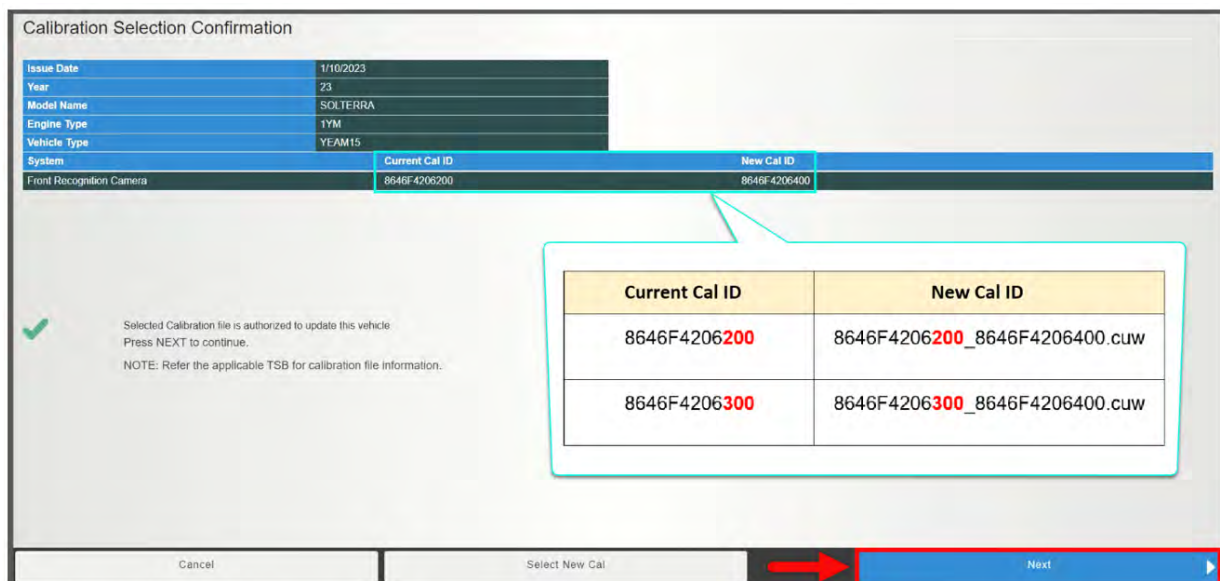

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STEP 15: Confirm the pass-through device currently being used. Select the "Next" button to continue.

NOTE: A Progress bar will be displayed. **DO NOT** operate the power switch while the bar is shown.

STEP 16: The Calibration Selection Confirmation window will appear. Confirm the applicable Current Cal ID and the New Cal ID. Click the "Next" button to continue.
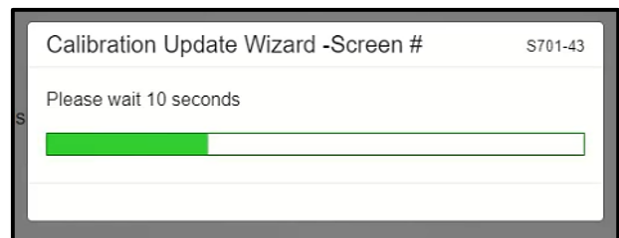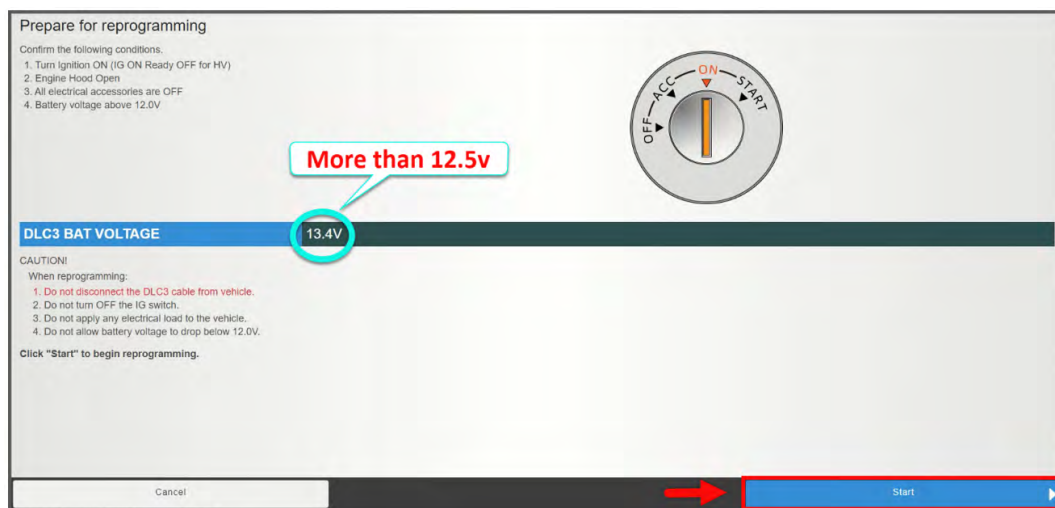

Current Cal ID	New Cal ID
8646F4206**200**	8646F4206**200**_8646F4206400.cuw
8646F4206**300**	8646F4206**300**_8646F4206400.cuw

Continued...

STEP 17: Review the CAUTIONS listed. Follow the on-screen instruction, turn the power switch to the OFF position. Select the "Start" to continue.

Vehicle Preparation

1. Turn Ignition OFF

NOTE:
Some vehicles require systems to be disabled before Flash Reprogramming.
Please refer to the Specific Service Bulletin for special vehicle preparation instructions required for this update.

DTCs may be set during the reprogramming process.
Please check for DTCs before reprogramming and note any that are stored.
Click the Cancel button to exit CUW and check for DTCs.

Click "Next" to continue.

Cancel | Next

NOTE: A Progress bar will be displayed. **DO NOT** operate the power switch while the bar is shown.

Calibration Update Wizard -Screen #   S701-43

Please wait 10 seconds

STEP 18: Review the CAUTIONS listed. Follow the on-screen instruction, turn the power switch to the ON position **WITHOUT** depressing the brake pedal. Confirm the 12v auxiliary battery voltage is more than 12.5 volts. Select the "Start" to begin the reprogramming process.

Prepare for reprogramming

Confirm the following conditions.
1. Turn Ignition ON (IG ON Ready OFF for HV)
2. Engine Hood Open
3. All electrical accessories are OFF
4. Battery voltage above 12.0V

More than 12.5v

DLC3 BAT VOLTAGE   13.4V

CAUTION!
When reprogramming:
1. Do not disconnect the DLC3 cable from vehicle.
2. Do not turn OFF the IG switch.
3. Do not apply any electrical load to the vehicle.
4. Do not allow battery voltage to drop below 12.0V.

Click "Start" to begin reprogramming.

Cancel | Start

Continued...

STEP 19: Once the "Flash Calibration Update" window is shown, allow the "Toyota Service Information" browser to be displayed. Select the "Next" button to continue.

NOTE: The signature is acquired in future steps, once acquired, the signature is to be pasted into the "Signature" box.
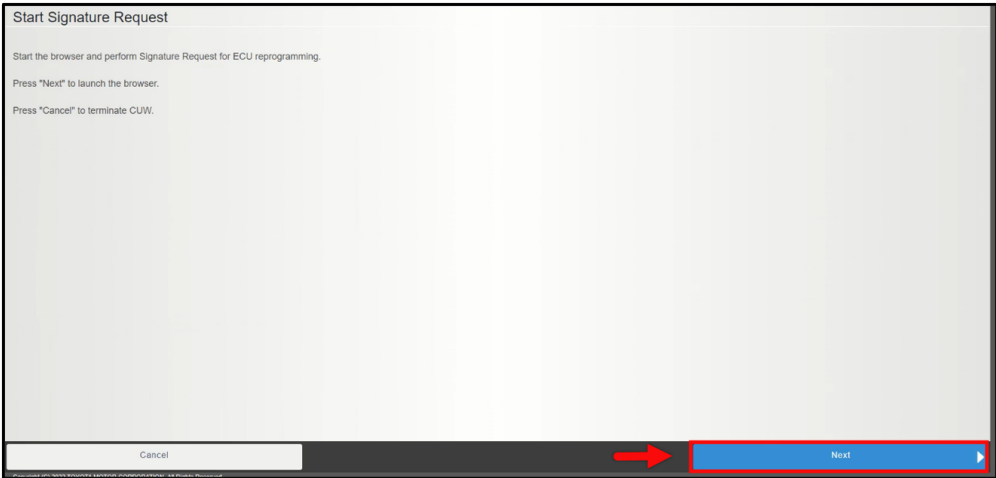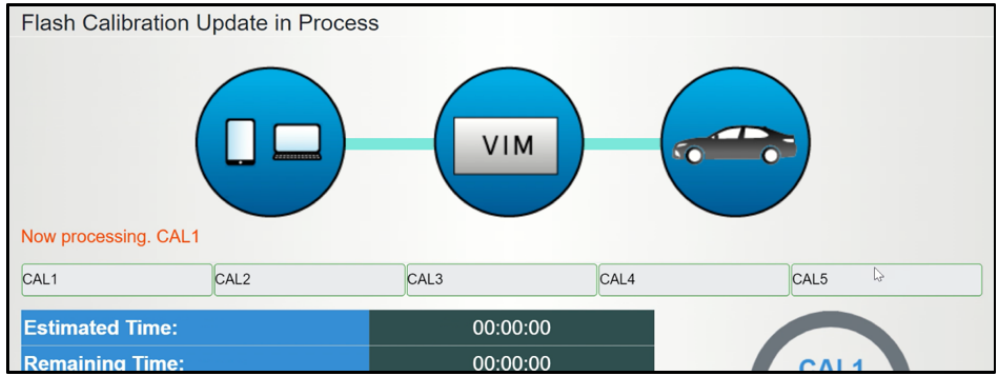
STEP 20: Once the browser is started, a pop-up will display. Click the "OK" button to continue.
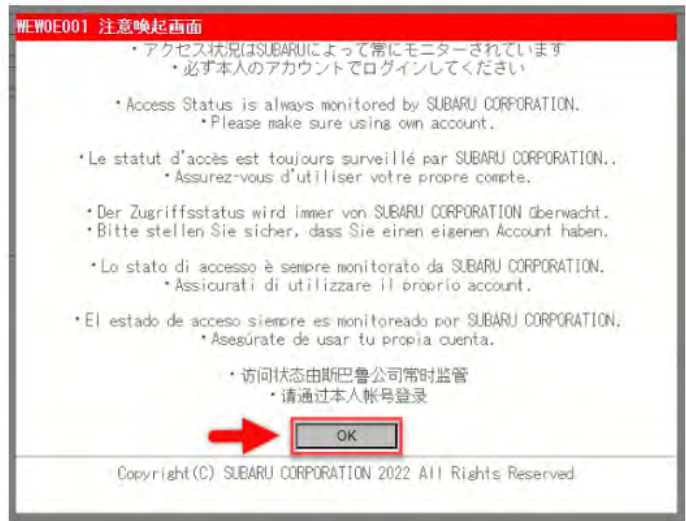
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STEP 21: Select the "Request Signature" button. This will populate in the lower window.

STEP 22: Select the "Copy Signature" button then minimize the window.

STEP 23: Return to "Calibration Update Wizard" display. Paste the signature using the right click method or using Ctrl+V on the keyboard. Once the signature is successfully pasted, click the "Next" button to continue.

Continued...

Paste a Signature

Paste the retrieved Signature from the browser.

Signature:

16B3F61073E29077EEF415A8E0AD08673219B105A1E5C0A3F6FA0996844BA55C6299A721BAD4
6E2290222AD7F78ECB110E857CEBC4C0CD7734C00FDBFA63047B7B4E2D03C4FF7C5CBD0272
C2C1EC2F3DF9564763161116F48A484AFBD1A45013E01B9EA2578A129BD60E1A5B406FBB4F2A
F063DC27FFA4EDE38AAA60462940924C4B45CB5A15F40FC9ACAE994C44BA36EFFDCC10336E
AEA13F437693DD54E5FBBE15845B8E74B32F8C523A0C85D5360485316994A22CB8257EEE8A2E
9C1FD99E205ECF4A9D6241F5D94A820093FA58DDB35AD2E2BCAD88754E59B76B31CE9EB7D6
E627A6DAD67ECB994AF1D3327F7E701CA0A40F5A16D2D8F5212DED93D426B6

Click "Next" to continue.

Cancel   Next

STEP 24: While the vehicle is reprogramming, the progress window is displayed. **ALWAYS** remain near the vehicle during reprogramming in order to monitor the progress.

NOTE: The headlamps may operate during this procedure.
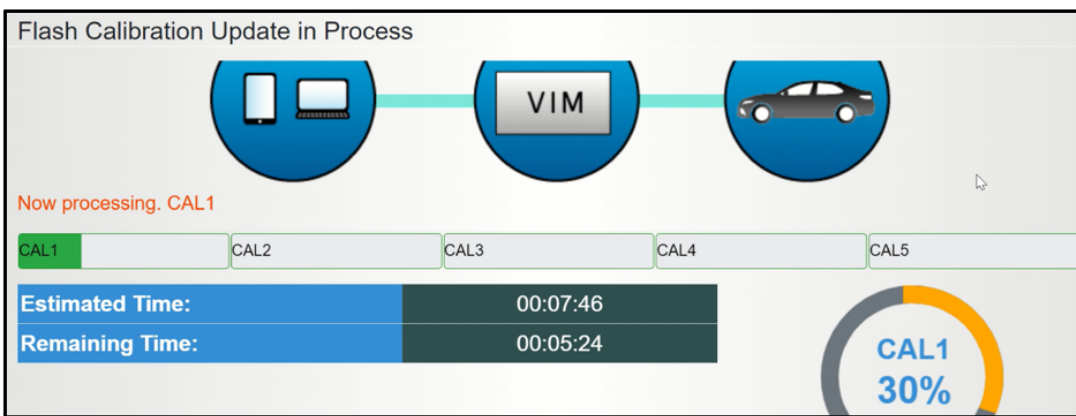
STEP 25: Follow the on-screen instructions. turn the power switch 🔘 to the OFF position. The first calibration is complete. Click the "Next" button to continue.
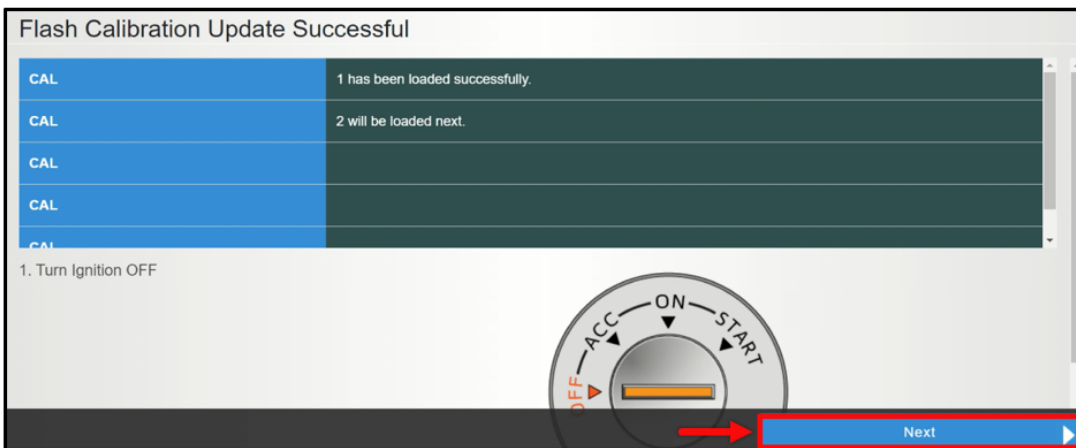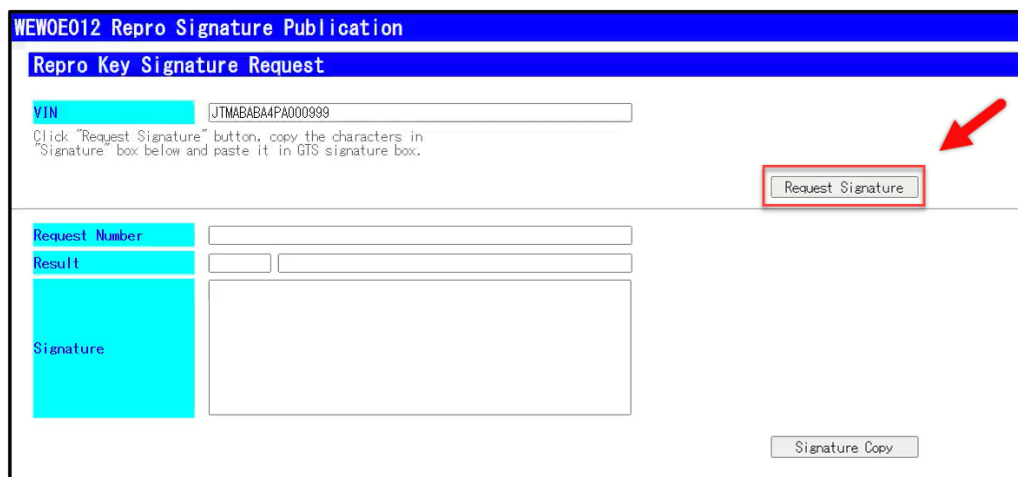

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STEP 26: Follow the on-screen instructions. turn the power switch 🔘 to the ON position. The second calibration will automatically prepare. Click the "Next" button to continue to start the signature request for the second calibration.
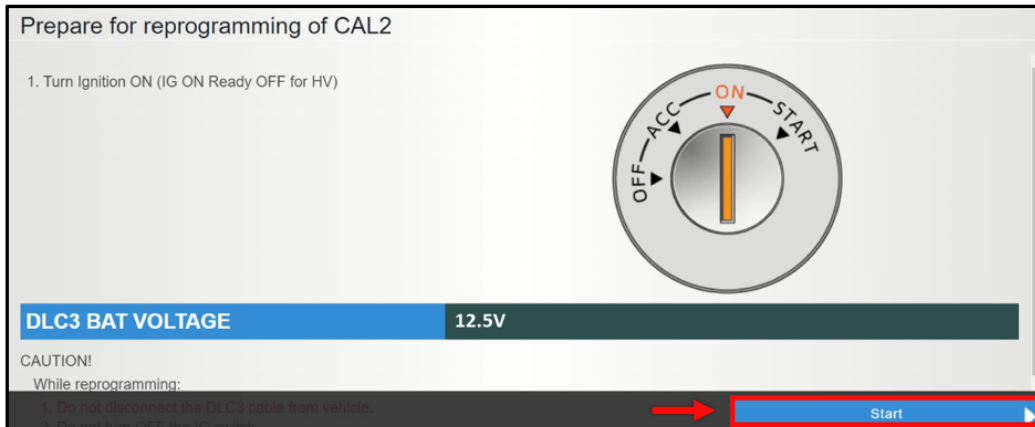
Click the "Next" button to continue.
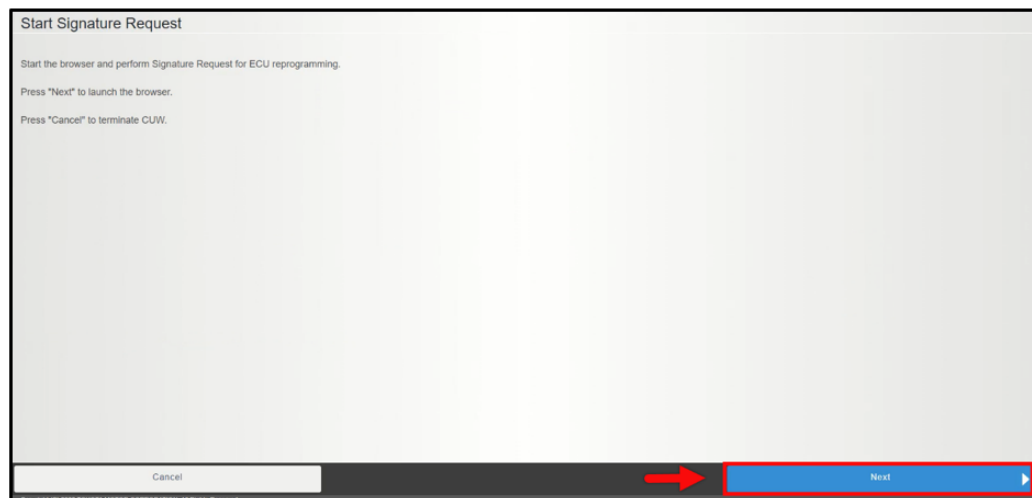
STEP 27: Select the "Request Signature" button. This will populate in the lower window.
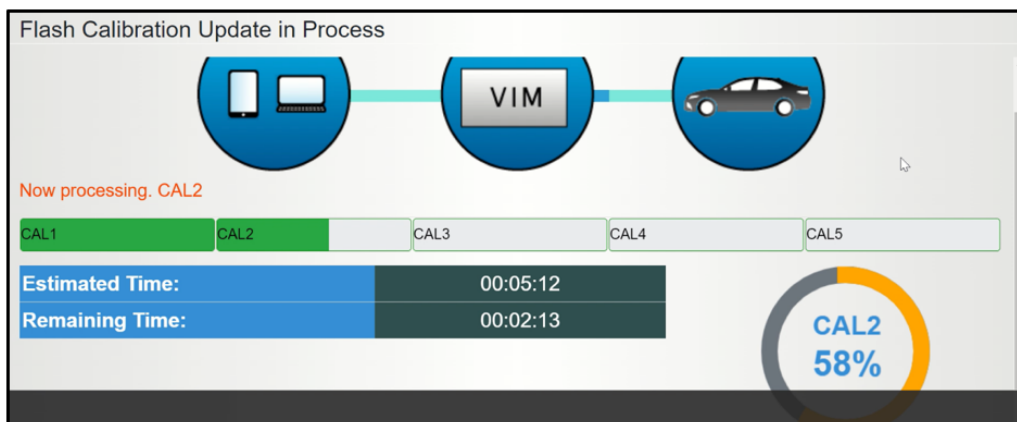

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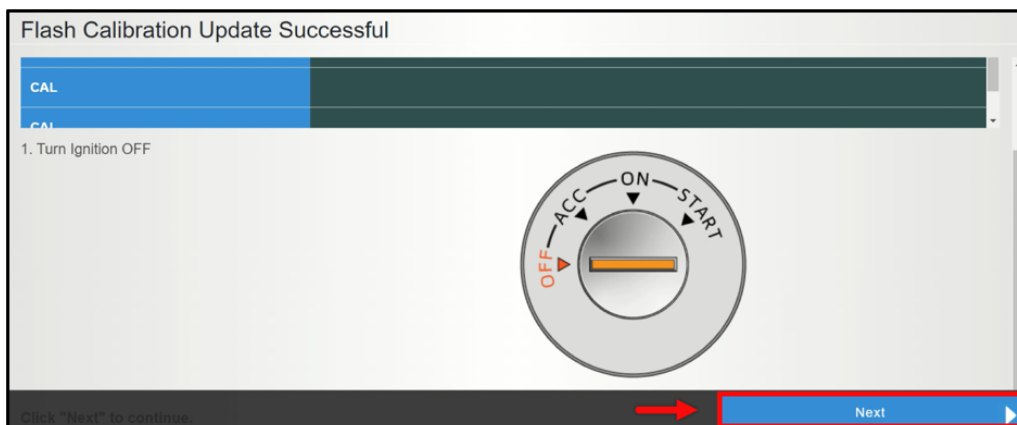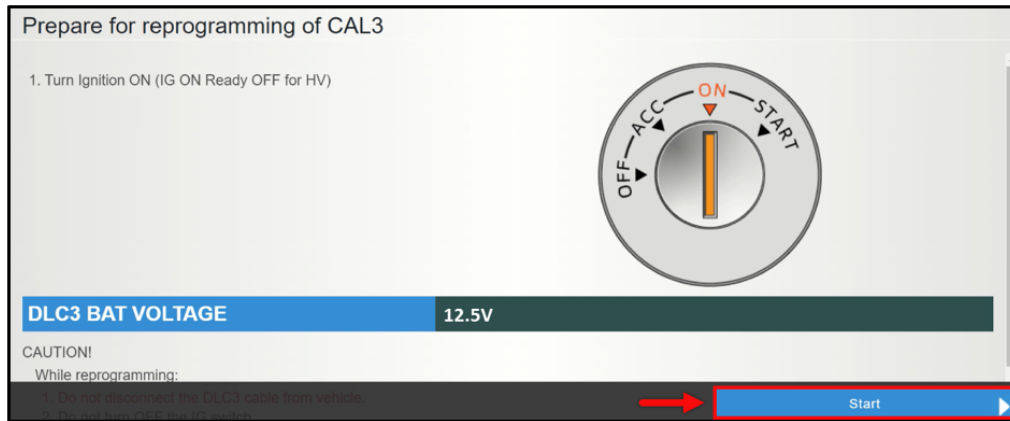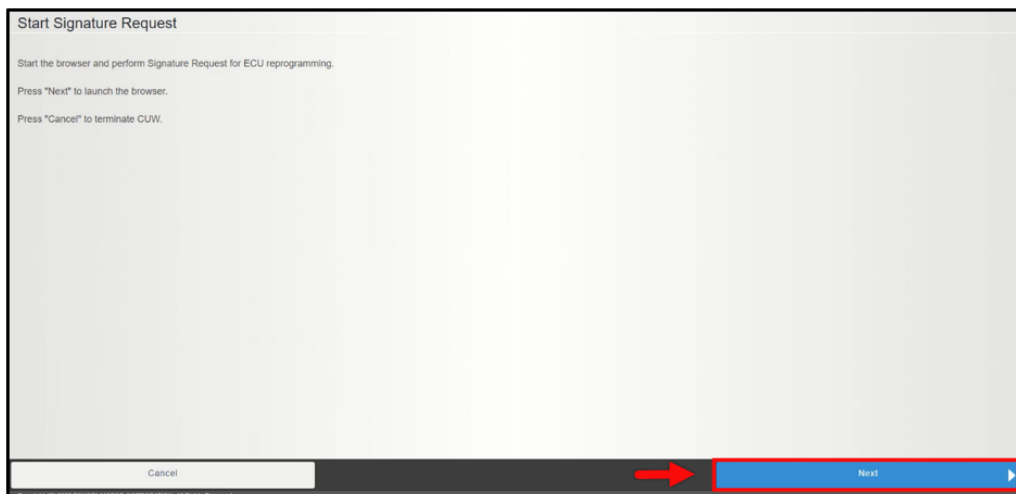**STEP 28:** Select the "Copy Signature" button then minimize the window.

STEP 29: While the second calibration is reprogramming, the progress window is displayed. **ALWAYS** remain near the vehicle during reprogramming in order to monitor the progress.

NOTE: The headlamps may operate during this procedure.

STEP 30: Follow the on-screen instructions. turn the power switch to the OFF position. The second calibration is complete. Click the "Next" button to continue.
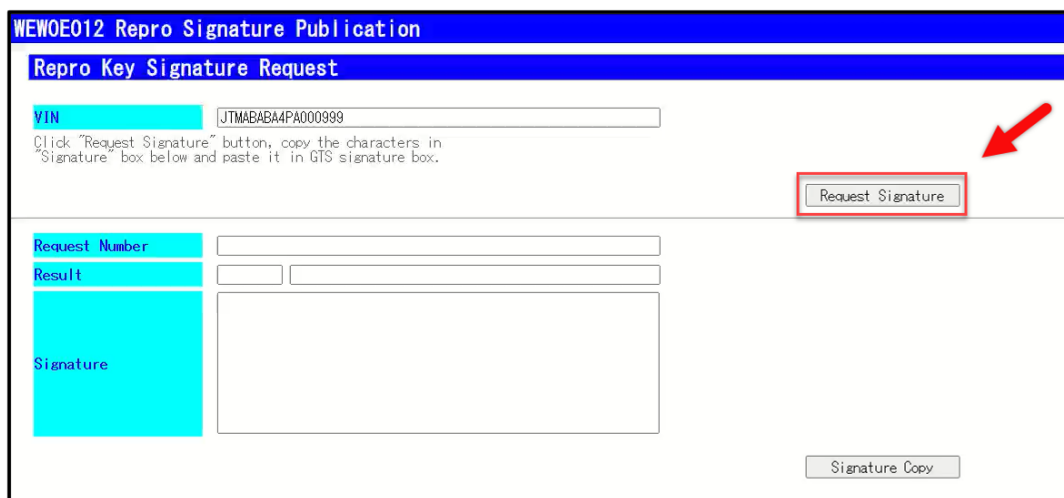
STEP 31: Follow the on-screen instructions. turn the power switch to the ON position. The third calibration will automatically prepare. Click the "Next" button to continue to start the signature request for the third calibration.
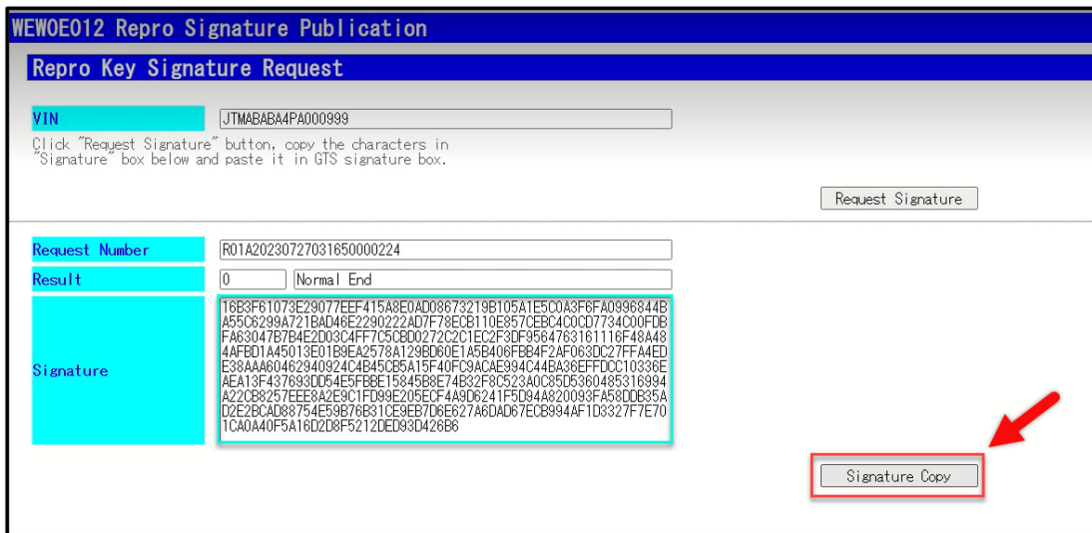

Click the "Next" button to continue.

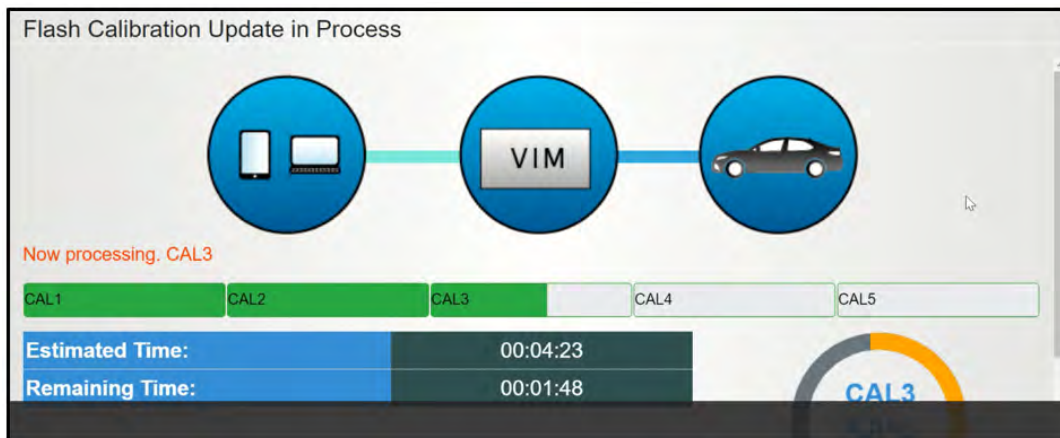**STEP 32:** Select the "Request Signature" button. This will populate in the lower window.

STEP 33: Select the "Copy Signature" button then minimize the window.
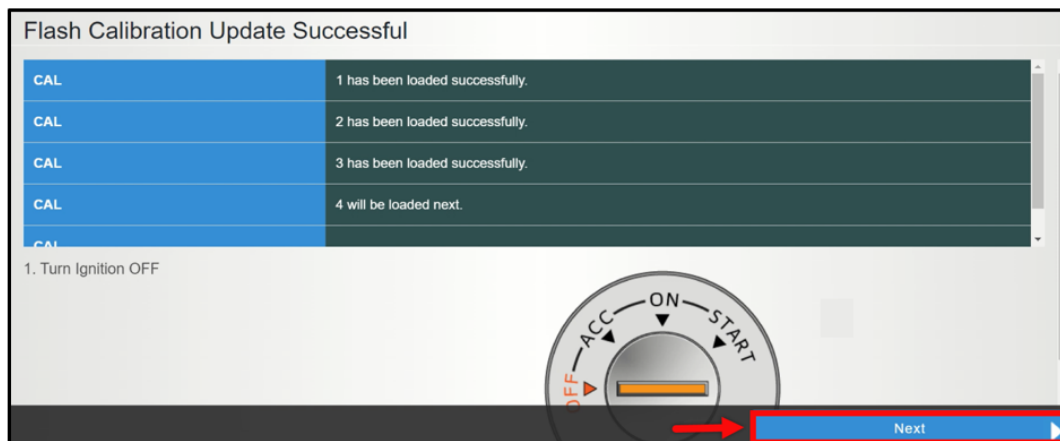

STEP 34: While the third calibration is reprogramming, the progress window is displayed. **ALWAYS** remain near the vehicle during reprogramming in order to monitor the progress.

**NOTE:** The headlamps may operate during this procedure.

STEP 35: Follow the on-screen instructions. turn the power switch 🔘 to the OFF position. The third calibration is complete. Click the "Next" button to continue.
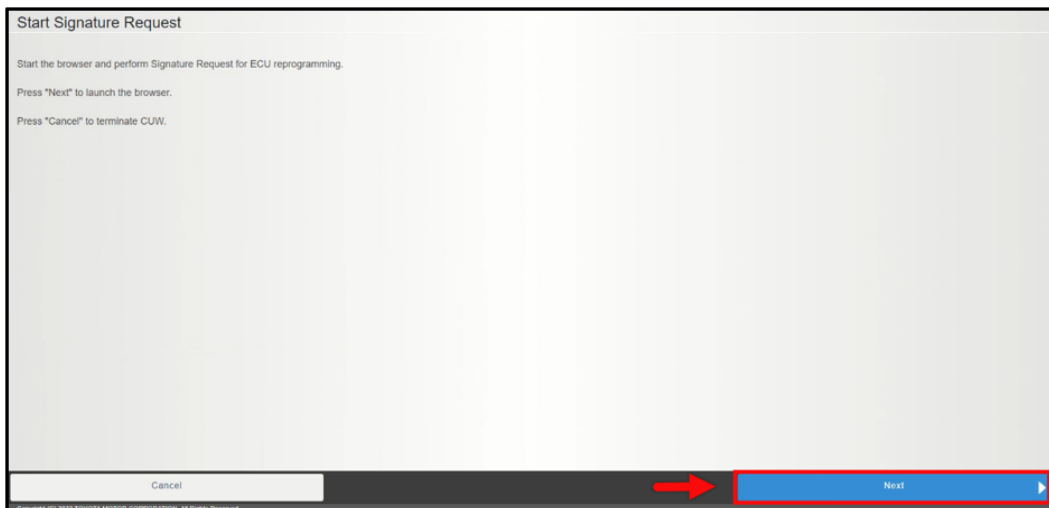

Continued...

STEP 36: Follow the on-screen instructions. turn the power switch to the ON position. The fourth and fifth calibration will automatically prepare. Click the "Next" button to continue to start the signature request for the fourth and fifth calibration.
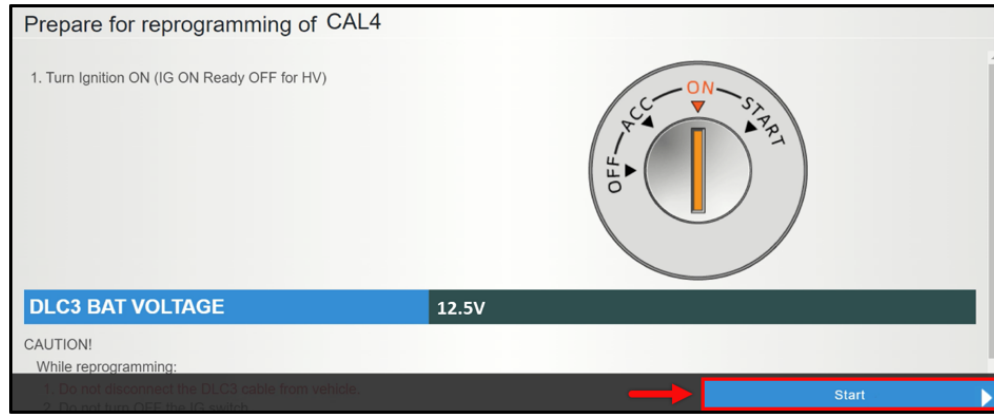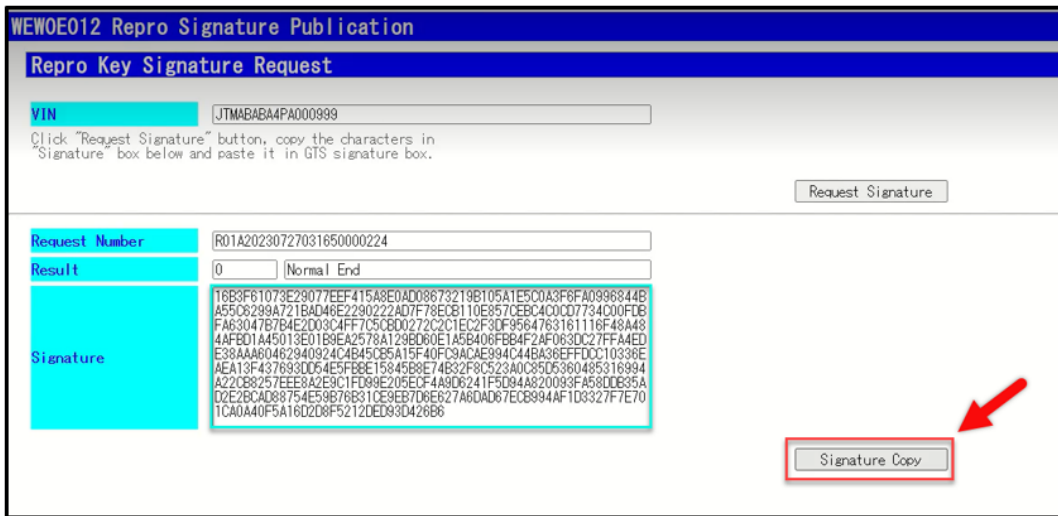

Click the "Next" button to continue.

STEP 37: Select the "Request Signature" button. This will populate in the lower window.

STEP 38: Select the "Copy Signature" button then minimize the window.

STEP 39: The fourth and fifth calibrations are performed together. While the fourth and fifth calibration is reprogramming, the progress window is displayed. **ALWAYS** remain near the vehicle during reprogramming in order to monitor the progress.

NOTE: The headlamps may operate during this procedure.
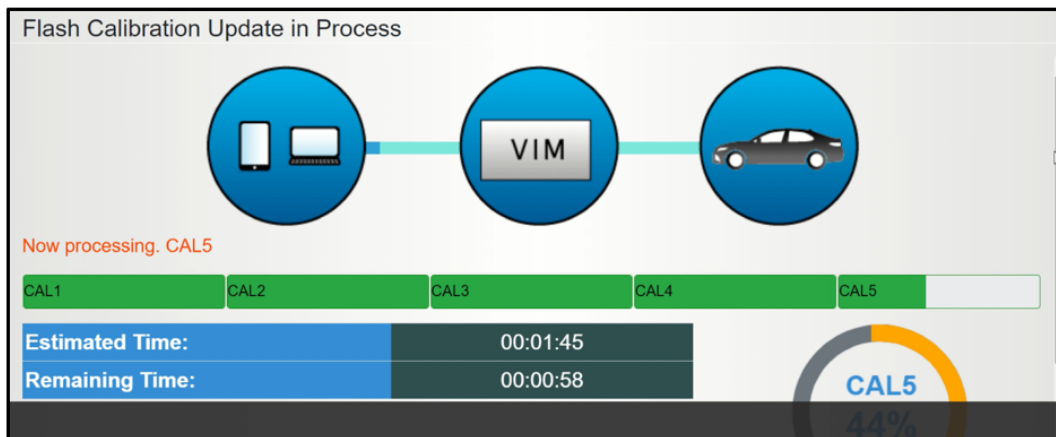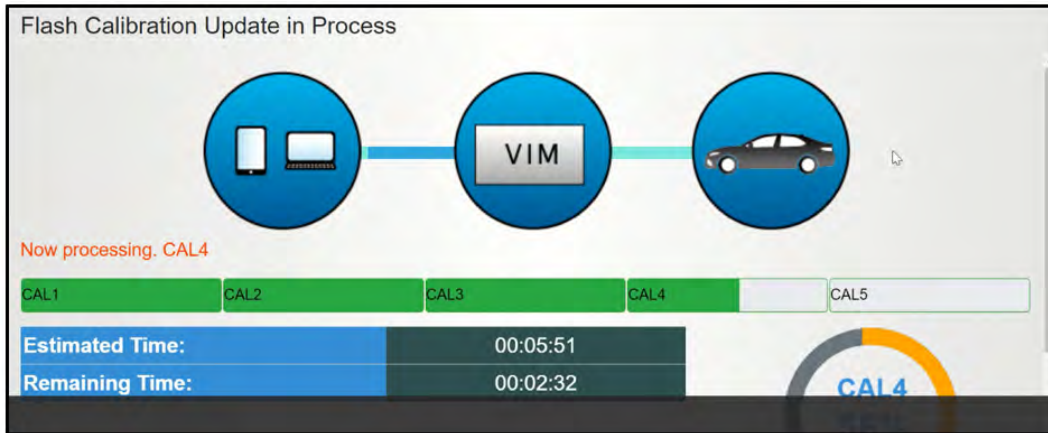
STEP 40: When the reprogramming procedure is successfully completed, the "Finish" window will be displayed. Press any key to continue.

IMPORTANT NOTE: If the reprogramming procedure is unsuccessful, an error window is displayed. If no error window is displayed, proceed to Step 41.


IMPORTANT NOTE: If the reprogramming procedure is unsuccessful, an error window is displayed. If no error window is displayed, proceed to Step 27.

- DO NOT press the cancel button.
- DO NOT close the CUW+ window.

Attempt to restart the reprogramming procedure by clicking the "Retry" button **AFTER** the following prerequisites are met:

- Inspect the USB cables and connections and confirm they are in working condition.

- Confirm the 12V battery has sufficient charge.

- Confirm the battery charger is operating as desired.

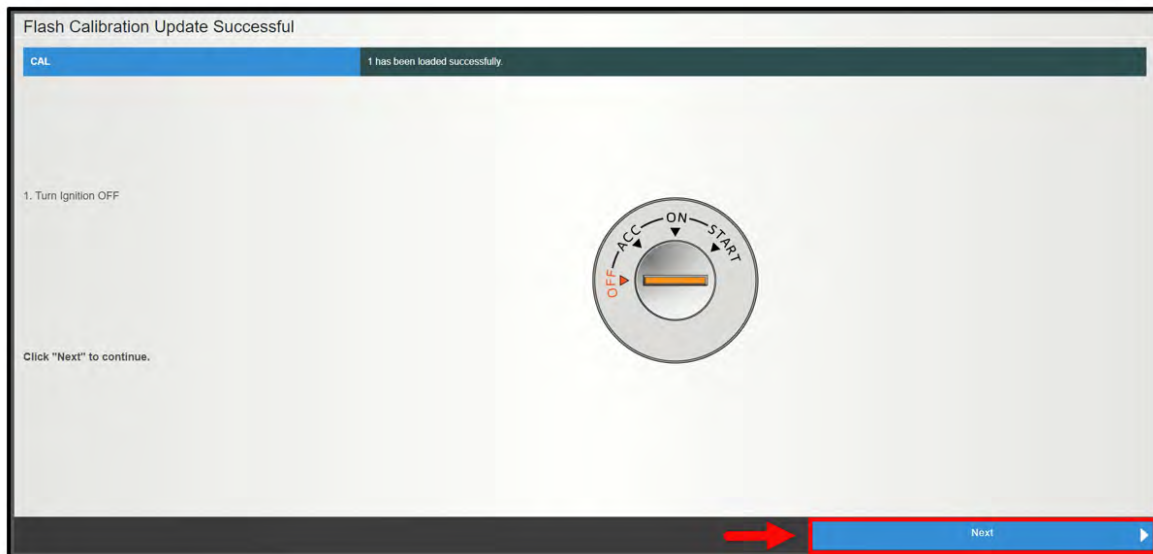- Confirm the battery cables are securely connected.
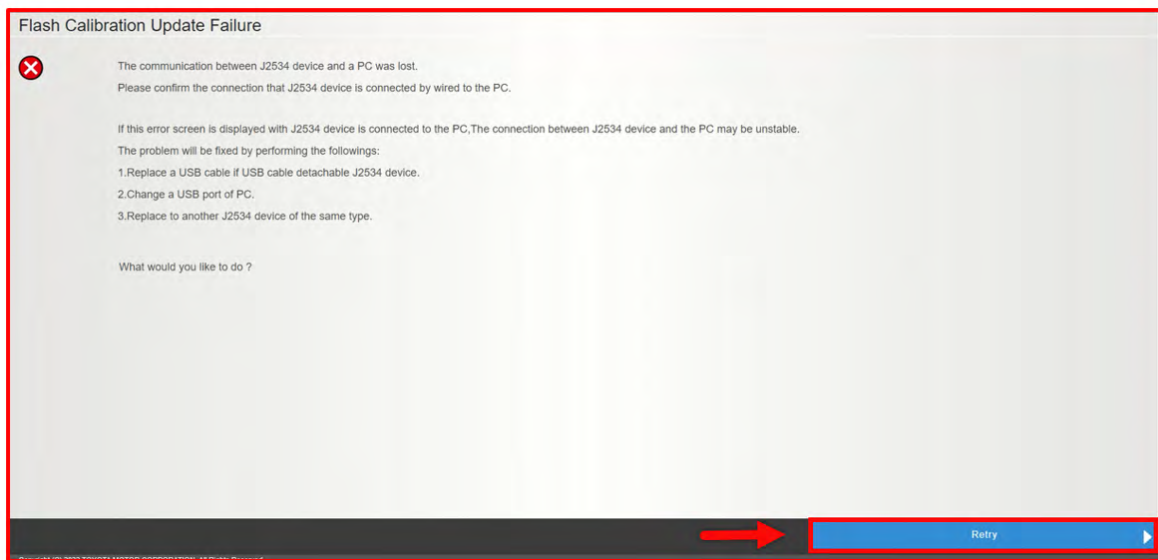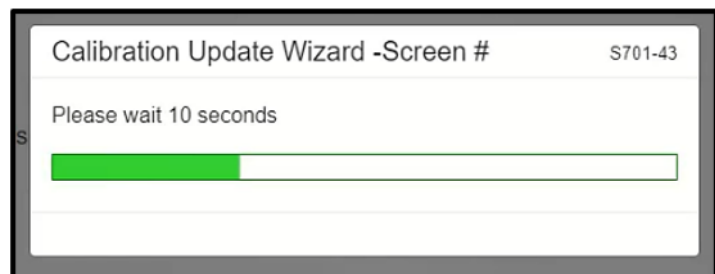

Continued...

Cycle the power switch 🔘 as per the GTS+ and click the "Retry" button to continue.
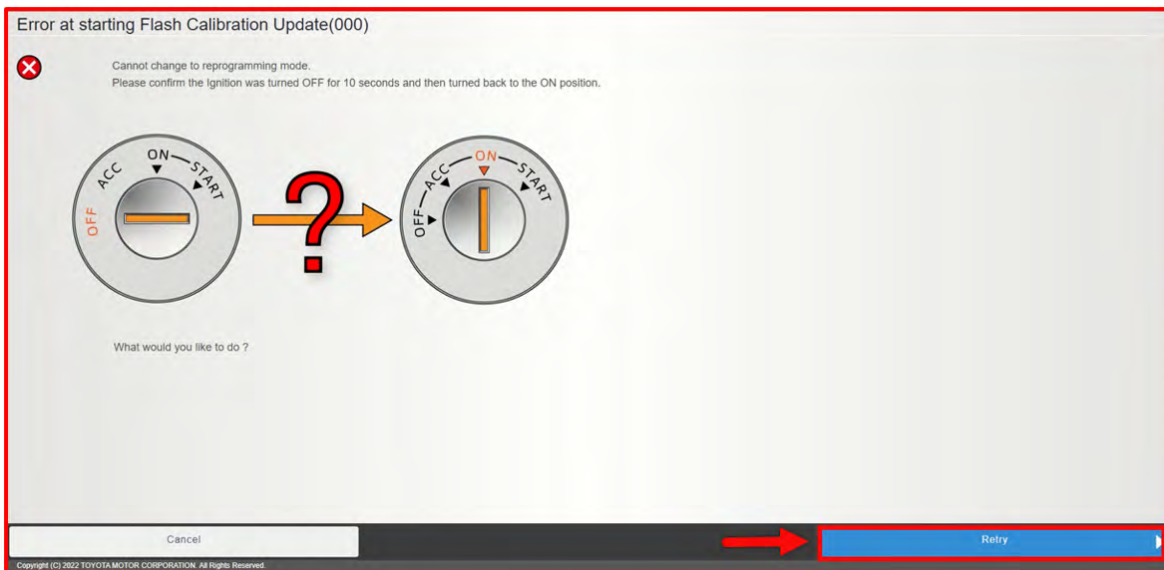
STEP 41: The "Flash Calibration Update Successful" window will display. Turn the power switch 🔘 to the OFF position. Click the "Next" button to continue.

NOTE: A Progress bar will be displayed. **DO NOT** operate the power switch while the bar is shown.

Continued...

STEP 42: Follow the on-screen instruction. Turn the power switch ⊗ to the ON position. Select the "Next" button to continue.

NOTE: A Progress bar will be displayed. **DO NOT** operate the power switch while the bar is shown.
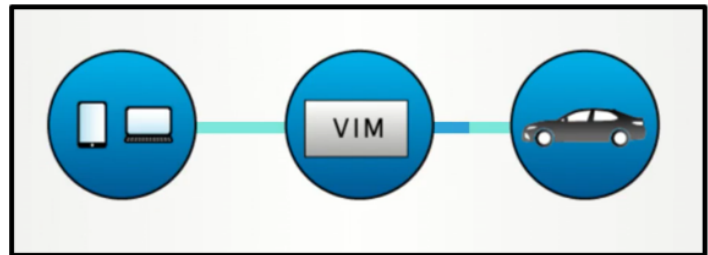
STEP 43: Confirm the "AFTER UPDATE" calibration ID matches the NEW calibration ID numbers listed on page 2. Click the "Finish" button.

IMPORTANT: If the reprogramming procedure does not complete successfully, reattempt reprogramming up to two more times. If the third attempt does not complete successfully, replace the forward recognition camera.

Continued...

STEP 44: Return to the GTS+ window. Perform the "Health Check" a second time by selecting the button in the lower right corner of the Stared Data tab window.
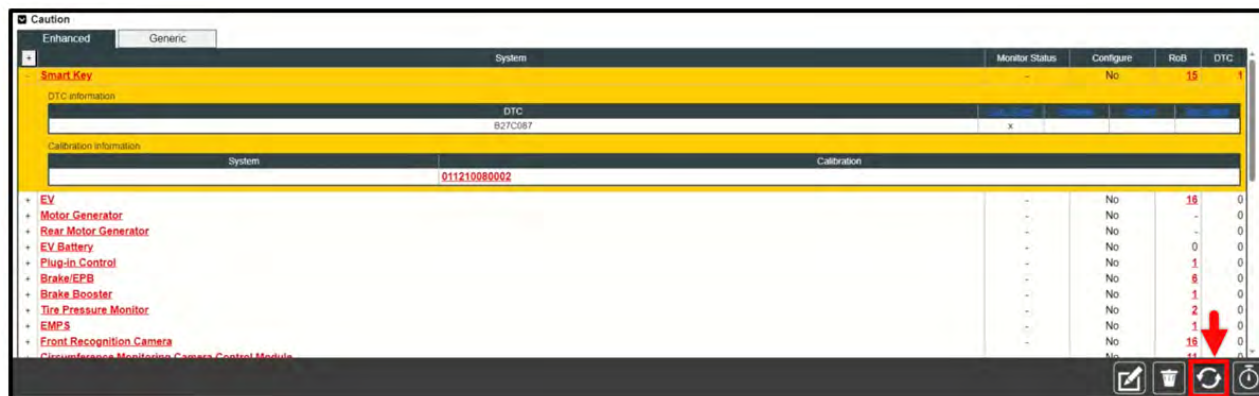
While the Health Check is being performed, a pop-up will be displayed asking if you would like additional information retrieved. Click the "No" button to continue.
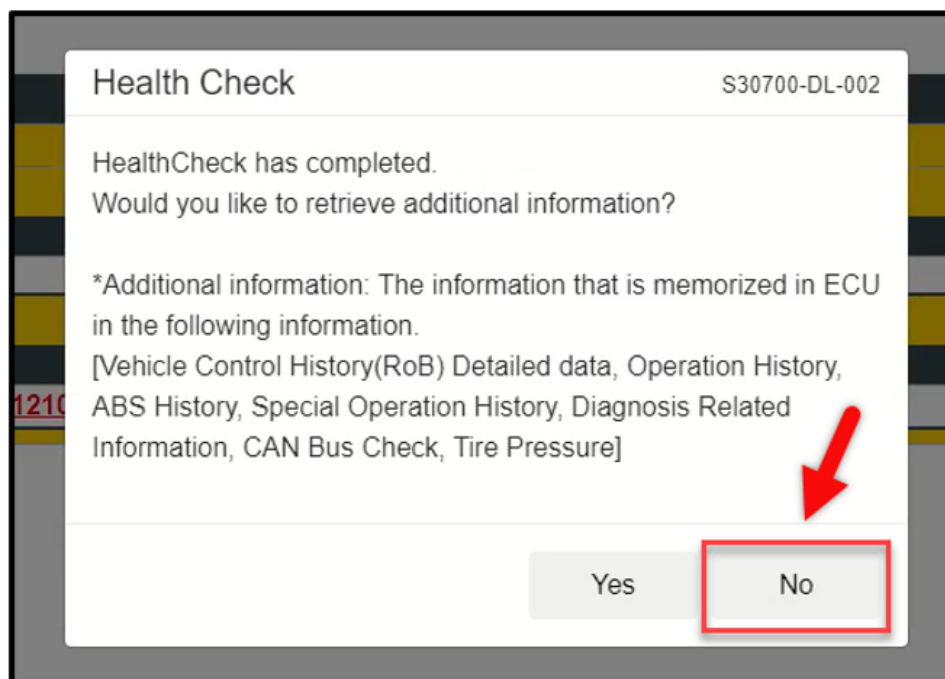
STEP 45: Clear any DTC(s) that may have been detected during reprogramming. If no DTC(s) are detected, the procedure is complete.

Continued...

SERVICE PROGRAM IDENTIFICATION LABEL:

Type or print the necessary information on a Campaign Identification Label. The completed label should be attached to the vehicle left side radiator support bracket located behind the driver side headlamp. Additional labels are available through normal parts ordering channels. The part number **MAS6P1302**, which comes as one sheet of 20 labels.

Part Number	Applicability	Description	Order Quantity
MSA6P1302	All Models	Campaign Completion Labels (contains one sheet of 20 labels)	1

```
        SUBARU
     Campaign Code

        EEA-23

       COMPLETED
    DIST./DEALER NO.

       SERIAL NO.

     DO NOT REMOVE
```

CLAIM REIMBURSEMENT AND ENTRY PROCEDURES:

Credit to perform this Product Enhancement Service Program will be based on properly completed repair order information. Retailers my submit claims through Subarunet.com.

Labor Description	Labor Operation #	Labor Time	Fail Code
REPROGRAMMING, ALL ECU ENHANCEMENT	A455-588	2.3H	EEA-23

IMPORTANT REMINDERS:

• SOA strongly discourages the printing and/or local storage of service information as previously released information and electronic publications may be updated at any time.

• Always check for any open recalls or campaigns anytime a vehicle is in for servicing.

• Always refer to STIS for the latest service information before performing any repairs.

VIN XXXXXXXXXXXXXXXX

Software Update EEA23

October 2023

Dear Subaru Owner:

At Subaru, we are dedicated to providing vehicles of outstanding quality and value. As part of our continuing efforts to provide superior customer satisfaction, Subaru is announcing a product enhancement software update, available for your vehicle.

What will the software update do?

A software update has been developed for certain 2023 model year Solterra models. It is designed to improve DC-charging performance, and enhance visualization of the remaining range, current state of charge (SOC), and real-life energy consumption.

What will Subaru do?

Any authorized Subaru retailer (dealer) will perform the software update on your vehicle, at no cost to you.

What should you do?

Please contact your Subaru retailer for an appointment to have the update performed on your vehicle.

How long will the update take?

The software update will take approximately two and a half hours to complete. However, depending on the retailer's work schedule, it may be necessary for you to make the vehicle available for a longer period of time.

If you need further assistance

To locate the nearest Subaru retailer, you can access our website at www.subaru.com and select 'Find a Retailer.' If you have any questions, you may email us directly through www.subaru.com Customer Support. You may also call us at 1-800-782-2783 during our normal business hours listed below:

- Monday through Thursday, 8:00 a.m. to 8:00 p.m. (EST)

- Friday, 10:30 a.m. to 5:00 p.m. (EST)

- Saturday, 8:30 a.m. to 5:00 p.m. (EST)

Your continued satisfaction with your Subaru is important to us, and we thank you for choosing the 2023 model year Subaru Solterra.

Sincerely,

Subaru of America, Inc.