

Replacement ECU Software Configure Process

Service Category General

Market USA and Mexico

Section Outline-General

Toyota Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2024	Grand Highlander, Grand Highlander HV, Highlander, Highlander HV, Land Cruiser, Mirai, Tacoma, Tacoma HV	
2022 - 2024	Tundra, Tundra HV	
2021 - 2024	Venza HV	
2023 - 2024	bZ4X, Corolla, Corolla Cross, Corolla Cross HV, Corolla Hatchback, Corolla HV, Crown, GR Corolla, Prius, Prius Prime, Sequoia HV	

REVISION NOTICE

April 18, 2024 Rev2:

- Applicability has been updated to include 2024 model year Tundra, Tundra Hybrid, Venza Hybrid, bZ4X, Corolla, Corolla Cross, Corolla Cross Hybrid, Corolla Hybrid, Crown, GR Corolla, Corolla Hatchback, Prius, Prius Prime, Sequoia Hybrid, Highlander, Grand Highlander, Grand Highlander Hybrid, Land Cruiser, Tacoma, Tacoma Hybrid, and Mirai vehicles and 2023 model year Corolla Hatchback and Prius Prime vehicles.
- The Introduction section has been updated.
- The Operation Procedure section has been removed.
- The Standard ECU Configuration Procedure and ECU Configuration Value Writing Procedure sections have been added.

March 15, 2023 Rev1:

- Applicability has been updated to include 2022 – 2023 model year Tundra, Tundra Hybrid, and Venza Hybrid vehicles and 2023 model year bZ4X, Corolla, Corolla Cross, Corolla Cross Hybrid, Corolla Hybrid, Crown, GR Corolla, Prius, and Sequoia Hybrid vehicles.
- The Introduction section has been updated.

Any previous printed versions of this bulletin should be discarded.

Replacement ECU Software Configure Process

Introduction

Some 2021 – 2024 model year Toyota vehicles may require the download and installation of vehicle specific software or configuration software when the Electronic Control Unit (ECU) is replaced. GTS+ software has been modified to indicate when configuration software is required. A new Configure column has been added to the GTS+ Health Check Results screen to show when configuration software is available for a specific ECU.

Follow the Operation Procedure in this bulletin to complete the ECU Software Configure Process. Certain ECU replacements require CUW reprogramming (Standard ECU Configuration) while others may only require C-Best Writing (ECU Configuration Value Writing). Please select the appropriate procedure below, depending on the ECU replaced.

- [Procedure A: Standard ECU Configuration \(CUW Reprogramming\)](#)
- [Procedure B: ECU Configuration Value Writing \(Body and Brake ECU Only\)](#)

Refer to the applicability chart below for a list of Models and ECUs that will require configuration software when the specified ECU is replaced:

YEAR(S)	MODEL(S)	ECU(S) REQUIRING CONFIGURATION SOFTWARE
2024	bZ4X	Airbag / Body / Brake / HV / MG / EMPS / Blindspot / Front Side Radar
	Corolla, Corolla HV, GR Corolla, Corolla Hatchback	Airbag / Body / EMPS / Engine / HV / Inverter / Power Distribution Box / Body / 4WD
	Corolla Cross / Corolla Cross HV	Airbag / Body
	Crown	Absorber Control / Airbag / ANC / Body / Brake / ECM / EMPS / HV / Inverter / Blindspot / Front Side Radar
	Prius / Prius Prime	Airbag / Blindspot / Body / Engine / EMPS / Front Side Radar / HV / Inverter / Front Side Radar
	Sequoia HV	Airbag / ANC / Body / Brake / ECT / EMPS / Engine / HV / TCM / ANC
	Tundra / Tundra HV	ANC / Body / Brake / ECT / EMPS / HV / TCM / Airbag
	Highlander / Highlander HV	Body / EMPS
	Grand Highlander / Grand Highlander HV	ECM / HV / Inverter / TCM / EMPS / ANC / Blindspot / Body / Airbag / Front Side Radar
	Land Cruiser	ECM / HV / TCM / Airbag / EMPS / ANC / Body / Front Side Radar
	Tacoma / Tacoma HV	EMPS / ANC / Body
	Mirai	Front Side Radar / Airbag / Blindspot / Body

Replacement ECU Software Configure Process

Introduction (continued)

YEAR(S)	MODEL(S)	ECU(S) REQUIRING CONFIGURATION SOFTWARE
2023	bZ4X	Airbag / Body / Brake / HV / MG
	Corolla / Corolla HV / Corolla Hatchback / GR Corolla	Airbag / Body / EMPS / Engine / HV / Inverter / Power Distribution Box
	Corolla Cross / Corolla Cross HV	Airbag / Body
	Crown	Absorber Control / Airbag / ANC / Body / Brake / ECM / EMPS / HV
	Prius / Prius Prime	Airbag / Blindspot / Body / Engine / EMPS / Front Side Radar / HV / Inverter
	Sequoia HV	Airbag / ANC / Body / Brake / ECT / EMPS / Engine
2022 – 2023	Tundra / Tundra HV	ANC / Body / Brake / ECT / EMPS
2021 – 2024	Venza HV	Body / EMPS

NOTE

ECU is a Toyota term used to describe integrated computerized devices responsible for managing the operation of a system or subsystem. In this bulletin, ECU is used as a generic label for the following SAE J1930 standard references:

- Powertrain Control Module (PCM).
- Engine Control Module (ECM).
- Transmission Control Module (TCM).
- Any other Toyota specific control unit.

Replacement ECU Software Configure Process

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Replacement ECU Software Configure Process

Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Required Tools & Equipment

REQUIRED EQUIPMENT	SUPPLIER	PART NUMBER	QTY
Techstream ADVI*	ADE	TSADVUNIT	1
Techstream 2.0		TS2UNIT	
Techstream Lite		TSLITEPDLR01	
Techstream Lite (Green Cable)		TSLP2DLR01	

*Essential SST.

NOTE

- Only ONE of the Techstream units listed above is required.
- GTS+ software version 2024.01.002.02 or later is required.
- Additional Techstream units may be ordered by calling Approved Dealer Equipment (ADE) at 1-800-368-6787 (USA) or 01-55-50103041 (Mexico) or by visiting *TIS – Diagnostics – Tools & Equipment – Techstream Order Portal*.

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Battery Diagnostic Tool*	DCA-8000P T	1

*Essential SST.

NOTE

Additional SSTs may be ordered by calling 1-800-933-8335 (USA) or 01-800-504-5330 (Mexico) or by visiting *Home – Service Resources – Toyota Special Service Tools (SSTs)*.

Replacement ECU Software Configure Process

Operation Procedure

Procedure A: Standard ECU Configuration (CUW Reprogramming)

1. AFTER ECU replacement, connect GTS+, select the applicable vehicle and options, and select Next.

Figure 1.

The screenshot displays the 'Vehicle Connection' screen in the Toyota GTS+ application. The header bar includes the Toyota logo, 'GTS+', 'ONLINE' status, and 'Region : NA'. The main content area is titled 'Vehicle Connection' and contains the instruction 'Confirm the information and press Next'. Below this, there are three tabs: 'VIN', 'VIN recognition', and 'VIN manual input'. The 'VIN' tab is active, showing a text input field for the VIN. To the right of the VIN field are two dropdown menus: 'Division' (set to TOYOTA) and 'Model' (set to CROWN HEV). Below these are two more dropdown menus: 'Model Year' (set to 2023) and 'Engine' (set to T24A-FTS). At the bottom of the screen, there is a dark blue bar with a 'Manual' button and a 'Next' button. A red arrow points to the 'Next' button.

Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

- After performing a Health Check, GTS+ will automatically detect the replacement ECU that needs configuration. On the Health Check Results page, select Yes in the Configure column to begin the configuration process.

Figure 2.

2023 Crown HEV T24A-FTS | Battery:13.7V

Health Check Result

STATUS

02/14/2024 11:07:00
Campaign Status: **OPEN**
PERMANENT: **NO**
ECU Security Key: -

Compensation Pressure [psi(gauge)]
Front:
Rear:

Techstream has established a network connection to TIS.
A network connection is required to ensure all TIS functionality is available, such as campaign validation.

Caution

Enhanced Generic Completed: 02/14/2024 11:09:30

System	Monitor Status	Configure	RoB	DTC	Update
Front Radar Sensor	-	No	1	0	No
Blind Spot Monitor "B"	-	No	2	0	No
Blind Spot Monitor "A"	-	No	2	0	No
Acoustic Vehicle Alerting System	-	No	-	0	No
Active Noise Control	-	Yes	-	0	No

DTC information
DTC does not exist.

Calibration information

System	Calibration	Update
8624F78020H0		No
8624G78020H0		No

Power Integration No.1

Ver2023.04.003.02 Subscription Expiration:353d

Replacement ECU Software Configure Process

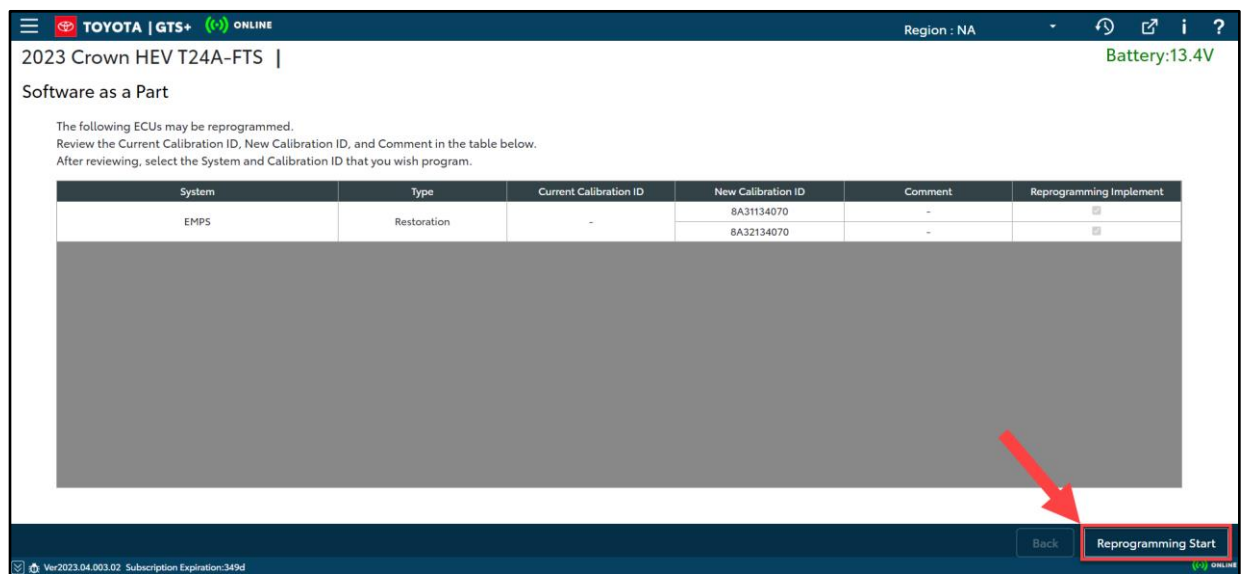
Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

3. If your ECU Configuration requires multiple calibration files, you will be prompted with the screen below. Confirm the calibrations to be downloaded. Then press the Reprogramming Start button to proceed.

If your ECU Configuration does not require multiple calibration files, this screen will not be displayed. Continue to step 4.

Figure 3.



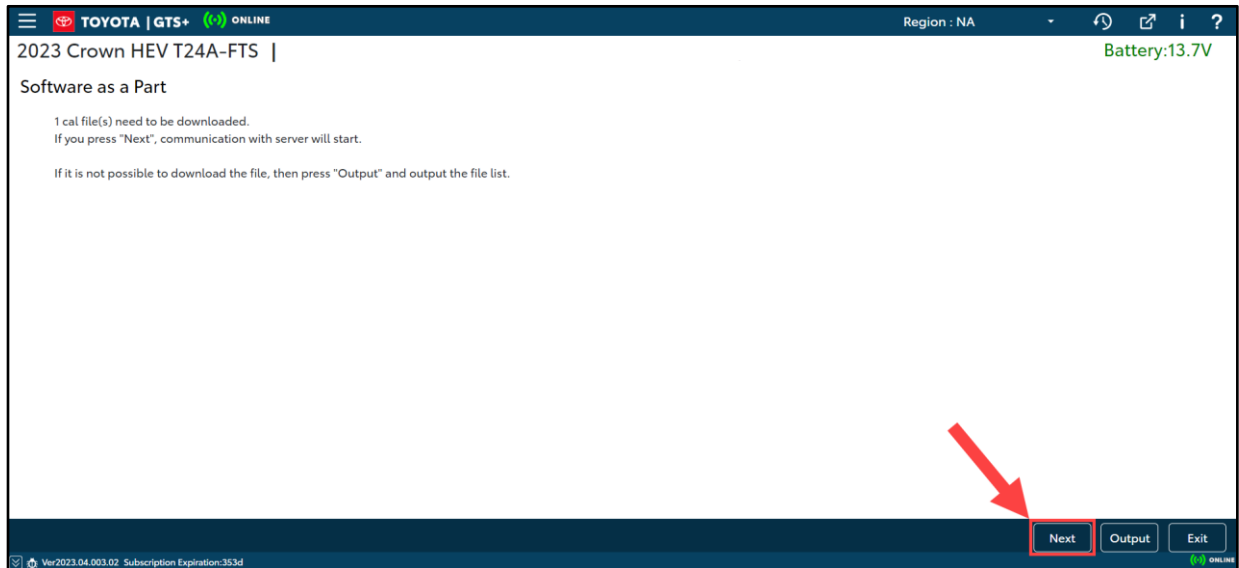
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

4. GTS+ will identify the necessary calibration file required. Press Next to start the file download and continue to step 5.

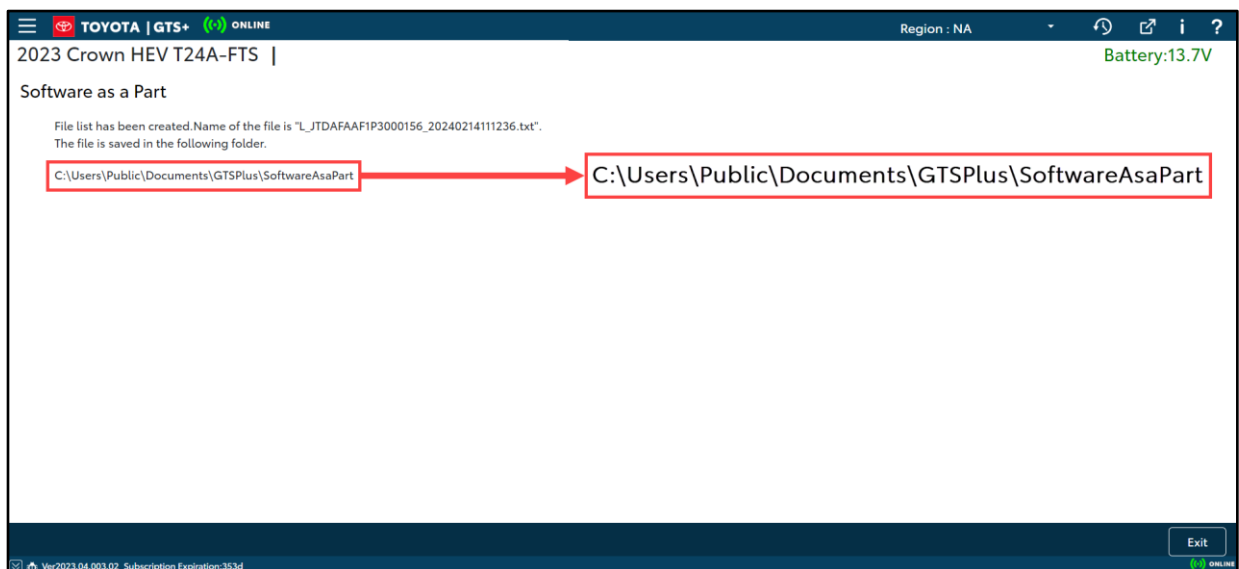
Figure 4.



NOTE

Selecting output will create a text file listing the required CUW files at the file path below.

Figure 5.



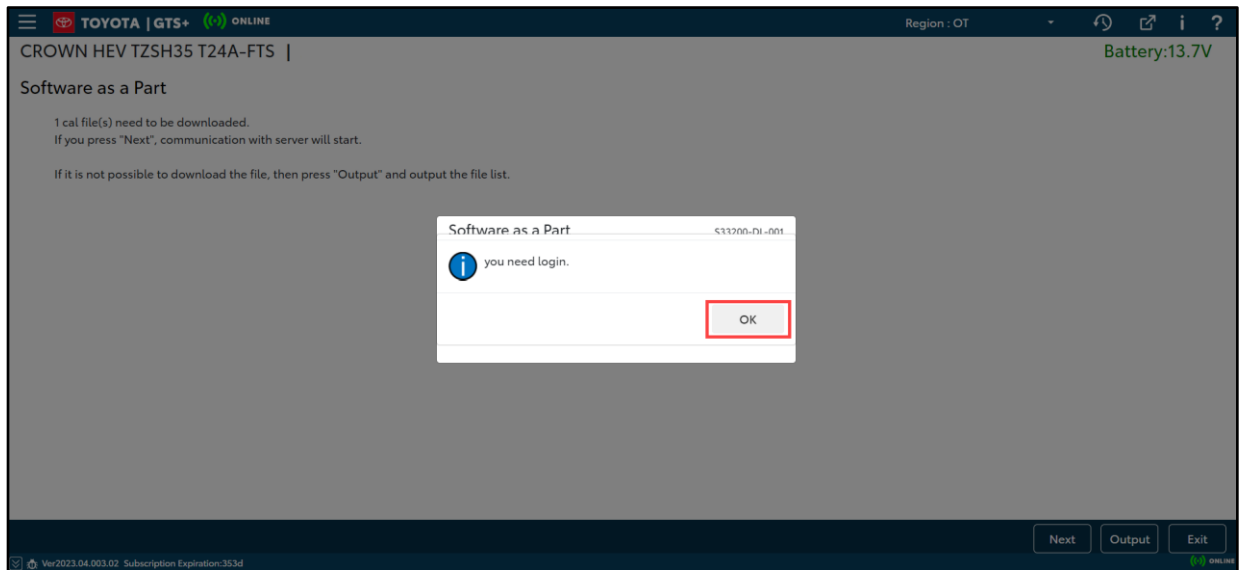
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

5. Select OK to proceed to the login screen.

Figure 6.



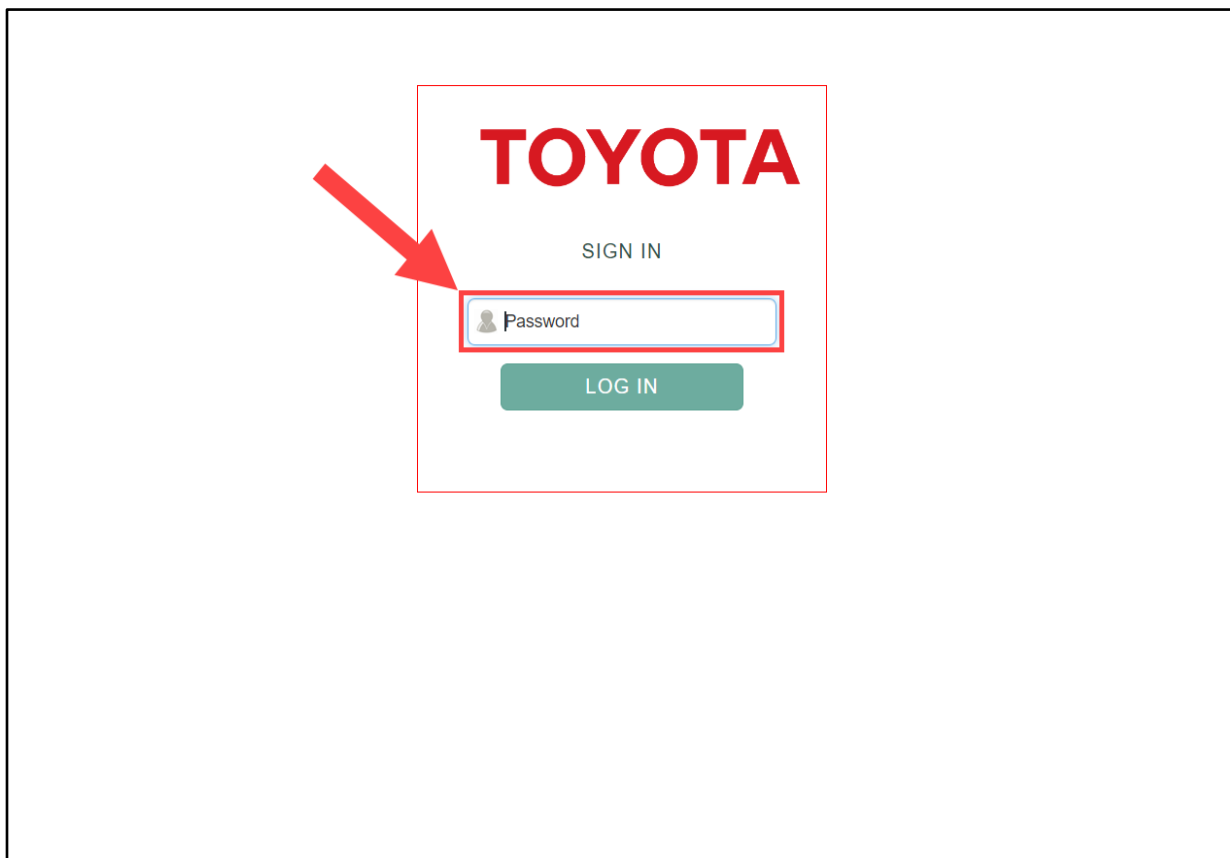
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

6. Input your TIS password and select LOG IN.

Figure 7.



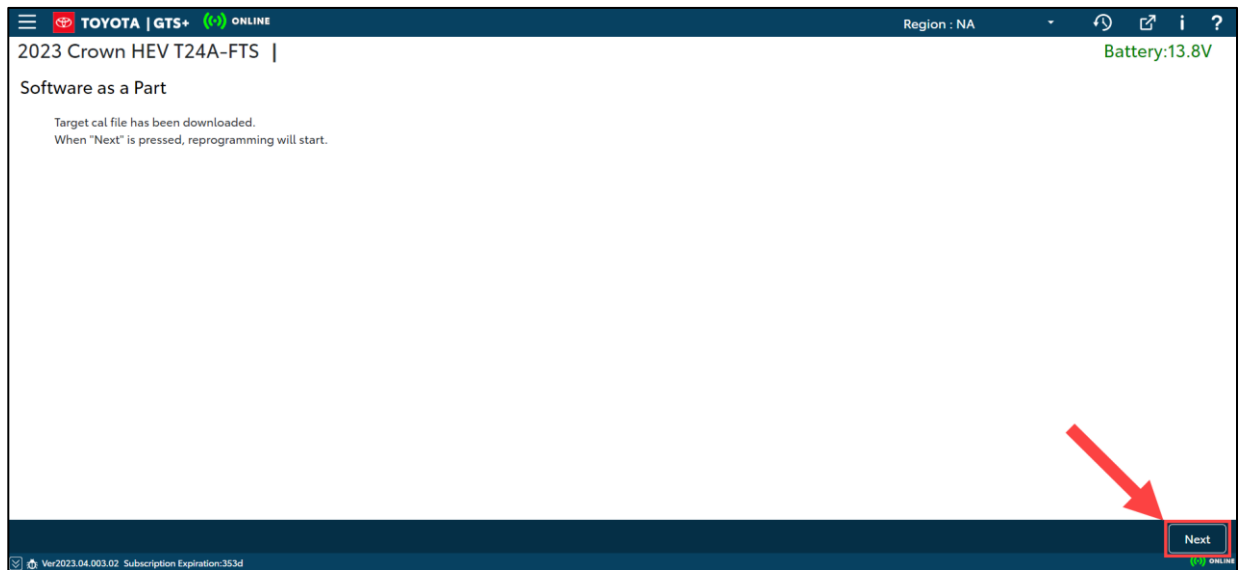
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

7. The required calibration has been downloaded, press Next to begin reprogramming the ECU.

Figure 8.



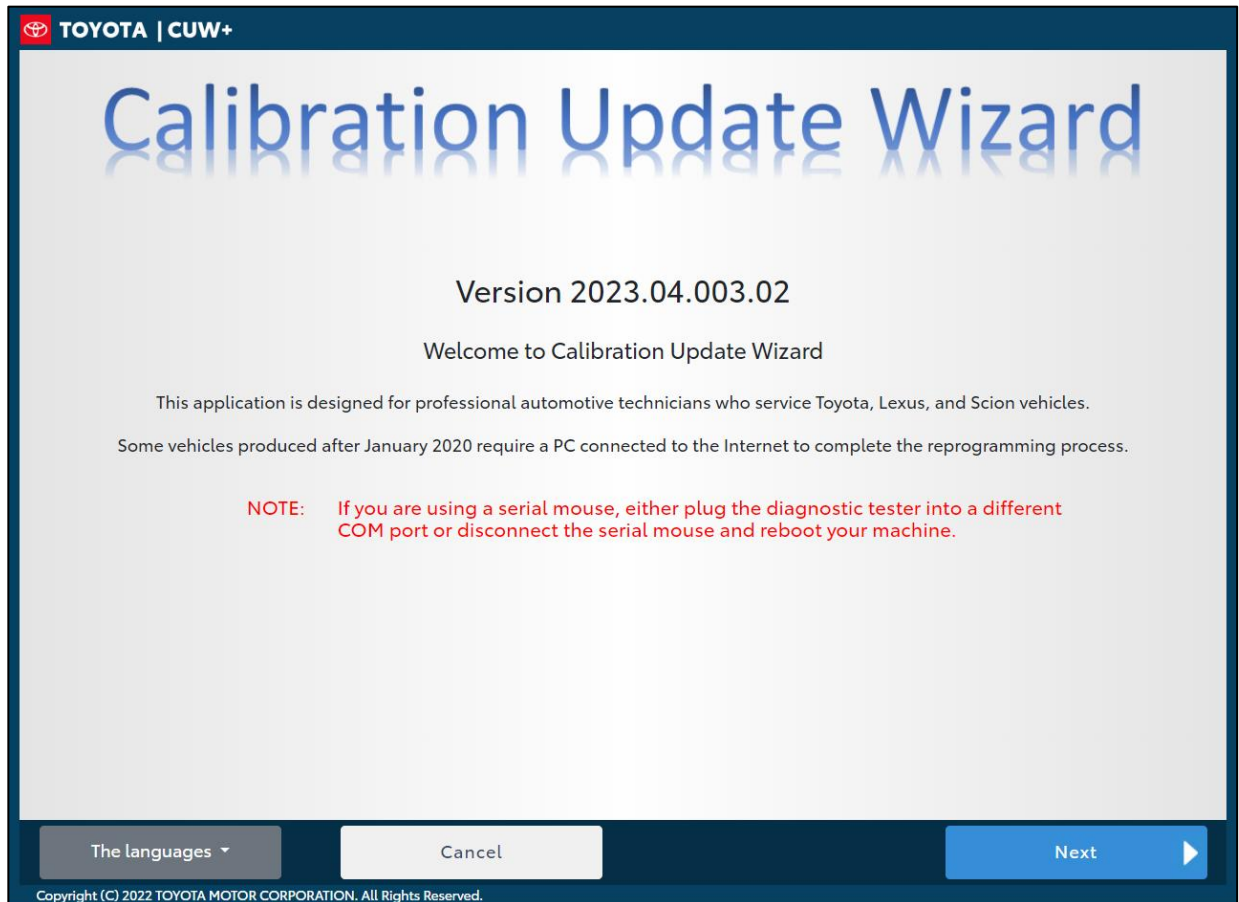
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure A: Standard ECU Configuration (CUW Reprogramming) (continued)

8. Refer to Service Bulletin No. [T-SB-0107-20](#) *ECU Flash Reprogramming With Security Signature* and complete the programming as instructed there.

Figure 9.



NOTE

On some models, DTCs may be set as a result of reprogramming. If DTCs are present, clear them, and run the Health Check again. Troubleshoot ANY remaining current, pending, or history codes. Permanent codes will NOT be cleared using GTS+. Permanent codes do NOT illuminate the MIL and do NOT require troubleshooting. They will clear during normal driving once the Universal Trip Drive Pattern is performed.

Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only)

The following procedure covers Brake and Body ECUs ONLY.

1. AFTER ECU replacement, connect GTS+ to the vehicle and select Next.

Figure 10.

The screenshot displays the 'Vehicle Connection' screen in the Toyota GTS+ application. The header bar shows 'TOYOTA | GTS+ ONLINE' and 'Region : NA'. The main content area is titled 'Vehicle Connection' and includes the instruction 'Confirm the Information and press Next'. Below this, there are two tabs: 'VIN recognition' (selected) and 'VIN manual input'. The 'VIN recognition' tab contains a 'VIN:' input field. Below the input field, there are four dropdown menus for vehicle information: 'Division:' (set to TOYOTA), 'Model:' (set to CROWN HEV), 'Model Year:' (set to 2023), and 'Engine:' (set to T24A-FTS). At the bottom of the screen, there is a dark blue bar with a 'Manual' button and a 'Next' button. A red arrow points to the 'Next' button.

Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

2. After performing a Health Check, GTS+ will automatically detect the replacement ECU that needs configuration. On the Health Check Results page, select Yes in the Configure column to begin the configuration process.

Figure 11.

TOYOTA | GTS+ ONLINE

Region : NA

2023 Crown HEV T24A-FTS | Battery:13.8V

Health Check Result

STATUS

02/21/2024 15:04:51
Campaign Status: **OPEN**
PERMANENT: NO
ECU Security Key: -

Compensation Pressure [psi(gauge)]
Front:
Rear:

Techstream has established a network connection to TIS.
A network connection is required to ensure all TIS functionality is available, such as campaign validation.

Caution

Enhanced Generic Completed: 02/21/2024 15:06:46

System	Monitor Status	Configure	RoB	DTC	Update
Steering Angle Sensor	-	No	0	0	No
Air Conditioner	-	No	0	0	No
SRS Airbag	-	No	3	0	No
Main Body	-	Yes	11	0	No

DTC information
DTC does not exist.

Calibration information

System	Calibration	Update
	8922F30180C0	No

Central Gateway

Ver2023.04.003.02 Subscription Expiration:360d

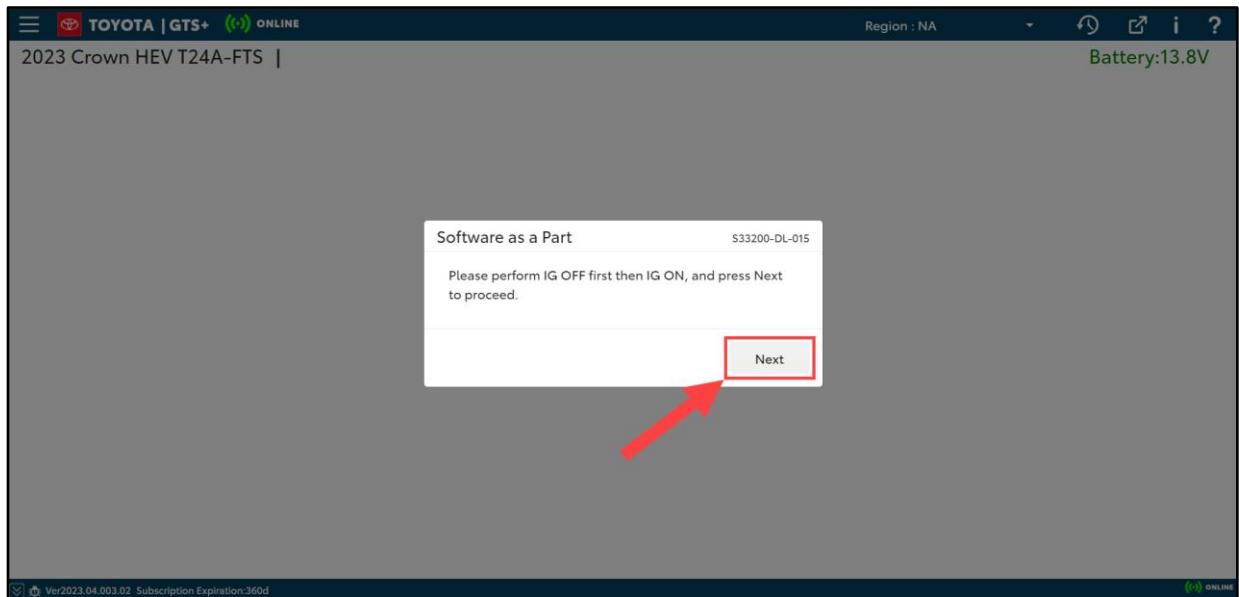
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

3. Perform IG OFF first then IG ON, and press Next to proceed.

Figure 12.



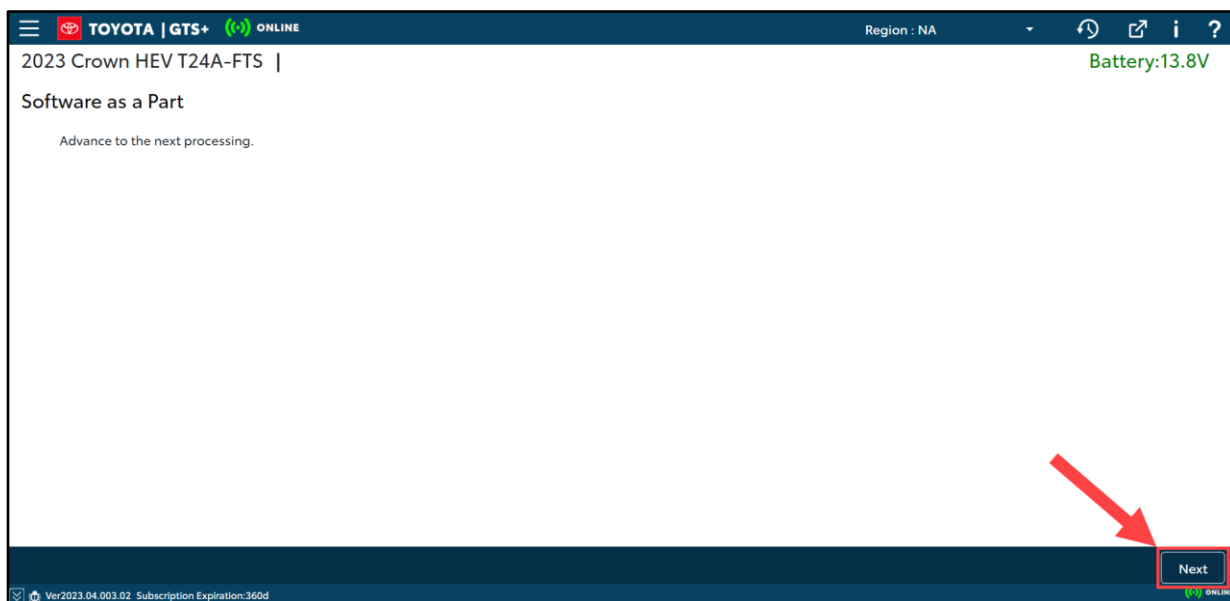
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

4. Press Next to continue to Vehicle Configuration Value writing process.

Figure 13.



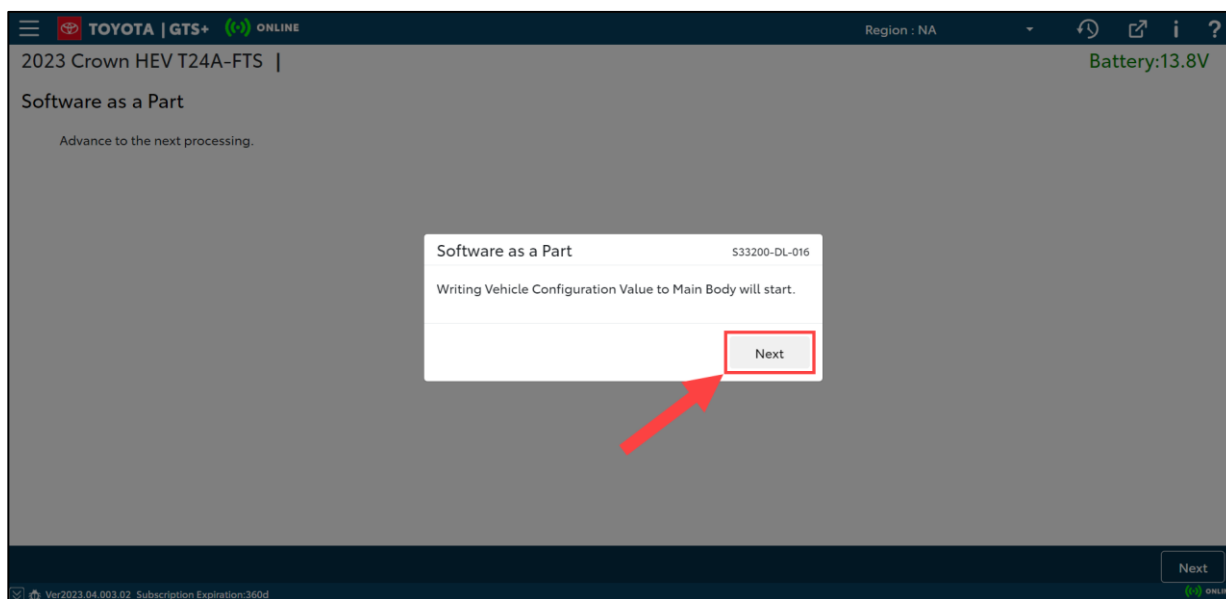
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

5. Press Next to begin Vehicle Configuration Value writing process.

Figure 14.



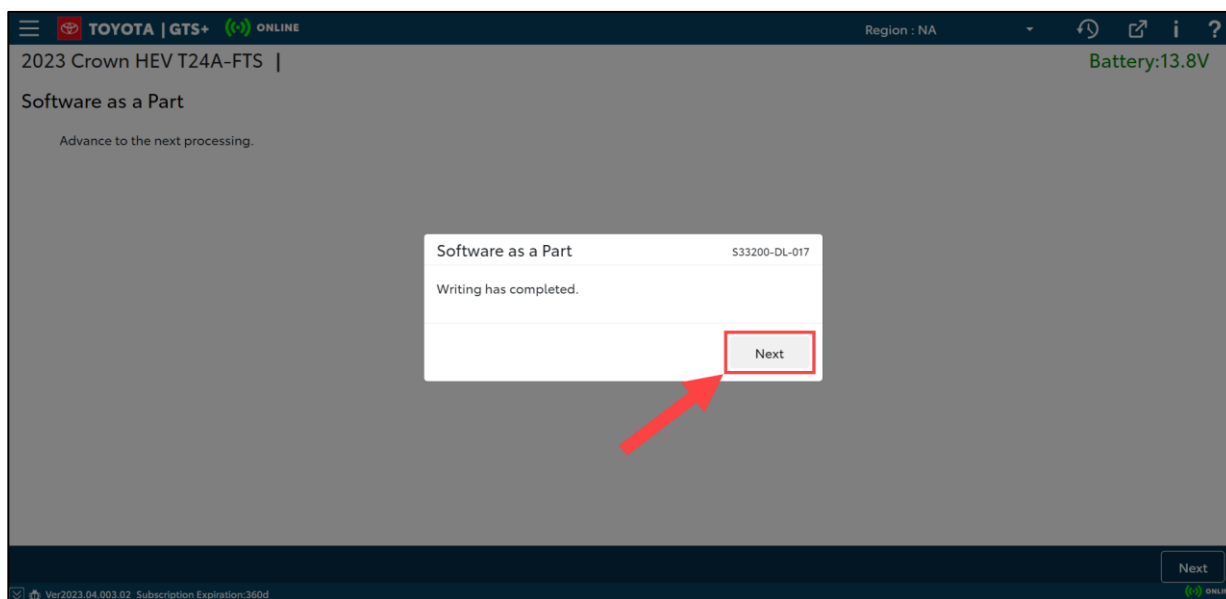
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

6. Once writing is complete, press Next to continue.

Figure 15.



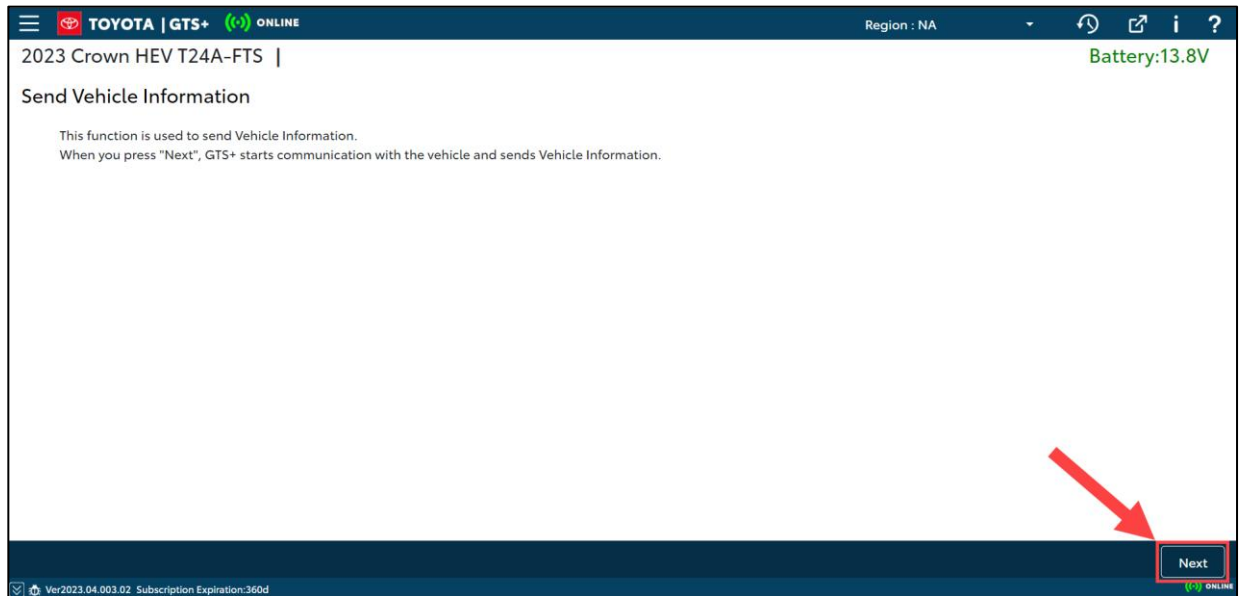
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

7. After the Vehicle Configuration Value writing is complete, updated vehicle information will be sent to the server. Press Next to send vehicle information.

Figure 16.



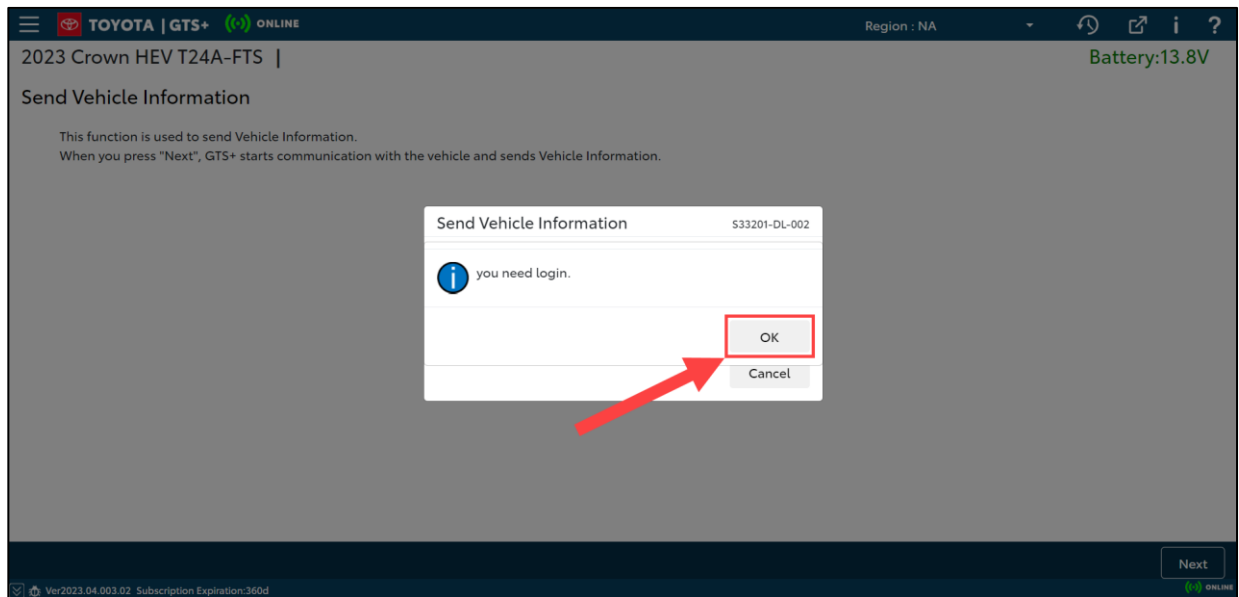
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

8. Select OK to proceed to the login screen.

Figure 17.



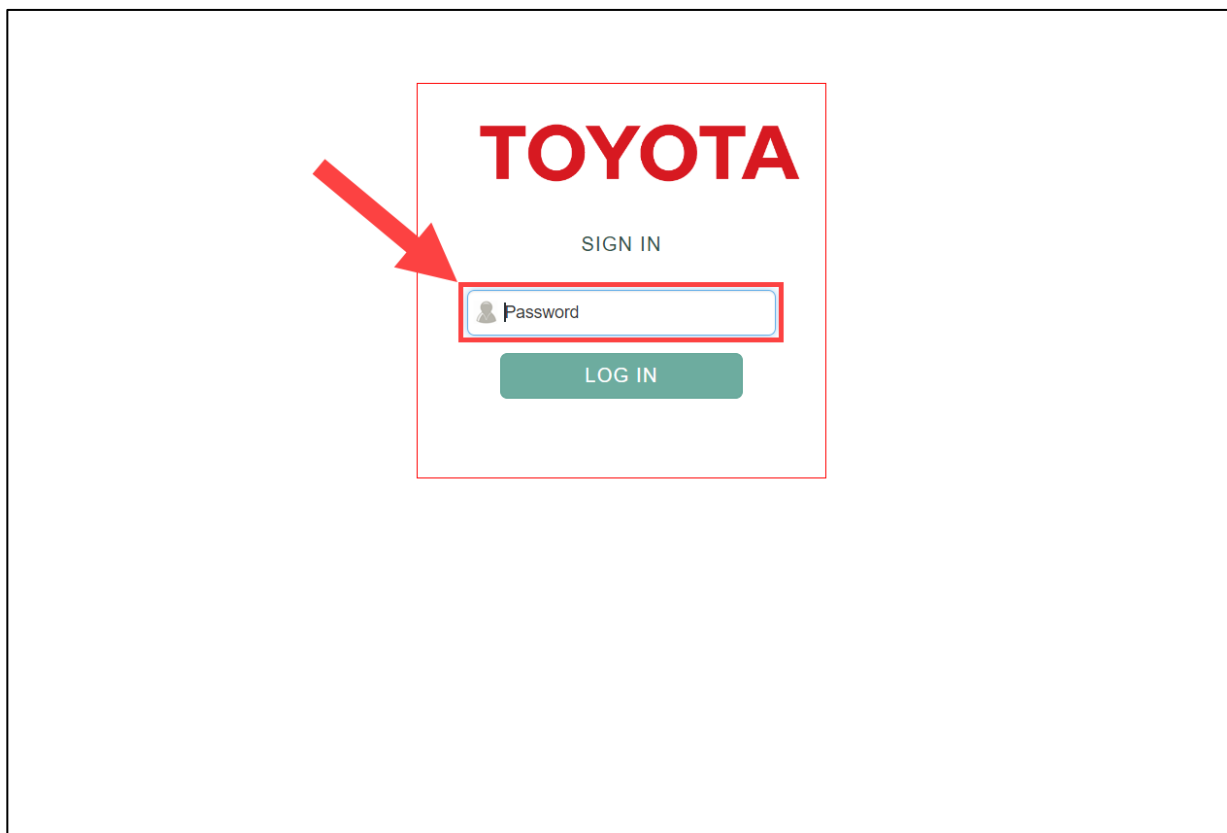
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

9. Input your TIS password and select LOG IN.

Figure 18.



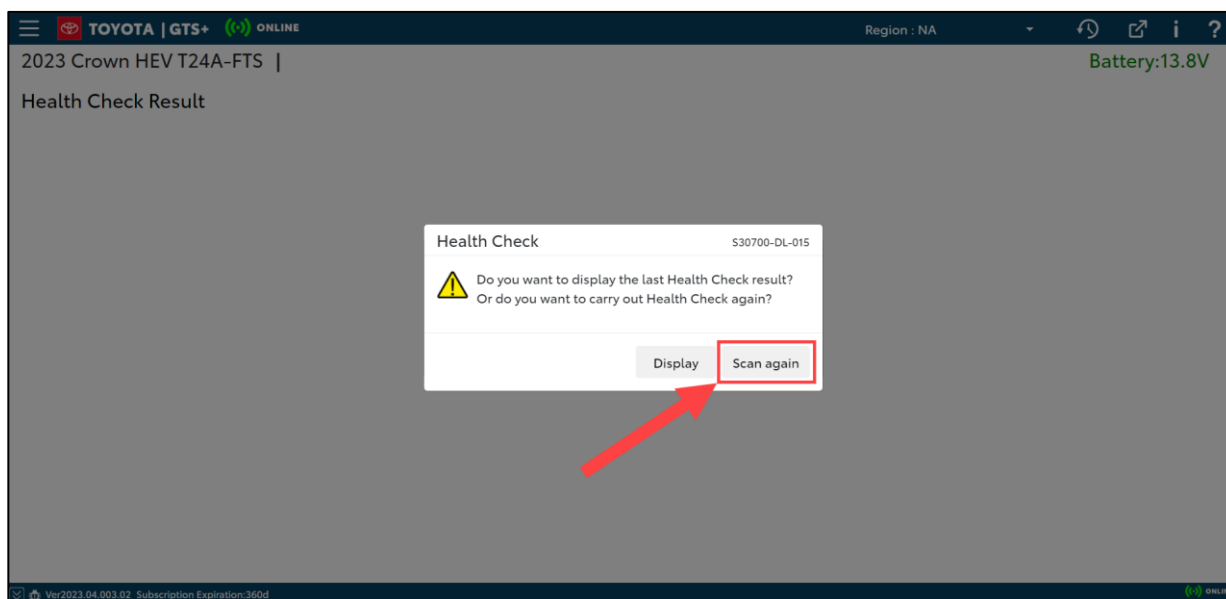
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

10. Select Scan again to perform a follow-up Health Check.

Figure 19.



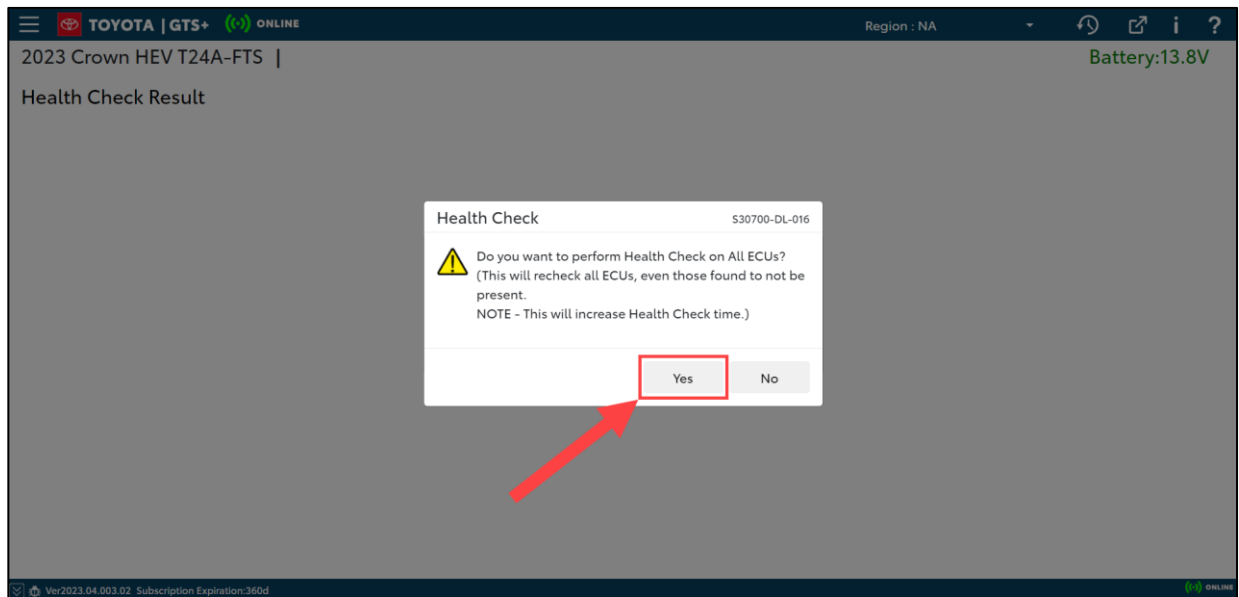
Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

11. Press Yes to perform a Health Check on ALL ECUs.

Figure 20.



Replacement ECU Software Configure Process

Operation Procedure (continued)

Procedure B: ECU Configuration Value Writing (Body and Brake ECU Only) (continued)

12. After performing a Health Check, confirm No is displayed in the Configure column, and DTC and RoB data are cleared for the newly configured ECU.

Figure 21.

2023 Crown HEV T24A-FTS | Battery:13.8V

Health Check Result

STATUS

02/21/2024 15:13:35
 Campaign Status: **OPEN**
 PERMANENT: NO
 ECU Security Key: -

Compensation Pressure [psi(gauge)]
 Front:
 Rear:

Techstream has established a network connection to TIS.
 A network connection is required to ensure all TIS functionality is available, such as campaign validation.

Caution

Enhanced Generic Completed: 02/21/2024 15:15:18

System	Monitor Status	Configure	RoB	DTC	Update
Air Conditioner	-	No	0	0	No
SRS Airbag	-	No	2	0	No
Main Body	-	No	0	0	No

DTC information
 DTC does not exist.

Calibration information

System	Calibration	Update
8922F30180C0		No

Central Gateway

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NOTE

On some models, DTCs may be set as a result of reprogramming. If DTCs are present, clear them, and run the Health Check again. Troubleshoot ANY remaining current, pending, or history codes. Permanent codes will NOT be cleared using GTS+. Permanent codes do NOT illuminate the MIL and do NOT require troubleshooting. They will clear during normal driving once the Universal Trip Drive Pattern is performed.