

TECHNICAL INSTRUCTIONS
FOR
SAFETY (NONCOMPLIANCE) RECALL 22LA01

Vehicle Stability Control System May Not Default to "On"

Certain 2021 – 2022 Model Year LS 500h
Certain 2022 Model Year LX 600
Certain 2022 Model Year NX 350h
Certain 2022 Model Year NX 450h+

Update 7/21/22

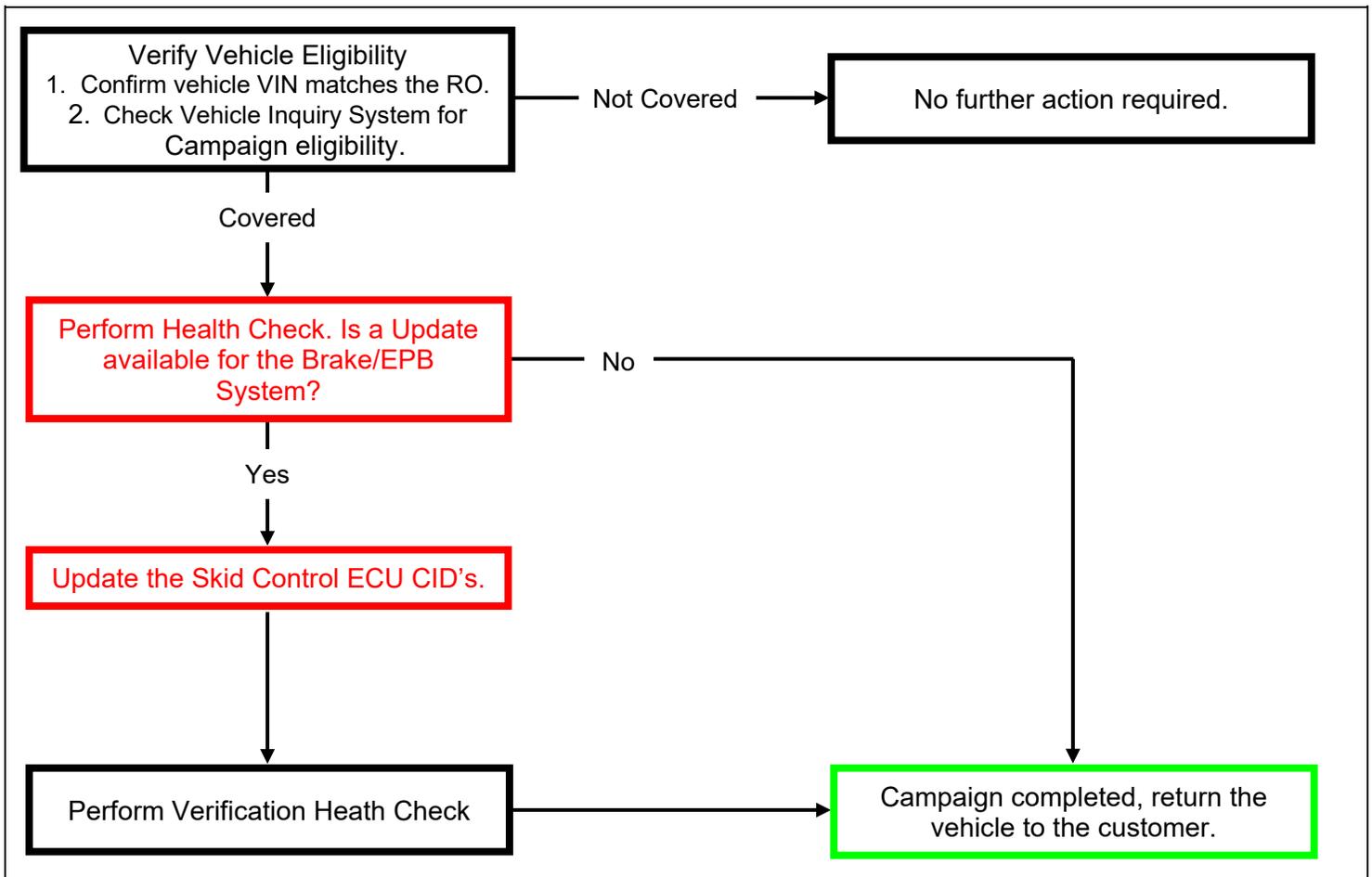
- **Added step in section VIII. to check for Fan Operation**

The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this special service campaign are required to successfully complete the most current version of the E-Learning course "Safety Recall and Service Campaign Essentials". To ensure that all vehicles have the repair performed correctly; technicians performing this special service campaign repair are required to currently have completed all of the following courses:

- **L623 Lexus Electrical Circuit Diagnosis**

It is the dealership's responsibility to select technicians that have completed the above courses to perform this repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

I. OPERATION FLOW CHART



II. IDENTIFICATION OF AFFECTED VEHICLES

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Campaign, and that it has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were completed by another dealer.

III. PREPARATION

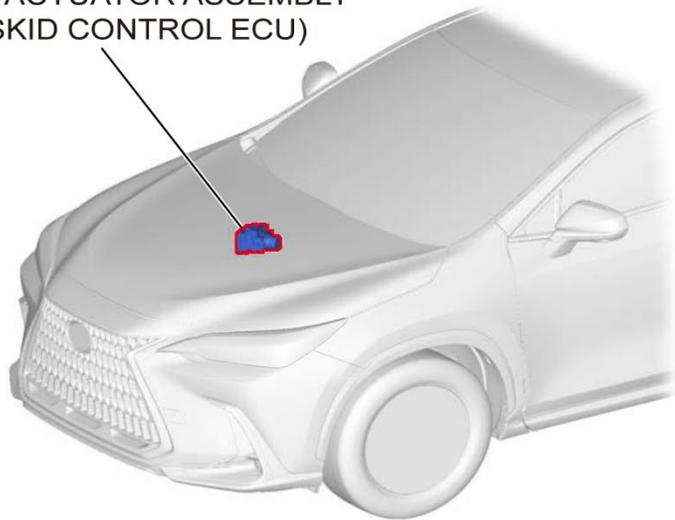
A. TOOLS, SUPPLIES & EQUIPMENT

- Standard Hand Tools
- Techstream ADVi / Techstream 2.0 / Techstream Lite
- DCA-8000P Battery Diagnostic Tool
- L-SB-0001-18

IV. BACKGROUND

A software error can cause the Vehicle Stability Control system (VSC) not to default to “ON” the next time the car is started under certain circumstances. This can result in noncompliance with a federal safety requirement. Operating the vehicle with VSC deactivated could increase the risk of a crash in certain driving conditions.

BRAKE ACTUATOR ASSEMBLY
(No. 2 SKID CONTROL ECU)



R2204050010

V. DETERMINE STATUS OF CURRENT CALIBRATION



1. CHECK FOR DTC'S

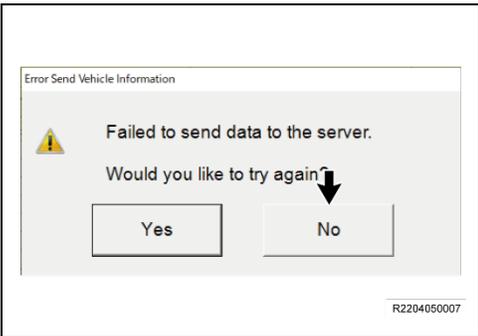
- a. Using a Techstream, perform a Health Check to check for any Diagnostic Trouble Codes.

Critical

For LS w/ advanced drive, make sure to use a VIM which supports Ethernet communication.

NOTICE:

This Campaign covers only the Calibration ID update to the Brake/EPB system, as detailed in these instructions. It does not cover the diagnosis or replacement of any other issues on the vehicle.



NOTICE:

Before completing Health Check, "Send Vehicle Information" window may be displayed. If displayed, then click "Yes" to send the vehicle information.

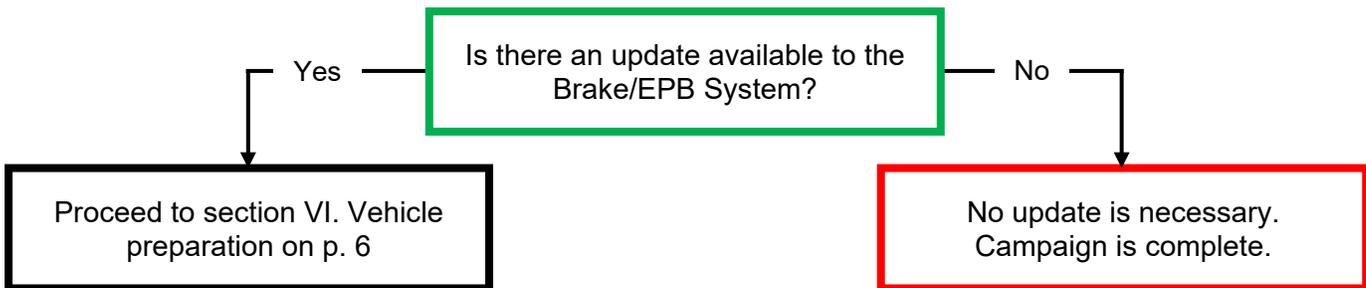
- If "Failed to send data to the server" is displayed, click "No" to close the window and proceed to the next step.

2. CHECK CURRENT CALIBRATION

- Locate the **Update** column for the **Brake/EPB** System in the **Stored Data** tab for this vehicle.
- Determine the status of an available update for the Brake/EPB System; indicated by a YES or NO.

The screenshot shows a software interface with a 'Stored Data' tab selected. On the left, vehicle information is displayed: 2021 NX350h A25A-FXS, 003964 mile, and VIN 5TDGARAH9LS000004. The main area shows 'Tire Pressure / Threshold Value [psi(gauge)]' for five sensors and 'Health Check Results'. A table at the bottom lists various systems with their update status:

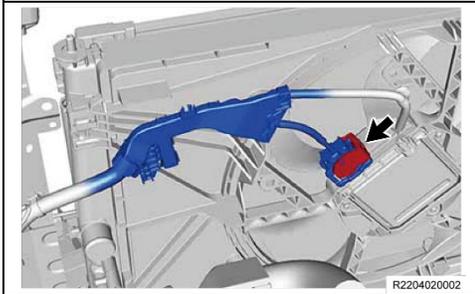
System	RoB	Calibration	Update	Configure
Front Recognition Camera	●	8646F0E02100	No	No
Brake/EPB	●	8646G2601200	Yes	No
Brake Booster	●	F15267832500	No	No
Road Sign Assist	●	F152A4801100	No	No
Telematics	●	-	No	No
		FDC23 48.10	No	No
		FDC23 58.10	No	No
		132.0.4500	No	No
		898844832110	No	R2204040004



VI. VEHICLE PREPERATION

1. VEHICLE PREPARATION

- a. Confirm the following conditions:
 - Vehicle in the IG position (engine off).
 - Transaxle in Park.
 - Parking brake engaged.
 - Turn off all electrical accessories (i.e. climate control, audio system, etc.)
 - Headlight switch in the DRL OFF position.
 - Windshield wiper switch in the OFF position.



2. DISCONNECT COOLING FAN

- a. Disconnect the electrical connector from the cooling fan on the radiator fan shroud.



If the cooling fans run during the Calibration update procedure, the battery voltage will be inconsistent and could cause damage to the control module(s).

NOTICE:

The illustration is an example of NX.

3. PRESSURIZE HYDRO-BOOSTER

- a. Depress the brake pedal fully 2 times within 2 seconds
- b. Release brake pedal
- c. Wait 10 seconds

NOTICE:

You may hear the hydro-boost pump run for a few seconds when completing these steps. The procedure will prevent the pump from running during the re-flash procedure.

4. CONNECT THE 12v BATTERY TO A POWER SUPPLY (DCA-8000)

- a. Connect the DCA-8000 or other type of a power supply (not a battery charger) to the 12v battery.
- b. Tap the Reflash icon from the Main Menu screen of the DCA-8000.



A power supply MUST be used during reprogramming. Please ensure DCA-8000 is connected and set to power supply mode. Voltage MUST be set to 13.5V.

Power supply must be connected directly to the 12v battery terminals and NOT the remote jump posts under the hood (if equipped).

*****ECU damage will occur if the battery voltage is not properly maintained during this re-flash procedure.**

5. VERIFY TECHSTREAM SETUP

- a. Verify that the Techstream meets the following conditions:
- The latest version of software is loaded.
 - The Techstream battery is fully charged. If not, connect the Techstream to a 120v source.
 - The DLCIII cable is in good condition.



The Techstream's battery voltage MUST be maintained during the update procedure. If necessary, plug the Techstream into a 120v outlet during this procedure.

*****If the Techstream's communication with the vehicle fails during the update procedure, the ECU will be damaged.**

- b. This vehicle has additional security measures requiring a signature from the server when performing ECU reprogramming.

VII. UPDATE CALIBRATION

1. UPDATE THE CID'S FOR THE Brake/EPB SYSTEM

- a. Identify the vehicles Original CID for the **Brake/EPB** System on the Stored Data tab.

The screenshot shows the 'Stored Data' tab for a 2021 NX350h A25A-FXS vehicle. The 'Brake/EPB' system is highlighted in red in the system list. A callout box points to the 'Original CID' F15267832500 in the calibration table.

System	RoB	Calibration	Update	Configure
Front Recognition Camera	●	8646F E02100	No	No
Brake/EPB	●	F15267832500	Yes	No
Brake Booster	●	F152A4801100	No	No
Road Sign Assist	●	-	No	No
Telematics	●	FDC23.48.10	No	No
		FDC23.58.10	No	No
		132.0.4500	No	No
		898844832110	No	No

- b. Locate the vehicles **Original CID** in the chart below.
 c. Select the corresponding **NEW CID link** to load the update.

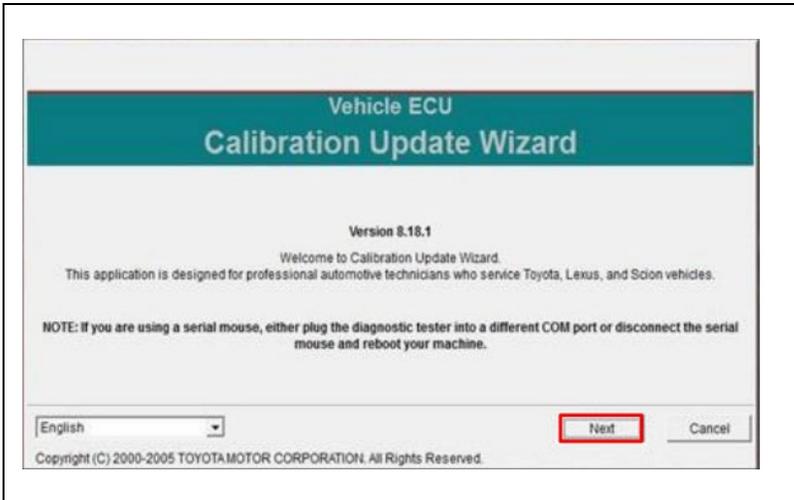
Model	Current Calibration ID	NEW Calibration ID
LS 500h	F15265087100	F152650L6000
	F15265087200	
	F15265087300	
LX 600	F15266063100	F15266063200
NX 350h	F15267832500	F15267832600
NX 450h+	F15267832500	F15267832600

NOTICE:

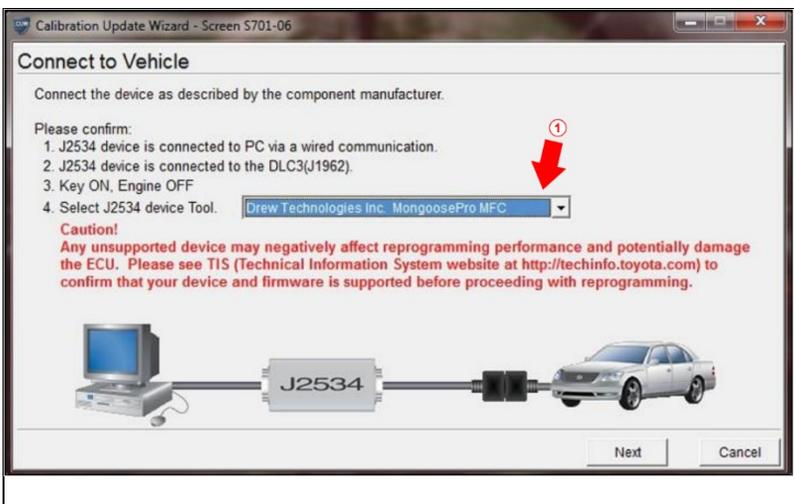
- While reprogramming, keep IG ON. Never turn the IG off or ENGINE-START.
- As reprogramming completes within approximately 30 minutes, stay near the vehicle and **DO NOT** allow any third parties to operate the vehicle or TS in order to prevent issues from occurring.
- Never turn the IG off other than instructed. Otherwise, the ECU could be damaged.
- Pressing the "Cancel" button or the "X" button on the top right means to cancel reprogramming and could damage the ECU while reprogramming. Be sure to press "Retry" to continue reprogramming.
- The ECU unlock procedure is handled by the Calibration Update Wizard BEFORE starting to upload the **NEW** software.

IMPORTANT:

ADDITIONAL SECURITY MEASURES REQUIRING A SIGNATURE FROM SERVER



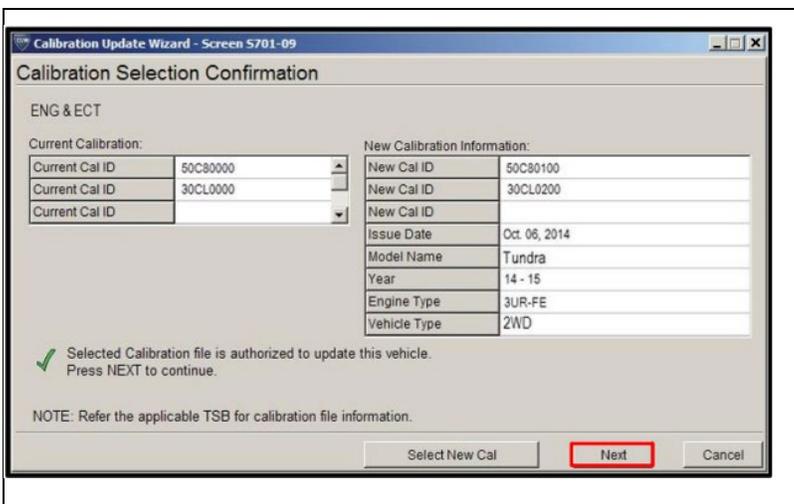
d. Click Next to start the calibration update process.



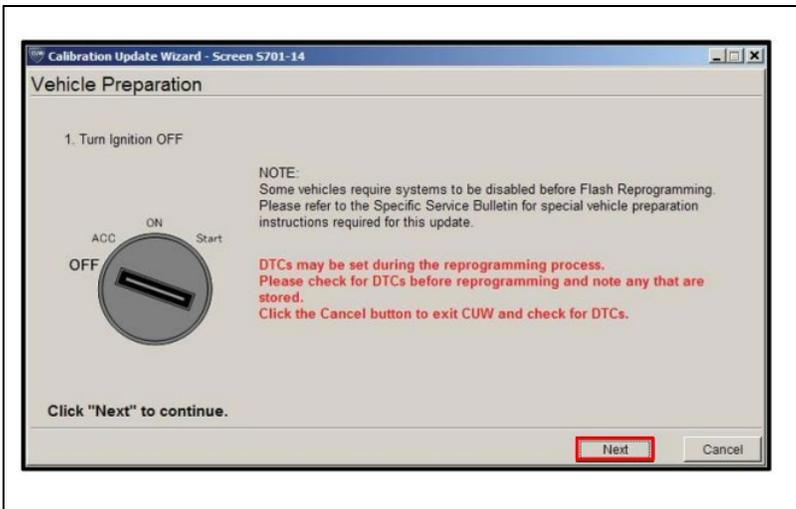
e. Confirm the following:

- PC is connected to VIM.
- VIM is connected to DLC3 connector.
- Ignition is ON and engine is OFF or READY OFF (hybrid vehicles).
- Select correct device tool

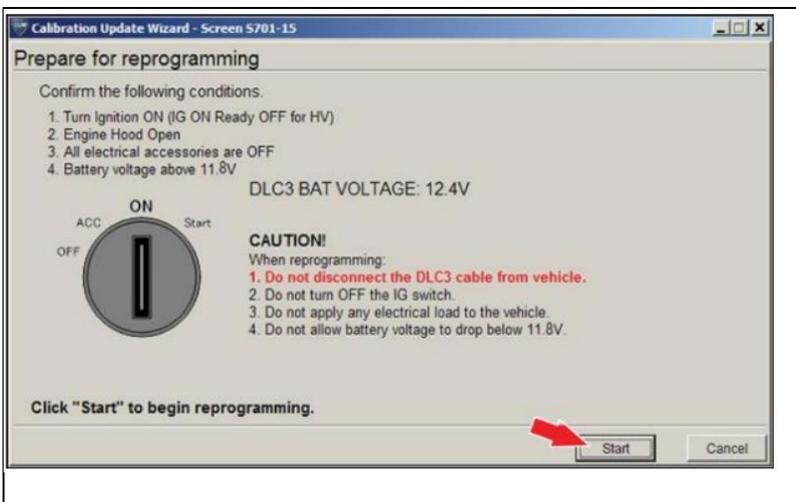
Then, click Next.



f. Verify correct current and NEW calibration information, then click Next.

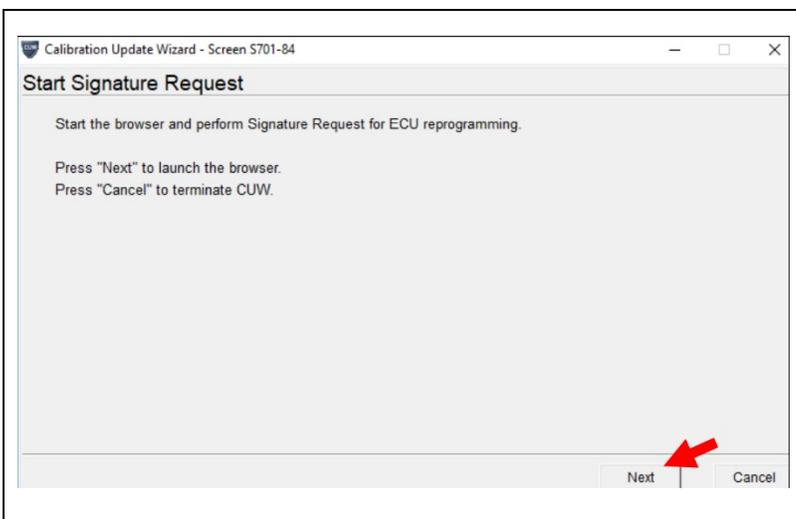


g. Turn Ignition OFF, then click Next.

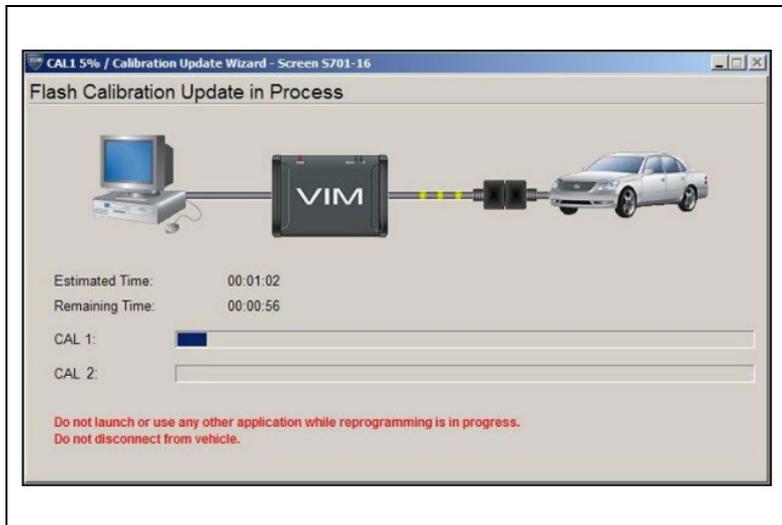


- h. Confirm the following:
- PC is connected to VIM.
 - Ignition is ON and engine is OFF or READY OFF (hybrid vehicles).
 - Hood is Open
 - All accessories are OFF.
 - Battery voltage is above 11.8V

Then, click Start



- i. This vehicle is equipped with additional security measures requiring a Signature from TIS. Select Next to open TIS and retrieve the Signature.



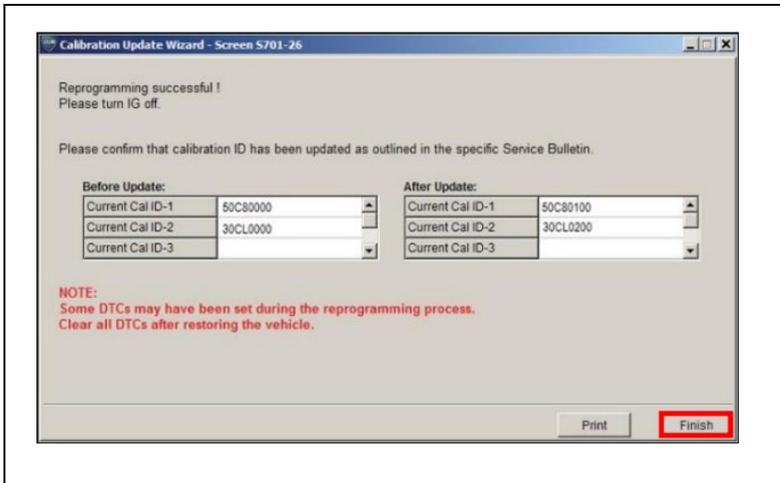
- o. Do NOT disturb the vehicle during flash reprogramming.



- p. Turn the ignition OFF for a minimum of 10 seconds, then click Next.

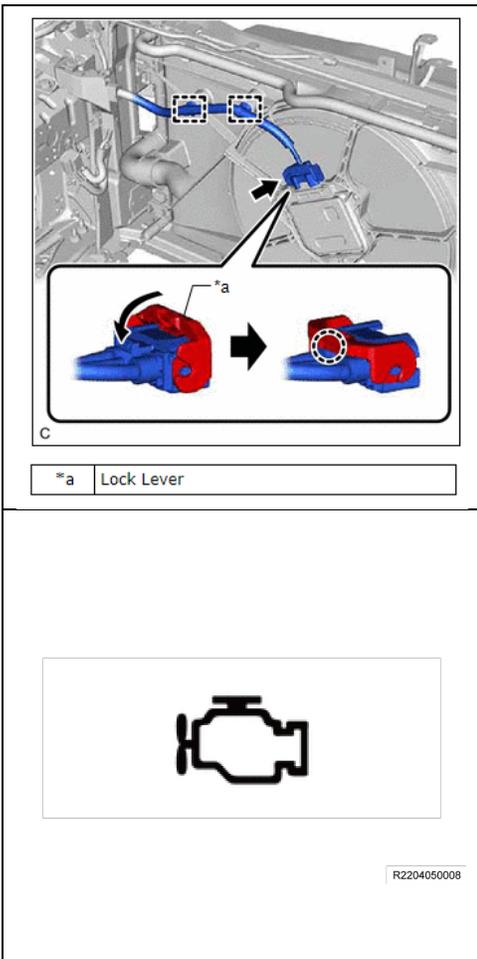


- q. Turn the Ignition to the ON position, then click Next.



- r. Confirm calibrations were updated then click Finish.

VIII. COMPLETE REPAIR



1. CONNECT COOLING FAN

- a. Connect the electrical connector to the cooling fan motor on the radiator fan shroud.

2. CHECK THE OPERATION OF THE ELECTRIC FAN

- a. READY ON the vehicle.
- b. Turn the air conditioner ON to check if the electric fan operates.

3. CONFIRMATION OF MIL OFF

- a. Activate the hybrid system and confirm that the Malfunction Indicator Lamp (MIL) in the combination meter assembly is not illuminated.

NOTICE:

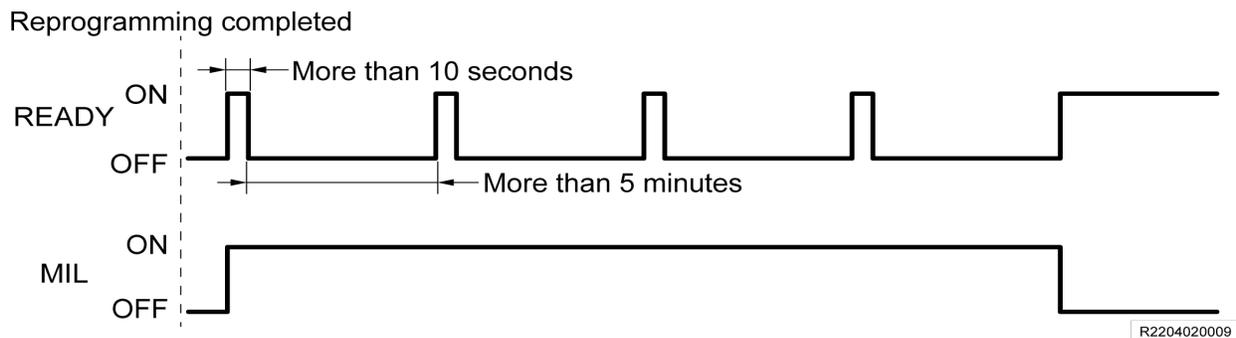
If MIL is off, it is unnecessary to perform the next step.

b. It is necessary that 4 Ready OFF/ON cycles be performed to turn off the MIL. Follow the steps below.

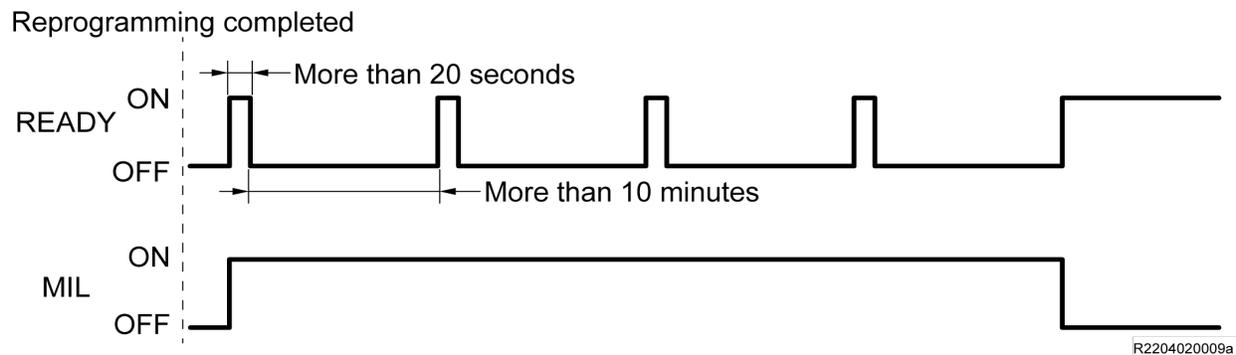
- **For all models except NX450h+** The interval from Ready OFF to Ready ON should be more than 5 minutes, and from Ready ON to Ready OFF should be more than 10 seconds.
- **For NX 450h+** The interval from Ready OFF to Ready ON should be more than 10 minutes, and from Ready ON to Ready OFF should be more than 20 seconds.
- After performing the step above, confirm the MIL is off.

- **DO NOT depress the brake pedal or open/close the driver-side door during the 5 minutes (10 minutes for NX450h+) with Ready OFF. Ensure operation is performed after the 5 minutes (10 minutes for NX450h+) have passed.**
- **If the brake pedal is depressed or driver-side door is opened/closed during the 5 minutes (10 minutes for NX450h+) with Ready OFF, start the cycle to turn off the MIL from the beginning.**

All models except NX450h+



NX450h+





4. PERFORM VERIFICATION HEALTH CHECK

- a. Using a Techstream, perform a Health Check.
- b. Clear DTC's that may have set during the re-flash procedure.
- c. **Re-run the Health Check to confirm that no DTC's reappear.**



THIS VERIFICATION HEALTH CHECK IS NECESSARY to update the results and CID's to the National database.

5. CONFIRM CID UPDATE

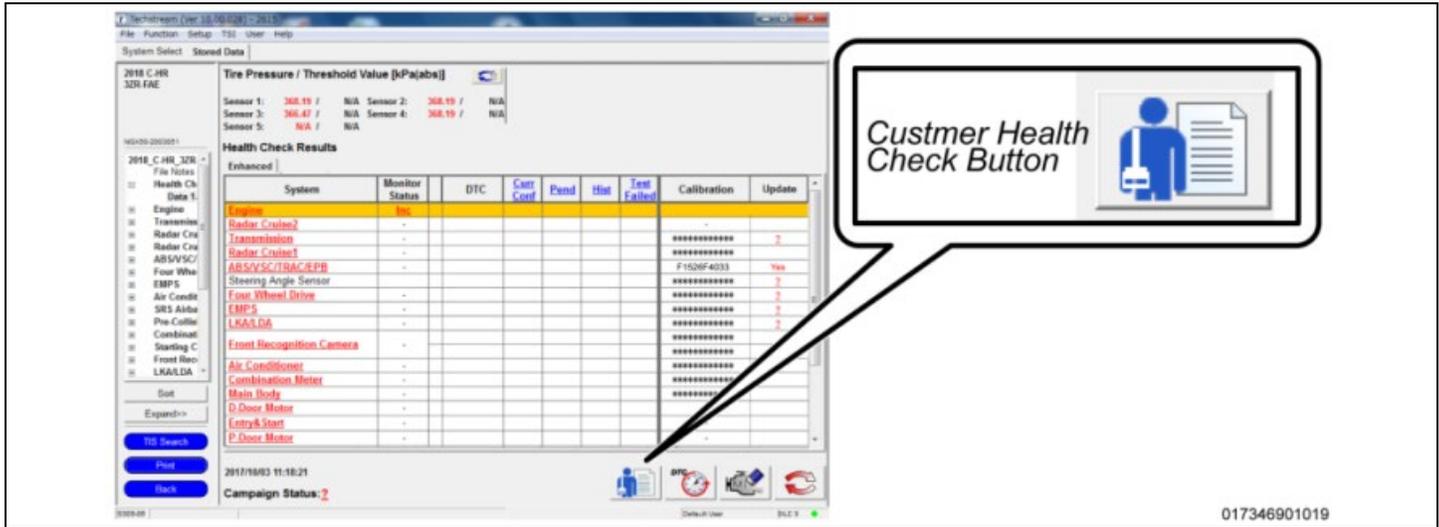
- a. On the Stored Data tab, confirm the following for the **Brake/ECB** Systems:

- The Calibration number has the “New CID” number.
- The “Update” column says “No”.

System	RoB	Calibration	Update	Configure
Front Recognition Camera	●	8646F0E02100	No	No
Brake/EPB	●	F15287832600	No	No
Brake Booster	●	F152A4801100	No	No
Road Sign Assist	●	-	No	No
Telematics	●	FDC23.48.10	No	No
	●	FDC23.58.10	No	No
	●	132.0.4500	No	No
	●	898844832110	No	No

6. PRINT CUSTOMER HEALTH CHECK REPORT

- a. From the Stored Data tab, select the Customer Health Check Report button (TIS will launch when button is pressed).



- b. Log in to TIS.
- c. Input Vehicle Mileage and Repair Order number.
- d. Check the “Performed” campaign button for the applicable campaigns.
- e. Select the Report button.
- f. Confirm Customer Health Check Report information is correct.
- g. Print Customer Health Check Report from TIS.
- h. Sign and provide to the customer.

IX. REASSEMBLY

1. REMOVE THE POWER SUPPLY FROM THE BATTERY

◀ VERIFY REPAIR QUALITY ▶

- Confirm the cooling fans are re-connected.
- Confirm the system Calibration has been updated successfully.
- Confirm there are no DTC’s after the Calibration update.

A. PARTS DISPOSAL

In accordance with Federal law, please make sure all recalled parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, **unless requested for parts recovery return.**

Campaign Designation / Phase Decoder

19TA01

19

Year Campaign
is Launched

19 = 2019
20 = 2020
21 = 2021
22 = 2022
23 = 2023
Etc...

T

Vehicle Make

T = Toyota
L = Lexus

A

Field Action Category and Phase

A = Safety Recall *Remedy*
B = Safety Recall *Interim*
C = Special Service Campaign
D = Limited Service Campaign
E = Customer Support Program
F = Emissions Recall
(May use other characters in unique cases)

01

Field Action Sequence

01 = 1st Field Action of the year
02 = 2nd Field Action of the year
03 = 3rd Field Action of the year
(The sequence is unique for each Field Action category)
(May use other characters in unique cases)

Examples:

19TA01 = Launched in 2019, Toyota, Safety Recall Remedy Phase, 1st Safety Recall Launched in 2019

20TC02 = Launched in 2020, Special Service Campaign, 2nd Special Service Campaign Launched in 2020

21TE05 = Launched in 2021, Customer Support Program, 5th Customer Support Program Launched in 2021