

**TECHNICAL INSTRUCTIONS**

**FOR**

**SPECIAL SERVICE CAMPAIGN GLP**

**SKID CONTROL ECU SOFTWARE UPDATE**

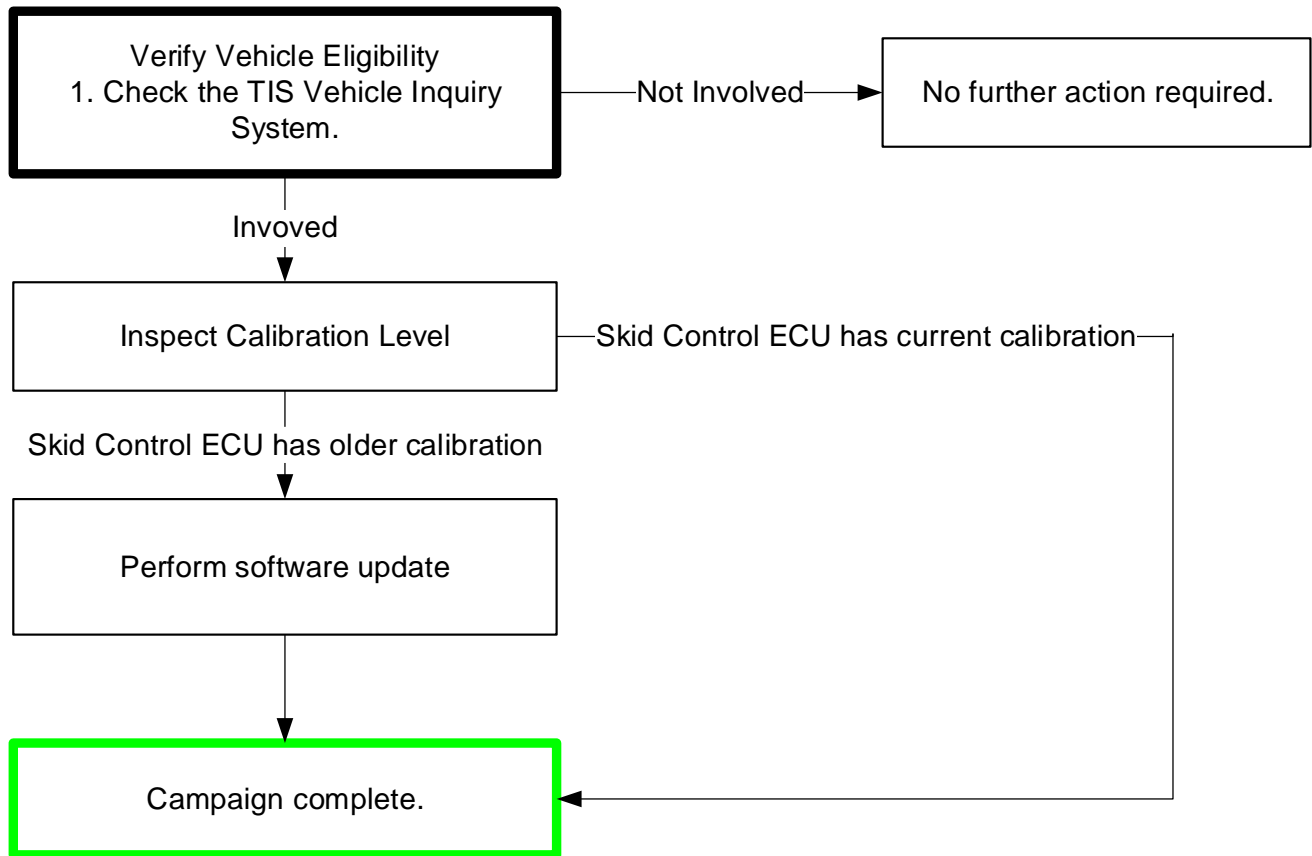
**CERTAIN 2015 - 2017 MODEL YEAR NX 200t AND NX 300h**

The repair quality of covered vehicles is extremely important to Lexus. All dealership technicians performing this recall 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:

- Certified
- Senior
- Master
- Diagnostic Specialist

It is the dealership's responsibility to select technicians with the above certification level or greater to perform this recall 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

### A. COVERED VIN RANGE

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

## III. PREPARATION

### A. PARTS

No parts are required to complete this repair.

### B. TOOLS, SUPPLIES & EQUIPMENT

- Techstream 2.0 / TIS Techstream / Techstream Lite
- GR8 Battery Diagnostic Station

## IV. BACKGROUND

The Brake Hold system maintains brake application when the shift lever is in a forward gear position or in “N” (Neutral) and the brake pedal has been depressed to stop the vehicle. The system releases the brake when the accelerator pedal is depressed with the shift lever in “D” (Drive) or a Manual mode. Under certain conditions, (for example, when unfastening the driver’s seat belt while the system is enabled), the brake hold function is designed to deactivate, sound a warning buzzer, display a message in the instrument cluster, and automatically set the electronic parking brake. On the involved vehicles, the Electronic Control Unit (ECU) for the system may not set the parking brake as expected and as described in the Owner’s Manual. If the parking brake does not set as designed, there is a possibility the vehicle could creep forward or backward.

### SKID CONTROL ECU CALIBRATION ID VERIFICATION

#### A. CONFIRM THE CALIBRATION ID IN THE SKID CONTROL ECU

- 1) Perform a health check and confirm no DTCs are present.
- 2) Confirm the current calibration ID in the Skid Control ECU.
- 3) Referencing the table below, verify if the Skid Control ECU has the updated Calibration.

MODEL	VEHICLE SPECS	CALIBRATION		
		CURRENT	NEW	
NX 200t	Equipped with Cruise Control	F152678011	<a href="#">F152678101</a>	
		F152678012		
		F152678100		
	Equipped with Dynamic Radar Cruise Control	F152678021	<a href="#">F152678111</a>	
		F152678022		
		F152678023		
		F152678024		
		F152678110		
	NX 300h	2WD	F152678061	<a href="#">F152678065</a>
			F152678062	
F152678063				
F152678064				
AWD		F152678081	<a href="#">F152678085</a>	
		F152678082		
		F152678083		
		F152678084		
AWD F Sport		F152678091	<a href="#">F152678095</a>	
		F152678092		
		F152678093		
		F152678094		



- If the Skid Control ECU has already been updated to the new calibration the campaign is complete.

## ◀ CRITICAL MESSAGE ▶

It is *critical* that [L-SB-0021-14](#) in addition to the Technical Instructions for this SSC are followed. This TSB outlines all steps necessary to prevent reprogramming failure. Toyota will not provide reimbursement coverage for reprogramming failures if this TSB is not followed. If you have a reprogramming failure that requires Skid Control ECU replacement and the Technical Instructions *and* TSB were followed correctly, please create a case with the Technical Assistance Hotline documenting all information related to the failure. If sufficient reporting is received related to re-flash failure, there will be consideration for reimbursement.

## V. SKID CONTROL ECU REFLASH PROCEDURE



- For general reprogramming procedures, refer to [L-SB-0021-14](#).
- Confirm the latest version of Techstream software is being used.
- If the Techstream does not have sufficient battery power the reflash will fail.
- Confirm the DLC3 cable is in good condition before attempting reflash.

### A. VEHICLE PREP

- Prior to vehicle shut down ensure the following:
  - Vehicle is in the IG on or Ready mode
  - Transaxle in P
  - Parking brake engaged
  - Turn off all electrical accessories (i.e. climate control, audio system, etc.)

#### Hydro-Booster Prep (NX 300h Only)

- Depress the brake pedal fully 2 times within 2 seconds.
- Release the brake pedal.
- Wait 10 seconds.
- Turn off vehicle.

**NOTE:** This procedure will pressurize the brake actuator and prevent the ABS pump from operating during the reflash procedure.

### B. CONNECT THE GR8

- Set the GR8 to Power Supply Mode to help maintain 13.5 volts during reprogramming.

**NOTE for NX 300h only:** The GR8 must be connected directly to the battery and NOT the remote jump posts under the hood.



- A battery charger set to power supply mode **MUST** be used during reprogramming.
- Skid Control ECU damage may occur if the correct battery charger setting is not used.

### C. REFLASH THE Skid Control ECU

- Click yes on the health check results screen, or follow the links on the table above to begin the reflash process.

#### D. CHECK AND CLEAR ANY DTC'S

- a) Perform a health check on the vehicle.
- b) Clear any DTC's that may have set during the reflash procedure.

**NOTE: Any DTC's found may have been set during the reflash procedure and are not an indication of a malfunction. Clear any DTC's found.**

**If DTC's cannot be cleared cycle the ignition or START/STOP switch 30 seconds OFF then 30 seconds ON 3 times then clear DTC's.**

#### E. PREFORM INITIALIZE/CALIBRATE THE BRAKE CONTROL/DYNAMIC CONTROL SYSTEM

**Perform the following calibration for the NX 200t ONLY**

**NX 200t**    [2015](#)    [2016](#)    [2017](#)

**NOTE: Ensure to preform steps a and b.**

**For the NX 300h the following initialization and calibration must be performed.**

Initialization

- a) Clear the stored linear solenoid valve calibration data.
  - 1. Turn the power switch off.
  - 2. Check that the steering wheel is centered.
  - 3. Check that the shift lever is in P.
  - 4. Connect the Techstream to the DLC3.
  - 5. Turn the power switch on (IG).
  - 6. Parking brake off.
  - 7. Turn the Techstream on.
  - 8. Select the skid control ECU to clear the linear solenoid valve calibration data. Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Reset Memory.
- b) Perform initialization and calibration of the linear solenoid valve.
  - 1. Turn the power switch on (IG).
  - 2. Check that the steering wheel is centered.
  - 3. Check that the shift lever is in P.
  - 4. Check that the parking brake is released.

**NOTE:**

**Linear valve offset learning cannot be started with the parking brake applied. If the parking brake is applied during offset learning, the learning process will be canceled and then restarted when the parking brake is released.**

- 5. Turn the power switch off.
- 6. Connect the Techstream to the DLC3.
- 7. Turn the power switch on (IG) with the brake pedal released.

**NOTE:**

If linear solenoid valve offset learning is performed without turning the power switch on (IG), the learning process may not be completed properly because of insufficient auxiliary battery voltage.

When linear solenoid valve offset learning is interrupted, or the learning process is performed with the shift lever not in P, DTC C1345 (Linear Solenoid Valve Offset Learning Undone) will be stored.

8. Turn the Techstream on.
9. Switch the skid control ECU (brake booster with master cylinder assembly) to Test Mode using the Techstream. Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / ECB Utility / Linear Valve Offset.
10. Leave the vehicle stationary without depressing the brake pedal for 1 or 2 minutes.
11. Check that the interval between blinks of the brake warning light / yellow (minor malfunction) changes from 1 second to 0.25 seconds.

**NOTE:**

The time needed to complete initialization and calibration of the linear solenoid valve varies depending on auxiliary battery voltage.

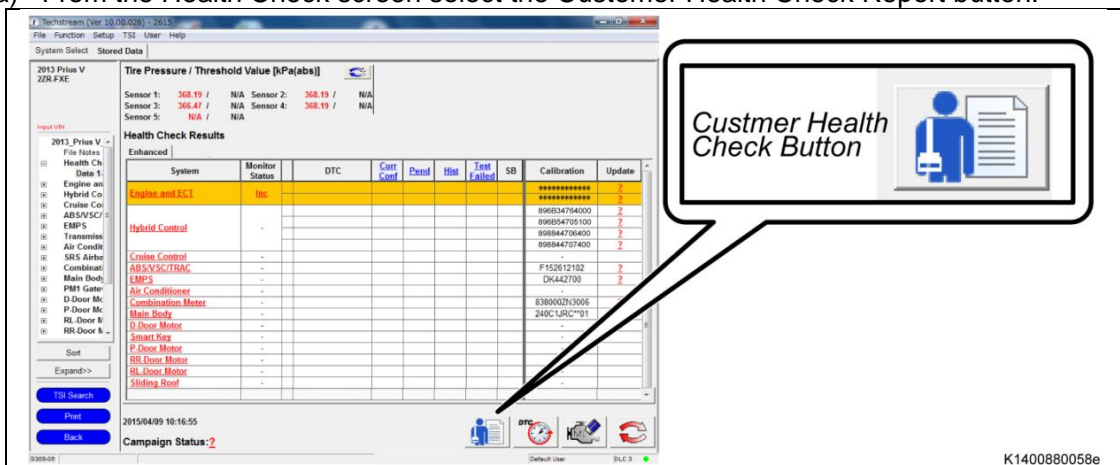
The brake warning light / yellow (minor malfunction) blinks at 1 second intervals during initialization of the linear solenoid valve and calibration. After initialization and calibration are complete, the brake warning light / yellow (minor malfunction) changes to the Test Mode display and blinks at 0.25-second intervals.

12. Check that DTC C1345 (Linear Solenoid Valve Offset Learning Undone) which indicates trouble with stroke sensor zero point learning is not output when the brake warning light / yellow (minor malfunction) changes to the Test Mode blinking pattern upon completion of initialization and calibration of the linear solenoid valve.
13. Perform zero point calibration of the yaw rate and acceleration sensor.

**NX 300h**   [2015](#)   [2016](#)   [2017](#)

**F. PRINT CUSTOMER HEALTH CHECK REPORT**

- a) From the Health Check screen select the Customer Health Check Report button.



- b) Log into TIS.
- c) Input the Milage and Repair Order Number.
- d) Check the Performed campaign button for the service preformed.
- e) Select the Report button.

The screenshot shows a web interface for a 'Diagnostic Report'. At the top left are the Toyota and Lexus logos. The title 'Diagnostic Report' is on the top right. Below is a section for 'Vehicle Information' with input fields for 'Mileage: 7787' and 'Repair Order: 77888'. A message states: 'Our systems show the following campaigns are outstanding. Have any of these campaigns been completed? (Check for SSC door label if unsure.)' Below this is a radio button selection for '90B:  Performed  Not Performed' and a 'Report' button.

f. Confirm Customer Health Check Report.

### ◀ VERIFY REPAIR QUALITY ▶

- Confirm the GR8 is set up properly prior to beginning the reprogramming
- Confirm the reflash completes successfully
- Confirm there are no DTCs in the Skid Control ECU

If you have any questions regarding this update, please contact your regional representative

## VI. APPENDIX

### A. CAMPAIGN DESIGNATION DECODER

