TECHNICAL INSTRUCTIONS

FOR

22LC01

DATA COMMUNICATION MODULE (DCM) REPROGRAMMING

CERTAIN
2021 MODEL YEAR IS300, IS350, LC500, LC500h, LC500C, LS500, LS500h, NX300, NX300h, RC300, RC350, RC F

CERTAIN
2021-2022 RX350, RX350L, RX450h, RX450hL

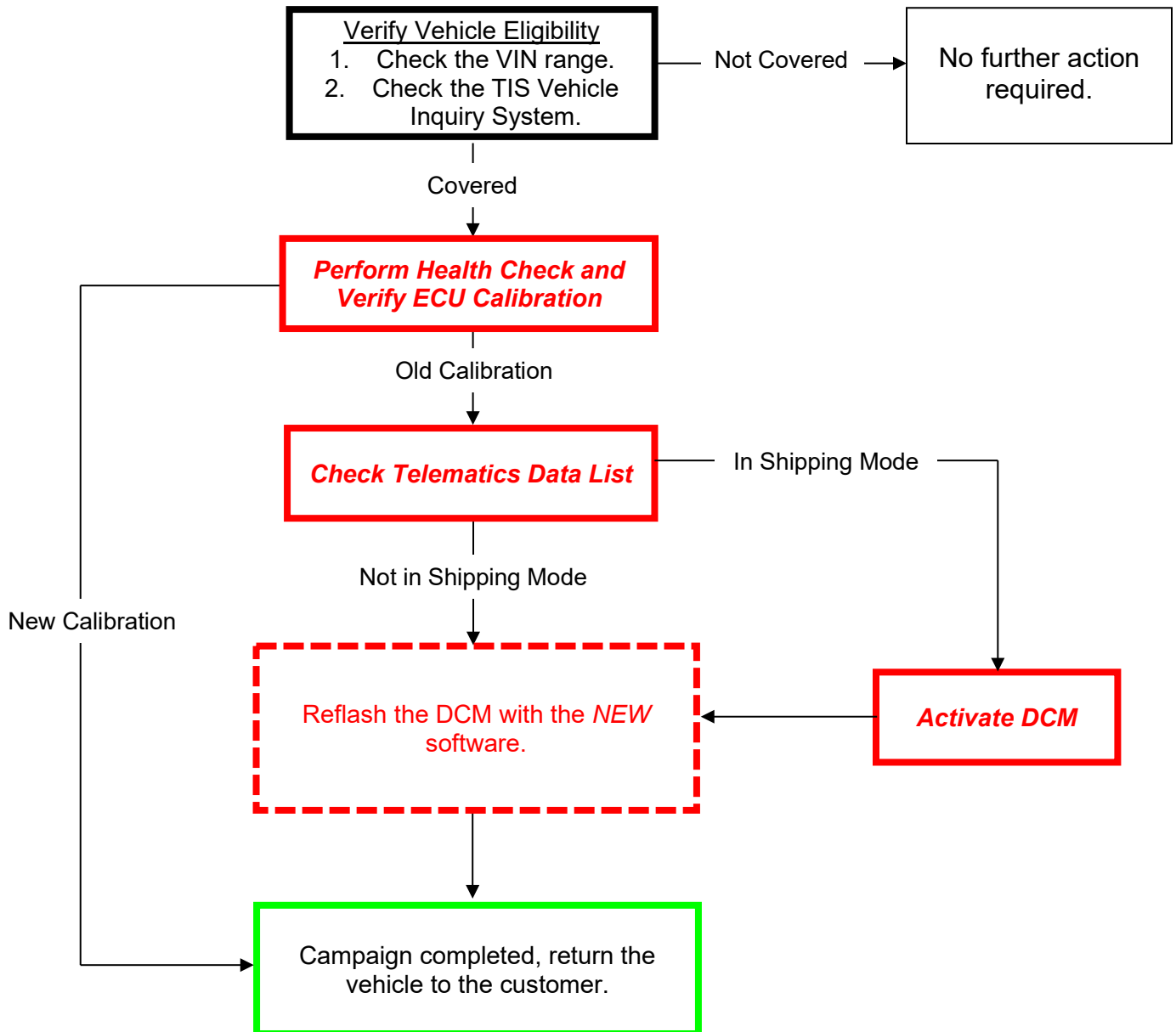### CERTAIN
2022 GX460

Update

- **10-18-2023 – Updated Temporary DCM activation section.**
- **4-25-22 – TI updated to include information about waived telematics accounts.**

The repair quality of covered vehicles is extremely important to Lexus. All dealership technicians performing this repair 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 repair are required to currently have completed all of the following courses:

- **L623 – Lexus Electrical Circuit Diagnosis**

Always check which technicians can perform the repair by logging on to https://www.uotdealerrepors.com. It is the dealership's responsibility to select technicians with the above certification level or greater 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

```
              ┌─────────────────────────────┐
              │   Verify Vehicle Eligibility │                          ┌──────────────────┐
              │  1.  Check the VIN range.    │──── Not Covered ───────▶│  No further action│
              │  2.  Check the TIS Vehicle   │                          │     required.     │
              │        Inquiry System.       │                          └──────────────────┘
              └─────────────────────────────┘
                            │
                         Covered
                            │
                            ▼
              ┌─────────────────────────────┐
              │  Perform Health Check and    │
              │   Verify ECU Calibration     │
              └─────────────────────────────┘
                            │
                      Old Calibration
                            │
                            ▼
              ┌─────────────────────────────┐
              │  Check Telematics Data List  │──── In Shipping Mode ────┐
              └─────────────────────────────┘                          │
                            │                                           │
                   Not in Shipping Mode                                 │
                            │                                           ▼
                            ▼                              ┌──────────────────┐
        ┌ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┐                │                  │
                                          ◀────────────── │   Activate DCM   │
        │  Reflash the DCM with the NEW   │               │                  │
             software.                                    └──────────────────┘
        └ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ┘
                            │
                            ▼
              ┌─────────────────────────────┐
              │  Campaign completed, return  │
              │   the vehicle to the customer.│
              └─────────────────────────────┘
```

New Calibration

II. IDENTIFICATION OF AFFECTED VEHICLES

1. Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Special Service Campaign and that the campaign has not already been completed prior to dealer shipment or by another dealer.

NOTE:
- TMNA warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

III. PREPARATION
A. TOOLS, SUPPLIES & EQUIPMENT
- Standard Hand Tools
- Techstream 2.0 / Techstream Lite / ADVi
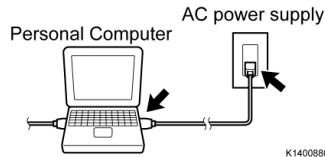- DCA-8000P Battery Diagnostic Tool

IV. SEAFETY PRECAUTIONS

STOP	CRITICAL INFORMATION - READ THOROUGHLY	STOP

An ECU could be damaged if an error occurs in the communication while reprogramming the ECU. Confirm all work is performed as described in these instructions.

Be sure to connect the personal computer to an external AC power supply.

AC power supply

Personal Computer

K1400880016e

1. **STABILIZE THE POWER TO THE PERSONAL COMPUTER SIDE**

   a) Be sure to connect the personal computer to an external AC power supply.

   NOTE:
   The ECU could be damaged if the battery voltage of the personal computer drops while reprogramming.

Turn off the screen saver and power saving mode.

K1400880008e

   b) Turn off the screen saver and power saving mode of the personal computer so that the power to the hard disk is kept supplied.

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

***DO NOT* block the ventilation opening.**

K1400880068e

   c) ***DO NOT*** block the ventilation opening for the cooling fan of the personal computer.

   NOTE:
   If the ventilation opening for the cooling fan is blocked with a sheet cover or the like, the personal computer may be heated excessively, causing the operation of the personal computer to stop.
   Due to the stop of the operation, the communication for reprogramming signals could be stopped, resulting in the damage of the ECU.

V. CALIBRATION ID VERIFICATION

1. **CHECK FOR DTC'S**

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

   NOTE:
   This Campaign covers only the software update to the DCM, as detailed in these instructions. It does not cover the diagnosis or replacement of any other systems on the vehicle.

2. CHECK CURRENT CALIBRATION
    a)   Locate the Calibration column for the Telematics in the Stored Data tab for this vehicle.
    b)   Check the Calibration ID of the Telematics ECU (DCM).

Old Calibration **FDC40.48.<u>10</u>** **FDC40.58.<u>10</u>**	Check the Calibration ID of the Telematics ECU (DCM).	New Calibration **FDC40.48.<u>11</u>** **FDC40.58.<u>11</u>**
Proceed to section VI. SHIPPING MODE VERIFICATION on p.4		Campaign complete. Return the vehicle to the customer.
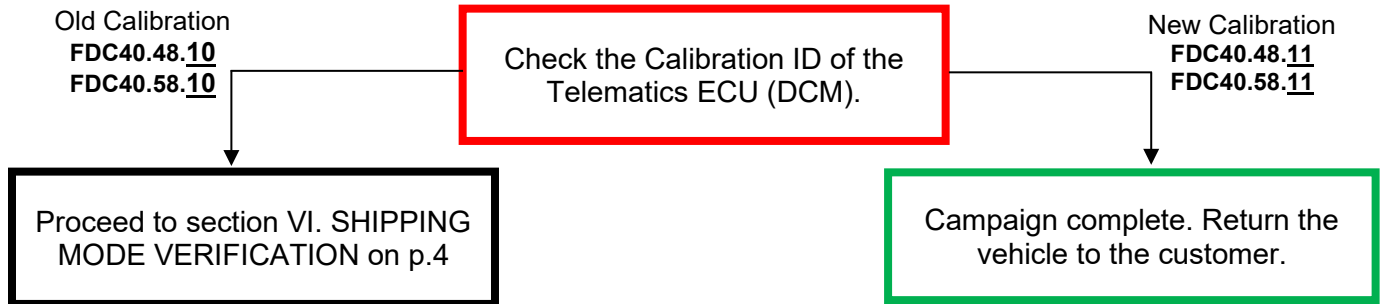
System Select | Stored Data

2021 C-HR
3ZR-FAE

2021_C-HR_3ZR-
File Notes
Health Checl
Data 1-2/1

Tire Pressure / Threshold Value [psi(gauge)]

Sensor 1:   35.41 /   26.69 Sensor 2:   34.42 /   26.69
Sensor 3:   34.17 /   26.69 Sensor 4:   33.92 /   26.69
Sensor 5:   N/A /   N/A

Campaign Status: CLOSED
PERMANENT: NO

Health Check Results
- Health Check does not display live data.
- Changes in vehicle condition will not update automatically.
- To update Health Check, click the Refresh button on the bottom of the Health Check screen.

ECU Security Key: -

Enhanced | Generic

System	Monitor Status	DTC Related Information		Curr Conf	Pend	Hist	Test Failed	RoB	Calibration	Update	Configure
Telematics	-							●	FDC40.48.10 FDC40.58.10 132.0.4500	No No No	No
Engine and ECT	**Com**							-	31014000 A0202000 895231203402	No No No	No
Radar Cruise1	-							-	-		No
ABS/VSC/TRAC/ EPB	-							-	F152610260	No	No
Steering Angle Sensor									8924GF4010	No	
EMPS	-							-	8965B10111	No	No
Tire Pressure Monitor	-							-	-		No
Air Conditioner	-							-	8865F1004001 83800F480102	No No	No
Combination											

Sort

Expand>>

TIS Search

Print

Back

2/11/2022 10:17:11 AM

S309-06

Default User | DLC 3 ●

VI. SHIPPING MODE VERIFICATION
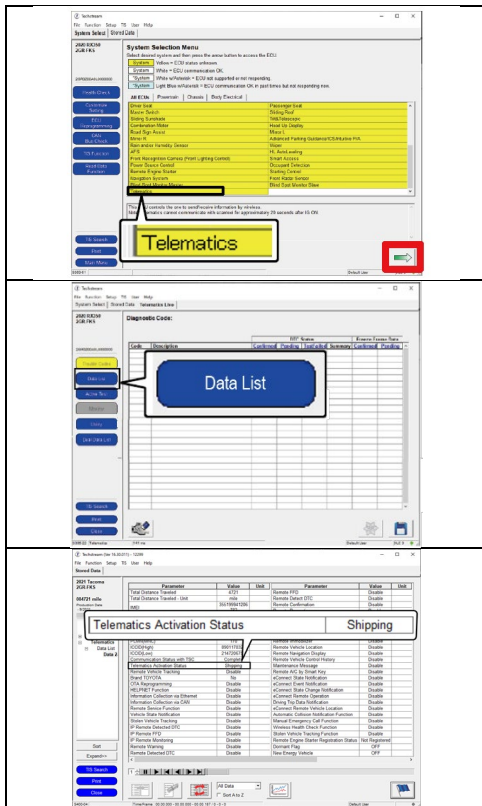
1. CHECK TELEMATICS DATA LIST

a) Select the "System Select" tab at the top left of the screen, select "Telematics" and click the right-arrow.

b) Select "Data List."

c) Check to see if the Telematics Activation Status value is "Shipping."

Not in Shipping Mode

Check to see if the vehicle is in Shipping Mode.

In Shipping Mode

Proceed to section VI. VEHICLE PREPARATION on p.4

Refer to Appendix B, RESTORING A WAIVED TELEMATICS ACCOUNT, starting on p.15

VII. VEHICLE PREPERATION

1. CHECK DCM RECEIVING LEVEL

a) Confirm that the DCM signal reception level shown in the upper right corner of the head unit display is not out of range. If the display shows poor or no connectivity, move the vehicle to another safe location with adequate signal reception.

NOTE:
- **Refer to the image below for target signal reception.**
- **Full signal is not required but you must have at least one bar.**

2. VEHICLE PREPERATION

a) Confirm the following conditions (Example):
- Vehicle in the IG position (engine off).
- Open the driver's door window.
- Transaxle in P range.
- Parking brake engaged.
- Turn off all electrical accessories (i.e. air conditioning system, audio system, etc.)
- Hedadlight switch in the DRL OFF position.(w/ DRL OFF position)
- Windshield wiper switch in the OFF position.

NOTE:
The electric fan does not operate during reprogramming, so stopping fan operation is unnecessary.

Light up the sensor with work light
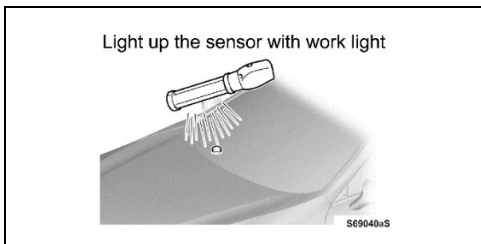
b) When the vehicle has no "off position" in the light control switch:
1) Turn the IG ON.
2) Set the light control switch to the AUTO position and make sure that the exterior lights are turned on.
3) Light up the automatic light control sensor with work light to keep the exterior lights turned off.

3. CONNECT THE 12V BATTERY TO A POWER SUPPLY

a) Connect the DCA-8000 battery charger to the 12V battery.
b) Tap the Reflash icon from the Main Menu screen of the DCA-8000.

> **STOP** — **A power supply *MUST* be used during reprogramming. ECU damage will occur if the battery voltage is not properly maintained during this re-flash procedure.**

NOTE: A power supply must be connected directly to the 12V battery terminals and NOT the remote jump posts under the hood (if equipped).

4. VERIFY TECHSTREAM SETUP

    a) Verify that the Techstream meets the following conditions:
- The latest version of software is loaded.
- The Techstream is connected to a 120V source.
- The DLCIII cable is in good condition.

> 🛑 **STOP** **The Techstream's battery voltage must also be maintained during the re-flash procedure. Be sure to plug the Techstream into a 120V outlet during this procedure.**
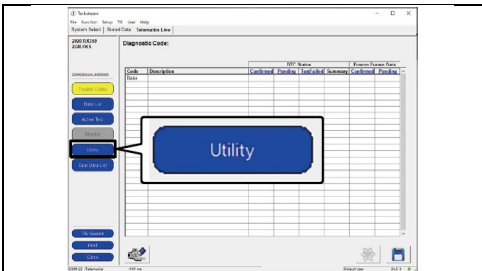
VIII. UPDATE CALIBRATION

Red Indicator Not Illuminated
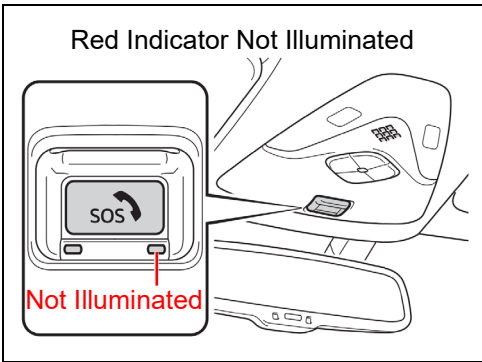
Not Illuminated

1. REPROGRAM CALIBRATION ID

    a) Confirm that the red indicator next to the SOS button is not illuminated. If the red indicator remains illuminated for longer than 2 seconds after IG-ON, there is a problem with the system that must be resolved before continuing.

NOTE:
This Campaign covers only the software update to the DCM, as detailed in these instructions. It does not cover the diagnosis or replacement of any other systems on the vehicle.
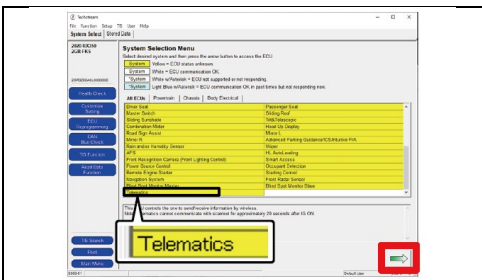
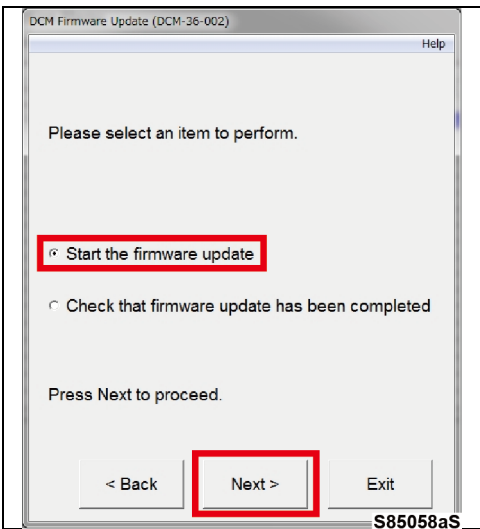   b) Select the "System Select" tab at the top left of the screen, select "Telematics" and click the right-arrow.
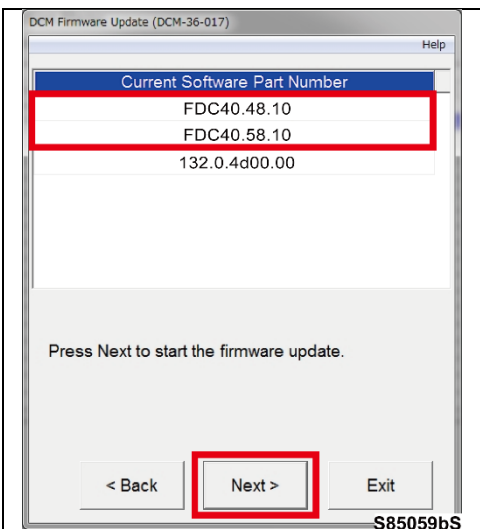

    c) Click "Utility".
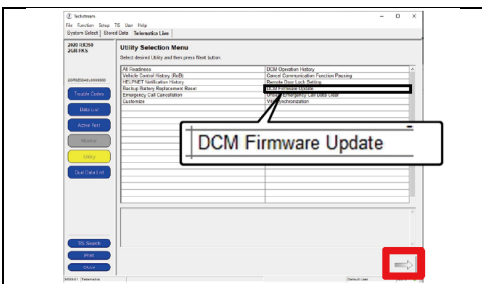
    d) Select "DCM Firmware Update" and click the right-arrow.

e) Click "Next".

```
DCM Firmware Update (DCM-36-001)
                                    Help

This function is used to update the Telematics ECU
firmware.

Confirm the following conditions.
- The engine/power switch is ON (Engine
OFF/Ready OFF).
- The green LED next to the SOS button is ON and
red LED is OFF.

Press Next to proceed.




                    Next >        Exit
S85057aS
```
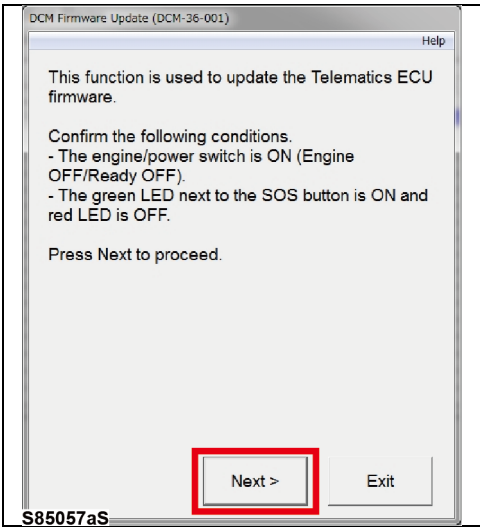
f) Select "Start the firmware update" and click "Next".

```
DCM Firmware Update (DCM-36-002)
                                    Help


Please select an item to perform.



⦿ Start the firmware update

○ Check that firmware update has been completed


Press Next to proceed.

    < Back      Next >        Exit
                                S85058aS
```

g) Confirm that the displayed software part number (Calibration ID) is the one to be reprogrammed, then click "Next".

```
DCM Firmware Update (DCM-36-017)
                                    Help
    Current Software Part Number
            FDC40.48.10
            FDC40.58.10
            132.0.4d00.00




Press Next to start the firmware update.




    < Back      Next >        Exit
                                S85059bS
```

Software Part Number to be reprogrammed	New Software Part Number
FDC40.48.**10**	FDC40.48.**11**
FDC40.58.**10**	FDC40.58.**11**

NOTE:
If the displayed software part number (Calibration ID) does not need to be reprogrammed, click "Exit".
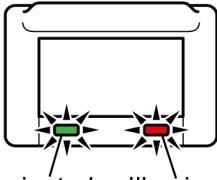
STOP **If the error message below is displayed after attempting to start the firmware update, refer to the Appendix B, RESTORING A WAIVED TELEMATICS ACCOUNT, starting on page 15. Otherwise proceed to the next step.**

DCM Firmware Update   CM-36-017)

Help

Current Software Part Number
FDC40.48.10

Error DCM Firmware Update

⚠️   DCM Firmware Update has failed.
Data update was not completed normally.
When you try again, turn the
engine/power switch OFF and ON
(Engine OFF/Ready OFF).

Do you want to try again?

Yes   No

< Back   Next >   Exit
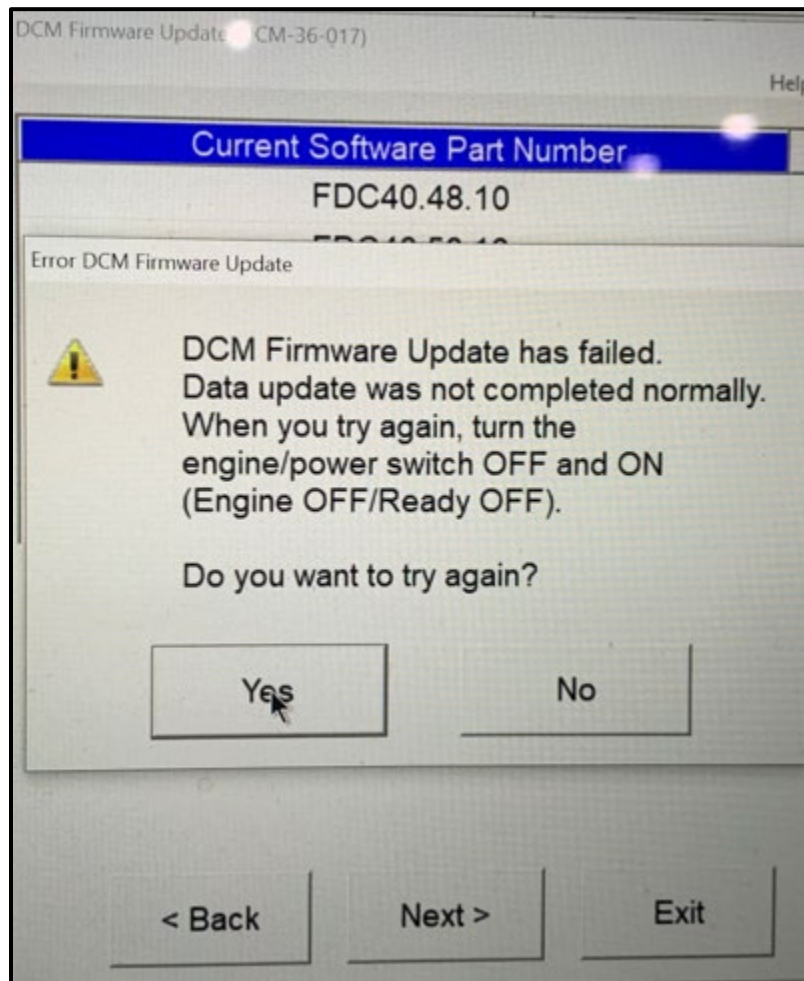
Indicator illuminated

Illuminated (Green)   Illuminated (Red)   S85071aS

h) Green and Red indicators turn on and then the reprogramming of the Software Part Number (Calibration ID) starts.

> **STOP** *DO NOT* **operate the vehicle or GTS while the green and red indicators are illuminated.**

NOTE:
It takes approximately 5 minutes for reprogramming.

DCM Firmware Update (DCM-36-004)   Help

The firmware update is started.

Do not turn the IG OFF during the update.

Please wait until firmware update is completed (green LED next to the SOS button is turned ON and red LED is OFF).
After firmware update is completed, please perform "Check that firmware update has been completed".

Exit

S85060aS

i) Wait until the red indicator turns off.

NOTE:
The green indicator will remain illuminated if the Safety Connect subscription is active, otherwise both indicators will turn off.

Not illuminated for more than 30 seconds
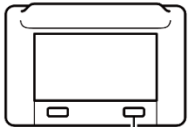
Not illuminated (Red)   S85067aS

j) Confirm that the red indicator is turned off for more **than 30 seconds**.

> **STOP** **Since the indicator may repeatedly turn on and off, make sure that the red indicator is turned off for more than 30 seconds and then proceed to the next step.**

NOTE:
The green indicator will remain illuminated if the Safety Connect subscription is active, otherwise both indicators will turn off.

k) Click "Exit".

DCM Firmware Update (DCM-36-004)   Help

The firmware update is started.

Do not turn the IG OFF during the update.

Please wait until firmware update is completed (green LED next to the SOS button is turned ON and red LED is OFF).
After firmware update is completed, please perform "Check that firmware update has been completed".
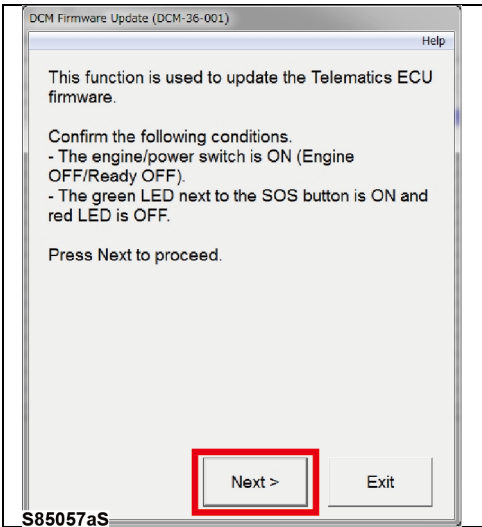
Exit

S85061aS

9
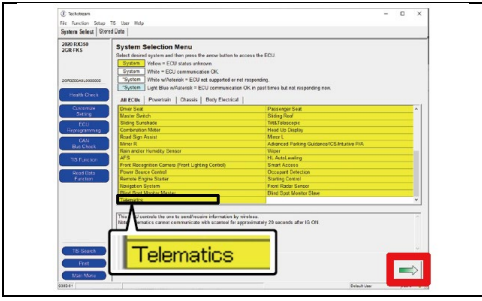
2. CONFIRM CALIBRATION ID

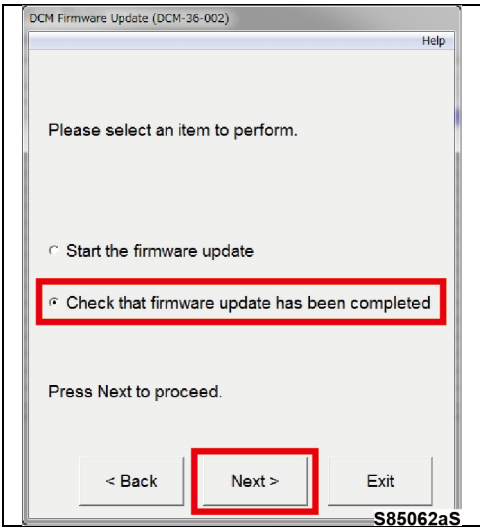a) Launch the left-side display, select "Telematics" and click the right-arrow.
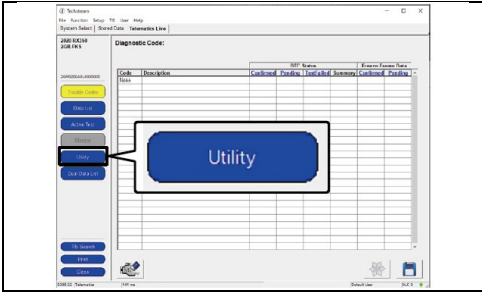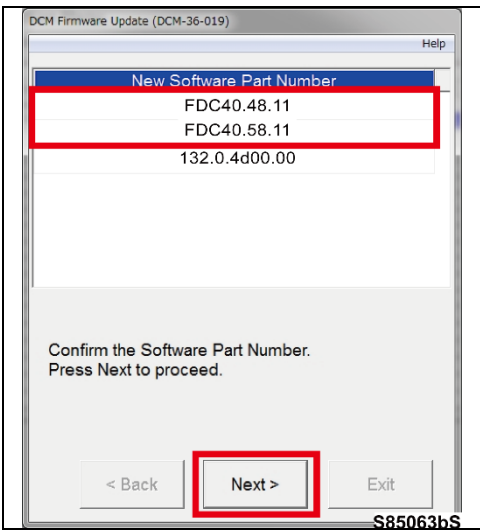
b) Click "Utility".
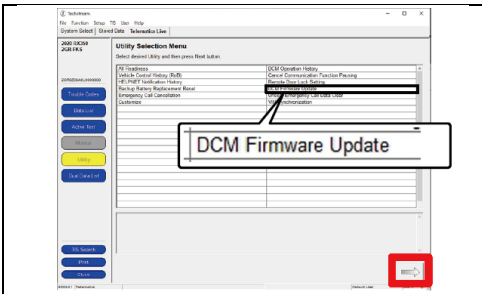
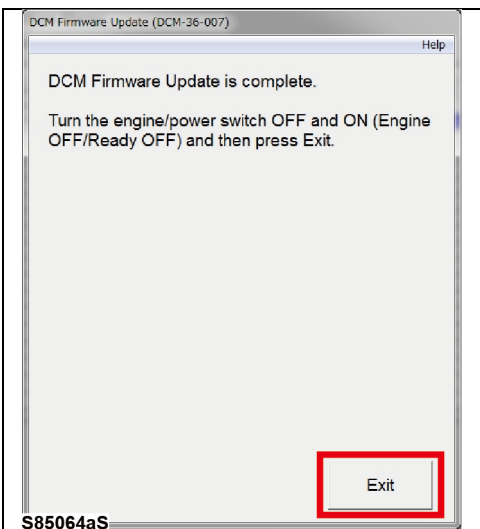c) Select "DCM Firmware Update" and click the right-arrow.

d) Click "Next".

S85062aS

e) Select "Check that firmware update has been completed" and click "Next".

S85063bS

f) Confirm that the displayed software part number (Calibration ID) has been changed to the new one, then click "Next".

New Software Part Number
FDC40.48.11
FDC40.58.11

S85064aS

g) Turn the IG ON, then OFF, then ON, then click "Exit".

11

IX. COMPLETE REPAIR

1.   DISCONNECT THE DCA-8000

2.   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.

STOP **THIS VERIFICATION HEALTH CHECK IS NECESSARY to update the results and CID's to the National database.**
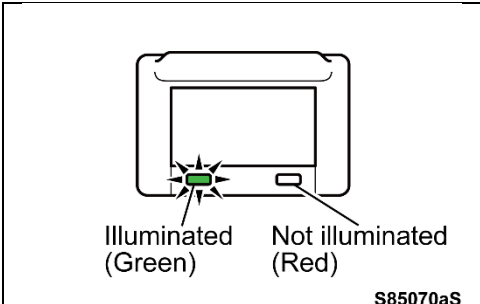
3.   CHECK OPERATION OF SAFETY CONNECT
   a)   Turn the IG ON.
   b)   To confirm that the Safety Connect services are available, check that the green indicator is illuminated and the red indicator is not illuminated after approximately 2 seconds from the IG ON.

Illuminated (Green)   Not illuminated (Red)

S85070aS

STOP **If the illumination condition is other than the above, a system error may have occurred. Check the correspondence by referring to the navigation system manual.**
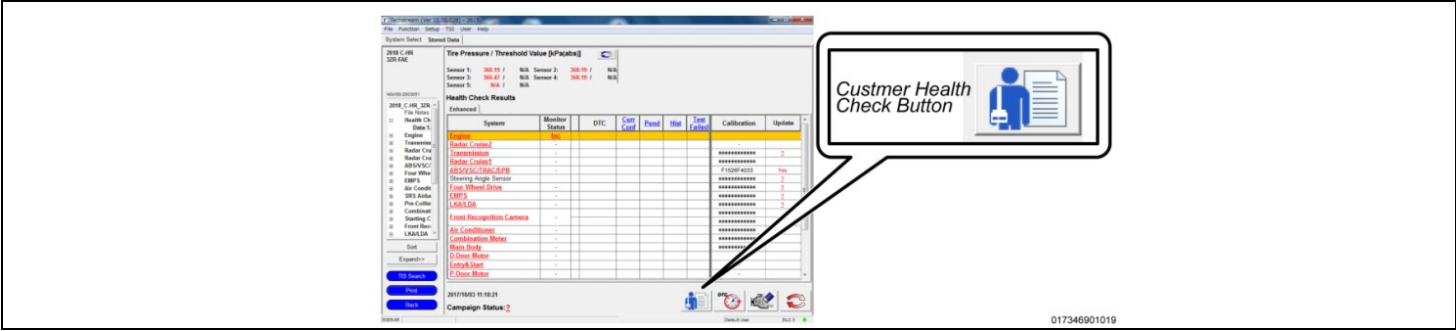
NOTE:
- **Green and red indicators turn on for approximately 2 seconds after the IG ON.**
- **If the contract of Safety Connect services has expired, the green and red indicators will turn off.**

   c)   Turn the IG OFF.
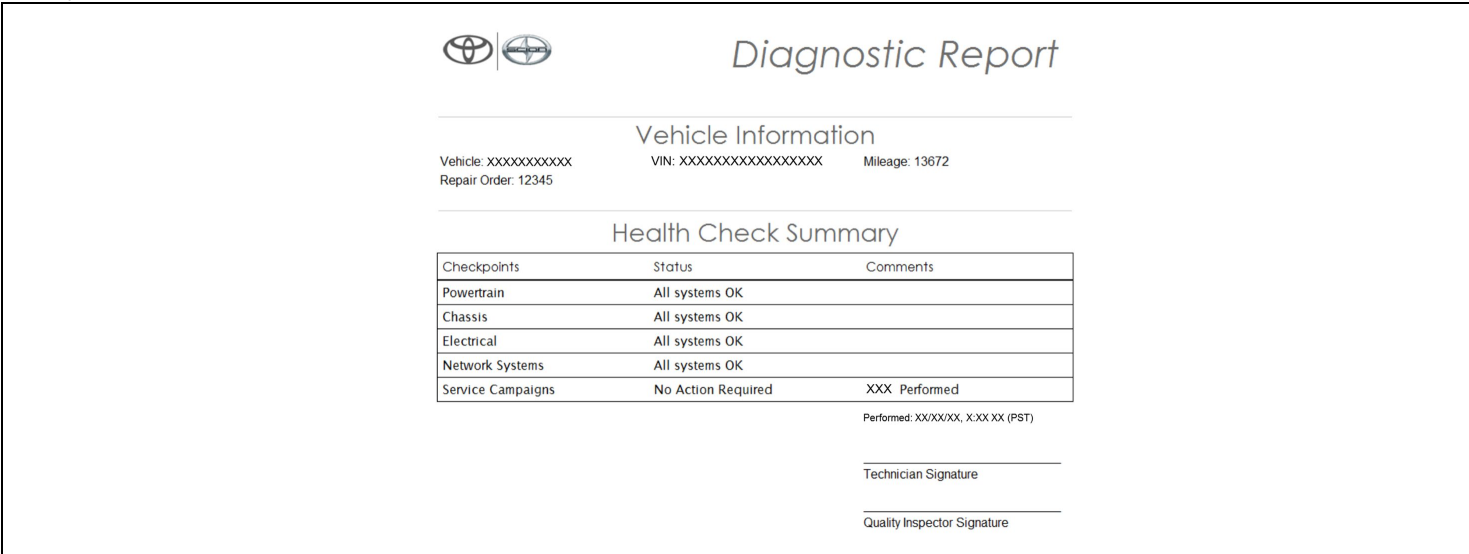
4. PRINT CUSTOMER HEALTH CHECK REPORT

    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 radio button for the applicable campaigns completed during this service event.

    e) Select the Report button.
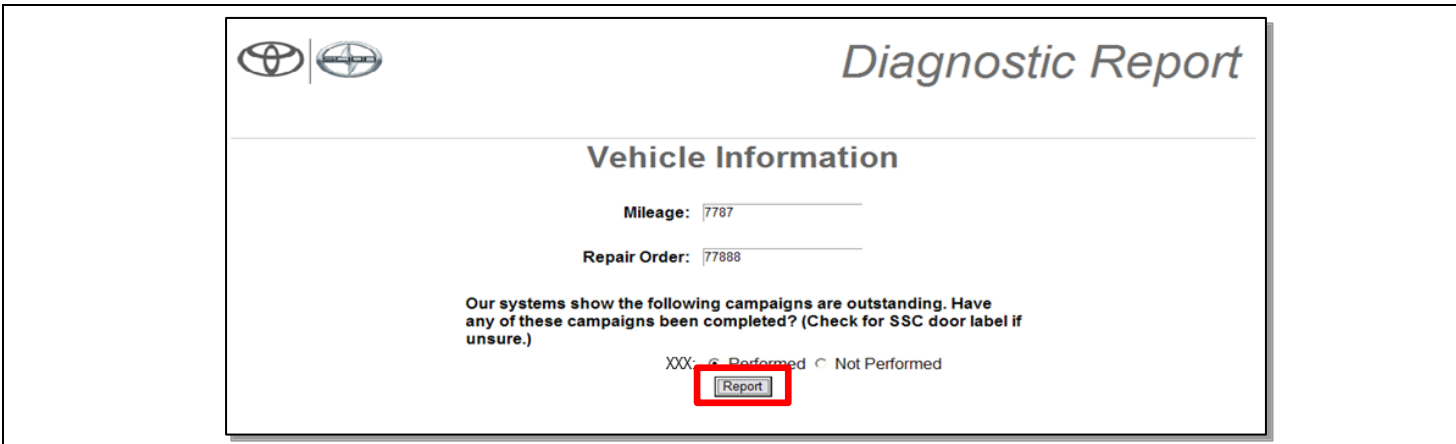
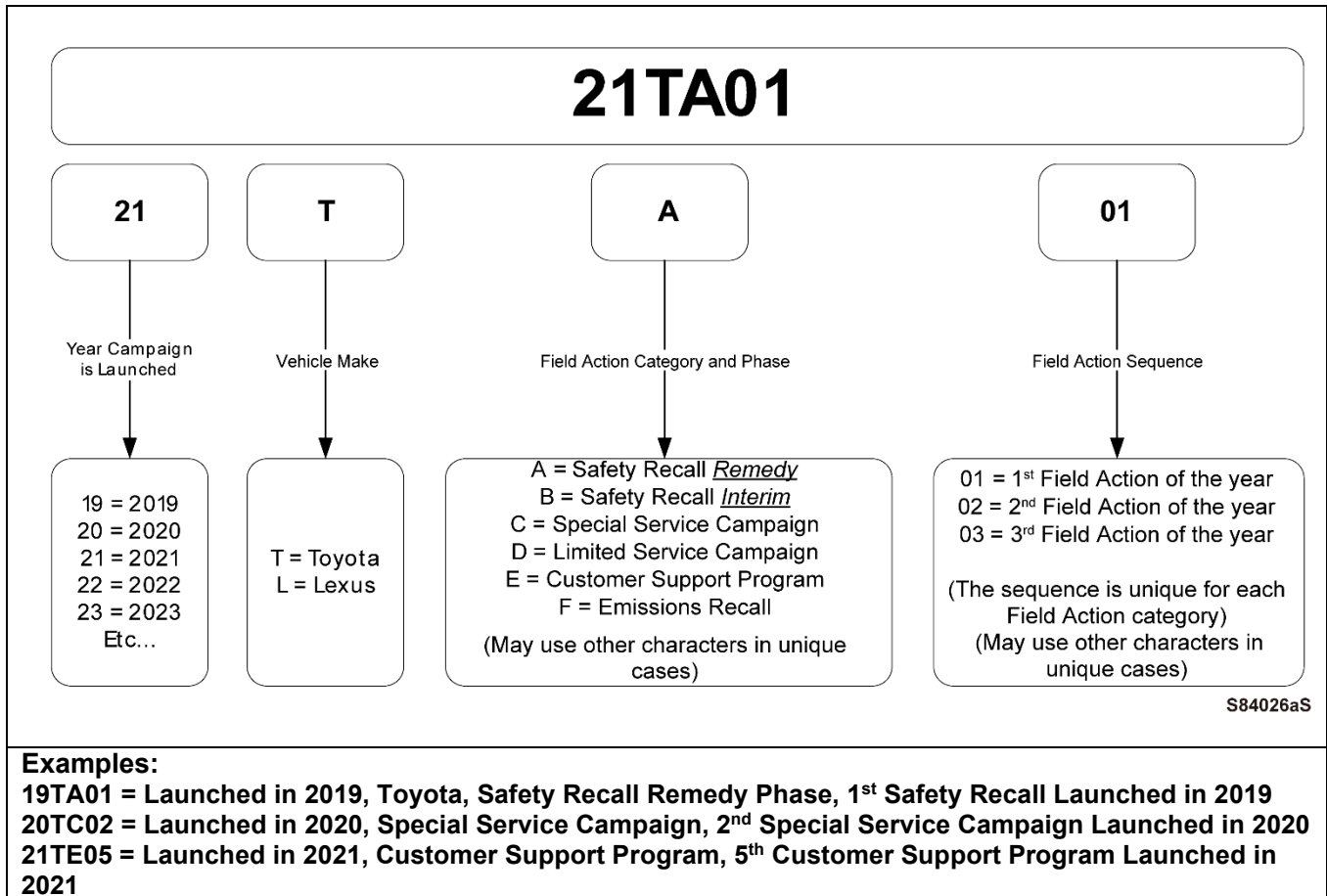   f) Confirm Customer Health Check Report information is correct.

    g) Print Customer Health Check Report from TIS.

    h) Sign and provide to the customer.

− **Confirm the system Calibration has been updated successfully.**
− **Confirm there are no DTC's after the Calibration update.**

X. APPENDIX

A. CAMPAIGN DESIGNATION DECODER

21TA01

| 21 | T | A | 01 |

Year Campaign is Launched

Vehicle Make

Field Action Category and Phase

Field Action Sequence

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

T = Toyota
L = Lexus

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 = 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)

S84026aS

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

B. RESTORING A WAIVED TELEMATICS ACCOUNT

If the customer has opted out of (waived) Connected Services, you will be unable to perform the software update until the services are restored. Follow the steps below to restore DCM connectivity.

1. CHECK TELEMATICS EXPIRATION DATE

a) Navigate to https://one.tis.toyota.com/serviceLane/.

b) Enter the VIN in Vehicle One-View and click Search.

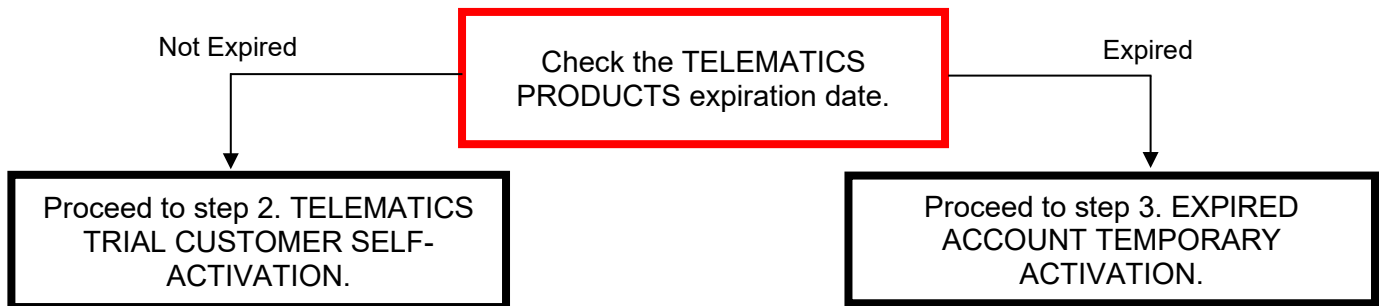c) Scroll down to the Telematics tab and check the expiration date of TELEMATICS PRODUCTS.

| Campaign | Service History | ToyotaCare | Warranty | FS Products | Roadside Assistance | Telematics | DTC History | Diagnostic Report | Customer Survey |

Subscription Details

VEHICLE CAPABILITY

App Suite Capable	Yes	Navigation	No	Dynamic Commute	No
Safety Capable	Yes	Destination Assist	No	Dynamic Map/Route	No
Wifi Capable	Yes	Dynamic POI Search	No	Scout GPS Link Capable	No

TELEMATICS PRODUCTS

Telematics System	Contract ID	Subscriber	Role	Effective Date	Expiration Date	Status
Safety Connect		** *****	PRIMARY SUBSCRIBER	09/22/2021	09/22/2022	WAIVED

Not Expired — **Check the TELEMATICS PRODUCTS expiration date.** — **Expired**

| Proceed to step 2. TELEMATICS TRIAL CUSTOMER SELF-ACTIVATION.	Proceed to step 3. EXPIRED ACCOUNT TEMPORARY ACTIVATION.

2. TELEMATICS TRIAL CUSTOMER SELF-ACTIVATION
If the telematics trial period is still active, request the customer to perform the steps below to restore the Connected Services. After Connected Services have been restored, turn the IG ON, then OFF, then ON again and then return to section VII. UPDATE CALIBRATION above to re-try the firmware update. If the customer does not wish to enable the Connected Services trial, return the vehicle to the customer and leave the campaign open.
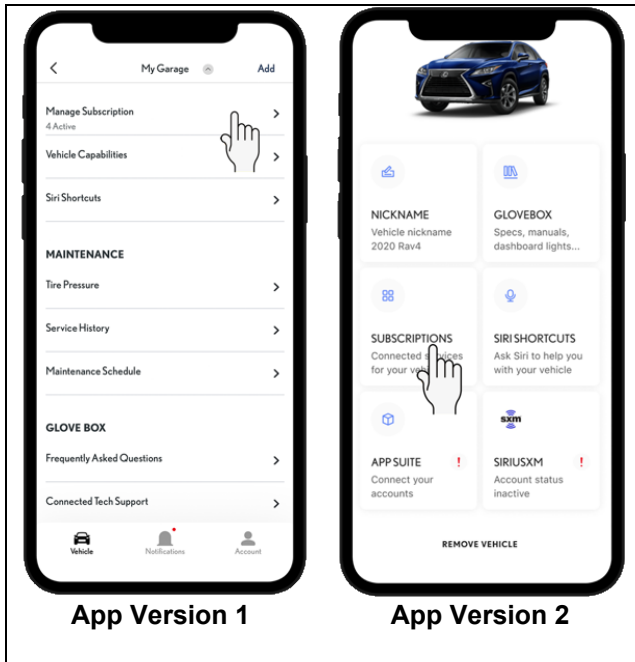
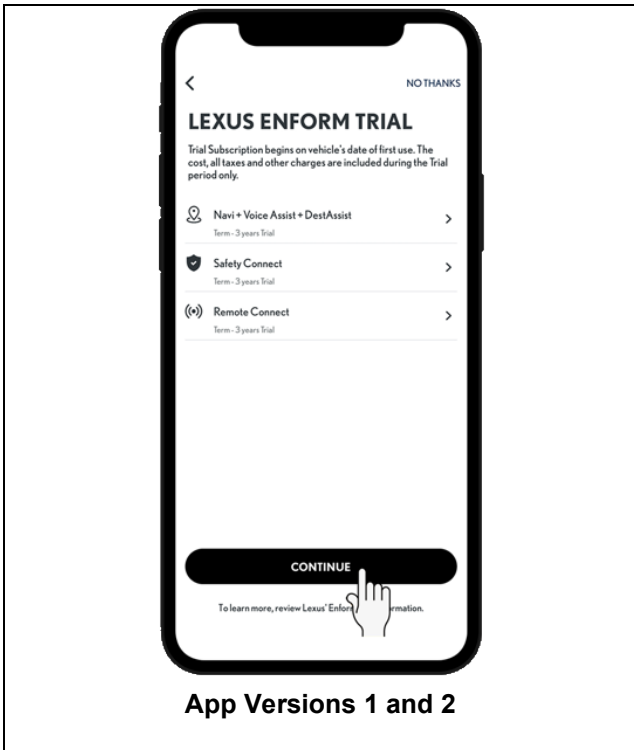**Connected Services Trial Restoration Procedure:**

App Version 1   **App Version 2**

a) Sign in to the Lexus app.

App Version 1   **App Version 2**
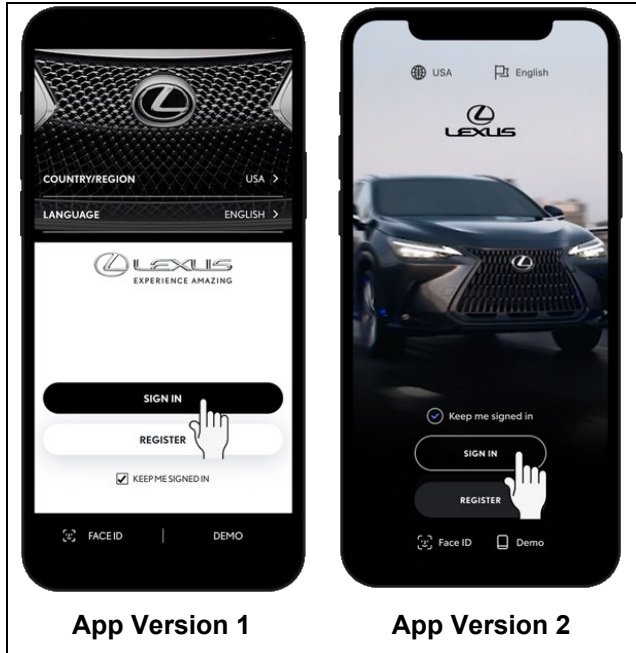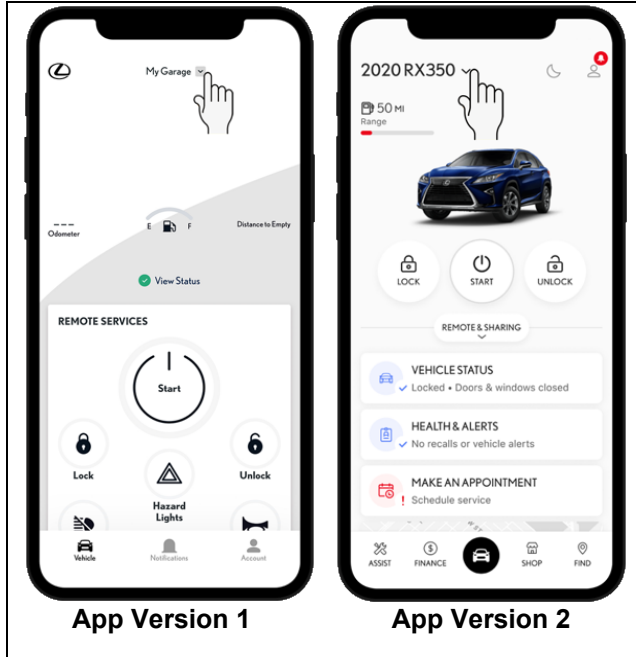
b) Tap "My Garage" or your vehicle's model name and year.

App Version 1   **App Version 2**

c) Tap "Manage Subscription" or "Subscriptions."

App Versions 1 and 2

d) Tap "Enable All Trials."
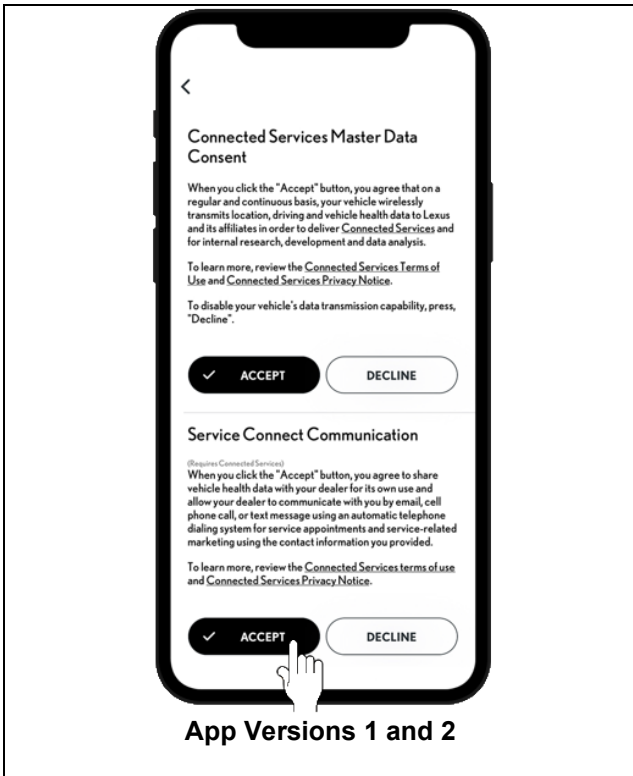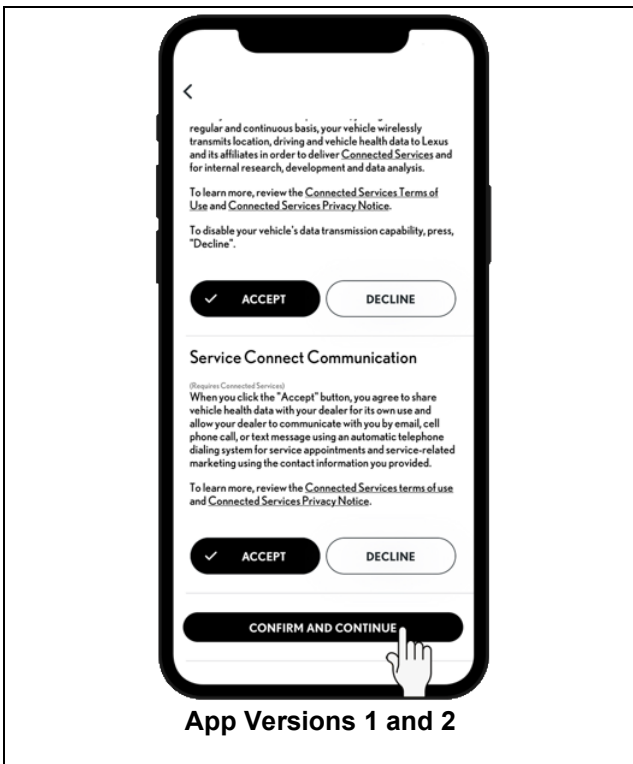
17

App Versions 1 and 2

e) Tap "Continue."

App Versions 1 and 2
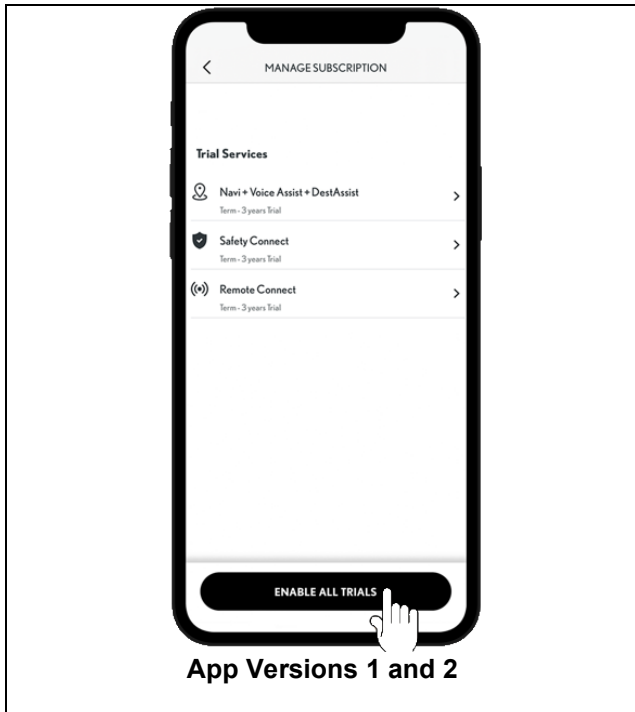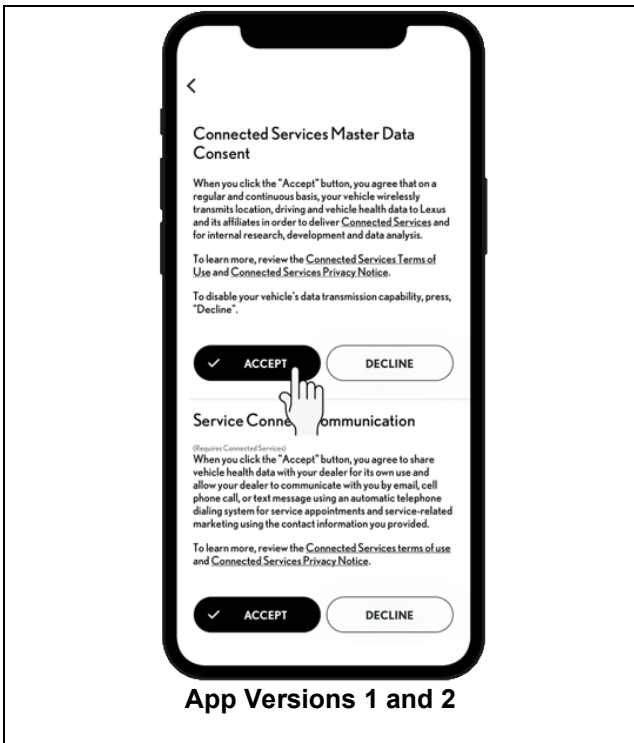
f) Tap "Accept" the Connected Services Master Data consent.

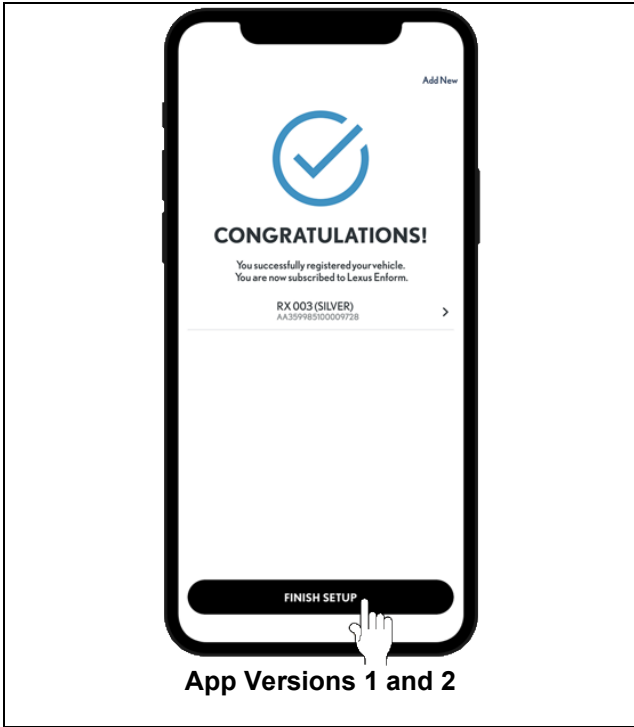   **NOTE: Acceptance is required for DCM software update.**

App Versions 1 and 2

g) Tap "Accept" or "Decline" for Service Connect Communication consent.

   NOTE: Acceptance is NOT required for DCM software update.

App Versions 1 and 2

h) To proceed with activating your available trials, tap "Confirm and Continue."

App Versions 1 and 2

i) Trial Services have now been activated.

3. EXPIRED ACCOUNT TEMPORARY ACTIVATION

1. Confirm the guest's subscription status and verify that the account is either not active or in a "waived" status.
2. Enter the VIN into the Dealer Portal, check the customer consent check box, and click the "Temporary DCM Activation" button (Figure 1). The service will be active for **72 hours.**
3. Once active, the DCM firmware OTA update may be installed.
4. After the 72 hours has elapsed, the vehicle will be put back into whatever status it was previously.
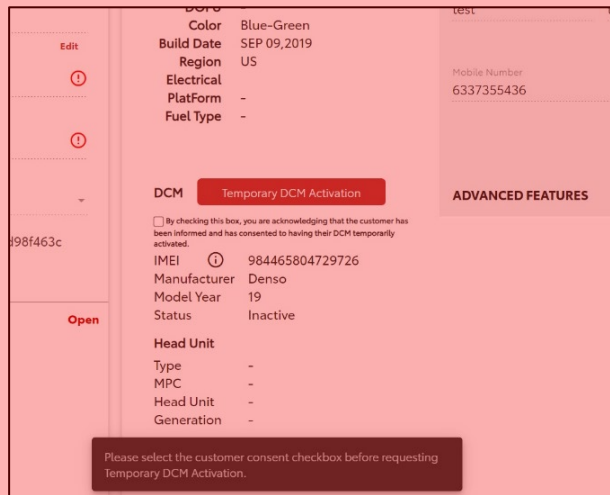

Figure.1 Dealer Portal Temporary DCM Activation button

1. L-SB-0036-21 – Rev2: '20-'22 Applicable Lexus Models: DCM Reset and Firmware Update (LG)
2. Telematics Diagnostics Guide (TDG-23)