# ■ IMPORTANT UPDATE ▶

The attached Technical Instructions have been updated. Refer to the details below.

DATE	TOPIC
September 10,	A warning about not disturbing the vehicle while it is reprogramming has been
2021	added.

The most recent update in the attached Technical Instructions will be highlighted with a red box.

Please review this notification with your staff to assure that all relevant personnel have been briefed regarding this subject.

Thank you for your cooperation.

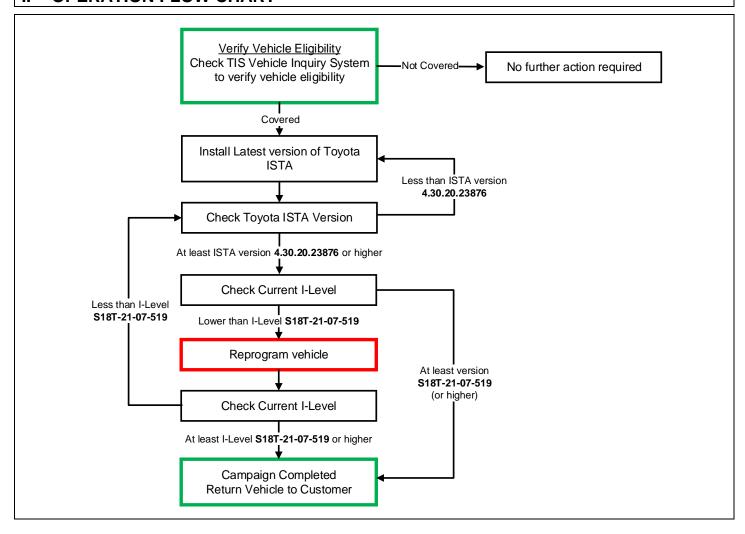
# TECHNICAL INSTRUCTIONS SAFETY RECALL 21TA04 POTENTIAL INCREASED BRAKING DISTANCE CERTAIN 2020 - 2021 MODEL YEAR SUPRA VEHICLES

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

• TIN519B – GR Supra New Model Technical Introduction

Always check which technicians can perform the repair by logging on to <a href="https://www.uotdealerreports.com">https://www.uotdealerreports.com</a>. 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



#### 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. BACKGROUND

The subject vehicles are manufactured by BMW. According to BMW, the subject vehicles have been equipped with an engine management software that, under certain specific engine start conditions, could damage a component that provides braking power assistance. In this condition, there could be a loss in the brake assist and an increase in stopping distance. This can lead to an increased risk of a crash.

#### IV. PREPERATION

#### A. TOOLS & EQUIPMENT

- Techstream ADVi (TSADVUNIT)
- Battery Diagnostic Tool (DCA-8000P)
- Toyota Supra Diagnostic Cable (01018-00118)

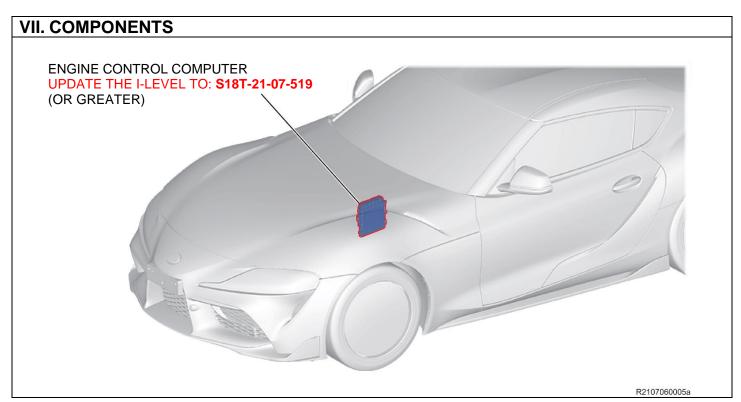
# V. OVERVIEW OF WORK PROCEDURE (REPROGRAMMING USING ISTA)

Software inside the vehicle's computers are reprogrammed using Toyota ISTA. Reprogramming of ECUs via Toyota ISTA requires that the software version of all the vehicle ECUs to be unified; therefore, reprogramming is always carried out for <u>all ECUs</u>.

It is not possible to select a target ECU and then reprogram it individually. Always follow the directions of this document when carrying out reprogramming work in order to prevent any potential damage to the ECUs due to by communication errors, voltage drops, or other problems.

## VI. WORK PROCEDURE TABLE OF CONTENTS

COMPONENTS	SECTION VII
INSTALL THE LATEST VERSION OF TOYOTA ISTA	SECTION VIII
CHECK ISTA LANGUAGE SETTINGS	SECTION IX
CHECK ISTA VERSION OF TECHSTREAM ADVI	SECTION X
ENSURE THAT VEHICLE HAS COMPLETED PRE-DELIVERY SERVICE	SECTION XI
PREPARE THE TECHSTREAM AVDi	SECTION XII
PREPARE THE VEHICLE	SECTION XIII
CONNECT THE BATTERY CHARGER	SECTION XIV
CONNECT THE TECHSTREAM ADVI TO THE VEHICLE	SECTION XV
CHECK THE I-LEVEL	SECTION XVI
PERFORM THE REPROGRAMMING (UPDATE I-LEVEL)	SECTION XIII
DISCONNECT TOYOTA ISTA	
PLACE VEHICLE IN SLEEP MODE FOR 15 MINUTES	



#### VIII. INSTALL THE LATEST VERSION OF TOYOTA ISTA

#### A. INSTALL THE LATEST VERSION OF TOYOTA ISTA

1. It is <u>CRITICAL</u> to install the <u>latest</u> version of Toyota ISTA on the Techstream ADVi. Your current ISTA version may not be sufficient for this campaign.

## Minimum\* ISTA Version Required for this Campaign: 4.30.20.23876

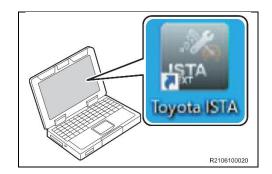
\*Versions of ISTA higher than 4.30.20.23876 are also acceptable. As a best practice you should always download the latest version of ISTA before performing this campaign.

**2.** Access this URL for instructions on how to download the latest version of ISTA: Toyota ISTA Installation Instructions

#### IX. CHECK ISTA LANGUAGE SETTINGS

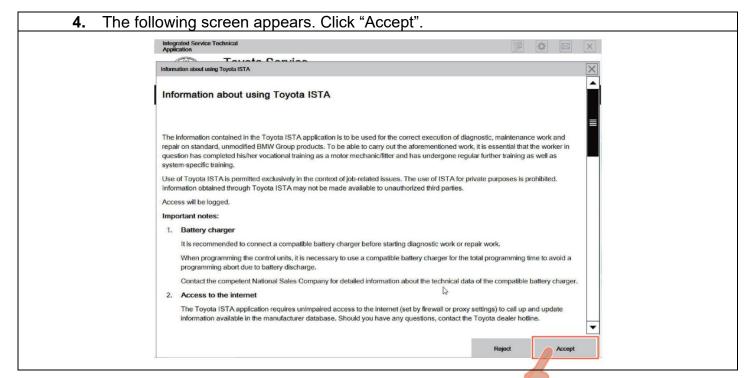
#### A. CHECK ISTA LANGUAGE SETTINGS

- The screenshots in this document were developed using ISTA software configured for "American English".
- 2. It is recommended that you ensure your ISTA is configured for "American English" (rather than "British English") so that the screenshots match your screen.

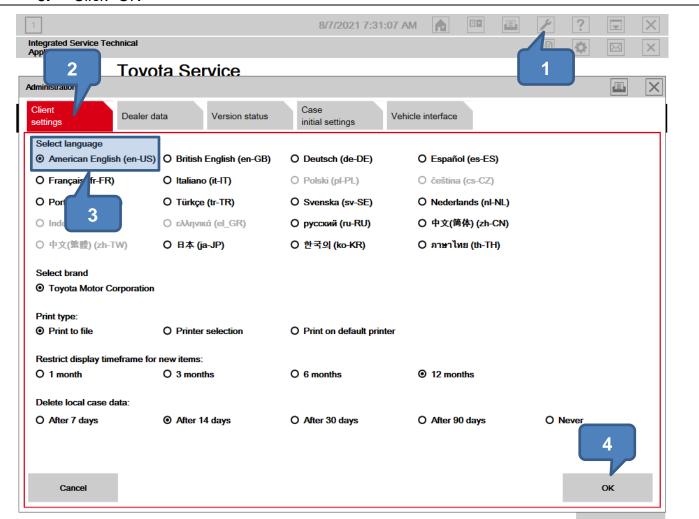


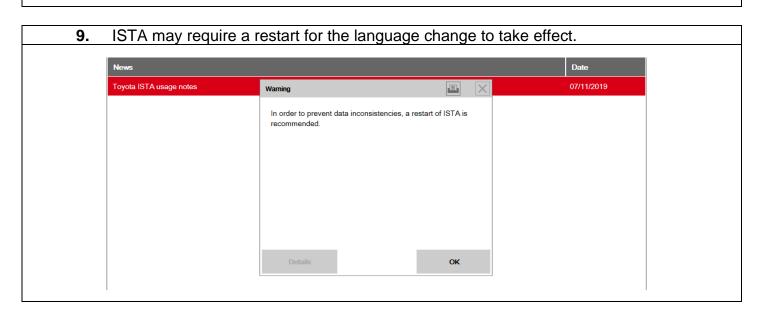
**3.** Double-click the icon to start Toyota ISTA.

Note: After double-clicking, it takes about 15 seconds for Toyota ISTA to start. Please wait without double-clicking again.



- **5.** Click on the Configuration Button as indicated in the illustration.
- **6.** Click on the Client settings tab as indicated in the illustration.
- 7. Select "American English"
- 8. Click "OK"

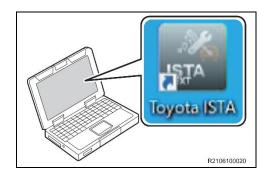




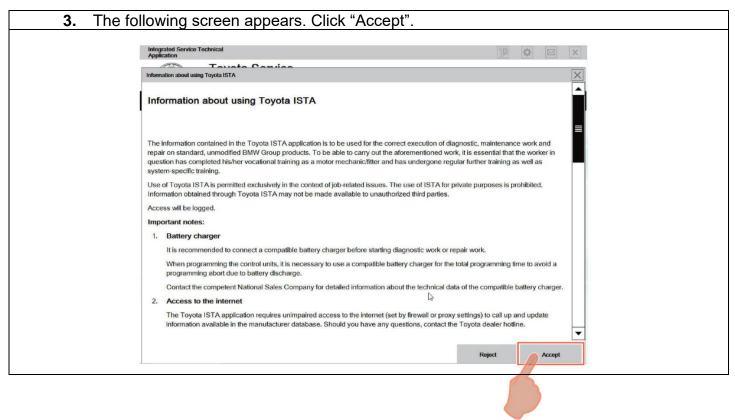
# X. CHECK ISTA VERSION OF TECHSTREAM ADVI

#### A. CHECK ISTA VERSION OF TECHSTREAM ADVI

1. Its <u>CRITICAL</u> to confirm that the ISTA version installed on your Techstream ADVi meets or exceeds version 4.30.20.23876 before proceeding. Your current ISTA version may not be sufficient for this campaign.

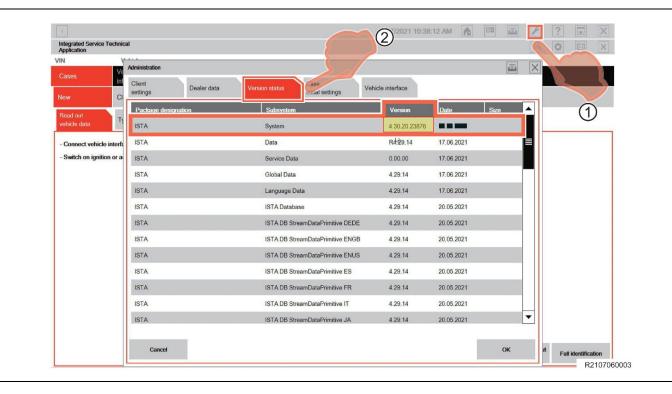


Double-click the icon to start Toyota ISTA.
 Note: After double-clicking, it takes about 15 seconds for Toyota ISTA to start. Please wait without double-clicking again.



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- **4.** Click on the Configuration Button as indicated in the illustration.
- **5.** Click on the Version status tab as indicated in the illustration.
- **6.** Compare the installed verison to the minium reuqired version: **4.30.20.23876**. If the version is less than version **4.30.20.23876**, install the latest version.



#### XI. ENSURE THAT VEHICLE HAS COMPLETED PRE-DELIVERY SERVICE

Make sure that Pre-delivery Service has been completed before this reprogramming. If Pre-delivery service has not been completed before this reprogramming, the reprogramming may not be completed correctly. Refer to T-SB-0083-19 (2020 model year Supra) or T-SB-0038-20 (2021 model year Supra) for Pre-delivery technical instructions.

## XII. PREPARE THE TECHSTREAM AVDI



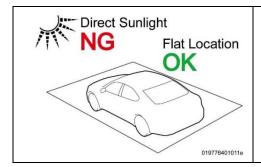
- **1.** Ensure the Techsteam software is installed, registered, and up to date
- **2.** Complete all pending Windows updates.
- 3. Disable any automatic Windows updates and configure antivirus software so that it doesn't automatically run.
- 4. Disable all automatic screen savers.
- **5.** Disable "sleep mode" within windows power settings.
- **6.** Close all other applications.
- Attach the Techstream ADVi directly to an AC Power Supply.
- **8. DO NOT** perform any other functions while Toyota ISTA is reprogramming.

#### XIII. PREPARE THE VEHICLE

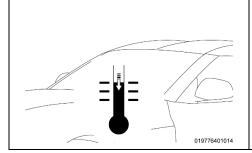
#### A. PREPARE THE VEHICLE



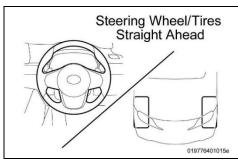
During reprogramming, each system (lights, mirrors, seats, windows, etc.) will be operated automatically for initialization. If operation is obstructed, a fault code is recorded, and the initialization may not finish normally. To prevent this, follow each instruction displayed on the screen while carrying out work.



1. Before working, make sure the vehicle is parked in a flat location that is not subject to direct sunlight.



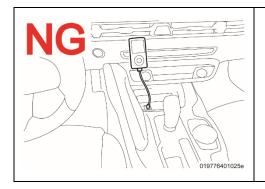
- 2. The ambient temperature has to be higher than 59° F.
- **3.** Allow the temperatures of the engine, transmission, and brake system to fall to the ambient temperature.



**4.** Set the steering wheel and tires straight ahead position.



**5. DO NOT** place anything on the windshield so that the wiper can work normally, because the wiper may move automatically during reprogramming for initialization.



6. Remove all the inserted and connected data carriers from the vehicle and disconnect the data connections (e.g. Bluetooth paired mobile phones), so they **DO NOT** interrupt programming by communication or connection.



7. **DO NOT** place anything on, in front of, or behind the front seats because the front seats move automatically during reprogramming for initialization.



**8. DO NOT** cover the headlights with protective covers, because temperatures may rise, and the headlights may be deformed or damaged.

- **9.** Set the shift lever to "P", and then engage the parking brake.
- 10. Turn off the engine, and set all of the switches of the electrical components to off.
- **11.**Close all doors and the back door, the hood must remain open as the battery charger will need to be connected to the charging terminals during the reprogramming process.

# XIV. CONNECT THE BATTERY CHARGER

#### A. CONNECT A BATTERY CHARGER

STOP

1. Connect the specified battery charger at the locations in the illustration.

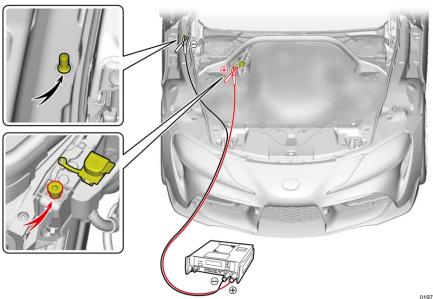
Battery Charger	Mode	Voltage	Battery Type
DCA-8000	Power Supply Mode	13.5-14.6	AGM

Before starting the reprogramming procedure, please make sure you have connected the DCA-8000 battery charger. The usage of a charger during the ECU Software update process is mandatory.

During this reprogramming the headlights will turn on, and the seats and other electrical components will function. To prevent damage to the ECU's, due to flat battery or voltage drop, ALWAYS connect the specified battery charger.

- Unlike other Toyota vehicles, the Toyota Supra is capable of drawing high amperage (a peak of 70 Amps flows at maximum) during diagnosis and repair. The Toyota Supra is equipped with an AGM type battery, discharges will affect the life span of the battery. AGM batteries must not have a charging voltage that exceeds 14.6 volts.
- Always connect the power supply of the battery charger to an outlet directly. If a
  power strip or other device is used, and multiple electrical components are
  connected, the battery charger may detect a power supply error due to insufficient
  current, and it may not be possible to charge the battery.
- . Make sure that the battery charger is off before connecting it.
- Make sure you respect the correct polarity when connecting the battery charger cables like displayed in the illustration below.
- DO NOT disconnect the battery charger during reprogramming work.
- Observe the instructions of the battery charger manual, and check the dealership electrical system to ensure the circuit of the outlet to be used can operate the battery charger.

# **Connect Battery Charger**

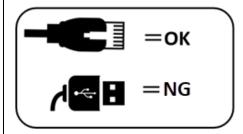


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#### XV. CONNECT THE TECHSTREAM ADVI TO THE VEHICLE

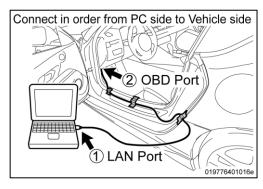


NOTICE: It is an absolute necessity that the vehicle is connected to the Techstream ADVi via the <u>Toyota Supra Diagnostic Cable</u> which has a LAN ethernet connection.



In order to maintain successful communication between the Techstream ADVi and the vehicle, the Toyota Supra Diagnostic cable must be used. Other interfaces that connect to the Techstream ADVi via USB are not allowed. Attempting to use such other devices may cause permanent ECU damage due to the slower communication speed.

# A. CONNECT THE CABLE (connection sequence):

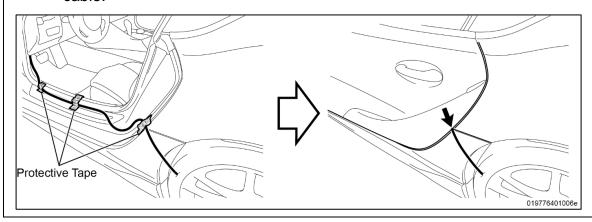


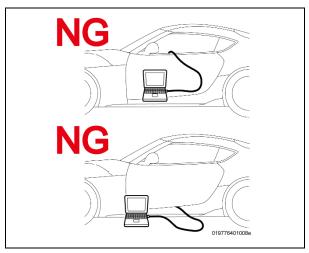
 Always connect the Supra diagnostic cable <u>first</u> to your PC LAN port (1) and only after that to the OBD port of the vehicle (2).

If this order of operations is not respected, possible vehicle communication issues may occur when using Toyota ISTA software.

#### **B. POSITION THE CABLE**

- 1. Position the SUPRA diagnostic cable out of the vehicle as shown in the illustration. Otherwise the SUPRA diagnostic cable may be pinched, communication disconnected, and ECU's permanently damaged.
- 2. The Toyota Supra Diagnostic cable should always be passed through the position shown in the figure below. If it passes through any other position it is possible that the cable will be damaged.
- 3. Using the gap between the rear fender and the side garnish, pull the Supra Diagnostic cable to the outside of the vehicle. Please use protective tape for fixation and protection of the cable.





#### Note:

- DO NOT attempt to pass the ISTA diagnostic cable though the window opening. The window glass may move during reprogramming or initialization.
- Ensure the cable is out of the path of the front Driver's seat. During initialization the driver's seat moves and could damage cable or disconnect the OBDII connector during movement.
- Additionally, DO NOT attempt to pass the ISTA diagnostic cable through any other position of the door opening as it may cause damage to the cable.

#### XVI. CHECK THE I-LEVEL

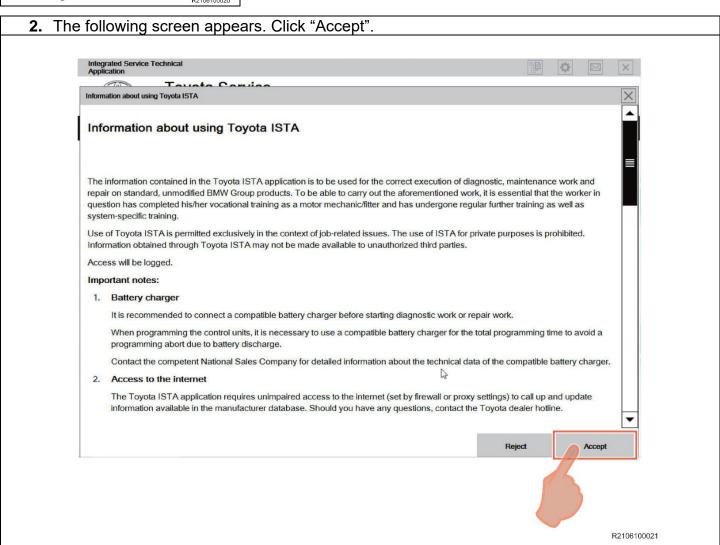


#### A. START TOYOTA ISTA

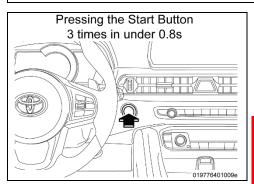
1. Double-click the icon to start Toyota ISTA.

Note: After double-clicking, it takes about 15 seconds for Toyota ISTA to start.

Please wait without double-clicking again.



3. Double-click the operations bar to maximize screen and make the toolbar visible. Toyota Service \*a \*1 Workshop system New functions for the wiring diagram in the diagnosis 11/8/2018 Notes on the ISTA Service Case report 7/26/2018 Notes on vehicle test - Reading the vehicle data 7/26/2018 ISTA mileage notes 3/23/2018 **Toyota Service** \*2 Workshop system



New functions for the wiring diagram in the diagnosis!

Notes on vehicle test - Reading the vehicle data

Notes on the ISTA Service Case report

ISTA mileage notes

#### **B. ACTIVATE PAD MODE**

 PAD mode can be activated by pressing the start button 3 times in under 0.8 seconds (very fast, foot off the brake pedal) or by directly connecting the Toyota ISTA software and initiating the vehicle connection.



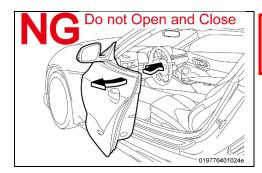
While the vehicle is in PAD mode all energy monitoring logic will be disabled. The technician must utilize a battery charger to maintain sufficient current during all diagnosis and programming activities. If the battery charger is not connected battery life will be affected and ECU damage could occur.

11/8/2018

7/26/2018

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Note: Ensure the pre-delivery service has already been completed on the vehicle. Part of pre-delivery service involves switching of "transportation mode", which is required before proceeding with this remedy procedure.

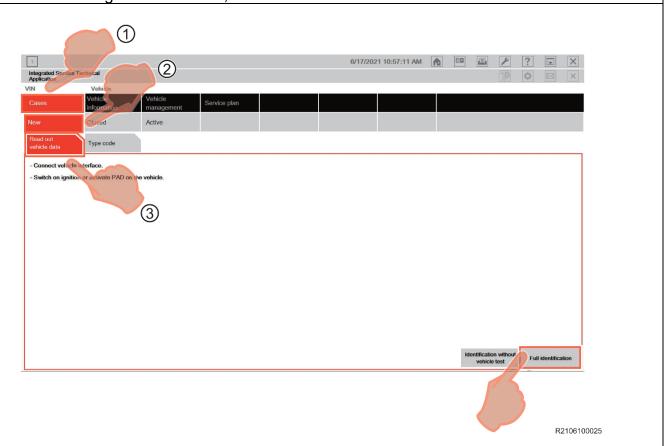


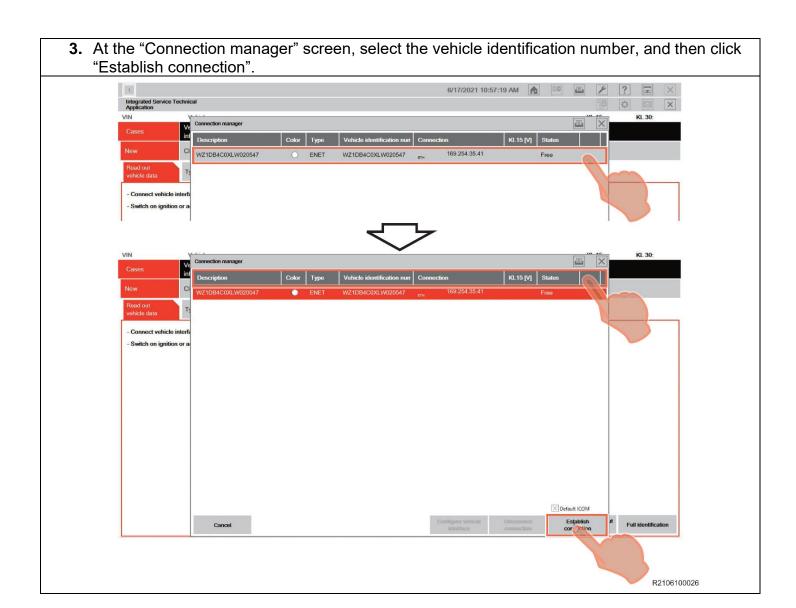


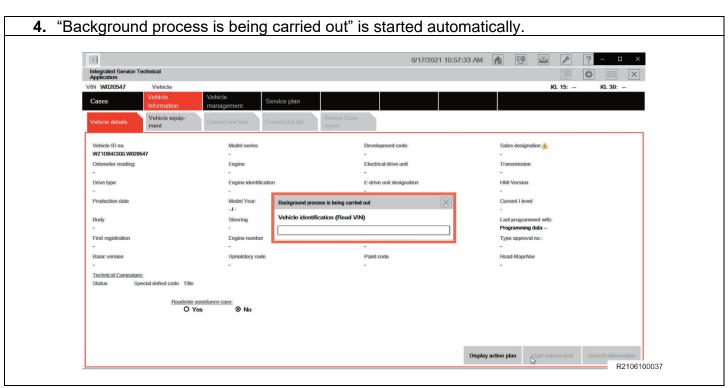
**DO NOT** open or close the driver's door during the programming routine. Perform only the vehicle operations indicated on the Toyota ISTA screen.

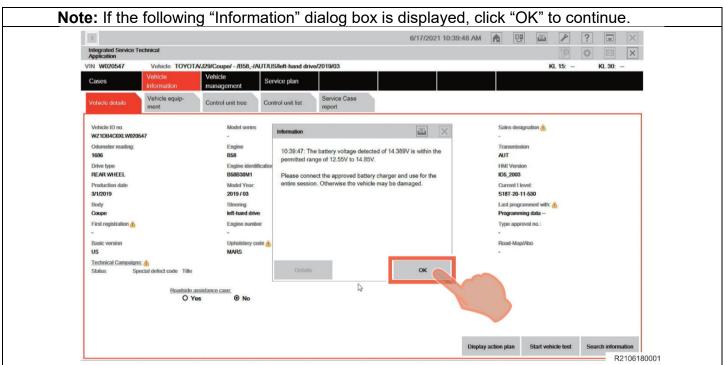
# **B. NAVIGATE TO I-LEVEL CHECK SCREEN**

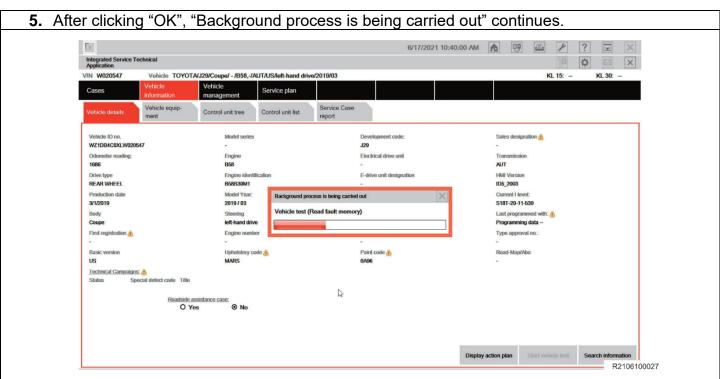
- 1. From Toyota ISTA home screen, click "Cases"-> "New" -> "Read out vehicle data".
- 2. At the bottom right of the screen, click "Full identification".

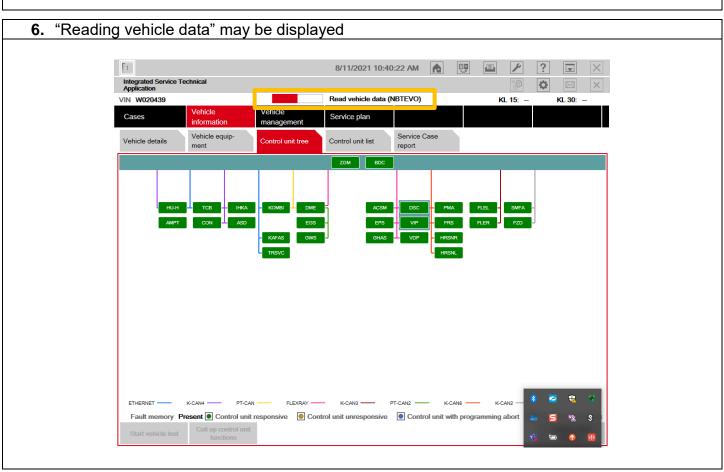






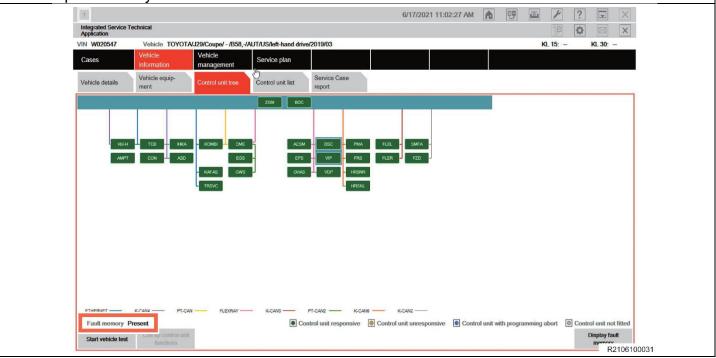




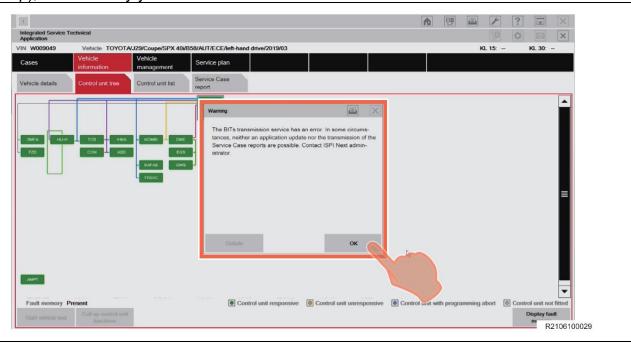


**7.** After "Background process is being carried out" has ended, the "Control unit tree" screen appears.

**Note:** When Fault memory "Present" or "Existing" is displayed at the bottom left of the screen, check for DTCs. Note that this campaign does not cover the diagnostic fees and/or repairs for any DTC's.

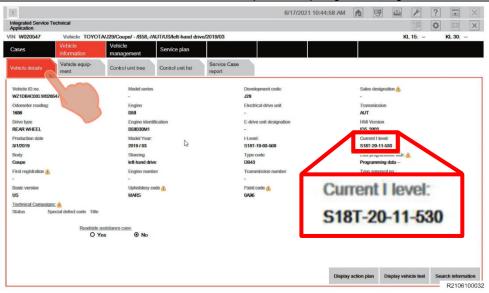


**Note:** If the dialog box in the image appears when the screen changes to "Control unit tree" screen, click "OK" to close the dialog box, and then continue work. Toyota ISTA will attempt to establish a data exchange with the central server. In the absence of an available connection route (because of no Internet connection is available or the PC connection isn't setup), Please verify your connection and click "OK".



#### C. CHECK I-LEVEL

- 1. Select "Vehicle details".
- 2. The "Vehicle details" screen appears. Check the displayed "Current I level:", and then refer to the table below to determine if the vehicle requires reprogramming.



3. Confirm if the vehicle requires reprogramming based upon the "Current I-Level" of the vehicle. Use the decoder below.

Result	"Current I-Level" of Vehicle	Required Action
NG	Lower than S18T-21-07-519	REPROGRAMMING REQUIRED. Continue with this procedure.
OK	Equal to or Greater than S18T-21-07-519	WORK IS COMPLETE. Reprogramming is not required. Refer to page 34 for instructions on closing out of ISTA and disconnecting the diagnostic cable.

# **How to Decode I-Level Superiority**



- 1: Series (vehicle model)
- 2: Year Released
- 3: Month Released
- 4: Serial Number

#### **EXAMPLE:**

Lower: S18T-19-03-585 Higher: S18T-19-07-555

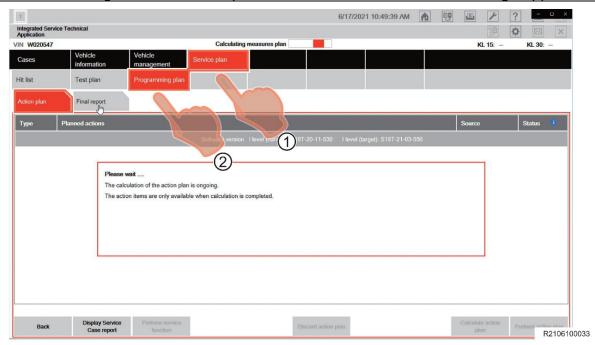
In the example, S18T-19-07-555 is <u>higher</u> than S18T-19-03-585 because it was

released in a later month (July compared to March).

# XVII. PERFORM THE REPROGRAMMING (UPDATING I-LEVEL)

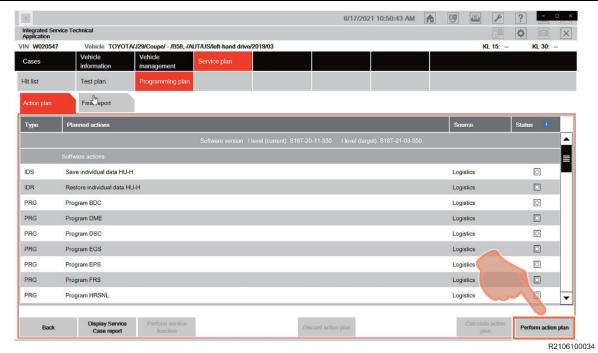
#### A. PERFORM THE REPROGRAMMING

- 1. Perform the reprogramming if the vehicle's current I-Level is lower than \$18T-21-07-519.
- 2. Select "Service plan" > "Programming plan".
- 3. The screen changes to the "Action plan" screen and "Please wait" message appears.



4. After the "please wait" message closes and the screen changes, click "Perform action plan".

**Note**: After clicking "Perform action plan", carry out the on-screen instructions of Toyota ISTA reliably.



If you see the following screen during reprogramming:



DO NOT SWITCH OFF THE IGNITION
DO NOT DEACTIVATE PAD MODE
DO NOT DISCONNECT THE BATTERY CHARGER
DO NOT OPEN ANY DOORS OR INSERT ANY SEAT BELTS
DO NOT DISCONNECT THE DIAGNOSTIC CABLE

Leave the car as is, and call TAS (Technical Assistance).



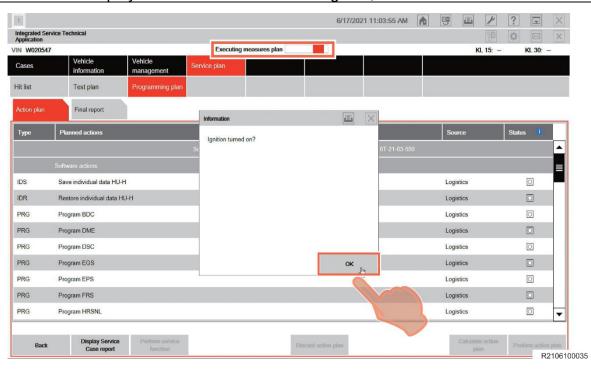
If for any reason during the reprogramming, you believe the update is "frozen" or has otherwise failed:



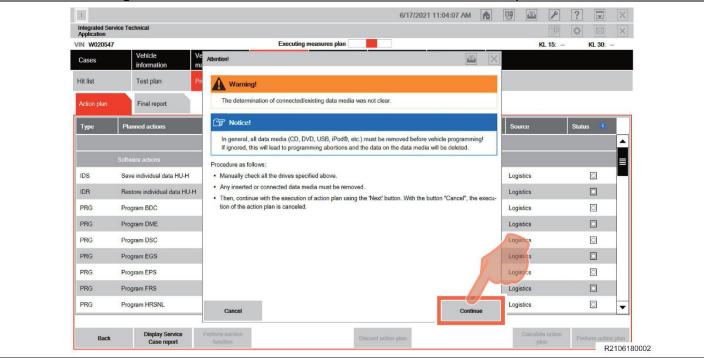
DO NOT TURN THE IGNITION OFF DO NOT DISCONNECT THE BATTERY CHARGER DO NOT OPEN ANY DOORS DO NOT DISCONNECT THE DIAGNOSTIC CABLE

Leave the vehicle as is and call TAS for assistance. TAS will likely be able to help you recover the vehicle.

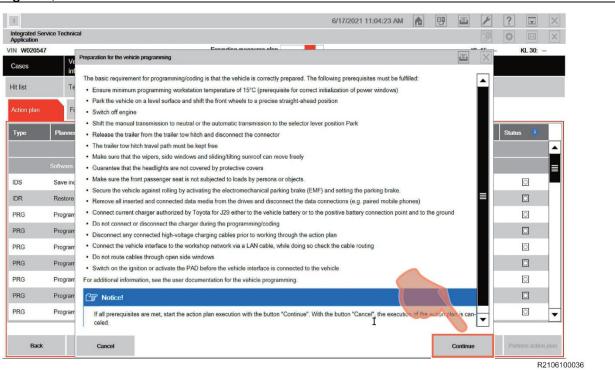
**5.** "Executing measures plan" appears the top middle of the screen (header line). Check the content that is displayed in the "Information" dialog box, and then click "OK".

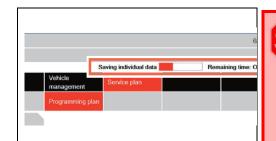


**6.** "Warning!" and "Notice!" will be displayed in the "Attention!" dialog box. Check the content in the dialog box, and then click "Continue" to continue the "Action plan".



7. Please check carefully the content displayed in the "Preparation for the vehicle programming" dialog box, and then click "Continue".





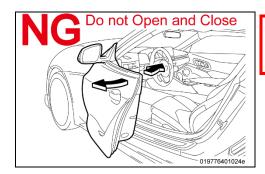
The programming could take a long time. *DO NOT* disturb the vehicle until it's finished reprogramming. Refer to the progress bar at the top of the screen to confirm the status. if you truly believe there is some problem with the vehicle reprogramming, *DO NOT* DISTURB THE VEHICLE, call TAS for assistance.



The combination meter will turn off during reprogramming and the vehicle may look like it has been powered off. *DO NOT* press the Start/Stop button. Refer to ISTA for programming status.



DO NOT put your head or hand in the window of the vehicle you are reprogramming. Since the window may close automatically at the time of initialization, there is the risk of being be pinched and injured.

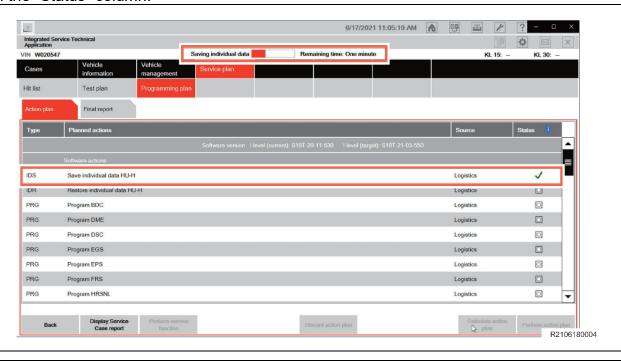


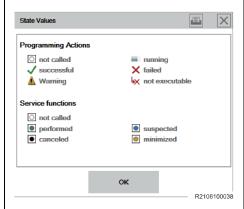
STOP DO NOT open or close the driver's door during the programming routine.



The programming could take a long time. Ensure that the vehicle is not accidentally disturbed by other team members during the reprogramming.

**8.** The top middle of the screen (header line) switches to "Saving individual data". "Save individual data HU-H" is executed first. If it completes normally, a checkmark (✓) is displayed in the "Status" column.





Note: The icons in the diagram indicate the status.

9. The top middle of the screen (header line) switches to "Executing Software actions". When "Warning" dialog box appears, click "OK". 6/17/2021 11:05:41 AM Integrated Service Technical Application VIN W020547 Executing software actions KL 15: -KL 30: -Cases Hit list Test plan Final report Be aware: A case with programming is active! Check LAN cable and voltage supply and secure if necessary! IDS Save individual data HU-H Logistics If the instruction is not followed, a programming abort will result. IDR Restore individual data HU-H Logistics PRG Program BDC Logistics 0 PRG Program DME Logistics PRG Program DSC Logistics 0 PRG Program EGS ок \_\_\_ Logistics PRG Program EPS Logistics 0 Program FRS PRG Logistics

PRG

Program HRSNL

0

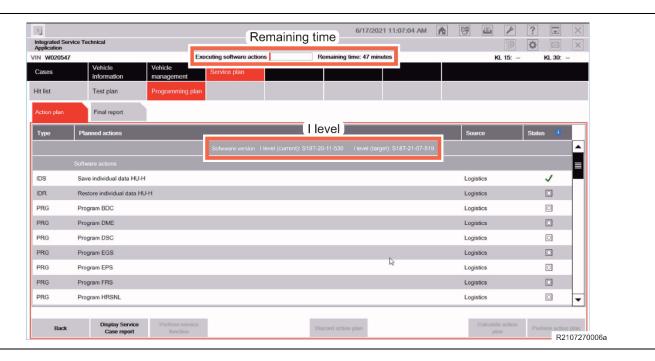
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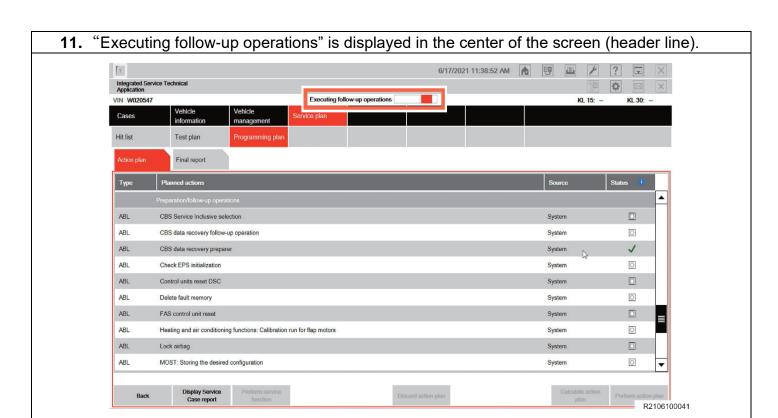
Logistics

**10.** The reprogramming progress status of each ECU is displayed in the "Status" column. The overall progress status of reprogramming is indicated by "Executing software actions" at the top center of the screen (header line), which shows the reprogramming progress status and approximate "Remaining time".

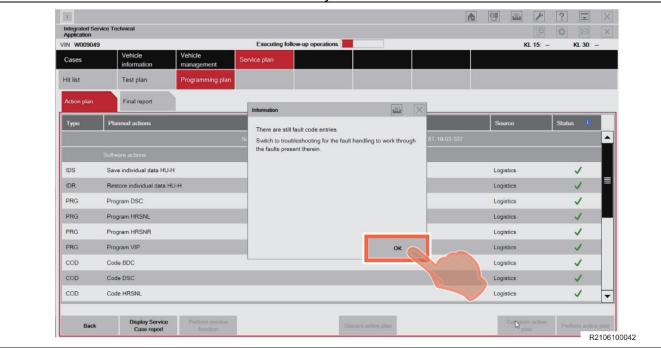


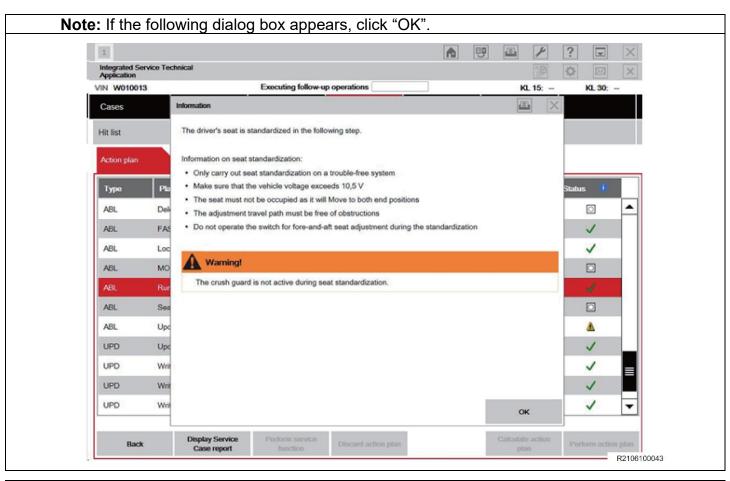
- Even when the "Status" column is filled with checkmarks (✓), always check the display at the top center of the screen (header line) for the progress status, because initialization and other work is being carried out in addition to reprogramming.
- Wait until the reprogramming in finished before manipulating the ISTA software to avoid interfering with the reprogramming.



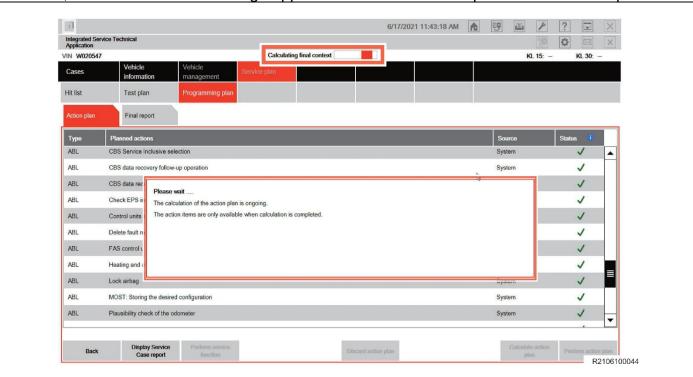


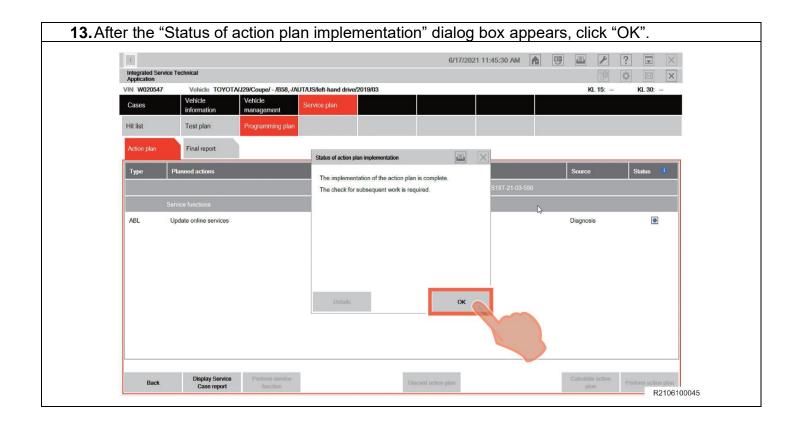
**Note:** If the following "Information" dialog box is displayed during "Executing follow-up operation", click "OK" to continue the follow-up operation. After reprogramming is complete, follow the on-screen instructions and carry out initialization and other work.





**12.** "Calculating final context" appears at the center of the screen (header line). At the same time, a "Please wait...." message appears to allow for the completion of the action plan.



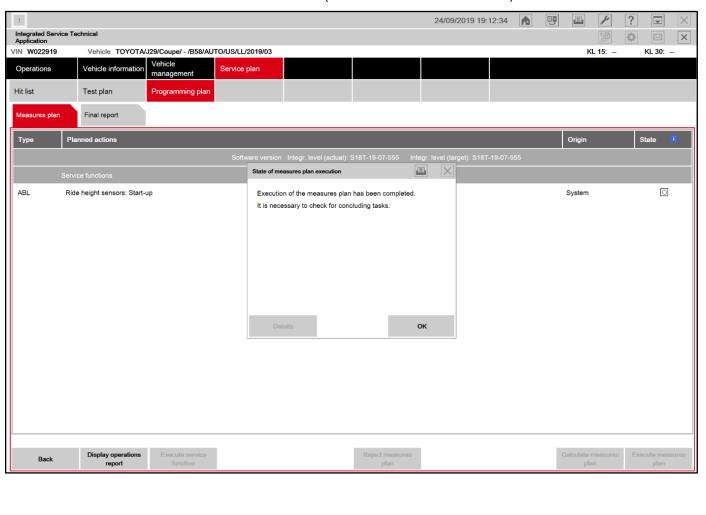


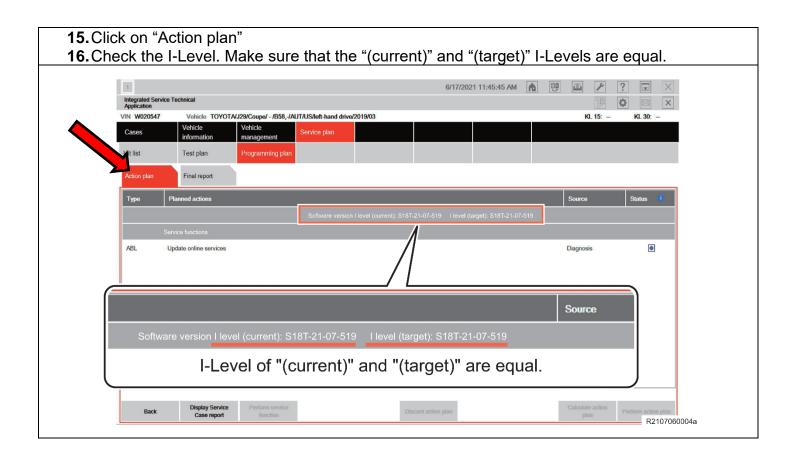
**14.NOTICE:** After reprogramming has completed Toyota-ISTA may request additional functions to complete. These additional functions may include initialization of seats, windows, mirrors or headlights. Toyota-ISTA may provide instructions such as ensuring there are no obstructions of the object that requires initialization. Please follow all necessary on-screen prompts and ensure that the vehicle is parked in a safe manner to complete each initialization. If these directions are not followed properly, the vehicle could produce additional DTCs.

In the example shown below, the "ride height sensors: start-up" service function" needs to be performed.

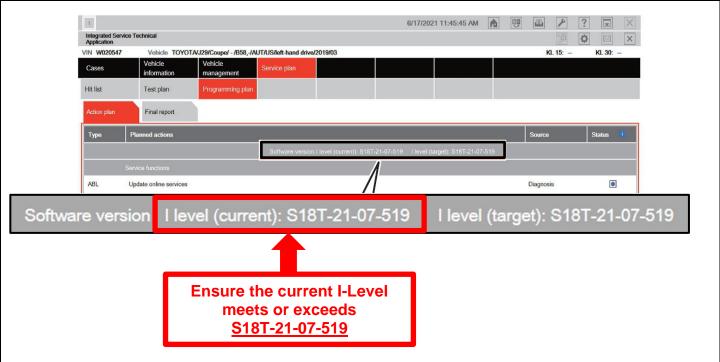
If ride height is required, you will need to insert the ride height for both the front and rear wheels. This will require you to measure this height in millimeters. The repair manual procedure can be found in this location:

Vehicle Exterior > LIGHTING (EXT) > HEIGHT CONTROL SENSOR > INSTALLATION 5. ADJUST HEIGHT CONTROL SENSOR (**DOC ID**: RM100000001JCL5)





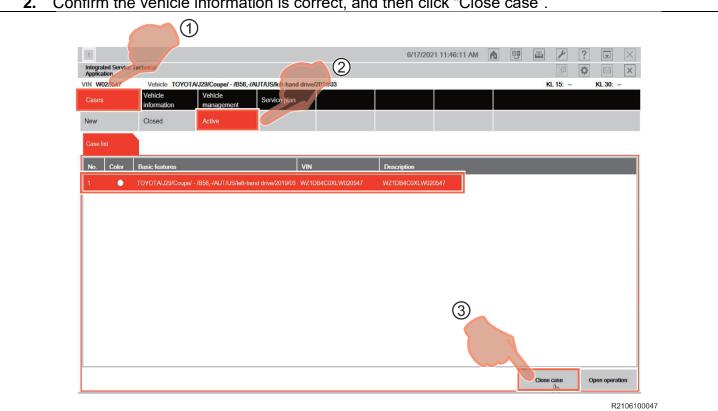
- 17. Ensure the current I-Level meets or exceeds \$18T-21-07-519.
- 18. If the I-Level does not meet or exceed \$18T-21-07-519, go to Section X to confirm that you are using the proper version of Toyota ISTA.

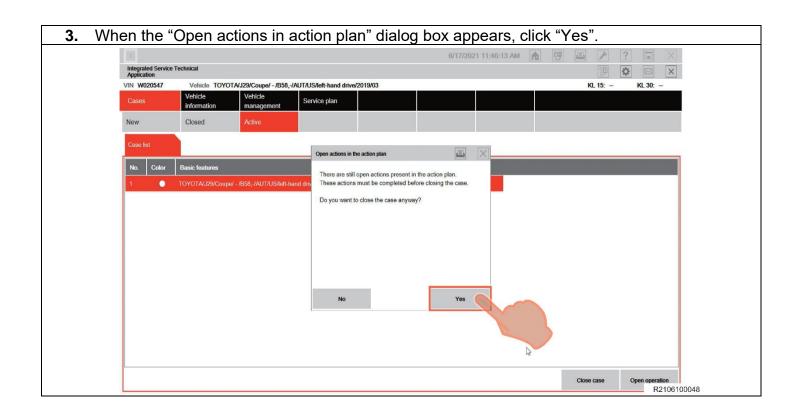


#### **XVIII. DISCONNECT TOYOTA ISTA**

#### A. CLOSE OUT OF TOYOTA ISTA

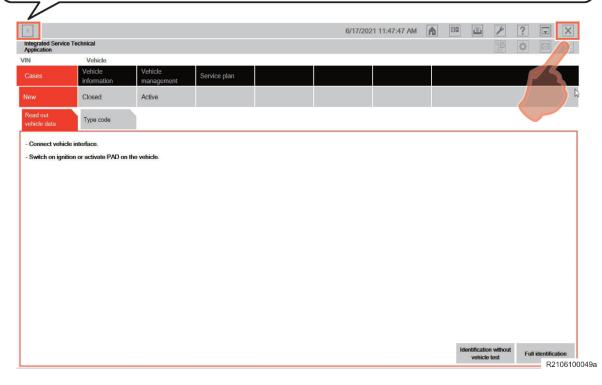
- Select "Cases" -> "Active" to display the "Case list".
- Confirm the vehicle information is correct, and then click "Close case".

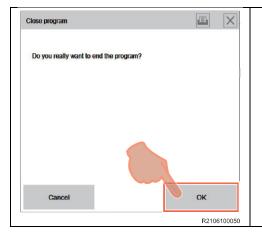




- **4.** Make sure that the frame of the icon at the left end of the toolbar at the top left of the screen has turned gray, and then click "x".
- 5. You may have to click the frame icon in the left end of the tool bar in order to close the case.

Icon	Color and Status	Meaning
1	Gray	Job Completed; Click ⊠ at the Right on the Toolbar.
	Rotating Animation	Work in Progress; Wait Until Color is Grey.
1	Flashing Animation	There is a warning message; a response is required. Click the icon, and then follow the on-screen instructions to carry out the work.





**6.** Click "OK" when the "Close program" dialog box appears.

7. Open the driver-side door, press the Start/Stop button once, and then close the door.

Note: PAD mode is turned off, and the headlights are turned off by opening the driver-side door, pressing the Start/Stop button once, and then closing the door.

**8.** Disconnect the ISTA diagnostic cable and battery charger.

#### XIX. PLACE VEHICLE IN SLEEP MODE FOR 15 MINUTES

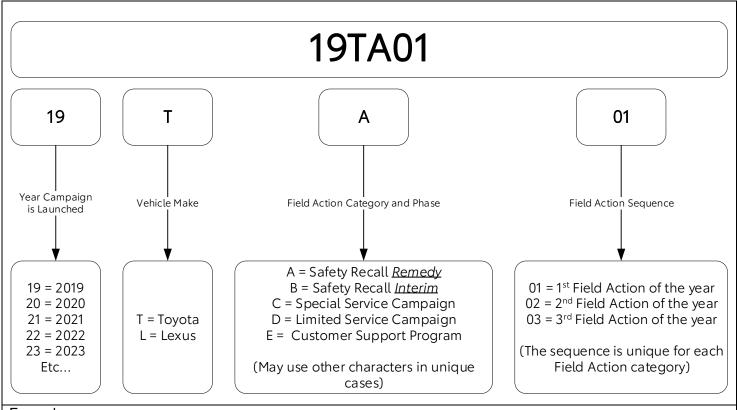
#### A. Place vehicle in sleep mode for 15 minutes

- 1. It is necessary to place the vehicle in sleep mode for 15 minutes to allow the KOMBI and fuel tank ECU to establish the correct size of fuel tank.
- 2. Sleep mode can be activated by shutting all the doors, hood, trunk and parking the vehicle for 15 minutes with keys away from the vehicle.

# **◄ VERIFY REPAIR QUALITY** ▶

 Confirm the I-Level meets or exceeds S18T-21-07-519. This Safety Recall is not considered compelted until the I-Level of the vehicle is S18T-21-07-519 or greater.

#### XX. CAMPAIGN DESIGNATION DECODER



#### Examples:

19TA01 = Launched in 2019, Toyota, Safety Recall Remedy Phase, 1<sup>st</sup> Safety Recall Launched in 2019 20TC02 = Launched in 2020, Special Service Campaign, 2<sup>nd</sup> Special Service Campaign Launched in 2020 21TE05 = Launched in 2021, Customer Support Program, 5<sup>th</sup> Customer Support Program Launched in 2021