TECHNICAL INSTRUCTIONS

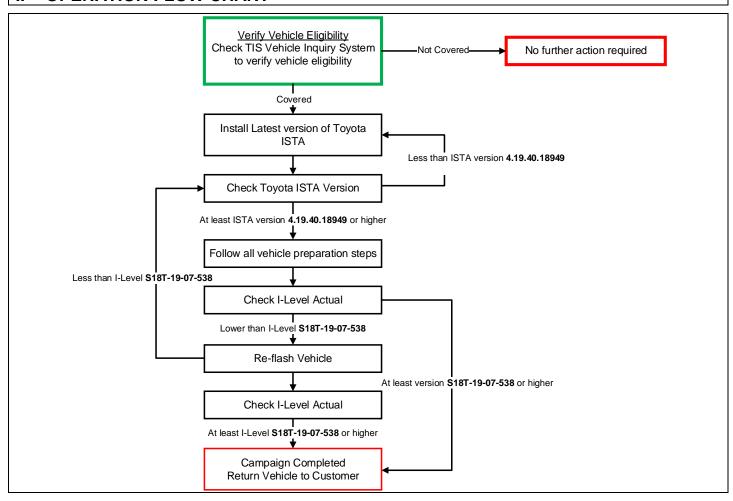
Safety (Noncompliance) Recall 19TA19
Certain 2020 Model Year Supra Vehicles
Back Up Camera Display - Brightness and Contrast Settings

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 hold <u>at least one</u> of the following certification levels:

- Certified (any specialty)
- Expert (any specialty)
- Master
- Master Diagnostic Technician

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

- 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. PREPERATION

A. TOOLS, SUPPLIES & EQUIPMENT

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

IV. BACKGROUND

This recall involves the FMVSS 111 Section 5.5.6 Default View requirements. Affected vehicles may not fully conform to Section 5.5.6 due to the ability of a vehicle operator to adjust brightness and contrast settings. When brightness is set at/near its lowest adjustment, and contrast is set at/near is highest setting, then at the next backing event, the displayed image may not fully conform to the requirements of Section 5.5.6. At the next backing event, if a vehicle operator relied on the displayed image with brightness set at/near its lowest adjustment setting, and contrast set at/near its highest adjustment setting, this could increase the risk of a crash or injury to persons who may be behind the vehicle.

V. OVERVIEW OF REMEDY 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 status of the ECUs on the vehicle is unified, so reprogramming is always carried out for <u>all</u> ECUs.

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.

I. 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.

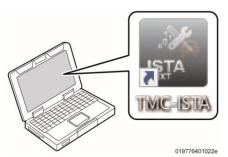
Minimum* ISTA Version Required for this Campaign: 4.19.40.18949.

*Versions of ISTA higher than 4.19.40.18949 are also acceptable. As a best practice you should <u>always</u> download the <u>latest</u> version of ISTA when performing this campaign.

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

II. CHECK ISTA VERSION OF ADVI

1. Its <u>CRITICAL</u> to confirm that the ISTA version installed on your Techstream ADVi meets or exceeds version 4.19.40.18949 before proceeding.



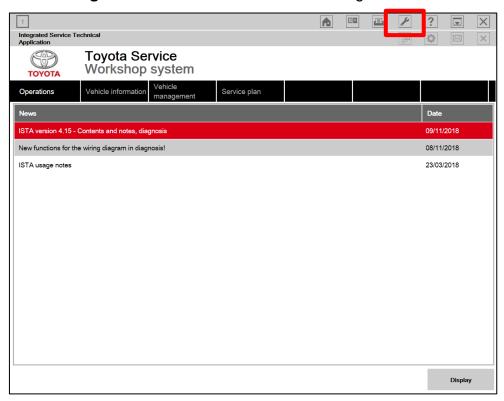
2. Start Toyota ISTA.

Double click the icon to start Toyota ISTA

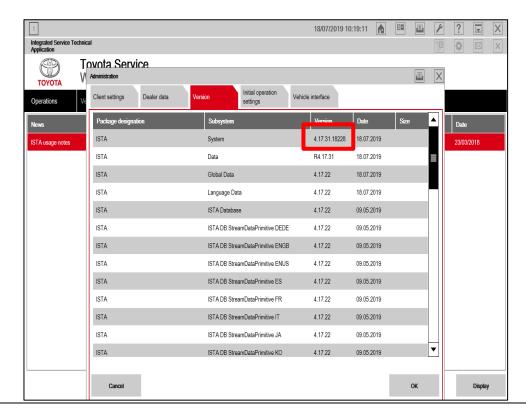
3. The following screen appears. Click "accept". 24/09/2019 11:45:57 Β× Integrated Service Technical Application **Tovota Service** Toyota ISTA usage notes Toyota ISTA usage notes out the aforementioned work, it is essential that the worker in question has completed his/her vocational training as a motor mechanic/fitter and has undergone regular further training as well as system-specific Toyota ISTA may only be used for official business purposes. The use of ISTA for private purposes is prohibited. The information gathered from Toyota ISTA must not be made accessible to unauthorised third parties. Important: Connecting a compatible battery charger before starting a diagnostic or repair task to prevent discharge of the 12 V battery is recommended. For programming control units, the following is required: For the entire programming time, a compatible battery charger must be used in order to avoid a programming abort due to battery discharge. For detailed information on the technical data of the compatible battery charger, please contact the responsible National Sales Company. Vehicle diagnosis Important general information on diagnosis can be found in the documents "Contents and notes, diagnosis"; this can be accessed from the "News" mask. The notes contained in these documents must be Maintenance and repair documentation Important general information on the maintenance and repair documentation can be found in the documents "New repair documentation content". These can be accessed from the "News" mask. The notes contained in these documents must be observed. If reference is made in the information provided to the use of special tools and tightening torques, these must be used without fail to ensure the correct completion of repairs. Reject Accept

CHECK ISTA VERSION ON ADVi (Continued)

4. Click on the Configuration Button as indicated in the figure.



5. Compare the installed verison to the minium reuqired version: 4.19.40.18949. If the version is less than version 4.19.40.18949, install the latest version using the instructions on page 4.



III. 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 for Pre-delivery technical instructions.

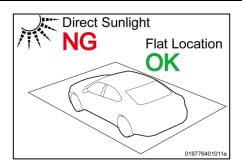
IV. PREPARE THE TECHSTREAM AVDI



- 1. Boot-up the ADVi.
- 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.
- 7. Attach the Techstream ADVi directly to an AC Power Supply.
- 8. Do not perform any other functions while Toyota ISTA is reprogramming.

V. PREPARE THE VEHICLE

NOTICE: 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.



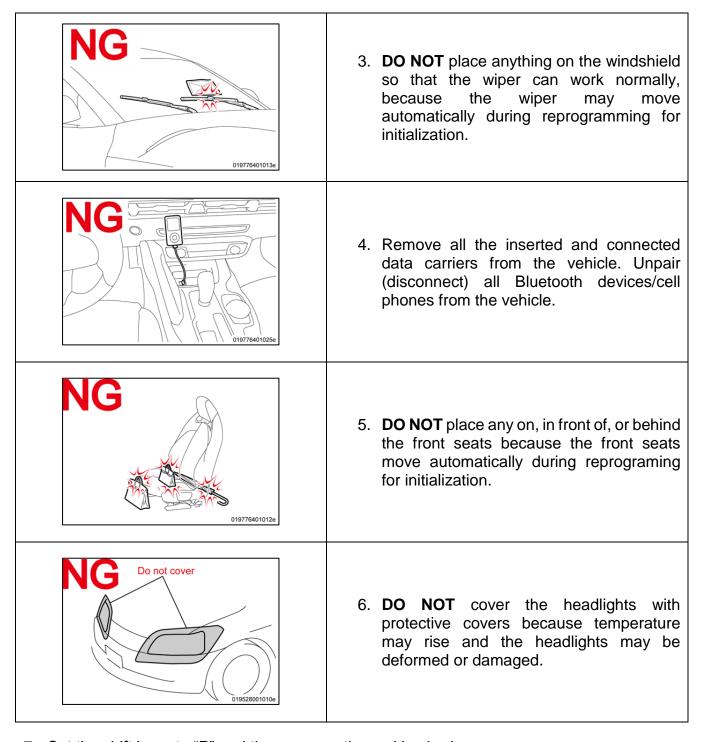
 Vehicle must be parked on a <u>flat</u> location that is not subject to direct sunlight

The ambient temperature around the vehicle must be higher than 59 degrees Fahrenheit.



2. Set the steering wheel and tires in the strait ahead position.

PREPARE THE VEHICLE (Continued.....)



- 7. Set the shift lever to "P" and then engage the parking brake.
- 8. Turn off the engine and then set all of the switches of the electrical components to off. Make sure the climate control and radio are turned off.
- 9. Close all doors and the back door, the hood must remain open as the battery charger will need to be connected to the charging terminal during the reprogramming process.

VI. CONNECT THE BATTERY CHARGER

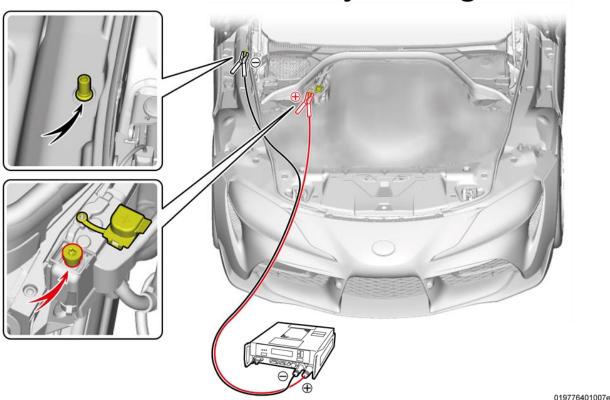
Before starting the reprogramming procedure, please make sure you have connected the DCA-8000 battery charger. The usage of a charger during the ECU Software update process is mandatory.

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 new 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.

Connect Battery Charger

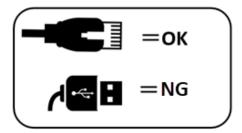


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VII. CONNECT THE TECHSTREAM ADVI TO THE VEHICLE

NOTICE: In the case of reprogramming, it is an absolute necessity that the vehicle is connected to the Techstream ADVi via the Toyota Supra Diagnostic Cable which has a LAN ethernet connection.

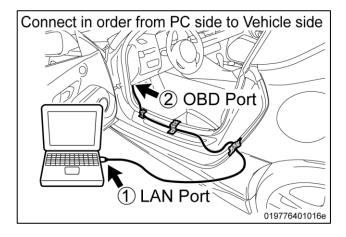
In order to maintain successful communication between the Techstream ADVi and the vehicle, the Toyota Supra Diagnostic cable must be used. Other interfaces that connect to the Techstream ADVi via USB are not allowed. Attempting to use such other devices may cause permanent ECU damage due to the slower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



1. Connect the Cable (connection sequence):

<u>Always</u> connect the SUPRA diagnostic cable **first** 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.



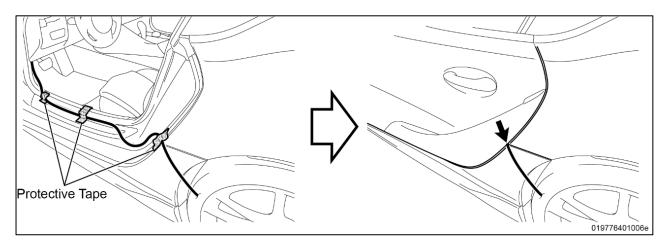
CONNECT THE TECHSTREAM ADVI TO VEHICLE (Continued...)

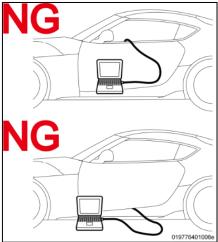
2. Position the cable.

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.**

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.

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.



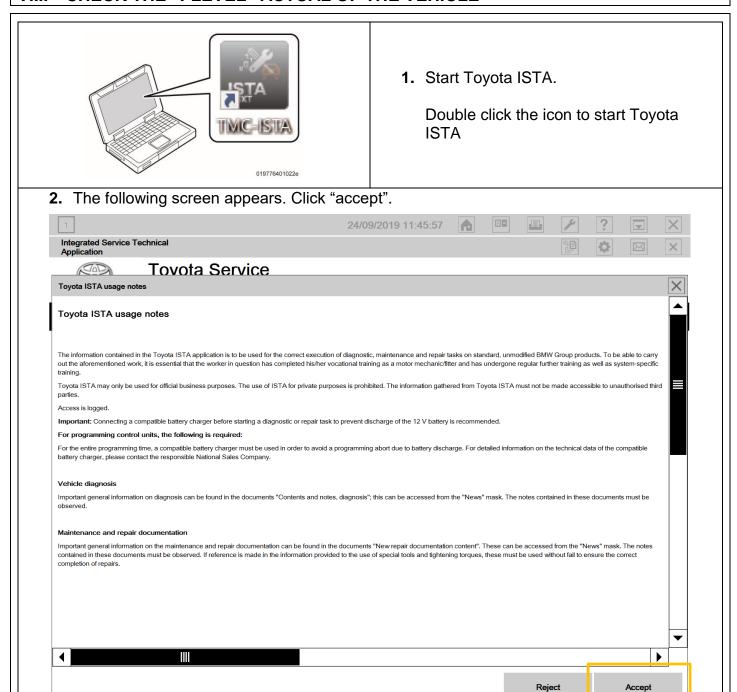


Do not attempt to pass the Supra Diagnostic cable thought the window opening. The window glass may move during reprogramming or initialization.

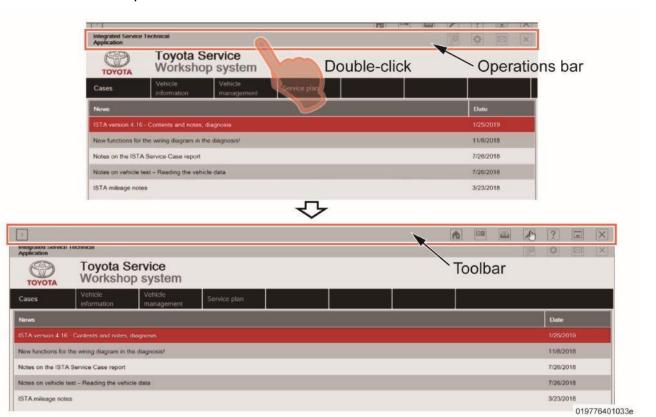
Ensure the cable is out of the path of the front Driver's seat. During initialization the driver's seat moves and could damage cable or disconnect the OBDII connector during movement.

Additionally, do not attempt to pass the Supra Diagnostic cable through any other position of the door opening as it may cause damage to the cable.

VIII. CHECK THE "I-LEVEL" ACTUAL OF THE VEHICLE



3. Double click the operations bar to maximize the screen and make the tool bar visible.



4. Activate to PAD Mode.

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

In order to have communication between the tester and the on-board ECUs the vehicle must be put into an energy mode similar to IG-ON with engine OFF. For the Toyota Supra this mode is called PAD mode and it ensures that all ECUs receive energy in order to reply to requests of Toyota-ISTA.

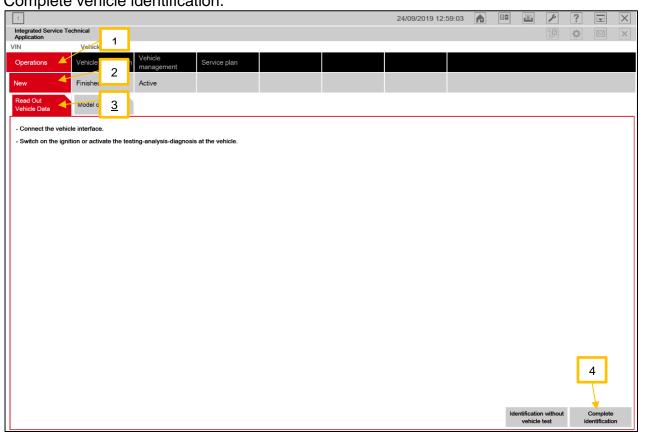
CRITICAL NOTICE: While the vehicle is in PAD mode all energy monitoring logic will be disabled. The technician must utilize a battery charger to maintain sufficient current during all diagnosis and programming activities. If the battery charger is not connected battery life will be affected and ECU damage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

NOTICE: 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.

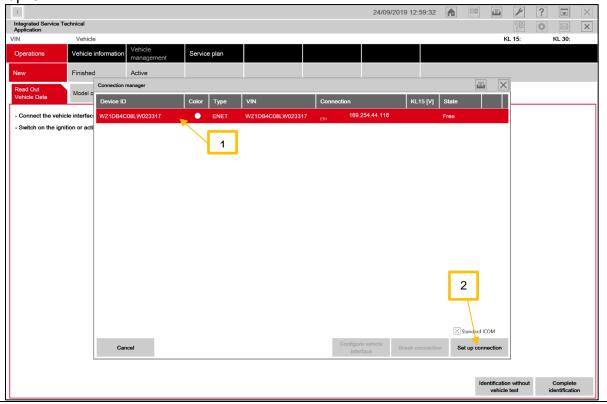
5. Do not open or close the driver's door during the programming routine.



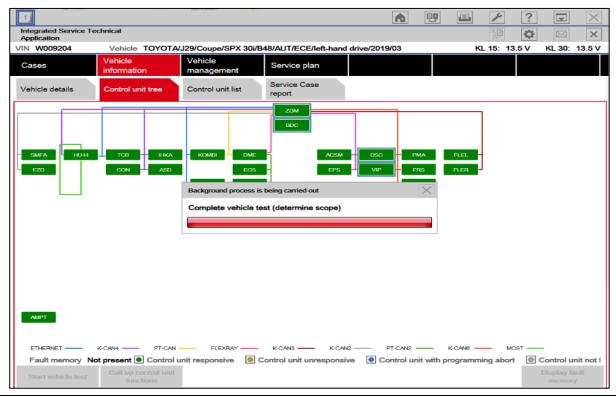
6. Complete vehicle identification.



7. At the "Connection manager" screen, select the vehicle identification number, and then click "Set up Connection".



8. The identification of all ECU's will start as shown below.

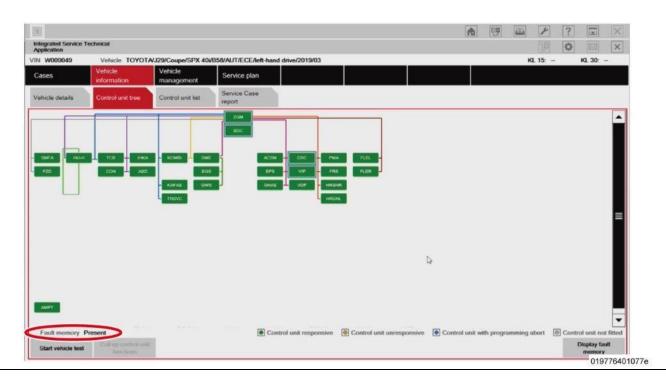


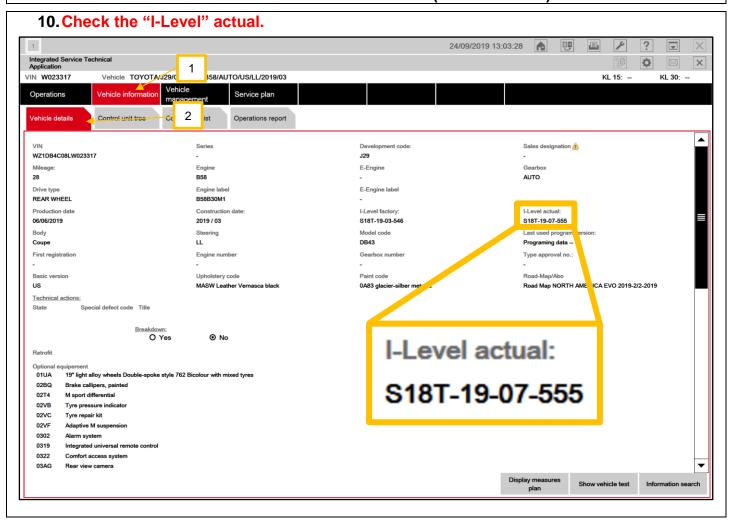
NOTICE: If the dialog box in the image below appears, click "OK" to close the dialog box, and then continue work. Toyota ISTA will attempt to establish a data exchange with the central server. In the absence of an available connection route (because of no Internet connection is available or the PC connection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



9. The control unit screen will appear after the identification has ended.

NOTICE: 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/





11.Confirm if the vehicle requires reprogramming based upon the "I-Level actual" of the vehicle. Use the superiority decoder below.

"I-Level" Actual of Vehicle	Required Action
Lower than S18T-19-07-538	REPROGRAMMING REQUIRED. Continue with this
	procedure.
Equal to or Greater than S18T-19-07-538	WORK IS COMPLETE. Reprogramming is not required.
	disconnecting the diagnostic cable.

I-Level Superiority Decoder

I-Level: \$18T-19-03-330

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

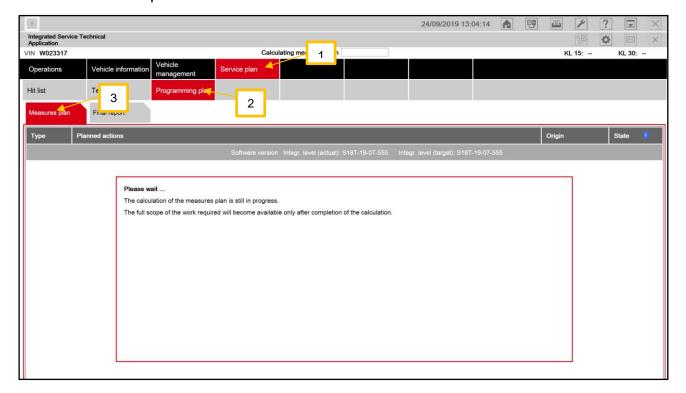
EXAMPLE:

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

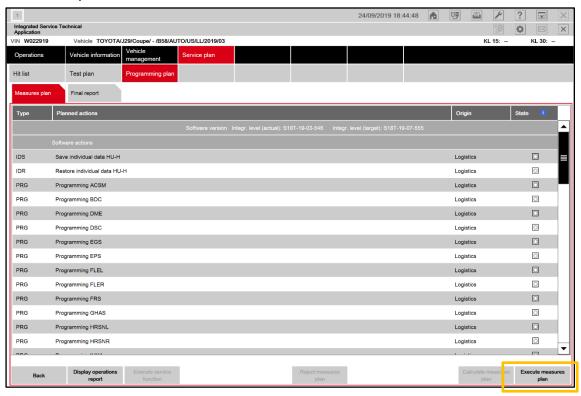
S18T-19-07-555 is higher than S18T-19-03-585 because it was released in a later month.

IX. PERFORM THE REPROGRAMMING

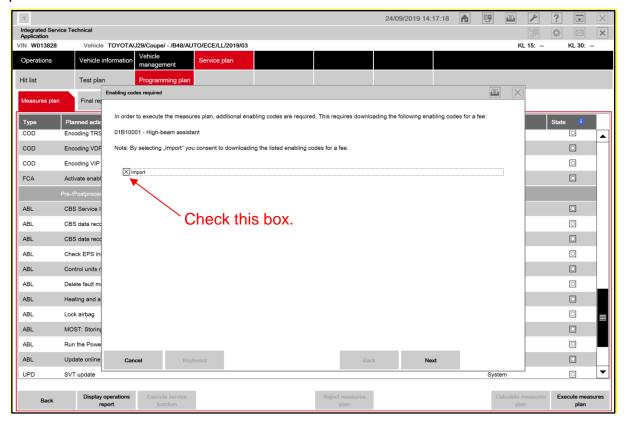
- 1. Perform the reprogramming if the vehicle's current I-Level is lower than S18T-19-07-538.
- 2. Select service plan as shown below.



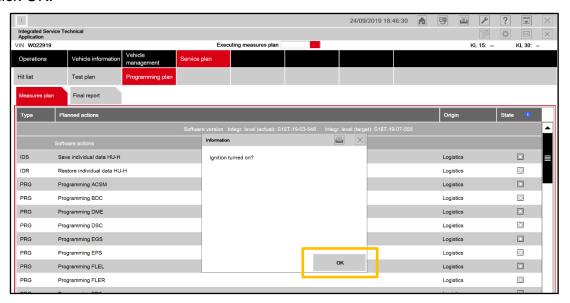
3. After the "calculation of measures plan closes" and the screen changes, click execute measures plan.



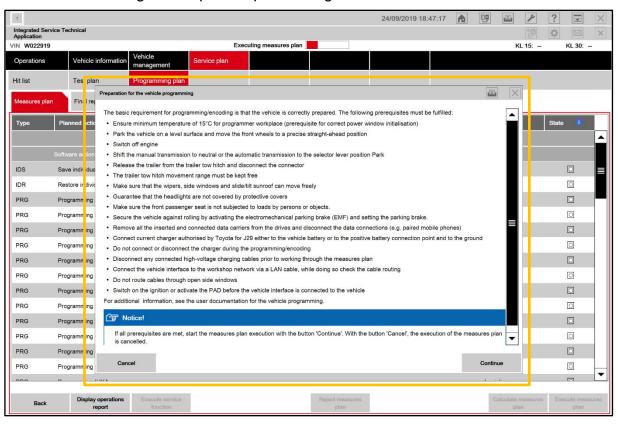
Note: If ISTA requests enabling codes in order to execute the measures plan, you should check the "import" box and then click "next".



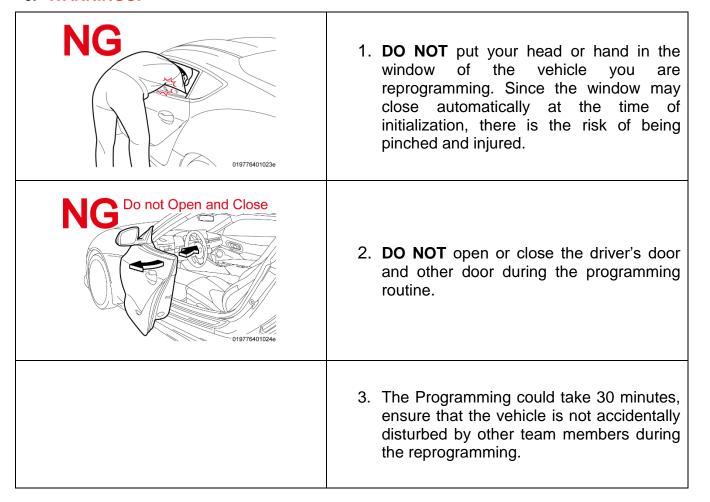
4. Click OK.



5. Check the warnings listed prior to proceeding.



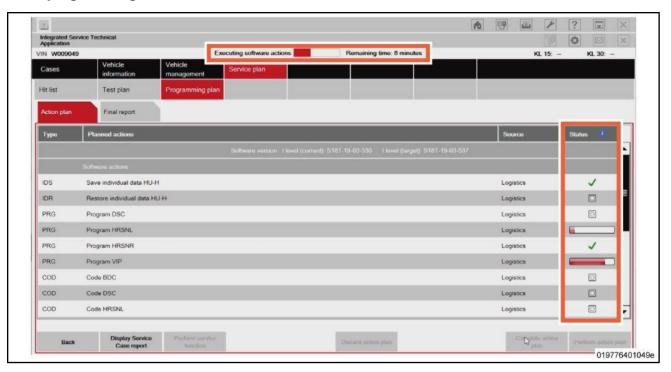
6. WARNINGS:



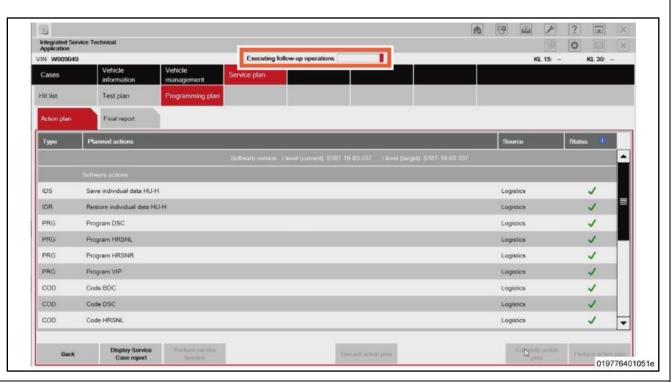
7. The reprogramming progress status of each ECU is displayed in the 'Status' column. The overall progress status is indicated at the top of the screen.

NOTICE:

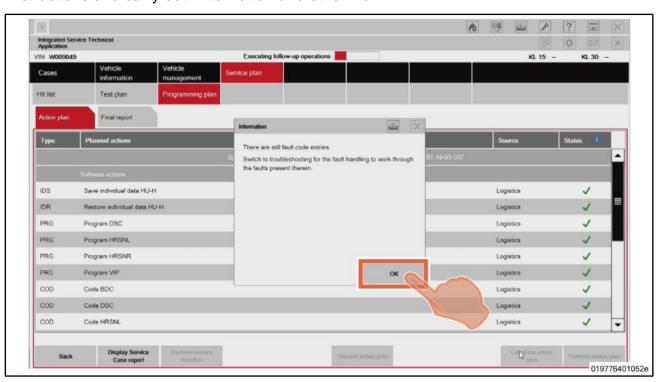
- Even when the "Status" column is filled with checkmarks (✓), always check the display at the top center of the screen (header line) for the progress status, because initialization and other work is being carried out in addition to reprogramming.
- Wait until the reprograming in finished before manipulating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



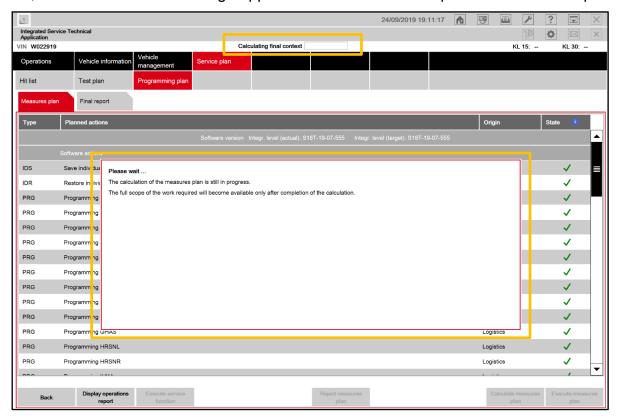
8. Executing follow-up operations is displayed in the center of the screen.



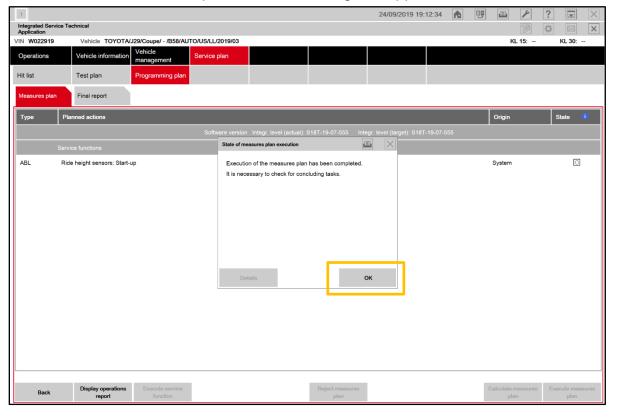
Notice: If the following "Information" dialog box is displayed during "Executing follow-up operation", click "OK" to continue the follow-up operation. After reprogramming is complete, follow the onscreen instructions and carry out initialization and other work.



9. "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.



10. After the status of measures plan execution dialog box appears, click OK.

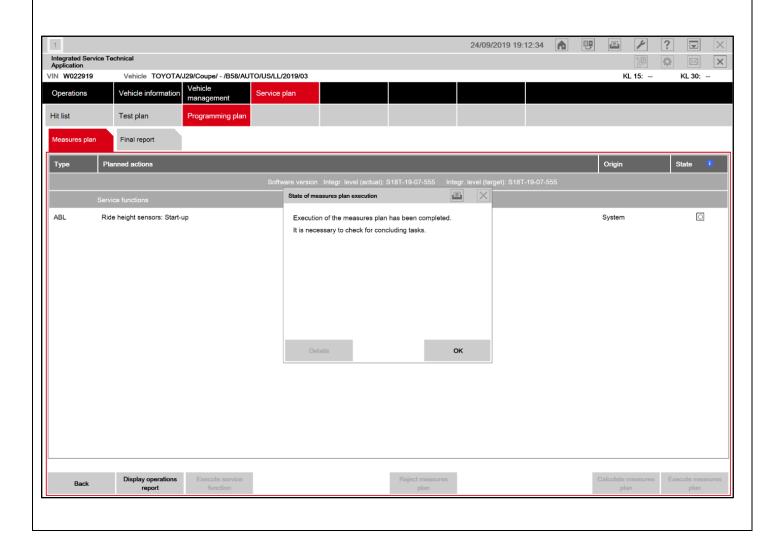


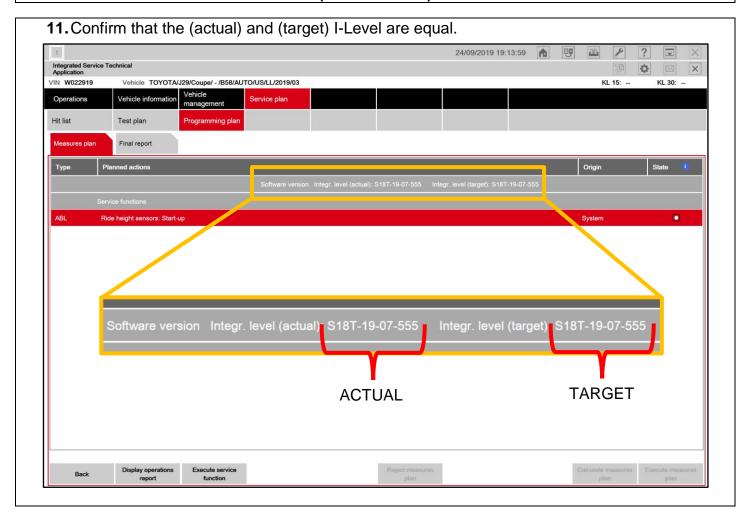
NOTICE: After reprogramming has completed Toyota-ISTA may request additional functions to complete. These additional functions may include initialization of seats, windows, mirrors or headlights. Toyota-ISTA may provide instructions such as ensuring there are no obstructions of the object that requires 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.

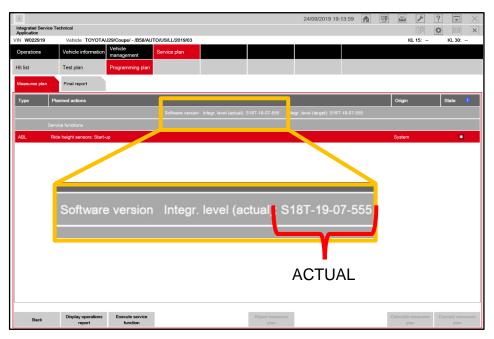
If ride height is required, you will need to insert the ride height for both the front and rear wheels. This will require you to measure this height in millimeters. The repair manual procedure can be found in this location:

Vehicle Exterior > LIGHTING (EXT) > HEIGHT CONTROL SENSOR > INSTALLATION 5.ADJUST HEIGHT CONTROL SENSOR





12. Confirm that the I-Level actual of the vehicle meets or exceeds S18T-19-07-538.



"I-Level" Actual of Vehicle	Required Action
Lower than S18T-19-07-538	REPROGRAMMING REQUIRED. Refer to page to page 5 to check that your version of ISTA is the minimum required version.
Equal to or Greater than S18T-19-07-538	WORK IS COMPLETE. Placing the vehicle in "Sleep mode" is required. Proceed with the procedure to place the vehicle in "Sleep mode".

I-Level Superiority Decoder

I-Level: \$18T-19-03-330

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

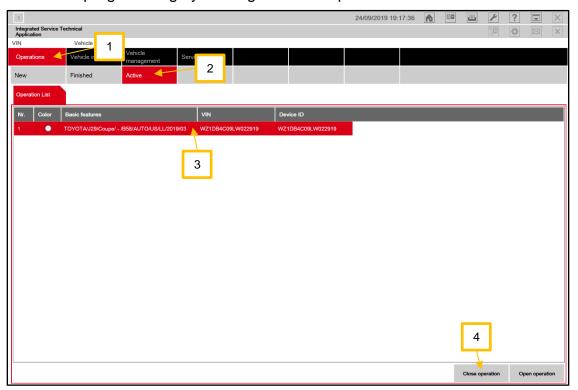
EXAMPLE:

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

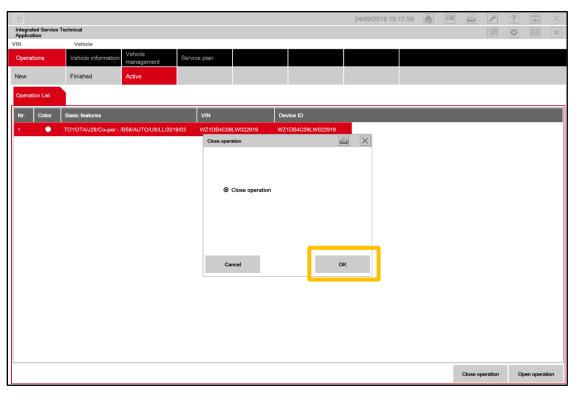
S18T-19-07-555 is higher than S18T-19-03-585 because it was released in a later month.

X. CLOSE OUT OF TOYOTA ISTA

1. Finish the reprogramming by clicking the close operation button.



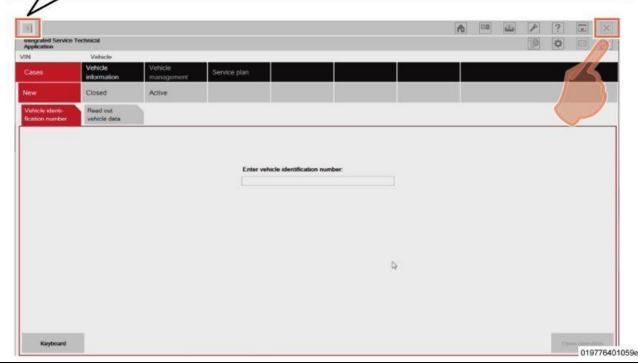
2. Click ok when the "Close operation" dialog box appears.



CLOSE OUT OF TOYOTA ISTA (Continued...)

3. 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".

Icon	Color and Status	Meaning
1	Gray	Job Completed; Click $oxtimes$ at the Right on the Toolbar.
Г	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.



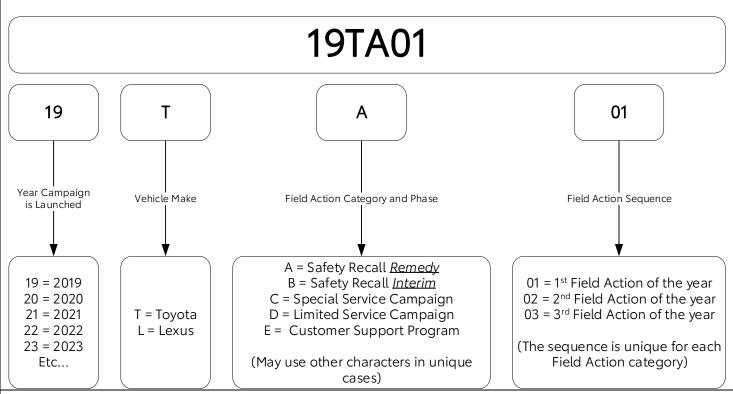
- **4.** Open the driver-side door, press the Start/Stop button once, and then close the door. This deactivates PAD mode.
- **5.** Disconnect the SUPRA diagnostic cable.

XI. Place the vehicle in sleep mode for 15 MINUTES.

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.

1. Sleep mode can be activated by shutting all the doors, hood, trunk and parking the vehicle for 15 minutes with <u>keys away from the vehicle</u>.

Campaign Designation / Phase Decoder



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