#### **TECHNICAL INSTRUCTIONS**

#### FOR

#### **SAFETY RECALL 19TA20**

#### HEADLAMP(S) MAY BECOME INOPERATIVE

**CERTAIN 2020 SUPRA** 

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:

- Expert Technician (any specialty) + TIN519B Instructor led course
- Master Technician (any specialty) + TIN519B Instructor led course
- Master Diagnostic Technician + TIN519B Instructor led course

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.

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#### BEFORE YOU SCHEDULE CUSTOMERS OR INITIATE REPAIRS, READ BELOW:

THE REMEDY WILL REQUIRE CALIBRATION OF THE MILLIMETER WAVE RADAR SENSOR BECAUSE THAT PART IS REMOVED DURING THE REPAIR. DEALERSHIPS <u>DO NOT HAVE</u> THE TOOLS REQUIRED TO CALIBRATE THE MILLIMETER WAVE RADAR SENSOR AS OUTLINED IN THE TECHNICAL INSTRUCTIONS ON TIS.

YOU MUST REQUEST A TOOL TO BE LOANED TO YOUR DEALERSHIP FROM YOUR REGION OFFICE. NATIONWIDE SUPPLY OF THESE TOOLS IS VERY LIMITED.

BEFORE SCHEDULING ANY CUSTOMERS, OR INITIATING ANY REPAIRS, PLEASE ENSURE THAT YOU HAVE SECURED A TOOL FOR THE TIME REQUIRED FOR THE CUSTOMER'S APPOINTMENT.

#### CONTACT YOUR FIELD TECHNICAL SPECIALIST FOR DETAILS ON OBTAINING THESE REQUIRED TOOLS.

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Setting Device	
Wheel Laser	
Slotted Cover	
Rail	
	Setting Device Wheel Laser Slotted Cover Rail



Self-Centering Wheel Adapter

#### I. OPERATION FLOW CHART



#### II. IDENTIFICATION OF AFFECTED VEHICLES

- 1. CHECK VEHICLE FOR CAMPAIGN ELIGIBILITY
  - a. Compare the vehicles VIN to the VIN listed on the Repair Order to ensure they match.
  - b. Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Campaign, and that it has not already been completed.

Note: TMNA warranty will not reimburse dealers for repairs completed on vehicles that are not affected or were previously completed, even by another dealer.

#### **III. PREPARATION**

A. PARTS

Part Number	Part Description	Quantity
85967-WAA01	Computer, Light Control	Check TIS to determine if 1 or 2 is required

#### B. TOOLS & EQUIPMENT

Techstream with ISTA
 Standard Hand Tools
 Torque Wrench

SST - These Special Service Tools required for this repair:

Pa	art Number	Tool Name	<b>;</b>	Quantity
098	300-WA300	Rail		1 (Dealer supplied)
098	300-WA150	MWRS Calibration	on Kit*	Contact FTS for availability
	755.	*The set above includes	the following t	
*1	Setting Device			
*2	Wheel Laser	8		
*3	Slotted Cover			
*4	Rail (Dealer Supplied)		Self-Cent	tering Wheel Adapter
L				

Most dealerships DO NOT have the MWRS Calibration Kit required for this activity. Please contact your Regional Field Technical Specialist for directions on obtaining this required tool.

During the initial launch of this campaign, these required tools will not be available in the Supra Loaner Tools program. They must be sourced from your Regional Field Technical Specialist.

#### **IV. BACKGROUND**

Certain left and/or right headlamp(s) may experience a loss of function. If a loss of function to the left and/or right headlamp occurred, this would affect headlamp illumination and turn-signal function. Driving without a turn signal or with both headlamps disabled could increase the risk of a crash.



- 1: Attachment Screws
- 2: Light Control ECU on
- back side of headlamp.

#### V. COMPONENTS



*1 LIGHT CONTROL LED ECU torque
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*1 HEADLIGHT ASSEMBLY		N*m (kgf*cm, ft.*lbf): Specified torque
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*1	FRONT BUMPER ASSEMBLY	*2	FRONT FENDER LINER LH
*3	FRONT FENDER LINER RH	*4	HOOD TO RADIATOR SUPPORT SEAL
*5	FRONT FENDER UPPER PROTECTOR LH	*6	FRONT FENDER UPPER PROTECTOR RH
	N*m (kgf*cm, ft.*lbf): Specified torque	-	_

#### VI. DETERMINE LIGHT CONTROL ECU(S) TO REPLACE

Replacement of the **DRIVER SIDE**, **PASSENGER SIDE**, or **BOTH** Light Control ECU(s) will be required based upon each vehicle's production records. Only perform the replacement(s) that is specified for each specific VIN using the process detailed below.

- a. Using Vehicle Inquiry in TIS or Service Lane, search the VIN number to locate the campaign information for each vehicle.
- b. Review the MEMO: field to determine which Light Control ECU(s) will require replacement.

Replacement Location:	Vehicle Inquiry Display
<u>DRIVER</u>	Campaign Description: Safety Recall 19TA20 (Remedy Notice) - Certain 2020 Model Year Supra Vehicles, Campaign Status: Remedy Available Completion Status: Not Completed Memo: Affected Headlamp EU: DRIVER SIDE
PASSENGER	Campaign Description: Safety Recall 19TA20 (Remedy Notice) - Certain 2020 Model Year Supra Vehicles, Campaign Status: Remedy Available Completion Status: Not Completed Memo: Affected Headlamp EcU: PASSENGER SIDE
<u>BOTH</u>	Campaign Description: Safety Recall 19TA20 (Remedy Notice) - Certain 2020 Model Year Supra Vehicles, Campaign Status: Remedy Available Completion Status: Not Completed Memo: Affected Headlamp ECC: BOTH SIDES



#### VII. REMOVE LIGHT CONTROL ECU(S)

#### 1. REMOVE FRONT BUMPER

a. Follow the Repair Manual procedure to remove the front bumper assembly:

EXTERIOR PANELS / TRIM: FRONT BUMPER: REMOVAL; 2020 MY Supra (RM100000001JCMK)

# **CRITICAL INFORMATION**

Shims may be installed at any of 6 bolt locations on the front bumper assembly to properly position the front bumper cover. It will be necessary to inspect and record where and how many shims are installed, and restore them to the original state during front bumper assembly.



- a. Loosen the 6 bolts, but do not remove them.
- b. Raise the end of the front bumper and inspect where and how many shims are installed between the front bumper and front crossmember.
- c. Record the inspection result in the table below.

DO NOT perform the inspection after removing the bolts as it could be impossible to identify the location and number of shims. Be sure to perform the inspection when bolts are loosened.

Position	Α	В	С	D	E	F
Number of						
shims						

## **CRITICAL INFORMATION**

There is a hook-&-loop type fastener bar that may remain attached to the bumper cover upon removal.



a. Confirm that each (Driver and Passenger) fastener bar is installed correctly onto the locating pin of each headlamp.

Since the bar has locating pins, the bumper cover cannot be installed if the fastener bar is attached to the bumper cover.

Fastener Bar

**Locating Pin** 

#### 2. REMOVE HEADLIGHT ASSEMBLY(s)

a. Follow the Repair Manual procedure to remove the effected headlight(s) as determined in Section VI:

LIGHTING (EXT): HEADLIGHT ASSEMBLY: REMOVAL; 2020 MY Supra (RM100000001JCK4)

#### 3. REMOVE LIGHT CONTROL ECU(s)

a. Follow the Repair Manual procedure to remove the Light Control ECU from the headlight assembly. Be sure to remove only the ECU's (Driver, Passenger, or Both) identified when searching the VIN on Service Lane or Vehicle Inquiry.

LIGHTING (EXT): HEADLIGHT ECU: REMOVAL; 2020 MY Supra (RM100000001JCL7)

#### VIII. INSTALL NEW LIGHT CONTROL ECU

#### 1. INSTALL NEW LIGHT CONTROL ECU

a. Follow the Repair Manual procedure to install the *NEW* Light Control ECU(s) into the headlight(s) assembly.

LIGHTING (EXT): HEADLIGHT ECU: INSTALLATION; 2020 MY Supra (RM10000001JCL8)

#### IX. INSTALL FRONT BUMPER

#### 1. INSTALL HEADLIGHT ASSEMBLY

a. Follow the Repair Manual procedure to install headlight assembly.

LIGHTING (EXT): HEADLIGHT ASSEMBLY: INSTALLATION; 2020 MY Supra (RM100000001JCK7)

#### 2. INSTALL FRONT BUMPER

a. Follow the Repair Manual procedure to install the front bumper assembly:

EXTERIOR PANELS / TRIM: FRONT BUMPER: INSTALLATION; 2020 MY Supra (RM100000001JCMN)

Note: The procedures detailed in the Repair Manual for Headlamp Assembly Adjustment can be skipped at this time. The Headlamp Assembly will by adjusted in later steps after the Headlamp Control ECU has been registered.

## **CRITICAL INFORMATION**

Shims may be installed at each of 6 bolts on the front bumper assembly. If there are any shims, record where and how many shims are installed, and restore them to the original state when reinstalling the front bumper assembly.



a. After temporarily installing the front bumper, insert the shims according to the positions and number recorded.

Visually confirm that the installation hole on the front bumper and the hole of the shim are aligned. If you push in the shim too much when installing, it may fall off. If you drop a shim, you have to remove the front bumper to pick it up.

#### X. REGISTER LIGHT CONTROL ECU



#### 1. TRANSPORTATION MODE

a. Transportation Mode must be OFF. If the vehicle has not had the Pre-Delivery Service completed, the Transportation Mode may still be ON. Refer to the following TSB for details.

T-SB-0081-19 Navigation Map Activation and Transport Mode Deletion During PDS

#### 2. REGISTER LIGHT CONTROL ECU

a. Follow each of the steps detailed below to register the **NEW** Light Control ECU(s).

Operations       Vehicle information       management       Servition         New       2       Finished       Active       Active         Read Out       3       Model code       Active       Active         - Connect the vehicle interface.       - Switch on the ignition or activate the testing-analysis-diagnosis at the vehicle interface.	vehicle.				<ol> <li>Operations</li> <li>New</li> <li>Read Out Vehicle Data</li> <li>Complete Identification</li> </ol>
- Connect the vehicle interface.     - Switch on the ignition or activate the testing-analysis-diagnosis at the	vehicle.				Identification
			_		

Integrated Service Technical Application         VIN       Vehicle         Connection manager         Device ID       Color         Type       VIN         Connection       KL15 [V]         State         VZIDB4C01LW025894       ENET         WZIDB4C01LW025894       ENET	Select: 1. Highlight VIN 2. Set up Connection
Cancel Cancel Configures vehicle interface Break connection Stup connection 31/01/2020 14:25:56 Review Connection Stup conn	Select: 1. Vehicle Information 2. Control Unit Tree 3. BDC icon 4. Call Up ECU
SMFA       HUHH       TCB       HKX       KXMB       DME       ACSM       DSC       HMX       FLE         F20       MAPT       CON       AS0       KXMAS       GWS       GWS       FFS       FLER         F20       MAPT       CON       AS0       KXMAS       GWS       GWS       GWS       FFS       FLER         GFMS       VIP       HFSNR       HERNET       GWS       GWS       GWS       HKSNR         FILER       HFSNR       HFSNR       HFSNR       HFSNR       HFSNR       HFSNR         Fault memory       From       FCM       FLER       KCAN2       FT-CAN2       KCAN2       MST         Fault memory       From       Ecu responding       Ecu not responding       Ecu with programming abort       Control unit not fitted         Start vehicle test       Call up ECU functions       GE       Cu not responding       Ecu with programming abort       Display fault	4. Call Up ECU Functions

Integrated Services Technical Applications     Value 2005444     Value 2005444     Vehicle TOYOTAU29/Coupel - //658/AUTO/USALI2019/07     Kit 15: -     Kit 30: -     Cold Junction     Diagnosis scan     Optionant Control unit     Cold Junction     Control unit     Product and data information     Bitter:     Restions control unit     Control unit     Product and data information        Product and data information <th>Select: 1. Component Triggering 2. Reset Control Unit 3. Trigger component</th>	Select: 1. Component Triggering 2. Reset Control Unit 3. Trigger component
<complex-block></complex-block>	Select: 1. Confirm Status changes to "Control unit reset was carried out" 2. Select Close

/IN W025894 Operations Documents/ search Before Replacement	Vehicle TOYOTA/J29/Coupe/ - (B58/AUTO/US/LL/2019/07         Vehicle information       Vehicle 1 management       Service plan       Vehicle         Troubleshooting       Service functions       Software update       Control Unit Replacement       Vehicle modific	KL 15: KL 30: Select: A ation Select: 1. Vehicle Managemen 2. Control Unit Replacemen
Abbreviation ACSM AMPT ASD BDC CON	Control unit name         Crash safety module         Top HiFi amplifier         Active sound design         Body Domain Controller         Controller	Replaced  Replaced
DME DSC EGS EPS FLEL Note:	Digital Motor Electronics Dynamic Stability Control Electronic transmission control Electromechanical power steering Frontal Light Electronics Left Exastel Light Electronics Dight	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

Note: If the Power Economy Mode is set, try cycling the diagnosis mode (PAD) and operate multiple electrical components inside the car repeatedly to "wake" the up the system. If this does not work, it may be necessary to disconnect and reconnect ISTA to the vehicle.

ratondon.	
Power econon	ny mode is set!
Measures plan	a could not be calculated.
In order to dele manually.	ete the power economy mode the measures plan calculation must be started
To do this, dis	play and recalculate the measures plan using the corresponding button.

Integrated Se	31/01/2020 14:59:21		? 😨 🗙	
/IN W02589	4 Vehicle TOYOTA/J29/Coupe/ - /B58/AUTO/US/LL/2019/07	KL 15: -	- KL 30:	
Operations	Vehicle information Vehicle Service plan			Select:
Hit list	Test plan 2 Programming plan			1. Service plan
Measures pla	an Final report			plan
Туре	Planned actions	Origin	State 🕕	3. Measures Pla
	Software version Integr. level (actual): S18T-19-07-530 Int	egr. level (target): S18T-19-11-534		4. Install FLEL and/or FLER
MART	Hardware actions	Manual		5. Calculate
MINT		Manuai		Measures PI
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IDR	Restore individual data HU-H	Logistics		
PRG	Programming ASD	Logistics		
PRG	Programming BDC	Logistics		
PRG	Programming CON	Logistics		
PRG	Programming DME	Logistics		
PRG	Programming DSC	Logistics		
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W W025894	Executing measures plan		KL 15:	KL 30: -	Select:
eparation for the vehicle programming	· · · · · · · · · · · · · · · · · · ·				1. Continue
The basic requirement for programming/enc	oding is that the vehicle is correctly prepared. The	e following prerequis	sites must be fulfilled:		
• Ensure minimum temperature of 15°C for	r programmer workplace (prerequisite for correct	power window initial	lisation)		
· Park the vehicle on a level surface and m	nove the front wheels to a precise straight-ahead	position	52 M 53 3 5 5 5 7 9 9		
Switch off engine					
Shift the manual transmission to neutral of	or the automatic transmission to the selector leve	r position Park			Allow the softwar
· Release the trailer from the trailer tow hit	ch and disconnect the connector				undate to
• The trailer tow hitch movement range mu	ist be kept free				
· Make sure that the wipers, side windows	and slide/tilt sunroof can move freely				complete.
· Guarantee that the headlights are not con	vered by protective covers				
· Make sure the front passenger seat is no	t subjected to loads by persons or objects.				
· Secure the vehicle against rolling by activ	vating the electromechanical parking brake (EMF	) and setting the par	king brake.		
· Remove all the inserted and connected d	lata carriers from the drives and disconnect the d	lata connections (e.g	, paired mobile phones)		
Connect current charger authorised by T	oyota for J29 either to the vehicle battery or to the	e positive battery co	nnection point and to the g	round	
· Do not connect or disconnect the charge	r during the programming/encoding				
· Disconnect any connected high-voltage of	charging cables prior to working through the measure	sures plan			
· Connect the vehicle interface to the work	shop network via a LAN cable, while doing so ch	eck the cable routing	9		
· Do not route cables through open side with	indows				
Switch on the ignition or activate the PAE	before the vehicle interface is connected to the	vehicle			
For additional information, see the user doc	umentation for the vehicle programming.				
C Notice!					
If all prerequisites are met, start the mea	asures plan execution with the button 'Continue'. \	With the button 'Can	cel', the execution of the m	easures plan	
is cancelled.					
			<b>A</b>		

# XI. CLEARING DTC (if present)

#### If the Malfunction Indicator on the dash is illuminated, perform the following steps:



1 Integrated Ser Application VIN W026765 Operations Documents/ search Fault memory Code	vice Technical Vehicle TOYOTA Vehicle information 2 Troubleshooting Fault pattern Description	/J29/Coupe/ - /B58/AU Vehicle management Service functions Function Structure	04/02/2020 1 TO/US/LL/2019/07 Service plan Software update Component Structure	7:45:53 A	KL 15: KL 15: Vehicle modification SAE fault code input Existent	- KL	x 30: -	Se 1. 2. 3. 4.	lect: Vehicle Management Troubleshooting Fault Memory Calculate test
E12C4D Number of fau Show fault of	It memories: 2/2 No. Delete fault memory	fault patterns: 0 F Filter fault memory	Filter: Default	TC related to readlight	yes	Calcula	>> te test plan		
1 Integrated Serv Application /IN W026765 Operations Hit list Type Tit Hos ABL LEC OS ABL CAI	rice Technical Vehicle TOYOTA Vehicle information Test plan 2 le utilialit D headlight (all versions) system analysis. Signal radius N/FlexRay bus system analys	/J29/Coupe/ - /B58/AL Vehicle management Programming plan	04/02/2020 1 ITO/US/LL/2019/07 Service plan	17:46:21	KL 15	E C	Image: Second secon	Se 1. 2. 3. 4.	lect: Service Plan Test Plan LED headlight (all versions) Display

Procedure	rsions) - V.11 Description De	etails System context		1. Procedure 2. Fault Code
Fault data Following fault data are stored for the tested function or co ponent group.	Fault description	Short circuit to ground detected at left low- beam headlight output. Output has short circuit to ground	▲	o. ooninde
1 804194 Low-beam headlight (AL), left: Short circuit	Condition for fault identification	Supply voltage 11 to 16 volts Terminal 30 on PWF status: Testing-analysis-diagnosis PWF status: Residing Note: The designations of terminal status of PWF status apply according to the vehicle electrical system of the vehicle.		
Select fault code and continue procedure.	Condition for fault memory entry Action in service	Fault entry after 5 seconds.  1. Check the front left low-beam headlight (light. connector. bulb sockets. electronic		
Back Keyb	sard	Full Screen	ontinue	
Back Keyb Integrated Service Technical Application IN W026765 Vehicle TOYOTA/J29/Coupe/-/	04/02/2020 17:47:0	Full Screen 3 C	nntinue	Select:
Back Keyb Integrated Service Technical Application IN W026765 Vehicle TOYOTAJ29/Coupe/-/ BL-DIT-AT6300_FLM02_SCHW - LED headlight (all vers Procedure	04/02/2020 17:47:03 358/AUTO/US/LL/2019/07 ons) - V.11 Wiring Diagram Function	Full Screen 3 C	Imminue           Imminue           Imminue           Imminue           Imminue           Imminue           Imminue	Select: 1. Continue
Back Keyb Back Keyb Integrated Service Technical Application N W026765 Vehicle TOYOTAJ29/Coupe/-/ BL-DIT-AT6300 FLM02_SCHW - LED headlight (all vers Procedure this test step, short circuits of all light source circuits of the DC control unit will be processed.  Notice! If multiple short-circuits are present, the test module must be started several times. The sequence of processing is determined by the test module.  Notice! Notice!	aard 04/02/2020 17:47:03 04/02/2020 17:47:03 04/02/2020 17:47:03 000) - V.11 Viring Diagram Function Exterior lighting The activity lights adves the owner to identify a simulate the visco decomponent of the following components of Exterior lighting The activity light advest the owner to identify advest the following components of Exterior lighting The activity light advest the owner to identify the activity light advest the activity light advest the owner to identify the activity light advest the owner to	Full Screen         5         6         1          1 <td>ck</td> <td>Select: 1. Continue</td>	ck	Select: 1. Continue
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Integrated Service Technical Application VIN W025894 Vehicle TOYOTAJ2 ABL-DIT-AT6300_FLM02_SCHW - LED headle Procedure	3 19/Coupe/ - /B58/AUTO/US/L light (all versions) - V.11 Wining	1/01/2020 14:10:4- L/2019/07 9 Diagram Func- tion	4 🖍 📴	KL 15: -	KL 30	Se 1.	lect: Close ABL Module
A short circuit is entered for the following circuit i control unit: Low-beam headlight, left The fault is currently present. See also functional description. Perform interactive troubleshooting. Return to selection	in the BDC						
Back	Keyboard			Full Screen	Continue		
Integrated Service Technical Application           /IN W026765         Vehicle TOYOTAJ2           Operations         Vehicle information           Documents/         Operations	29/Coupe/ - /858/AUTO/L Vehicle management	04/02/2020 17 US/LL/2019/07 ervice plan	7:45:53	KL 15:	<ul> <li>?</li> <li>.</li> <li>KL 30: -</li> </ul>	Se 1.	lect: Vehicle management
Integrated Service Technical Application       /IN W026765       Operations       Vehicle TOYOTAJ2       Operations       Vehicle information       Documents/ search       Z       Troubleshooting       Fault memory       Fault pattern       Code       Description	29/Coupe/ - /B58/AUTO/I Vehicle Se management Se Service functions Sc Function Co Structure Str	04/02/2020 17 US/LL/2019/07 ervice plan oftware update omponent ructure	Control Unit Replacement Text Search Mileage	KL 15: KL 15: Vehicle modification SAE fault code input Existent	<ul> <li>?</li> <li>×</li> <li>×</li></ul>	Se 1. 2. 3. 4.	lect: Vehicle management Troubleshooting Fault Memory Delete Fault
Integrated Service Technical Application       //IN W026765       Vehicle TOYOTAU2       Operations       Vehicle information       Documents/ search       2       Troubleshooting       Fault memory       Fault pattern       Code       Description       804194       Low-beam headlight (AL), left       E12C4D	29/Coupe/ - /B58/AUTO/N Vehicle management Sc Service functions Sc Function Co Structure Str t: Short circuit	04/02/2020 17 US/LL/2019/07 ervice plan oftware update imponent ructure	Control Unit Replacement Text Search Milcage 16	KL 15: KL 15: Vehicle modification SAE fault code input Existent yes	Class       Class     SB       >>	Se 1. 2. 3. 4.	lect: Vehicle management Troubleshooting Fault Memory Delete Fault Memory
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Integrated Service Technical Application         VIN W026765       Vehicle TOYOTAUX         Operations       Vehicle information         Documents/       2         search       2         Fault memory       Fault pattern         Code       Description         804194       Low-beam headlight (AL), left         E12C4D       Signal (roadway inclination, 0)	29/Coupe/ - /B58/AUTO/I Vehicle management Sc Service functions Sc Function Co Structure Str ft: Short circuit 0x163) invalid, transmitter	04/02/2020 17	Control Unit Replacement Text Search 16 16	KL 15: KL 15: Vehicle modification SAE fault code input yes yes yes	Class SB	Se 1. 2. 3. 4.	lect: Vehicle management Troubleshooting Fault Memory Delete Fault Memory

- Confirm that the headlight is operationalConfirm all warning messages are OFF

#### XII. ADJUST HEADLAMP AIM

HINT: The procedure of the aiming adjustment shown in the repair manual is to be revised in March 2020. Until then, use the following procedure.

DO NOT perform headlight adjustment immediately after lowering the vehicle on the vehicle hoist. In this case, move the vehicle for approx. 15 m on its own wheels before headlight adjustment.

HINT: Description is for left component only. Procedure on the right side is identical.

#### 1. PREPARE VEHICLE FOR HEADLIGHT AIM ADJUSTMENT

- a. Vehicle parked on level ground.
- b. Check correct adjustment of headlights in relation to engine compartment lid (gap dimensions).

Vehicle Exterior>DOOR / HATCH>HOOD>ON-VEHICLE INSPECTION; 2020 MY Supra (RM100000001JCST)

- c. Check tire pressure and correct if necessary.
- d. Apply load equivalent to one person on driver's seat (68 kg, 150 lb).
- e. Vehicle with full fuel tank or appropriate additional weight in luggage compartment.

#### 2. PREPARE FOR HEADLIGHT AIMING (Using a headlight aim test machine)

a. Adjust the headlight aim in accordance with the headlight aim test machine instructions.



#### 3. PREPARE VEHICLE FOR HEADLIGHT AIM ADJUSTMENT

a. Prepare the vehicle:

- Place the vehicle in a location that is dark enough to clearly observe the cutoff line. The cutoff line is a distinct line, below which light from the headlights can be observed and above which it cannot.
- Place the vehicle at a 90° angle to the wall.



• Create a 7.62 m (25 ft.) distance between the vehicle (center marks of the headlight) and the wall.

• Make sure that the vehicle is on a level surface.

• Bounce the vehicle up and down to settle the suspension.

A distance of 7.62 m (25 ft.) between the vehicle (center marks of the low beam) and the wall is necessary for proper aim adjustment. If unavailable, secure a distance of exactly 3 m (9.84 ft.) for the check and adjustment. (The target zone will change with the distance, so follow the instructions in the illustration).

- b. Prepare a open wall area or piece of thick white paper approximately 2 m (6.56 ft.) (height) x 4 m (13.1 ft.) (width) to use as a screen.
- c. Draw a vertical line down the center of the screen (V line).
- d. Set the screen as shown in the illustration.



#### HINT:

- Stand the screen perpendicular to the ground.
- Align the V line on the screen with the center of the vehicle.



*а	V LH Line
*b	V Line
*с	V RH Line
*d	H Line
*e	Ground



\*a Center Mark

# e. Draw base lines (H, V LH, and V RH lines) on the screen as shown in the illustration.

#### HINT:

Mark the headlight assembly center marks on the screen. If the center mark cannot be observed on the headlight, use the center of the headlight LED unit as the center mark.

#### f. H Line (Headlight height):

Draw a horizontal line across the screen so that it passes through the center marks. The H line should be at the same height as the headlight center marks.

g. V LH Line and V RH Line (Center mark position of (LH) and (RH) headlights): Draw 2 vertical lines so that they intersect the H line at each center mark (aligned with the center mark of the headlight).

#### 4. INSPECT HEADLIGHT AIMING

a. Start the engine.



b. Light switch must be in "low beam/driving light" position (1).

DO NOT carry out the headlight adjustment in the "automatic driving lights control" light switch position (2).

c. Wait 80 seconds after switching on lights. During this time, do not move the vehicle and avoid vibrations.

Wheels must be in the straight-ahead position. DO NOT move the vehicle and steering wheel during the measuring and adjustment procedures.

d. Cover the headlight on the opposite side to prevent light from the headlight that is not being inspected from affecting the headlight aiming.

DO NOT keep the headlight covered for more than 3 minutes. The headlight lens is made of synthetic resin, which may melt or be damaged due to excessive heat.

e. Check if the cutoff line matches the preferred cutoff line in the following illustration.

#### HINT:

- The low beam and high beam headlight are a unit, Adjusting the aim on the low beam to the correct position should also result in the high beam adjustment being correct.
- If the alignment distance is 7.62 m (25 ft.): The low beam cutoff line should be within 101.6 mm (4.00 in.) above or below the H line as well as 101.6 mm (4.00 in.) left or right of the V LH or V RH line (SAE J599).
- If the alignment distance is 3 m (9.84 ft.): The low beam cutoff line should be within 39.9 mm (1.57 in.) above or below the H line as well as 39.9 mm (1.57 in.) left or right of the V LH or V RH line (SAE J599).
- If the alignment distance is 7.62 m (25 ft.): The high beam center of intensity should be within 101.6 mm (4.00 in.) above or below the H line as well as 101.6 mm (4.00 in.) left or right of the V LH or V RH line (SAE J599).
- If the alignment distance is 3 m (9.84 ft.): The high beam center of intensity should be within 39.9 mm (1.57 in.) above or below the H line as well as 39.9 mm (1.57 in.) left or right of the V LH or V RH line (SAE J599).













a. Turn both covers (1) above the adjusting screws for the light setting by 90° and remove.



The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.



#### HINT:

- Since the low beam light and the high beam light are a unit, if the aim on the low beam is correct, the high beam should also be correct. However, check both beams just to make sure.
- When adjusting the vertical axis of the headlight, the horizontal axis will also change. It is necessary to adjust the vertical position first, and then correct the horizontal position.
- If it is not possible to correctly adjust headlight aim, check the headlight unit and headlight unit lens installation.
- Confirm the direction of rotation of the aiming screw by observing it while it is being adjusted. Due to the position of the screwdriver, the direction of rotation of the adjusting screw can be different than the direction of rotation of the screwdriver being used to adjust it.
- c. Adjust the aim of each headlight to the specified range by turning each aiming screw with a screwdriver (1).
- d. Adjust the aim horizontally:

The final turn of the aiming screw should be made in the clockwise direction. If the screw is tightened excessively, loosen it and then retighten it, so that the final turn of the screw is in the clockwise direction.

HINT:

• Since the low beam light and the high beam light are a unit, if the aim on the low beam is correct, the high beam should also be correct. However, check both beams just to make sure.

- If it is not possible to correctly adjust headlight aim, check the headlight unit and headlight unit lens installation.
- Confirm the direction of rotation of the aiming screw by observing it while it is being adjusted. Due to the position of the screwdriver, the direction of rotation of the adjusting screw can be different than the direction of rotation of the screwdriver being used to adjust it.
- e. Adjust the aim of each headlight to the specified range by turning each aiming screw with a screwdriver (2).



f. Install the covers (1) above the adjusting screws for the light setting and turn by 90°.

#### XIII. ADJUST MILLIMETER WAVE RADAR SENSOR

#### 1. ADJUST MILLIMETER WAVE RADAR SENSOR

a. Review the Before Starting Adjustment in the Repair Manual:

CRUISE CONTROL: MILLIMETER WAVE RADAR SENSOR: BEFORE STARTING ADJUSTMENT; 2020 MY Supra (RM100000001L1M7)

b. Follow the Repair Manual procedure to Adjust the Millimeter Wave Radar Sensor:

CRUISE CONTROL: MILLIMETER WAVE RADAR SENSOR: ADJUSTMENT; 2020 MY Supra (RM100000001L1M8)

Note: Most dealerships DO NOT have the MWRS Calibration Kit required for this activity. Please contact your Regional Field Technical Specialist for directions on obtaining this required tool.

During the initial launch of this campaign, these required tools will not be available in the Supra Loaner Tools program. They must be sourced from your Regional Field Technical Specialist

# ◄ VERIFY REPAIR QUALITY ►

- Confirm all lighting on the vehicle is operational
- Confirm the front bumper alignment is within specification
- Confirm that the Malfunction Indicator is OFF

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

#### **10. APPENDIX**

#### A. PARTS DISPOSAL

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



#### **B. CAMPAIGN DESIGNATION DECORDER**