

**TECHNICAL INSTRUCTIONS**  
**FOR**  
**SAFETY RECALL F0V**  
**PRE-COLLISION SYSTEM**  
**CERTAIN 2013 –2015 MODEL YEAR AVALON/HV**

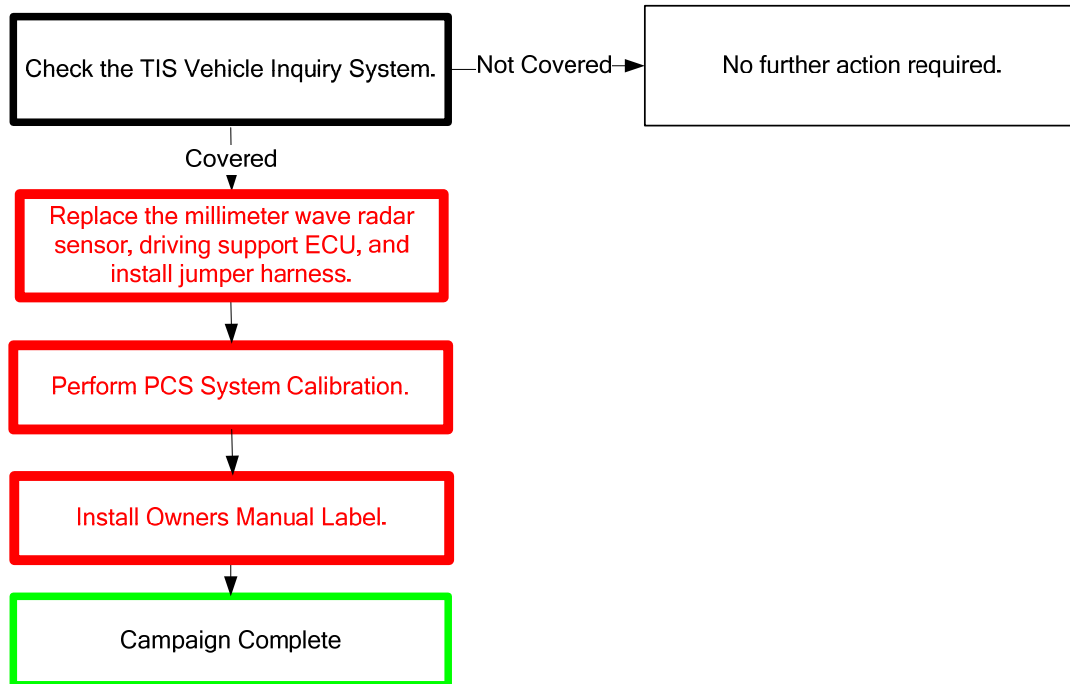
The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this repair are required to successfully complete the most current version of the E-Learning course “Safety Recall and Service Campaign Essentials”. To ensure that all vehicles have the repair performed correctly; technicians performing this repair must successfully complete E-Learning SCF0V AND are required to currently hold at least one of the following certification levels:

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

Always check which technicians can perform the recall remedy by logging on to <https://www.uotdealerreports.com>. It is the dealership’s responsibility to select technicians with the above certification level or greater to perform this repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

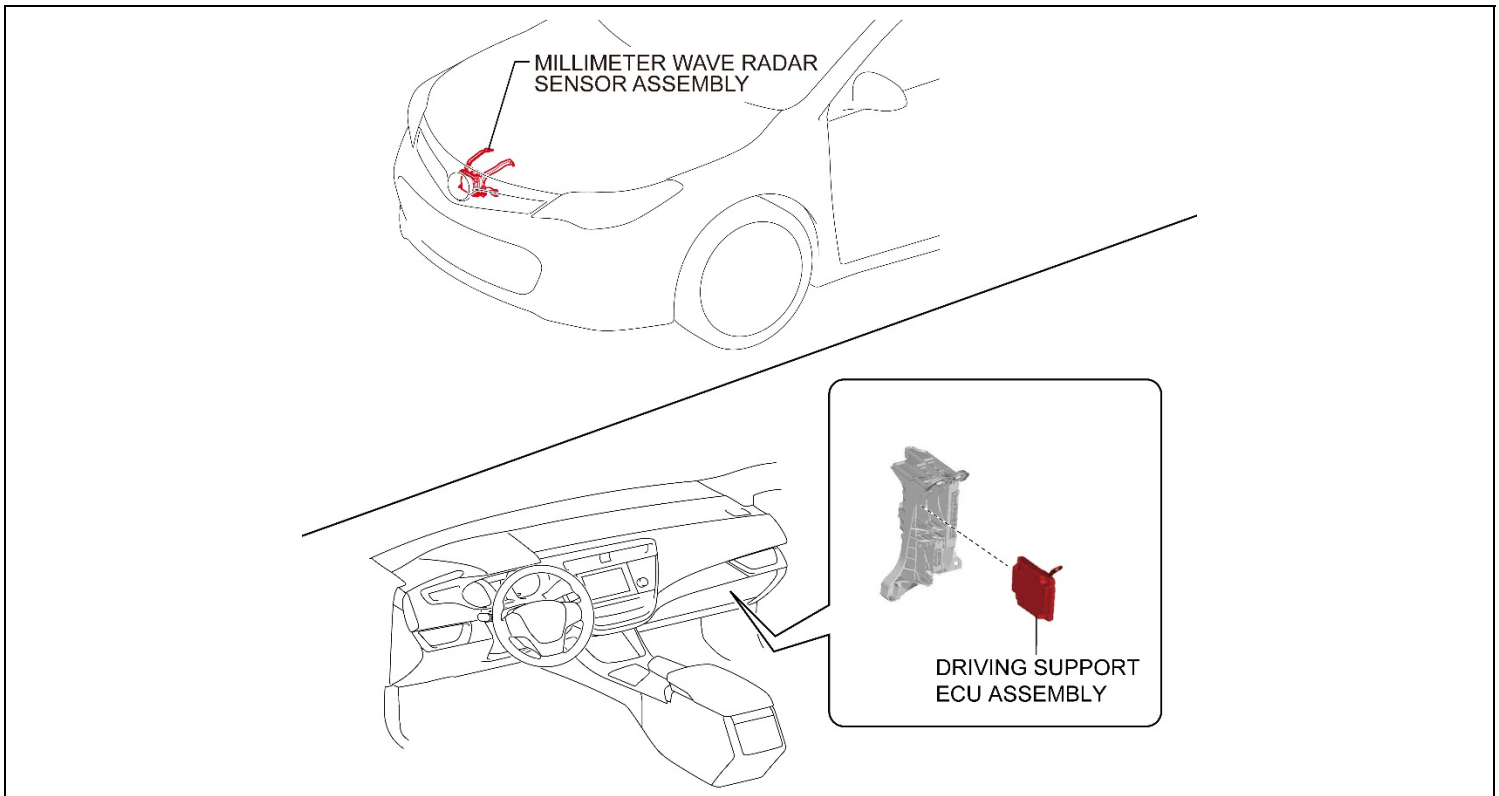
## I. OPERATION FLOW CHART

The flow chart is for reference only. **DO NOT** use it in place of the full technical instructions. Follow **ALL** steps as outlined in the full technical instructions to confirm the campaign is completed correctly.



## II. BACKGROUND

In certain driving situations, the optional Pre-Collision System (PCS), on the involved vehicles could interpret a steel road joint or steel plate in the road surface as an obstacle or vehicle in the path of travel and activate. When the system activates, the vehicle's brakes are applied automatically, the system activates Brake Assist mode, and the front seat belts may tighten. The driver will hear a warning buzzer, the PCS indicator lamp will illuminate, and a message will appear on the multi-information display.



### III. IDENTIFICATION OF AFFECTED VEHICLES

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

### IV. PREPARATION

#### A. PARTS

All applicable vehicles will require the parts in the table below

Part Number	Description	Qty
04005-61141	Engine Room Wire # 5 (w Zip Tie)	1
04005-61241	Millimeter Wave Radar Sensor	1
04005-64133	Millimeter Wave Radar Sensor Information Label (Owner's Manual Insert)	1



**Each vehicle will require only one of the Driver Support Computer listed below, computer applicability varies based on MY and vehicle powertrain configuration.**

Part Number	Description	Qty
04005-61441	Driving Support Computer (Non-Hybrid 2013 and 2014 Model Year)	1
04005-61541	Driving Support Computer (Non-Hybrid 2015 Model Year)	
04005-61641	Driving Support Computer (Hybrid 2013 - 2015 Model Year)	

#### B. MATERIALS

- Protective tape
- Protective Card Board
- Marker Pen
- Protective Gloves

#### C. TOOLS & EQUIPMENT

- Standard hand tools
- Torque wrench
- Tape Measure
- Molding remover set
- Techstream

**SST-** The following tools are essential service tools that all dealers are required to have.

#### [SST OPERATION OVERVIEW VIDEO](#)

Part Number	Part Description	Quantity
09870-60000	Laser Radar Adjusting Reflector (Stick Base Only)	1
09870-60040-02	Reflector C	1
11816-00010	Radar Sensor Calibration Kit	1

**Below are the components needed from this kit to perform the repair**

Part #	Description	Qty
01815-00102	Digital Angle Gauge	1
09989-00010-01	Attachment A (short)	1
01816-00103	3 Line Chalk Line	1
01816-00107	Target Laser Board	1
01816-00105	Laser Measure	1
01816-00109	Laser Enhancing Glasses	1
01816-00104	Tripod	1

## V. CONFIRM VEHICLE CONDITION AND DTC STATUS

### A. CONFIRM VEHICLE CONDITION

#### 1. INSPECT VEHICLE FOR FRONTAL CRASH DAMAGE



In order to calibrate the PCS system after installing the new parts the vehicle must not have crash damage. If the vehicle has crash damage it must be repaired prior to performing the remedy.

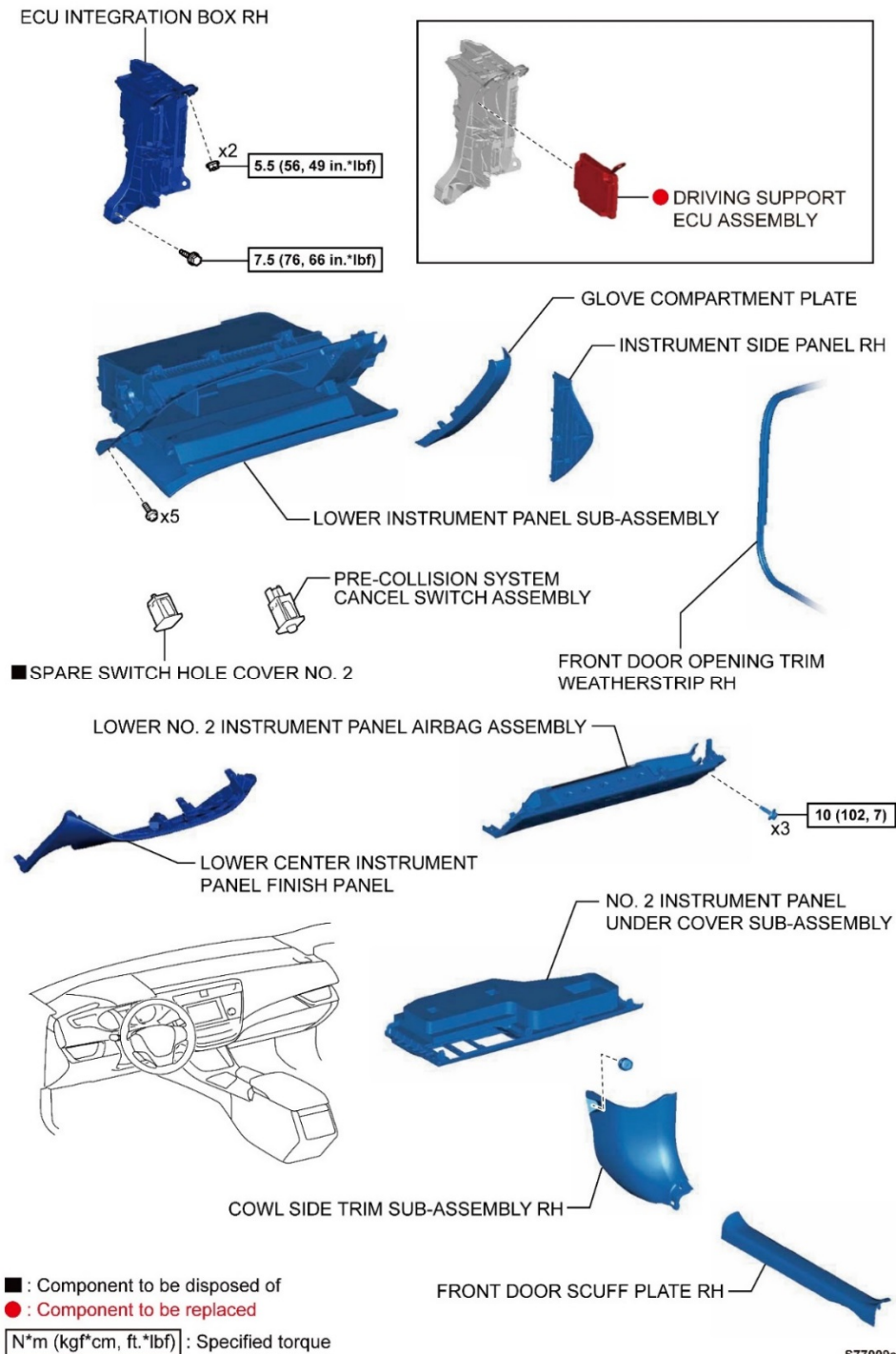
#### 2. RECORD CUSTOMER SETTINGS

### B. CONFIRM VEHICLE DTC STATUS

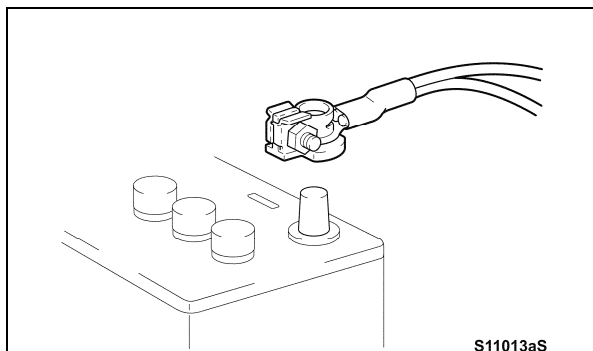
#### 3. PERFORM A HEALTH CHECK TO CONFIRM ORIGINAL VEHICLE DTC CONDITION

## VI. DRIVING SUPPORT ECU REPLACEMENT PROCEDURE

### A. COMPONENTS



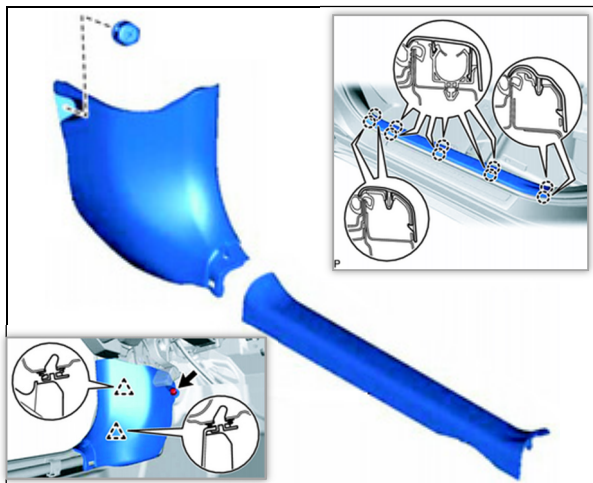
## B. ECU REMOVAL



### 1. DISCONNECT BATTERY

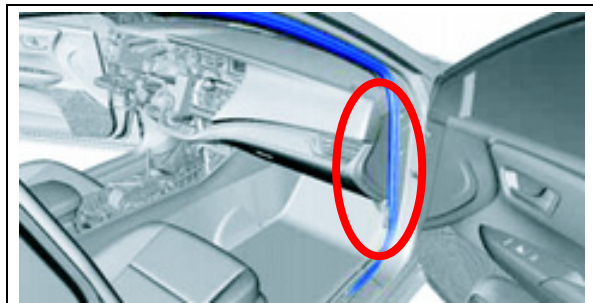


Wait at least 90 seconds after disconnecting the battery terminal to prevent airbag and seat belt pretensioner deployment.

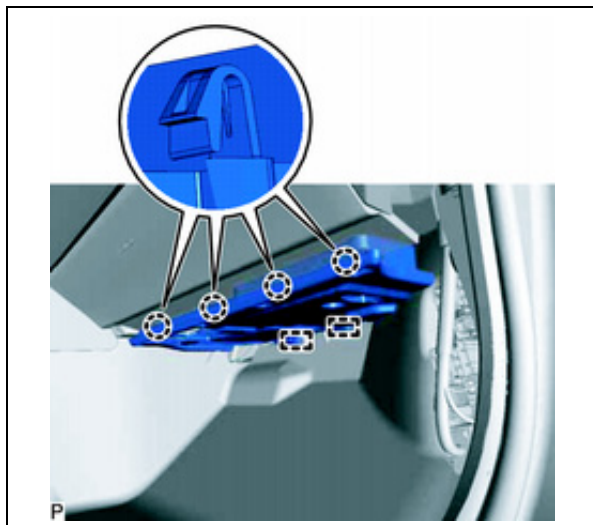


### 2. REMOVE FRONT PASSENGER DOOR SCUFF PLATE AND COWL SIDE TRIM PANEL

Note: Driver's side door scuff plate & cowl trim panel is shown for retention clip/claw locations.

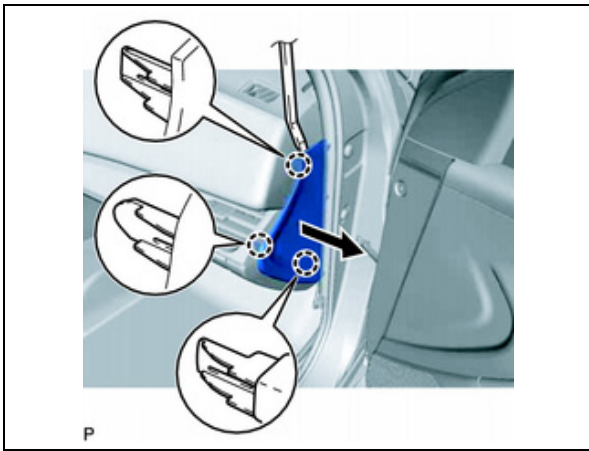


### 3. DISENGAGE FRONT PASSENGER DOOR WEATHER STRIP



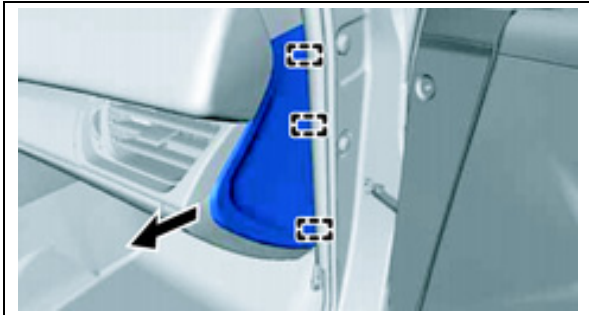
### 4. REMOVE NO. 2 INSTRUMENT PANEL UNDER COVER

- a) Disengage the 4 claws and two guides to remove the undercover.

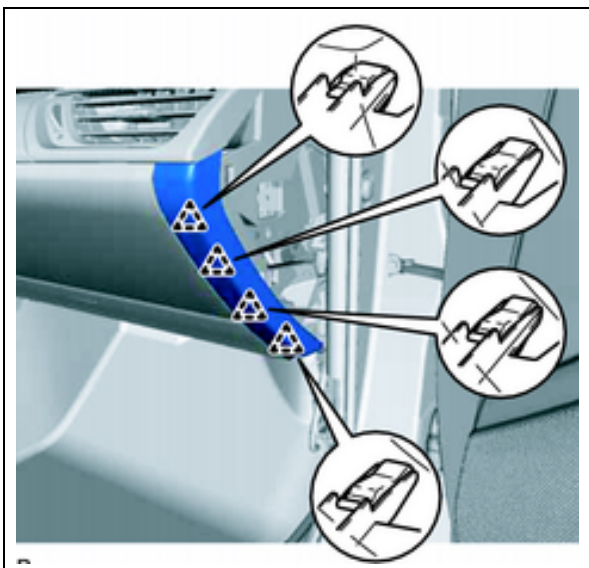


## 5. REMOVE INSTRUMENT SIDE PANEL

a) Using a plastic molding remover, disengage the 3 claws.

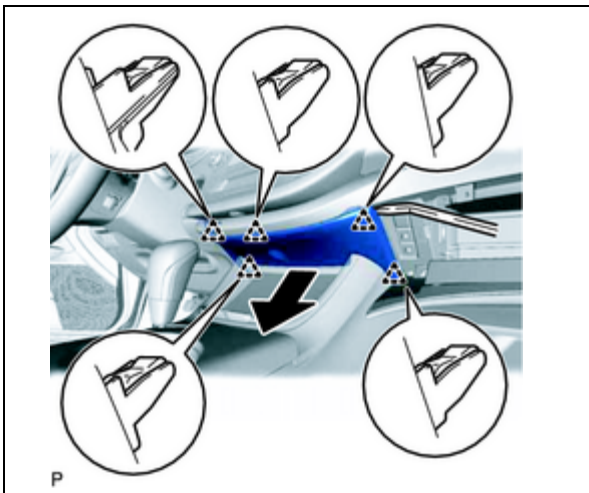


b) Disengage the 3 guides and remove the panel as shown.



## 6. REMOVE GLOVE COMPARTMENT PLATE

a) Disengage the 4 clips and remove the glove compartment plate.

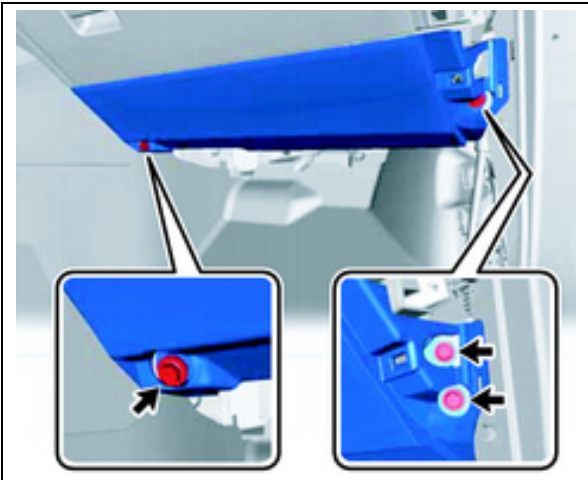


## 7. REMOVE LOWER CENTER INSTRUMENT PANEL FINISH PANEL

a) Using a molding remover, disengage the 5 clips as shown in the illustration.

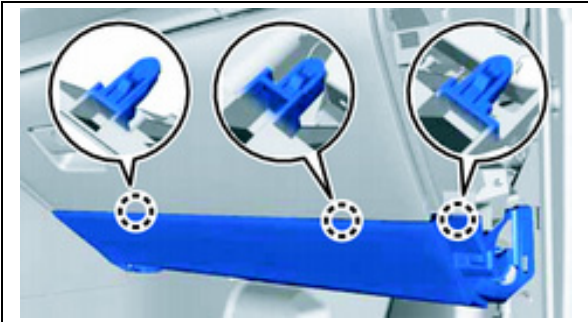
b) Disconnect the connector and remove the lower center instrument panel finish panel.



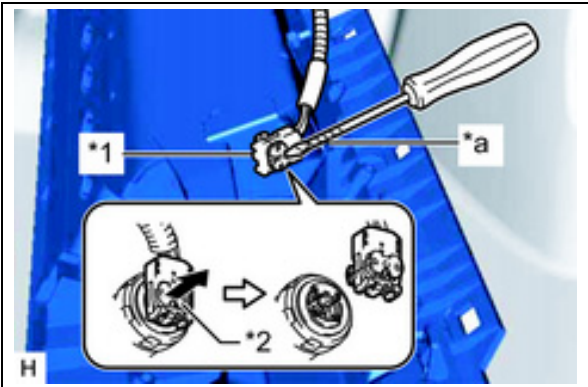


## 8. REMOVE PASSENGER KNEE AIRBAG

a) Remove the 3 bolts.

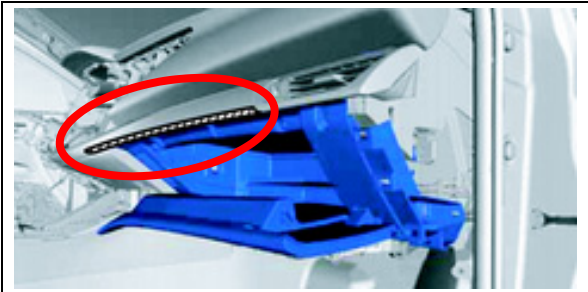


b) Disengage the 3 claws and separate the airbag from the instrument panel.



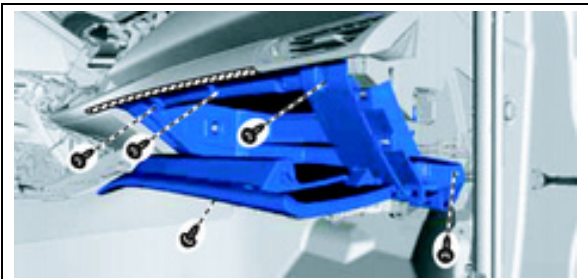
c) Using a taped screwdriver carefully release the airbag connector lock.

d) Disconnect the connector and remove the airbag.

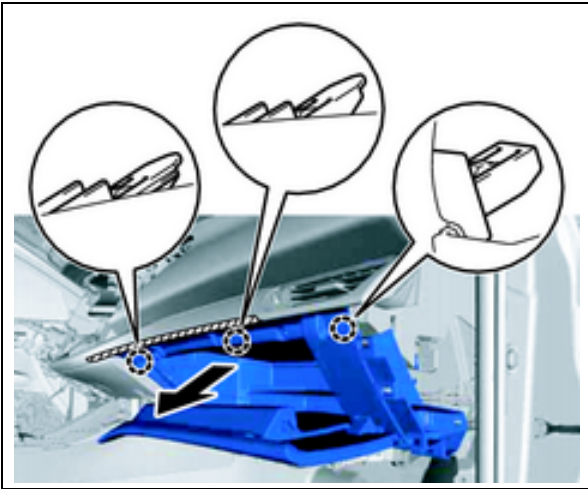


## 9. REMOVE GLOVE BOX

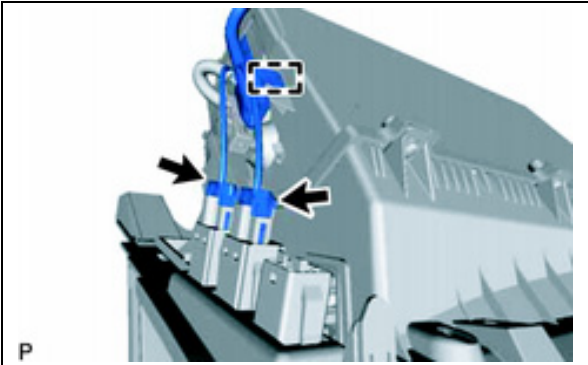
a) Apply protective tape to the instrument panel as shown to ensure the leather is not damaged during removal.



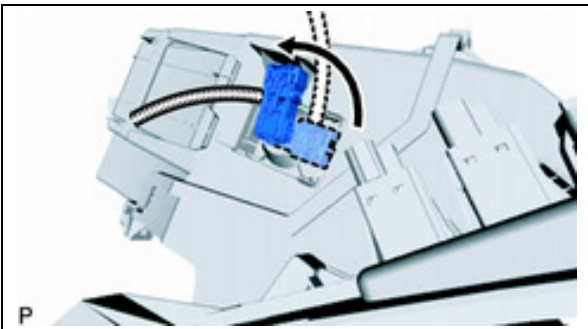
b) Remove the 5 screws



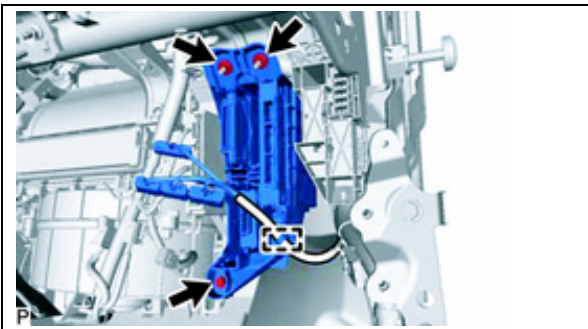
c) Disengage the 3 claws and slowly remove the glove box.



d) Remove the electrical connectors



e) Remove the glove box light.



#### 10. REMOVE ECU INTEGRATION BOX

- a) Disconnect each connector.
- b) Disengage clamp.
- c) Remove the bolt, 2 nuts and the ECU integration box.



#### 11. REMOVE DRIVER SUPPORT ECU

- a) Disengage the claw and the ECU.

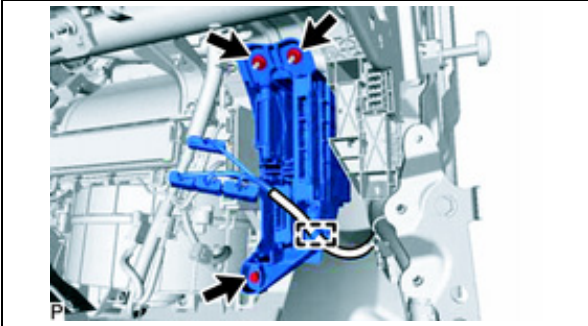


### C. DRIVING SUPPORT ECU INSTALLATION



#### 1. INSTALL **NEW** ECU INTO INTEGRATION BOX

- Place the ECU into its location and engage the claw.



#### 2. REINSTALL ECU INTEGRATION BOX

- Reinstall the integration box with the 2 nuts and bolt.

**Torque Spec:**

**Bolt: 66in-lbs (56kgf-cm, 5.5Nm)**

**Nut: 49in-lbs (56kgf-cm, 5.5Nm)**

### D. REINSTALL DISABLED AND RELOCATED PCS SWITCH (**INTERIM REMEDY VEHICLES ONLY**)



#### 1. REMOVE FOAM TAPE

- Locate the switch under the dash that is secured to the glove box wire harness.
- Carefully remove the foam tape from the relocated PCS switch.

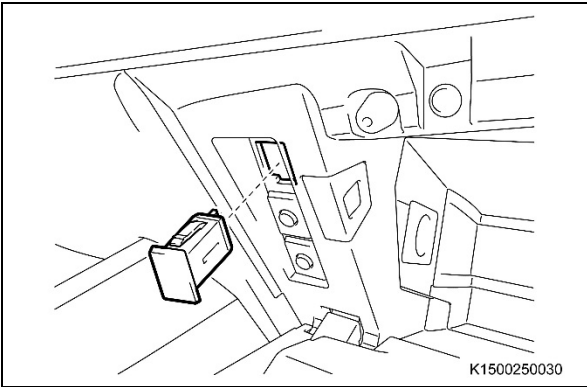


#### 2. REMOVE PCS SWITCH FROM GLOVE BOX WIRE HARNESS

- Carefully remove the electrical tape securing the switch to the wire harness.
- Remove the switch from the plastic bag.
- Disconnect the switch electrical connector.

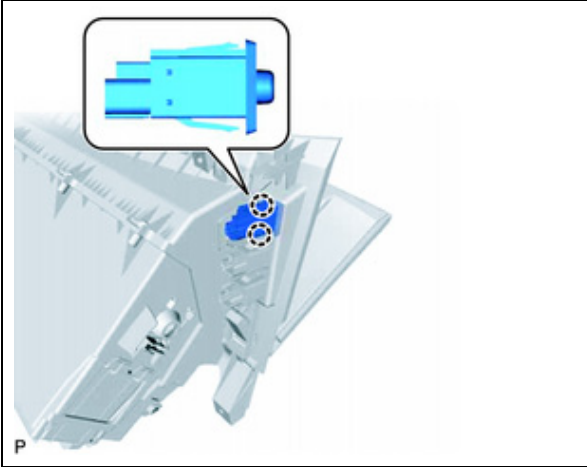


**Use caution when removing the tape to ensure that the wires do not get damaged.**



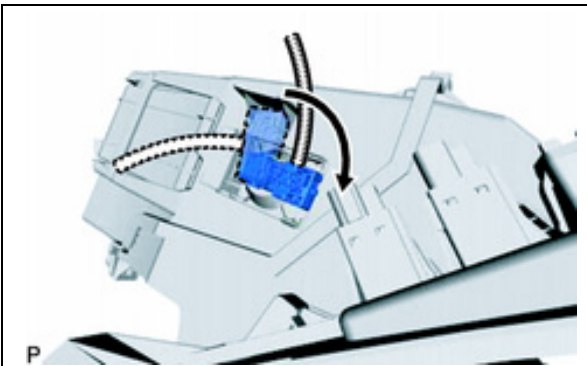
### 3. REMOVE TEMPORARY PCS SWITCH LOCATION COVER

- a) Remove the PCS switch hole cover from the glove box.



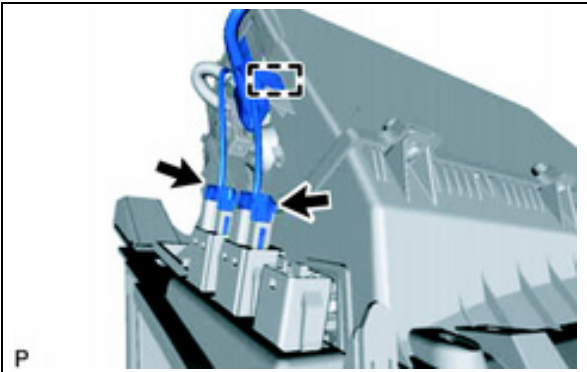
### 4. REINSTALL THE PCS SWITCH TO THE GLOVE BOX

## E. VEHICLE REASSEMBLY

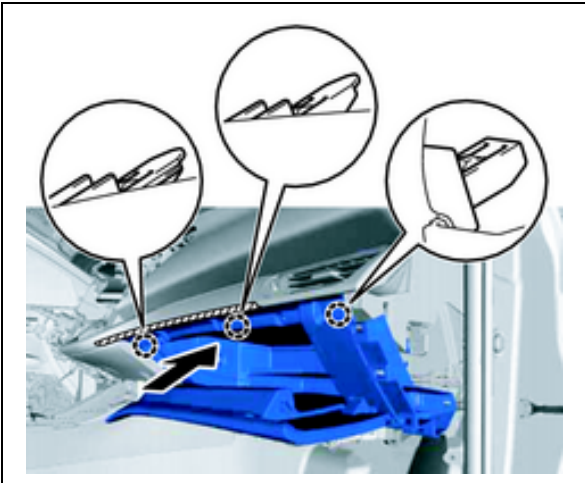


### 1. INSTALL THE GLOVE BOX

- a) Install the glove box light as shown.



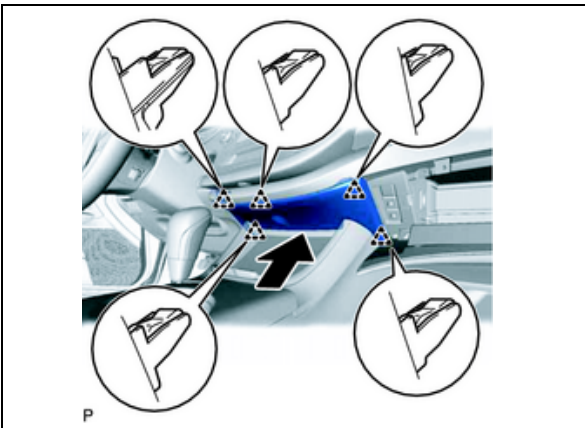
- b) Install the connectors as shown.



c) Engage the 3 claws as shown.

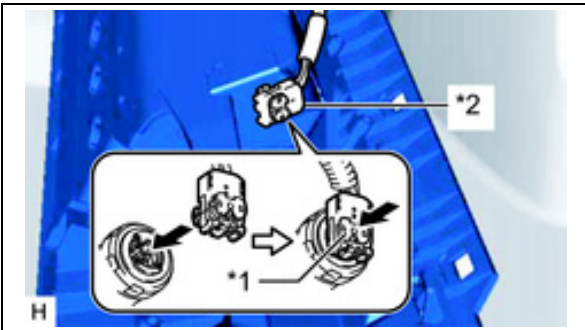


d) Install the 5 screws as shown.



## 2. REINSTALL LOWER CENTER INSTRUMENT PANEL FINISH PANEL

- Connect connector.
- Engage the 5 clips as shown.

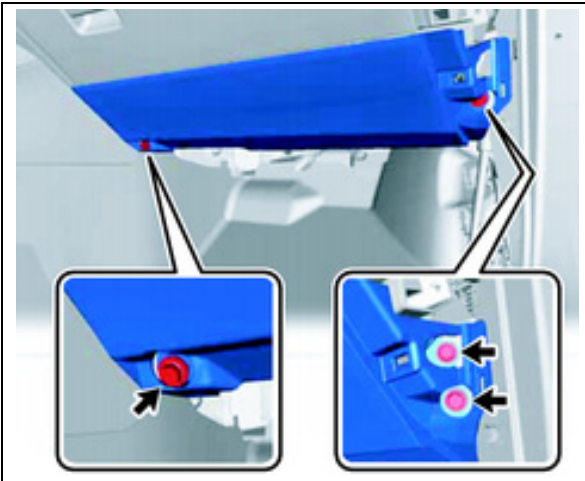


## 3. REINSTALL THE PASSENGER KNEE AIRBAG

- Reinstall the knee airbag connector and lock the connector as shown.

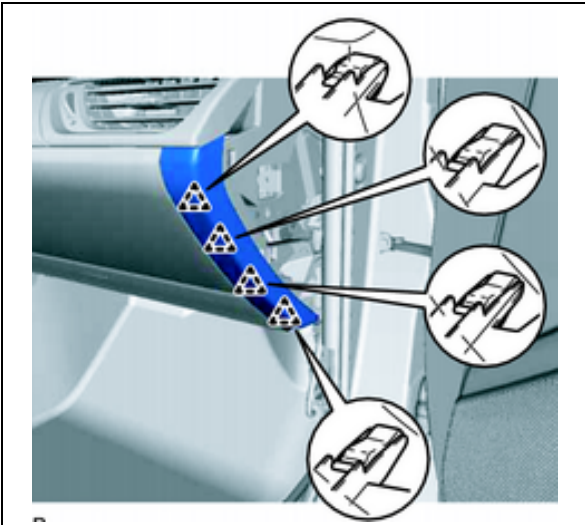


- Engage the 3 claws to temporarily install the knee airbag.



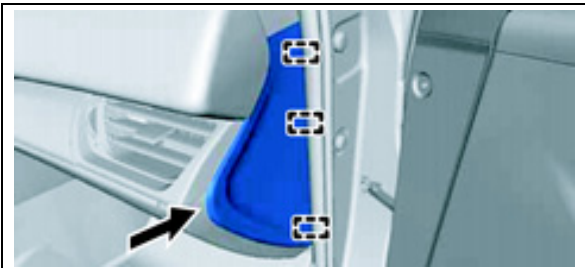
c) Install the 3 bolts and torque to spec.

**Torque Spec: 7ft-lbs (102kgf-cm, 10Nm)**



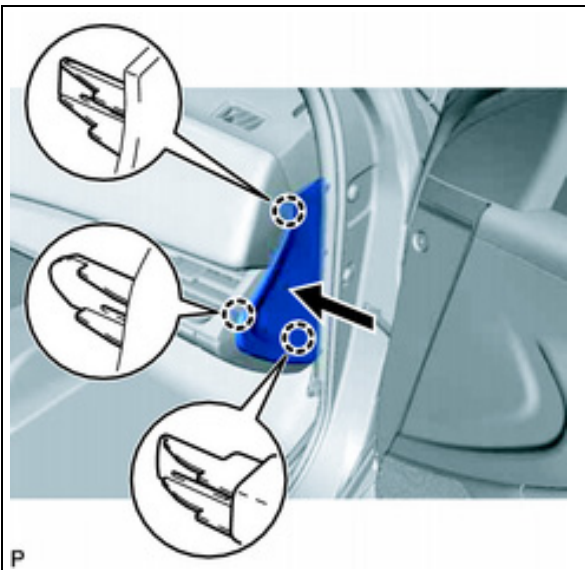
#### 4. REINSTALL THE GLOVE COMPARTMENT PLATE

a) Engage the 4 claws as shown.



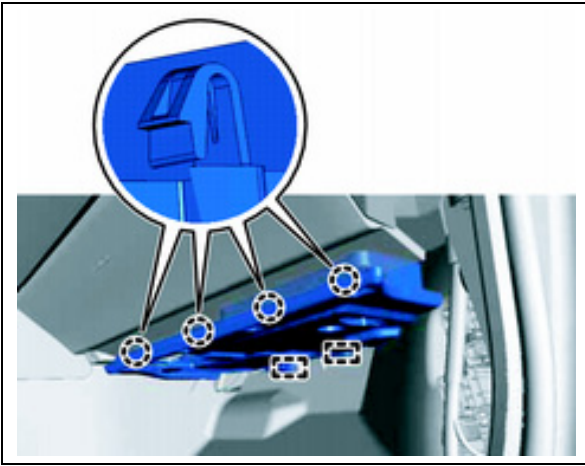
#### 5. REINSTALL THE INSTRUMENT SIDE PANEL

a) Engage the 3 guides as shown.



b) Engage the 3 claws as shown.



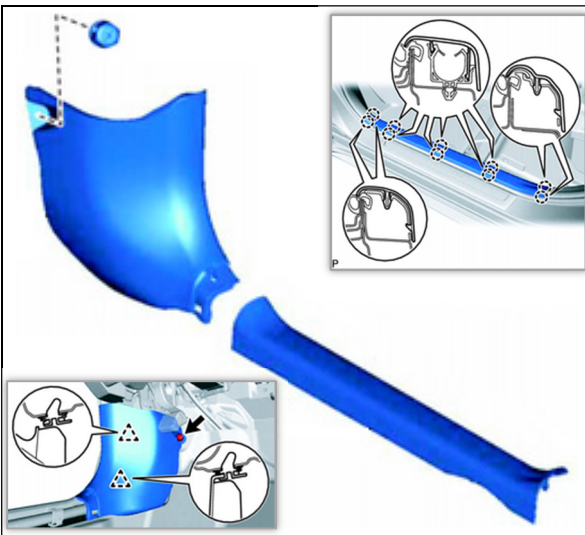


## 6. REINSTALL NO. 2 INSTRUMENT PANEL UNDER COVER

- Connect the connectors.
- Engage the 2 guides and 4 claws as shown.



## 7. RECONNECT PASSENGER FRONT DOOR WEATHER STRIP



## 8. REINSTALL COWL SIDE TRIM PANEL AND DOOR SCUFF PLATE.

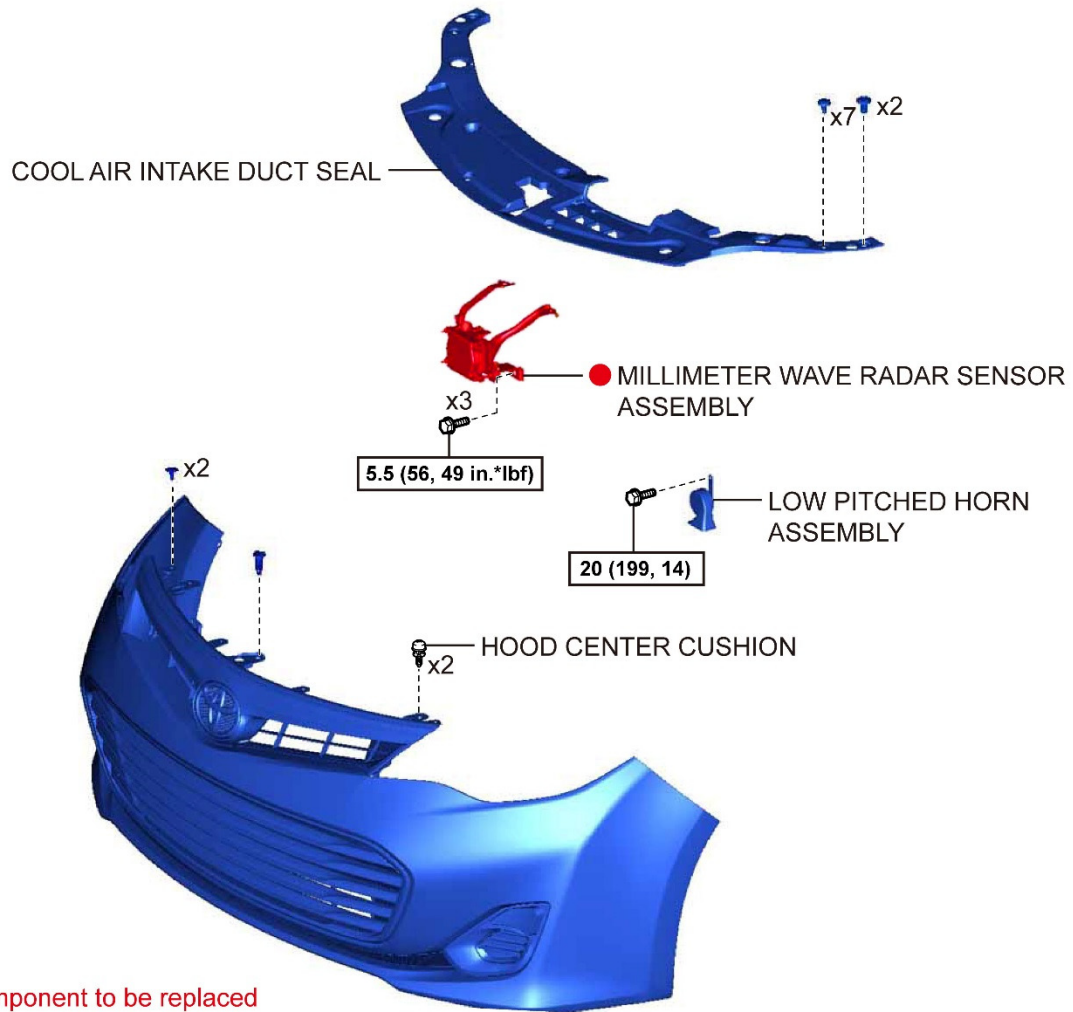


## 9. REMOVE THE NOTICE TAG



## VII. MILLIMETER WAVE RADAR SENSOR REPLACEMENT PROCEDURE

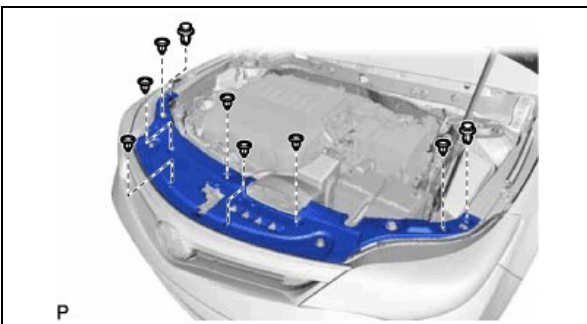
### A. COMPONENTS



● : Component to be replaced

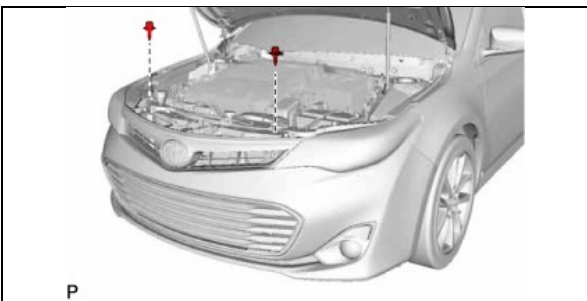
[N\*m (kgf\*cm, ft.\*lbf)] : Specified torque

### B. MILLIMETER WAVE RADAR SENSOR REMOVAL



#### 1. REMOVE COOL AIR INTAKE DUCT SEAL

- Remove the 9 clips and Cool Air Intake Duct Seal.

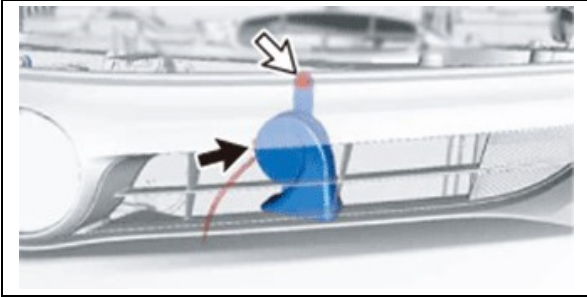


#### 2. REMOVE HOOD CENTER CUSHIONS

- Remove the 2 hood cushions.

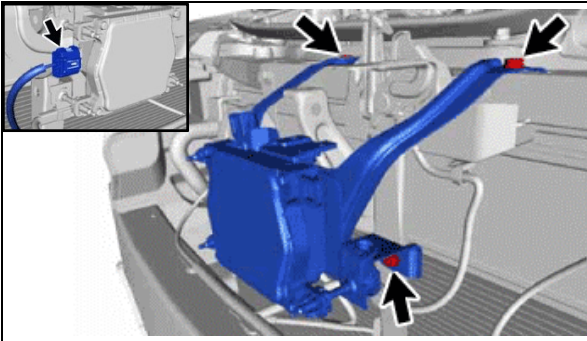


b) Using a clip removal tool, remove the 3 clips.



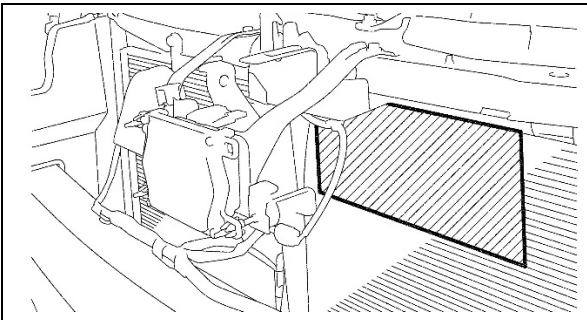
### 3. REMOVE HORN

- a) Disconnect the connector.
- b) Remove the bolt and horn.

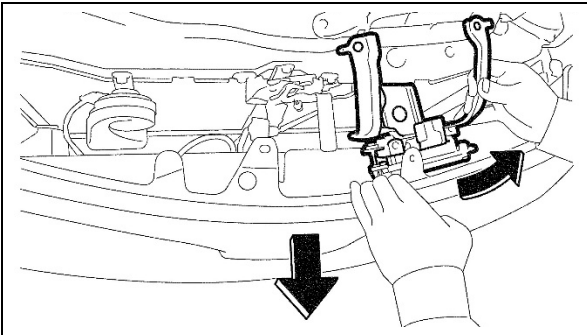


### 4. REMOVE MILLIMETER WAVE RADAR SENSOR

- a) Disconnect the connector.
- b) Remove the 3 bolts.



- c) To protect the condenser from the sharp edges of the bracket assembly during removal, temporarily install cardboard or a plastic cutting board as shown.

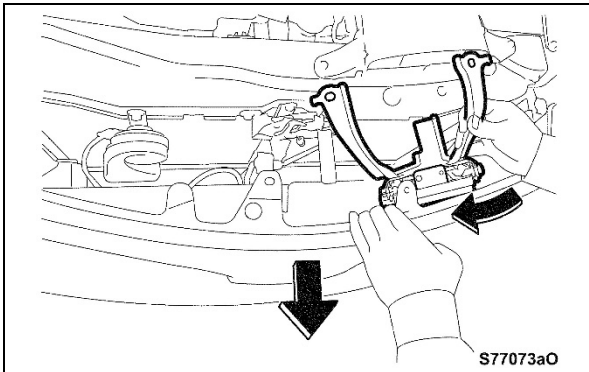


- d) Gently pull on the grill to ensure there is enough space to remove the radar.



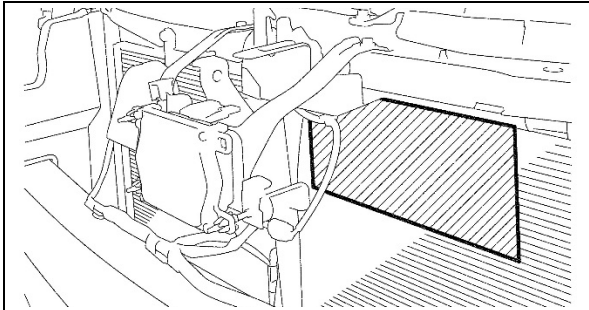
- Ensure not to pull on the grill too hard.
- During removal ensure to avoid contact of the bracket assembly with the condenser.

## C. MILLIMETER WAVE RADAR SENSOR INSTALLATION

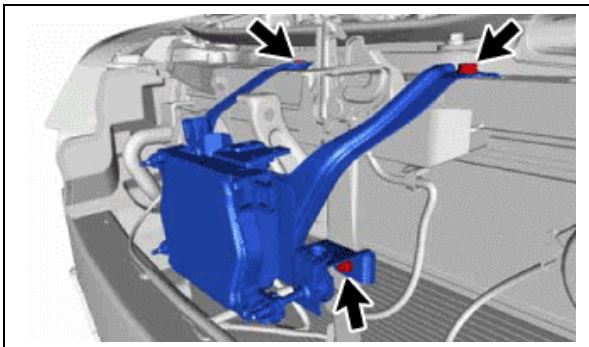


### 1. INSTALL **NEW** MILLIMETER WAVE RADAR SENSOR

- Gently pull on the grill to ensure there is enough space to install the radar.



- Remove the cardboard or plastic cutting board protecting the condenser.



- Install the 3 bolts and torque to spec.

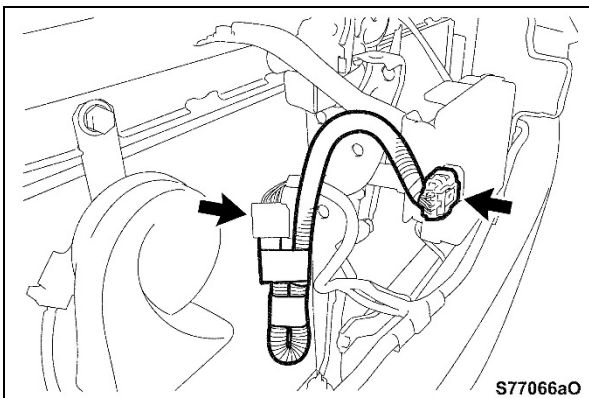
**Torque Spec: 49in-lbs (56kgf-cm, 5.5Nm)**

**Note: Torque the top two bolts and then torque the bottom bolt last. This will help ensure the bracket does not get twisted.**

## D. ENGINE ROOM WIRE HARNESS #5 INSTALLATION

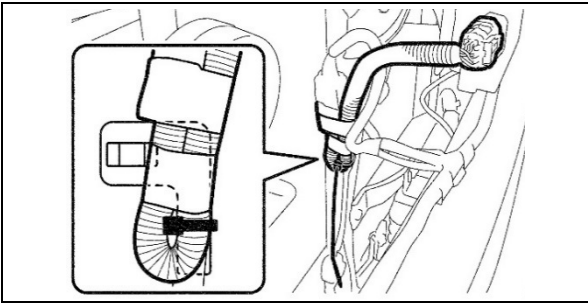


- The radar assembly connector has been changed, a jumper harness is now required to be installed to connect the new sensor to the existing vehicle harness.
- To prevent noise, broken connections and poor appearance ensure to follow the installation instructions exactly.



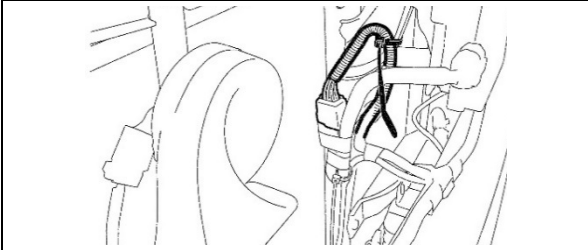
### 1. CONNECT JUMPER HARNESS

- Connect the jumper harness between the vehicle harness and radar sensor as shown.

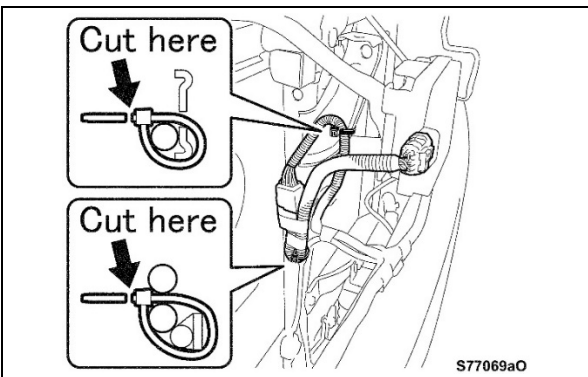


## 2. SECURE JUMPER HARNESS

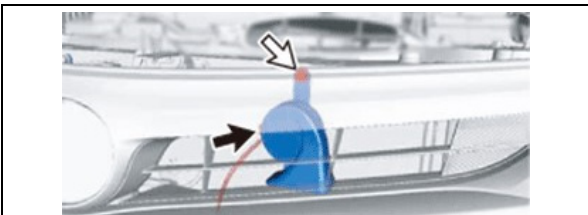
- a) Secure the jumper harness to the existing L-shape plastic bracket as shown.



- b) Secure the upper portion of the jumper harness by passing the zip tie through the hole in the hood lock support as shown.

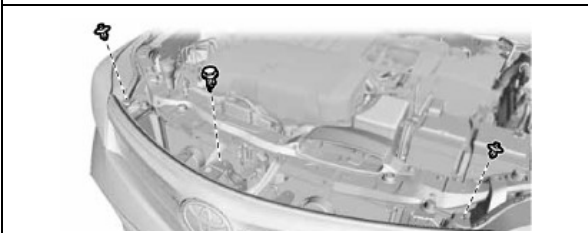


- c) Cut the excessive zip tie material as shown.



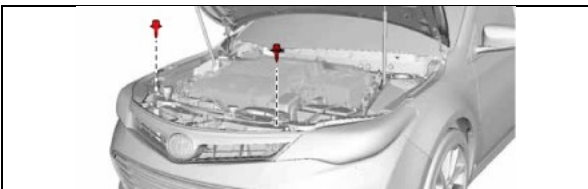
## 3. REINSTALL HORN

- a) Reinstall the horn with the bolt.  
**Torque Spec: 14ft-lbs (199kgf-cm, 20.0Nm)**
- b) Reconnect the electrical connector

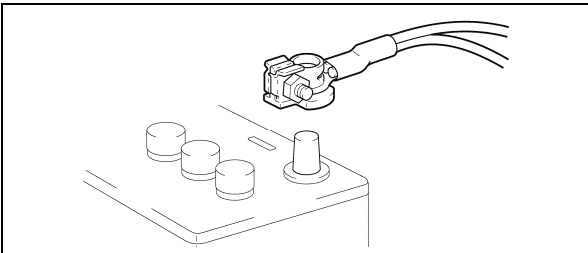


## 4. REINSTALL HOOD CENTER CUSHIONS

- a) Reinstall the 3 clips.
- b) Reinstall the 2 hood center cushions.



## 5. RECONNECT BATTERY





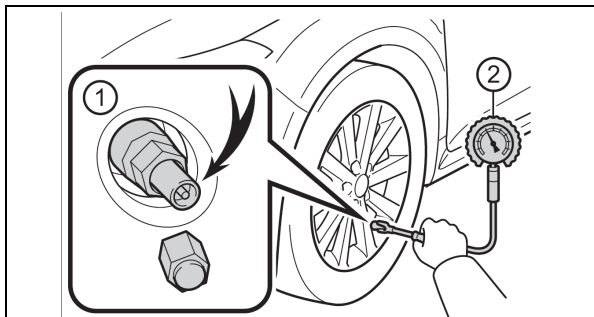
## VIII. PERFORM PCS CALIBRATION PROCEDURE



This procedure is extremely important in order to ensure the correct operation of the PCS system. You must follow all steps exactly and within the parameters given.

### A. PREPARE VEHICLE FOR CALIBRATION

#### 1. UNLOAD ANY LUGGAGE AND HEAVY LOADS FROM TRUNK AND VEHICLE CABIN



#### 2. SET TIRE INFLATION PRESSURE

- a) Set the tires to the correct tire pressure:

**Cold Tire Pressure Spec:**

**P215/55R17 = 35 PSI (240 KPA, 2.4 KGF/CM<sup>2</sup>)**

**P225/45R18 = 33 PSI (230 KPA, 2.3 KGF/CM<sup>2</sup>)**

#### 3. CHECK VEHICLE RIDE HEIGHTS

- a) Jounce the suspension in each corner to stabilize the suspension.  
b) Confirm the vehicle model/katashiki grade on the certification label to confirm the correct ride heights.  
c) Measure the ride height of the vehicle at each point shown.  
d) Subtract the appropriate measurements from each other and confirm the vehicle is at the correct ride heights.

Measurements:

A: Center of front wheel to ground

B: Control arm rear cradle attachment bolt to ground

C: Center of rear wheel to ground

D: Rear control arm set bolt center to ground

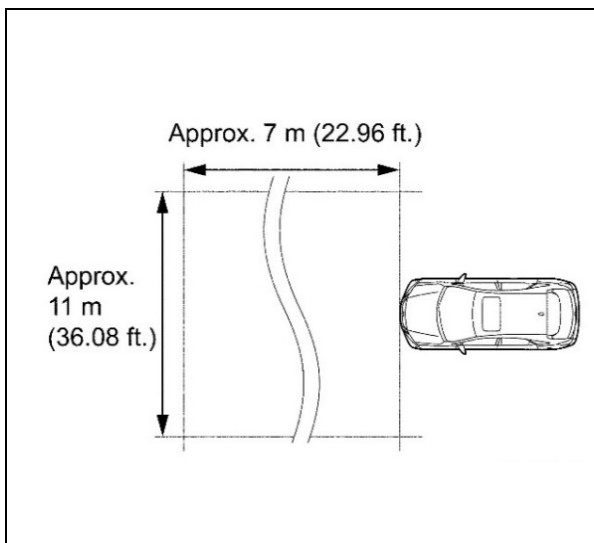
MODEL (Katashiki)		FRONT (A - B)	REAR (C - D)
XLE PREMIUM	(GSX40L-AET <b>G</b> KA)	127 mm (5.00 in)	52 mm (2.05 in)
XLS PREMIUM	(GSX40L-AET <b>Q</b> KA)	128 mm (5.04 in)	52 mm (2.05 in)
LIMITED	(GSX40L-AET <b>P</b> KA)	129 mm (5.08 in)	54 mm (2.13 in)

#### 4. CONFIRM THE VEHICLE IN A PLACE THAT MEETS THE REQUIREMENTS

- a) The floor or ground should be as level as possible.  
b) The vehicle must be located in an area that has no metal objects in front of the vehicle within the requirements shown.  
c) Confirm the area meets the area requirements by using the laser tape measure SST.

**SST: 01816-00105 (Laser Measure)**

- d) No large metal objects outside of specified area.



The area in front of the vehicle is crucial and must meet all requirements in order for the vehicle to properly calibrate.

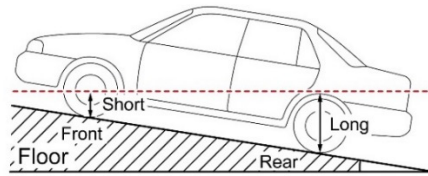


## B. DETERMINE FLOOR SLOPE AND SET VERTICAL ANGLE OF MILLIMETER WAVE RADAR SENSOR

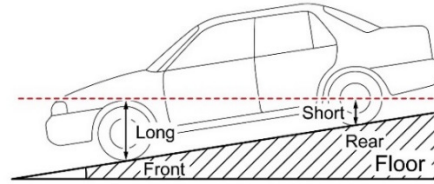
### FLOOR SLOPE AND VERTICAL ANGLE CALIBRATION VIDEO

**In order to properly set the vertical sensor of the millimeter wave radar sensor you must calculate the floor slope.**

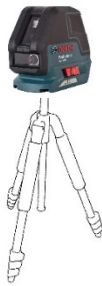
← Upward slope  
Vehicle Front



← Downward slope  
Vehicle Front



**A difference in floor elevation (floor slope) that is unable to be seen by the human eye will require compensation. Follow the floor slope procedure below exactly and utilize the floor slope calculation sheet. By following this procedure the floor slope will be correctly identified and the vertical angle will be properly calculated and set.**



#### 1. INSTALL THE LASER LEVEL ONTO THE TRIPOD

- Install the Tripod head attachment onto the base of the laser level.
- Engage the tripod head attachment onto the tripod and lock it in position.

**SST: 01816-00103 (Laser Level)  
01816-00104 (Tri-pod)**

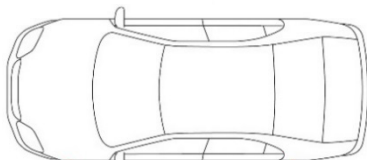
#### 2. PROJECT THE LASER AGAINST THE SIDE OF THE VEHICLE

- Place the tripod and laser approx. 6 ft. away from the side of the vehicle.
- Level the tripod base and head using the built in bubble levels.
- Turn on the laser and ensure that the laser switch is placed in the **UNLOCKED** position so it can automatically level.

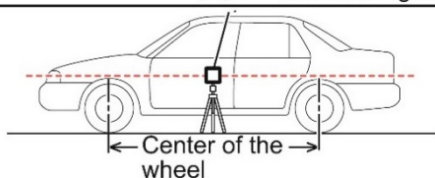


- The laser switch must be in the unlocked position so it can automatically self-level.**
- If the laser light is flashing this indicates that the laser is not level or in the locked position.**
- Before performing any measurements ensure the laser is self-leveled.**

←  
Vehicle Front

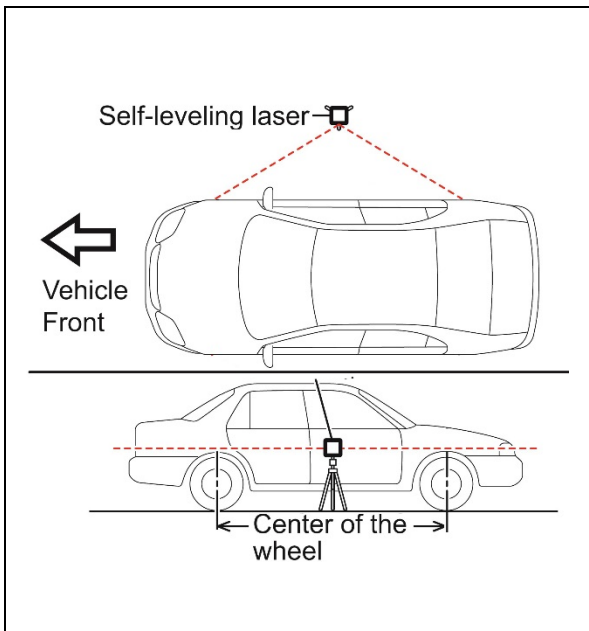


Self-leveling laser



#### 3. MEASURE THE FLOOR SLOPE ON DRIVER'S SIDE

- Measure the distance from the floor to the laser line at the vertical center of the front wheel and record the value.
- Measure the distance from the floor to the laser line at the vertical center of the rear wheel and record the value.



#### 4. MEASURE FLOOR SLOPE ON PASSENGER SIDE

- Place the tripod and laser approx. 6 ft. away from the car on the opposite side.
- Confirm the tripod is level and adjust if required.
- Turn on the laser and ensure that the laser switch is placed in the **UNLOCKED** position so it can automatically level.

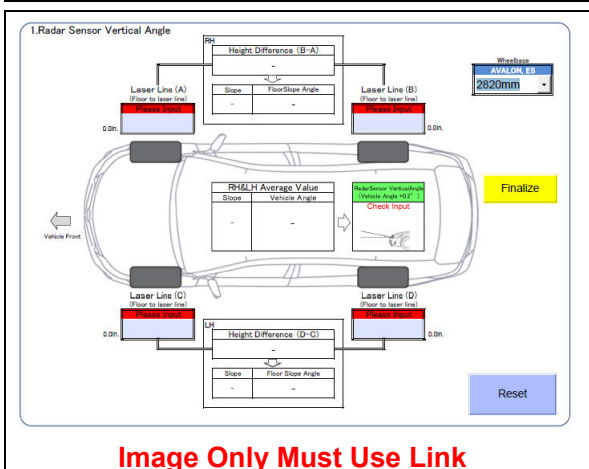


- Ensure the tripod is setup at the same heights as on the other side.
- The laser switch must be in the unlocked position so it can automatically self-level.
- If the laser light is flashing this indicates that the laser is not level or in the locked position.
- Before performing any measurements ensure the laser is self-leveled.

- Ensure the laser projects the length of the vehicle and has self-leveled.



- Measure the distance from the floor to the laser line at the vertical center of the front wheel and record the value.
- Measure the distance from the floor to the laser line at the vertical center of the rear wheel and record the value.



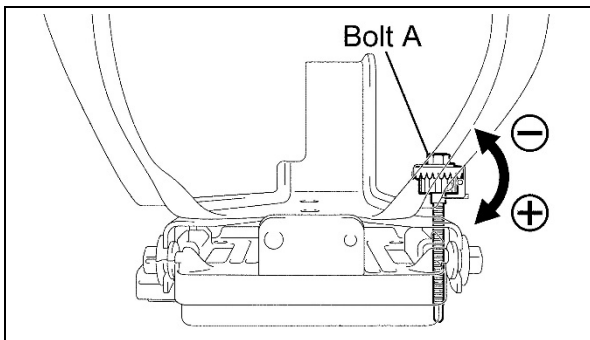
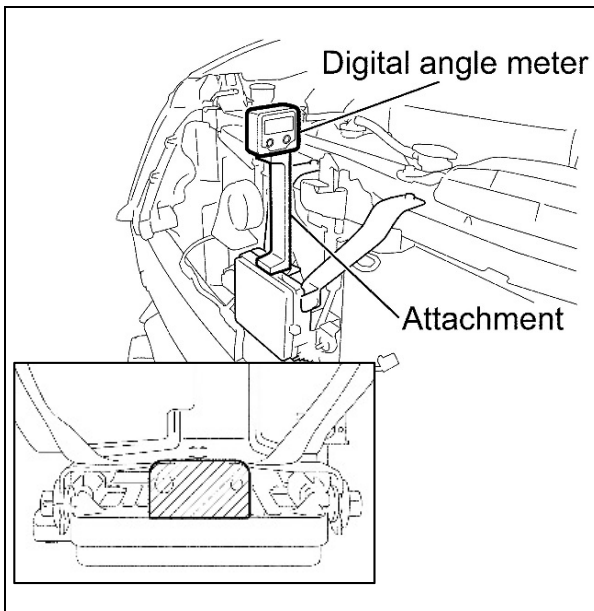
#### 5. CALCULATE VERTICAL ANGLE FOR MILLIMETER WAVE RADAR SENSOR.

- Save a local copy of the Slope Calculation Sheet.
- Open the slope calculation sheet and enter the measured values at each wheel in the correct locations.

**Note: Ensure the correct measurement value (mm or inches) is selected prior to calculating.**

- Press finalize button and then press calculate.
- The sheet will calculate the required vertical angle and reflector height adjustment based on the floor slope.

[Slope Calculation Sheet Link](#)



## 6. SET VERTICAL ANGLE OF MILLIMETER WAVE RADAR SENSOR

- Clean the top of the radar calibration surface and SST attachment A mounting surfaces to ensure they are free of dust and debris.
- Place Attachment A (Short) on top of the radar sensor calibration surface as shown.

**Note: Ensure the attachment is only on the calibration surface of the millimeter wave radar sensor.**

- Place the digital angle gauge on attachment A and retrieve sensor angle.

**SST: 09989-00010-01 (Attachment A Short)  
01815-00102 (Digital Angle Gauge)**

**Note: The Toyota SST digital angle gauge automatically zero point calibrates itself. If another digital angle gauge is used you must zero calibrate the gauge before performing this step.**

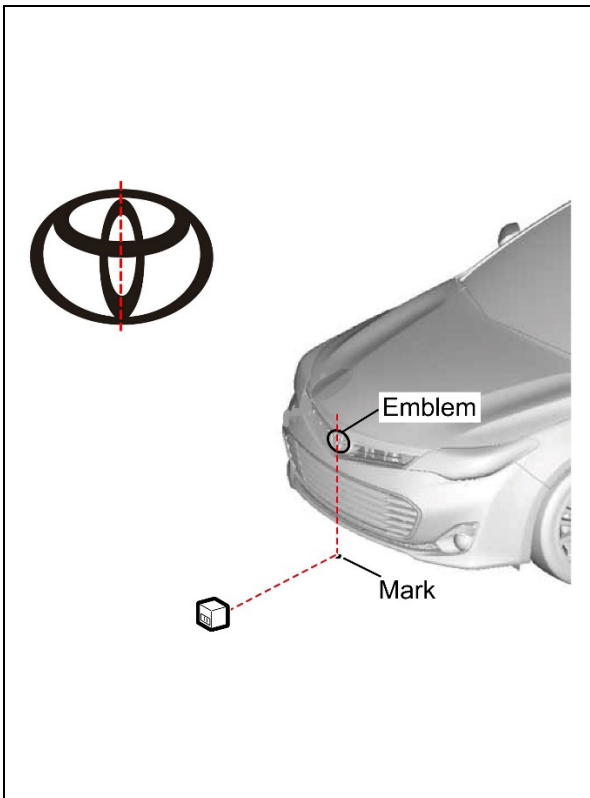
- Adjust radar vertical angle to the value calculated on the slope calculation sheet.



**When adjusting the vertical angle ensure you pay attention to the up/down indicators on both the calculation sheet and digital angle gauge.**

## C. PREPARE VEHICLE FOR CALIBRATION

### [VEHICLE CENTERLINE AND CALIBRATION POSITION VIDEO](#)



## 1. LOCATE THE CENTER OF THE VEHICLE

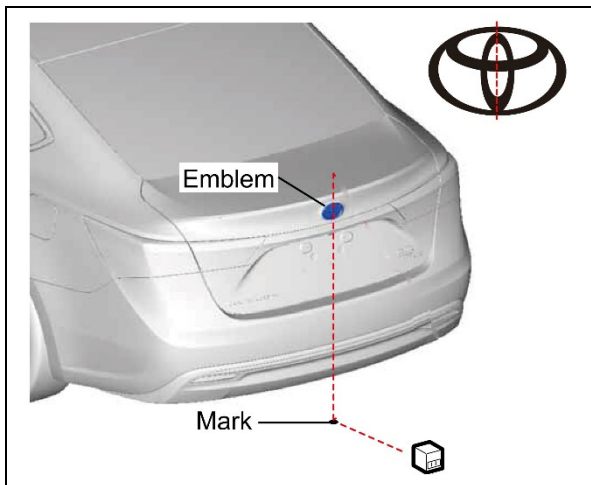
- Place the laser level approx. 6 ft. in front of the center of the vehicle.
- Turn on the laser level and place it in the **UNLOCKED** switch position and project the laser beam onto the vehicle as shown.



- The laser switch must be in the unlocked position so it can automatically self-level.**
- If the laser light is flashing this indicates that the laser is not level or in the locked position.**
- Before performing any measurements ensure the laser is self-leveled.**

- Using the vertical laser find the exact centerline of the vehicle by projecting the beam across the center of the emblem as shown.
- Mark the center line of the vehicle on the ground even with the front of the vehicle.
- Place the laser target on the front vehicle centerline mark facing the rear of the vehicle.

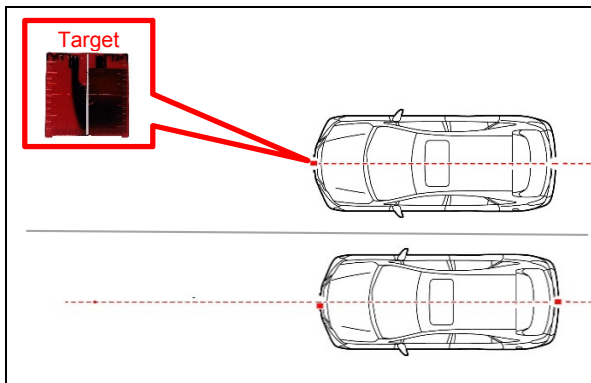
**Note: By placing the target in this position it will allow you to align the rear centerline of the vehicle with the front centerline of the vehicle which is required in the upcoming steps.**



- f) Place the laser level approx. 6ft. behind the center of the vehicle.
- g) Turn on the laser level and place it in the **UNLOCKED** switch position and project the laser beam onto the vehicle as shown.



- The laser switch must be in the unlocked position so it can automatically self-level.
- If the laser light is flashing this indicates that the laser is not level or in the locked position.
- Before performing any measurements ensure the laser is self-leveled.

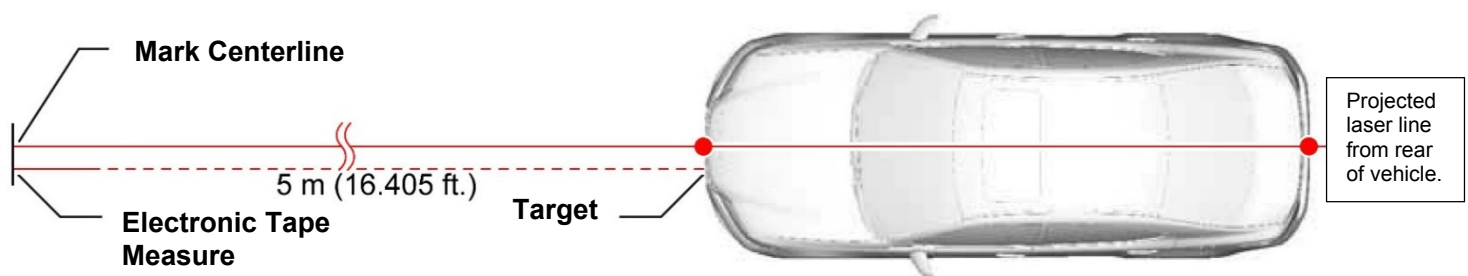


- h) Using the vertical laser find the exact centerline of the vehicle by projection the laser across the center of the emblem.
- i) Mark the center line of the vehicle on the ground.
- j) Project the vertical laser from the rear of the vehicle and align the laser with the target centerline and rear vehicle centerline.
- k) Walk to the front of the vehicle and slide the laser target toward the driver's side of the vehicle until the laser projects past the target.
- l) Ensure the target stays aligned with the front of the vehicle.

**Note:** By performing this step it will allow you to find the true vehicle centerline which will help you setup the SST for the calibration procedure.

## 2. LOCATE THE REFLECTOR SST CALIBRATION POSITION

- a) Using a clip board and a white sheet of paper locate the laser line being projected.
- b) Using the electronic tape measure and laser target, measure 5 meters (16.405 ft.) from the front of the vehicle.
- c) Mark the ground at 5 meters for the vehicle centerline.

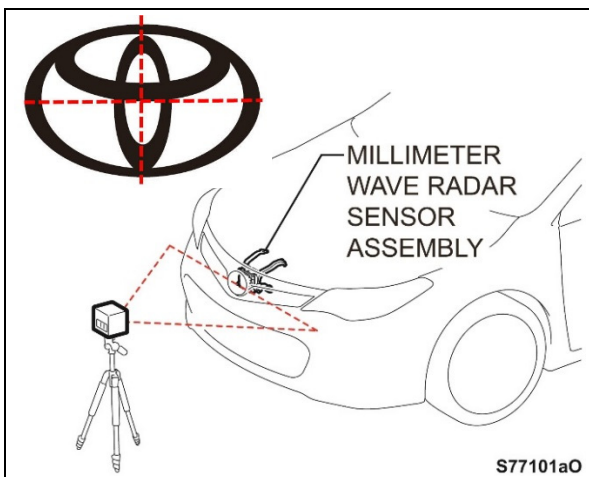
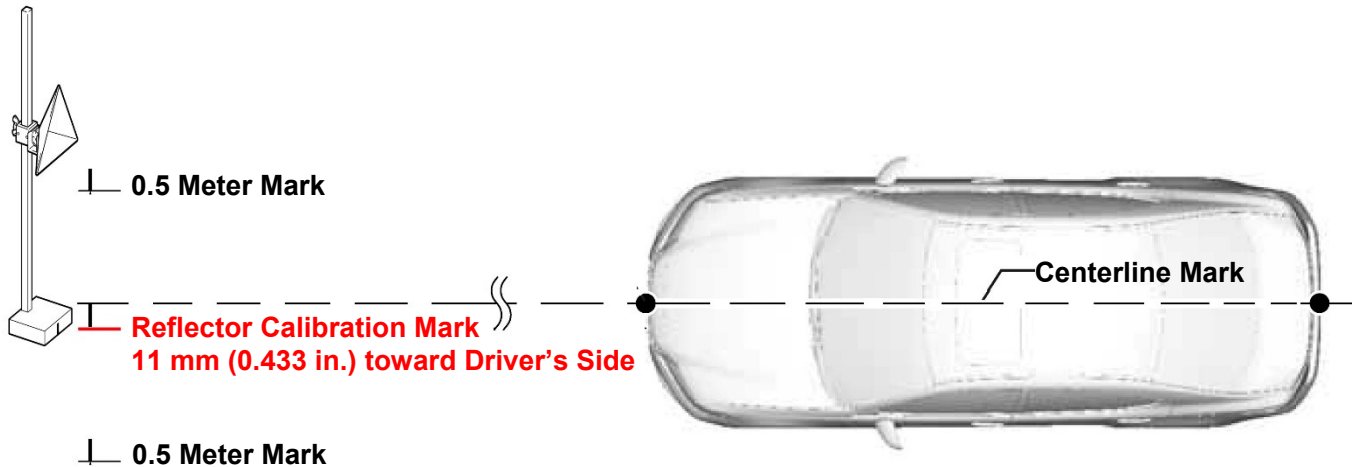




- d) Measure 11mm from the centerline of the vehicle toward the driver's side as shown.
- e) Mark the ground to identify the reflector calibration mark position (Red in drawing below).
- f) Measure 0.5 meters to the left and right of the calibration location and mark them on the ground as shown.
- g) Place the reflector SST at the reflector calibration mark and align the center mark on the SST base.

**SST: 09870-60000 (Stick and Base)**  
**09870-60040-02 (Reflector C)**

**Note: The 3 measured marks will be used during the calibration procedure using Techstream, it is crucial that you measure these locations.**



### 3. SET REFLECTOR C HEIGHTS

#### [REFLECTOR HEIGHT ADJUSTMENT PROCEDURE VIDEO](#)

- a) Place the tripod and laser level in front of the vehicle.
- b) Level the tripod base and head using the built in bubble levels.
- c) Turn on the laser level to the **UNLOCKED** position with both the vertical and horizontal laser lines being projected.
- d) Adjust the heights of the tripod head and laser until the laser line crosses over the center the Toyota emblem as shown.

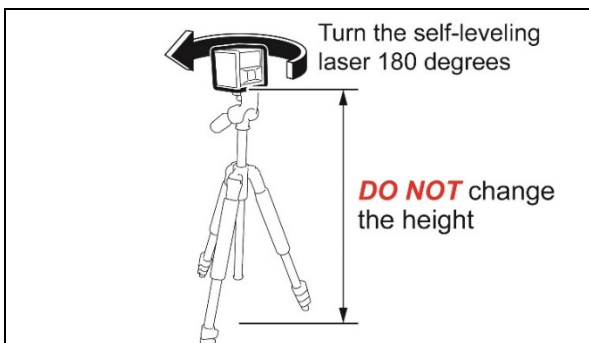


- The laser switch must be in the unlocked position so it can automatically self-level.
- If the laser light is flashing this indicates that the laser is not level or in the locked position.

- e) Turn the self-leveling laser 180 degrees and toward the reflector stand.



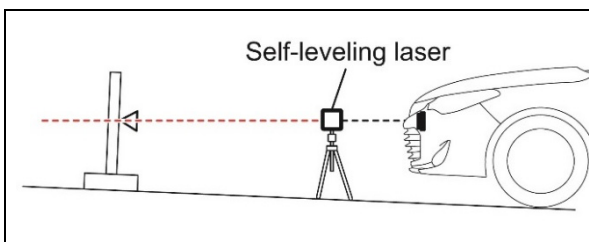
**Do not change the heights of the laser level or tripod when performing this step.**



- f) Adjust the height of Reflector C until it aligns with the laser lines as shown.



**Do not change the heights of the laser level or tripod when performing this step.**



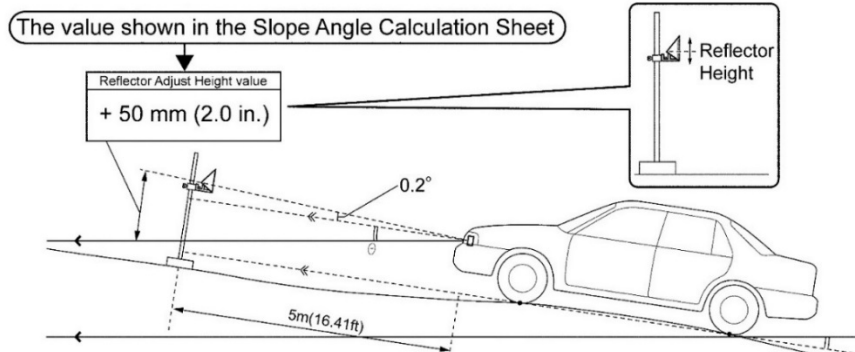


g) Adjust the height of Reflector C in accordance with the slope calculation sheet value at the bottom of the page.



**You must adjust the reflector C height to ensure it is at the correct heights for calibration.  
The adjustment heights value can vary based on floor slope.**

#### Example of Upward Slope

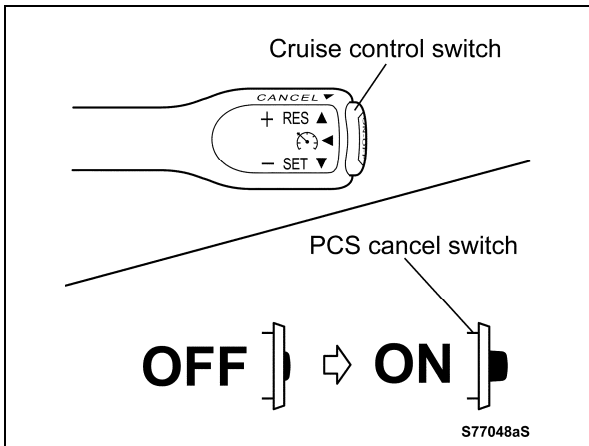


### D. CALIBRATE THE HORIZONTAL ANGLE OF THE MILLIMETER WAVE RADAR SENSOR.

#### [HORIZONTAL ANGLE CALIBRATION VIDEO](#)



**During the horizontal calibration procedure the utility will not prompt all the steps that are required. Ensure to follow all steps outlined in this TI and video to ensure the calibration is performed properly.**



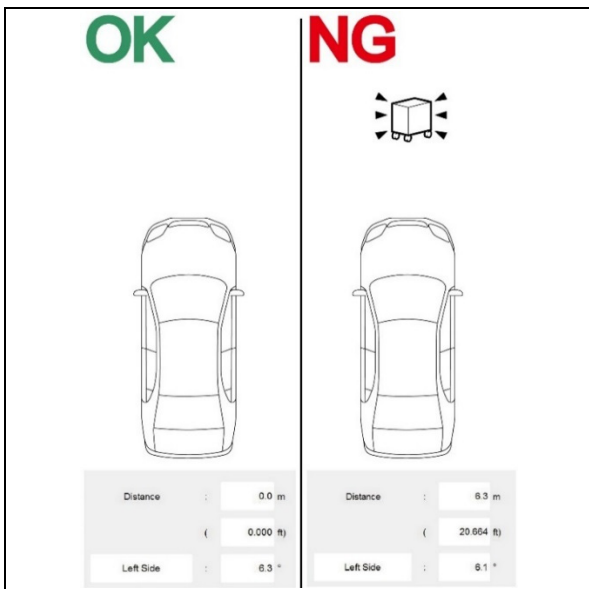
#### 1. ADJUST RADAR SENSOR HORIZONTAL ANGLE

- Connect Techstream
- Turn the ignition switch to IG on (Engine Off/Ready Off)
- Turn the cruise control switch on and confirm the light illuminates on the instrument cluster.
- Turn the PCS cancel switch on.
- Confirm reflector is located and adjusted to the correct heights.
- Select the Radar Cruise ECU in the Techstream
- Select Utility
- Select Beam Axis Adjustment and Click Next

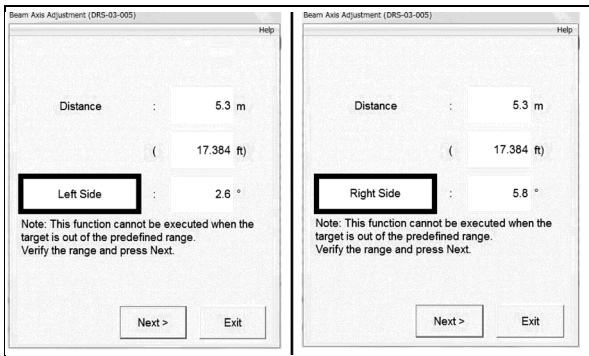
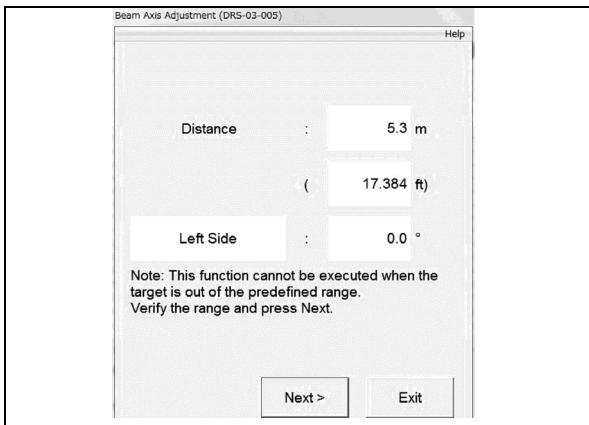
**Note: After clicking "Next" the brake buzzer will sound for approximately 1 second when the screen changes to the system adjustment screen.**

- When the adjusting screen appears move the reflector away from the reflector placement point and outside of the calibration area.

**Correct Distance Value: 0.0 m**



**If the screen displays a value other than 0.0m it is detecting other metallic object in the calibration area, remove these objects out of the area. If the objects cannot be removed you must calibrate the system in a different area.**



- j) Return Reflector C to the calibration placement point.
- k) Check the value of the distance measurement:

**Correct Distance Value: 4.5 to 5.5 m (14.8 to 18.0 ft.)**  
**Correct Left/Right Side Value: 3.0 degrees or less**

- l) Validate the radar sensor is correctly recognizing the reflector C.
- m) Move the reflector 0.5 meters to each side of the calibration placement point.
- n) Confirm that the values change in correspondence to the reflector location.
- o) Return the reflector to the calibration placement position.

- p) Click “Next” to adjust the horizontal angle of the sensor.

**Note:**

- After clicking “Next” the brake buzzer will sound for approximately 1 second.
- The radar sensor will automatically adjust the horizontal angle.

- q) When the “Beam Axis adjustment is complete message appears turn off the ignition.
- r) Turn IG on again and confirm that no related DTC set for Beam Axis Adjustment.

## IX. RESTORE VEHICLE

### A. CONFIRM VEHICLE CONDITION

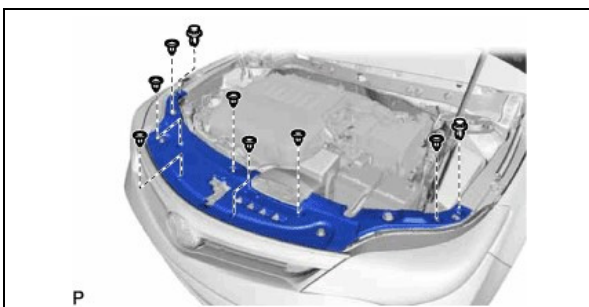
1. CHECK AND CLEAR DTCS
2. RESTORE SYSTEM SETTINGS AND DATA
3. INITIALIZE PARKING ASSIST MONITOR SYSTEM

- a) When “System initializing” is displayed on the multi-display, correct the steering angle neutral point by turning the steering wheel full right and then full left on level ground.

**Note: The engine must be running with the car in park and parking brake applied.**

### 4. PERFORM TEST DRIVE

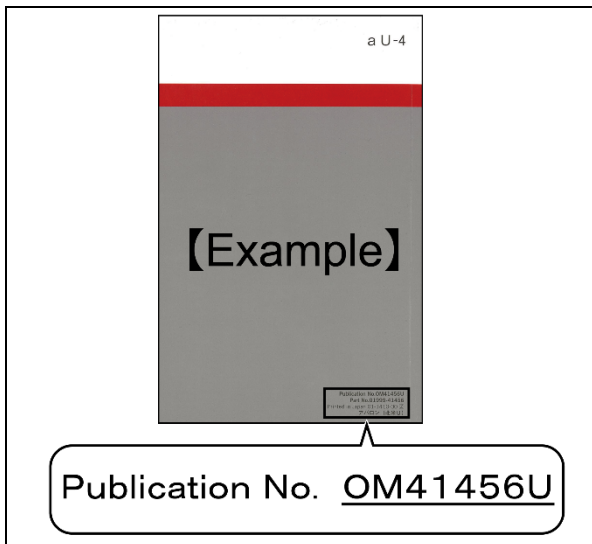
### B. REASSEMBLE VEHICLE



### 1. REINSTALL COOL AIR INTAKE DUCT SEAL

- b) Install the Cool Air Intake Duct Seal and 9 clips.

## X. APPLY CORRECTION STICKER TO OWNER'S MANUAL



### 1. CHECK OWNER'S MANUAL PUBLICATION NUMBER

- Locate the owner's manual.
- Inspect the publication number and the table below to determine which 2 pages require the updates:

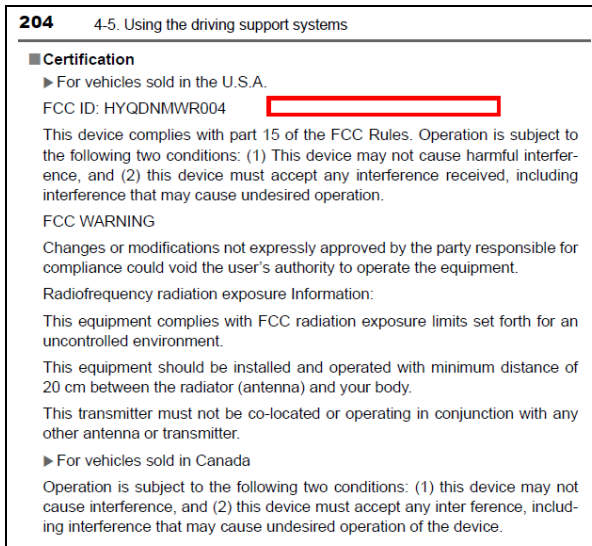
Model	Publication #	Page	Page
Avalon (Gas)	OM41429U OM41440U OM41452U	204	220
	OM41456U	208	224
Avalon Hybrid	OM41442U OM41451U OM41453U	231	248
	OM41457U	225	242

### 2. INSTALL CORRECTION LABELS

- Locate the FCC ID # on the applicable pages and install the label as shown.

**Note:** Location of the FCC number will vary by publication number and page, ensure you find the correct location.

- Confirm the label has been attached to both applicable pages.



## ◀ VERIFY REPAIR QUALITY ▶

- Confirm the correct Driver Support ECU is installed
- Confirm the floor slope was correctly calculated and the vertical angle was properly set for the millimeter wave radar sensor
- Confirm the vehicle centerline was correctly identified and the horizontal calibration procedure was performed properly

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