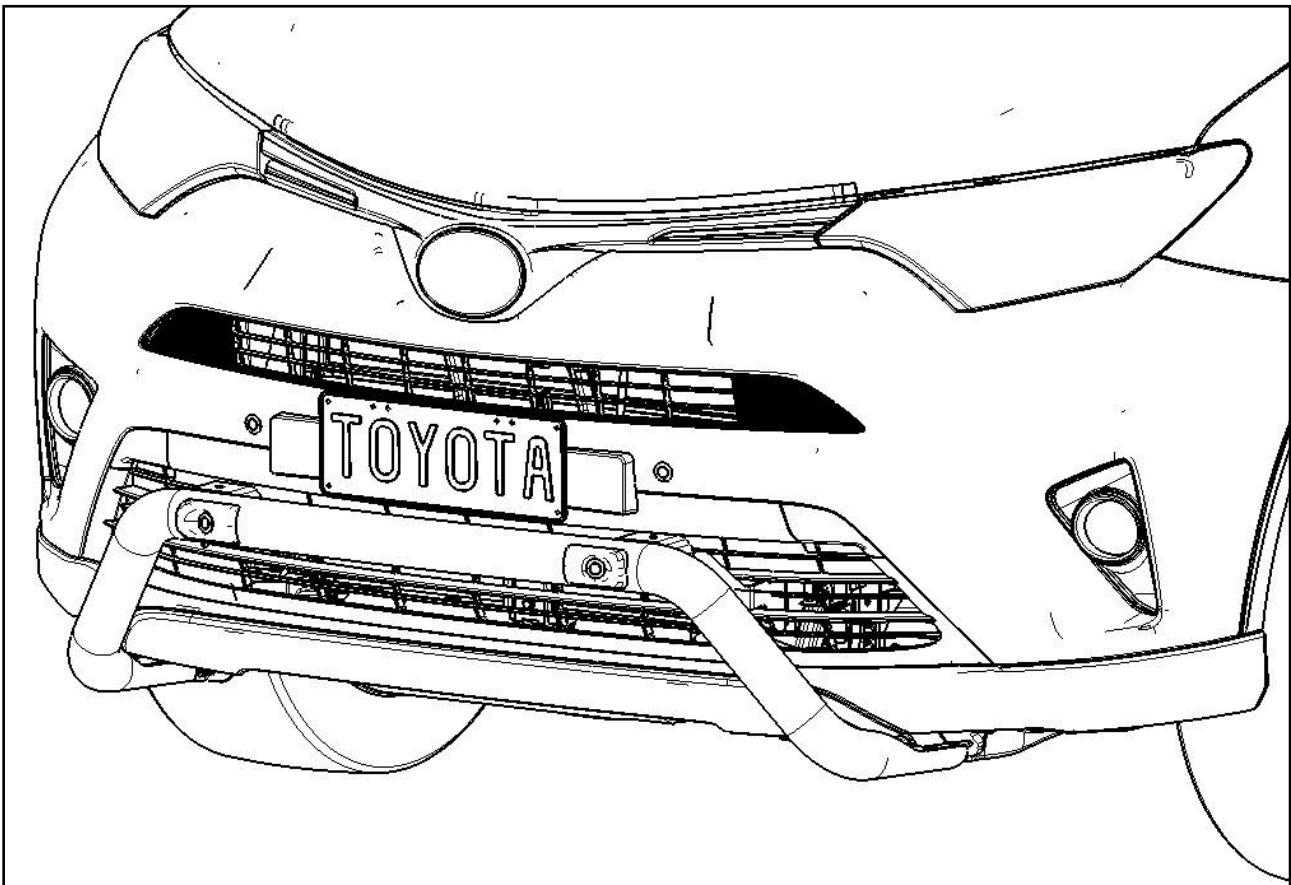


TOYOTA

**Toyota RAV4
Production Dates - October 2015 onwards**

Nudge Bar Installation Instructions



Accessory Part No. PZQ29-42126

Installation Time : Approx 75 Minutes

Place these instructions in vehicle's glove box after installation is complete

PLEASE REFER TO PAGE 3 OF THESE INSTRUCTIONS FOR A LIST OF PARTS AND QUANTITIES

IMPORTANT !

Please read these instructions carefully before installation, paying special attention to all IMPORTANT notes. Failure to do so may result in damaged parts or injury to the installer or customer.



Toyota RAV4 Nudge Bar Fitting Instructions

Accessory Part No. PZQ29-42126

General Notes

- Place these instructions in vehicle's glove box after installation is complete.
- Please read these instructions carefully before installation, paying special attention to all Notice & Caution notes.
- Failure to do so may result in damaged parts or injury to the installer or customer.
- Toyota Motor Corporation Australia Limited recommend this accessory is fitted only by a qualified Toyota technician.
- Ensure all recyclable discarded vehicle or accessory components and packaging are recycled following local recycling regulations.

General Vehicle and Accessory Warranty Notes and Cautions

- Do not use this product for any vehicle make or model other than those specified by the Nudge Bar manufacturer.
- Do not repair or modify the structure of the Nudge Bar or its mounting hardware in any way - repair or modification can result in non-compliance with ADR Requirements and may effect proper operation of the airbag resulting in serious injury.
- Do not remove the plaque or label from the Nudge Bar.
- Do not modify the vehicle in any way other than the manner specified in these fitting instructions. To do so may void the warranty.

General Vehicle Notes and Cautions

- If damage or concerns are identified that may interfere with the installation of the accessory, or affect the function or safety of the vehicle, inform the customer prior to proceeding with the installation.
- Ensure special care is taken and the applicable repair manual is followed to prevent any damage to the vehicle.
- Protect and safely store any vehicle components removed.

General Accessory Notes and Cautions

- It is advisable to seek assistance from another person when lifting heavy components
- This accessory is designed for vehicles sold in Australia only and may be unsafe if used on any other vehicle
- This accessory is only to be fitted to the vehicles listed on the front of this manual, do not use this product for any make or model not listed as it may render the vehicle be unsafe to operate.
- Fit the accessory only using the method outlined in these instructions, do not fit the accessory by any other method.
- Do not attach the Nudge Bar to the vehicle using anchorages not intended for this purpose (e.g. engine mounting bolts).

Nudge Bar General Notes and Cautions

- This accessory is an Airbag compatible accessory
- Non recommended use of Nudge Bar (e.g. ladder rack support or fishing rod holder) may cause damage to the accessory or vehicle, and may impair the operation of the airbag system
- Nudge Bar fixings must be checked and re-tightened to the specified torque during every service

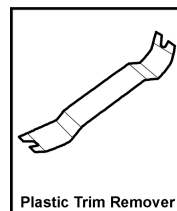
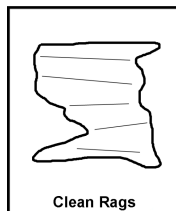
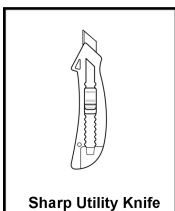
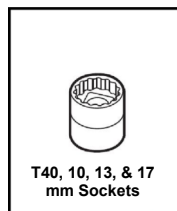
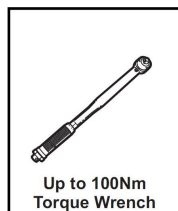
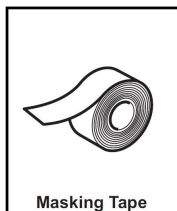
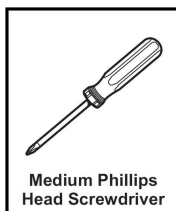
Nudge Bar Care Procedures

- Daily Exposure to pollution in the air, road grime and corrosive environments such as sea side roads can affect the appearance and finish of the accessory.
- Regularly wash the accessory using a reputable automotive wash detergent, rinse with fresh water and chamois dry.

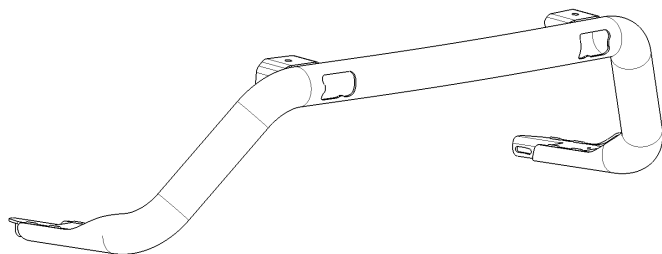
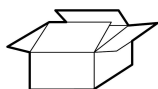
WARNING!

- Do Not Use Harsh Chemicals, industrial Cleaners or solvents.
- Do Not use abrasive compounds or abrasive cleaning tools
- Use reputable cleaning products only, as recommended by the manufacturer.

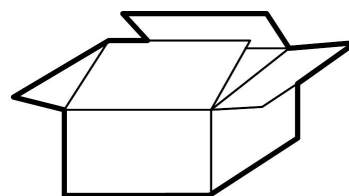
RECOMMENDED TOOL LIST - (Not Supplied In Kit)



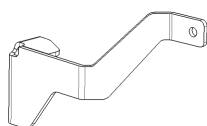
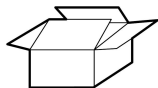
PARTS CHECK SHEET



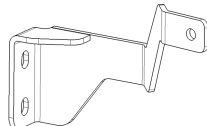
① Nudge Bar - Qty 1



② Fitting Kit - Qty 1



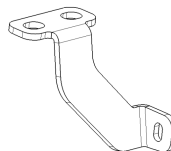
② Upper Bracket RHS Qty - 1



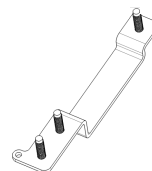
③ Upper Bracket LHS Qty - 1



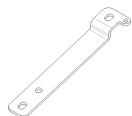
④ Lower Bracket RHS Qty - 1



⑤ Lower Bracket LHS Qty - 1



⑥ Rr Support Plates Qty - 2



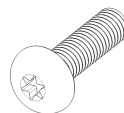
⑦ Fr Support Plates Qty - 2



⑧ Spacer Plates Qty - 2



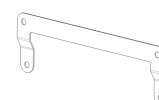
⑨ M12 x 45 x 1.25 Bolts Qty - 4



⑩ M8 x 25x 1.25 Torx Cap Screw Qty - 4



⑪ M8 Flanged Nyloc Nuts Qty - 10



⑫ Number Plate Spacer Qty - 1



⑬ M6 U Nut Qty - 2



⑭ M6 x 12 Screw Qty - 2



⑮ Foam Pad Qty - 1



⑯ Parking Sensor Housing - RH/ LH



⑰ Bumper Plug Qty - 2



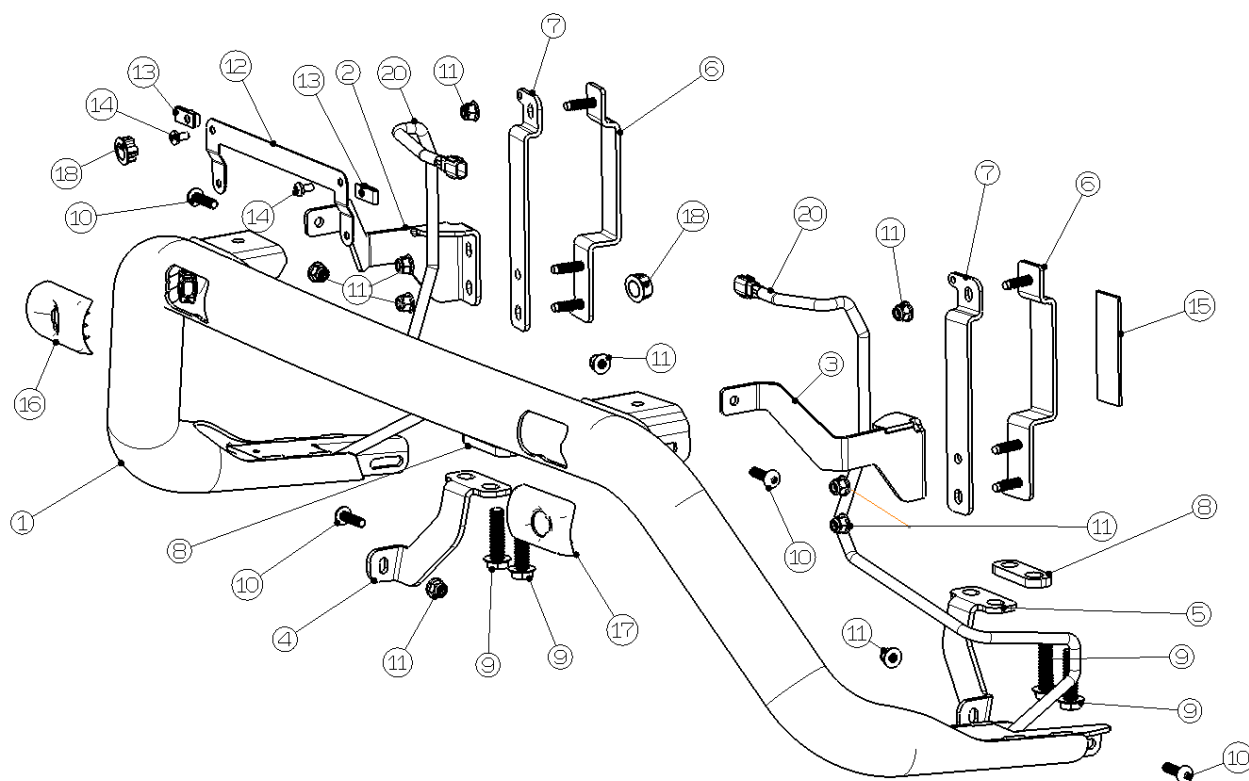
⑱ Cable Tie Qty - 12



⑳ W/H Qty - 2



㉑ Fitting Instructions Qty - 1



Item	Component Name	Part No.	Qty	H/T Class	Torque
1	Nudge Bar Hoop Assy	PZQ29-4212J	1		
2	Upper Bracket RHS	PZQ29-4212H	1		
3	Upper Bracket LHS		1		
4	Lower Bracket RHS		1		
5	Lower Bracket LHS		1		
6	Rear Upper Bracket Support Plate		2	8	21Nm
7	Front Upper Bracket Support Plate		2		
8	Spacer Plate		2		
9	Flanged Head Bolt M12 x 45 x 1.25		4	10	96Nm
10	Cap Screw, Torx Head - M8 x 25 x 1.25		4	8	21Nm
11	Flanged Nyloc Nut M8 x 1.25		10	8.8	21Nm
12	Number Plate Spacer		1		
13	M6 U-Nut		2		
14	Screw M6 x 12 x 1p		2	4.6	Hand Tight
15	Foam Pad - 100 x 30 x 3		1		
	Fitting Instructions (not shown)		1		
	Cable Tie - 350mm (not shown) (PZQ29-4212H only, not required)		2		
16	Parking Sensor Housing - RH	PZQ29-4212L	1		
17	Parking Sensor Housing - LH		1		
18	Bumper Plug		2		
	Cable Tie - 350mm (not shown)		12		
20	Parking Sensor Extension W/H		2		

Note - P/N PZQ29-4212J is not available as a service part.

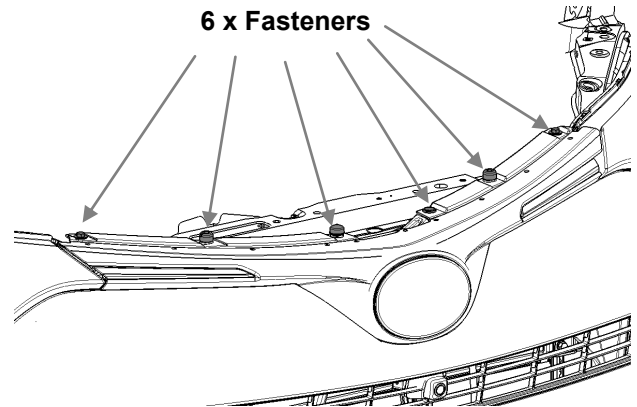
Step 1

IMPORTANT



Always refer to the vehicle's Workshop Manual when removing vehicle components

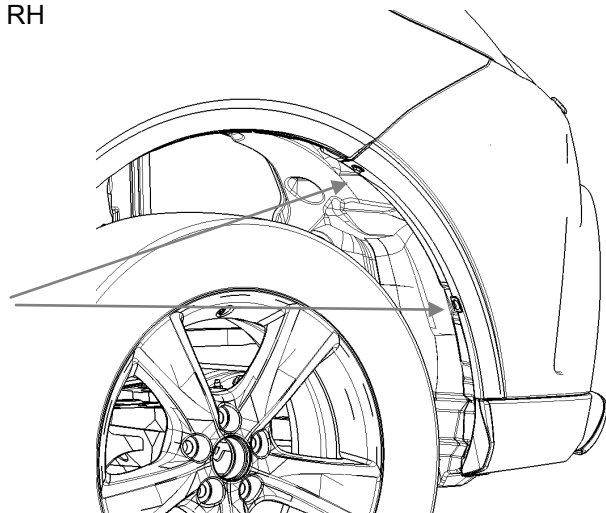
- Disconnect negative terminal from battery.
- Remove and retain top bumper cover fasteners.



Step 2

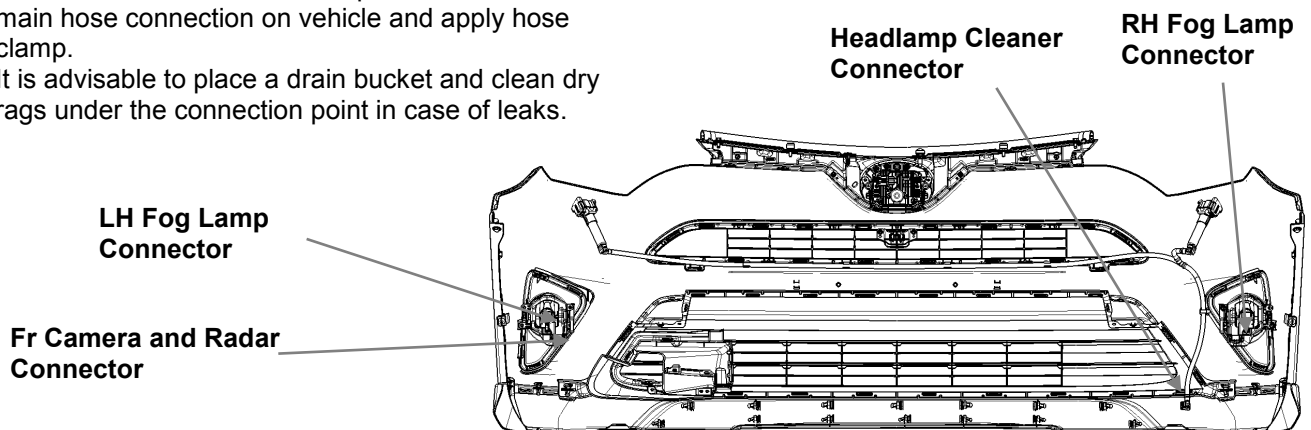
- Remove and retain bumper cover fasteners on both RH and LH side.

2 x Fasteners
Each Side



Step 3

- If vehicle is fitted with fog lamps, disconnect wiring.
- If vehicle is fitted with Radar, disconnect connector (next to LH Fog Lamp Socket).
- If vehicle is fitted with headlamp cleaners, disconnect main hose connection on vehicle and apply hose clamp.
- It is advisable to place a drain bucket and clean dry rags under the connection point in case of leaks.

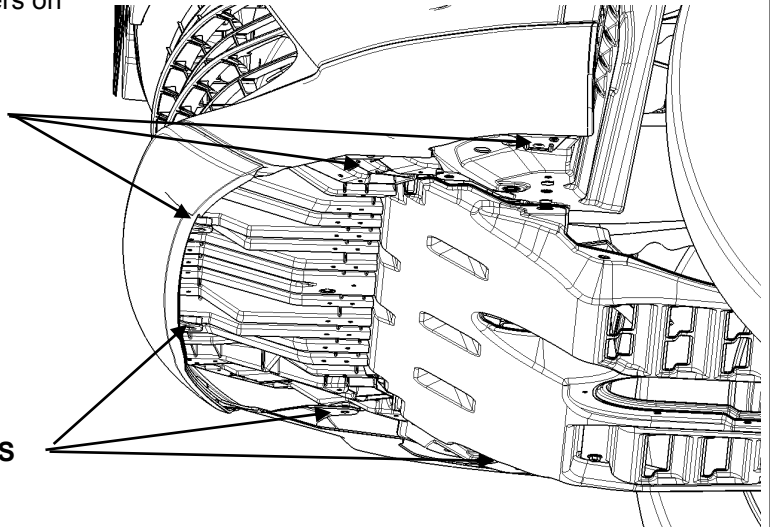


Step 4

- Remove and retain lower bumper cover fasteners on both RH and LH side.

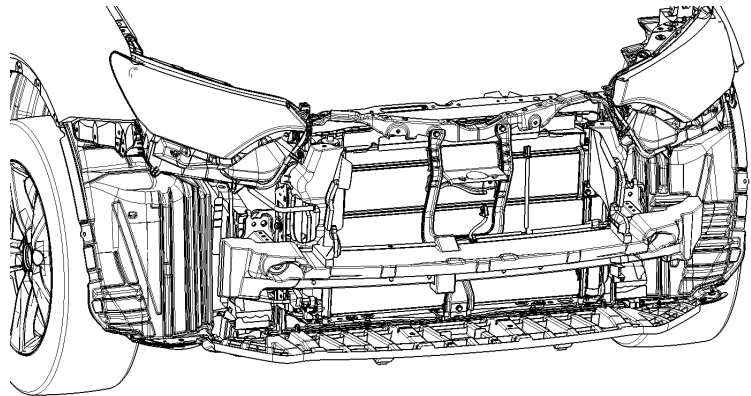
3 x Fasteners LHS

3 x Fasteners RHS



Step 5

- Remove bumper cover and set aside.

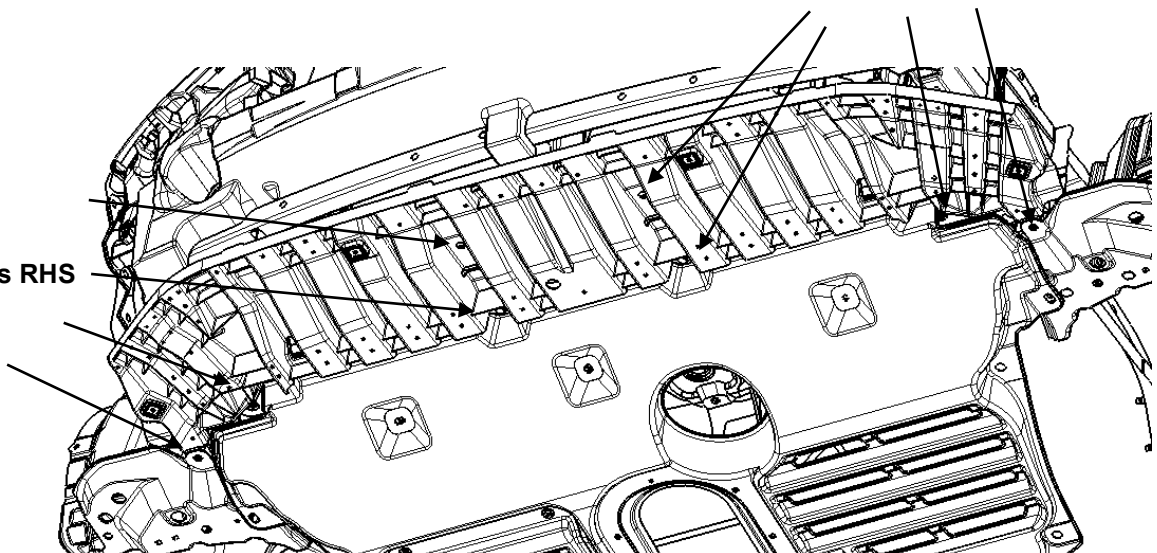


Step 6

- Remove and retain front bumper absorber undercover including its fasteners.

4 x Fasteners LHS

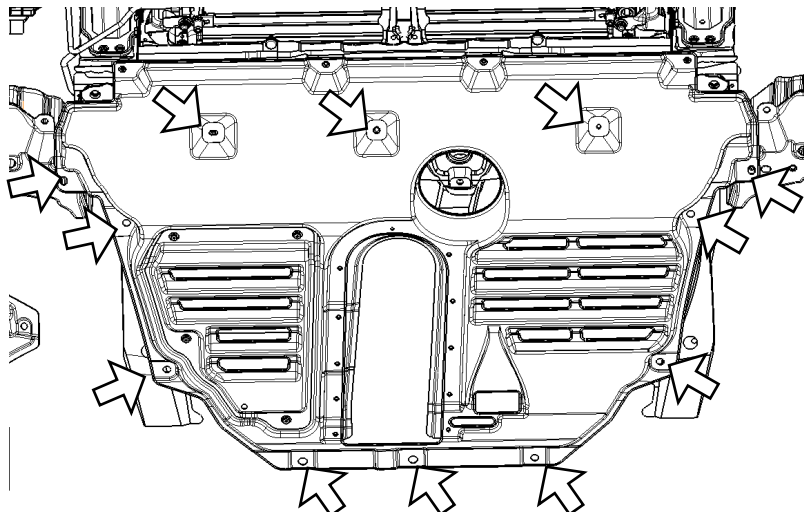
4 x Fasteners RHS



Step 7

- Remove and retain engine assembly undercover including its fasteners.

12 x Fasteners in total

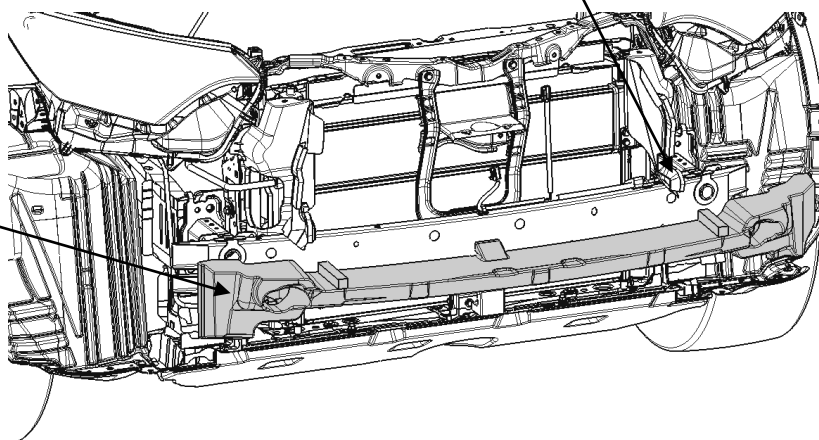


Step 8

- Unplug the wire harness that is attached to the bumper reinforcement bar on the LHS. Leave loose for now.
- Remove and retain the bumper absorber.

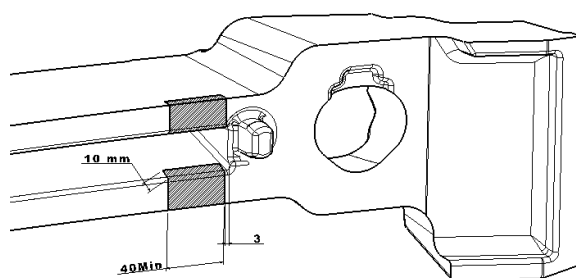
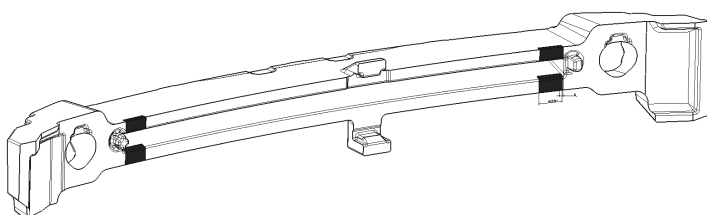
Unclip Harness on bumper reinforcement

Remove polystyrene absorber



Step 9

- Modify the bumper absorber by slotting a 40mm wide slot 10mm deep. (refer to images below)
- The slot should be on both RH and LH side.
- Start of the slot should be approx. 3mm from the end of the slot.



Step 10

- Remove and modify the upper grille that is attached to the bumper cover.
- Cut out the ribs as highlighted in the image. (LHS)
- Cut out the blanked section as highlighted in the images (RHS)
- Modify the Grille Inserts (LHS) as described below.
- Reattach upper grille to the bumper cover.

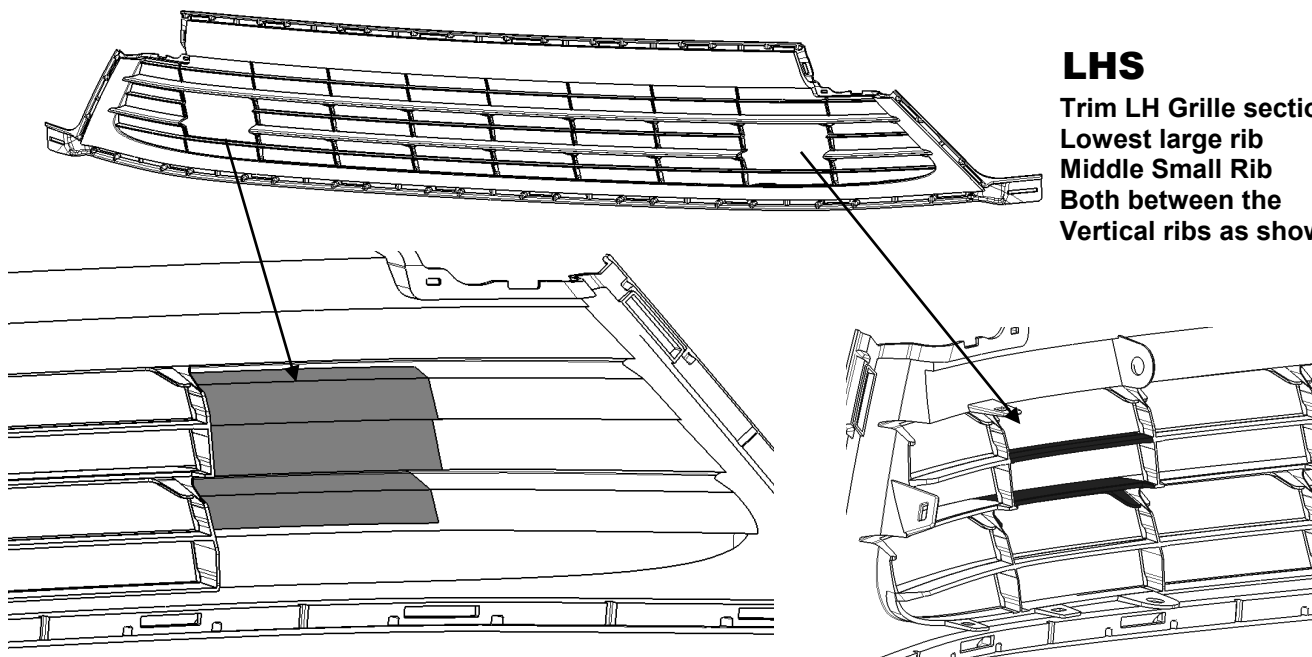
IMPORTANT



Take care not to cause stress whitening of the grille material when completing modifications

LHS

Trim LH Grille section
Lowest large rib
Middle Small Rib
Both between the
Vertical ribs as shown

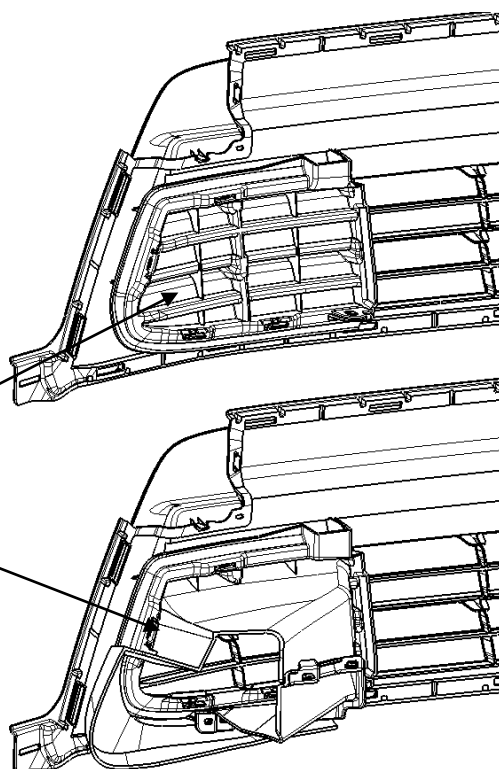


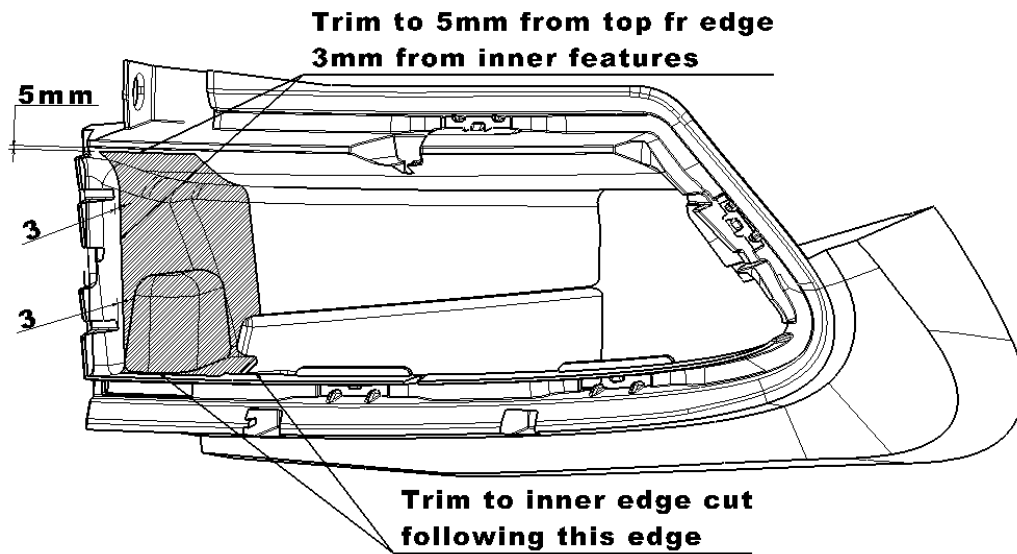
RHS

RH Grille section is filled in
Trim from underside of highest large rib
to the upper edge of the lowest small rib
between the vertical ribs as shown

LHS Grille Inserts

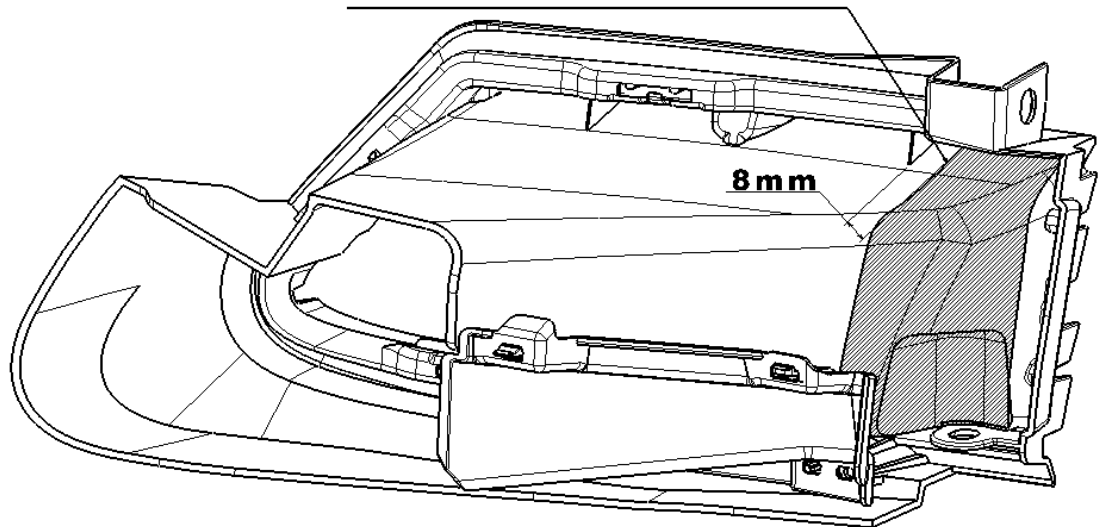
If the vehicle is fitted with an air dam for the oil cooler, or a blanking plate over the LH side of the grille, remove these from the grille and trim as described on the next page.



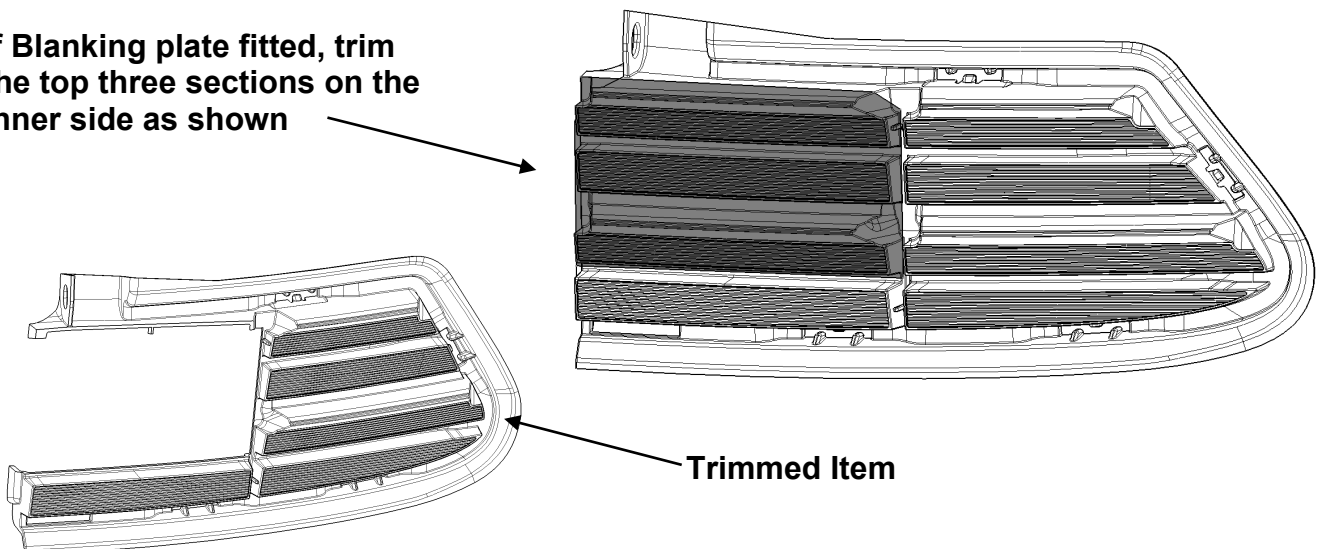


If oil cooler air deflector fitted, trim the deflector as shown

Cut straight down as shown
8mm from rib

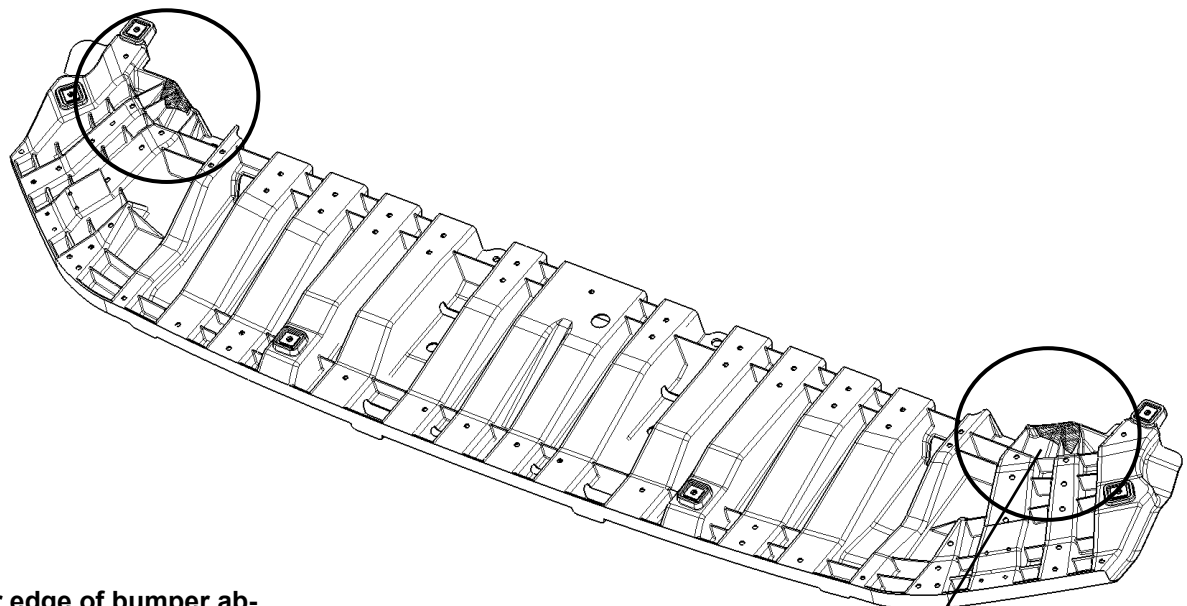
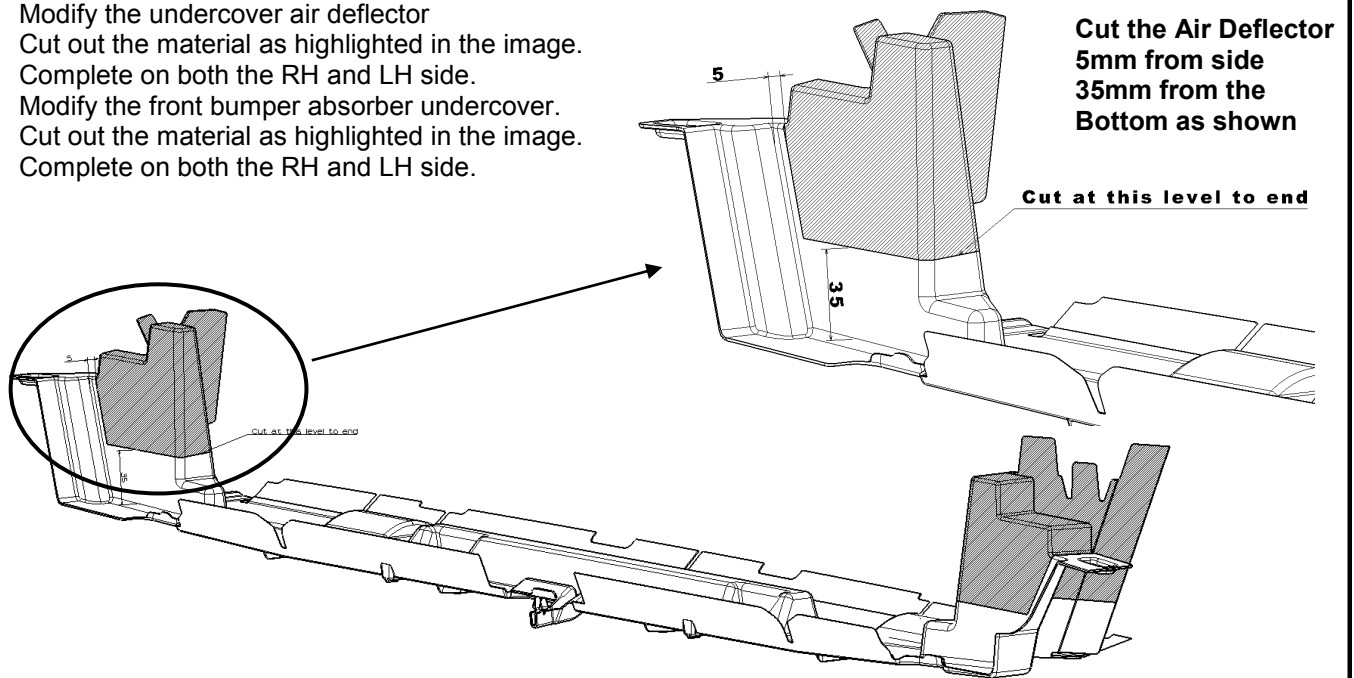


If Blanking plate fitted, trim the top three sections on the inner side as shown

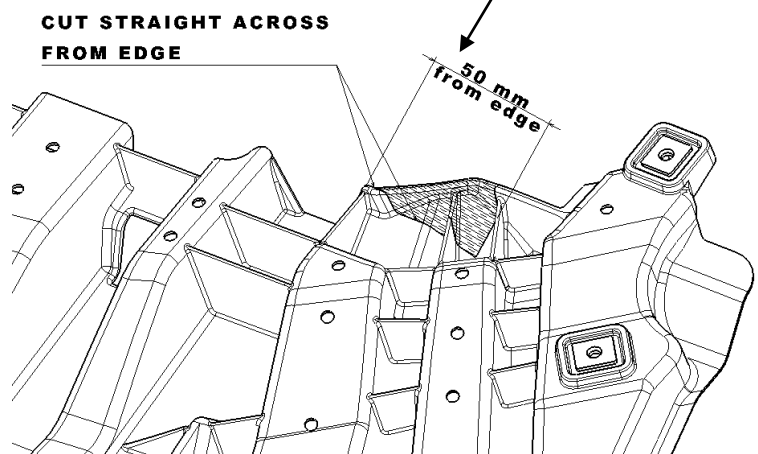


Step 11

- Modify the undercover air deflector
- Cut out the material as highlighted in the image.
- Complete on both the RH and LH side.
- Modify the front bumper absorber undercover.
- Cut out the material as highlighted in the image.
- Complete on both the RH and LH side.

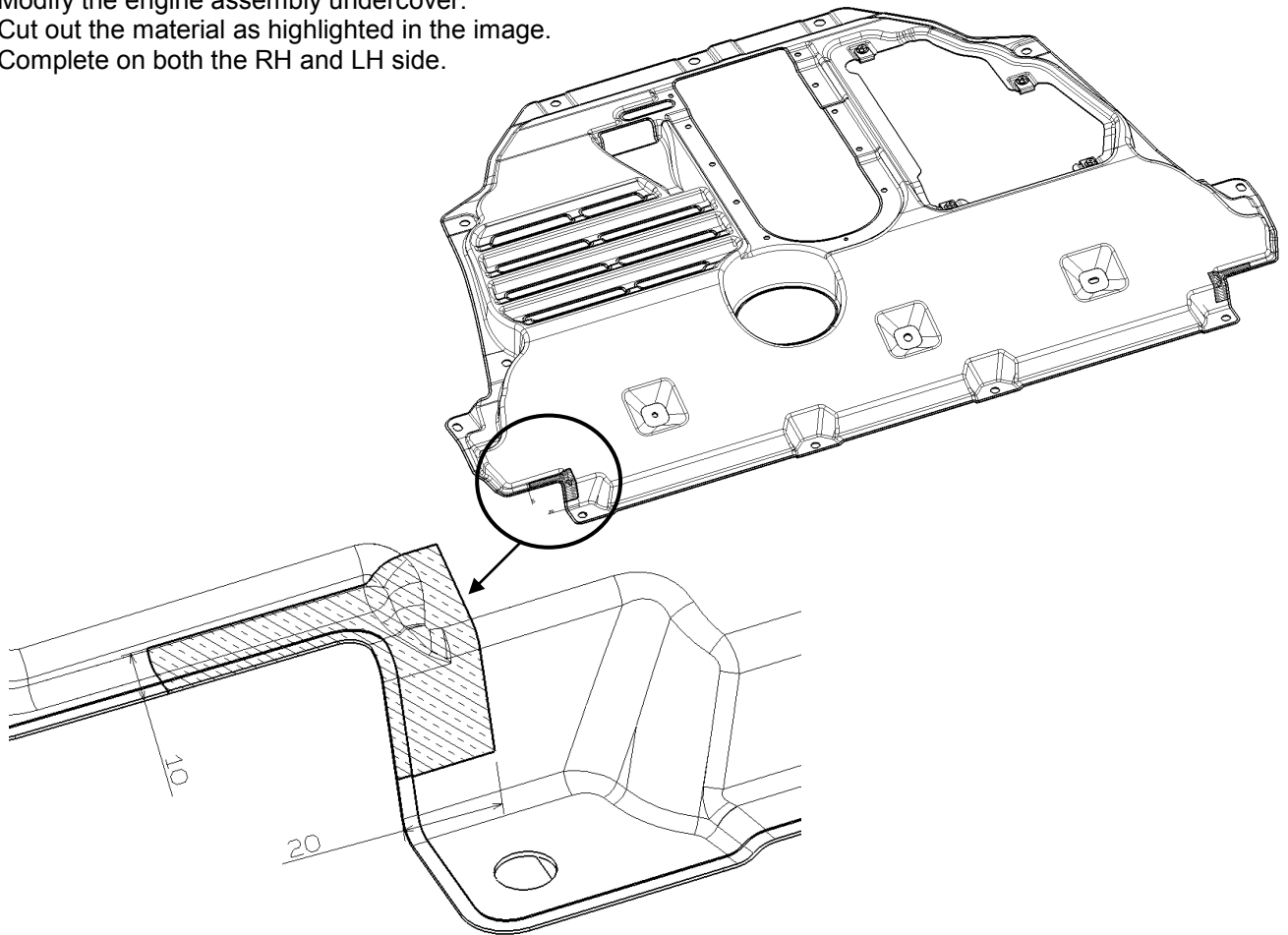


Cut rear edge of bumper absorber undercover on LH and RH sides as shown
LH Shown, RH is a mirror image



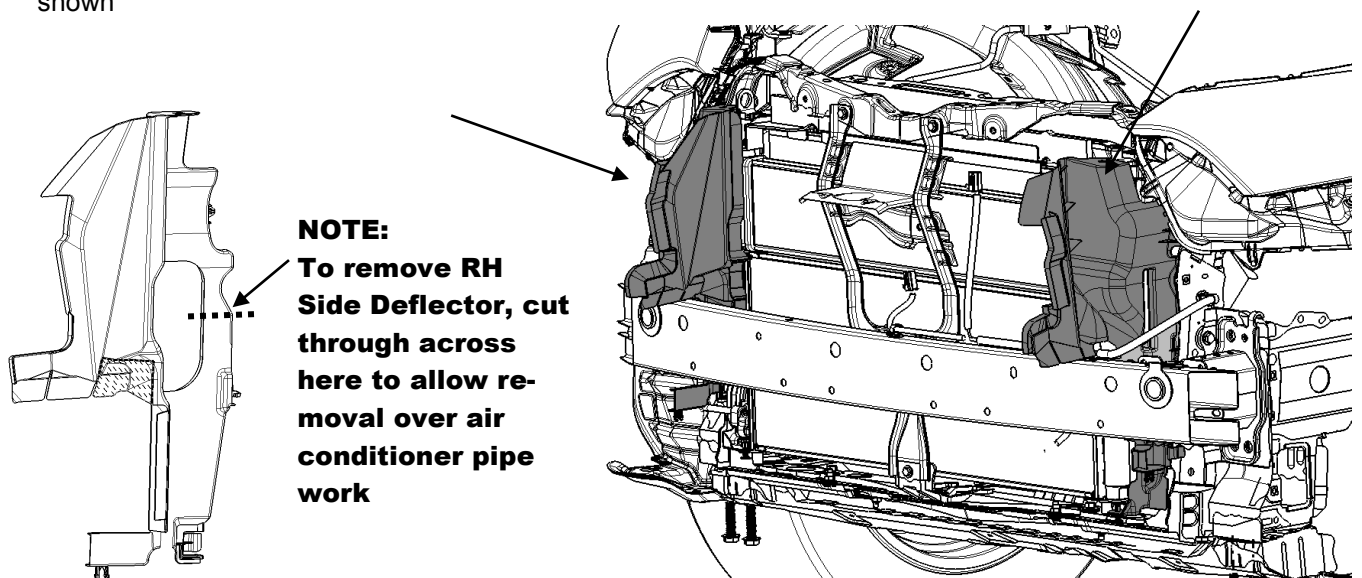
Step 12

- Modify the engine assembly undercover.
- Cut out the material as highlighted in the image.
- Complete on both the RH and LH side.



Step 13

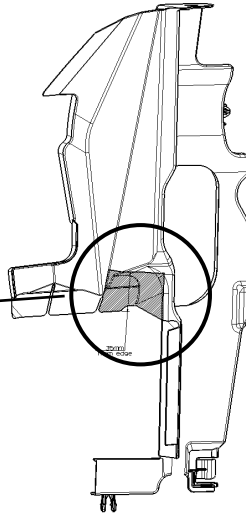
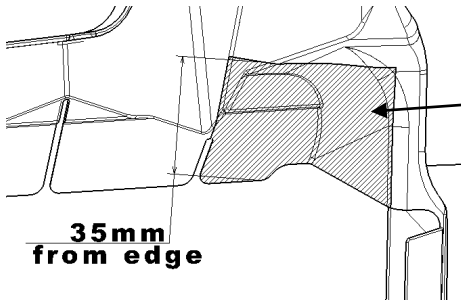
- Remove and modify the LH and RH air deflectors as shown



Step 13 cont..

- Remove and modify the LH and RH air deflectors as shown

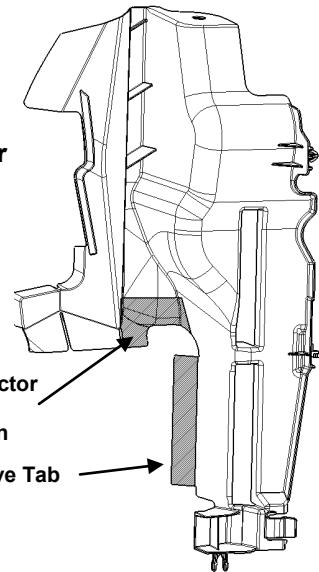
RH Side Deflector



LH Side Deflector

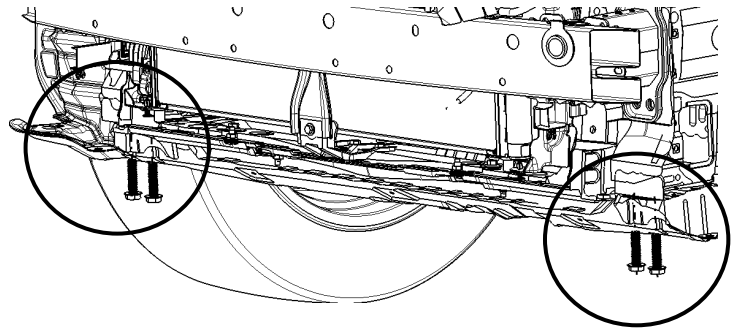
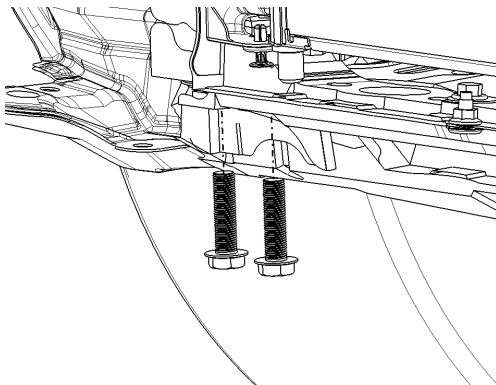
Cut the Air Deflector 35mm from the Bottom as shown

Remove Tab



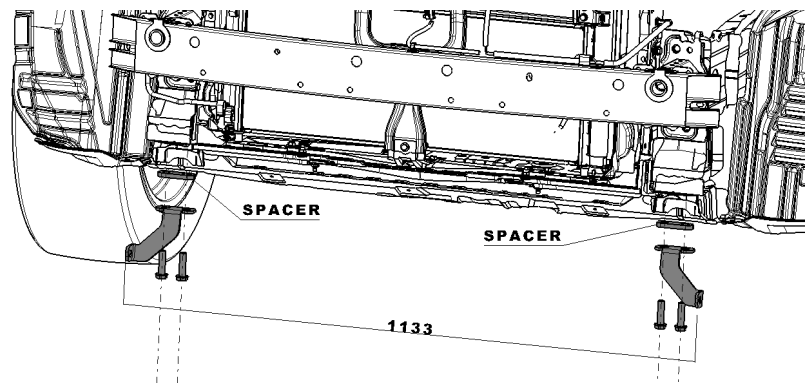
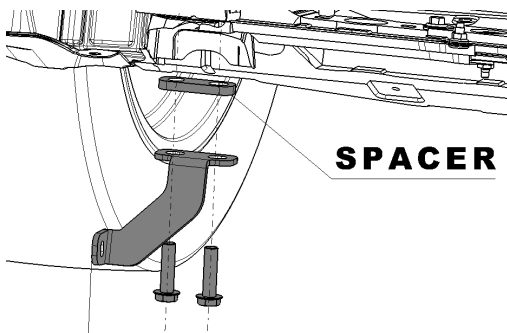
Step 14

- Locate, remove and discard the flanged head bolts from the engine cross member.
- Two bolts on both RH and LH side,



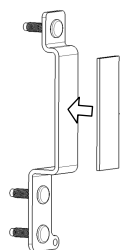
Step 15

- Attach the lower mount spacer and lower brackets to the engine cross member using the M12 bolts.
- Hand tighten only.
- Lower brackets are handed, refer to the image.
- The distance between nut centres should be 1133mm.

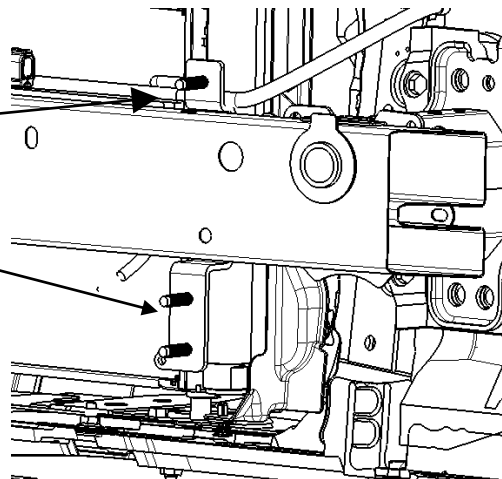


Step 16

- Fit the Foam pad onto one of the rear support plates, this will be fitted to the LH side of the bumper reinforcement beam
- Attach the rear support plate to the bumper reinforcement beam as shown
- When sliding the rear support plate on the LH side into position, keep the wire harness behind plate.
- Take care not to damage wire harness connections.
- The approximate position of the support plates is such that their inside edge aligns with the condenser edge.



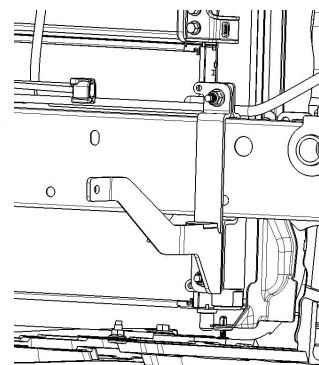
Foam Pad to be fitted to LH Rear Support



Step 17

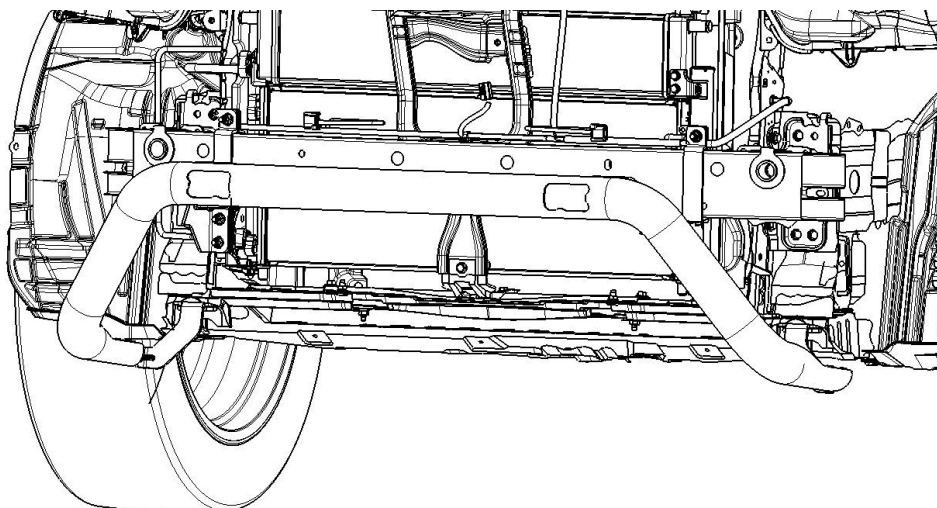
- Attach the front support plates and upper brackets to the rear support plates using the M8 nuts.
- Hand tighten only.
- Upper brackets are handed, refer to image.
- In order to align brackets correctly, the edge of the front support plate should be a measured distance away from the bumper reinforcement holes.
- Distance to upper hole edge = 11mm
- This should result in a distance between the RH and LH side upper brackets to be approximately 722mm.

LH Side Shown
RH Side mirror image



Step 18

- Attach the Nudge Bar hoop assembly to the brackets.
- Upper & Lower Brackets use the M8 Torx Head Cap Screws with Flanged Nyloc Nuts
- Hand tighten only.
- Adjustments to bracket positions can now be made to ensure correct fitment of the Nudge Bar hoop assembly.



Step 19

- Torque the M8 nuts on the upper brackets to 21Nm.
- Torque the M12 bolts on the lower brackets to 96Nm.

Torque M8 Nut - 21Nm

Torque M12 Bolt - 96Nm

IMPORTANT



Do not use pneumatic driver to attach these brackets. Use a torque wrench.

- Reinstall side and lower Air Deflector.
- Reinstall Undercover.
- Reinstall Lower Bumper Absorber.

Step 20

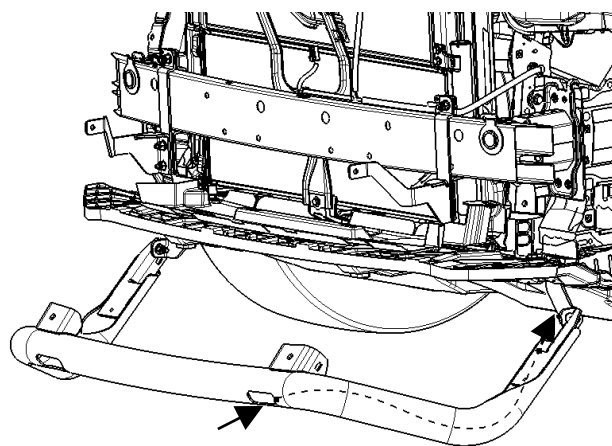
- Place protective sheeting on floor under Nudge Bar.
- Feed Parking Sensor Extension W/H through the Nudge Bar from the cut-out through to the bottom of the tube.

IMPORTANT



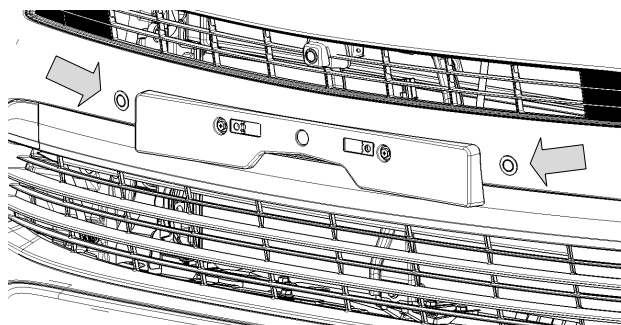
W/H to exit on inboard side of Tube lower bracket.

- Remove the bolts between Upper Nudge Bar Bracket and Nudge Bar Hoop and loosen Lower Nudge Bar Bracket to allow the Nudge Bar to rest on the floor.



Step 21

- Remove centre 2 Parking Sensors from Bumper Cover.
- Fit Bumper Plugs to Bumper Cover.
- Reinstall Sensors into Nudge Bar Parking Sensor Housing and install into Nudge Bar.



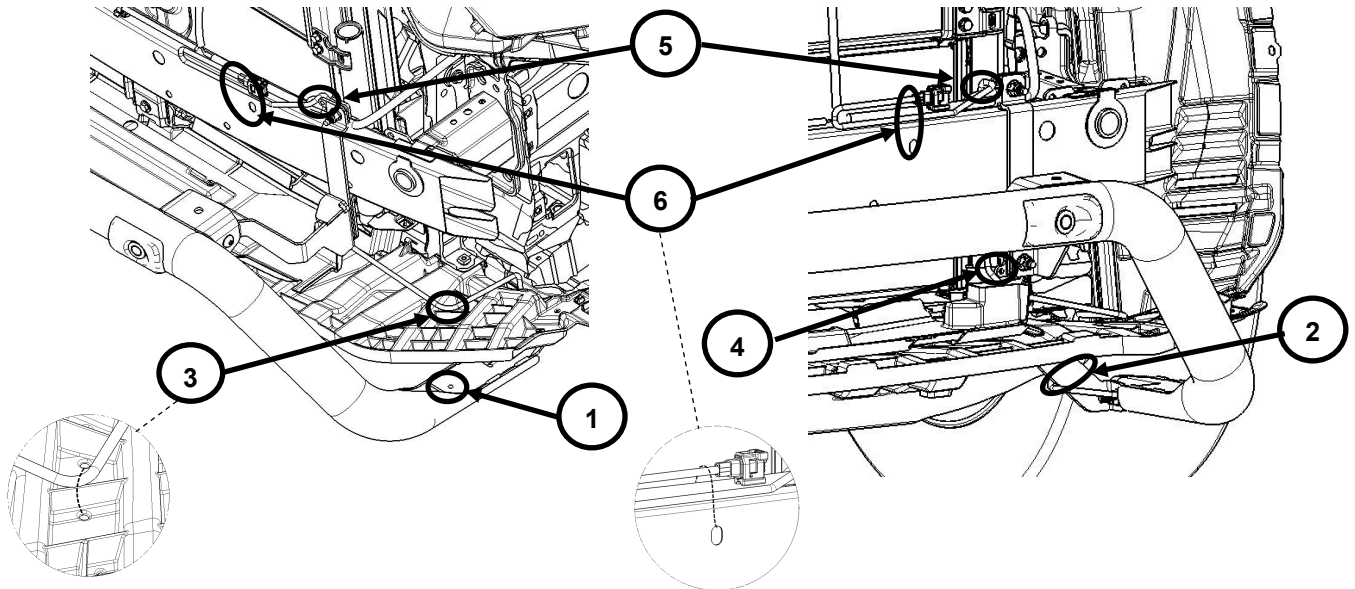
NOTE:

- Bumper Plugs can be painted to match body colour.
- Ensure surface is cleaned and adequately prepared prior to painting.

Step 22

- Route Parking Sensor W/H as shown and secure using cable ties in locations marked.
- Cable Tie 6 is approx. 15 mm before end of corrugated tube & goes through hole in Bumper R/F.

Note - Air Deflectors removed & Nudge Bar in design position for clarity



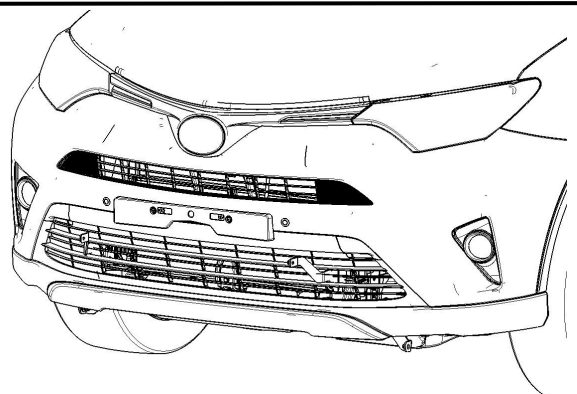
Cable Tie	Location	Comment
1	Hole in tube lower plate	
2	Around lower bracket	Ensure that W/H does not hang below the lower Nudge Bar Bracket
3	Through holes in Lower Absorber	
4	Hole in Rr Support Bracket	
5	Hole in Frt Support Bracket	
6	Hole in Bumper R/F	Cable to be approx. 15 mm before end of corrugate tube & loops through hole in Bumper R/F

Step 23

- Refit the bumper absorber & bumper cover to the vehicle using another person to help assist position onto vehicle.
- Be very careful not to damage the vehicle when re-fitting the bumper cover
- If vehicle is fitted with fog lamps, reconnect wiring.
- If vehicle is fitted with Fr Radar, ensure they are re-connected.

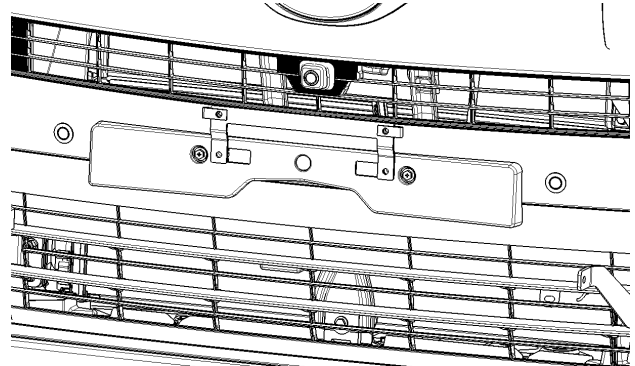
Step 24

- Reinstall all fasteners back to the bumper cover.
- Total 6 x fasteners on top
- Total 4 x fasteners at the side fenders
- Total 6 x fasteners at bottom
- Remove all protection tape and rags from the vehicle.



Step 25

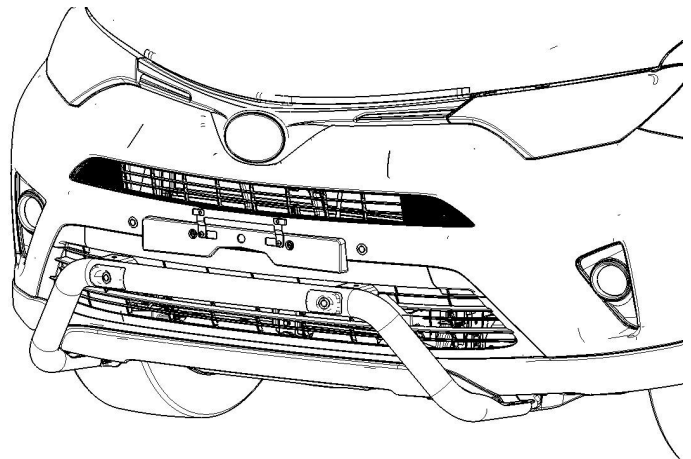
- Install Number Plate Spacer with U-Nuts attached
- Replace Number Plate using supplied M6 Screws



Step 26

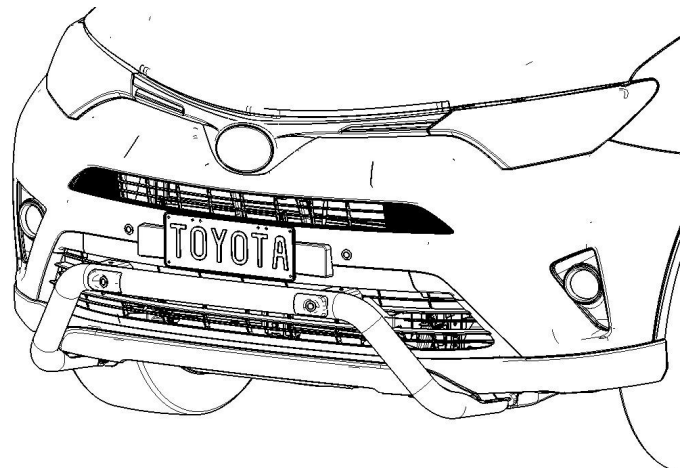
- Attach the Nudge Bar hoop assembly to the Upper Bracket in the same manner as a previous step.
- Minimum clearance between Nudge Bar and bumper cover should be approximately 10mm.
- Torque the M8 nuts on the upper brackets to 21Nm.

Torque M8 Nut - 21Nm



Step 27

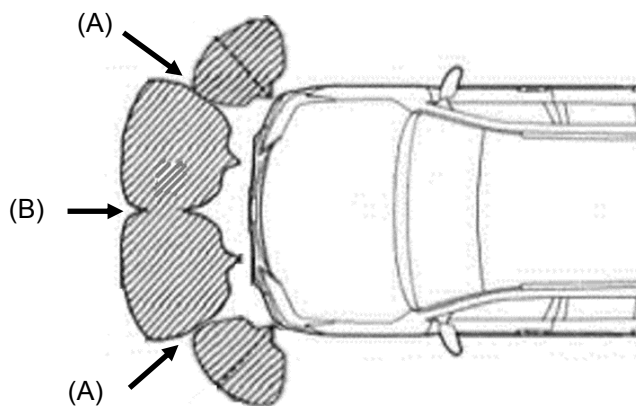
- Install Number Plate.
- Wipe down the Nudge Bar and Bumper Cover using a clean cloth to remove any dirt or grime resulting from the installation.
- Place this fitting guide in the vehicle with the Vehicles Owners Manual.



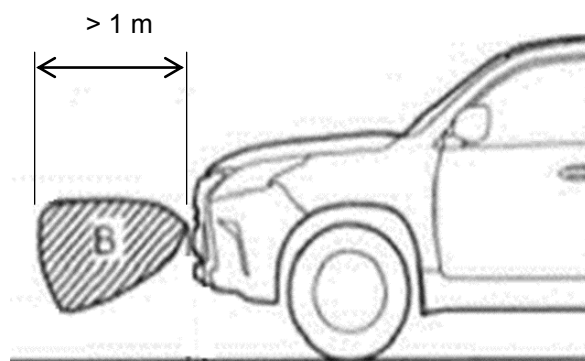
Park Sensor Detection Range Confirmation

Once Nudge bar is fitted confirm the following:

1. Check that there is no gap in sensor zone between each of the 4 front sensors with a $\Phi 60$ mm object (Corner to centre (A) and centre to centre (B)).

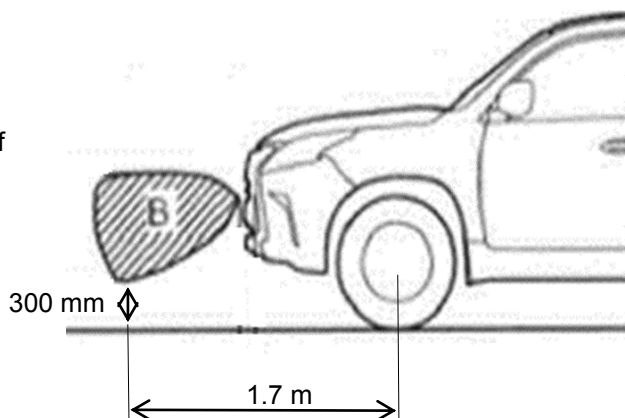


2. Using a wall check that the sensor is detecting more than 1m in front of the vehicle



3. Confirm an object 300 mm tall is not detected when placed 1.7 m in front of the front wheel.

NOTE: If any of these checks fail, adjust the position of the Nudge Bar and check again.





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