OFFROAD ANIMAL

Toyota Landcruiser 300 Series MY2022+ Predator & Toro Front Bar Fitting Instruction

IMPORTANT! – READ BEFORE INSTALLATION

- When installed in accordance with these instructions, the front protection bar does not affect the operation of the vehicles SRS airbags.
- This product must be installed exactly as per these instructions using only hardware supplied.
- Take a few moments to read instructions thoroughly before beginning work.
- In the event of damage to any bar component please contact OFFROAD ANIMAL to arrange repair/replacement of components.
- Do not use this product for any vehicle make or model other than that specified on these instructions.
- Do not remove labels from this product.
- This product and its fixings must not be modified in any way unless stated in these fitting instructions.
- The installation of this product is recommended for trained personnel.
- These instructions are correct at time of publication. OFFROAD ANIMAL cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer. If you find something has changed, please contact us to let us know!
- During installation it is the duty of the installer to check correct operation/clearances of all components.
- If Instructions are to be printed for reference in the workshop, it is recommended that they are printed in colour, for best legibility.

GENERAL CARE AND MAINTENANCE

Only wash the product with a PH neutral car wash to prevent paint damage and discolouration.

Plastic parts may be maintained with silicone spray.

Do not use acidic or alkaline based cleaning products.

It is important to perform regular checks (pre trip or on an annual basis) on the installed product. Checks include:
- Visual inspection for damage (eg. cracks, chips, dents etc.)
- Electrical wiring is not rubbing anything or worn out
- Bolts are torqued to correct specification (see torque guide below)

For touching up small stone chips, Offroad Animal recommends the following paint products:
- Dupli-Color Trim & Bumper Paint Black (TB101)
- VHT Hood, Bumper & Trim Paint Black (SP27)

BOLT TORQUE SETTINGS

Use the following bolt torques on all general fasteners, unless otherwise specified.

GENERAL FASTENERS	
Size	Torque Nm
M5	5 Nm
M6	9 Nm
M8	22 Nm
M10	44 Nm
M12	77 Nm

Use the following bolt torques on all structural front bar mount and tow point fasteners, and rear towbar fasteners, unless otherwise specified.

FRONT BAR MOUNTS AND TOW POINTS + REAR TOWBAR	
Size	Torque Nm
M10	57 Nm
M12	100 Nm
M14	164 Nm
M16	248 Nm

Always use a torque wrench to set correct torque settings. Ensure torque wrench is set to Nm unit of measurement. Otherwise perform conversion to lb-ft.

PARTS LISTING

IMPORTANT: Check all parts are present before beginning work! Contact OFFROAD ANIMAL if something is missing.

Main Parts – In the Box

Qty	Part Number	Description	Image
1	FB-TLC-300-22-PR-ASM1	Toyota LC300 Predator Bar Weldment	
OR			
1	FB-TLC-300-22-TOR-ASM1	Toyota LC300 Toro Bar Weldment	
1	FB-TLC-300-22-PR-ASM2L	Toyota LC300 Impact Assy LH	
1	FB-TLC-300-22-PR-ASM2R	Toyota LC300 Impact Assy RH	
1	FB-TLC-300-22-PR-ASM3L	Toyota LC300 Predator - Tow Assy LH	
1	FB-TLC-300-22-PR-ASM3R	Toyota LC300 Predator - Tow Assy RH	
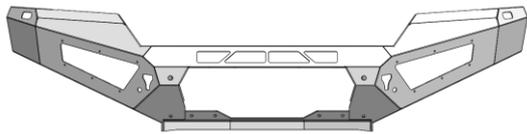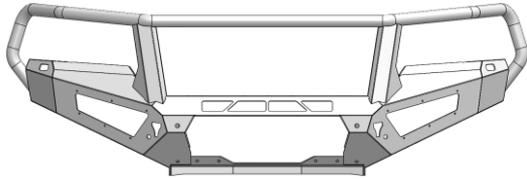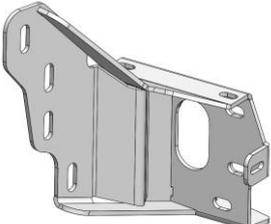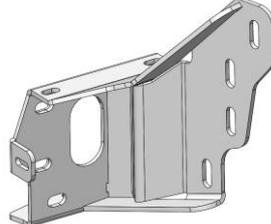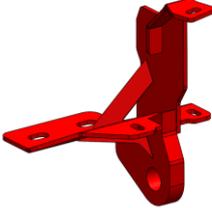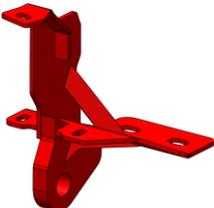
1	FB-TLC-300-22-PR-ASM4L	LC300 Front Headlight Washer Plug Assy LH	
1	FB-TLC-300-22-PR-ASM4R	LC300 Front Headlight Washer Plug Assy RH	
1	B-0666	Toyota LC300 Predator - Pan Brace	
1	B-0667L	Toyota LC300 Predator - Headlight Infill Panel LH	
1	B-0667R	Toyota LC300 Predator - Headlight Infill Panel RH	
1	B-0668	Toyota LC300 Predator - Number Plate Bracket	
1	B-0679L	Toyota LC300 - Fog Light Bracket LH	
1	B-0679R	Toyota LC300 - Fog Light Bracket RH	
1	B-0850L	Toyota LC300 Outer Chassis Brace LH	
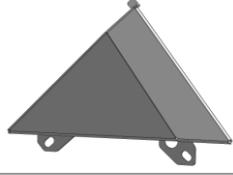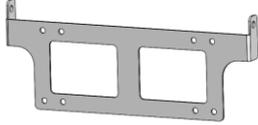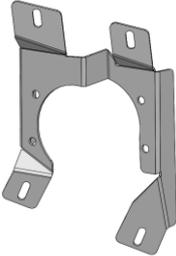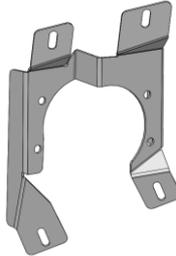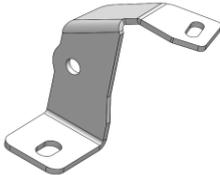
1	B-0850R	Toyota LC300 Outer Chassis Brace RH	
2	B-0982	Toyota LC300 Grille Support Bracket Base	
1	B-0983L	Toyota LC300 Grille Support Bracket GX-Sahara LH	
1	B-0983R	Toyota LC300 Grille Support Bracket GX-Sahara RH	
1	M-0024	Toyota LC300 Predator - Centre Fairlead Mesh Panel	
1	M-0025L	Toyota LC300 Predator - Side Mesh Panel LH	
1	M-0025R	Toyota LC300 Predator - Side Mesh Panel RH	
1	M-0026L	Toyota LC300 Predator - Fog Light / Intercooler Mesh Panel LH	
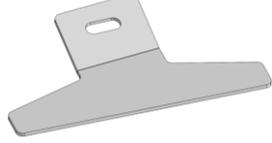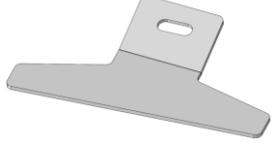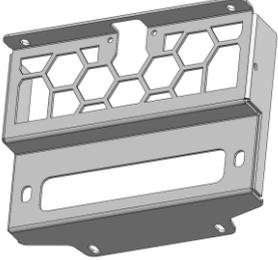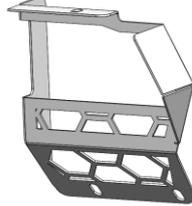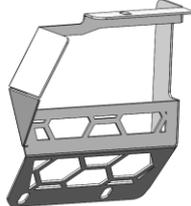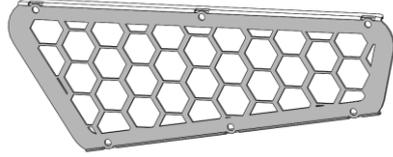
1	M-0026R	Toyota LC300 Predator - Fog Light / Intercooler Mesh Panel RH	
1	U-0046	Toyota LC300 Predator - Centre Underpanel	
1	U-0047L	Toyota LC300 Predator - Side Underpanel LH	
1	U-0047R	Toyota LC300 Predator - Side Underpanel RH	
2	PWS-TOP-1000	Pinch Weld PWS51T - Top Bulb Seal 1000mm	No Image
1	FB-TLC-300-22-PR-ADRCP	ADR Compliance Plate Landcruiser 300 Series	
1	FI Note	Fitting Instruction Note	No Image
1	OFA-LOGO	OFFROAD ANIMAL METAL LOGO	
1	TK-COM-PSEN-6	Tape Kit – 6 Sensor Universal	
1	TK-FB-TLC-LC300-22	Tape Kit LC300	
GX TRIM LEVEL ONLY			
4	CPHP029	Plasitc Hole Insert, 17.4MM, Black, Tigerlink Hardware CPHP029	
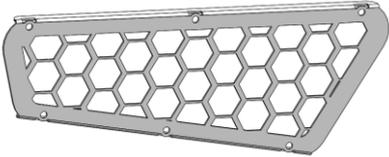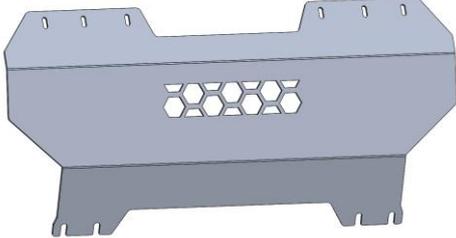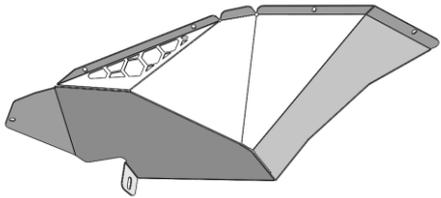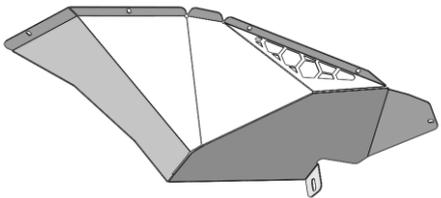
		SAHARA / SAHARA ZX / GR SPORT TRIM LEVELS ONLY	
1	F-0014L	LC300 Headlight Washer Cover LH	
1	F-0014R	LC300 Headlight Washer Cover RH	
2	F-0022	LC300 Sahara ZX + GR Sport Sensor Holder	
		TORO BARS ONLY	
1	B-0678L	Toyota LC300 Toro - Antenna Bracket LH	
1	B-0678R	Toyota LC300 Toro - Antenna Bracket RH	
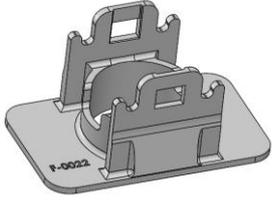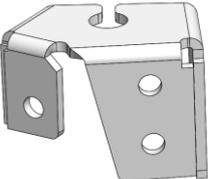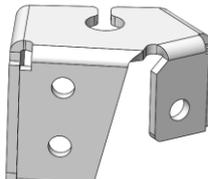
Predator Small Parts – Contained in Small Parts Kit Bag

QTY.	PART NO.	DESCRIPTION
4	M6x16 HEX	Bolt Hex, M6x16x[1.0], GR8.8 ZP
3	M6x12 BHCS	SCREW, BUTTON HEAD CAP, M6X12X1 GR12.9 ZP
49	M6x16 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M6X16X1 GR12.9 BLACK ZP
7	M6 FLAT WASHER	M6 Flat Washer
49	M6 FLAT WASHER BLACK ZINC	M6 Flat Washer, BLACK ZINC
40	M6 FLANGE NUT	Flange Nut, M6x1 G8.8 ZP
10	M6CN3MM	CAGE NUT M6x2.6-3.5
4	M8 X 20 HEX	Bolt Hex, M8X20x1.25, GR8.8 ZP
2	M8 X 25 HEX	Bolt Hex, M8X25x1.25, GR8.8 ZP
4	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9 BLACK ZP
6	M8 X 30 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X30X1.25 BLACK ZP
8	M8 FLAT WASHER	M8 Flat Washer
10	M8 FLAT WASHER- BLACK ZINC	M8 Flat Washer - BLACK ZINC
2	M8 NYW	Washer, M8, Nylon
2	M8 FLANGE NUT	Flange Nut, M8x1.25 G8.8 ZP
2	M8 NYLOC	NYLOC SELF LOCKING NUT, ST STL A2 ISO
4	M10 x 25	Bolt Hex, M10X25x[1.5], GR8.8 ZP
4	M10 x 30	Bolt Hex, M10X30x[1.5], GR8.8 ZP
4	M10 Flat Washer	M10 Flat Washer
12	M10 FW LHD	WASHER, FLAT M10X28.5X2.5
8	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
14	M12X30	Bolt Hex, M12X30x1.75, GR8.8 ZP
2	M12x100	Bolt Hex, M12X100x1.75, GR8.8 ZP
2	M12x30x1.25	Bolt Hex, M12X30x1.25, GR8.8 ZP
10	M12 FLAT WASHER	M12 Flat Washer
10	M12 FW LHD	M12 FW Large Heavy Duty
14	M12 FLANGE NUT	Flange Nut, M12x1.75 G8.8 ZP
2	M12 Nyloc nut	M12 NYLOC NUT
2	T-0057	Toyota LC300 Tow Point Crush Tube

Toro Small Parts – In addition to above

QTY.	PART NO.	DESCRIPTION
6	M8x20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M6X16X1 GR12.9 BLACK ZP
6	M8 FLAT WASHER- BLACK ZINC	Flange Nut, M6x1 G8.8 ZP

TOOLS REQUIRED

The following tools will be required to install the product.

Hand Tools	Power Tools	Workshop Supplies
Metric Socket Set 8-19mm	Electric/Air Impact Driver (Optional)	Panel Stand or Soft Blanket
Socket Extension Bar		Isopropyl Alcohol
Metric Spanner Set 10-19mm		Clean Rag
Hex (Allen) Key Set 4-6mm		Cable Ties
Trim Puller Tool		Masking Tape
Flat Blade Screwdriver set		Marker Pen
Phillips Head Screwdriver set		Black Automotive Paint
Utility Knife		Scotch Brite or Fine Sandpaper
Side Cutters		Automotive Sealant/Adhesive (Sikaflex 227 or Equiv)
Pliers		Bucket (optional)
Soft face hammer (optional)		Hose Clamp (optional)

WORKSHOP SAFETY

It is the responsibility of the installer to always complete works in a safe manner. Make sure the following safety equipment is available and precautions are observed whilst fitting this product.

Hearing Protection	Always wear ear protection when using power tools.
Eye Protection	Ensure eye protection is always worn when cutting or drilling.
Manual Handling	Do not attempt to lift bar assemblies or rock sliders on your own. Always use two people to lift or use mechanical Lifting aid such as hydraulic lifting trolley.
Vehicle Support	Always ensure vehicle is properly supported when working on it. Do not attempt to fit products whilst suspension work is being carried out. Do not work under a vehicle supported only by a jack.

1. Open the bonnet.

2. Remove clips securing the top radiator cowling. Press down on the centre button of clip to unlock, then remove clip with trim tool.

3. Retain all clips for re-assembly.

TOOLS REQUIRED
Trim tool

FASTENERS
Retain factory

RHS – Electrical Connectors

LHS – Headlamp Washer fluid – VX Grade and above

	TOOLS REQUIRED
4. Remove the 3x bolts securing top of grille to body using 10mm socket.	10mm socket
	Bucket/hose clamp (optional)
5. Disconnect the electrical harness connectors (LHS) and headlamp washer fluid connector (RHS, VX models and above). Use a bucket and hose clamp if desired to prevent washer fluid spillage.	
	FASTENERS
	Retain factory
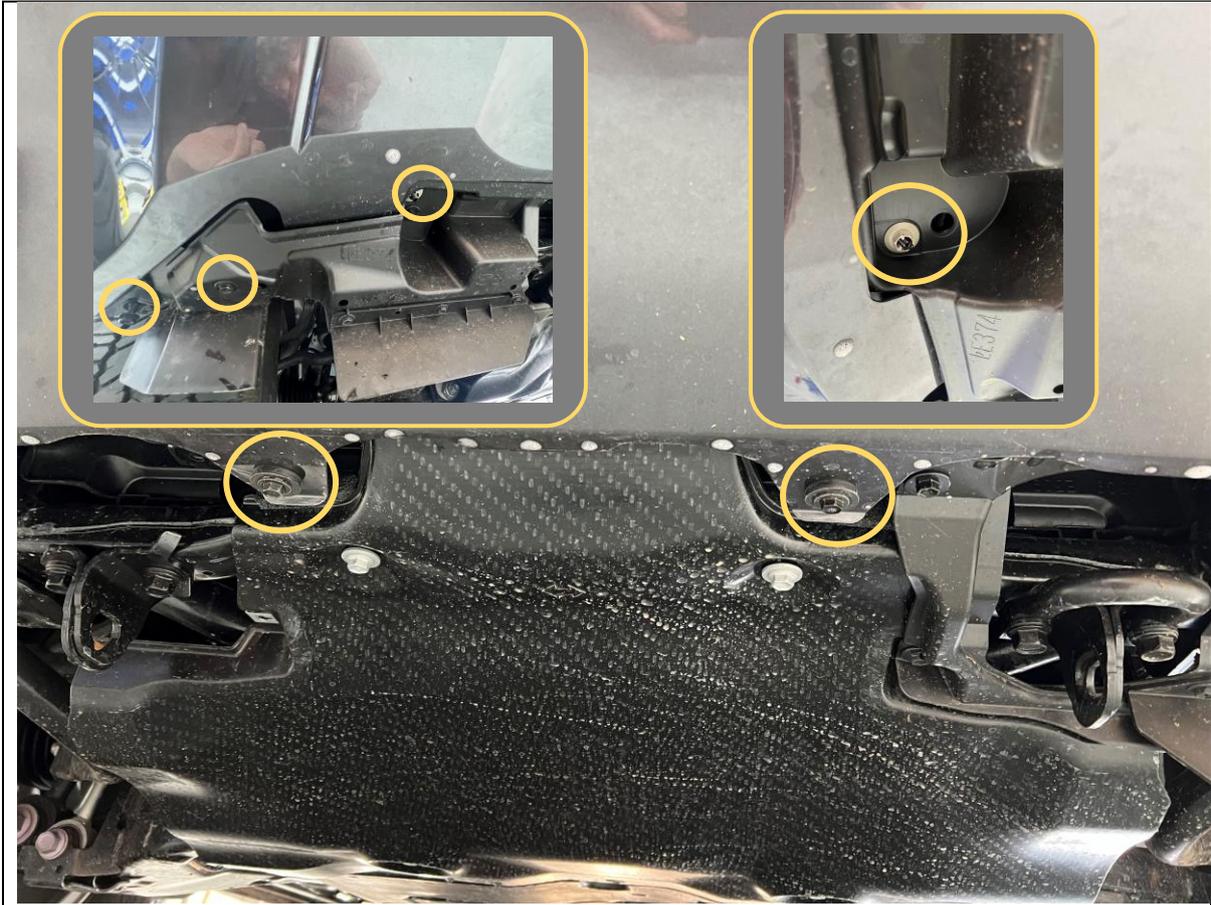
	TOOLS REQUIRED
6. Remove the 10mm head screws securing the bumper to the lower cross member.	10mm socket
	Trim tool
7. Remove the plastic nuts that also secure the bumper.	
	FASTENERS
	Factory bolts (discard)

RH SHOWN

8. Remove clips securing wheel arch flare and inner guard liner by prying up center part of clip using a trim tool.

9. There are several clips securing each flare.

TOOLS REQUIRED

Trim tool

FASTENERS

LH SHOWN

10. In addition to the clips there are also button head screws. Remove these using 4mm Hex key. 11. Remove all fasteners securing the flare and inner arch liner. Complete on both sides of the vehicles.	**TOOLS REQUIRED** 4mm hex/Allen key --- **FASTENERS**

RH SHOWN

Mask in line with panel line

Ensure Cut Edge is Noted on tape

TOOLS REQUIRED

12. Before removal of the flare, place masking tape in line with the bumper to guard panel line, this will assist in trimming flare later. Make sure to note the side to be cut on the tape.

13. Progressively release the clips securing the wheel arch flare to the bumper and front guard. Start from the bottom corner of the flare towards the front of the vehicle.

14. Use trim tool as required to assist releasing the clips.

TOOLS REQUIRED

Masking tape

Trim tool

FASTENERS

RH SHOWN

	TOOLS REQUIRED
15. Remove the clip securing the front bumper skin to the body, using trim tool.	Trim tool
16. Complete on both sides of the vehicle.	
	FASTENERS

RH SHOWN

17. Starting from the wheel arch, carefully pull the bumper away from the body of the vehicle to release the clips.

18. Remove the bumper and set aside on a soft blanket or panel stand.

TOOLS REQUIRED

FASTENERS

LH SHOWN

19. Disconnect the fog light harness from the fog light.	**TOOLS REQUIRED**
	Phillips head screwdriver
20. Remove the fog lights from the bumper, by removing the 3x Philips head screws.	Trim tool
21. Remove both the electrical harness, and headlight washer pipes from the bottom half of the bumper (not grille), by prying out the clips using trim tool.	
22. Complete on both sides of bumper.	**FASTENERS**
	Discard factory screws

GXL & ABOVE ONLY

Remove electrical connector

Pry tabs outwards and push from front of bar to remove sensor
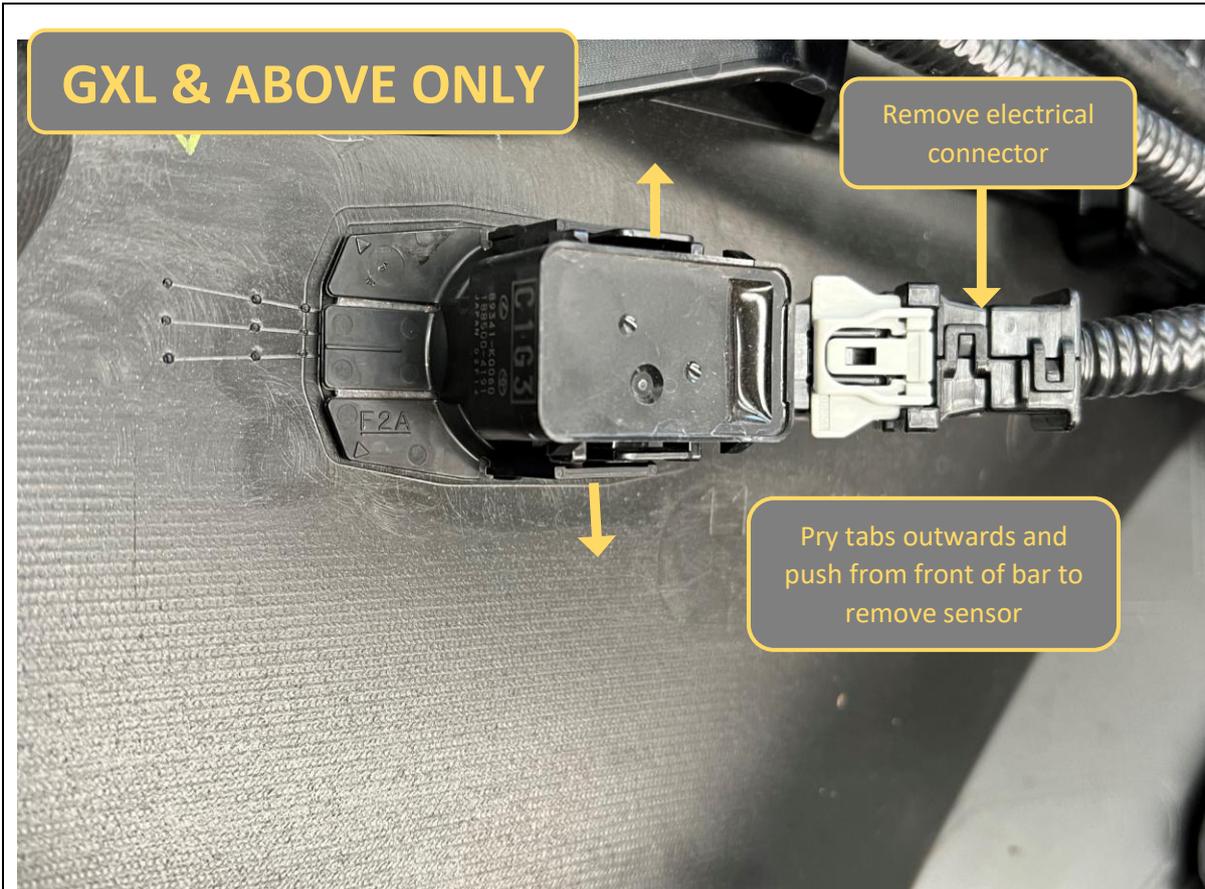
	TOOLS REQUIRED
23. If car is equipped with parking sensors, disconnect the parking sensors from the loom by squeezing the tab, then pulling to disconnect the multi plug connector.	
24. Pry the two grey retaining tabs on the sensor housing outwards whilst applying pressure to the face of the sensor from the front side of the bumper. The sensor should release from the housing. Remove from the rear side of the bumper. Take care to ensure the rubber isolation rings remain in place with the sensor.	**FASTENERS**

VX & ABOVE ONLY

	TOOLS REQUIRED
25. If equipped, pull out headlight washer from bumper.	
26. Release tabs holding trim panel to headlight washer by prying away from headlight washer.	
27. Allow washer body to retract back into housing.	
	FASTENERS

Remove fluid hose

VX & ABOVE ONLY

Remove from front of bar

Pull to release
retaining spring

28. If vehicle is equipped, remove headlight washers from the bumper. Start by disconnecting the supply hose.

29. Release the retaining spring by firmly pulling it as shown in the image.

30. Once loose, remove the washer by sliding forward, removing through the front of the bumper.

TOOLS REQUIRED

FASTENERS

VX / SAHARA ONLY

Remove screw

Cut / pry under with care to release housing from bumper
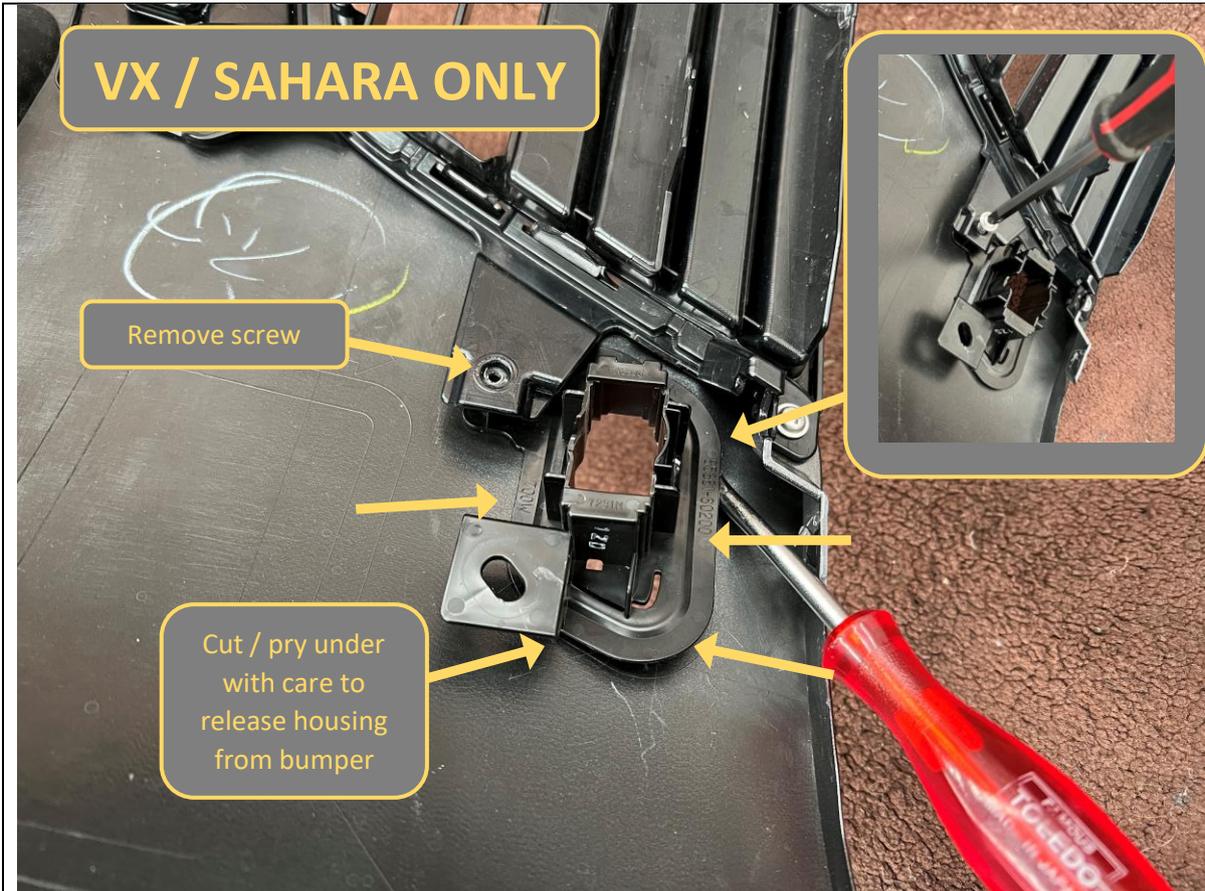
31. Remove the Phillips head screw holding the grille surround over the headlight washer.

32. Using a utility knife and trim tool carefully cut through the adhesive under the washer housing and pry it from the bumper.

33. Set aside housings taking care to note the correct positions for refitment.

34. Clean off all adhesive from face of washer mount.

TOOLS REQUIRED

Phillips head screwdriver

Utility knife

Trim tool

FASTENERS

GXL/ VX / SAHARA ONLY

Cut / pry under with care to release housing from bumper
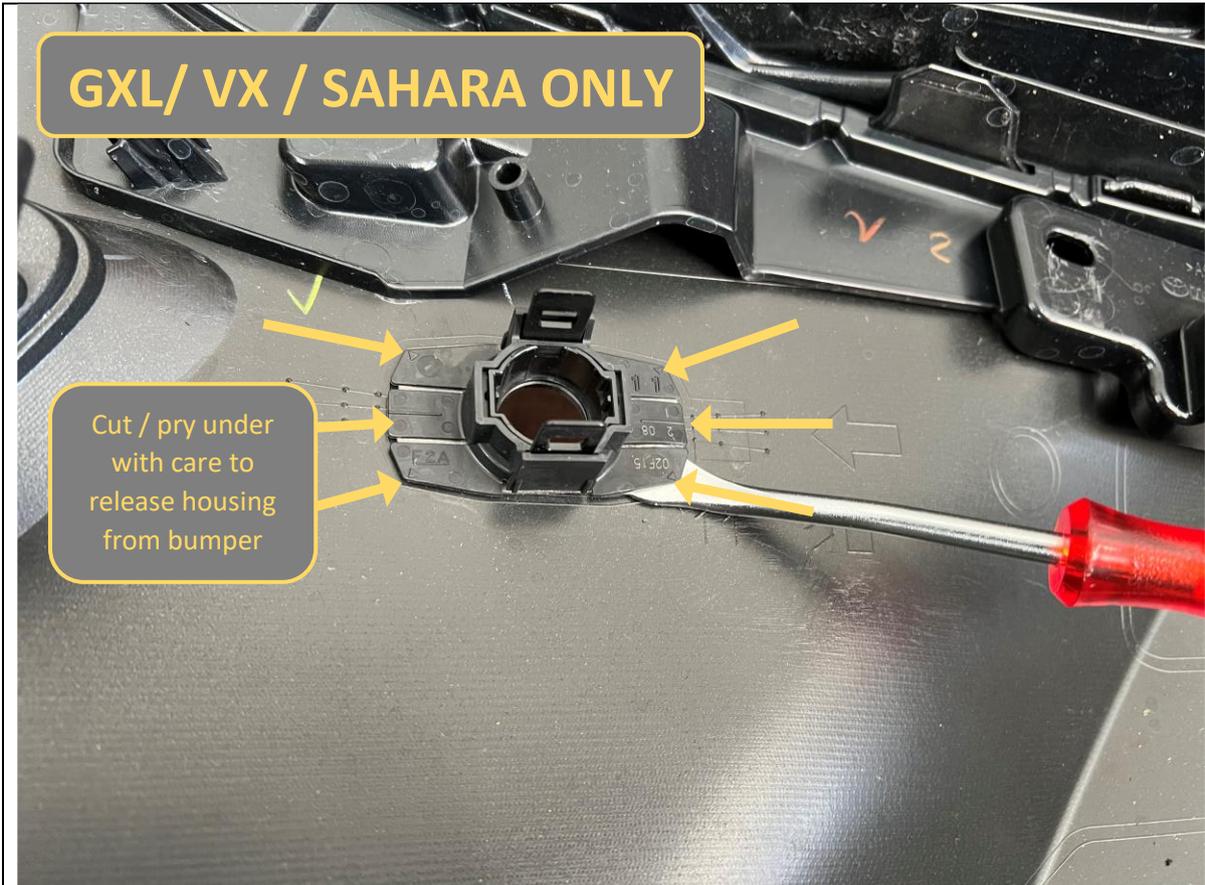
35. Remove the sensor housing from the bumper for re-fitment to the bar.

36. Using a utility knife and trim tool carefully cut through the adhesive under the sensor housing and pry it from the bumper.

37. Set aside housings taking care to note the correct positions for re-fitment.

38. Clean off all adhesives from face of sensor mount.

TOOLS REQUIRED

Utility knife

Trim tool

FASTENERS

VX & ABOVE ONLY

	TOOLS REQUIRED
39. If vehicle is equipped, remove the front camera from the grille.	Phillips head screwdriver
40. Disconnect the electrical harness, then remove the 2x Phillips head screws securing to bumper.	Trim tool
41. Once removed, unclip the loom from the grille to allow cable to reach relocated position in bar.	**FASTENERS**
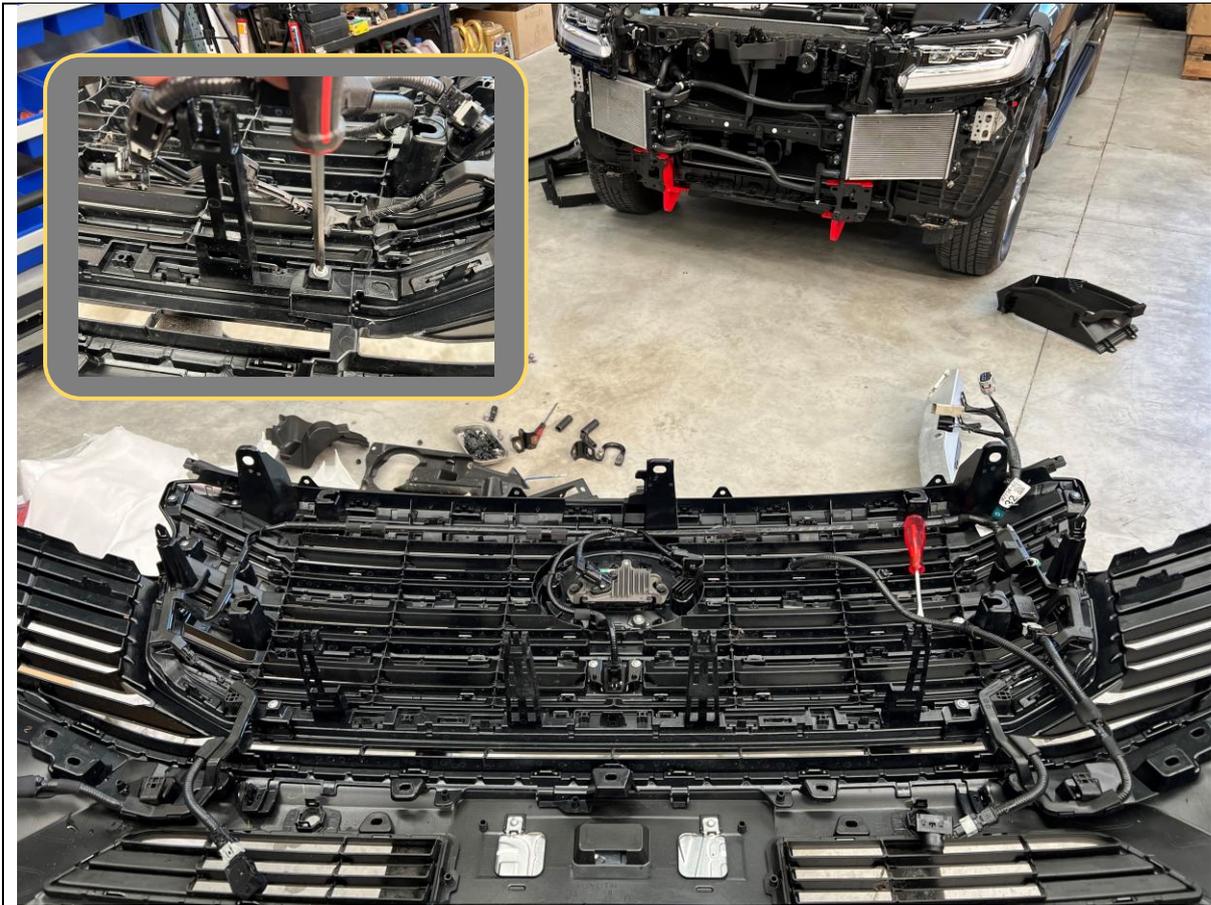
42. Separate the grille from the bumper. 43. The grille is secured by Phillips head screws and several moulded clips. 44. Begin by removing all Phillips head screws. 45. Progressively release clips, starting from outsides, and working towards the centre. 46. Once separated, set aside grille for re-fitment.	**TOOLS REQUIRED** Trim tool Phillips head screwdriver **FASTENERS**

Clips located here
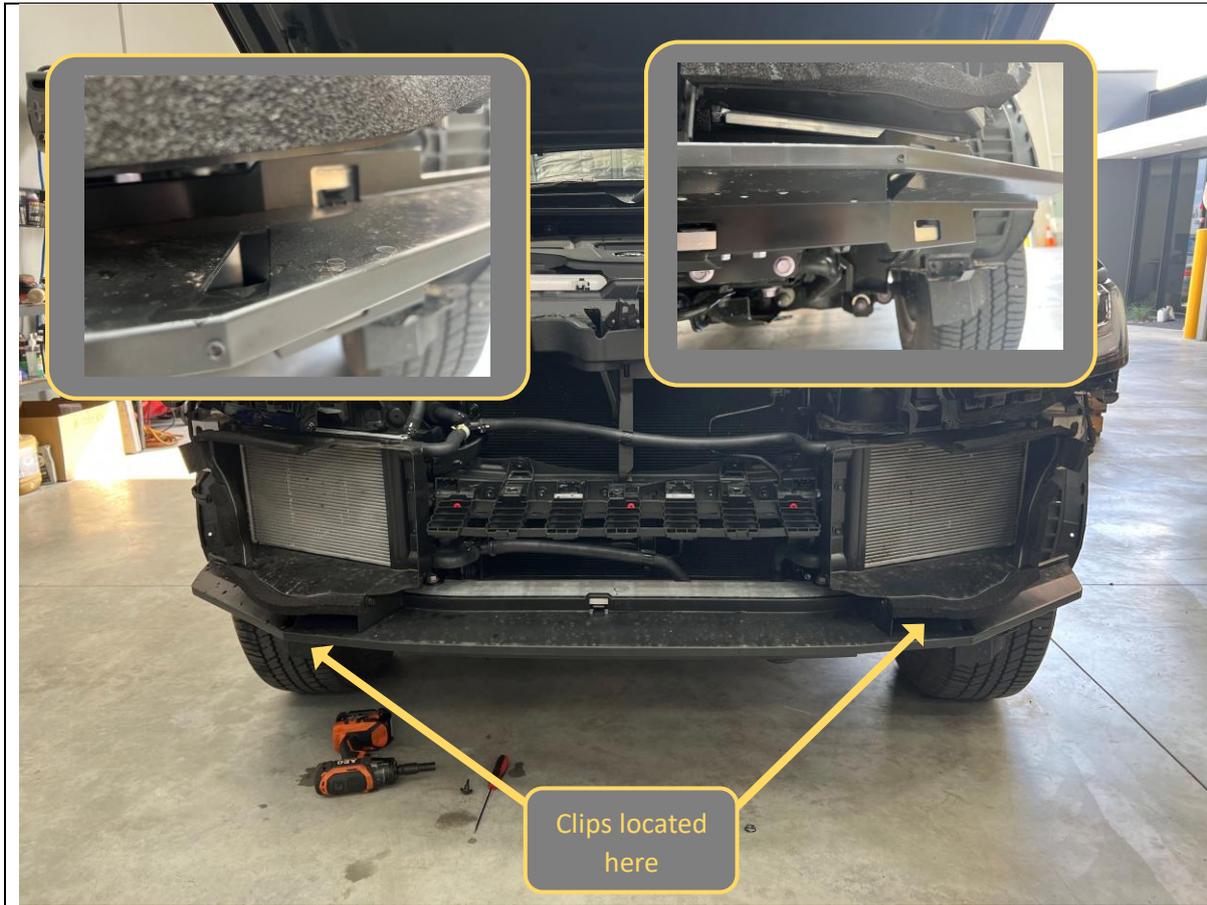
	TOOLS REQUIRED
47. Remove the plastic covering the impact beam. 48. The plastic is secured by moulded clips in the front face, and clips on either end of the beam. 49. Remove and set aside the plastic impact beam.	
	FASTENERS
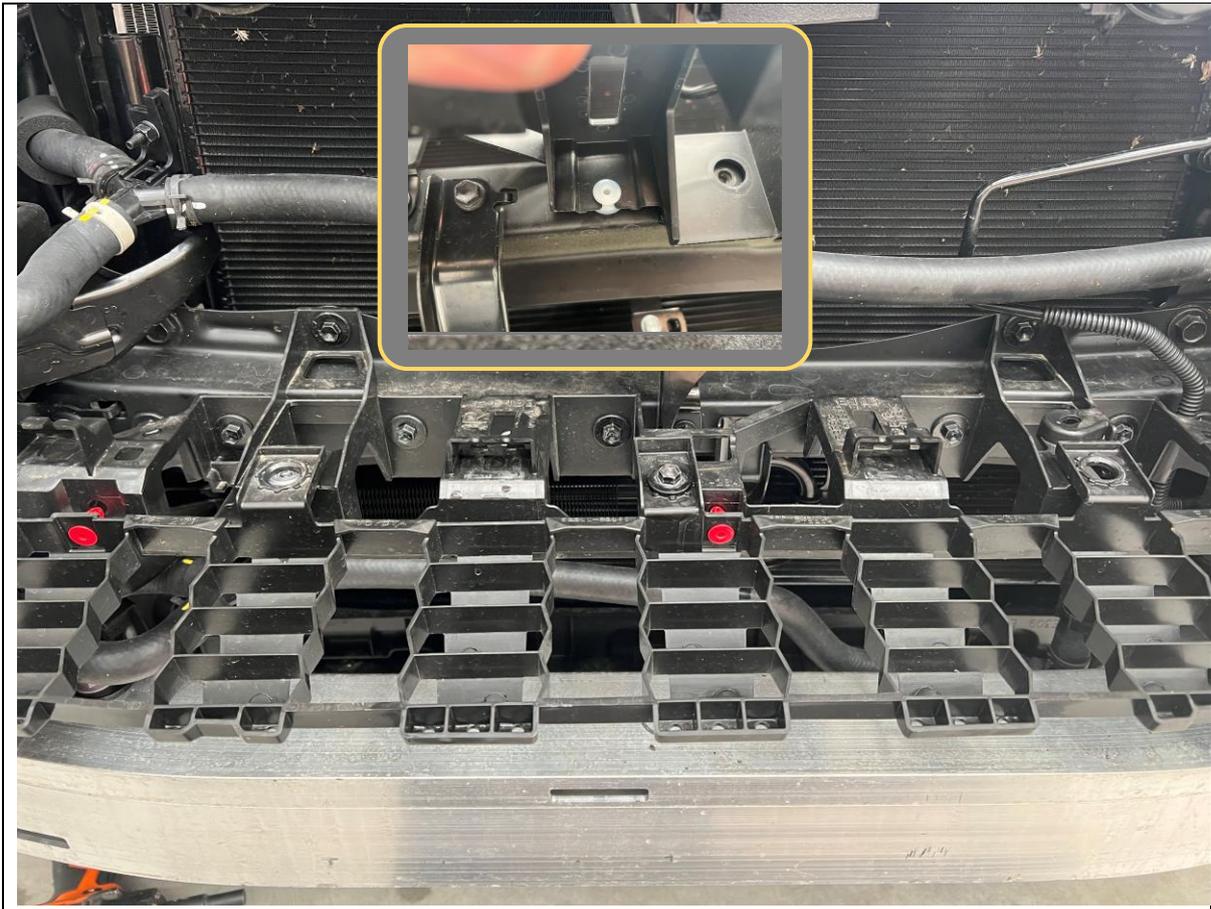
50. Remove the plastic concertina panel by removing the 10mm head bolts and clips securing it to the crossbeam on the car.	**TOOLS REQUIRED** 10mm socket/spanner Trim tool
	FASTENERS

LH SHOWN
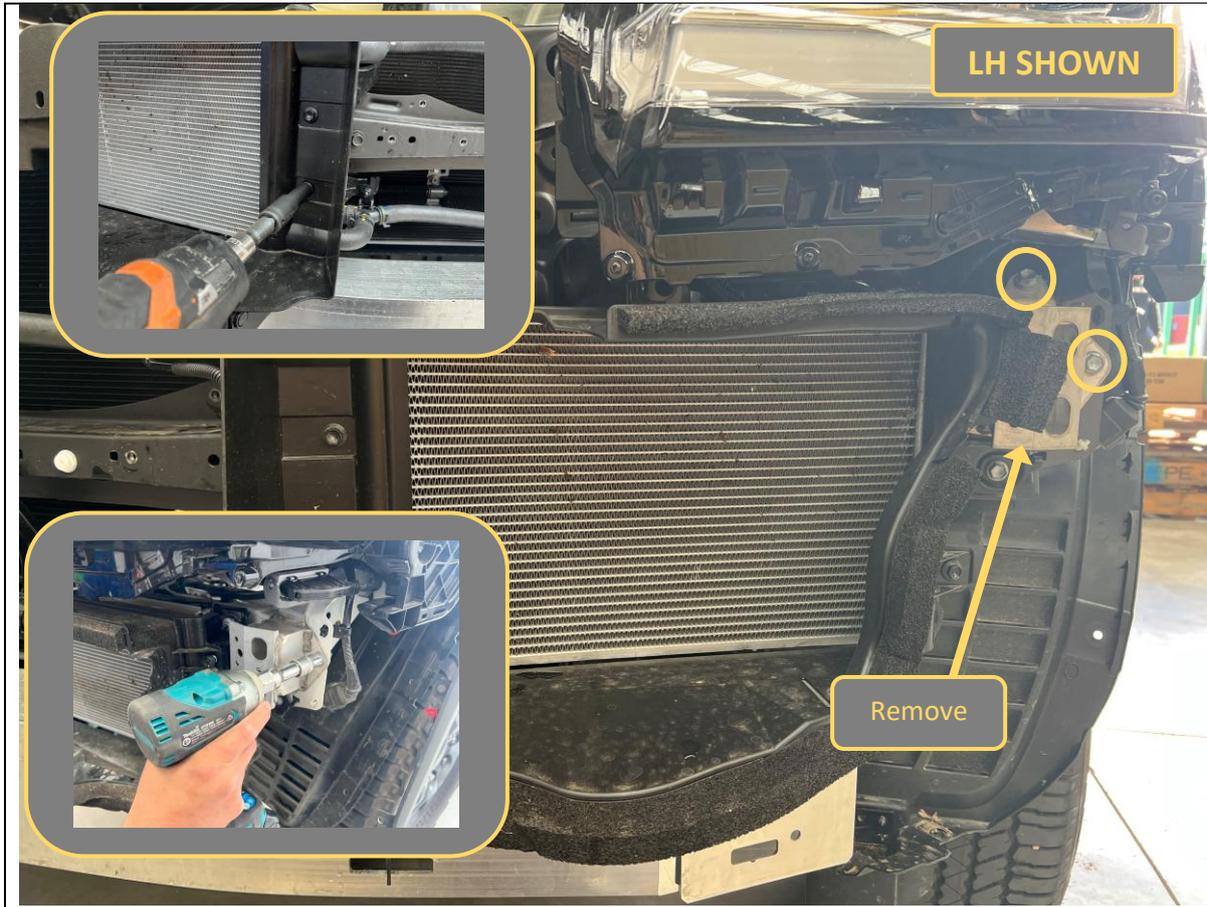
Remove

51. Remove the plastic intercooler air guides by removing the 4x 10mm head bolts securing them.	**TOOLS REQUIRED** 10mm socket/spanner 12mm socket/Spanner
52. Remove the aluminum can under the headlight by removing 3x 12mm head bolts. Repeat for both sides of vehicle.	
	FASTENERS Retain factory

53. Mark trim line to air guide as shown in image.

54. Trim air guide along line marked using sharp utility knife.

55. Do not re-fit yet, it is easier to do so after mounts are tightened and adjusted.

TOOLS REQUIRED

Marker pen

Utility knife

FASTENERS

RH SHOWN
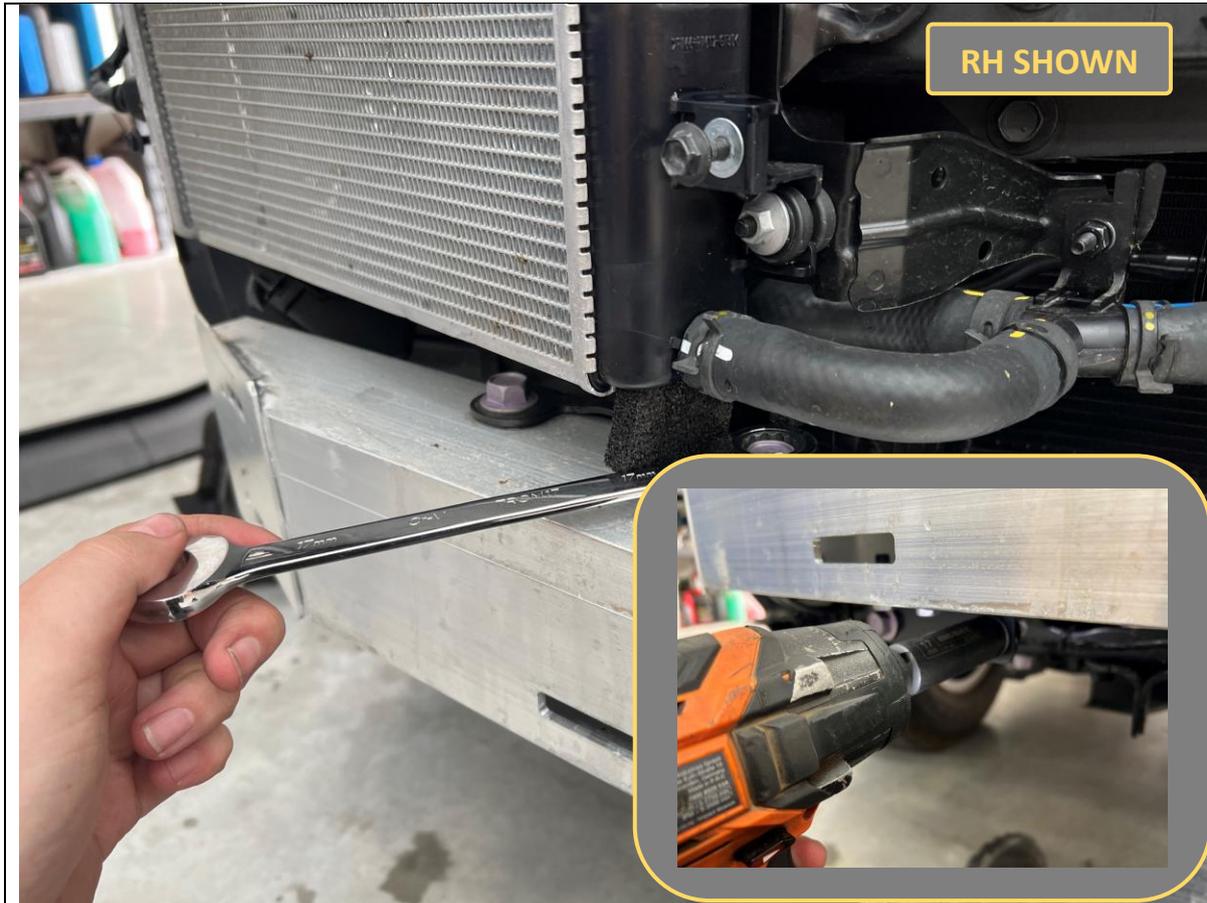
	TOOLS REQUIRED
56. Remove the 4x 17mm head bolts holding the impact beam to the impact beam brackets. There are 2x bolts on top and 2x bolts underneath on both sides. 57. Remove and set aside the aluminium impact beam.	17mm socket 17mm spanner Extension bar
	FASTENERS 8x 17mm head factory flange bolts

LH SHOWN
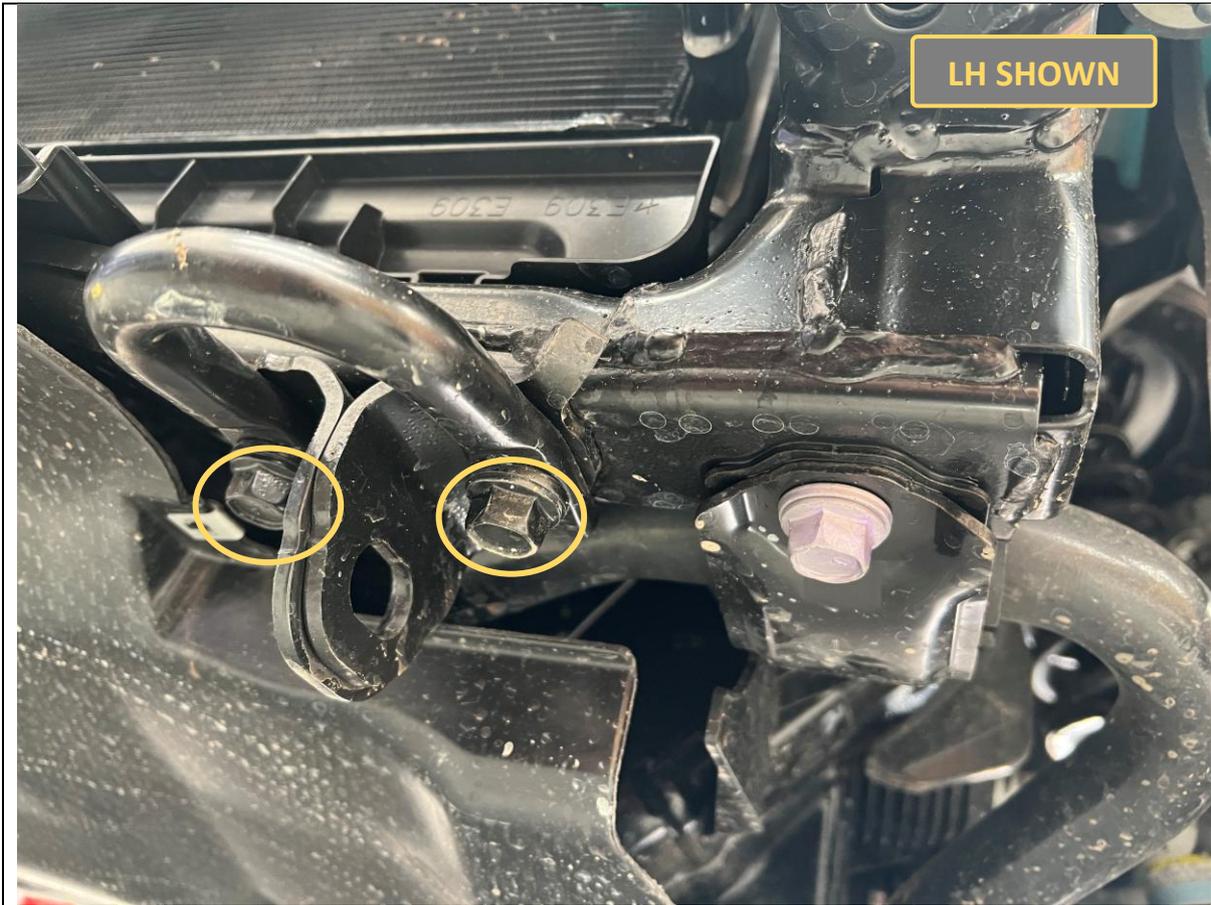
	TOOLS REQUIRED
58. Remove the 2x 17mm head bolts securing the tow point to the lower chassis cross member. 59. Repeat for other side.	17mm socket
	FASTENERS 4x 17mm head factory flange bolts

LH SHOWN

Squeeze clip to release
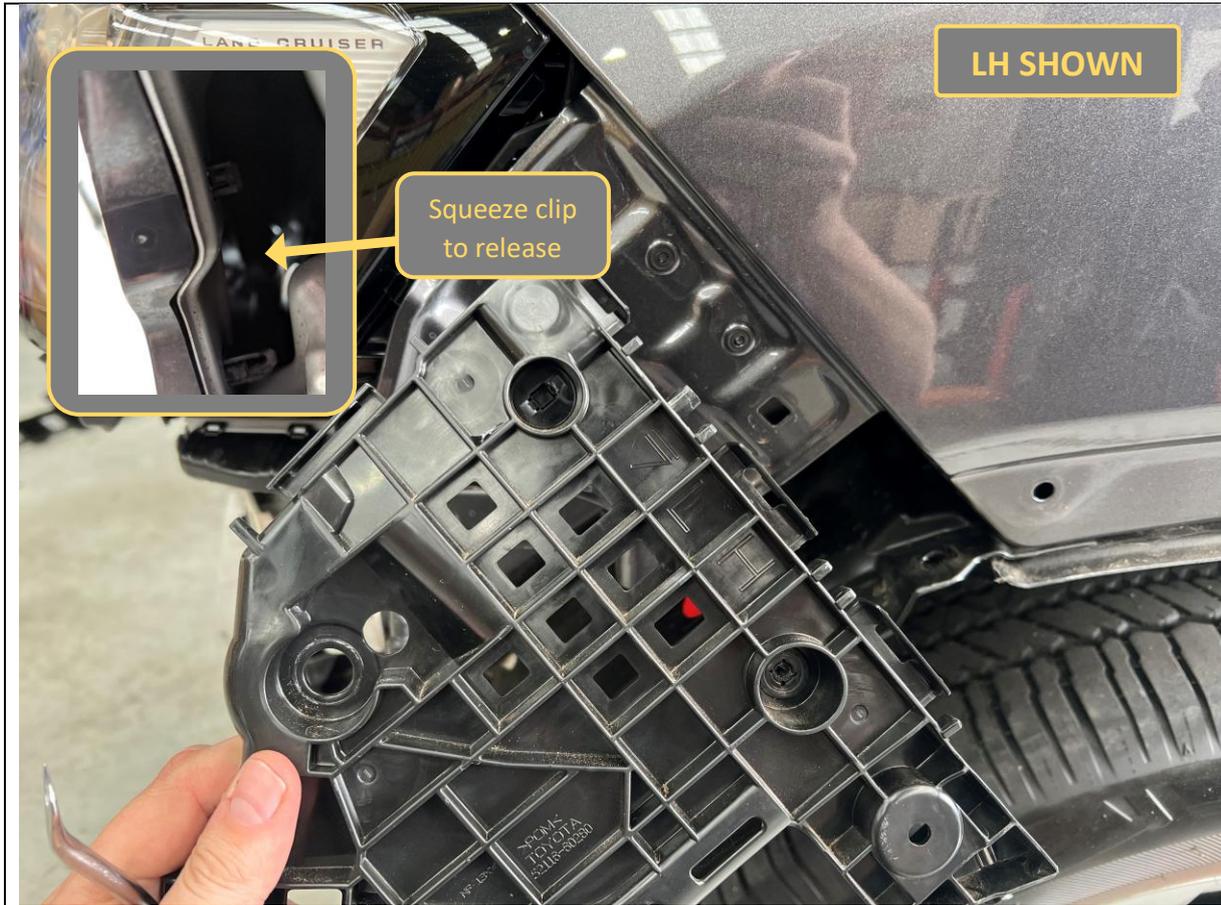
60. Remove the plastic bumper retainers by removing the Philips head and 10mm head screws, then prying out the large clip from behind using trim tool.	**TOOLS REQUIRED** Phillips head screwdriver 10mm socket Trim tool
	FASTENERS Phillips head screw

RH SHOWN

	TOOLS REQUIRED
61. Clean the inside face of the quarter panel with isopropyl alcohol.	Isopropyl alcohol
62. Also clean the highlighted face of the new headlight infill panel (see inset photo).	Clean rag
	FASTENERS

RH SHOWN

63. Press down on the arrow location and break the bulb of the supplied 3M Primer 94 ampule to activate the primer dispensing. 64. Apply 3M Primer 94 to the cleaned areas on both the quarter panel and headlight infill. **Important:** allow at least 5 minutes for the primer to chemically bond to the surfaces.	**TOOLS REQUIRED** **FASTENERS**

65. Apply 2x of the supplied wide tape pads to the quarter panel as shown.

66. Remove the backing film on the VHB tape (use a knife blade to assist, see inset photo).

TOOLS REQUIRED

Utility knife (optional)

FASTENERS

RH SHOWN

67. Carefully fit the headlight infill panel to the vehicle.

   Ensure the lower 2x bolt holes line up with the vehicle.

   Ensure the infill outer surface is sitting flush with the quarter panel.

68. Once properly aligned, press firmly to adhere top back edge of infill to the quarter panel.

TOOLS REQUIRED

FASTENERS

RH SHOWN

69. Mechanically secure the headlight infill to the car using 1x M6x16 black button head bolt and black washer through the captive nut at the front, and 1x M6x16 black button head bolt, black washer and flange nut at the rear.

70. Repeat infill installation for other side of car.

TOOLS REQUIRED

4mm hex/Allen key

FASTENERS

4x M6x16 black button head
4x M6 black flat washer
2x M6 flange nut

RH SHOWN

B-0850 chassis brace

M12x100, Flat Washer

67mm crush tube

M12x30x1.25 fine pitch
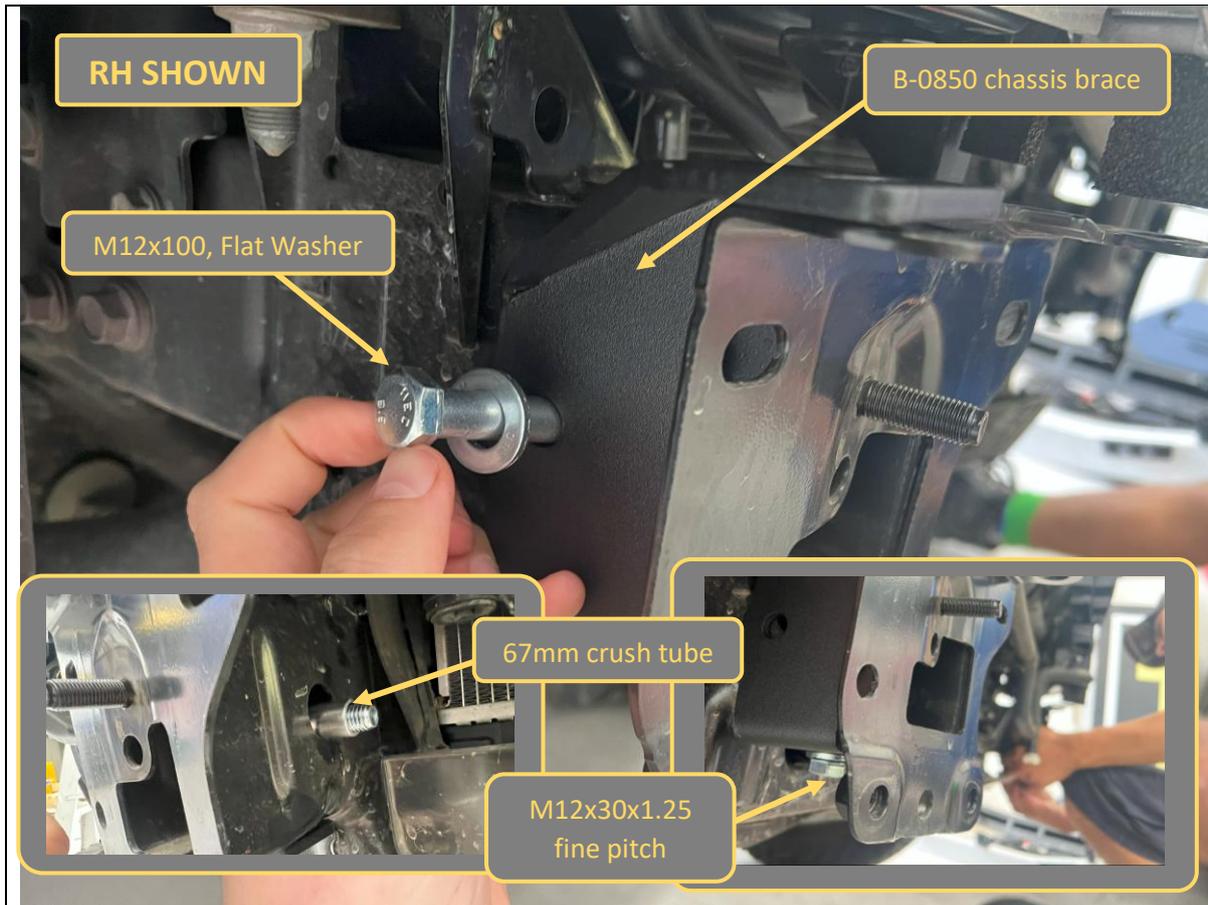
Steps	TOOLS REQUIRED
71. Loosely fit the B-0850 chassis brace to the outside of the chassis, using the supplied 1x M12x100mm bolt and flat washer; and 1x M12x301.25 fine pitch bolt and flat washer from underneath. 72. From inside of chassis rail feed 67mm crush tube over the M12x100 bolt. 73. Repeat for other side.	
	FASTENERS 1x M12x100 hex bolt 1xM12x30x1.25 hex bolt 2x M12 flat washer per side
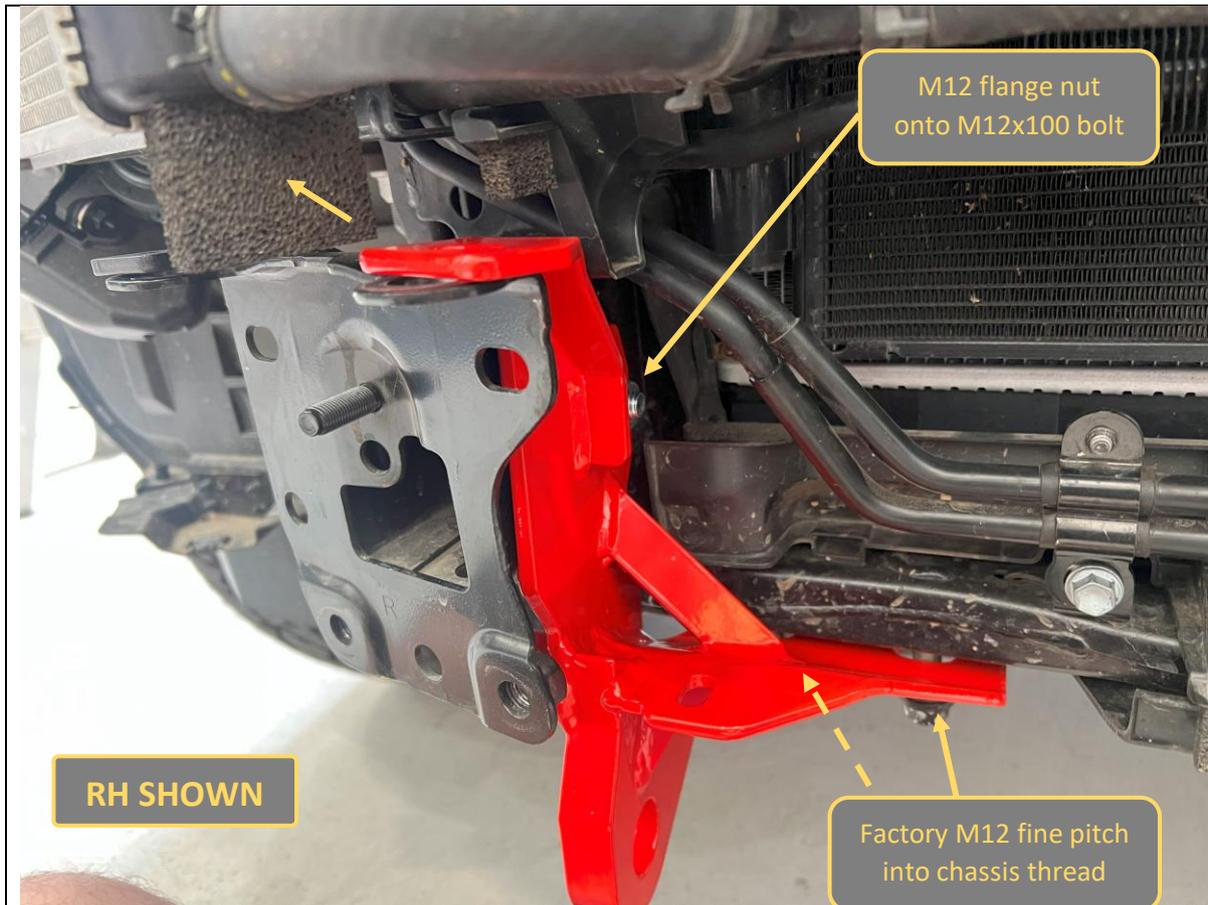
M12 flange nut
onto M12x100 bolt

RH SHOWN

Factory M12 fine pitch
into chassis thread

	TOOLS REQUIRED
74. Loosely fit the tow point to the chassis. First secure with M12 flange nut on chassis brace. Then secure the bottom with the factory M12 fine pitch tow point bolts. **Note:** Captive threads in chassis can be tight. Ensure bolts are not cross threaded and drive in manually with socket. Do not tighten at this stage.	
75. Repeat for other tow point. Leave all bolts finger tight at this stage.	**FASTENERS** 2x M12 flange nut 4x factory M12 fine pitch bolts

LH SHOWN

(Bottom to top)
M10x25,
Impact Assembly,
M10 flat washer,
Chassis Rail,
Tow Point,
M10 flange nut

M12x30, flat washer
and flange nut

M10x25, flat washer
and flange nut on
underside

Re-fit factory flange
bolt
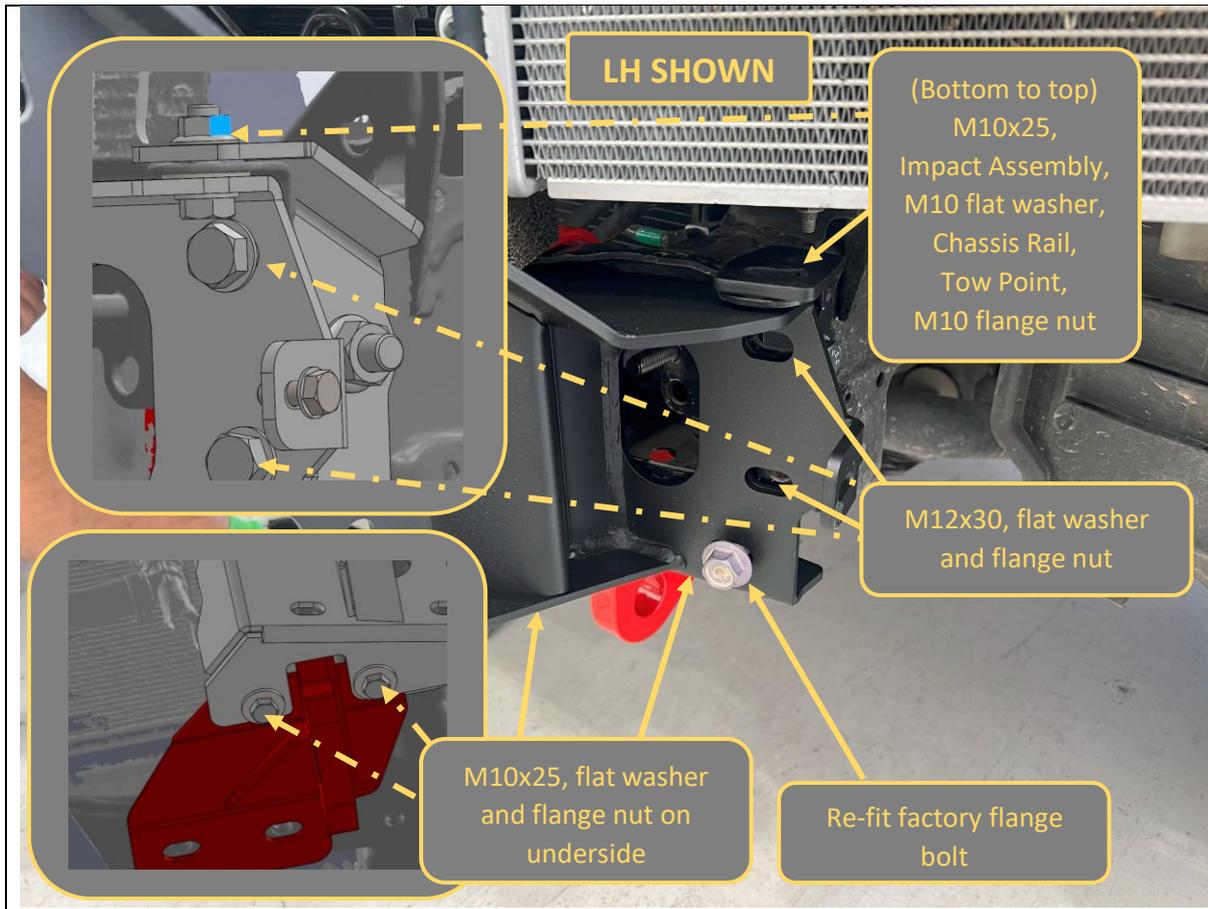
76. Loosely fit the impact mounts to the chassis, re-using the original factory flange bolts.

77. Loosely fit bolts securing impact assembly to tow points as per images above.

78. Tighten tow point to chassis bolts in the following order:

   a) First, M12x100 bolt through the chassis rail.

   b) Next, factory M12 fine pitch bolts that secure tow point to lower cross member.

79. Leave all bolts that secure tow point to the impact assembly, including the top flange bolts that go through chassis, loose at this stage.

TOOLS REQUIRED

17/18mm socket

FASTENERS

4x M10x25 hex bolt
4x M10 flat washer
4x M10 flange nut

3x M12x30 bolt
3x M12 flat washer
3X M12 flange nut

2x factory fine pitch bolts

Per side
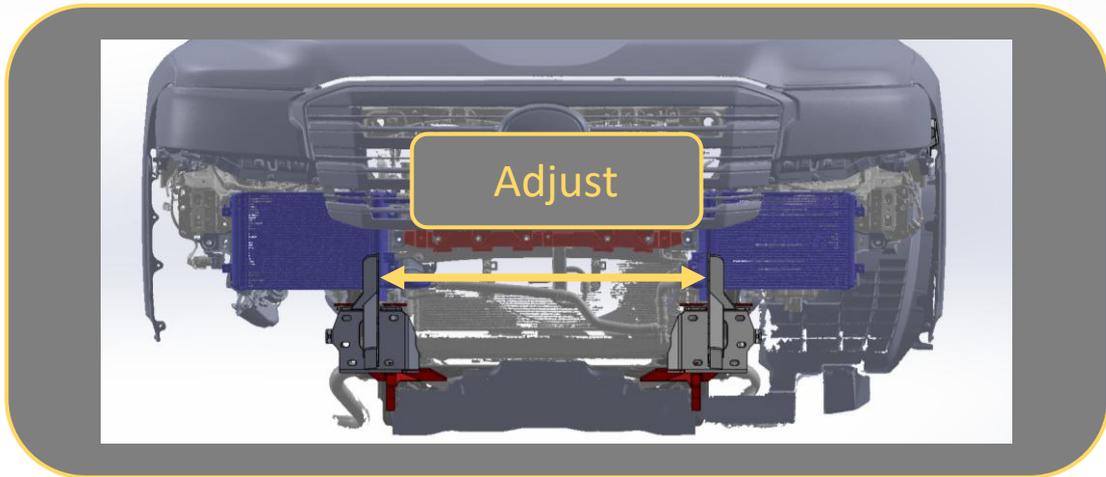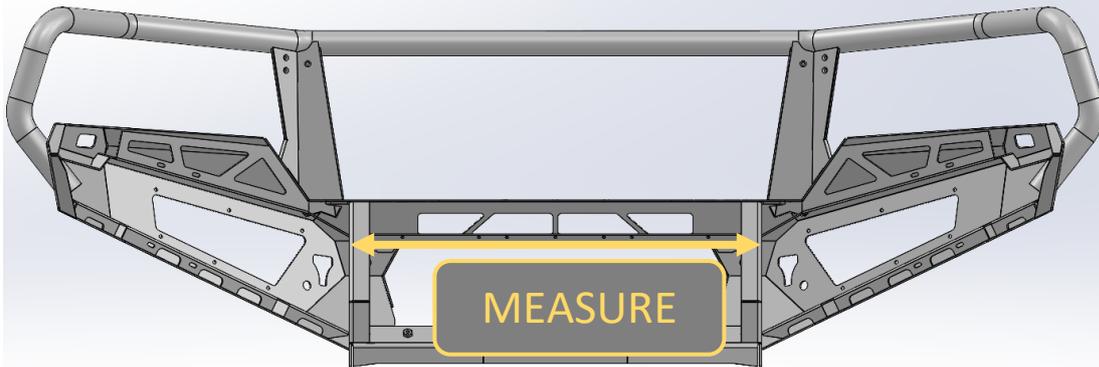
MEASURE

Adjust

80. Measure distance between outside edges of the uprights on bar using tape measure. Write distance below for reference if required.

   Bar Upright Width = _____mm

81. Adjust mounts by sliding mounts on slots, such that distance between outside edges of mounts is approximately 2mm less than bar.

82. Secure and tighten mounts. Tighten bolts that secure the tow point to chassis first, then impact assembly to tow point bolts.

TOOLS REQUIRED

Tape measure

16/17/18mm socket

FASTENERS

83. Re-fit trimmed air guides using factory fasteners.	TOOLS REQUIRED 10mm socket/spanner
	FASTENERS Factory bolts
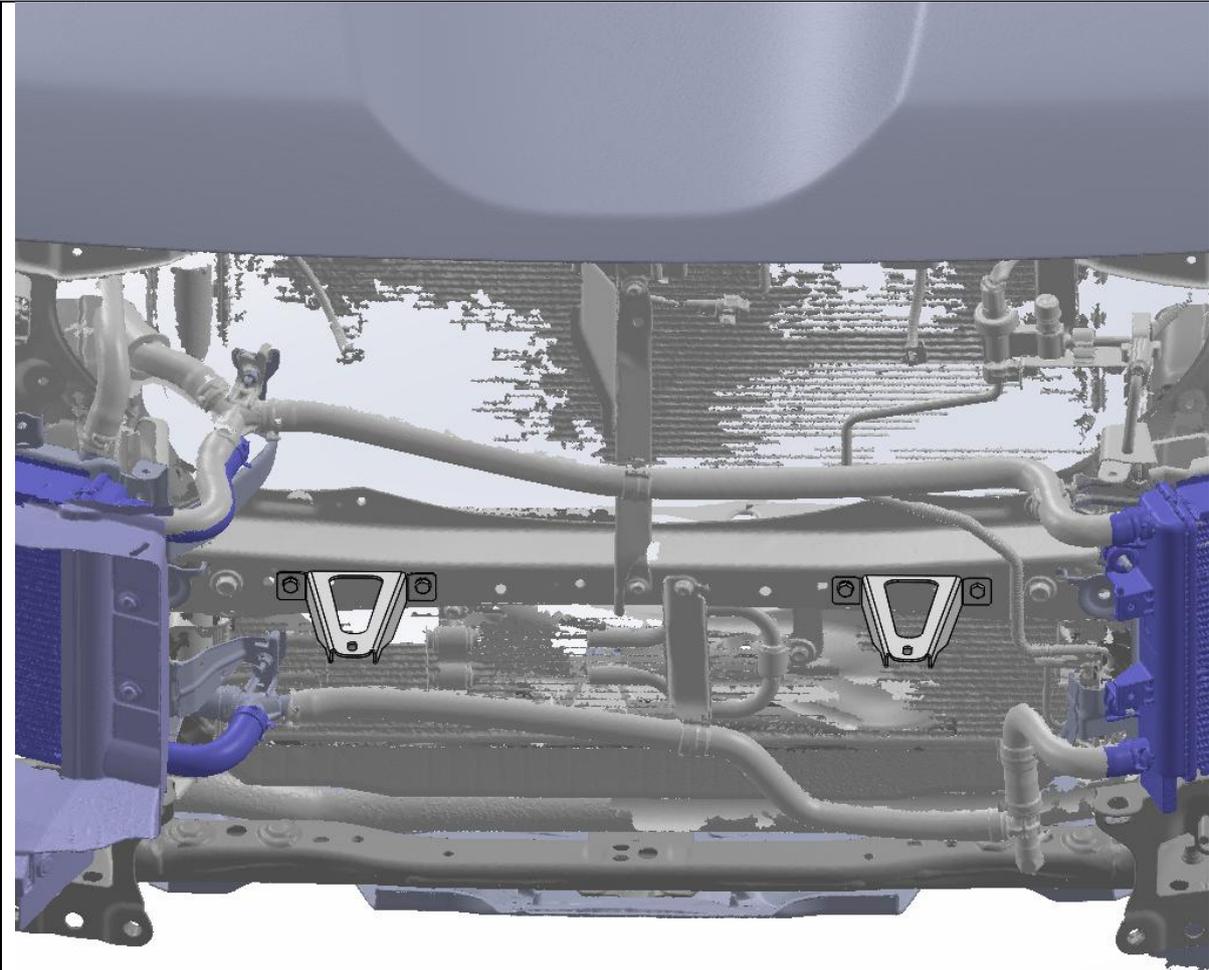
	TOOLS REQUIRED
84. Fit the 2x grille support base brackets to the M6 threaded points on the body crossmember using the supplied M6x16 hex bolts and washers. 85. Once brackets are fitted, re-fit the grille to the vehicle, using the original factory Fasteners.	10mm socket/spanner
	FASTENERS 4x M6x16 hex head bolt 4x M6 flat washer

|	TOOLS REQUIRED
86. Prepare the secondary grille support brackets by cleaning, applying primer and tape pads. Ensure tape is applied to the correct side of the bracket as shown (slotted surface bent away from the tape surface). **Important:** allow at least 5 minutes for the primer to chemically bond to the surfaces before applying tape.	
	FASTENERS

87. Fit the 2x secondary grille support brackets to the underside of the grille, using the tape pads, such that the bracket aligns with the slotted end of the primary support bracket.

The secondary bracket should sit on TOP of the base bracket, as shown in the image.

88. Complete for both sides of the grille.

89. Secure each secondary support bracket to the base bracket using 1x M6x16 black button head bolt, black flat washer, and flange nut.

TOOLS REQUIRED

4mm Allen Key
10mm spanner/socket

FASTENERS

2x M6x16 black button head
2x M6 black washer
2x M6 flange nut

LH SHOWN
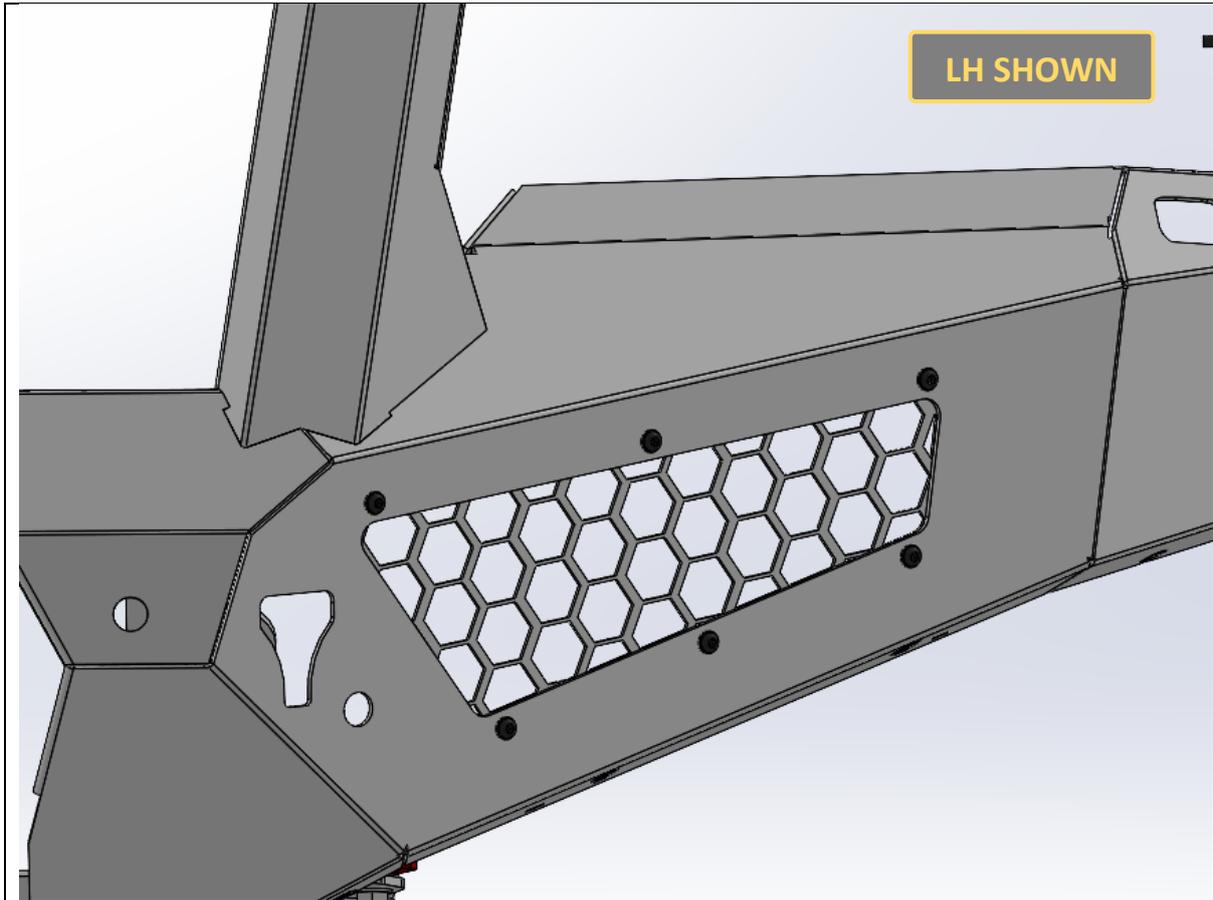
90. Fit the each mesh panel to the inside of the bullbar wing, using 6x M6x16 Button head bolts, black flat washers, and flange nuts.	**TOOLS REQUIRED** 4mm Allen Key 10mm spanner/socket
	FASTENERS 6x M6x16 black button head 6x M6 black washer 6x M6 flange nut per side

LH SHOWN

Prototype shown in photo, production bracket shown above.
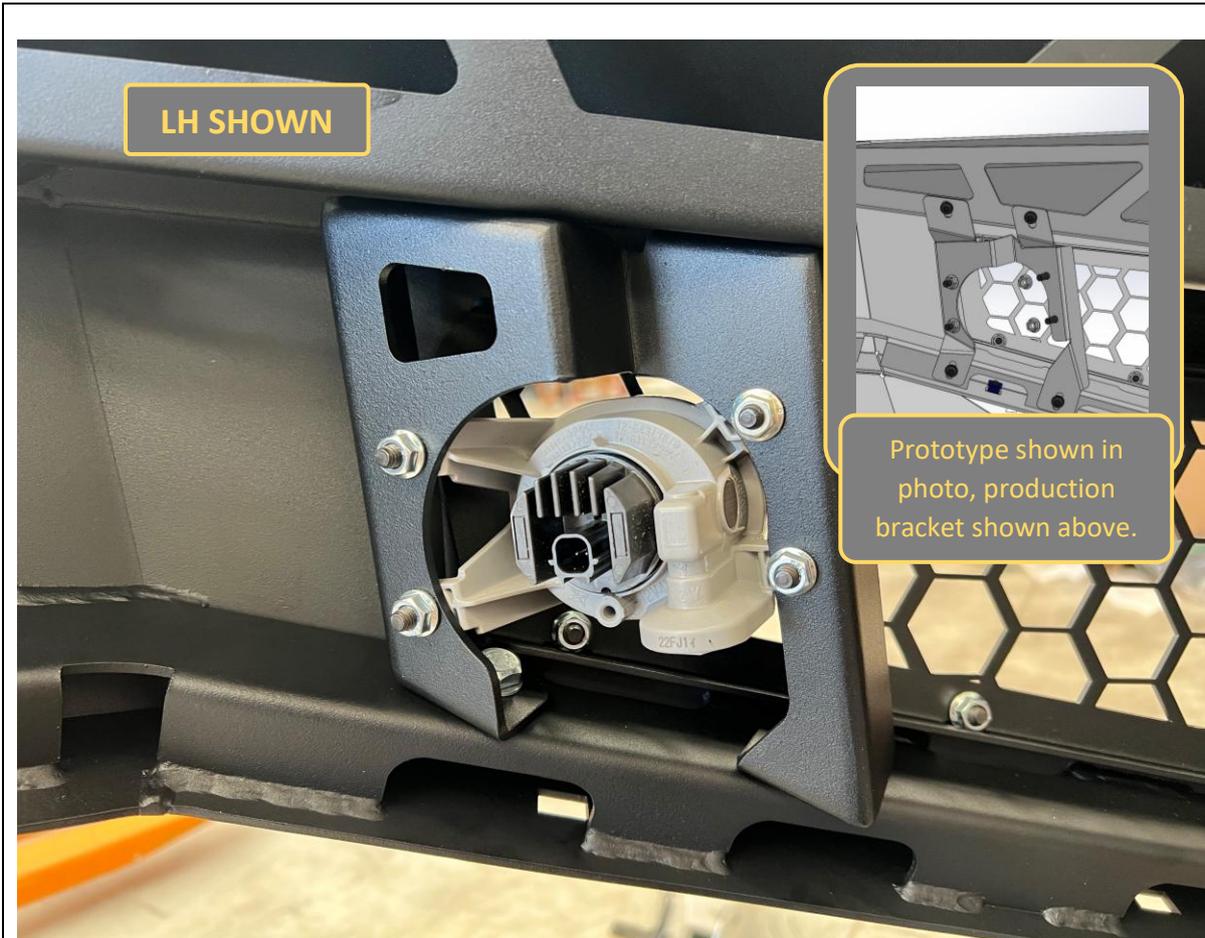
91. Re-fit the fog lamps to the fog light brackets using 4x M6X16 black button head bolts, black flat washers and flange nuts.

92. Secure and tighten using 4mm Allen key and 10mm spanner.

93. Fit the fog light bracket to the inside wing of the bar, using 4x M6X16 black button head bolts, black flat washers and flange nuts.

TOOLS REQUIRED

4mm hex/Allen Key
10mm spanner/socket

FASTENERS

8x M6x16 black button head
8x M6 black washer
8x M6 flange nut

per side
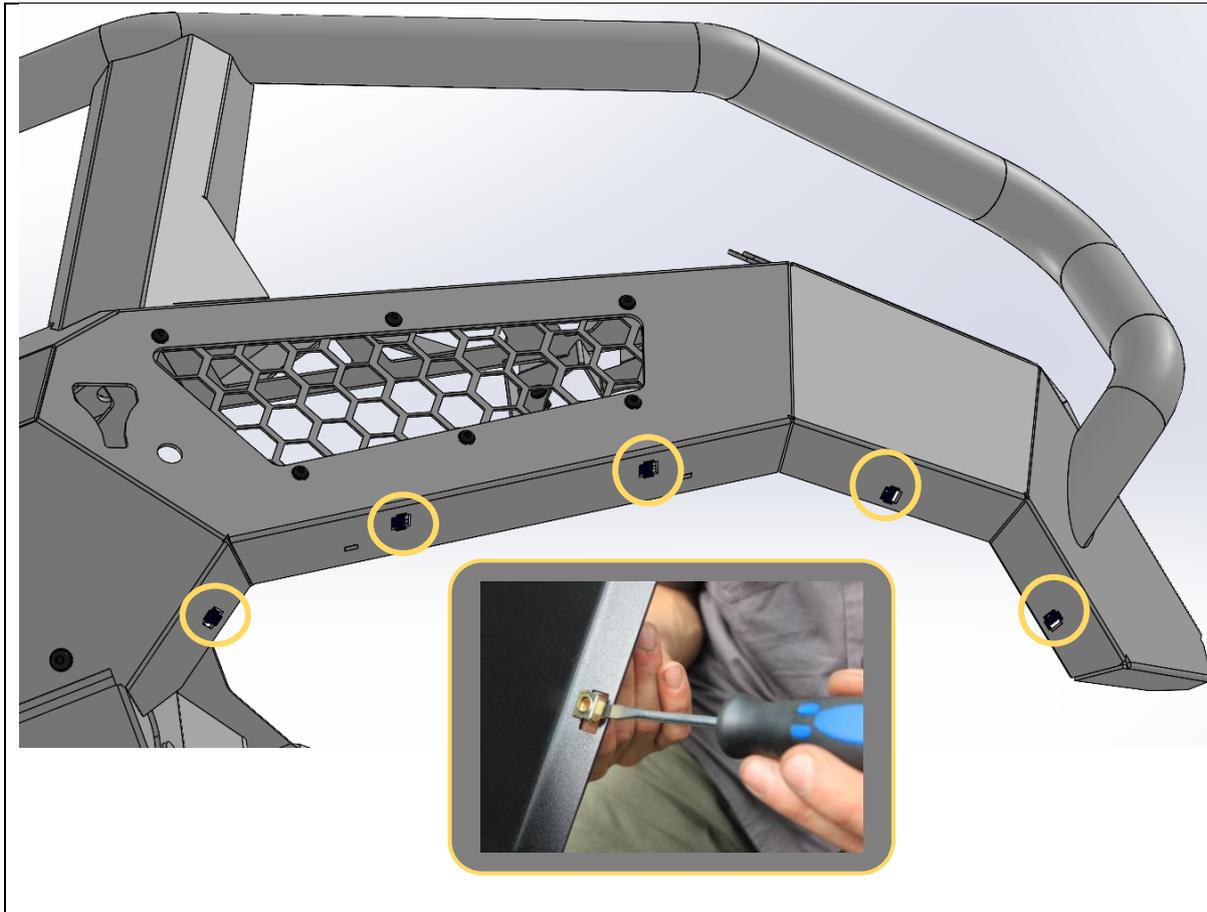
94. Fit 5x M6 cage nuts to rectangular slots in bottom of wing. Use a small flat blade screwdriver to push the edge of the cage to engage with the slot to aid fitting. 95. Repeat for other side of bar.	**TOOLS REQUIRED** Small flat blade screwdriver
	FASTENERS 5x M6 cage Nut per side

GX & GXL ONLY

Apply adhesive to flange

Insert from behind bar

96. If not fitting headlight washers install supplied plug plates, using Automotive grade adhesive (Offroad Animal recommends Sikaflex 227).

TOOLS REQUIRED
Automotive adhesive

FASTENERS

VX & ABOVE ONLY

97. If equipped, refit headlight washers to bar. Fitment procedure is reverse of removal.

98. If the bar is not to be colour coded, paint the headlight washer covers black before re-fitting.

99. Thoroughly clean both the bar and headlight washers on faces where adhesion will occur.

100. Apply 3M Primer 94 to all mating surfaces.

    Important: allow at least 5 minutes for the primer to chemically bond to the surfaces.

101. Apply the supplied narrow strips of VHB double side tape to the flange on the headlight washer housing.

102. Fit the housing to the cutout in the bar.

TOOLS REQUIRED
Scotch Brite / sandpaper
Matte black paint
Isopropyl alcohol
VHB double side tape

FASTENERS

VX and Sahara

Sahara ZX and GR Sport

103. Re-fit the headlight washers into the housings, using the opposite of the removal procedure.

104. Re-fit washer hoses to bar, and to headlight washers. Secure using cable ties.

105. Once fitted pull out the washer assembly with long nose pliers and adjust the washer nozzles to squirt towards the headlights, final adjustment can be performed when the bar is fitted to the car.

106. For Sahara ZX and GR Sport models, fit the supplied F-0014 cover cap instead of re-fitting the original cover.

TOOLS REQUIRED

Long nose pliers

FASTENERS

Clean and apply 3M Primer 94 to these areas
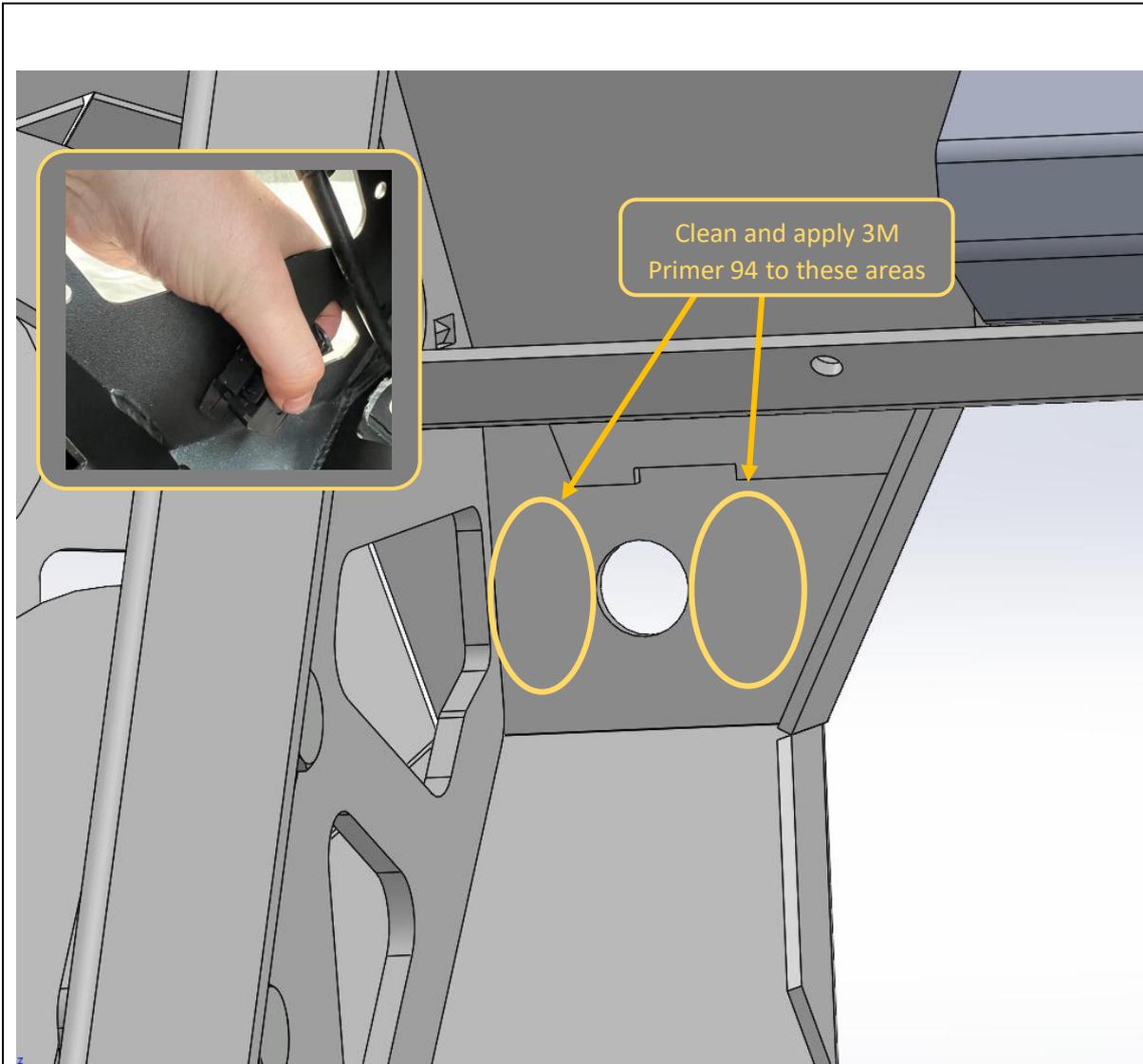
107. Re Fit parking sensors to the bar.

108. Clean area on back side of bar adjacent to sensor holes with isopropyl alcohol.

109. Re-fit sensors to housings to help locate housing during adhesion process.

110. Apply 3M Primer 94 to all mating surfaces.

    Important: allow at least 5 minutes for the primer to chemically bond to the surfaces.

111. Using supplied tape VHB Pads, re-fit sensor housings to the bar.

112. If parking sensors are not fitted, fit cover plugs by pushing into hole from the outside.

TOOLS REQUIRED

Isopropyl alcohol
Clean rag
3M Primer 94 Ampule
3M Tape Pads

FASTENERS

113. If fitting an integrated light bar, do so now.

114. The bar is designed to fit an Offroad Animal 22in or STEDI ST3K 21.5 inch light bar. If fitting this light bar, assemble bar with legs out, and it will line up with the slots in the centre gusset. Secure with M8 Fasteners supplied with the light bar.

115. The bar can accommodate most other "20 inch" size light bars.

116. If fitting driving lights to the bar this is also the most convenient time to do so.

117. Fit the Pan brace to the back of the bar, between the pan and centre gusset, using supplied M6x16 black button head bolts (top) and M6x12 button head bolts (bottom), flat washers and flange nuts.

TOOLS REQUIRED

Supplied with lights

4mm hex/Allen key

FASTENERS

Supplied with lights

3x M6x16 black button head
3x M6 black flat washer
3x M6x12 button head
3x M6 Flat washer
6x M6 flange nut
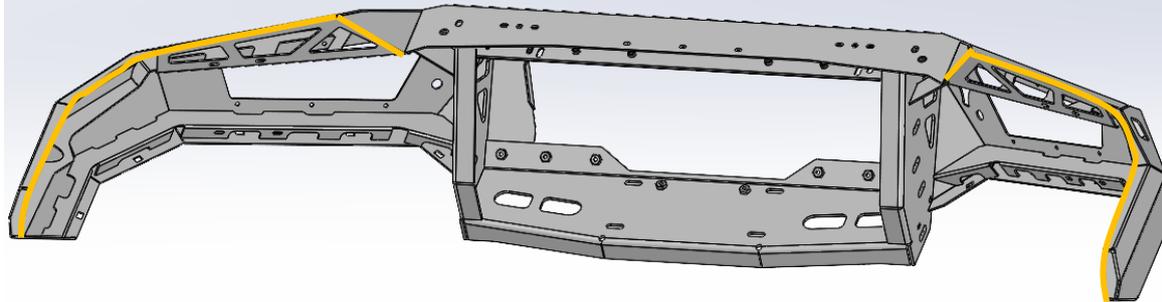
118. Fit pinch weld to extents on top edges of bar shown in image above.

119. Push pinch weld onto edge firmly until it bottoms out. Lightly tapping with hammer can assist in getting all the way on.

TOOLS REQUIRED

Soft face hammer (optional)

FASTENERS

Support bar and slide in between impact assembly uprights from front.

120. With assistance, either from another person, or a lifting trolley, lift the bar onto the mounts on the vehicle.

121. Secure with 4x M12x30 Bolts, heavy duty washers and M12 Nyloc and flange nuts per side. Keep all bolts finger tight at this stage.

Note: Use 1x Nyloc per side.

TOOLS REQUIRED

Lifting Trolley

FASTENERS

8x M12x30 Bolt
10x M12 heavy duty large washer
6x M12 flange nut
2x M12 Nyloc nut

15-20mm clearance
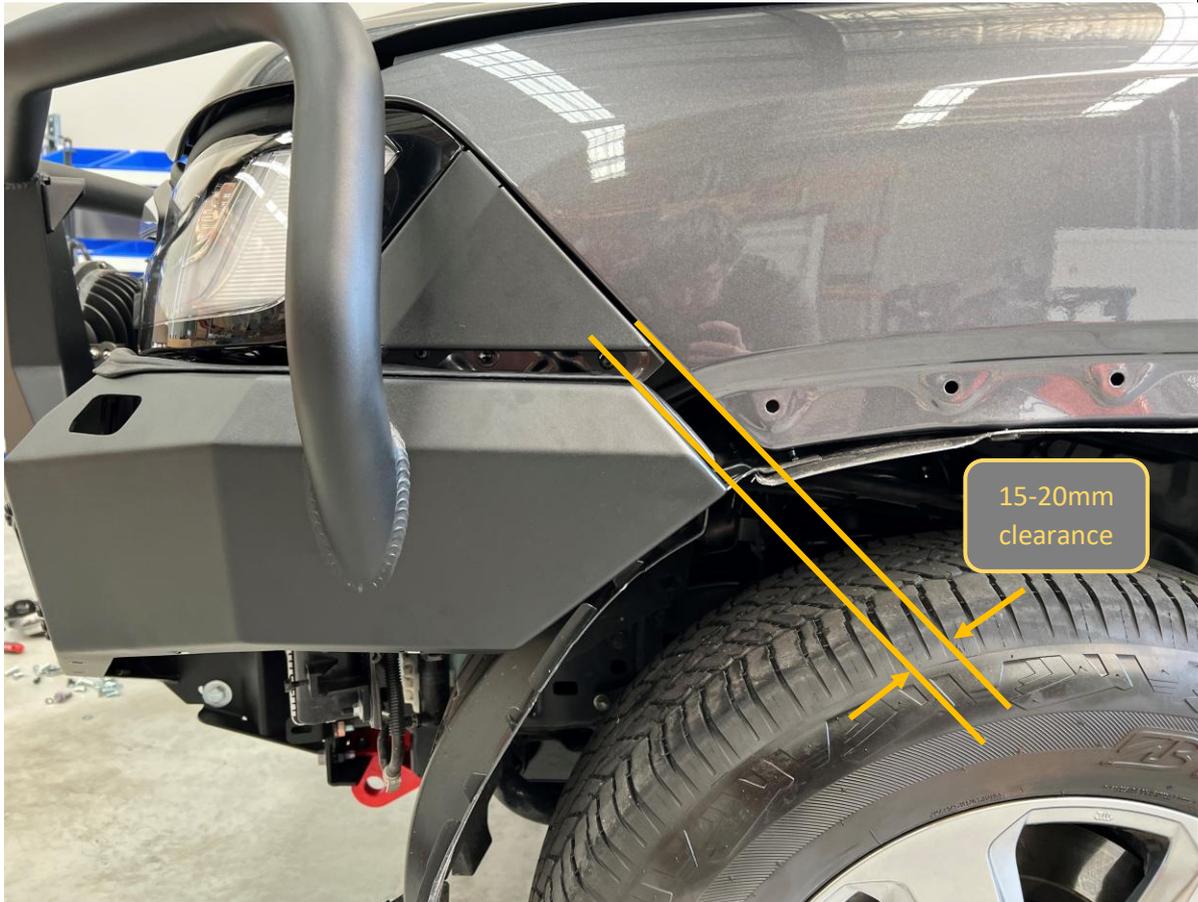
122. With assistance, from another person, align the bar with the edges of the vehicle. Adjust such that the clearances are neat and even side to side. Acceptable range of clearances shown in image above. 123. Once in position, tighten the M12 Bolts using socket and spanner. An impact driver may be used to speed up this process.	**TOOLS REQUIRED** Lifting Trolley 18/19mm socket/spanner
	FASTENERS

Cut tab
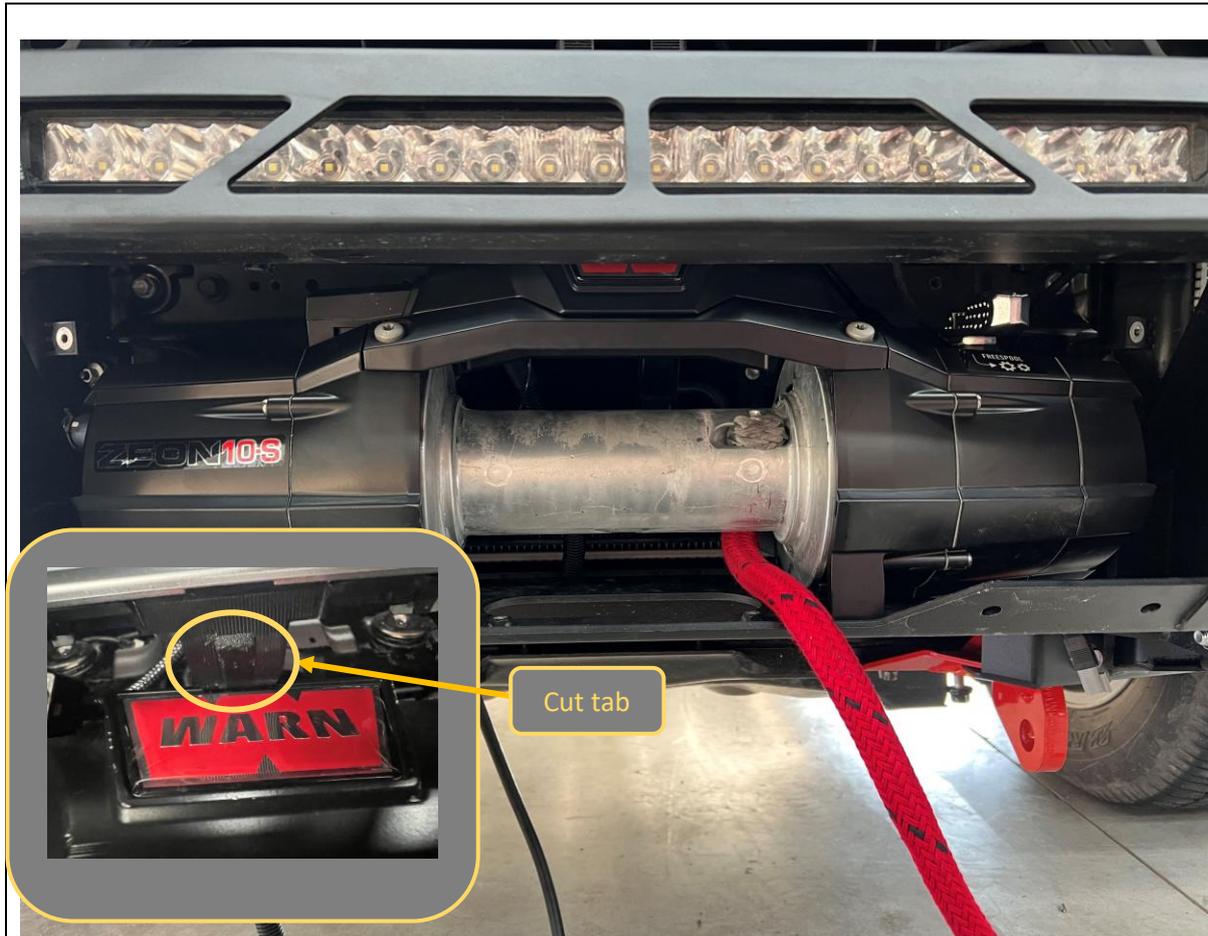
124. If fitting a winch, do so now.

125. If winch has top mount control box, the centre tab at bottom of grille will need to be cut off to allow clearance. This can be done with side cutters.

126. The bar is designed to fit most low mount winches, in foot down configuration. WARN ZEON 10 is largest winch confirmed to fit.

127. The control box can be mounted on top of the winch. Winches usually come with a bracket to allow this. Refer to winch manufacturer.

128. Ensure clutch handle will be accessible through the access hole in front mesh panel. Refer to winch instructions regarding changing clutch handle location.

TOOLS REQUIRED

Refer to winch fitting instructions

FASTENERS

Supplied with winch

129. If required, fit winch fairlead to mesh fairlead mount using M10 or 3/8" fasteners supplied with winch. The bar is only compatible with hawse type fairleads.

130. If equipped fit the front camera removed earlier to the mesh fairlead mount using 2x M6x16 black button head bolts, black flat washers, and flange nuts.

131. Fit number plate flip bracket to fairlead mount, using 2x M8x25 hex bolts, 4x flat washers, 2x Nylon washers and 2x Nyloc nuts. Ensure nylon washer sits between the bracket and fairlead mount.

TOOLS REQUIRED

4mm hex/Allen Key

13mm spanner

FASTENERS

2x M6x16 black button head
2x M6 black flat washer
2x M6 flange nut

2x M8x25 hex bolt
4x M8 flat washer
2x M8 nylon washer
2x M8 Nyloc nut

132. As the mesh panel is offered up to the bar, re-connect the front camera wiring harness, if equipped.

133. Fit the mesh fairlead mount to the centre of the bar, using 2x M8x16 black button head and black washers at the top; and 2x M8x20 hex bolts and flat washers at the bottom.

134. Tighten fasteners using 5mm Allen key.

TOOLS REQUIRED

5mm hex/Allen key

FASTENERS

2x M8x16 black button head
2x M8 black flat washer

2x M8x20 hex head
2x M8 flat washer
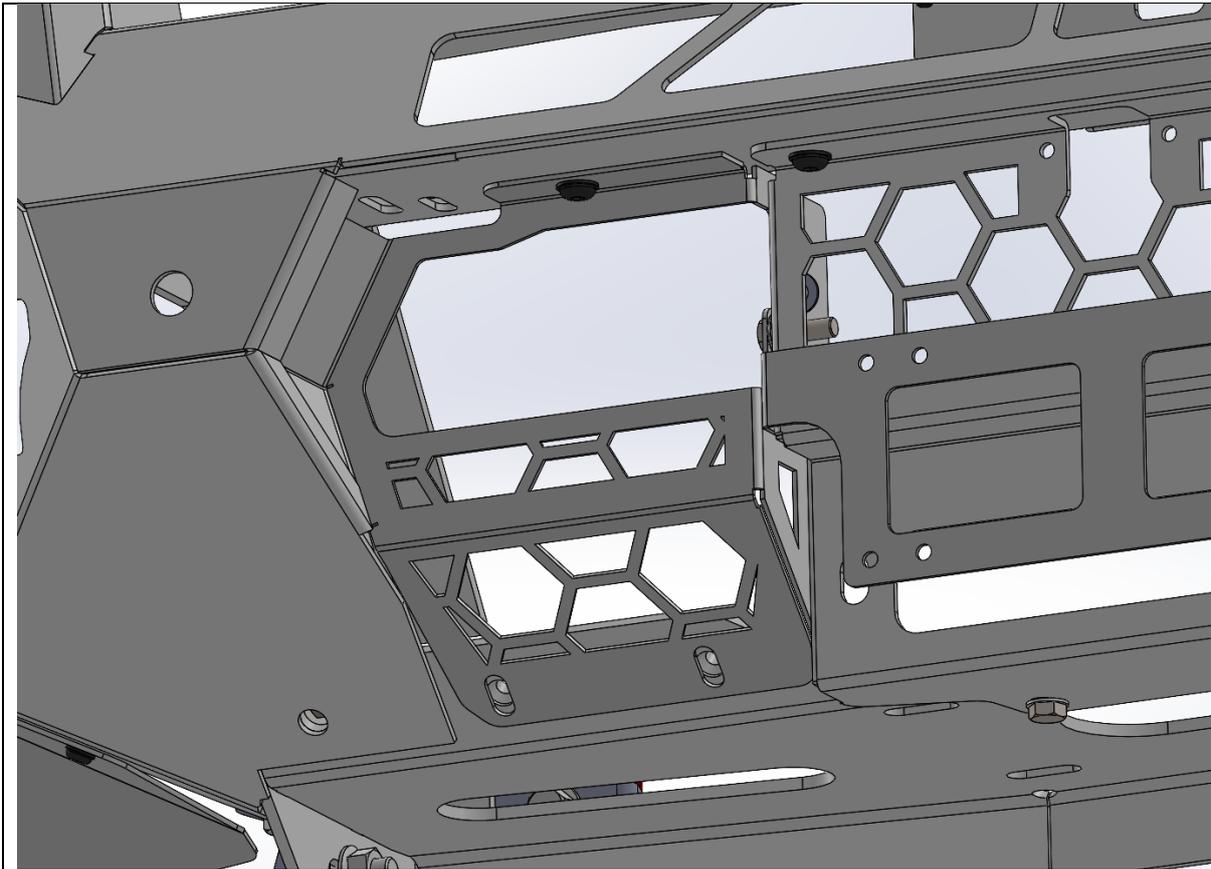
135. Fit each side mesh infill panel using 1x M8x16 black button head bolt and black flat washer into the captive thread in the top of the bull bar.

136. Don't fit any bolts to bottom holes at this stage.

137. Tighten top fasteners using 5mm Allen key.

TOOLS REQUIRED

5mm hex/Allen key

FASTENERS

2x M8x16 button head
2x M8 black flat washer
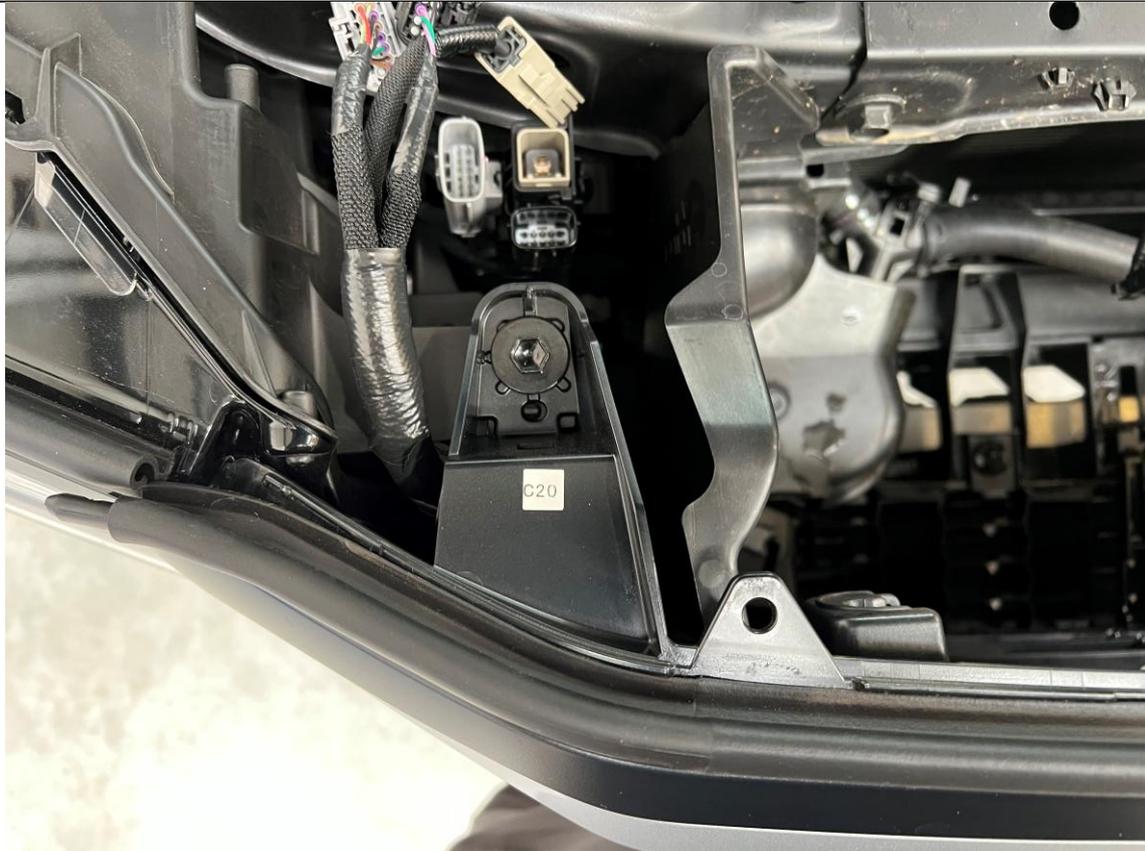
138. Re-connect electrical harness, fog lights and headlight washer hose at the top of grille. 139. Replace upper radiator cowl using original clips.	**TOOLS REQUIRED**
	FASTENERS Factory clips (re-use)

	TOOLS REQUIRED
140. Re-fit parking sensors to housings mounted in the bar, reaching from underneath the wing to do so. 141. Reconnect wiring harnesses and cable tie harnesses neatly.	Cable ties
	FASTENERS Factory clips (re-use)

Remove Factory Bolts

142. Remove 4x factory bolts securing the bottom of the tow point to the cross member.

143. Fit the centre bash plate using 6x M8x30 black button head bolts and black flat washers on the front face. Ensure these fasteners pass through the side mesh panels also.

144. Secure the back of the centre bash plate using the flange factory bolts removed earlier. The bash plate should sit immediately below the tow point.

145. Tighten bottom fasteners using 17mm socket.

146. Tighten front fasteners using 5mm Allen key.

TOOLS REQUIRED

17mm socket/spanner

5mm hex/Allen key

FASTENERS

6x M8x30 black button head
6xM8 black flat washer

147. Loosely fit each side underpanel to the underside of the bullbar wings using 5x M6x16 black button head bolts and black flat washers into the cage nuts placed earlier.	**TOOLS REQUIRED**
148. Secure the inner back of the side underpanel to the impact assembly using 1x M8x20 hex bolt, flat washer, and flange nut.	
149. Leave finger tight at this stage.	**FASTENERS** 10x M6x16 black button head 10x M6 black flat washer 2x M8x20 hex head 2x M8 flat washer 2x M8 flange nut

150. Using the edge of the side underpanel as a guide, mark the wheel arch liner, approximately 15mm beyond the intersection of the underpanel.

151. Cut along line as marked using utility knife.

152. Tuck the wheel arch liner behind the flange on the underpanel.

153. Tighten all underpanel bolts.

154. Complete for other side of vehicle.

TOOLS REQUIRED

Utility knife

4mm hex/Allen key
13mm socket/spanner

FASTENERS

Trim flare along edge marked in Step 12

Re-fit flare to vehicle

155. Using the masking tape and markings made earlier in step 12 setup to trim the flare.

156. Cut along edge marked using oscillating multi tool, air hacksaw or angle grinder. Take care to ensure a straight cut and neat edge.

157. Re-Fit the wheel arch flare to the vehicle using the original clips

158. Complete flare trim and re-fitment on other side of vehicle.

TOOLS REQUIRED

Power Cutting Tool

FASTENERS

OE Clips – re use
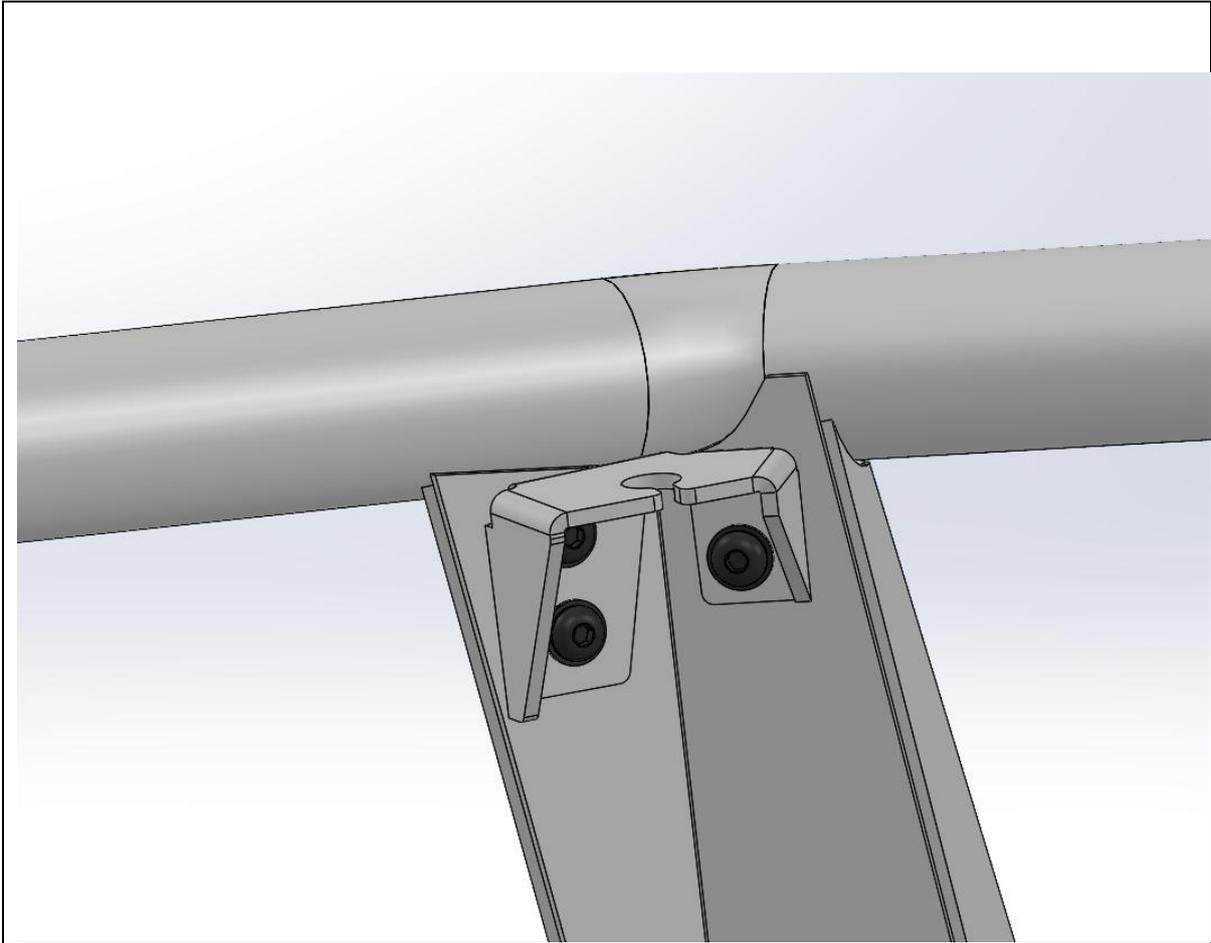
159. **Toro only.** If fitting antenna to Toro bar, fit the antenna brackets to the M8 Threaded inserts in the uprights using 3x M8x20 black button head bolts and black washers.

160. **Toro only.** Else fit the 3x M8x20 black button head bolts and black washers to the back of each bullbar upright, to protect nut threads in bar for future use.

161. Fit antenna to the bracket as per antenna manufacturer's instructions.

162. Retain unused brackets for future use.

TOOLS REQUIRED

5mm hex/Allen key

FASTENERS

3x M8x20 black button head
3x M8 black flat washer

Do not forget compliance plate

163. Check all fasteners are tight.

164. Re-fit number plate to number plate flip.

165. Fit the compliance plate in a visible location on the underside of the bar. We recommend placing it on the bottom of the centre bash plate.

166. Head out bush and enjoy your newly protected LandCruiser!

For contact details see www.offroadanimal.com