



MAZDA BT-50 TF
MY2021-2024
PREDATOR & TORO FRONT BAR

IMPORTANT! – READ BEFORE INSTALLATION

- When installed in accordance with these instructions, the front protection bar does not affect the operation of the vehicle's 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.

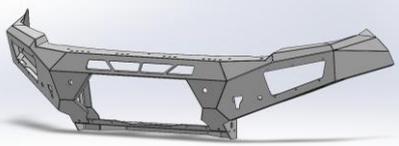
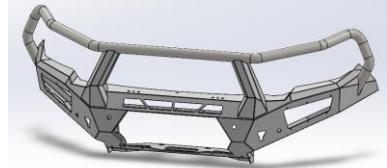
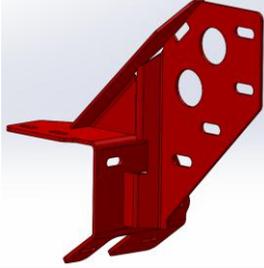
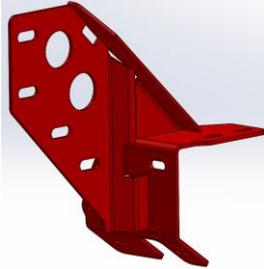
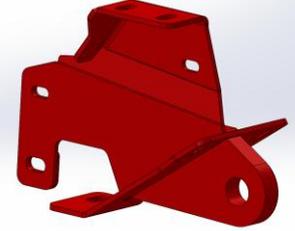
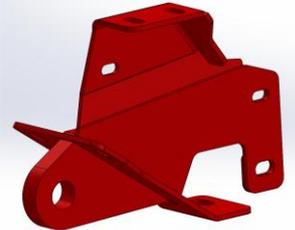
FRONT BAR MOUNTS AND TOW POINTS + REAR TOWBAR	
Size	Torque Nm
M10	57 Nm
M12	100 Nm
M14	164 Nm
M16	248 Nm

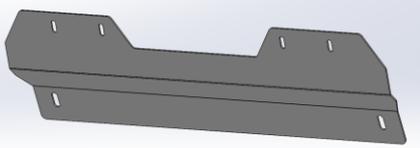
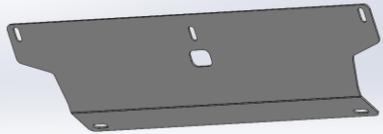
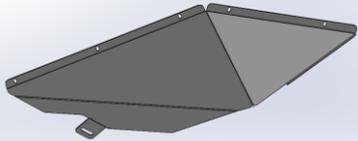
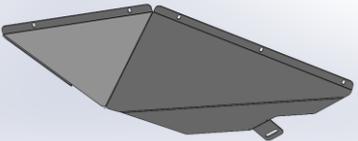
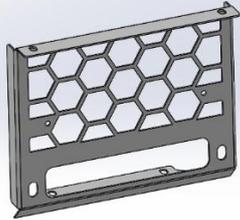
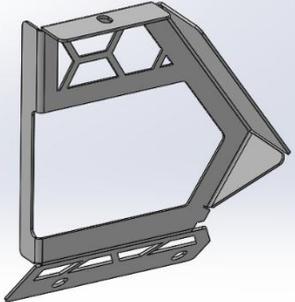
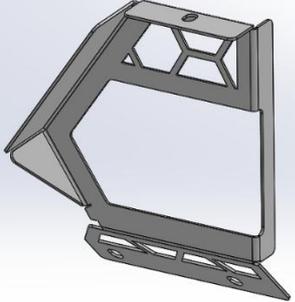
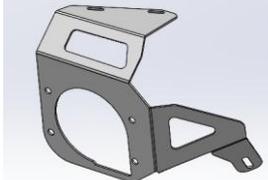
Always use a torque wrench to set correct torque settings. Ensure torque wrench is set to Nm unit of measurement. Otherwise perform conversion to lb-ft.

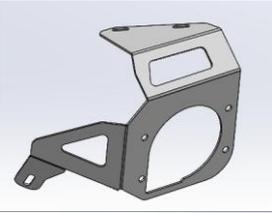
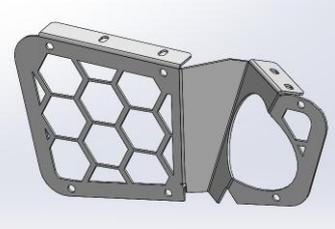
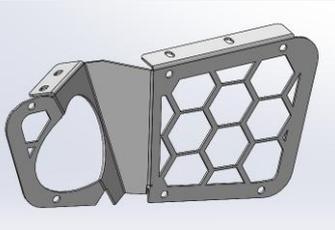
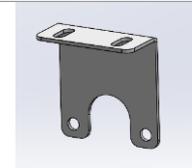
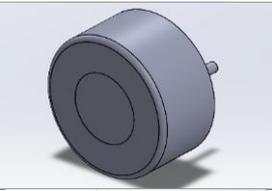
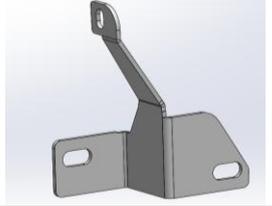
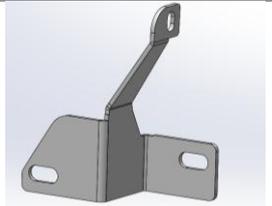
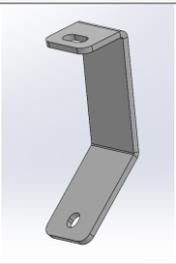
PARTS LISTING

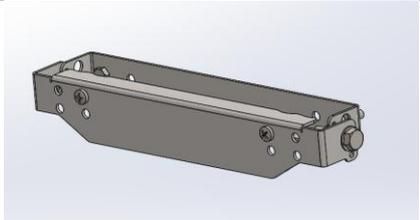
IMPORTANT: Check all parts are present before beginning work! Contact OFFROAD ANIMAL if something is missing.

Main Parts – In the Box

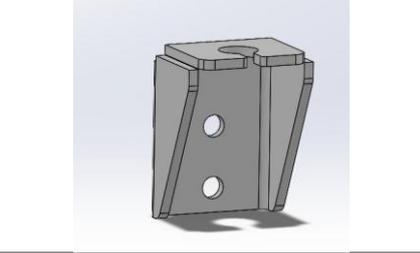
Qty	Part Number	Description	Image
1	FB-MBT-TF-21-PR-ASM1	Mazda BT-50 TF Predator Front Bar Weldment	
OR			
1	FB-MBT-TF-21-TOR-ASM1	Mazda BT-50 TF Toro Front Bar Weldment	
1	FB-IDM-RG-21-PR-ASM2R	DMAX IMPACT ASSY	
1	FB-IDM-RG-21-PR-ASM2L	DMAX IMPACT ASSY	
1	FB-IDM-RG-21-PR-ASM3R	ISUZU DMAX 21+ TOW POINT ASSY	
1	FB-IDM-RG-21-PR-ASM3L	ISUZU DMAX 21+ TOW POINT ASSY	

1	U-0036	Isuzu DMAX 2021+ Predator Bash Plate	
1	U-0041	DMAX 21+ Supplementary Underpanel	
1	U-0040L	Mazda BT-50 TF Predator - Side Underpanel	
1	U-0040R	Mazda BT-50 TF Predator - Side Underpanel	
1	M-0014	DMax Predator Center Fairlead Mesh	
1	M-0015L	DMax Predator Side Mesh	
1	M-0015R	DMax Predator Side Mesh	
1	B-0528L	Mazda BT-50 TF Predator - Fog Bracket	

1	B-0528R	Mazda BT-50 TF Predator - Fog Bracket	
1	M-0022R	Mazda BT-50 TF Predator Indicator / Fog Cover Mesh	
1	M-0022L	Mazda BT-50 TF Predator Indicator / Fog Cover Mesh	
1	B-0527	Mazda BT-50 TF Predator - Indicator Bracket	
2	LED Autolamps 80AW	LED AUTOLAMPS 80AW LED INDICATOR PARKER COMBO LIGHT, SINGLE BLISTER PACK	
1	B-0529R	BT50 - 21+ Headlight / Grille support bracket	
1	B-0529L	BT50 - 21+ Headlight / Grille support bracket	
1	B-0530	Mazda BT-50 TF Predator - Center Pan Brace	

1	NPF-COM-SM-ASM0	Number plate flip asm Small	
4	CPHP035	Plastic Hole Insert, 22MM, Black, Tigerlink Hardware CPHP035	
1	FB-MBT-TF-21-PR-ADRCP	ADR Compliance Plate BT-50 21+	

Toro Additional Parts

Qty	Part Number	Description	Image
2	B-0649	Toro Antenna Bracket - 90 Degree Tall	
4	M8X20 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X20X1.25, ISO4042 ZnNi BLACK PASSIVATED FINISH	N/A
4	M8 FW BZP	M8 FW- BLACK ZINC	N/A

Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
2	FB-IDM-RG-21-PR-ASM4	DMAX 21+ Tow Point Nut Plate
9	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
11	M10 x 30	Bolt Hex, M10X30x[1.5], GR8.8 ZP
11	M10 Flat Washer	M10 FW
16	M12 FW LHD	M12 FW Large Heavy Duty
12	M12X30	Bolt Hex, M12X30x1.75, GR8.8 ZP
6	M12 FLANGE NUT	Flange Nut, M12x1.75 G8.8 ZP
4	M12 Nyloc nut	M12 NYLOC NUT
10	M8 FLAT WASHER- BLACK ZINC	M8 FW- BLACK ZINC
16	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9 BLACK ZP
12	M8 X 20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X20X1.25 BLACK ZP
4	M8 X 30 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X30X1.25 BLACK ZP
6	M8 FLANGE NUT	Flange Nut, M8x1.25 G8.8 ZP
10	M6CN3MM	CAGE NUT M6x2.6-3.5
44	M6x16 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M6X16X1 GR12.9 BLACK ZP
40	M6 FLAT WASHER BLACK ZINC	M6 FW BLACK ZP
32	M6 FLANGE NUT	Flange Nut, M6x1 G8.8 ZP
4	M6 X 20 HEX	M6X20 HEX BOLT, ZP, 8.8
2	M5X15 PAN	SCREW, PAN HEAD PHILLIPS, M5X15X0.8 GR4.6 ZP
2	M5 FW	M5 FW
2	M5 FLANGE NUT	Flange Nut, M5x0.8 G8.8 ZP

TOOLS REQUIRED

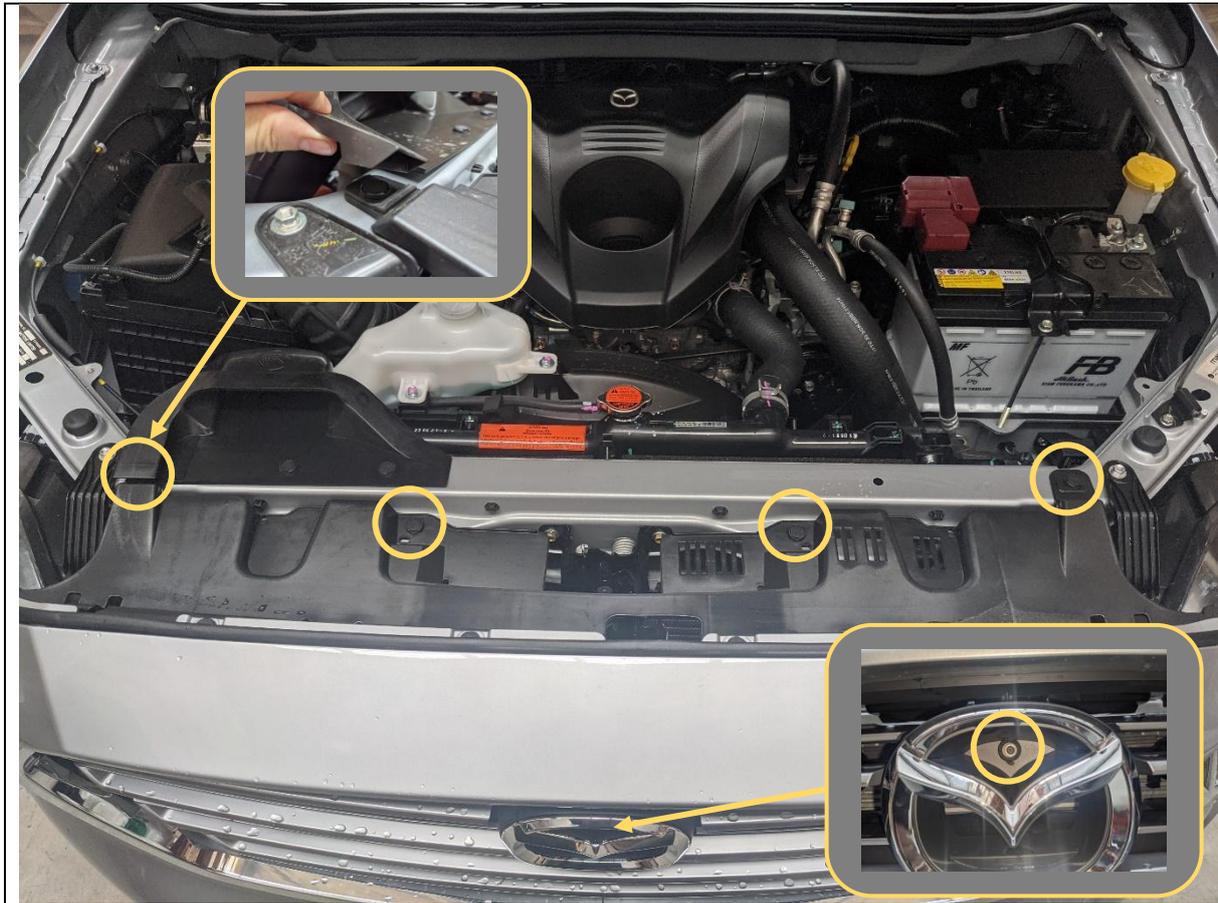
The following tools will be required to install the product.

Hand Tools	Power Tools	Workshop Equipment
Metric Socket Set 8-19mm Socket Extension Bar Metric Spanner Set 10-19mm Torx Drivers T25-T30 Hex (Allen) Key Set 4-6mm Trim Puller Tool Flat Blade Screwdriver set Phillips Head Screwdriver set Utility Knife Side Cutters Pliers	Electric Drill 6mm Drill Bit Air Hacksaw or Angle Grinder Electric/Air Impact Driver (Optional)	Panel Stand or Soft Blanket Cable Ties Masking Tape Black Automotive paint Scotch Brite or Fine Sandpaper Automotive Sealant/Adhesive Bucket Hose Clamp

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.

<p>Hearing Protection</p> 	<p>Always wear ear protection when using power tools.</p>
<p>Eye Protection</p> 	<p>Ensure eye protection is always worn when cutting or drilling.</p>
<p>Manual Handling</p> 	<p>Do not attempt to lift bar assemblies or rock sliders on your own.</p> <p>Always use two people to lift or use mechanical lifting aid such as hydraulic lifting trolley.</p>
<p>Vehicle Support</p> 	<p>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.</p>



1. Open the Bonnet.
2. Remove the 4x Clips securing the top of the grille by levering up center part using small flat blade screwdriver.
3. Remove phillips head screw securing center of grille inside the "Mazda" badge.

TOOLS REQUIRED

Small Flathead Screwdriver
Phillips Head screwdriver

FASTENERS

Retain Factory Clips and
Screw



4. Remove the three screws securing the bottom edge of the bumper, using 10mm Socket / Spanner.

TOOLS REQUIRED

10mm socket / spanner

FASTENERS

Discard



5. Remove the clips on the underside of the wheel arch by the bumper to quarter panel seam, and under the bottom of the bumper near wheel as shown.
6. Remove using same technique as other clips.
7. Remove the 10mm nut securing bottom of bumper.
8. Repeat for other side of vehicle.

TOOLS REQUIRED

10mm socket
Trim Tool

FASTENERS

Factory Clip and Nut
Discard



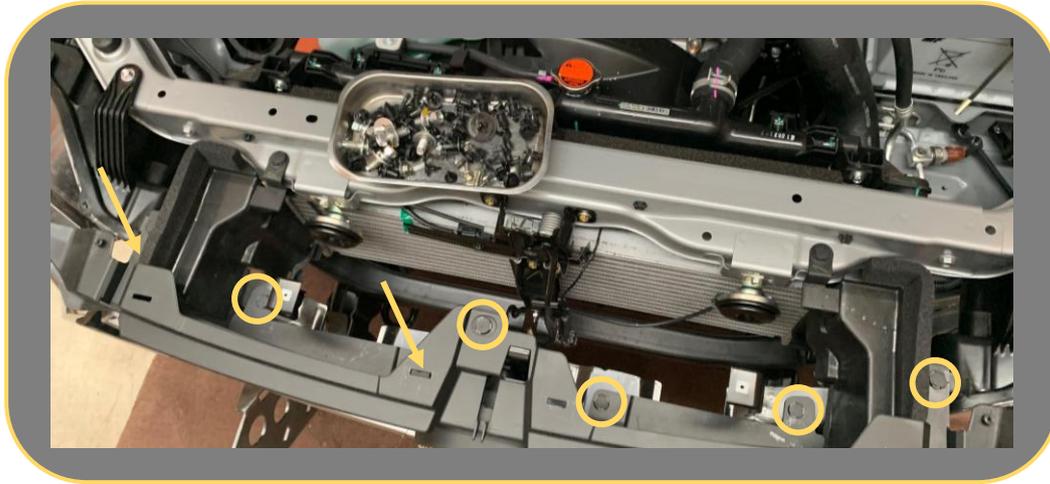
9. Remove top grille trim by pulling outward from the bottom in the locations shown to release the clips
10. Remove the clips securing the black plastic air guide to the top of the grille.
11. Remove and set aside the top black plastic air guide.

TOOLS REQUIRED

Small flat blade screwdriver

FASTENERS

Factory Clips



12. Remove the clips securing the Grille to the vehicle.

TOOLS REQUIRED

Small flat blade screwdriver

FASTENERS

Factory Clips



<p>13. Reach through behind the bottom of the grille and remove the clips securing the bumper to the vehicle.</p> <p>14. Release the bumper clips by pulling bumper away from bottom of headlights, starting from the outside and working in.</p> <p>15. When bumper is loose, reach in and disconnect the wiring harness located under the left-hand headlight.</p>	<p>TOOLS REQUIRED</p> <p>Small flat blade screwdriver</p>
<p>16. Remove bumper from car and set aside on soft blanket or panel stand.</p>	<p>FASTENERS</p> <p>Factory Clips</p>



17. Remove the front skid plate by removing the 5x 14mm head bolts securing it to the chassis. Note 3x of the bolts are recessed into the skid plate, shown with arrows.

TOOLS REQUIRED

14mm socket
Short extension bar

FASTENERS

Factory 14mm head bolts.
Retain for refitment



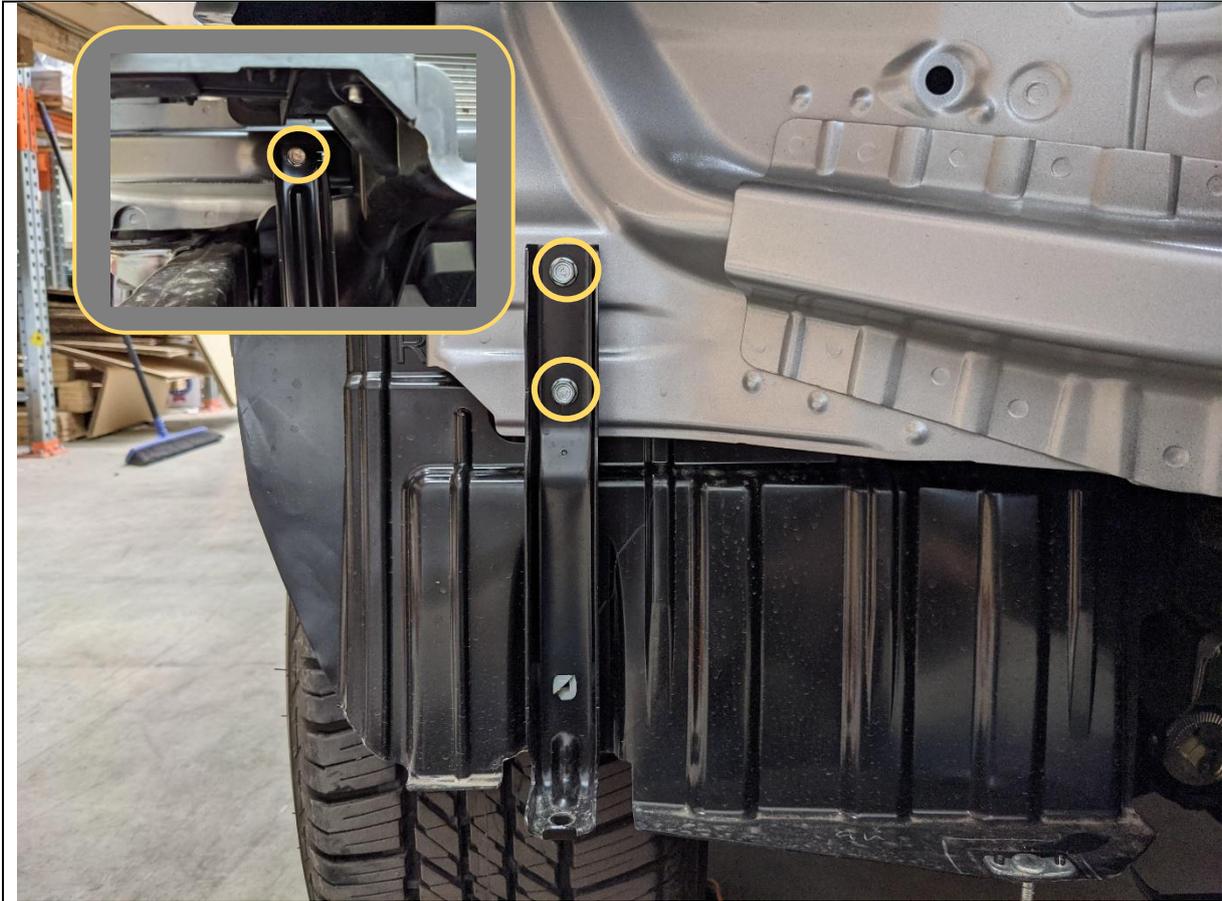
18. Remove the 4x 14mm head bolts that secure the impact beam to the chassis.
19. Remove and discard the impact beam. Retain bolts for fitting of mount.

TOOLS REQUIRED

14mm socket

FASTENERS

Retain for re-fitment of mounts



20. Remove the 10mm bolts securing the bottom bumper supports.

21. Remove and discard the bumper supports

TOOLS REQUIRED

10mm socket

FASTENERS

Factory 10mm head bolts

Discard



- 22. Remove the 10mm and Philips head screws securing the black plastic bumper supports beside the headlights. Retain the screw that secures the bumper support to the headlight.

- 23. Remove the bumper supports, a firm tug will be required to release the clips. Discard.

- 24. Complete on both sides of vehicle

TOOLS REQUIRED

Phillips head screwdriver

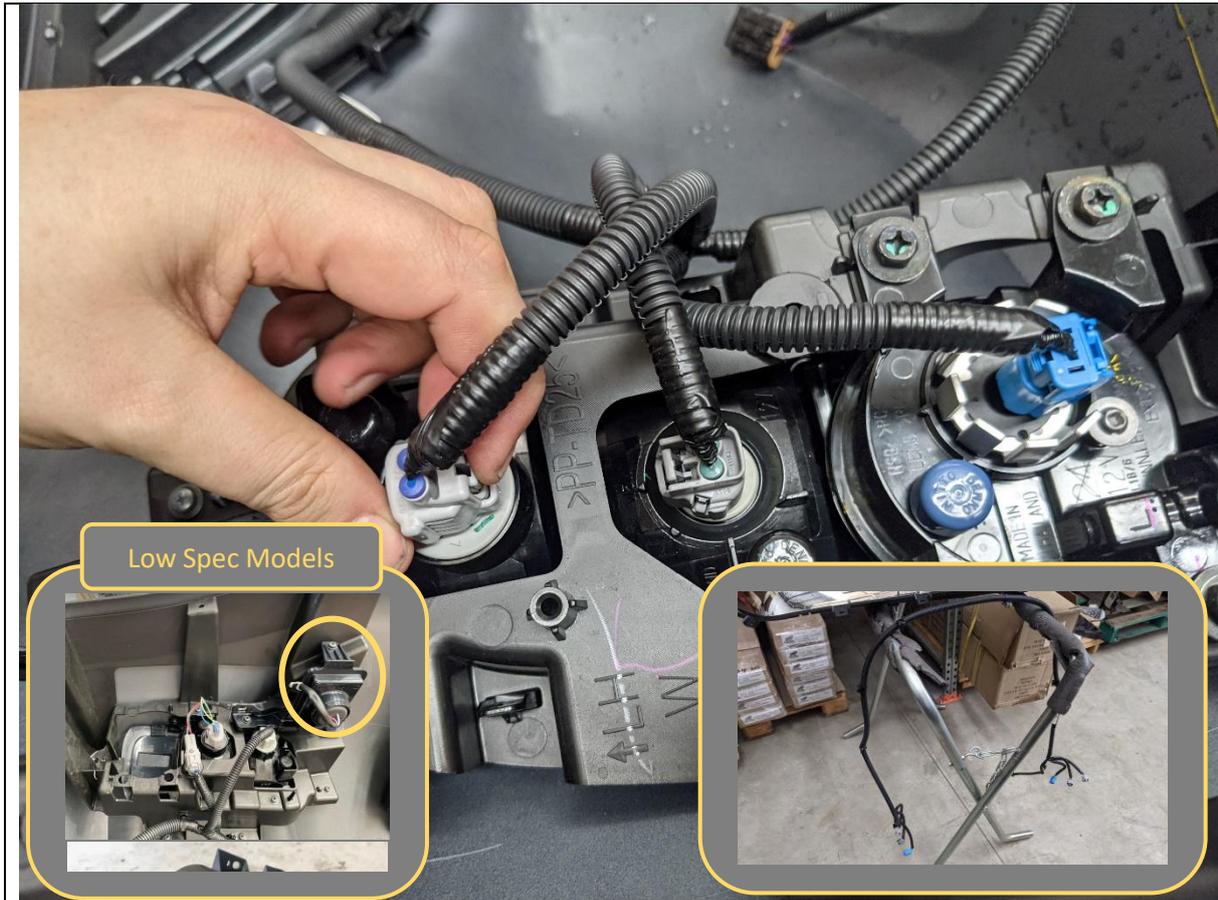
FASTENERS

Factory Bolt

Retain



<p>25. Remove and discard the black plastic air guide.</p> <p>Release clips using small flat screwdriver as per other clips on vehicle.</p>	<p>TOOLS REQUIRED</p> <p>Flat blade screwdriver</p>
	<p>FASTENERS</p>



<p>26. Unplug the electrical connectors from the fog light and indicators.</p> <p>27. Remove the harness clips from the bumper using a trim tool.</p> <p>28. Set aside harness for re-fitment to Offroad Animal Bar.</p>	<p>TOOLS REQUIRED</p> <p>Trim Tools</p>
<p>29. If equipped, remove the parking sensors and parking sensor harness from the bumper.</p> <p>30. Low spec models will have a black box that a loom enters, these are not sensors. Remove box from bumper and retain with cables, and cable tie back to loom.</p>	<p>FASTENERS</p>



- 31. Remove fog lights from the bumper using Phillips head screwdriver.
- 32. Discard the factory Philips head screws.

TOOLS REQUIRED

Phillips head screwdriver

FASTENERS

OE Philips head screws



33. Separate the grille from the lower bumper by progressively releasing the tab style clips, starting from one edge working across the grille.

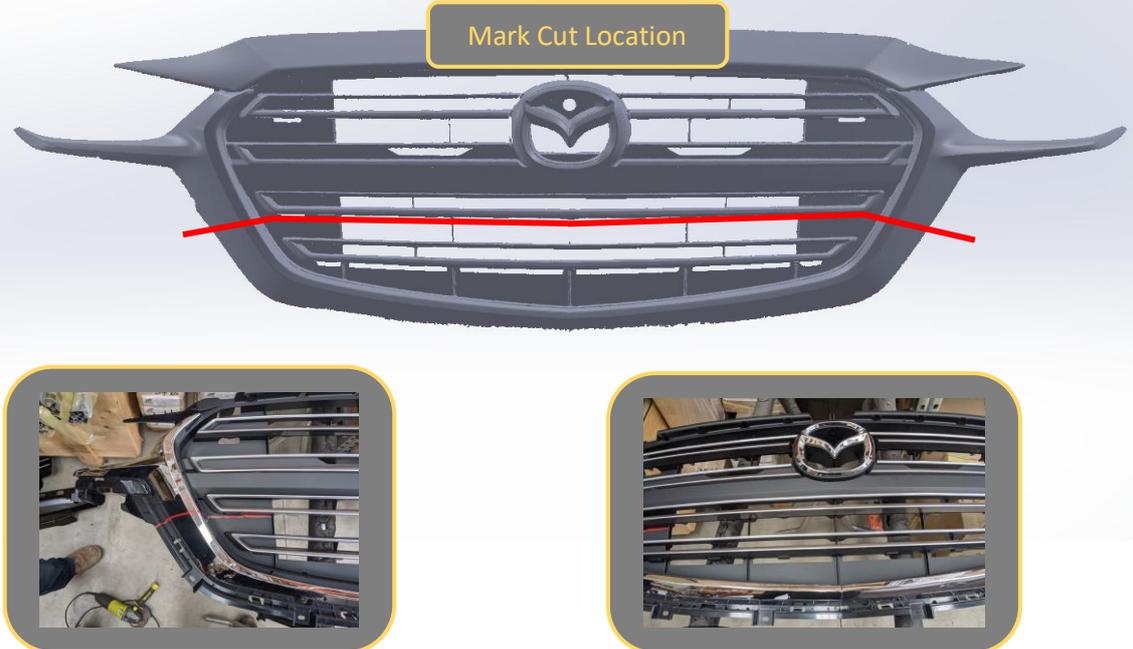
A flat screwdriver can assist in releasing the clips

34. Discard the lower half of bumper.

TOOLS REQUIRED

Flat head screwdriver

FASTENERS

	
<p>35. Mark location of grille cut on grille, just below the first horizontal slat/bar below the Mazda badge, as per the above image.</p>	<p>TOOLS REQUIRED Paint Pen</p>
	<p>FASTENERS</p>

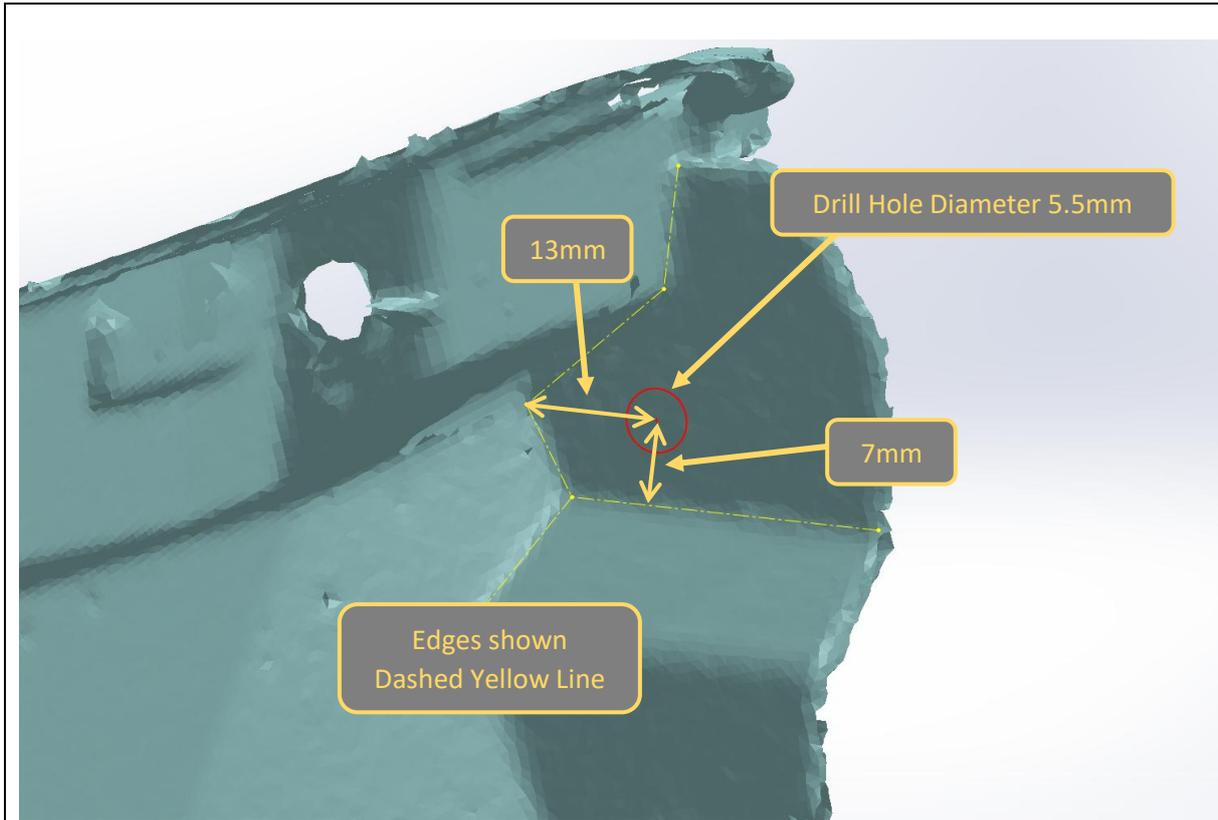


- 36. Perform cut along marked line using angle grinder, oscillating multi tool or air hacksaw.
- 37. Discard lower part of grille.

TOOLS REQUIRED

Angle Grinder
or
Oscillating multi tool
or
Air Hacksaw

FASTENERS



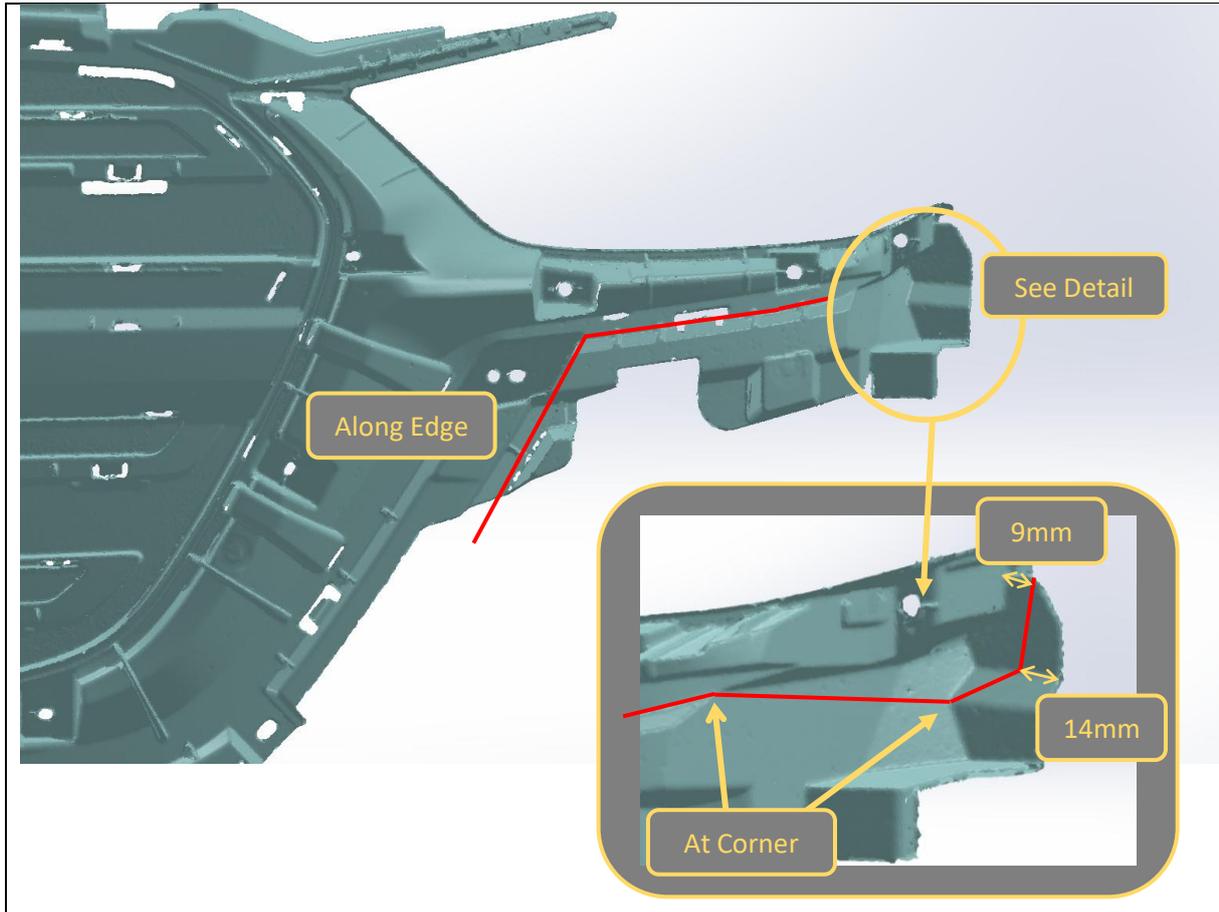
38. Measure and mark holes in back corner of grille as shown in image above.

39. Drill holes to 5.5mm.

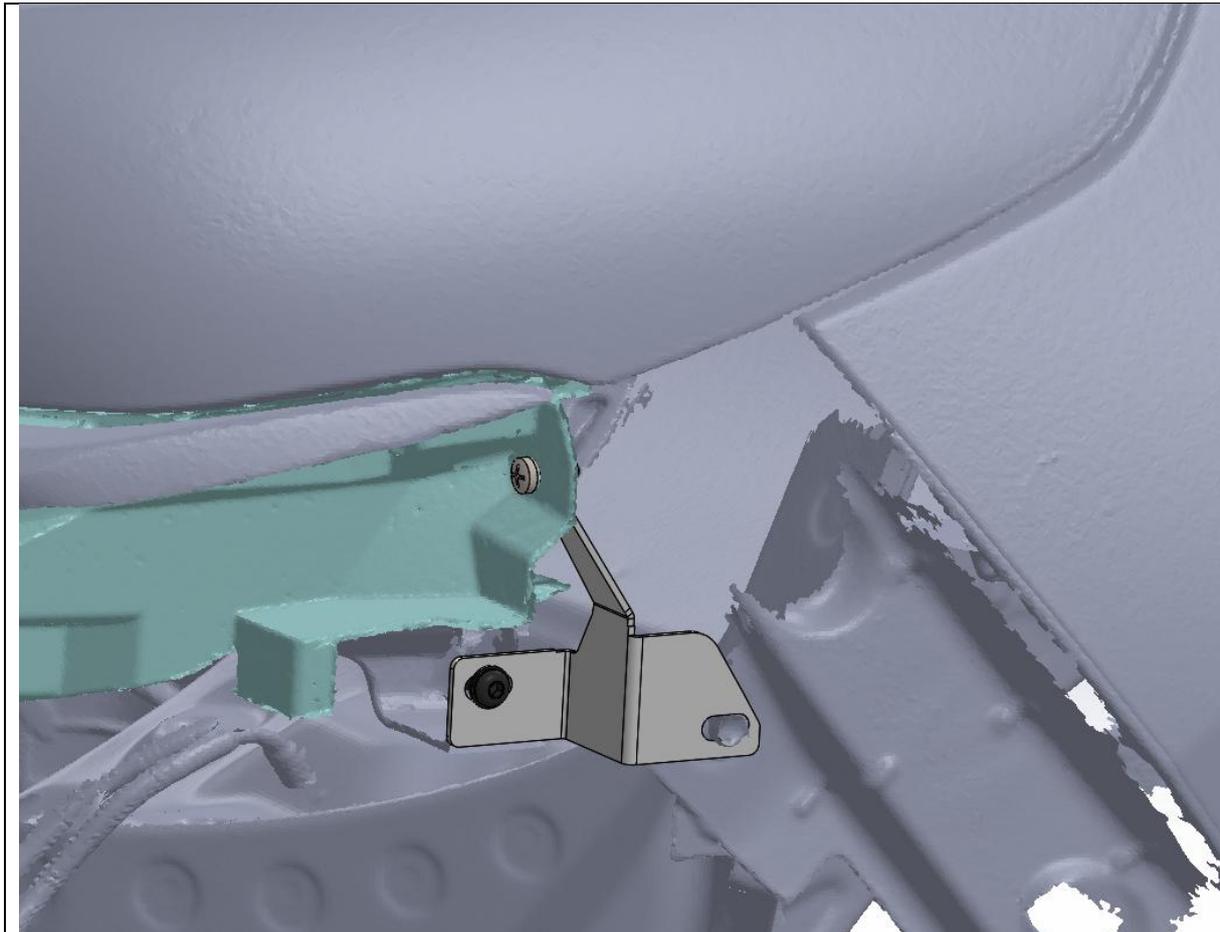
TOOLS REQUIRED

5.5mm Drill Bit
Electric Drill
Marker

FASTENERS



<p>40. Mark secondary trim to remove the black plastic parts under the chrome trim as shown in image.</p> <p>Take care to mark the cut at the far tips of trim exactly as per the image shown.</p>	<p>TOOLS REQUIRED</p> <p>Oscillating multi tool or Air Hacksaw</p>
<p>41. Perform second cut along marked lines using Oscillating multi tool or Air Hacksaw.</p> <p>42. Repeat mirrored for opposite side of vehicle.</p>	<p>FASTENERS</p>



- 43. Re-Fit grille to the vehicle using original clips and screws.
- 44. Fit the outer grille support bracket between the headlight and fender, using M6x16 Button head bolt into headlight and factory bolt for fender (from step 22).
- 45. Fit the outer grille support bracket to the grille through the hole drilled earlier, using the M5 Hardware supplied.

TOOLS REQUIRED

- 4mm Allen Key
- Phillips Head Screwdriver

FASTENERS

- OE clips and screws
- 1x M6x16 Button Head Screw
- 1x M6 Flat Washer
- 1x M5x15 Pan Head Screw
- 1x M5 Flat Washer
- 1x M5 Flange Nut
- Per side



- 46. Fit the indicator mount bracket to the light mounting Mesh Panel using supplied M6x16 button head screws, flat washers, and flange nuts. Indicator bracket sits on top of the mesh panel as shown.
- 47. Fit the indicator lamp supplied using hardware supplied in lamp package. Lights sit on the forward side of the bracket.

TOOLS REQUIRED

4mm Allen Key

FASTENERS

2x M6x16 Button Head Screw
2x M6Flat Washer
2x M6 Flange Nut

Per side



48. Fit the factory Fog lights to the fog light brackets using supplied M6x16 button head screws, flat washers, and flange nuts.

TOOLS REQUIRED

4mm Allen Key

FASTENERS

4x M6x16 Button Head Screw
4x M6 Flat Washer
4x M6 Flange Nut



- 49. Fit the fog lamp bracket to the light mesh using M6x20 Bolts, flat washers, and flange nuts.
- 50. Insert the assembled light bracket / mesh panel into the wing of the bar.
- 51. Secure to wing brace with supplied M6x16 button head bolts, washers, and flange Nuts

TOOLS REQUIRED

4mm Hex Key
10mm socket/spanner

FASTENERS

1x M6x16 Button Head Screw
1x M6 Flat Washer
1x M6 Flange Nut

2x M6x20 Hex
2x M6 Flat Washer
2x M6 Flange Nut

Per side



- 52. Secure Light assembly to the wing of bar using with supplied M6x16 button head bolts, washers, and flange Nuts
- 53. Re install wiring harness to bar and plug in connectors for fog light.
- 54. Cut off connectors for park and indicator lamps and complete wiring for the Indicator / Parker Lamp as follows.

Function	Loom Wire Colour	Lamp Wire Colour
Earth	Black + Grey	White
Parker Lamp	Blue	Yellow
Indicator LH	Purple	Brown
Indicator RH	Light Blue	Brown
DRL (Not Used)	N/A	Red

Test connections once complete.

TOOLS REQUIRED

4mm Hex Key
Crimping Tool or Soldering iron

FASTENERS

Crimp Connectors
6x M6x16 Button Head Screw
6x M6 Flat Washer
6x M6 Flange Nut

Per Side



55. If equipped with parking sensors, you'll need to do a small mod to allow them to grip on the bull bar which is thicker than the factory bumper.
56. Fit sensor back into housing (top left).
57. Using a Utility knife trim 2mm off the front of the push in tabs (up to the join in the middle as shown in bottom left) Do for all 4 tabs around sensor.
58. The photo shown on the right is a completed sensor. Repeat for other sensors.
59. Re-fit parking sensors to bar by relocating original housings to the holes on the bar.
60. If parking sensors not equipped fit plastic blanking plugs to parking sensor holes on bar.

TOOLS REQUIRED

Utility Knife

FASTENERS



- 61. If fitting an integrated light bar, do so now.

- 62. The bar is designed to fit a Offroad Animal 22 inch light bar. If fitting this light bar, assemble bar with legs out, and it will line up with the slots in the center gusset. Secure with fasteners supplied with the light bar.

The bar can accommodate most other “20 inch” size light (20-22 inch long) bars

- 63. If fitting stealth top hoop or round lights do so at this stage.

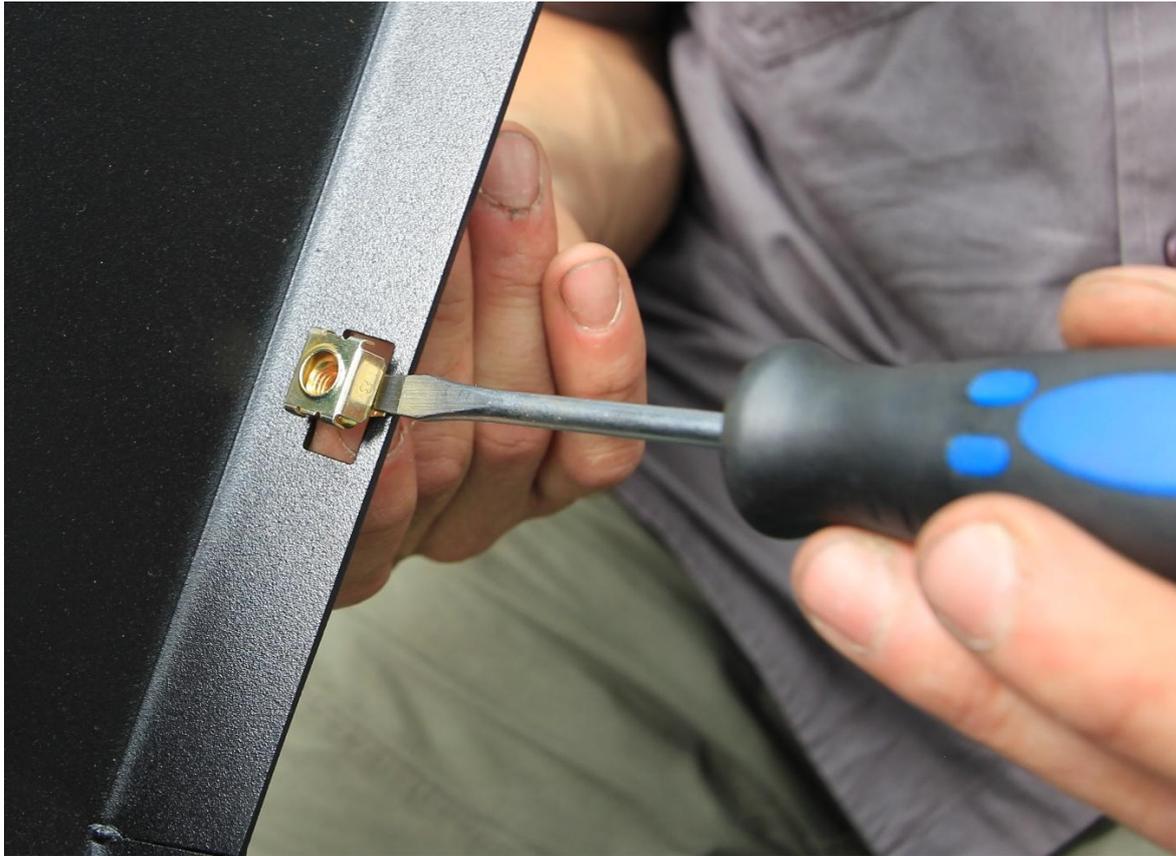
- 64. After light bar is fitted, fit the center pan brace between the Gusset and Cradle using supplied M6 Fasteners. M6x16 on top, M6x12 on bottom.

TOOLS REQUIRED
Refer to light bar instructions

FASTENERS

Supplied with Light bar

1x M6x16 Button Head
1x M6x12 Button Head
2x M6 Flat Washer
2x M6 Flange Nut



65. Fit 5x cage nuts from small parts kit to rectangular slots in bottom of each wing.

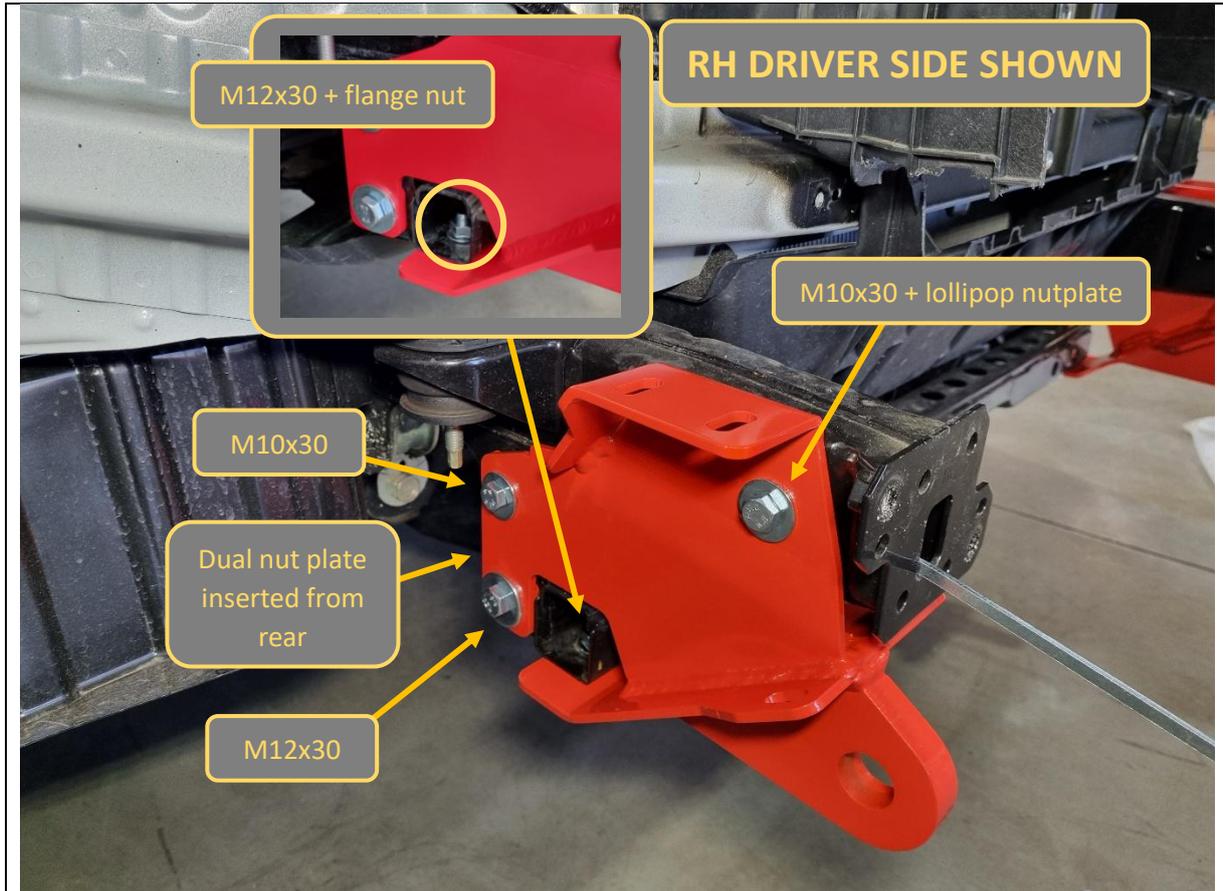
Use a small flat bladed screwdriver to push the edge of the cage to engage with the slot to aid fitting.

TOOLS REQUIRED

Flat Blade Screwdriver

FASTENERS

10x M6 cage nut

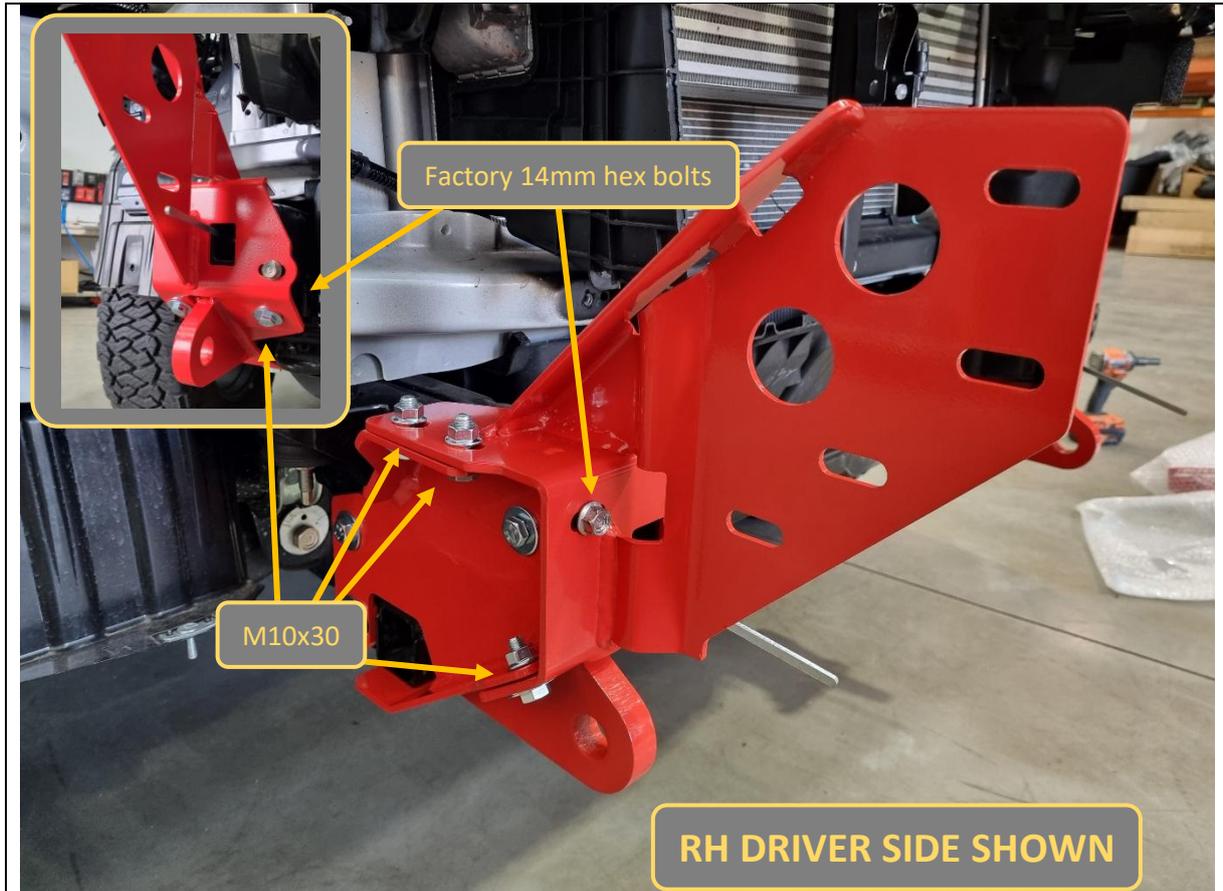


66. Fit the tow point to the outside of the chassis rail.
67. Loosely secure the bottom of the tow point to the horizontal chassis cross member with 1x M12x30 hex bolt, heavy-duty washer and flange nut.
68. Insert 1x M10 lollipop nutplate through the front opening of the chassis rail, then loosely secure to the tow point with 1x M10x30 hex bolt and heavy-duty washer.
69. Insert the dual nutplate through the back of the chassis drop member and loosely secure to the tow point with 1x M12x30 hex bolt, 1x M10x30 hex bolt and heavy-duty washers.
70. Repeat for other tow point.

TOOLS REQUIRED

FASTENERS

- 4x M10x30 hex bolt
- 4x M10 heavy-duty washer
- 4x M12x30 hex bolt
- 4x M12 heavy-duty washer
- 2x M12 flange nut
- 2x M10 lollipop nutplate
- 2x dual nutplate



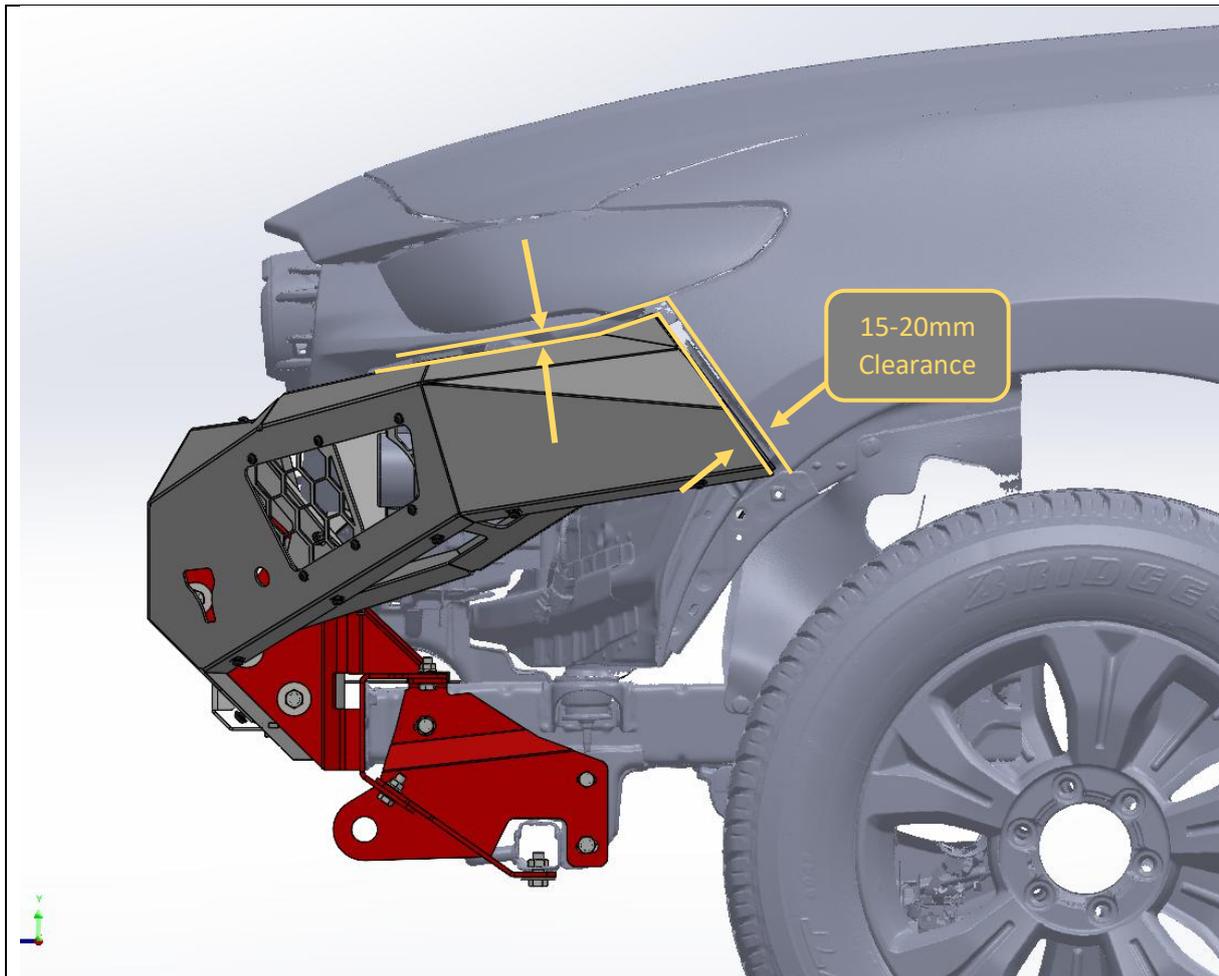
- 71. Fit the impact assembly to the chassis and loosely secure using 2x factory 14mm hex bolts retained from the crash beam.
 - 72. Secure the impact assembly to the tow point using 4x M10x30 hex bolts, heavy-duty washers and flange nuts as shown.
- Repeat for both sides of vehicle. Leave all bolts in the tow points and impact assemblies finger tight at this stage.

TOOLS REQUIRED

FASTENERS

- 4x factory 14mm hex bolt
- 8x M10x30 hex bolt
- 8x M10 heavy-duty washer
- 8x M10 flange nut

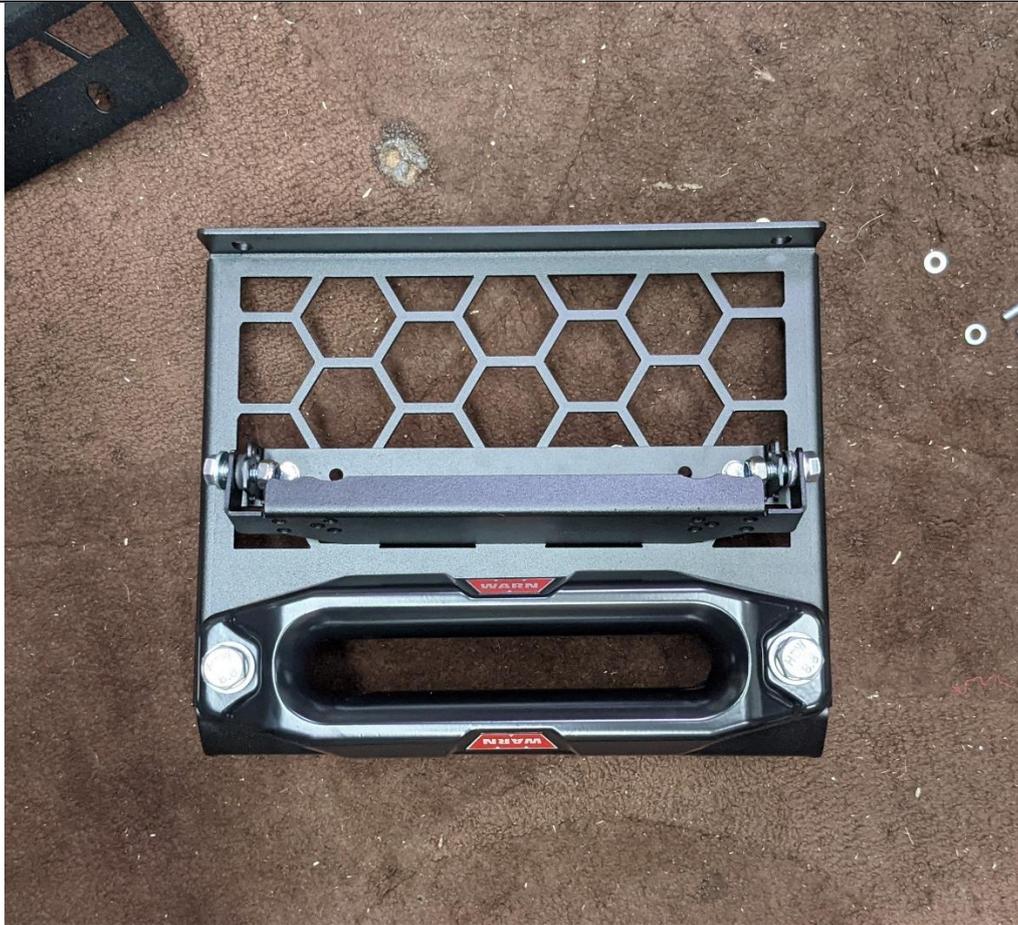
<div data-bbox="662 235 949 331" data-label="Section-Header"> <p>MEASURE</p> </div> <div data-bbox="220 365 1353 663" data-label="Image"> </div>	
<div data-bbox="638 757 925 853" data-label="Section-Header"> <p>Adjust</p> </div> <div data-bbox="438 857 1129 1050" data-label="Image"> </div>	
<p>73. Measure distance between bullbar uprights with tape measure. Note down this distance</p> <p>Bar Upright Width = _____mm</p> <p>74. Measure and adjust the distance between the mounts on the vehicle to be 2-5mm greater than the distance measured.</p> <p>75. Tighten all bolts securing impact assembly and tow point, and re check distance. Re adjust as required to achieve correct distance.</p>	<p>TOOLS REQUIRED</p> <p>Tape measure</p> <p>14mm socket/spanner 16mm socket/spanner 19mm socket/spanner</p> <hr/> <p>FASTENERS</p>



<p>76. With assistance, either from another person or a lifting trolley, lift the bar onto the mounts on the vehicle.</p> <p>77. Secure bar to mount with 4x M12x30 Bolts, heavy duty washers and 2x M12 Nyloc and 2x M12 flange nut per side. Finger tight at this stage.</p>	<p>TOOLS REQUIRED</p> <p>Lifting Trolley 19&18mm Socket and Spanner</p>
<p>78. 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. When happy, tighten the bolts with the flange nut to lock the bar in position.</p> <p>Acceptable range of clearances shown in image above. The clearances must be maintained all the way under the headlight areas.</p> <p>Ensure the bar does not touch any parts of the body or grille</p> <p>79. Once in position, tighten the M12 bolts using socket and spanner. An impact driver may be used to speed up this process.</p>	<p>FASTENERS</p> <p>8x M12x30 Bolt 12x M12 Heavy Duty Large Washer 4x M12 Nyloc Nut 4x M12 flange nut</p>



<p>80. If fitting a winch, do so now.</p> <p>81. The bar is designed to fit most low mount winches, in foot down configuration. WARN ZEON 10 is largest winch confirmed to fit.</p> <p>82. The control box can be mounted on top of the winch. Winches usually come with a bracket to allow this. Refer to winch manufacturer.</p>	<p>TOOLS REQUIRED</p> <p>Refer to winch Instructions</p>
	<p>FASTENERS</p> <p>Refer to Winch instruction.</p>



<p>83. Prepare the center mesh panel for fitment.</p> <p>84. If required, fit winch fairlead to Mesh Fairlead Mount (M-0014). Use M10 or 3/8" fasteners supplied with winch. The bar is only compatible with Hawse type fairleads.</p> <p>85. Fit number plate flip kit to fairlead mount, using fasteners supplied in kit.</p>	<p>TOOLS REQUIRED</p> <p>Depends on winch supplied fasteners</p>
	<p>FASTENERS</p>



86. Fit the Mesh Fairlead Mount (M-0014) to the center of the bar, using 4x M8x16 black button head bolts and black washers (2x top, 2x bottom).

87. Tighten fasteners using 5mm Allen Wrench.

TOOLS REQUIRED

5mm Allen Wrench

FASTENERS

4x M8x16 Button Head
4x M8 Flat Washer



- 88. Fit Mesh Infill Panels (M-0008L/R). Secure with M8x16 button head bolt and M8 flat washer into the threaded insert in bar for top mount. The flange of the infill panel should sit on the inside of the bar.
- 89. Don't fit any bolts to bottom holes at this stage.
- 90. Tighten top fasteners using 5mm Allen Wrench.

TOOLS REQUIRED
5mm Allen Wrench

FASTENERS

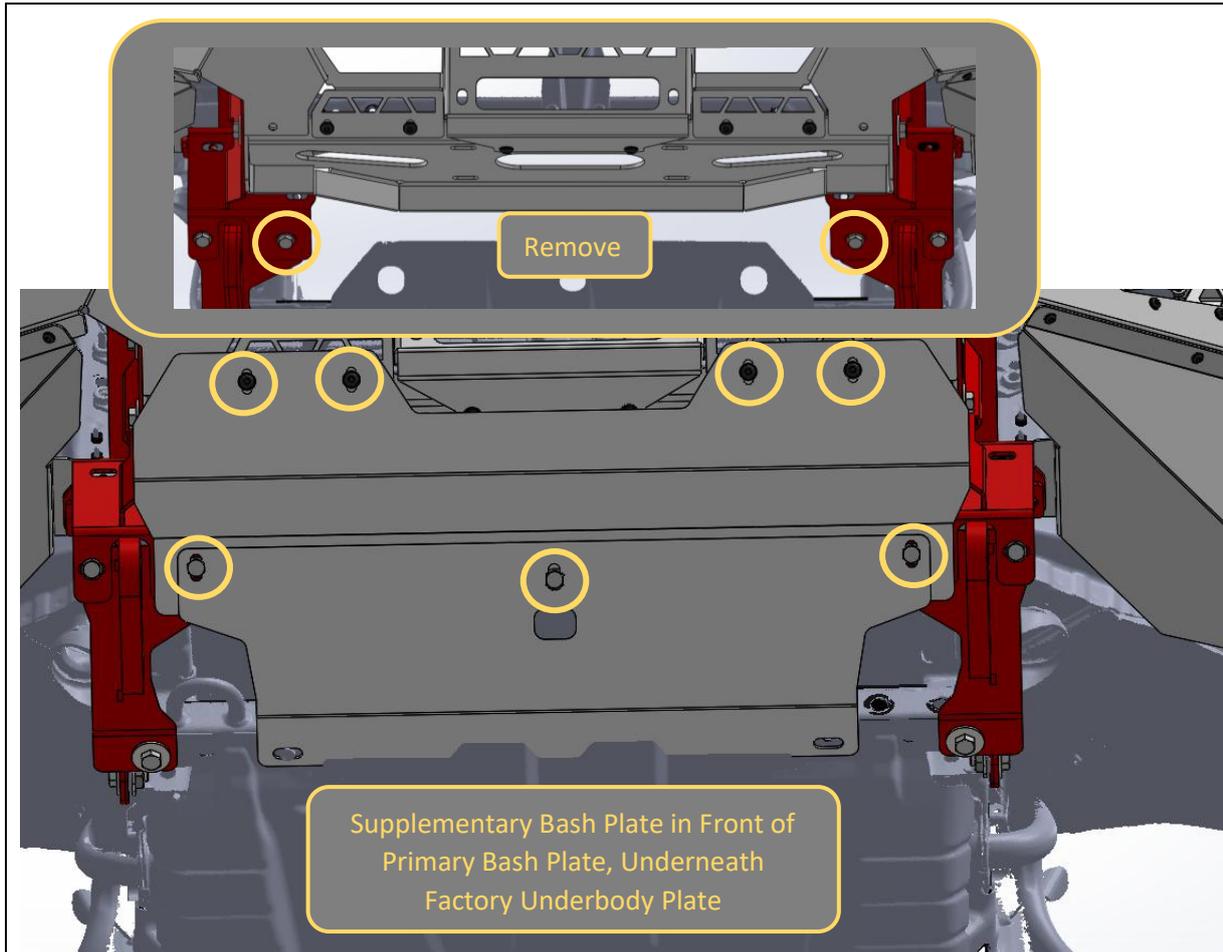
2x M8x16 Button Head
2x M8 Flat Washer



91. Re-connect light and parking sensor (if equipped) wiring connectors.

TOOLS REQUIRED

FASTENERS



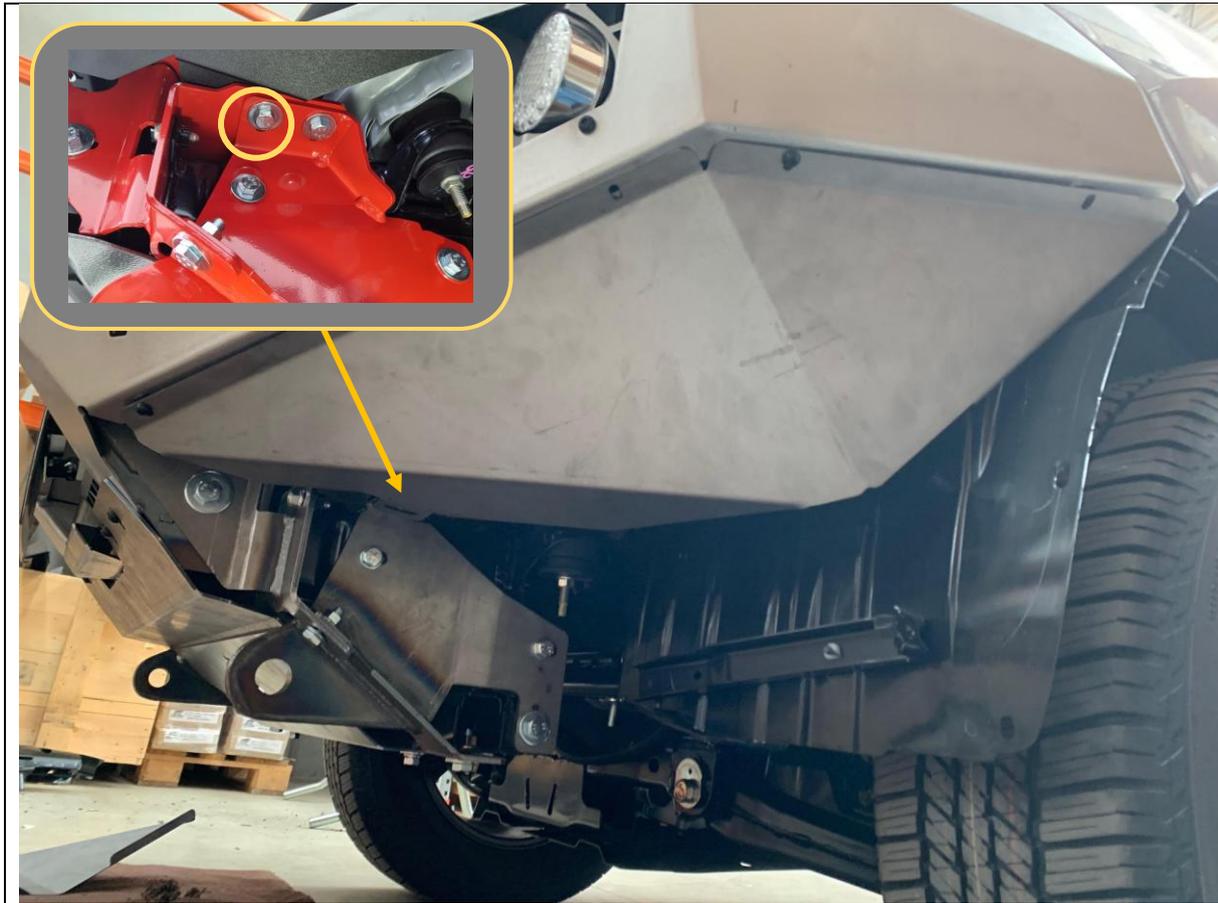
- 92. Before fitting bash plates, remove the M10x30 Bolts on the inside of the tow point / impact assembly joint.
- 93. Fit the front of the Center Bash Plate using M8x20 button heads and flat washers into the threaded inserts in the bar. Ensure these fasteners pass through the side mesh panels.
- 94. Secure the Supplementary and back of Center Bash Plate using M10x30 hex head, flat washers and M10 flange nut removed in previous step, through the tow point / impact assembly parts.
- 95. Secure bottom of Supplementary bash plate to the factory bolt points, using factory fasteners. Refit the factory underbody on top of the supplementary bash plate.
- 96. Tighten All Bottom fasteners using 16/17mm spanner & socket
- 97. Tighten front fasteners using 5mm Allen Wrench.

TOOLS REQUIRED

- 14mm spanner
- 16/17mm Spanner
- 16/17mm Socket
- 5mm Allen Key

FASTENERS

- 4x M8x20 Button Head
- 4x M8 Flat Washer
- 3x M10x30 hex bolt
- 3x M10 flat washer
- 3x M10 flange nut
- 2x Factory bolt



<p>98. Remove the outside top bolts from impact assembly/tow point.</p> <p>99. Fit the side under panels by first sitting the bottom mount on top of the impact assembly, then inserting the 5x M6x16 bolts into the cage nuts fitted earlier.</p> <p>100. Tighten with 4mm Allen wrench</p>	<p>TOOLS REQUIRED</p> <p>16/17mm Spanner 4mm Allen Wrench</p>
<p>101. Secure bottom of side under panel to mount using bolt removed from joint earlier.</p> <p>102. Tighten with 16/17mm spanner / socket.</p>	<p>FASTENERS</p> <p>10x M6x16 Button Head 10x M6 Flat Washer</p>



<p>103. Using a sharp utility knife, cut back the plastic inner wheel arch liner to match the profile of the under panel.</p> <p>104. Tuck the wheel arch liner behind the flanges on the under panel.</p> <p>105. Repeat for both sides of vehicle.</p>	<p>TOOLS REQUIRED</p> <p>Utility Knife</p>
	<p>FASTENERS</p>

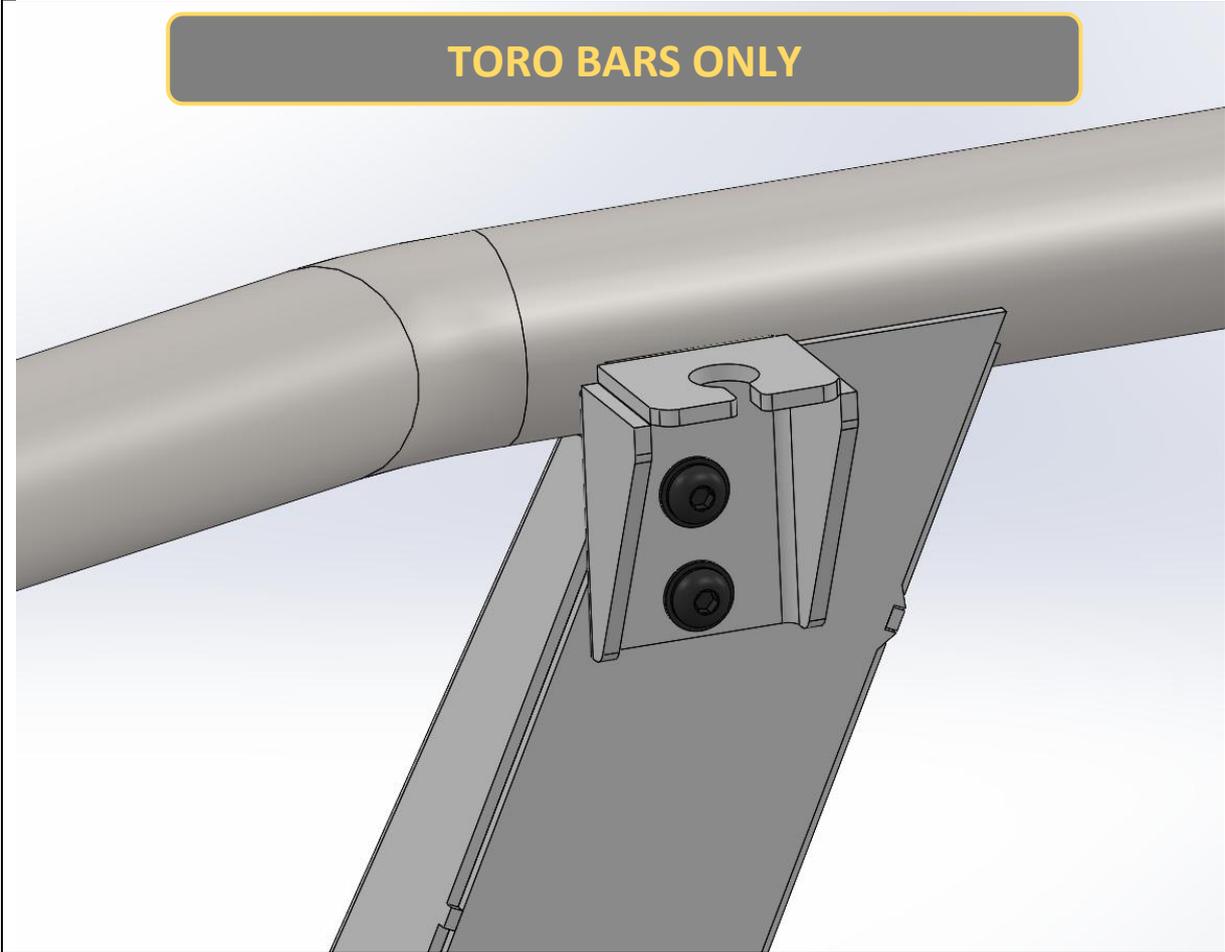


106. **Optional.** Drill a hole through the inner wheel arch liner and use a cable tie to secure it to the body, as shown. (You need to do this with the side underpanel off).

TOOLS REQUIRED

Electric drill
Cable tie

FASTENERS



<p>107. Toro only. If fitting antennas to a Toro bar, Fit the antenna brackets to the back side of the uprights using supplied M8x20 Button head bolts, Washers into the weld nuts in the bar uprights</p> <p>108. Toro only. Else fit the 2x M8x20 black button head bolts and black washers to the back of each bullbar upright, to protect nut threads in bar for future use.</p>	<p>TOOLS REQUIRED</p> <p>5mm Hex Key</p>
	<p>FASTENERS</p> <p>2x M8x20 Black Button Head 2xM8 Flat Washer</p> <p>Per Side</p>



- 109. Re-check that all fasteners are tight.
- 110. Re-fit number plate to number plate flip.
- 111. 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.
- 112. You're done. Hit the tracks and enjoy your newly protected BT-50!

TOOLS REQUIRED

FASTENERS