



RAM 1500 DT 2019-2024

HEMI V8

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 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.

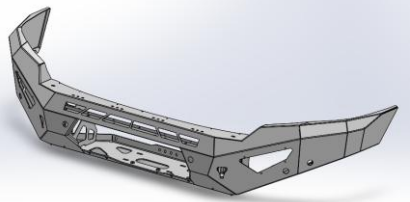
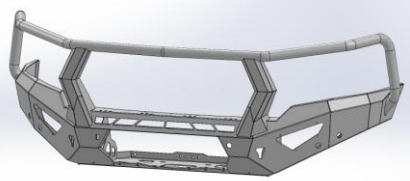
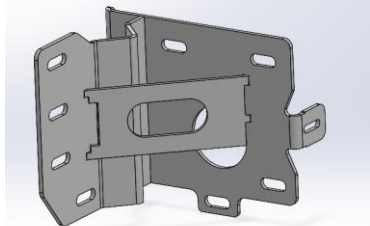
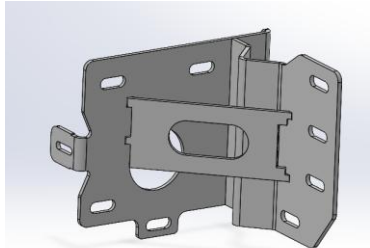
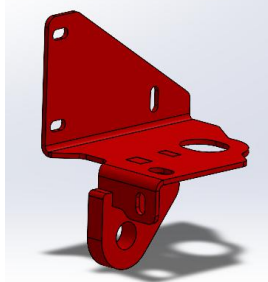
FRONT BAR MOUNTS AND TOW POINTS + REAR TOWBAR	
Size	Torque Nm
M10	57 Nm
M12	100 Nm
M14	164 Nm
M16	248 Nm

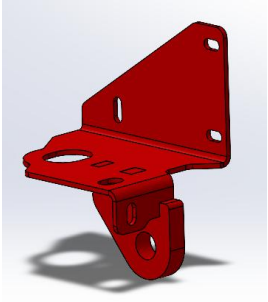
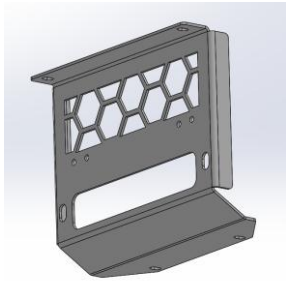
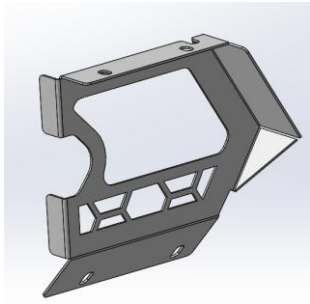
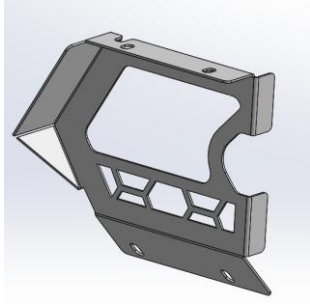
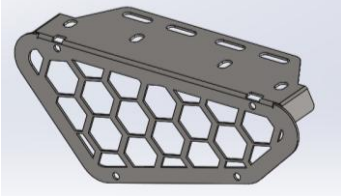
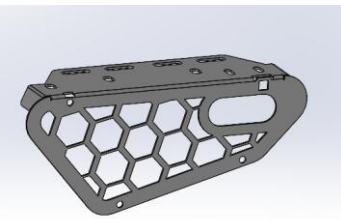
Always use a torque wrench to set correct torque settings. Ensure torque wrench is set to Nm unit of measurement. Otherwise perform conversion to lb-ft.

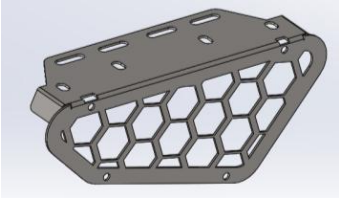
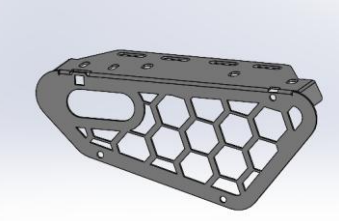
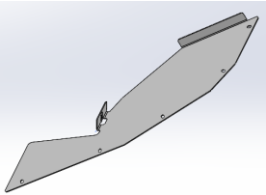
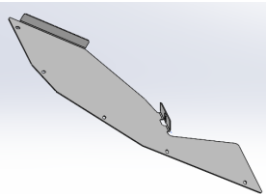
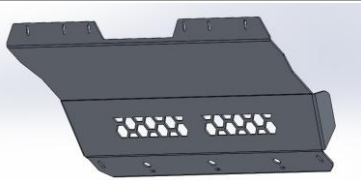
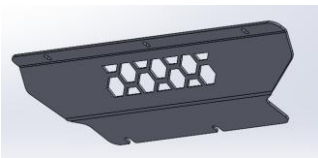
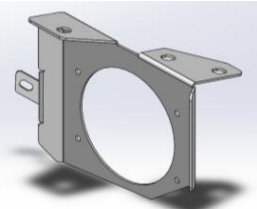
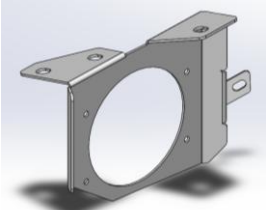
PARTS LISTING

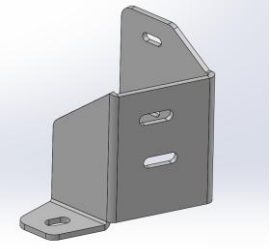
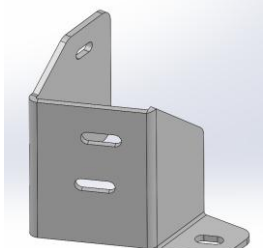
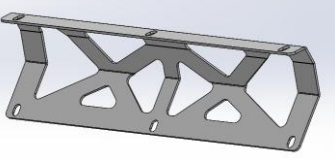
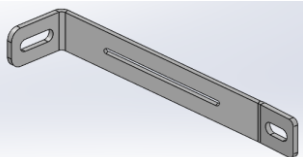
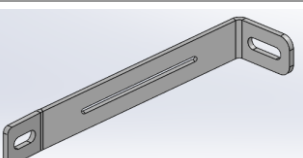
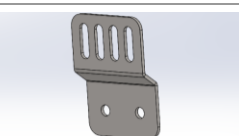
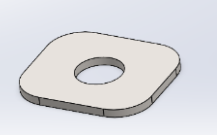
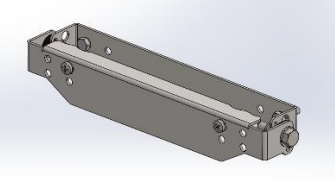
IMPORTANT: Check all parts are present before beginning work! Contact OFFROAD ANIMAL if something is missing.

Main Parts – In the Box

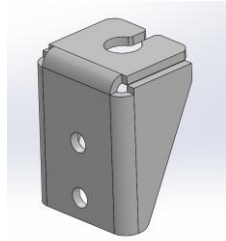
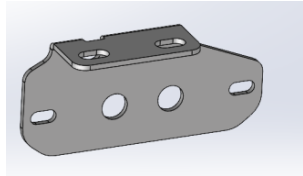
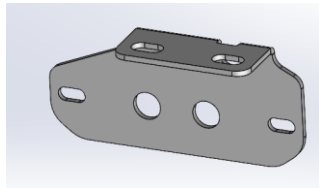
Qty	Part Number	Description	Image
1	FB-R15-DT-21-PR-ASM1	RAM1500 DT Predator Front Bar Weldment	
OR			
1	FB-R15-DT-21-TOR-ASM1	RAM1500 DT Toro Front Bar Weldment	
1	FB-R15-DT-21-PR-ASM2L	RAM 1500 DT Predator Impact Assy	
1	FB-R15-DT-21-ASM2R	RAM 1500 DT Predator Impact Assy	
1	FB-R15-DT-21-ASM3L	RAM 1500 DT Tow Point Assy	

1	FB-R15-DT-21-ASM3R	RAM 1500 DT Tow Point Assy	
1	M-0016	RAM 1500 Predator Fairlead Mesh	
1	M-0017L	RAM 1500 Predator Side Mesh	
1	M-0017R	RAM 1500 Predator Side Mesh	
1	M-0002L	Light Cover Mesh	
OR			
1	M-0030L	Wing Mesh Panel - Toro With Indicator Repeater	

1	M-0002R	Light Cover Mesh	
OR			
1	M-0030R	Wing Mesh Panel - Toro With Indicator Repeater	
1	U-0043L	RAM 1500 DT Predator Side Underpanel	
1	U-0043R	RAM 1500 DT Predator Side Underpanel	
1	U-0042	RAM 1500 DT Predator Center Bash Plate	
1	U-0044	RAM 1500 DT Predator Lower Bash Plate	
1	B-0519L	Ram 1500 Halo Fog Light Bracket	
1	B-0519R	Ram 1500 Halo Fog Light Bracket	

1	B-0570L	Ram DT Bash Plate Mount Brkt	
1	B-0570R	Ram DT Bash Plate Mount Brkt	
1	B-0571	Ram DT Gusset - Pan Brace	
1	B-0573L	Ram 1500 DT Winch Brace	
1	B-0573R	Ram 1500 DT Winch Brace	
1	B-0589	RAM1500 DT Winch Control box mount bracket	
2	P-0187	RAM1500 DT Tow Point Load Spreader Plate	
1	NPF-COM-SM-ASM0	Number plate flip asm Small	

Toro ONLY Parts – In the Box

Qty	Part Number	Description	Image
2	B-0649	Toro Antenna Bracket – 90 Degree Tall	
1	B-0797L	Toro Indicator Repeater Bracket	
1	B-0797R	Toro Indicator Repeater Bracket	
1	11CAT1M-2	LED Autolamps 11CAT1M-2 Front Indicator - Twin Blister Pack	

Predator Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
6	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9 BLACK ZP
15	M8 FLAT WASHER BLACK ZINC	M8 FW- BLACK ZINC
14	M6 FLANGE NUT	Flange Nut, M6x1 G8.8 ZP
21	M6x16 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M6X16X1 GR12.9 BLACK ZP
21	M6 FLAT WASHER BLACK ZINC	M6 FW BLACK ZP
10	M6CN3MM	CAGE NUT M6x2.6-3.5
11	M8 FLANGE NUT	Flange Nut, M8x1.25 G8.8 ZP
10	M8 X 20 HEX	Bolt Hex, M8X20x1.25, GR8.8 ZP
10	M8 FLAT WASHER	M8 FW
6	M8 X 30 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X30X1.25 BLACK ZP
12	M12 FLANGE NUT	Flange Nut, M12x1.75 G8.8 ZP
16	M12 FW LHD	M12 FW Large Heavy Duty
14	M12X30	Bolt Hex, M12X30x1.75, GR8.8 ZP
2	M12 Nyloc nut	M12 NYLOC NUT
10	M10 x 25	Bolt Hex, M10X25x[1.5], GR8.8 ZP
14	M10 Flat Washer	M10 FW
12	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
2	M10 FW LHD	WASHER, FLAT M10X28.5X2.5
4	M10X20 BHCS	SCREW, BUTTON HEAD CAP, M10X20X1.5 GR12.9 ZP
3	M8 X 20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X20X1.25 BLACK ZP
3	M6 FLAT WASHER	M6 FW
3	M6x12 BHCS	SCREW, BUTTON HEAD CAP, M6X12X1 GR12.9 ZP
8	M4X12 PAN	SCREW, PAN HEAD PHILLIPS, M4X12X0.7 GR4.6 ZP
8	M4 FLANGE NUT	Flange Nut, M4
8	M4 FLAT WASHER	Flat Washer M4, 8mmODx0.8mm T
2	PW-P-14X9-800	Pinch Weld - Plain 14X9MM, Rubber, 800mm Length

Toro Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
6	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9 BLACK ZP
19	M8 FLAT WASHER BLACK ZINC	M8 FW- BLACK ZINC
16	M6 FLANGE NUT	Flange Nut, M6x1 G8.8 ZP
25	M6x16 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M6X16X1 GR12.9 BLACK ZP
25	M6 FLAT WASHER BLACK ZINC	M6 FW BLACK ZP
12	M6CN3MM	CAGE NUT M6x2.6-3.5
11	M8 FLANGE NUT	Flange Nut, M8x1.25 G8.8 ZP
10	M8 X 20 HEX	Bolt Hex, M8X20x1.25, GR8.8 ZP
10	M8 FLAT WASHER	M8 FW
7	M8 X 20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X20X1.25 BLACK ZP
6	M8 X 30 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X30X1.25 BLACK ZP
12	M12 FLANGE NUT	Flange Nut, M12x1.75 G8.8 ZP
16	M12 FW LHD	M12 FW Large Heavy Duty
14	M12X30	Bolt Hex, M12X30x1.75, GR8.8 ZP
2	M12 Nyloc nut	M12 NYLOC NUT
10	M10 x 25	Bolt Hex, M10X25x[1.5], GR8.8 ZP
14	M10 Flat Washer	M10 FW
12	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
2	M10 FW LHD	WASHER, FLAT M10X28.5X2.5
4	M10X20 BHCS	SCREW, BUTTON HEAD CAP, M10X20X1.5 GR12.9 ZP
3	M6 FLAT WASHER	M6 FW
3	M6x12 BHCS	SCREW, BUTTON HEAD CAP, M6X12X1 GR12.9 ZP
8	M4X12 PAN	SCREW, PAN HEAD PHILLIPS, M4X12X0.7 GR4.6 ZP
8	M4 FLANGE NUT	Flange Nut, M4
8	M4 FLAT WASHER	Flat Washer M4, 8mmODx0.8mm T
4	M3X12 PAN	SCREW, PAN HEAD PHILLIPS, M3X12X0.5 GR4.6 ZP
4	M3 FLAT WASHER	Flat Washer M3, 7mmODx0.5mm T
4	M3 NUT	Hex Nut, M3x0.5 G48.8 ZP
2	PW-P-14X9-800	Pinch Weld - Plain 14X9MM, Rubber, 800mm Length

TOOLS REQUIRED

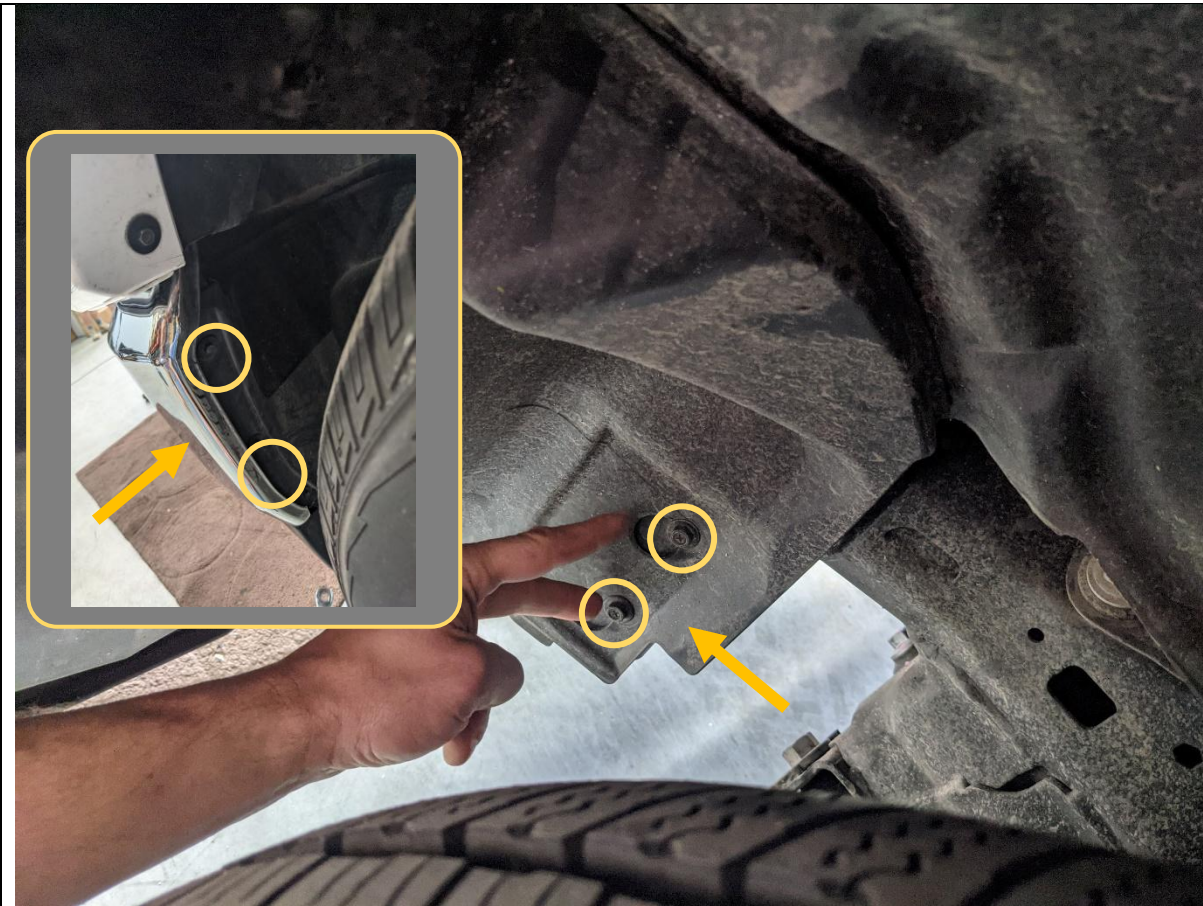
The following tools will be required to install the product.

Hand Tools	Power Tools	Workshop Supplies
Metric Socket Set 8-19mm Socket Extension Bar Metric Spanner Set 10-19mm Hex (Allen) Key Set 4-6mm Trim Puller Tool Flat Blade Screwdriver set Phillips Head Screwdriver set Utility Knife Side Cutters Pliers Wire Strippers (Toro Only) Crimping Tool (Toro Only)	Electric Drill 6mm Drill Bit Air Hacksaw or Angle Grinder Electric/Air Impact Driver (Optional) Soldering Iron (Toro Only)	Panel Stand or Soft Blanket Cable Ties Masking Tape Crimp terminals (Toro Only)

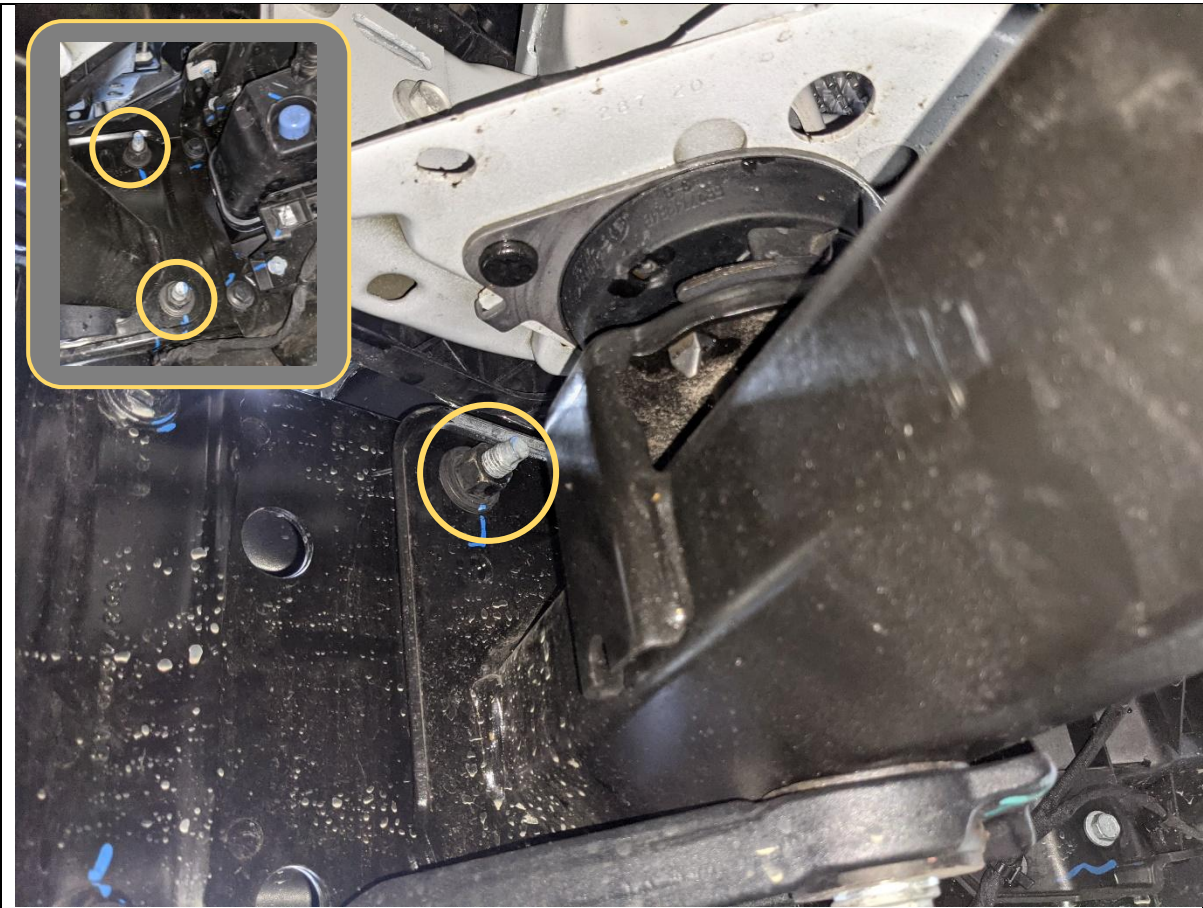
WORKSHOP SAFETY

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.



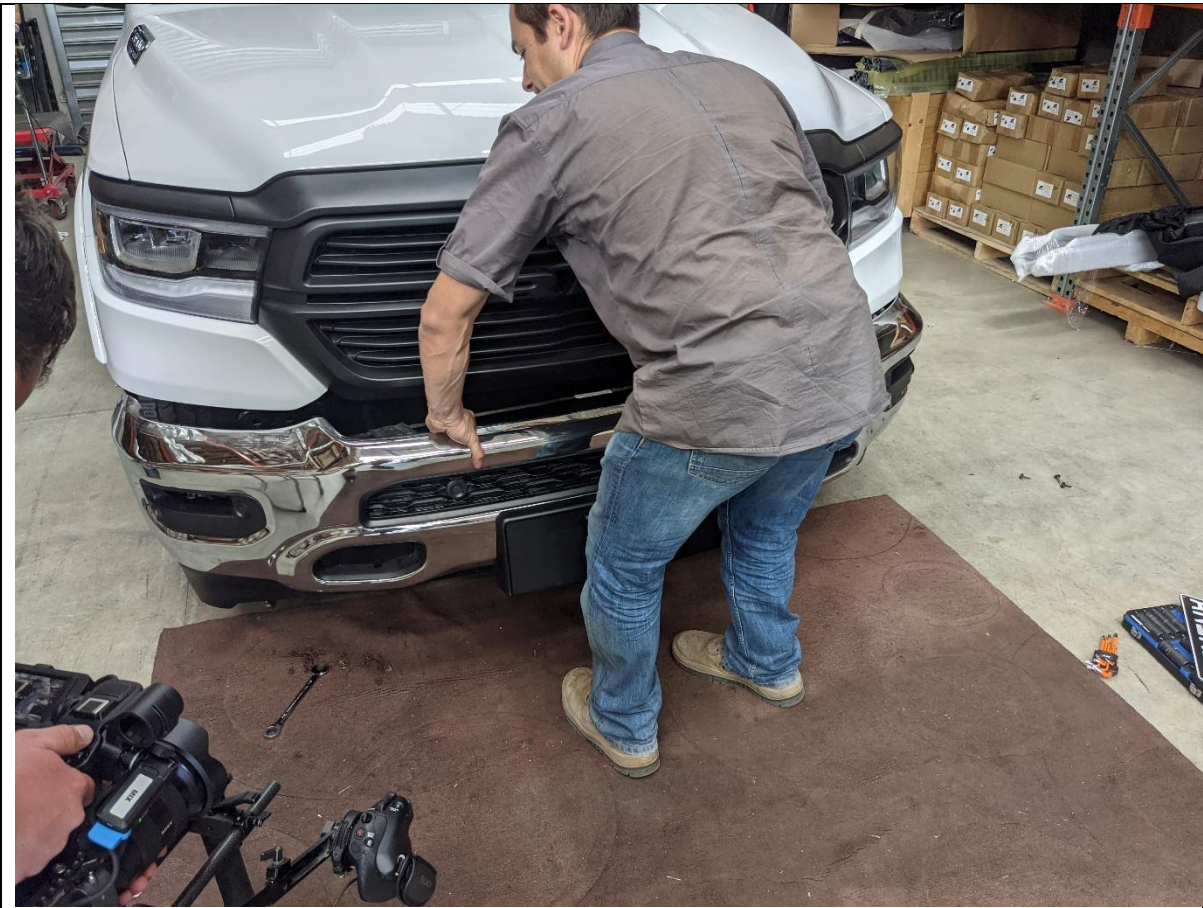
1. Remove the 2x 10mm head screws securing the inner guard to the chassis. 2. Remove the 2x 10mm head screws securing the inner guard to the edge of the bumper. 3. Complete on both sides of vehicle.	TOOLS REQUIRED 10mm Socket
	FASTENERS 4x 10mm Head factory screws. Retain



4. From underneath the car, remove the 3x Factory flange nuts securing the bumper to the end of the chassis rail. 5. Remove on both sides of vehicle	TOOLS REQUIRED 18mm Spanner
	FASTENERS 6x Factory Flange Nuts



6. Disconnect the fog light and parking sensor loom, located underneath the LH headlight.	TOOLS REQUIRED
	FASTENERS



7. Remove front bumper by lifting forward off the car. 8. Set bumper aside and remove number plate.	TOOLS REQUIRED
	FASTENERS



9. Disconnect the harness connector on the active air dam module.
10. Unscrew the factory flange nuts from the chassis mounted studs and remove front active air dam actuator.

TOOLS REQUIRED

13mm socket

FASTENERS

Factory Flange Nuts

Retain



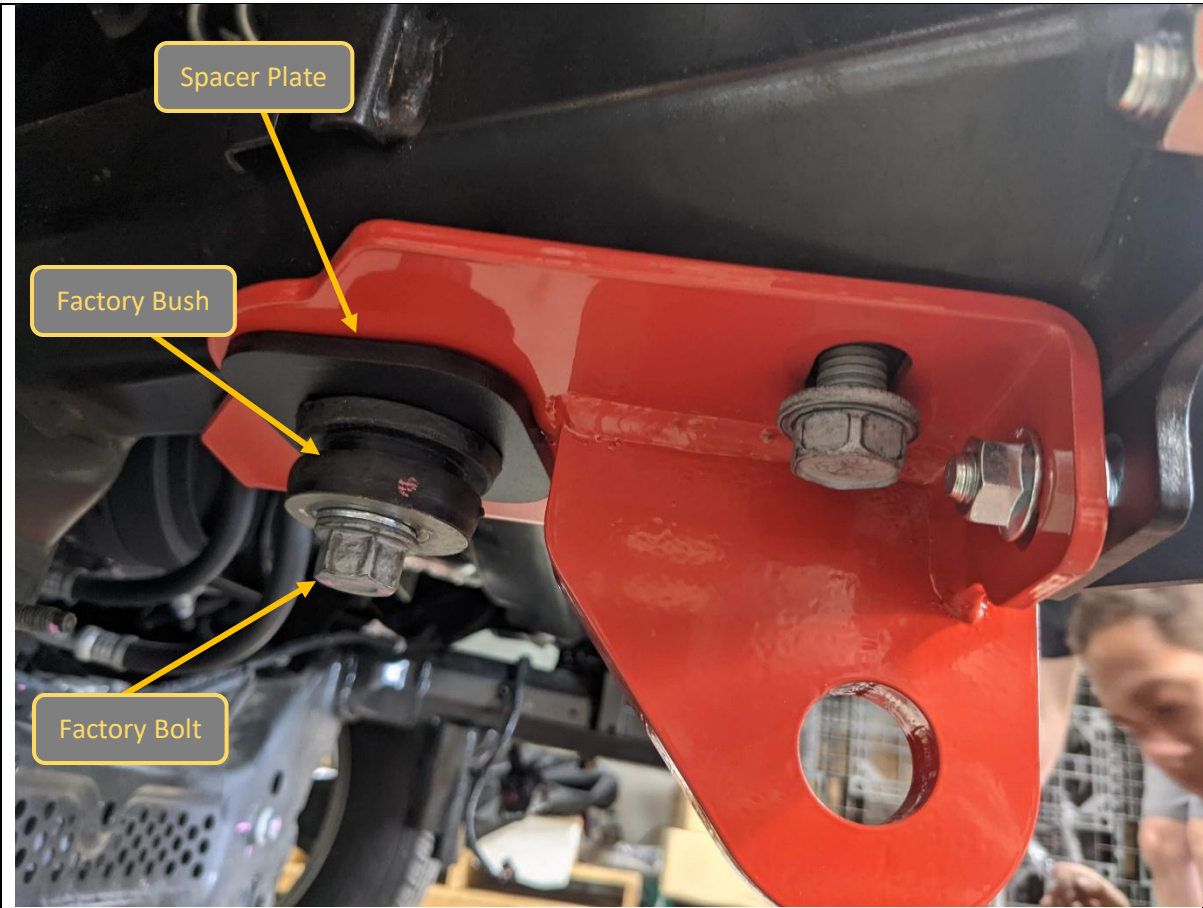
11. Remove the factory tow hooks, by removing the Factory Fine pitch bolts securing it to the chassis. Hold tow point whilst removing fasteners to prevent it falling. Complete for both sides of vehicle	TOOLS REQUIRED 18mm Socket 21mm Socket
	FASTENERS M12 Fine pitch factory bolts Retain for Reuse



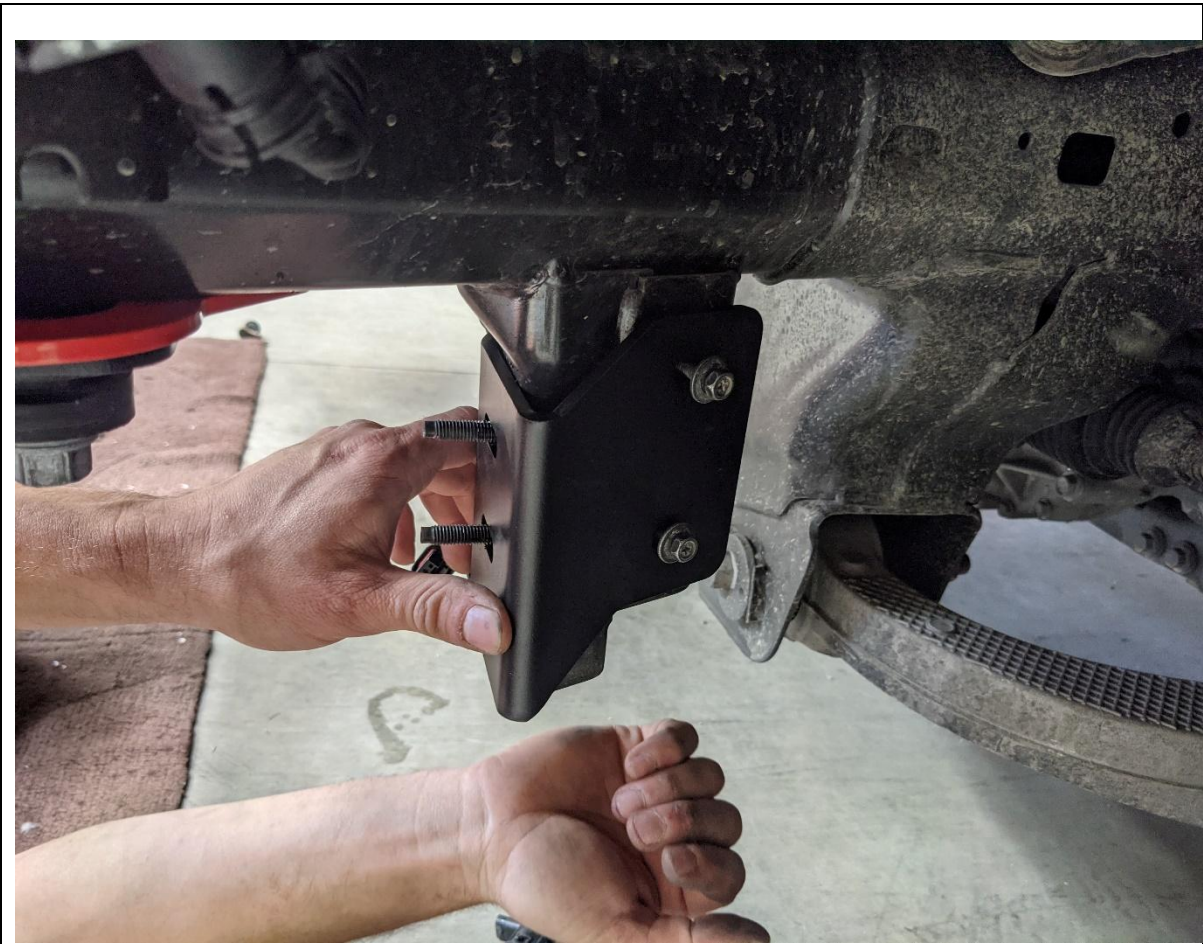
12. Remove the rubber bushes from the back side of the factory tow points by pushing down through center of bush with long factory bolt as shown in image above.	TOOLS REQUIRED Long factory bolt
	FASTENERS



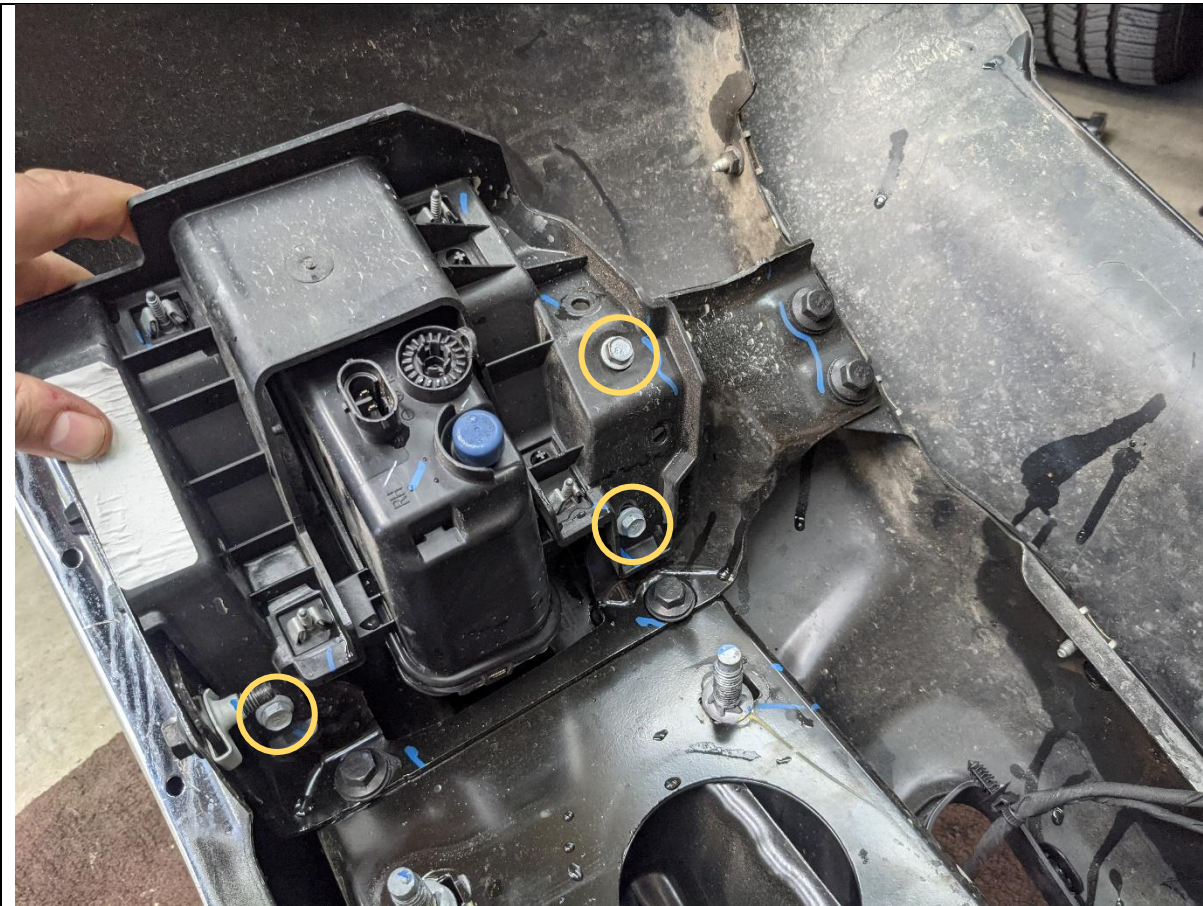
13. Fit the Impact assembly the chassis, with M12x30 Bolts, Flat washers, and M12 Flange Nuts. 14. Leave all bolts finger tight, complete for both sides of vehicle.	TOOLS REQUIRED
	FASTENERS 3x M12x30 3x M12 Large Flat washer 3x M12 Flange Nut Per side



15. Fit the tow point to the chassis, Using original factory bolts in original locations. 16. On rear long bolt, with the protruding stud in the chassis, place the spacer plate and Factory bush over the bolt in the order shown in image. 17. Secure tow point to impact assembly using M10x25 Bolt, Flat washer and M10 Flange Nut 18. Leave all bolts finger tight, complete for both sides of vehicle.	TOOLS REQUIRED
	FASTENERS Factory fine pitch Bolts 1xM10x25 1xM10 Flat washer 1xM10 Flange Nut Per side



19. Fit the Bash Plate Mount Bracket to the chassis, Using Factory flange nuts and bolts removed from the inner guard liner and active air dam.	TOOLS REQUIRED 10mm Socket 13mm Socket
	FASTENERS Factory Flange nuts Factory screws



20. Remove fog light surrounding from bar to create better access to parking sensors.	TOOLS REQUIRED 10mm socket.
	FASTENERS Factory Bolts



21. Remove the center beam from the bumper. This will give better access to the parking sensors for removal.	TOOLS REQUIRED Spanners Trim Tool
	FASTENERS



22. Unplug sensors and remove from the housings. Separate the retaining tabs on back side whilst pushing sensor through from front side of bar to release.
23. Remove sensor housings from front bumper. Squeeze on the 4x retaining tabs whilst pushing housing from back side of bar to release, then remove from front side of bar.
24. Note down the position and orientation of the sensor housings on the factory bumper to ensure correct location for refitting to bullbar.

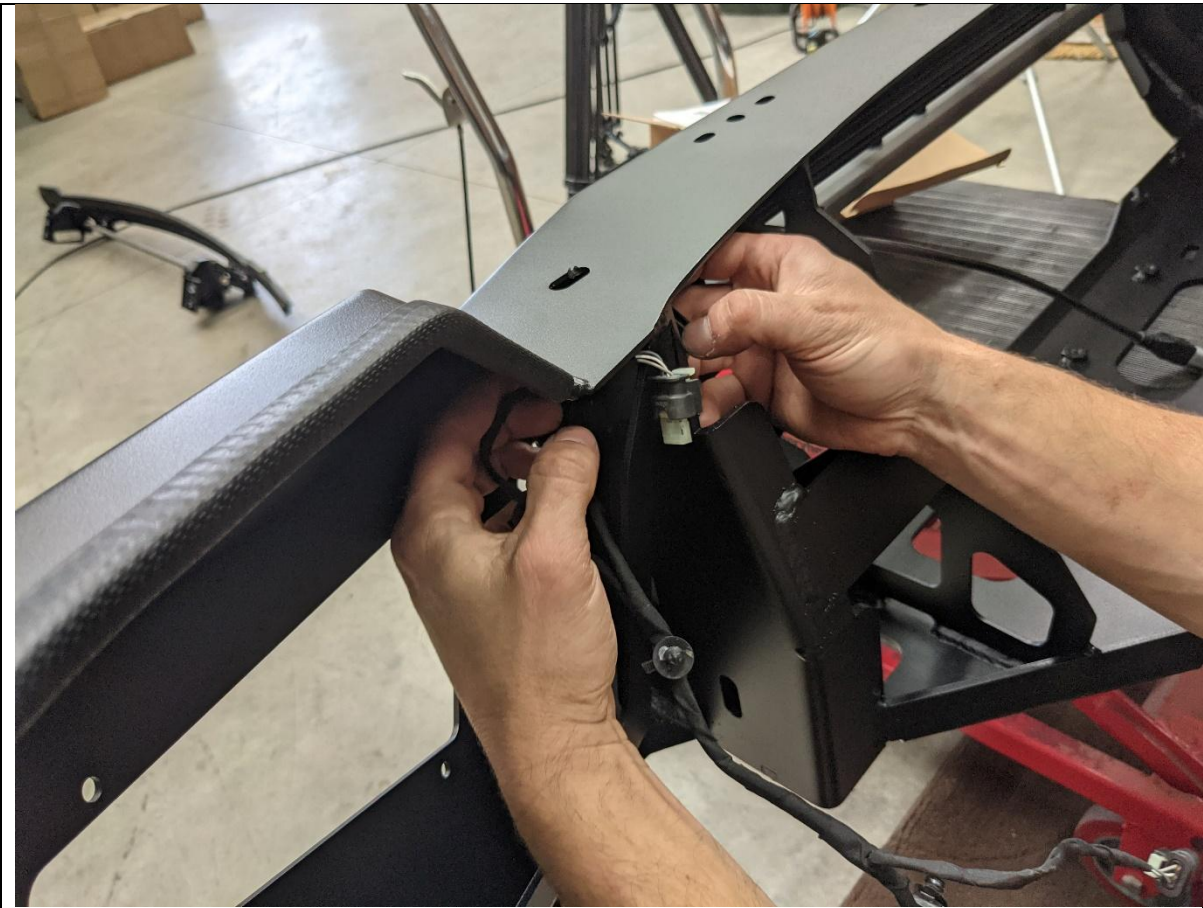
TOOLS REQUIRED**FASTENERS**



25. Remove the louver from the lower bumper, by prying off all clips securing the louver to the bumper with a trim tool.	TOOLS REQUIRED Trim Tool
	FASTENERS



26. Fit sensor housings into the bullbar, by pressing into holes in bar from the front side. 27. Take care to ensure that housings are inserted in original location.	TOOLS REQUIRED
	FASTENERS



28. Pass wiring loom through bar uprights, starting from the left-hand side of the bar.	TOOLS REQUIRED
	FASTENERS



29. Fit parking sensors into housings. Push sensors into housings until the retaining tabs hold each sensor in place. 30. Pressure may need to be applied to front side of housing whilst pushing in sensors to prevent it pushing through bar. 31. Plug in all sensors to sensor harness.	TOOLS REQUIRED
	FASTENERS

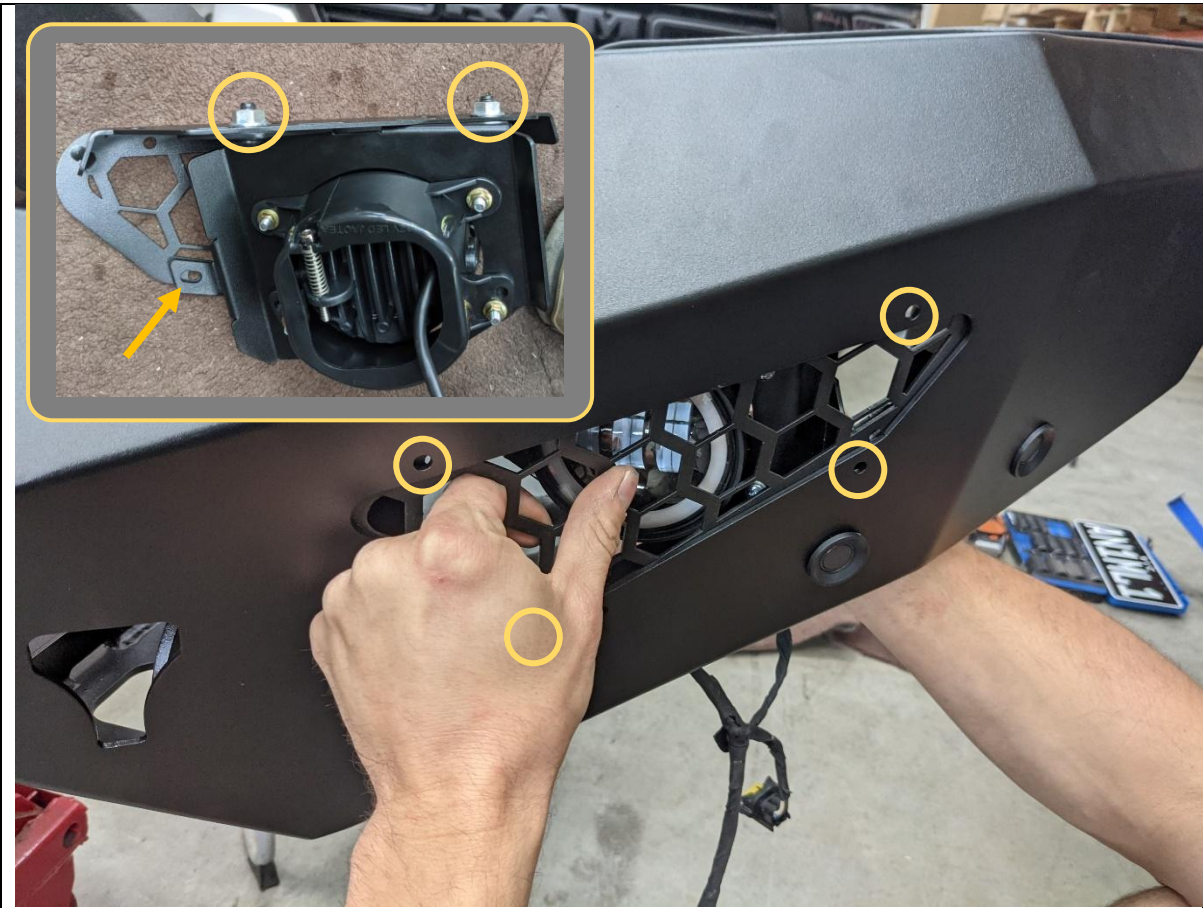


32. If fitting optional halo fog lights, Fit Halo fog lights to the fog light brackets using the M4 Hardware supplied.	TOOLS REQUIRED Small Phillips screwdriver
	FASTENERS 4x M4 Screw 4x M4 Washers 4x M4 Flange Nuts



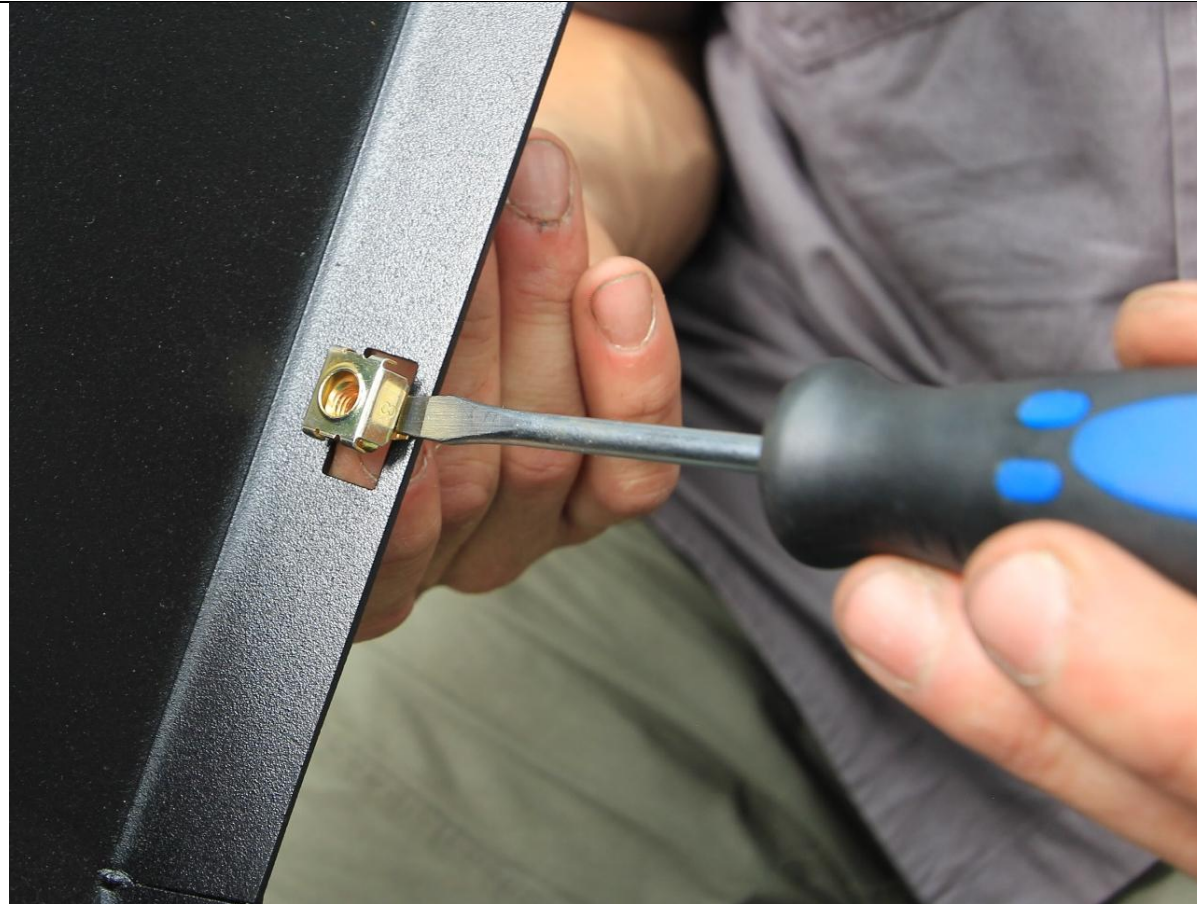
33. Fit the indicator repeater lamps to the indicator brackets, using M3 Phillips head Screws and the adhesive backing included with the lamp module.	TOOLS REQUIRED Small Phillips screwdriver
	FASTENERS 4x M3 Screw 4x M3 Washers 4x M3 Nuts

TORO BARS ONLY	
	
34. Insert the M6 Cage nut into the square hole in the top corner of the Fog Light Mesh panel. 35. Fit the indicator brackets to the mesh panel, using the supplied M6 Fasteners. The indicator should be located centrally in the cutout.	TOOLS REQUIRED 4mm Allen Key
	FASTENERS 2x M6x16 BHCS – Black 2x M6 Flat Washer 2x M6 Flange Nut



36. Fit the fog light bracket to the Mesh panel using 2x M8x20 bolts, flange nuts and flat washers. Ensure that the lower slot is aligned with the hole in the mesh panel (see arrow). 37. Fit the fog light mesh panels to the bar, using M6x16 Black button head bolts, Black flat washers, and M6 Flange nuts 38. Wire fog lights to fog light circuit of main wiring harness. 39. Repeat for both sides of bar.	TOOLS REQUIRED 13mm Spanner, 4mm Hex Key
	FASTENERS 2x M8x20 Bolts 2x M8 Flat Washer 2x M8 Flange Nut 4x M6 Black BHCS 4x M6 Black Washer 4x M6 Flange Nut

TORO BARS ONLY	
	
40. Unplug the main headlight harness connector located on the back side of the headlight on both sides. Access from below. 41. Splice and solder automotive electrical wires into the headlight harness for indicator signal and ground. Use heat shrink or electrical tape to insulate solder connections. LH Passenger side: White w/green trace (pin 11) = +12V indicator Black (pin 4) = Ground RH Drive side: White w/tan trace (pin 11) = +12V indicator Black (pin 4) = Ground Probe with test light to confirm information is correct in case pinout has changed. 42. Fit crimp terminals to the indicator lamp wiring in the bar, and matching terminals to the ends of spliced wire. Supplied lamp pinout: Yellow = +12V indicator, Black = ground	TOOLS REQUIRED Cutting pliers Wire strippers Soldering iron Solder Automotive electrical wire Heat shrink Heat gun Electrical tape FASTENERS 4x Crimp Terminal pairs



43. Fit 5x cage nuts to rectangle slots on the bottom edge of wing. Repeat for both sides of vehicle.

44. Use small flat blade screwdriver to assist in setting cage nuts in position.

TOOLS REQUIRED

Small Flat screwdriver

FASTENERS

10x M6 Cage Nuts



45. If fitting optional Stealth Hoop, Rally Hoop or Driving Lights on top of the bar, do so at this stage.

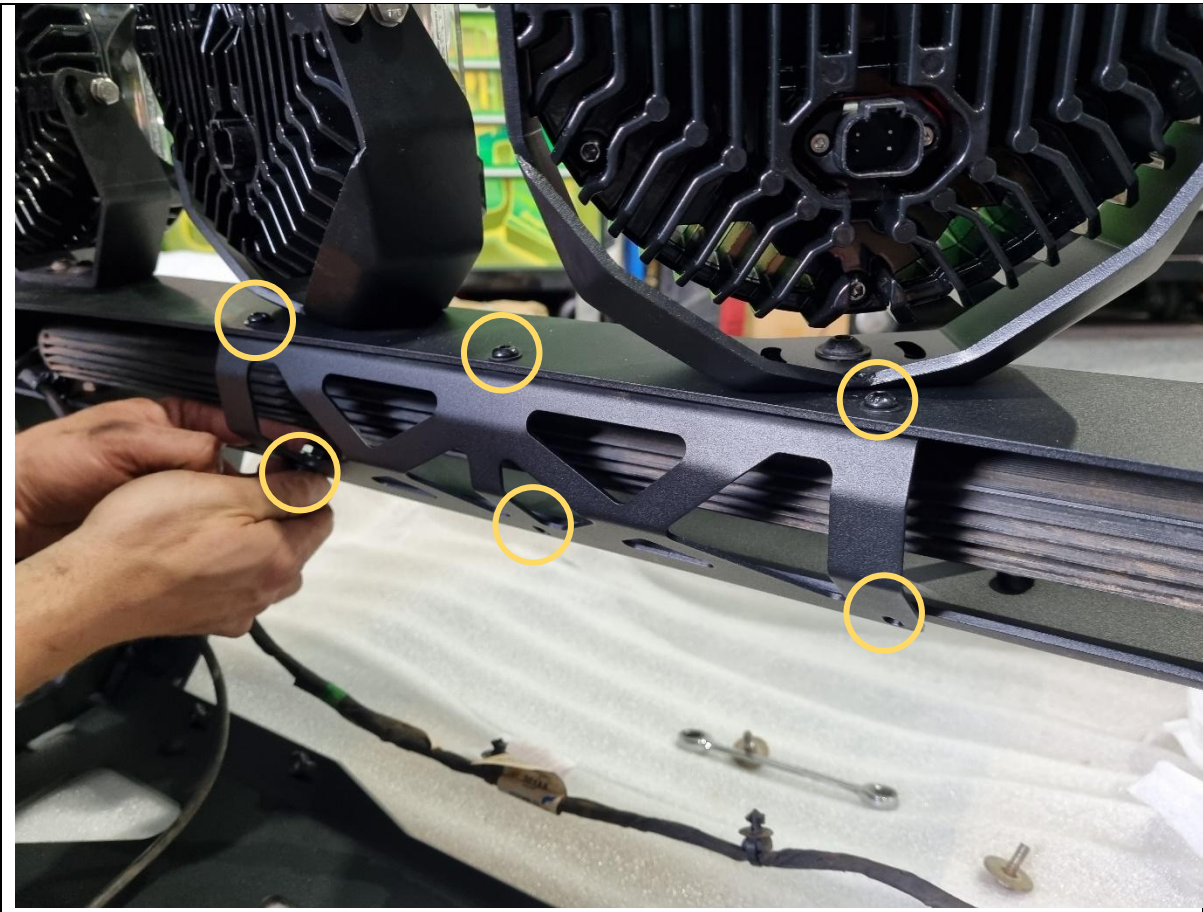
46. If fitting an integrated light bar inside the bar, do so now from the back.

47. The bar is designed to fit an Offroad Animal 32 inch light bar. If fitting this light bar, assemble bar with legs Outward, and it will line up with the slots in the center gusset.

The bar can accommodate most other "32 inch" size light (30-32 inch long) bars.

TOOLS REQUIRED**FASTENERS**

Supplied with lights



48. Fit the Pan brace to the back side of bar between the Pan and center gusset, using M6x12 Button head bolts, Washers and Flange nuts on the bottom and M6x16 Black Button head bolts, Black Washers, and Flange nuts on the top. 49. Fit pinch weld to top edge of wings on both sides of bar.	TOOLS REQUIRED 4mm Hex Key
	FASTENERS 3x M6x12 BHCS 3x M6x16 Black BHCS 3x M6 Flat Washer 3x M6 Black Flat Washer 6x M6 Flange Nut



50. Measure Distance between outside edges uprights on bar using tape measure. Write distance below for reference if required.

Bar Upright Width = _____mm

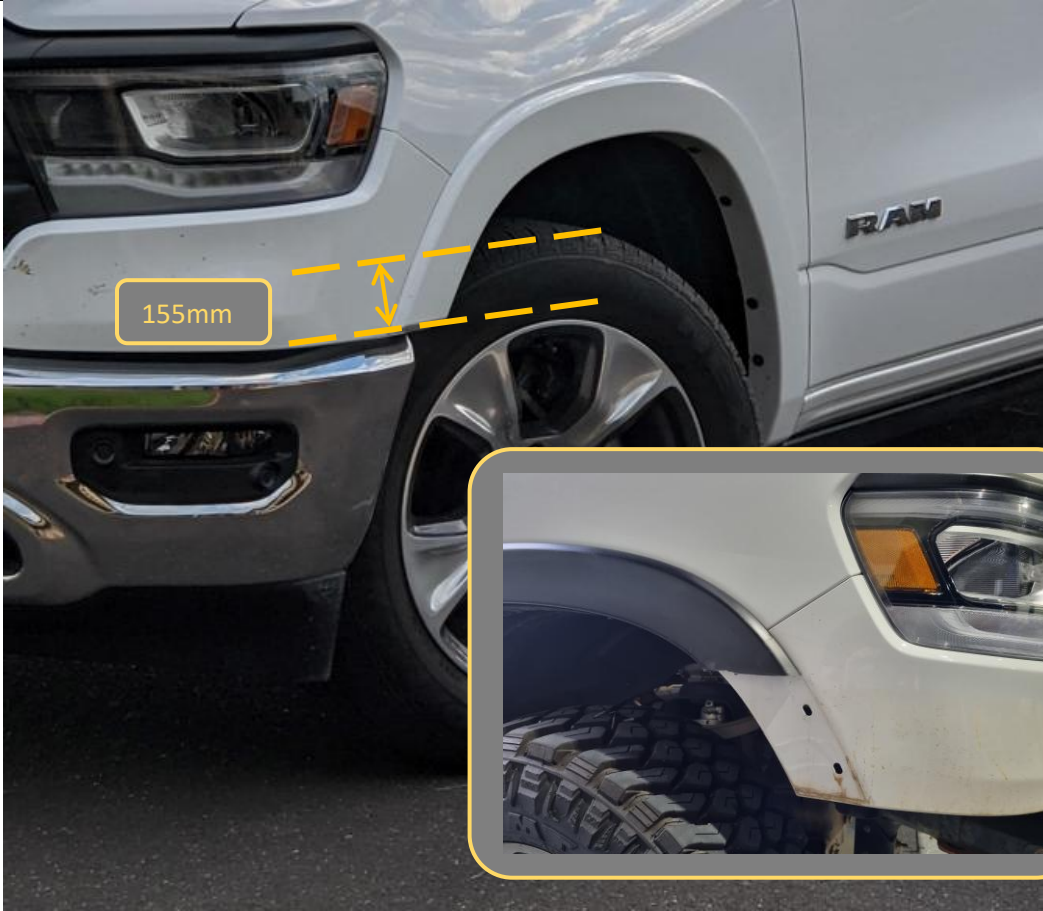
51. Adjust mounts by sliding mounts on slots, such that distance between outside edges of mounts is approximately 2mm less than bar.

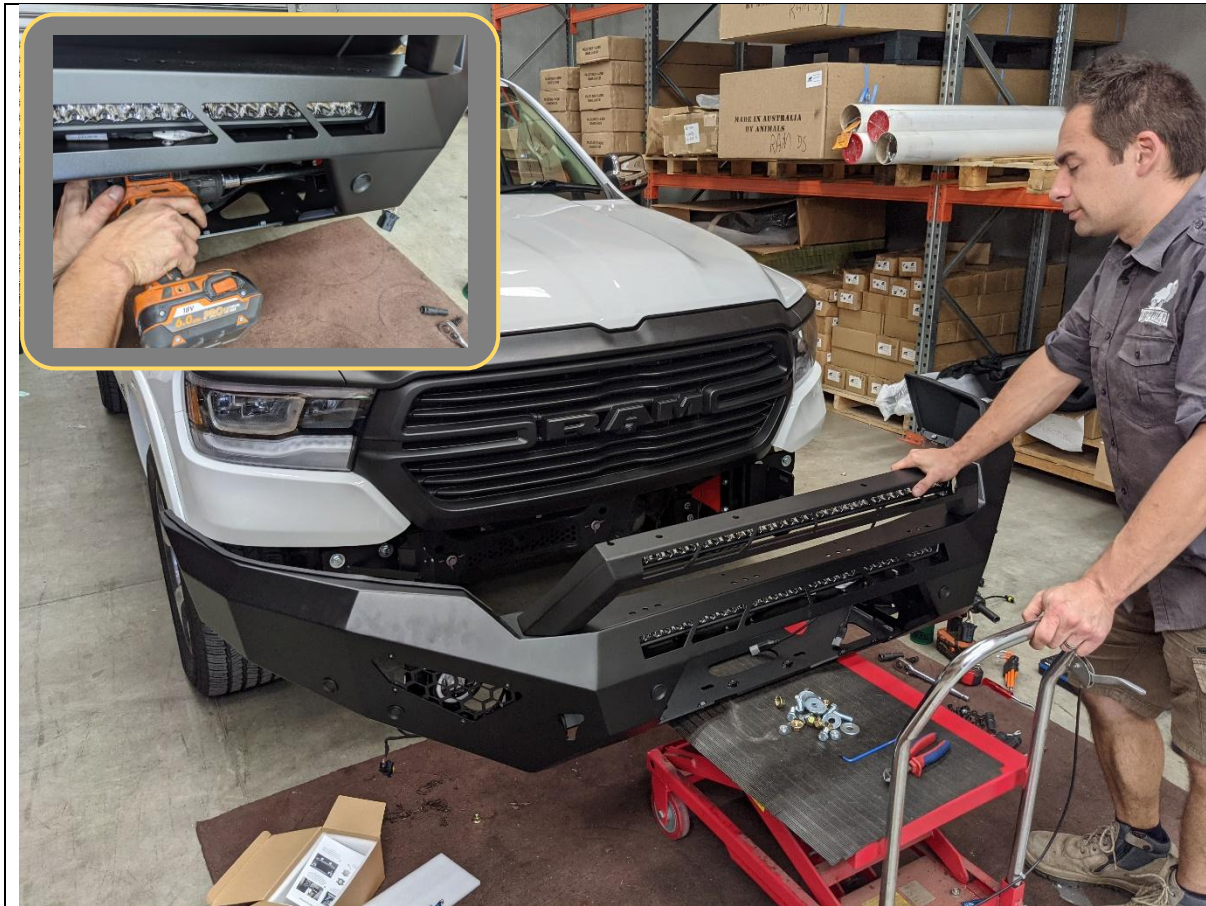
52. Secure and tighten mounts. Tighten bolts that secure the Impact assembly to chassis first, then tow point to chassis bolts and finally impact assembly to tow point bolts.

TOOLS REQUIRED

18mm Socket
16mm Socket
Tape Measure

FASTENERS

	
53. The wheel arch flare needs to be trimmed. 54. Place masking tape on flare in location shown. 55. Mark cut position parallel to bottom of Flare, 155mm above, as shown in image above. 56. Pry the flare carefully away from the body of the vehicle, releasing the clips which can be squeezed from behind to aid release. 57. Carefully cut the line as marked with an angle grinder or air hacksaw.	TOOLS REQUIRED Angle Grinder Or Air Hacksaw
	FASTENERS



58. Using a lift trolley fit or assistance from another person, fit the bar to the vehicle.
59. Once in position fit secure with the main mounting bolts. 1x Set per side are M12x30 with 2x Large Flat washers and M12 Nyloc Nut. Rest are M12x30 with 1x Large Flat washers and M12 Flange Nut
60. Ensure bar is centered and has even gap of approx. 10-15mm on both sides near headlight. Tighten all bolts to lock in place.

TOOLS REQUIRED

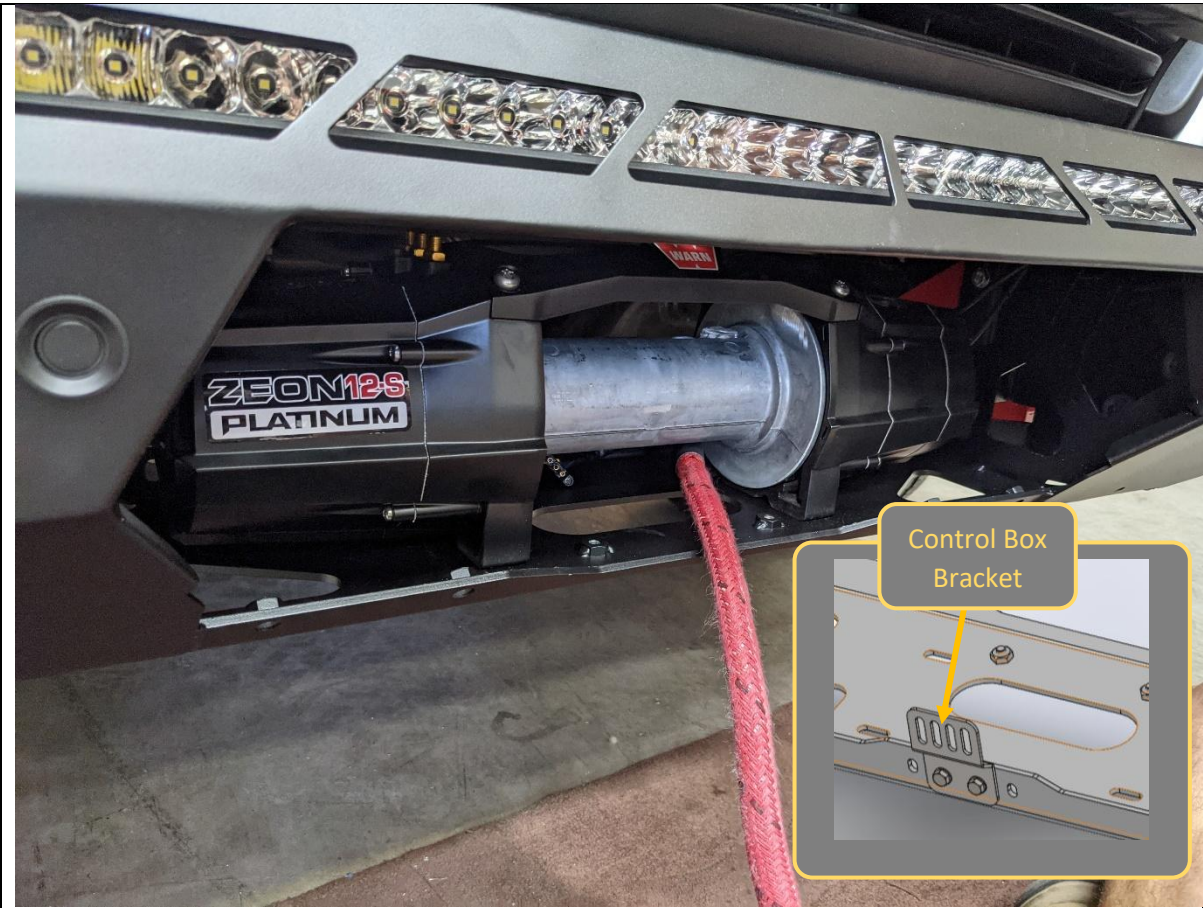
18 & 19mm Socket /
Spanner

FASTENERS

8x M12x30 Hex Bolt
10x M12 Large Washer
2x M12 Nyloc Nut
6x M12 Flange Nut



61. Fit the winch brace bracket. 62. First fit to winch cradle with M10x25 bolt, Flat washer and Flange Nut. 63. Next winch Tow point with M10x25 bolt, Flat washer and Flange Nut. 64. Repeat for both sides of vehicle. 65. Tighten all bolts	TOOLS REQUIRED 16mm Spanner
	FASTENERS 4xM10x25 4xM10 Flat washer 4xM10 Flange Nut



66. If fitting a winch, do so now. 67. The bar is designed to fit most low mount winches, in foot down configuration. WARN 16.5ti is largest winch confirmed to fit. 68. The control box can be mounted on the supplied control box bracket, which affixes to the rear of the winch cradle or directly affixed to the back of the cradle slots.	TOOLS REQUIRED Refer to Winch Instruction
	FASTENERS Supplied with winch



69. Prepare the Center mesh panel for fitment. 70. If Required, Fit winch fairlead to Mesh Fairlead Mount. Use M10 or 3/8" Fasteners supplied with winch. The bar is only compatible with Hawse type fairleads. 71. Fit Number plate flip kit to fairlead mount, using fasteners supplied in kit.	TOOLS REQUIRED Refer to Winch Instruction
	FASTENERS Supplied with winch / Number plate kit



72. Fit the Mesh Fairlead Mount to the threaded points in the center of the bar, using M8x16 Button head (Top), M8x20 Hex Head (Bottom) M8 Flat washers. 73. Tighten fasteners using 13mm socket / spanner and 5mm Allen Wrench.	TOOLS REQUIRED 13mm Spanner 5mm Allen Wrench
	FASTENERS 2x M8x16 Button Head 2x M8x20 Hex Head 4xM8 Flat Washer



74. Fit Mesh Infill Panels. Use 2x M8x16 Button head bolt, M8 flat washer and M8 flange nut for top mount.

Insert panels on an angle as shown to position the outer flange behind the return on the front face of the bar,

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

76. Tighten top fasteners using 13mm socket / spanner and 5mm Allen Wrench.

TOOLS REQUIRED

5mm Allen Wrench

FASTENERS

4x M8x16 Button Head
4x M8 Flat Washer



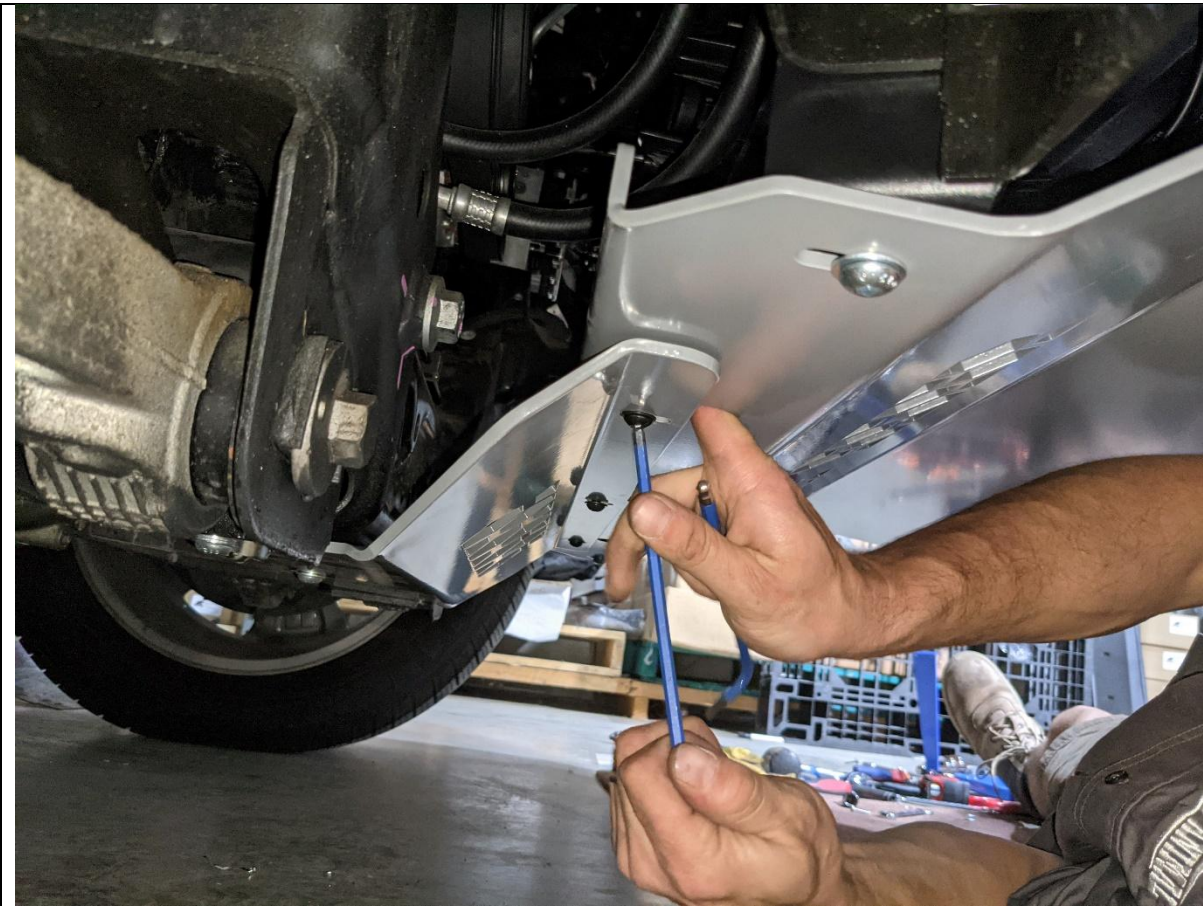
77. Fit Center Bash Plate to bar using, M8x30 button heads, flat washers and flange nuts to front face. Ensure these fasteners pass through the side mesh panels also.
78. Secure back of Center Bash Plate using the M10x20 Button Head bolts, Flat washer and flange nuts, to the support bracket fitted to the chassis.
79. Tighten Bottom fasteners using 6mm Hex Key
80. Tighten front fasteners using 5mm Hex Key.

TOOLS REQUIRED

5mm Hex Key
6mm Hex Key

FASTENERS

6x M8x30 Button Head
6x M8 Flat Washer
2x M10x20 Button Head
2x M10 Flat Washer
2x M10 Flange Nut



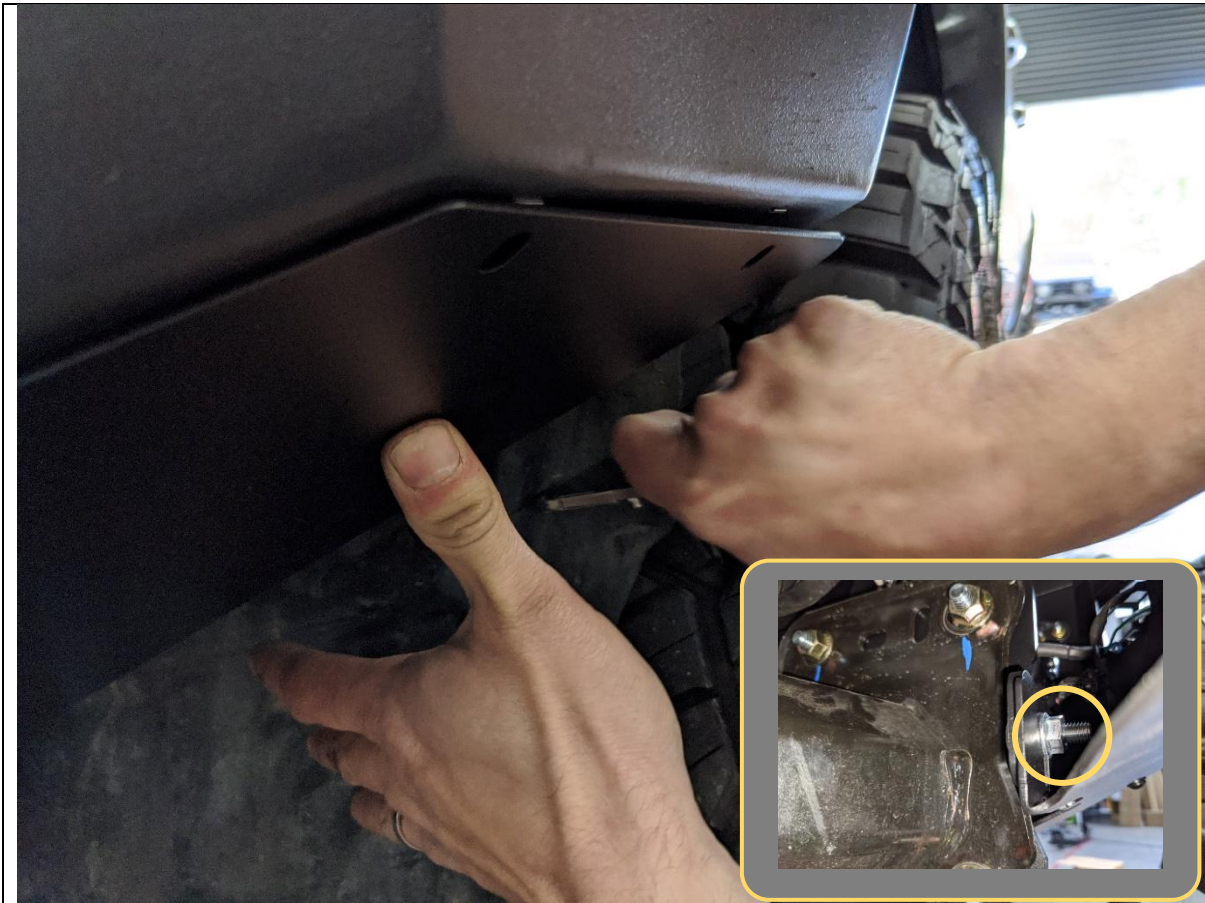
81. Fit secondary under panel to the primary center under panel with 3x M8x20 Button head bolts, Flat washer, and Flange nuts. Position nuts using access holes in under panel as shown. 82. Tighten Bottom fasteners using 6mm Hex Key 83. Tighten Top fasteners using 5mm Hex Key.	TOOLS REQUIRED 5mm Hex Key 6mm Hex Key
	FASTENERS 3x M8x20 Button Head 3x M8 Flat Washer 3x M8 Flange Nut 2x M10x20 Button Head 2x M10 Flat Washer 2x M10 Flange Nut



84. Reconnect the main bar electrical harness, located under LHS headlight.
85. For Toro bars, connect the indicators to the spliced headlight harness.
86. Loosely Fit side under panels using M6x16mm Socket head screws into the cage nuts in the wing, fitted earlier.
87. Complete for both sides of vehicle.

TOOLS REQUIRED**FASTENERS**

10x M6x16 Button Head
Screws
10x M6 Flat Washer



88. Using the edge of the under panel as a guide, trim the wheel arch liner to the profile of the under panel, with an approximate 20mm overhang.

89. Use a sharp utility knife to cut the wheel arch liner.

90. Tuck the wheel arch liner behind the flanges on the under panel.

91. Fit the bottom support M8x20 bolts to secure the under panel to the tow points

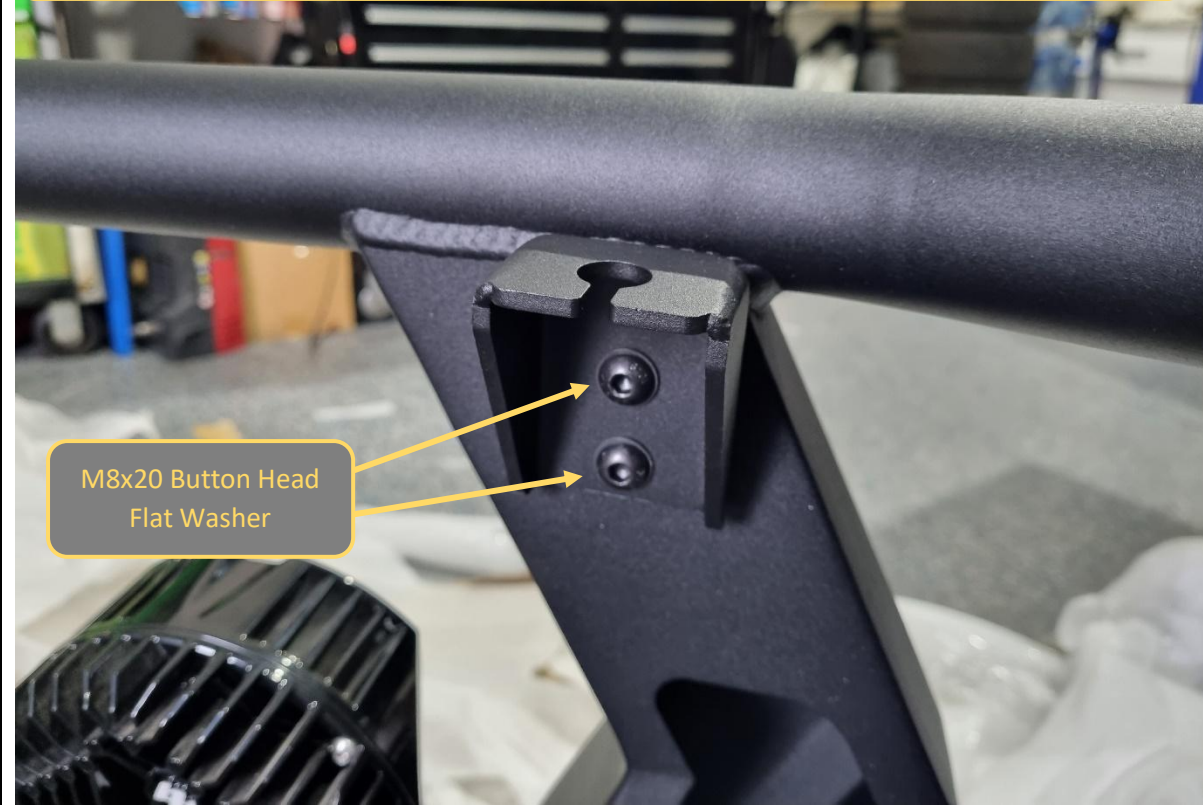
92. Tighten all bolts securing under panel.

TOOLS REQUIRED

4mm Hex Key
13mm Socket / Spanner

FASTENERS

4x M8x20 Bolt,
4x M8 Flange Nut
4x M8 Flat Washer

TORO BARS ONLY	
	
93. If required, fit antenna to brackets, then bolt to the threaded inserts behind bar upright using M8x20 Button Head bolts and Flat Washers. 94. Tighten with 5mm Allen wrench. 95. 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.	TOOLS REQUIRED 5mm Allen wrench
	FASTENERS 2x M8x20 Button Head Bolt 2xM8 Flat Washer



96. Re Check all Fasteners are tight. 97. Re-Fit Number Plate to number plate flip. 98. 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. 99. Last but not least, fit the Offroad Animal logo plate to the front face of the bar on the RH driver side.	TOOLS REQUIRED
	FASTENERS



Congratulations! You're done! Hit the tracks and enjoy your newly protected RAM!