



Toyota Fortuner MY2021 on Predator 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.

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-TFT-N160-21-PR-ASM1	Fortuner 21+ Predator Bar Weldment	
OR			
1	FB-TFT-N160-21-TOR-ASM1	Fortuner 21+ Toro Bar Weldment	
1	FB-TFT-N160-21-PR-ASM2L	Fortuner Chassis Mount Assy	
1	FB-TFT-N160-21-PR-ASM2R	Fortuner Chassis Mount Assy	
1	B-0152L	Hilux Front Mount - Chassis Brace	
1	B-0152R	Hilux Front Mount - Chassis Brace	

1	M-0005	Hilux Mesh - Center Fairlead Support	
1	M-0006L	Hilux Mesh Infill LHS	
1	M-0006L	Hilux Mesh Infill RHS	
1	NPF-COM-SM-ASMO	Number plate flip asm Small	
1	B-0655L	Fortuner 21+ Headlight Infill Panel	
1	B-0655R	Fortuner 21+ Headlight Infill Panel	
1	B-0730L	Fortuner Fog21+ / Indicator Bracket	
1	B-0730R	Fortuner Fog21+ / Indicator Bracket	
1	M-0022L	Predator Indicator / Fog Cover Mesh	

1	M-0022R	Predator Indicator / Fog Cover Mesh	
1	U-0049	Fortuner 2021 Bash Plate	
1	U-0050L	Fortuner 21+ Side Underpanel	
1	U-0050R	Fortuner 21+ Side Underpanel	
1	B-0755	Fortuner 21+ Grille Support Bracket	
1	B-0731	Fortuner 21+ Pan Brace	
2	LED Autolamps 80AW	LED AUTOLAMPS 80AW LED INDICATOR PARKER COMBO LIGHT, SINGLE BLISTER PACK	
1	LV0590	INDICATOR LOAD REISITOR – TWIN BLISTER PACK	

(Note Crusade models will have different load resistor supplied)

Small Parts – Contained in Small Parts Kit Bag

Qty	Part Number	Description
44	M6x16 BHCS BLACK ZINC	CREW, BUTTON HEAD CAP, M6X16X1 GR12.9, ISO4042 ZnNi BLACK PASSIVATED FINISH
38	M6 FLAT WASHER BLACK ZINC	M6 Flat Washer, 12x6.1x1, ISO4042 ZnNi BLACK PASSIVATED FINISH
34	M6 FLANGE NUT	Flange Nut, M6x1 G8.8 ZP
2	M8 FLANGE NUT	Flange Nut, M8x1.25 G8.8 ZP
4	M8 FLAT WASHER	M8 FW
6	M8 FLAT WASHER- BLACK ZINC	M8 FLAT WASHER, 16.5x8.4x1.2, ISO4042 ZnNi BLACK PASSIVATED FINISH
4	M8 X 20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X20X1.25, ISO4042 ZnNi BLACK PASSIVATED FINISH
4	M8 X 20 HEX	Bolt Hex, M8X20x1.25, GR8.8 ZP
2	M8 X 16 BHCS BZP	SCREW, BUTTON HEAD CAP, M8X16X1.25 GR12.9, ISO4042 ZnNi BLACK PASSIVATED FINISH
6	M5 FLANGE NUT	Flange Nut, M5x0.8 G8.8 ZP
6	M5 Flat washer	M5 FW
6	M5X15 BHCS	SCREW, BUTTON HEAD CAP, M5X15X0.8 GR12.9 ZP
10	M6CN3MM	CAGE NUT M6x2.6-3.5
12	M10 FLANGE NUT	Flange Nut, M10x1.5 G8.8 ZP
12	M10 FW LHD	WASHER, FLAT M10X28.5X2.5
10	M10 x 30	Bolt Hex, M10X30x[1.5], GR8.8 ZP
2	M10X20 BHCS	SCREW, BUTTON HEAD CAP, M10X20X1.5 GR12.9 ZP
6	M12 FLAT WASHER	M12 FW
12	M12X30	Bolt Hex, M12X30x1.75, GR8.8 ZP
2	M12X30X1.25	Bolt Hex, M12X30x1.25, GR8.8 ZP
2	NP-THL-N80-15- PR	Nut Plate - Hilux Predator
4	M12 FLANGE NUT	Flange Nut, M12x1.75 G8.8 ZP
12	M12 FW LHD	M12 FW Large Heavy Duty
4	M12 Nyloc nut	M12 NYLOC NUT
2	M6x12 BHCS	SCREW, BUTTON HEAD CAP, M6X12X1 GR12.9 ZP

Toro- Additional Parts

Qty	Part Number	Description
4	M8 FLAT WASHER- BLACK ZINC	M8 FLAT WASHER, 16.5x8.4x1.2, ISO4042 ZnNi BLACK PASSIVATED FINISH
4	M8 X 20 BHCS BLACK ZINC	SCREW, BUTTON HEAD CAP, M8X20X1.25, ISO4042 ZnNi BLACK PASSIVATED FINISH
2	B-0523	Toro Antenna Bracket - 90 Degree

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 Hex (Allen) Key Set 4-8mm Trim Puller Tool Flat Blade Screwdriver set Phillips Head Screwdriver set Utility Knife	Electric/Air Impact Driver (Optional) Air Hacksaw, Angle grinder or oscillating multi tool with plastic blade	Panel Stand or Soft Blanket Automotive Adhesive Sealant. Glue Removal Solvents

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. Remove the Radiator shroud by removing the 6x clips securing it to the grille and cross member.
2. Push down on the center of the clips to release then remove with trim tool.

TOOLS REQUIRED

Trim Tool

FASTENERS

Push Center Clips



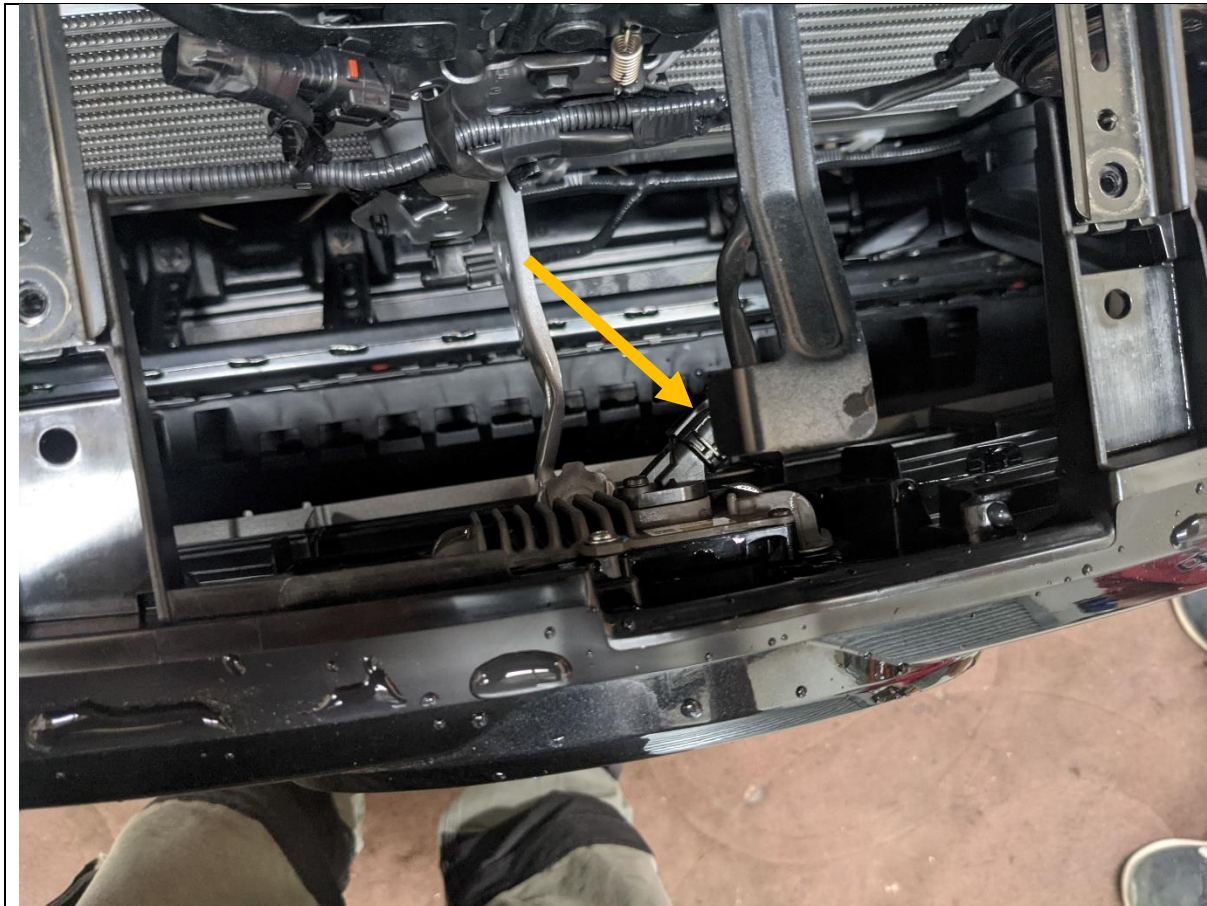
3. Remove the 4x 10mm Head screws securing the top of the grille
4. Retain fasteners for re fitment.

TOOLS REQUIRED

10mm Socket / Spanner

FASTENERS

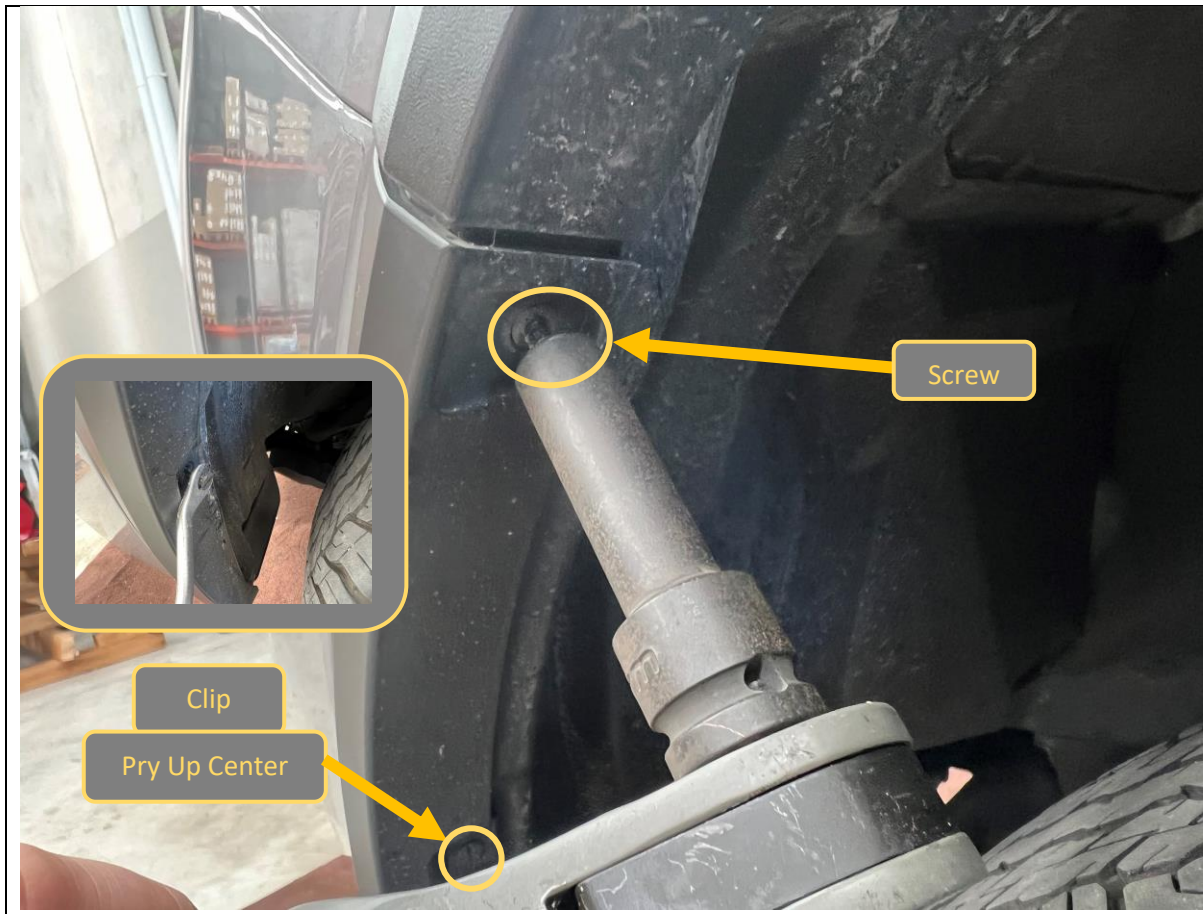
10mm Head Screws



- 5. Unplug the radar sensor module wiring connector, located on the back of the Toyota Badge / sensor.

TOOLS REQUIRED

FASTENERS



6. Remove the small screw and clip securing the bumper to the inner wheel arch liner.
7. Clip is a center release type. Pry up the center section to unlock then remove.

TOOLS REQUIRED
8mm Socket
Trim Tool

FASTENERS

Factory Clip and Screw



8. Remove the 4x 10mm head Screws securing bottom corner of bumper to inner wheel arch liner.
9. Complete on both sides of Vehicle

TOOLS REQUIRED

10mm Socket / Spanner

FASTENERS

Factory Screws



10. Remove the 3x 10mm head Screws securing bottom center section of bumper to inner wheel arch liner.

TOOLS REQUIRED

10mm Socket / Spanner

FASTENERS

Factory Screws



11. Remove the chrome headlight trim panels by carefully prying then pulling in a forward direction to release clips holding.

TOOLS REQUIRED

FASTENERS



- 12. Remove the 2x 10mm Head/Phillips screws securing the bumper to crossmember.

These screws are located on the edge near the headlights behind chrome trim.

- 13. Remove clips and central screw behind grille securing to center crossmember.

TOOLS REQUIRED

10mm Spanner
Trim Tool

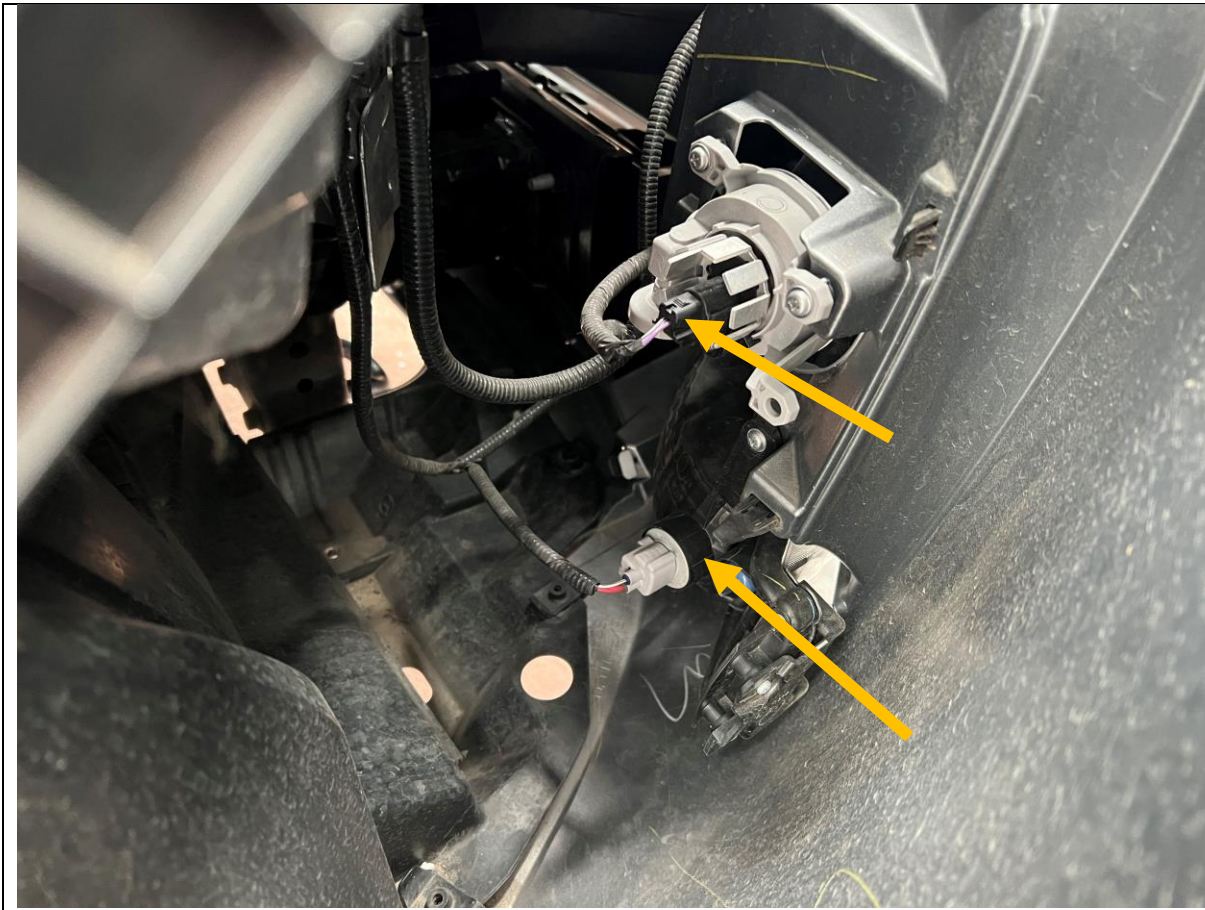
FASTENERS



14. Remove the bumper. Start by pulling from the outside where the bumper meets the wheel arch and work towards the center from both sides.

TOOLS REQUIRED

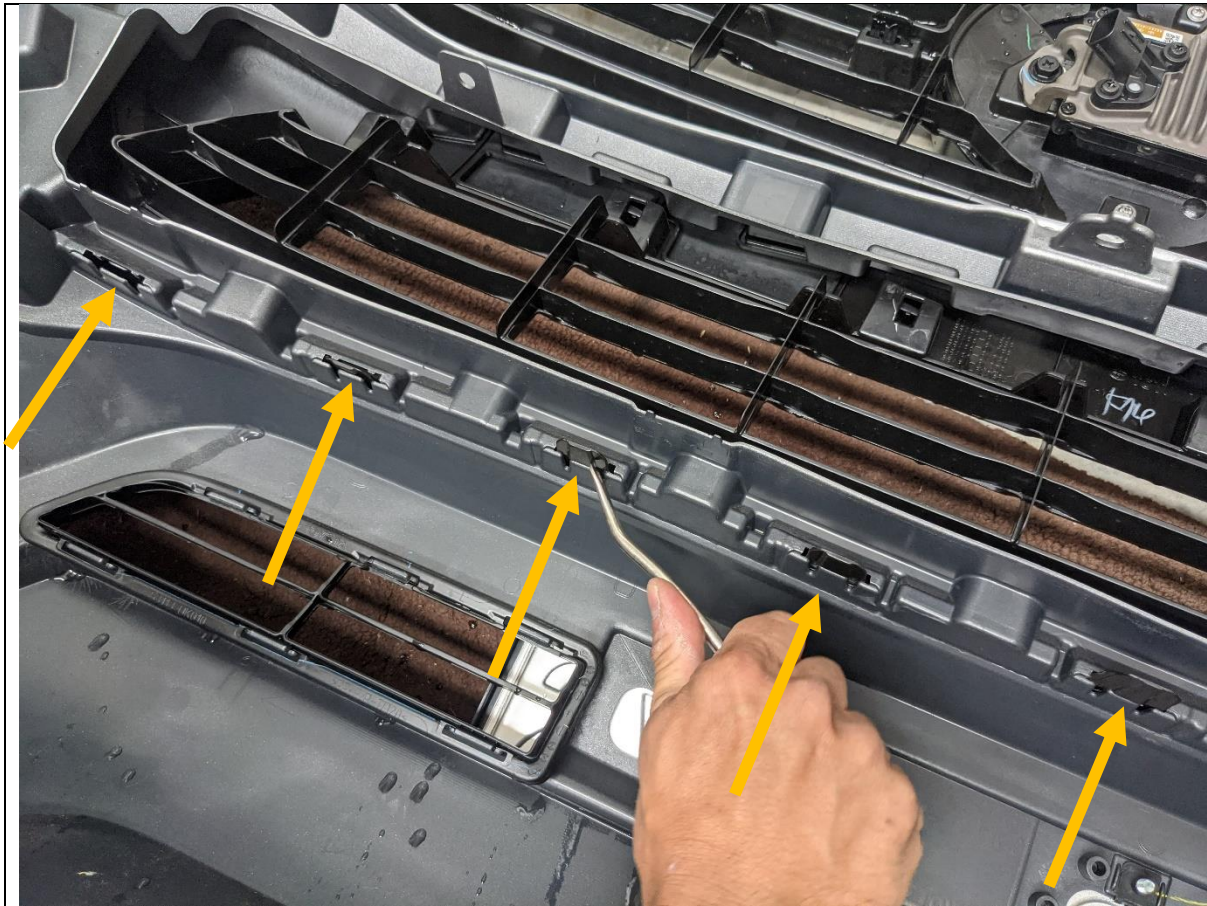
FASTENERS



15. With assistance once the bumper is loose, unplug and release the parking sensor, indicator/parker lamp and fog light harnesses.
16. It is easiest to remove the sensor from the bumper by releasing the clips on back side then pushing sensor through the bumper, leaving it hanging on the cable.
17. This needs to be done on both sides of the vehicle.

TOOLS REQUIRED

FASTENERS

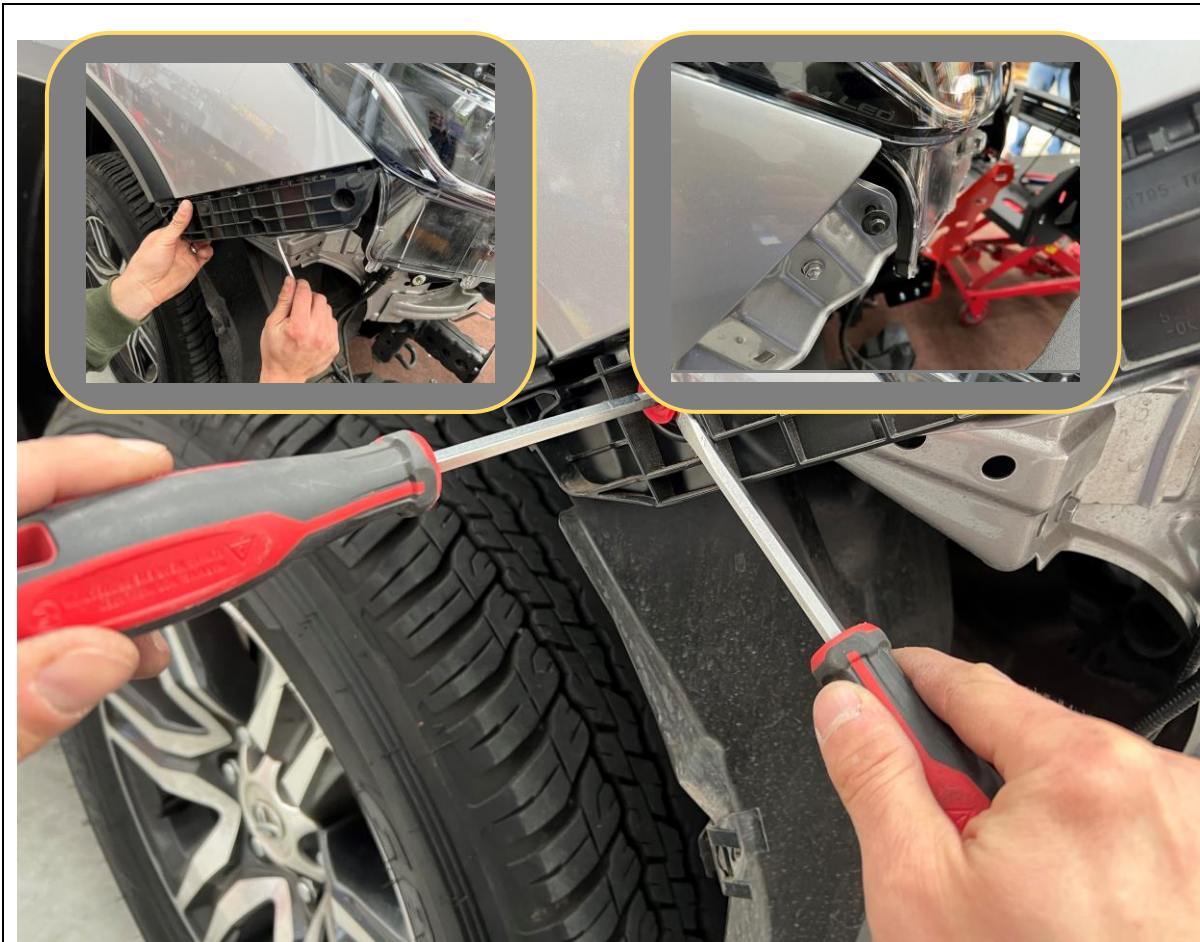


- 18. Once bumper is removed set aside on soft non marking surface or panel stand.
- 19. Release the bumper from the grille by releasing all the clips along the bottom of grille with a trim tool

TOOLS REQUIRED

Trim Tool

FASTENERS



- 20. Remove the front bumper support plastic fasteners using trim tool and Philips screwdriver to pry whilst loosening as shown.
- 21. Remove the forward bolt using 10mm socket.
- 22. Remove the bumper supports using a trim tool.
- 23. Replace the forward bolt to re-secure the headlight to the wing.
- 24. Complete on both sides of the vehicle

TOOLS REQUIRED
Trim Tool
Phillips Screwdriver
10mm socket

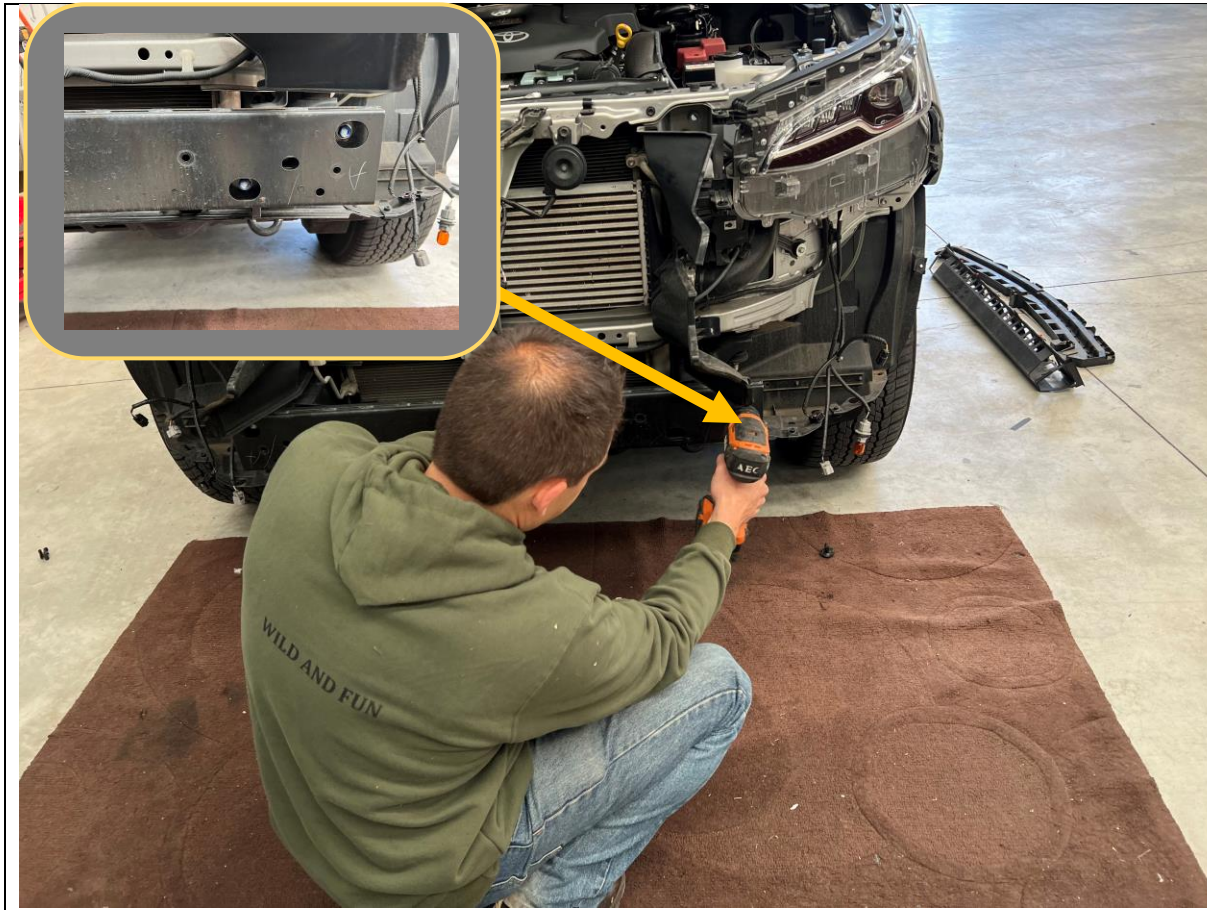
FASTENERS



25. Remove the plastic cover from the impact beam by strongly pulling in the direction shown to release it from the clips

TOOLS REQUIRED

FASTENERS



- 26. Remove the impact beam by removing the 4x Factory flange bolts securing it to the chassis rail
- 27. Release plastic clips behind the impact beam in the air guides.

TOOLS REQUIRED

15mm Socket
Trim Tool

FASTENERS

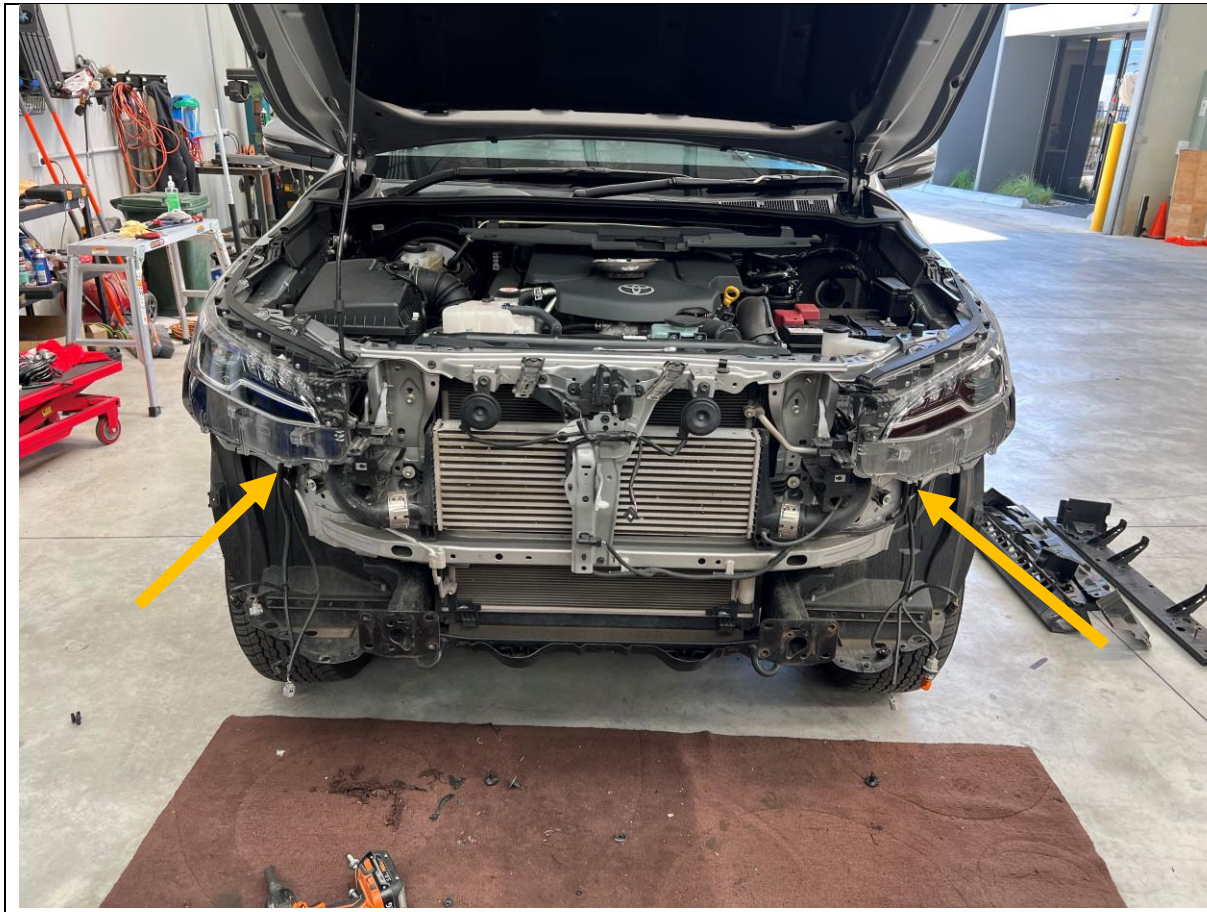


28. Remove the lower splashguard by removing the 10mm head bolts securing to vehicle

TOOLS REQUIRED

10mm socket / spanner

FASTENERS



29. Vehicle chassis rails should now be totally exposed as shown.

30. For light colored vehicles it is a good idea to paint the exposed panels beneath the headlight black, to ensure a neat appearance once bar is fitted.

TOOLS REQUIRED

FASTENERS



- 31. Remove air guides from vehicle by releasing the 3x clips holding it to the chassis.
- 32. Mark air guides as shown in the above image. Trim along marked line using sharp utility knife or oscillating multi tool.
- 33. Re fit top half of air guide to vehicle.

TOOLS REQUIRED

Paint Marker
Utility knife or Oscillating multi tool with plastic cutting blade.

FASTENERS



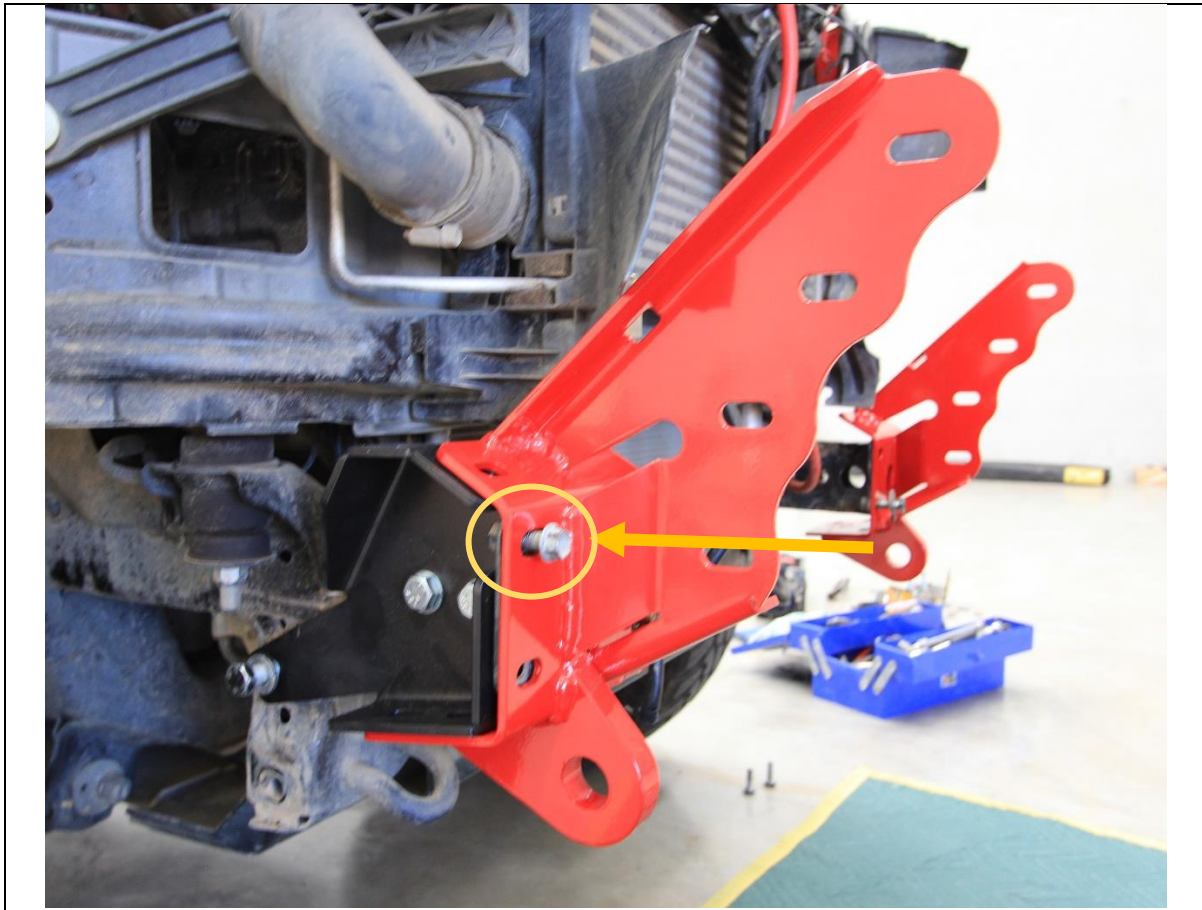
- 34. Take the chassis brace and fit loosely to the threaded M12 Fine pitch point in chassis, using M12x30x1.25 Bolt and flat washer.
- 35. Insert the Nut Plate into the chassis rail through the opening on the front of the chassis.
- 36. Secure the nut plate with M12x30 Standard pitch bolts and flat washers through the holes shown. Leave finger tight at this stage.
- 37. Repeat for other side of vehicle.

TOOLS REQUIRED

FASTENERS

- 1x M12x30x1.25p Bolt
- 2x M12x30x1.75p Bolt
- 3x M12 Flat washer.

PER SIDE

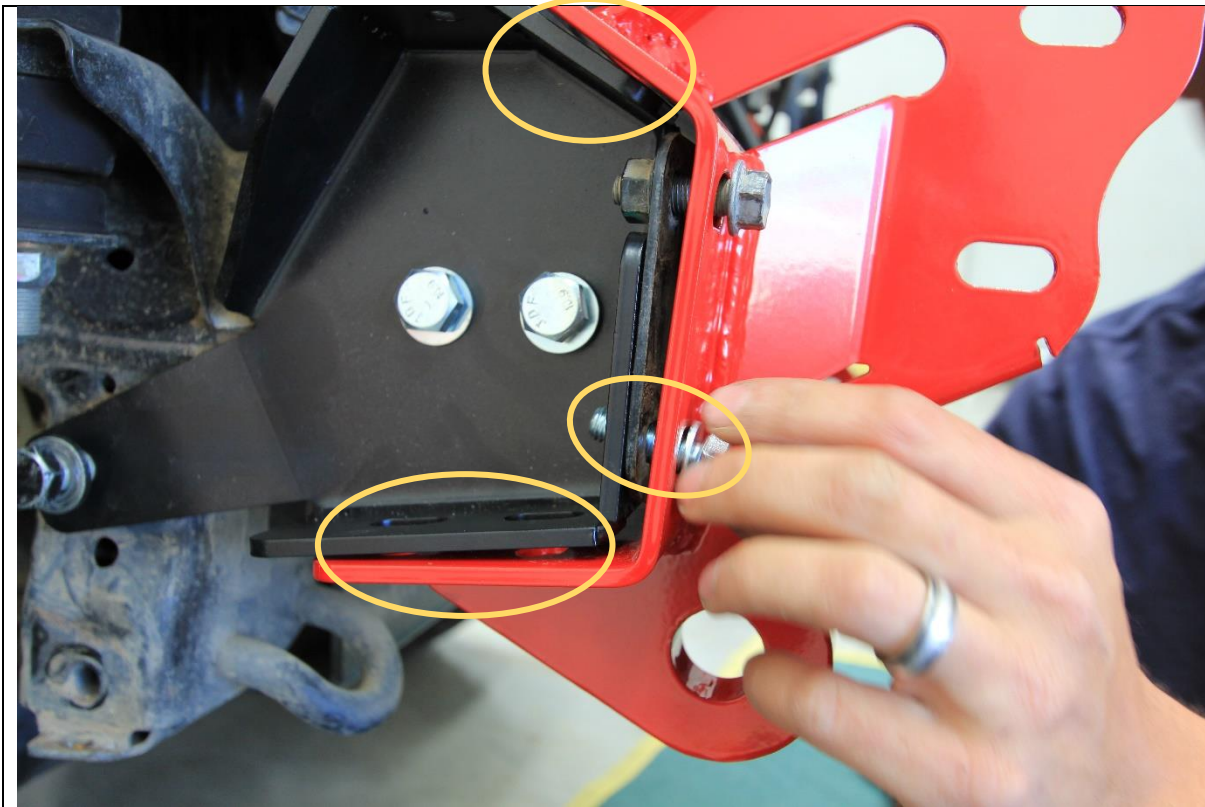


- 38. Fit the impact assembly to the end of the chassis rail.
- 39. Secure finger tight with the original M10 bolts in the threaded inserts in chassis.
- 40. Repeat for other side of vehicle

TOOLS REQUIRED

FASTENERS

2x Factory M10 flange bolt
per side.



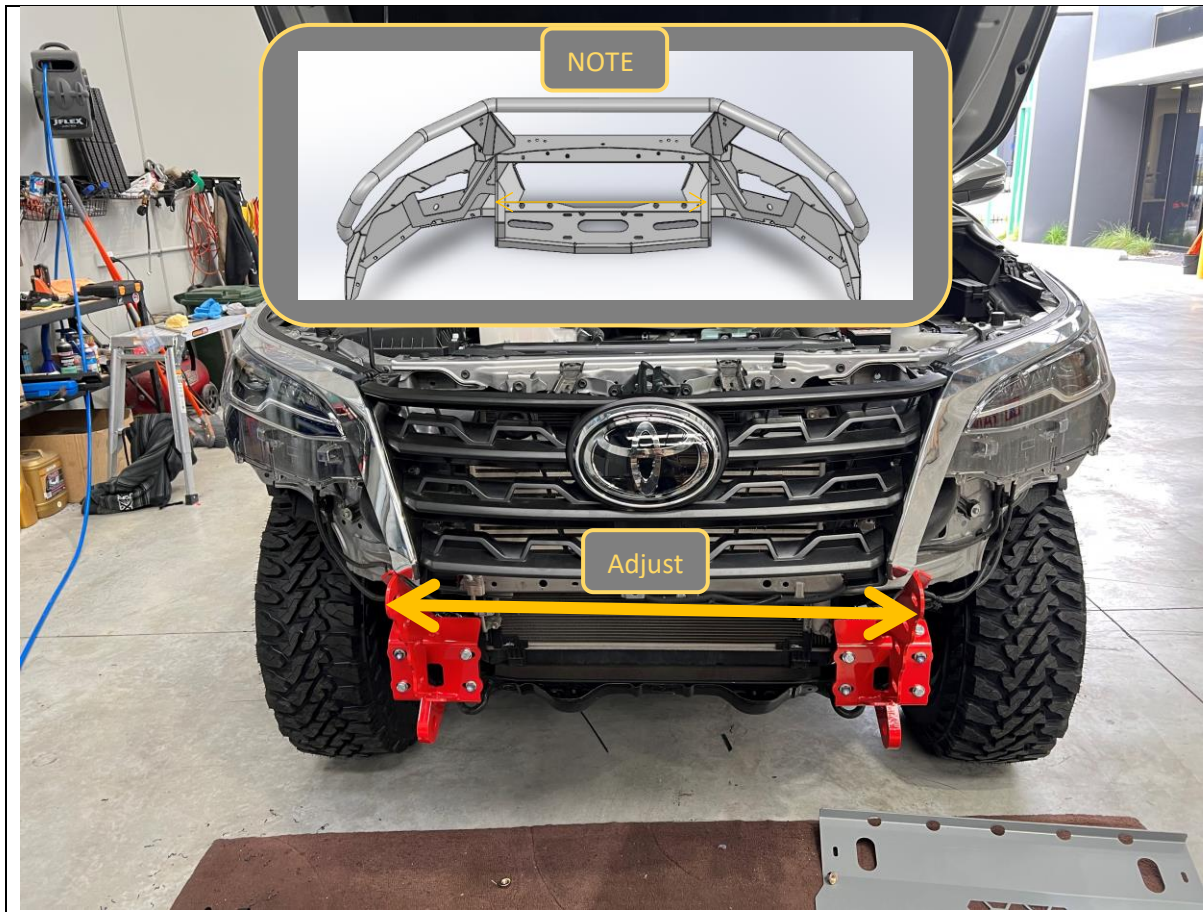
- 41. Fit remaining bolts to the impact assembly. 2x M10x30 Bolts, 4x Flat washers and 2x Nyloc nuts to front face.
- 42. Fit 2x M10x30 Bolts, 4x Flat washers and 2x Nyloc nuts to Bottom face.
- 43. Fit 1x M10x30 Bolt, 2x Flat washers and 1x Nyloc nuts to Top face.

TOOLS REQUIRED

FASTENERS

5x M10x30 Bolt
10x M10 Flat washer
5x Nyloc Nut

per side.



44. Measure the distance between the outside faces of the uprights on the bar. Note this distance

Bar uprights _____mm

45. Adjust the distance between the impact assemblies to be approx. 1-2mm greater than the upright distance on the bar.

46. Tighten bolts on the impact assemblies and re-check distance. Loosen and adjust as required until the distance between mount when mounts are tight is correct.

TOOLS REQUIRED

- Tape measure
- 16mm Spanner
- 16mm Socket

FASTENERS



47. Remove the 3x Screws securing the fog lights to the bumper, then remove the fog light from the bumper

TOOLS REQUIRED
Screwdriver

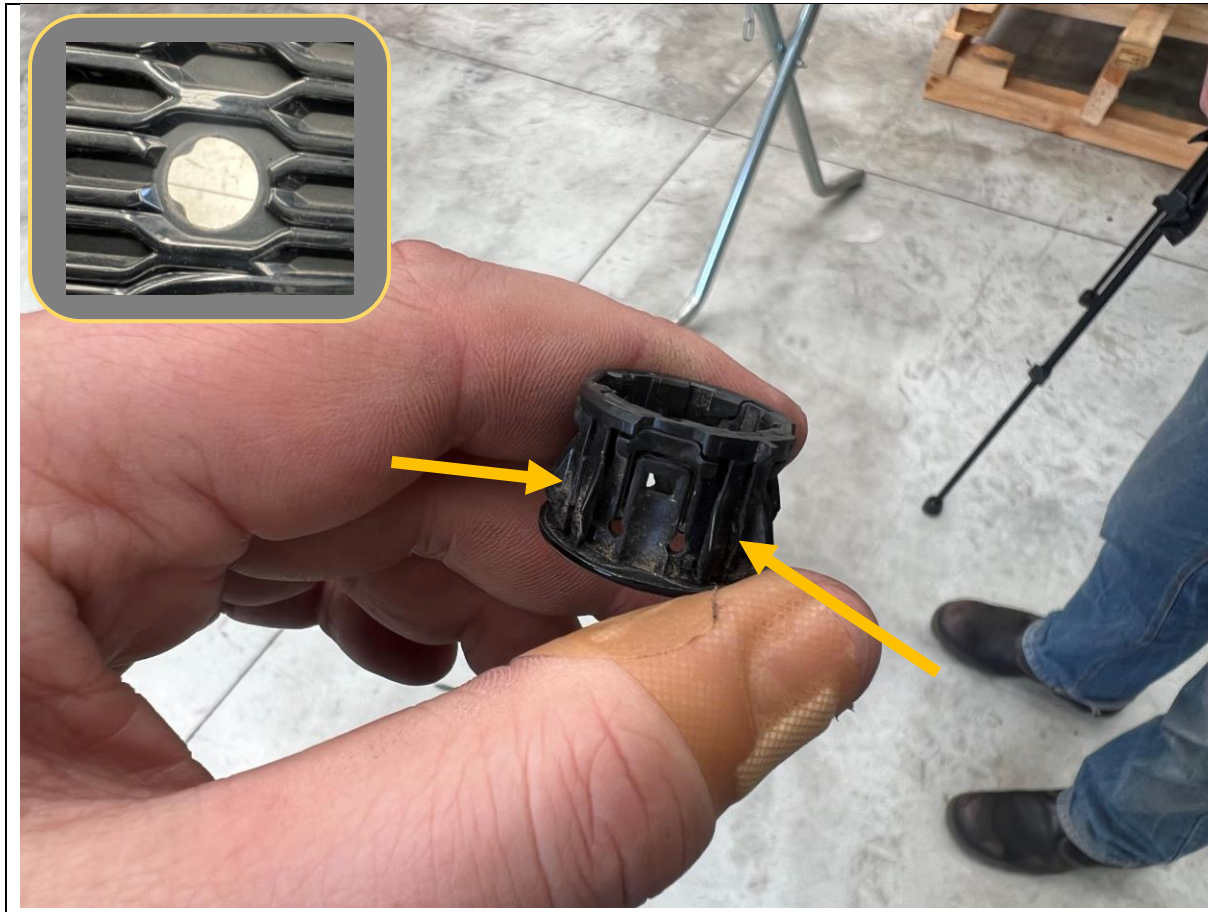
FASTENERS
Factory Screws



48. Remove the gloss plastic trim panel from the main bumper assembly by releasing clips securing, to gain better access to parking sensor housing.

TOOLS REQUIRED
Trim Tool

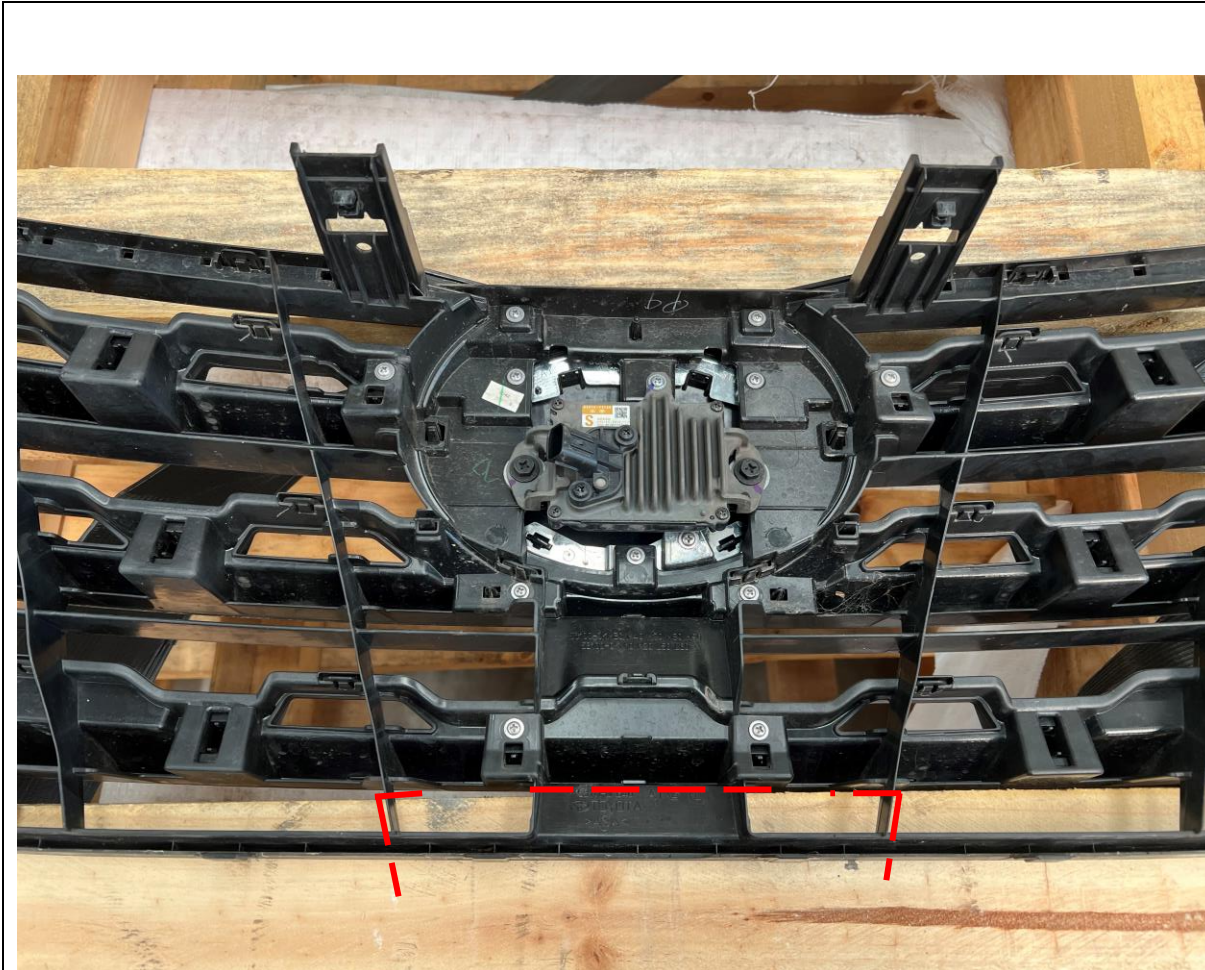
FASTENERS



- 49. Remove the sensor housing from the plastic trim panel.
- 50. Compress the tabs on the side of the sensor housing whilst pushing from the back side toward the front of the trim panel.
- 51. Re-fit sensor housings to vehicle, by simply pushing into sensor holes from the front side of the bar until they click into place.

TOOLS REQUIRED
Trim Tool

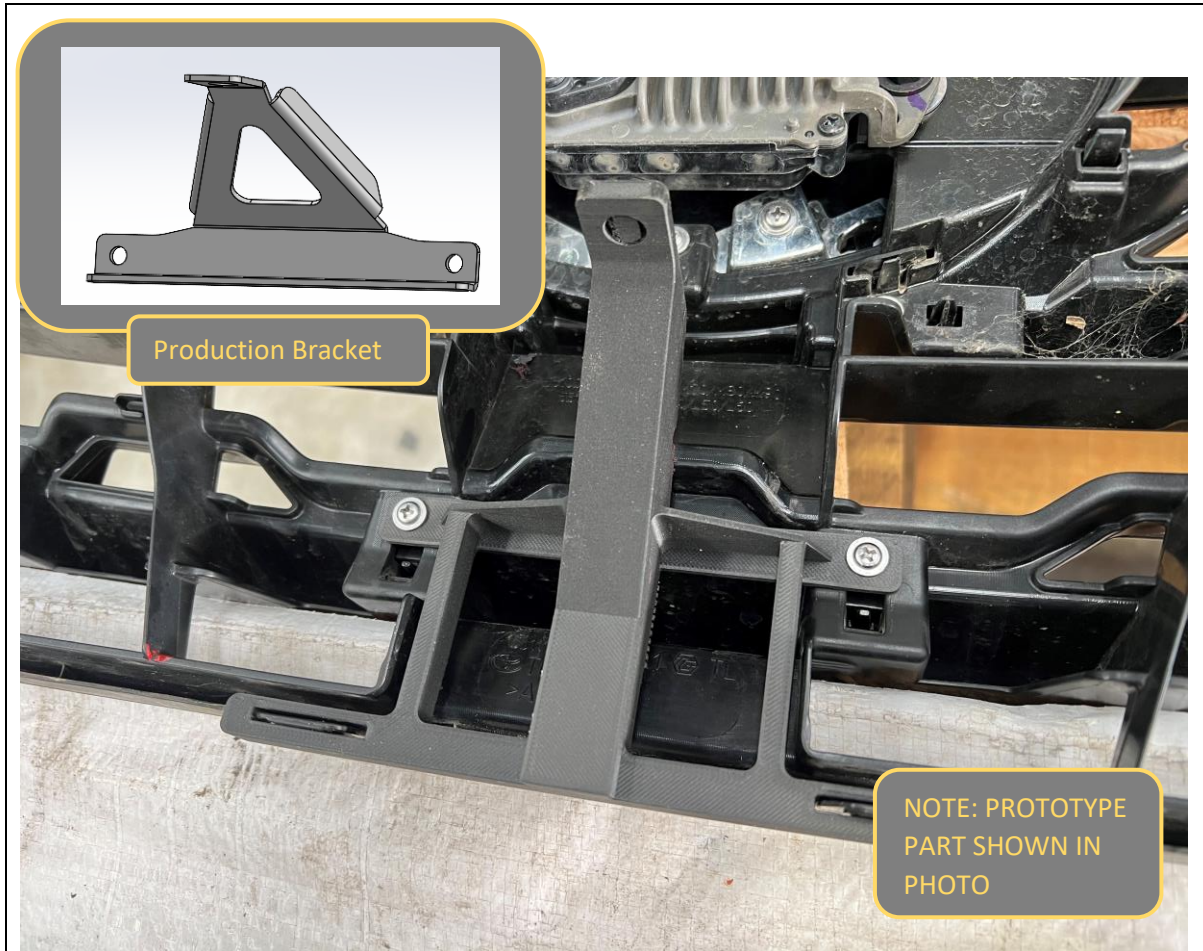
FASTENERS



- 52. If fitting a winch with an integrated control pack, a small grille trim will be required. Winches with remote control packs, or fitments with no winch installed can skip this step.
- 53. The Mark out the grille cut as denoted by lines in image. Ensure it is symmetric.
- 54. Using angle grinder or air hacksaw, cut along edge of the tape.

TOOLS REQUIRED
Masking Tape

FASTENERS



- 55. Fit the bottom grille support bracket to the middle of the top section of the grille, under the adaptive cruise radar sensor.
- 56. Remove the existing Philips head screw, then re fit with bracket in place.

TOOLS REQUIRED
Flat bladed screwdriver

FASTENERS
6x M6 Cage Nuts



- 57. Re-fit the grille to the vehicle.
- 58. Secure top of grille using original 10mm Fasteners.
- 59. Secure the grille support bracket to the vehicle body using factory screw removed during bumper removal.
- 60. Re fit the chrome trims to the grille / headlight.

TOOLS REQUIRED
10mm Socket
Phillips screwdriver

FASTENERS



- 61. If fitting a light bar and/or driving lights to the center section of the bar, do so at this stage, before fitting the bar to the car.
- 62. Use hardware provided with the Lights to fit to the bar.
- 63. Fit pan brace to back side of light bar opening using M6x16 Black fastener on top and M6x12 Fastener on bottom, with flat washers and flange nuts.

TOOLS REQUIRED

FASTENERS

- 1xM6x12 Button Head Screw
- 1xM6x16 Black Button Head Screw
- 2x M6 Washer
- 2x M6 Flange Nuts



64. Insert cage nuts to square slots in bottom of wings. Seat cage nut against one edge of slot then push other edge in with flat bladed screwdriver.

TOOLS REQUIRED
Flat bladed screwdriver

FASTENERS
5x M6 Cage Nuts

Per side



65. Fit the headlight infill panels to the top of the bar, using supplied M5 Hardware. Leave finger tight at this stage.

Fit with flange nut on top, to allow tightening of bolts from below once bar fitted to the vehicle.

TOOLS REQUIRED

FASTENERS

- 6x M5x12 Button Head Bolt
- 6x M5 Washer
- 6x M5 Flange Nuts

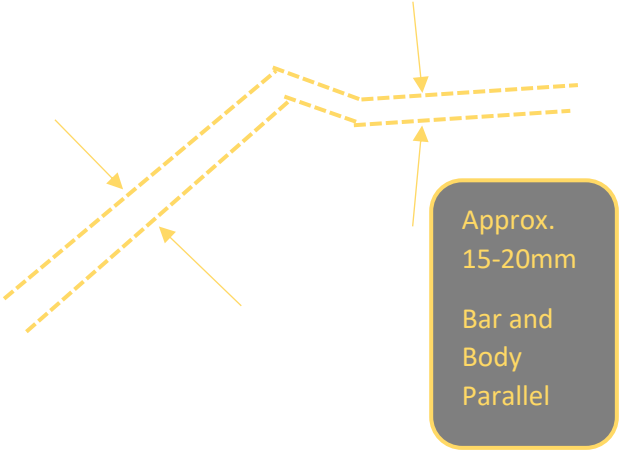


- 66. With assistance, from either another person or mechanical lifting aid such as a lift trolley, offer the bar up to the mounts.
- 67. Secure the bar to the mounts using 2x M12x30 Bolt M12 Heavy Duty flat washers and M12 Flange Nut per side
- 68. Loosely fit the other 2x M12x30s Bolt 6xM12 Heavy Duty flat washers and 2xM12 Nyloc Nuts per side.

TOOLS REQUIRED
Lifting trolley

FASTENERS

8x M12x30 Bolt
12x M12 HD Washer
4x M12 Nyloc Nuts
4x M12 Flange Nuts

NEED SIDE ON IMAGE	
	
<p>69. Align the bar with the body. Aim for 15-20mm clearance between the wing and body.</p> <p>IMPORTANT: It is the installer’s responsibility to ensure clearances are set so that no part of the bar touches the vehicle. Remember that body is rubber mounted and will move relative to bar in use.</p> <p>70. With assistance, Hold the bar in position and tighten all the Bar to mount bolts, using 19mm socket and spanner.</p> <p>An Electric Impact wrench makes this process much easier.</p>	<p>TOOLS REQUIRED 19mm socket 19mm spanner</p> <hr/> <p>FASTENERS</p>



- 71. Align the headlight infill panels, ensure that they sit **IN FRONT** of the headlight and have as even a gap as possible.
- 72. Once in position tighten from underneath using a 3mm Hex key

TOOLS REQUIRED
3mm Hex Key

FASTENERS



- 73. If fitting a winch to the bar, do so at this stage. Follow the winch manufacturer’s instructions.
- 74. The winch mounts feet down and is inserted through the front opening of the bar.

TOOLS REQUIRED
Refer to winch Instructions

FASTENERS
Refer to winch Instructions



- 75. If fitting winch, attach fairlead to center mesh panel using bolts supplied in winch fitting kit. Ensure winch rope is fed through fairlead.
- 76. Fit number plate flip to mesh panel using M6x20 Hex bolt, Flat washer and flange nut, supplied in number plate flip kit.
- 77. Fit Mesh panel to the bar. Secure with 2x M8x16 Black Button Head Screws, M8 Flat washer and M8 Flange nuts at top and 2x M8x20 Black BHCS M8 Flat washer and M8 Flange nuts at Bottom

TOOLS REQUIRED

- 5mm Hex Key
- 13mm Spanner
- 10mm spanner

FASTENERS

- 2x M6x20 Hex Bolt
- 2x M6 Flat washer
- 2x M6 Flange Nut
- 2x M8x16 Button Head
- 2x M8x20 Button Head
- 4x M8 Black Flat Washer
- 4x M8 Flange Nut



78. Fit the side mesh panel to the bar, using only the top and side points at this stage. Secure with 2x M6x16 Black Button head, bolts, Black M6 Flat washer and flange nut.

79. Repeat for other side of vehicle.

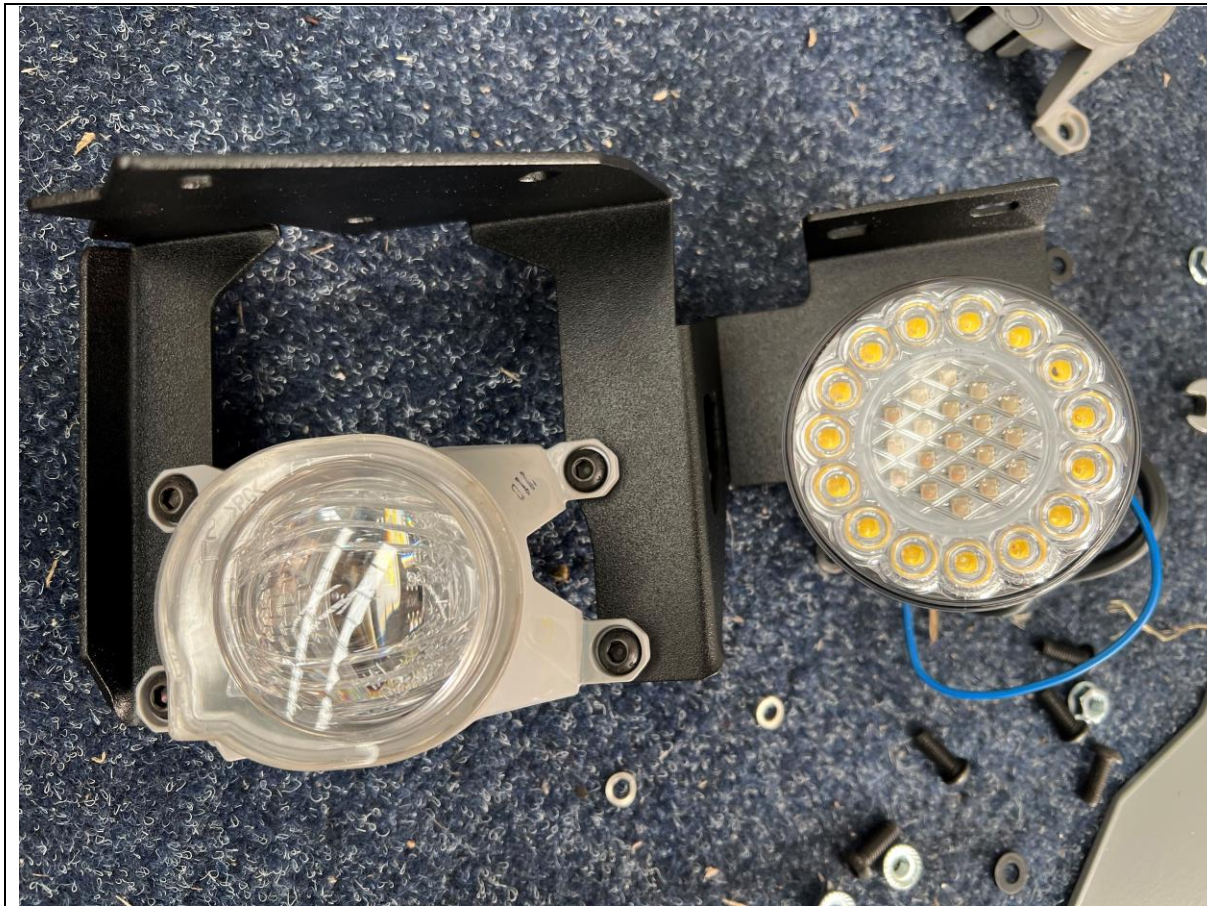
80. Fit Number Plate to number plate flip, using M5 fasteners supplied with number plate flip

TOOLS REQUIRED

- 4mm Hex Key
- 10mm Socket
- 10mm Spanner

FASTENERS

- 2x M6x16 Button Head
- 2x M6 Black Flat Washer
- 2x M6 Flange Nut



- 81. Re-fit the fog lamps to the supplied fog/indicator lamp brackets using the M6x16 screws and Flange nuts provided.
- 82. Fit the supplied indicator/parker combo lamp to the bracket using fasteners supplied with the combo lamp.

TOOLS REQUIRED
4MM Hex Key
10mm Spanner

FASTENERS
4x M6x16mm screw
4x M6 Flange Nuts



83. Fit the fog/indicator lamp brackets, to the light mesh panels using 4x M6x16 Button head bolts. The bracket should sit on TOP of the light mesh as shown.

84. Repeat for both sides of vehicle.

TOOLS REQUIRED

4MM Hex Key
10mm Spanner

FASTENERS

4x M6x16mm Button head bolts
4x M6 Flat Washer
4x M6 Flange Nuts

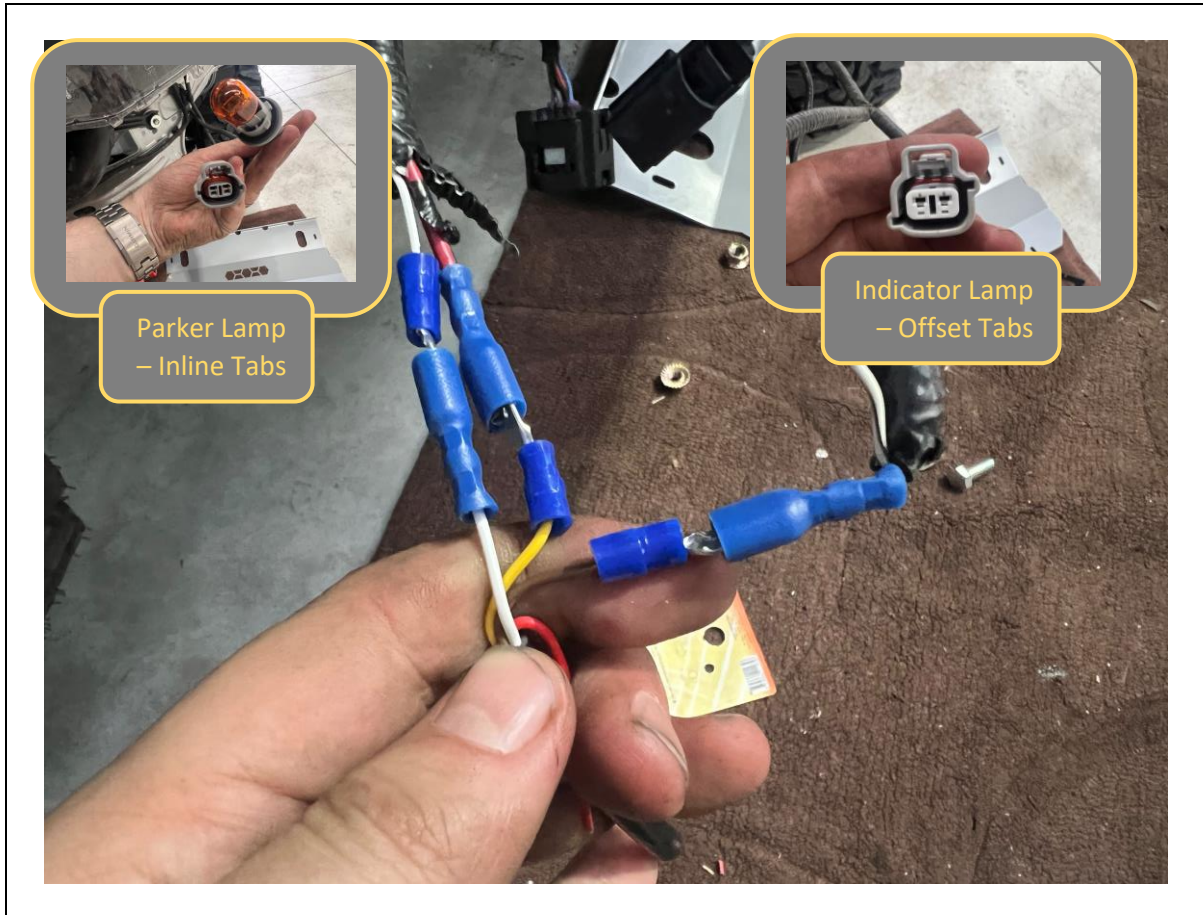
Per side



- 85. Fit light mesh panels to the bar. Position the panel from underneath the bar and align with the mounting holes in the wing. Secure with 6x M6x16mm Button head bolts and M6 Flange Nuts
- 86. Repeat for other side of vehicle.
- 87. Reconnect fog lights, or additional driving lights, depending on what was fitted.

TOOLS REQUIRED
4mm Hex Key
10mm Spanner

FASTENERS
6x M6x16mm Button head bolt
6xM6 Black Washer
6x M6 Flange Nut



- 88. Complete wiring for indicator and parker lamp. First identify the indicator and parker lamp circuits by plug type and note down colors for both circuits in the table below.
- 89. Once noted cut off OE connectors for indicator and parker circuits.
- 90. Using Crimp connectors or soldering, connect the following wires.

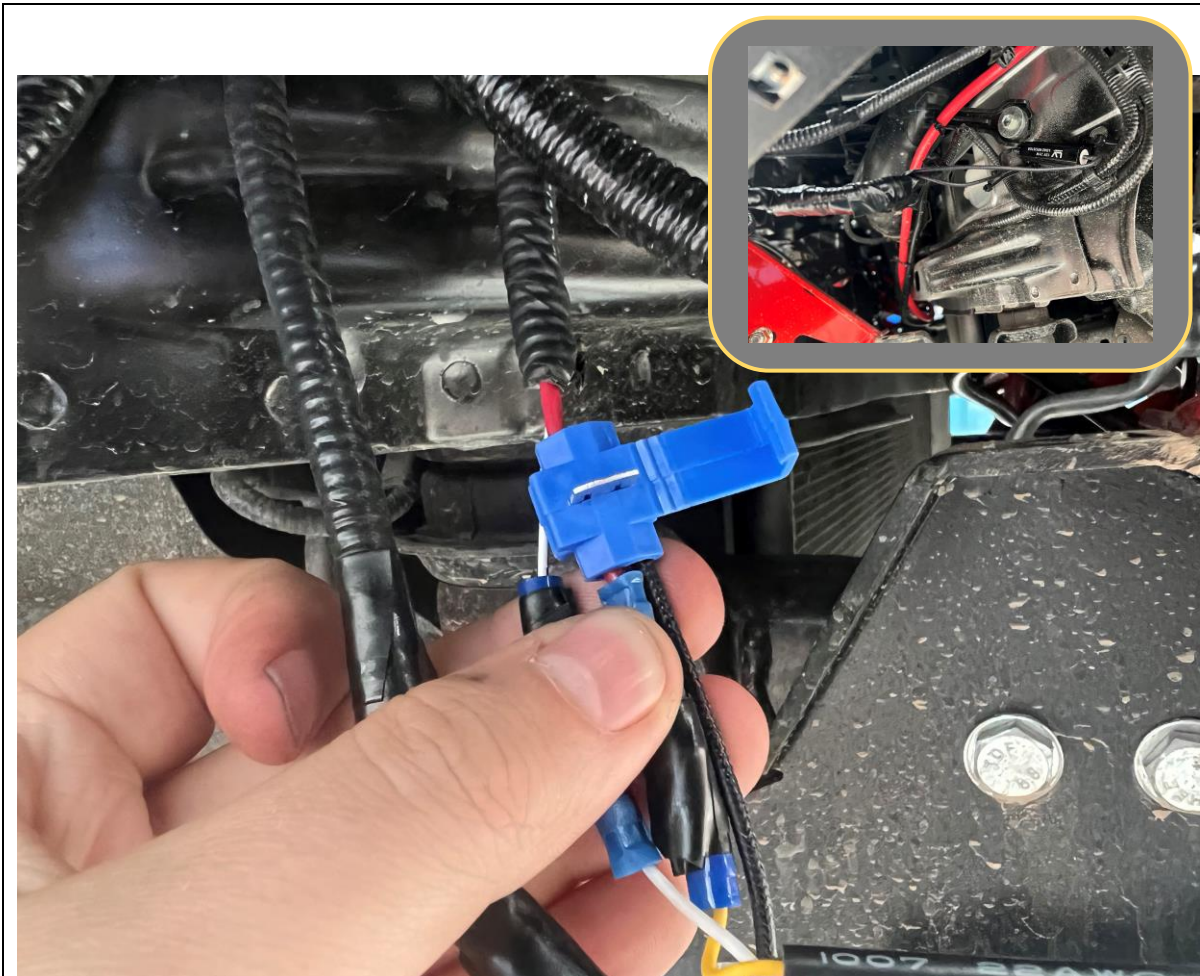
Purpose	Lamp Color	Car Color LHS	Car Color RHS
Indicator +ve	Yellow		
Parker +ve	Brown		
Earth	White		

NOTE: Lamp colors correct at time of printing. Double Check Legend on lamp packaging to ensure lamp colors are not changed by lamp manufacturer.

TOOLS REQUIRED

- Crimp connectors
- Crimping tool
- Wire strippers
- Side Cutters

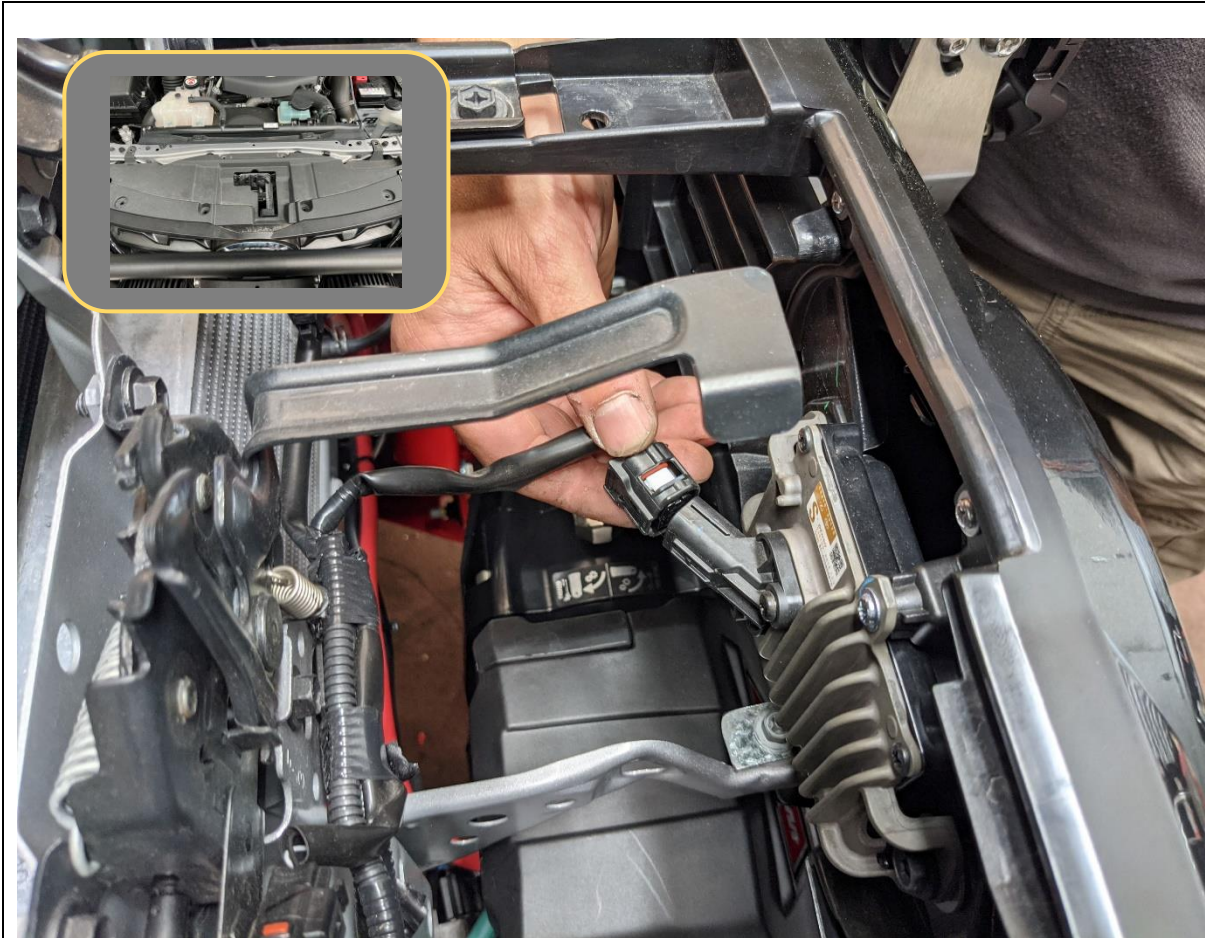
FASTENERS



- 91. Check operation of indicators and parker lamps.
- 92. If indicators are blinking too fast, fit supplied Load resistors in parallel to the indicator circuit.
- 93. Use the insulation displacement connectors supplied to connect the resistors. Insert both wires (resistor wire and vehicle wire) in the connector then crimp metal tang with pliers. Close plastic clip once crimped.
- 94. Tape up all connections and neatly tie resistor to vehicle body with cable ties.

TOOLS REQUIRED
Pliers

FASTENERS

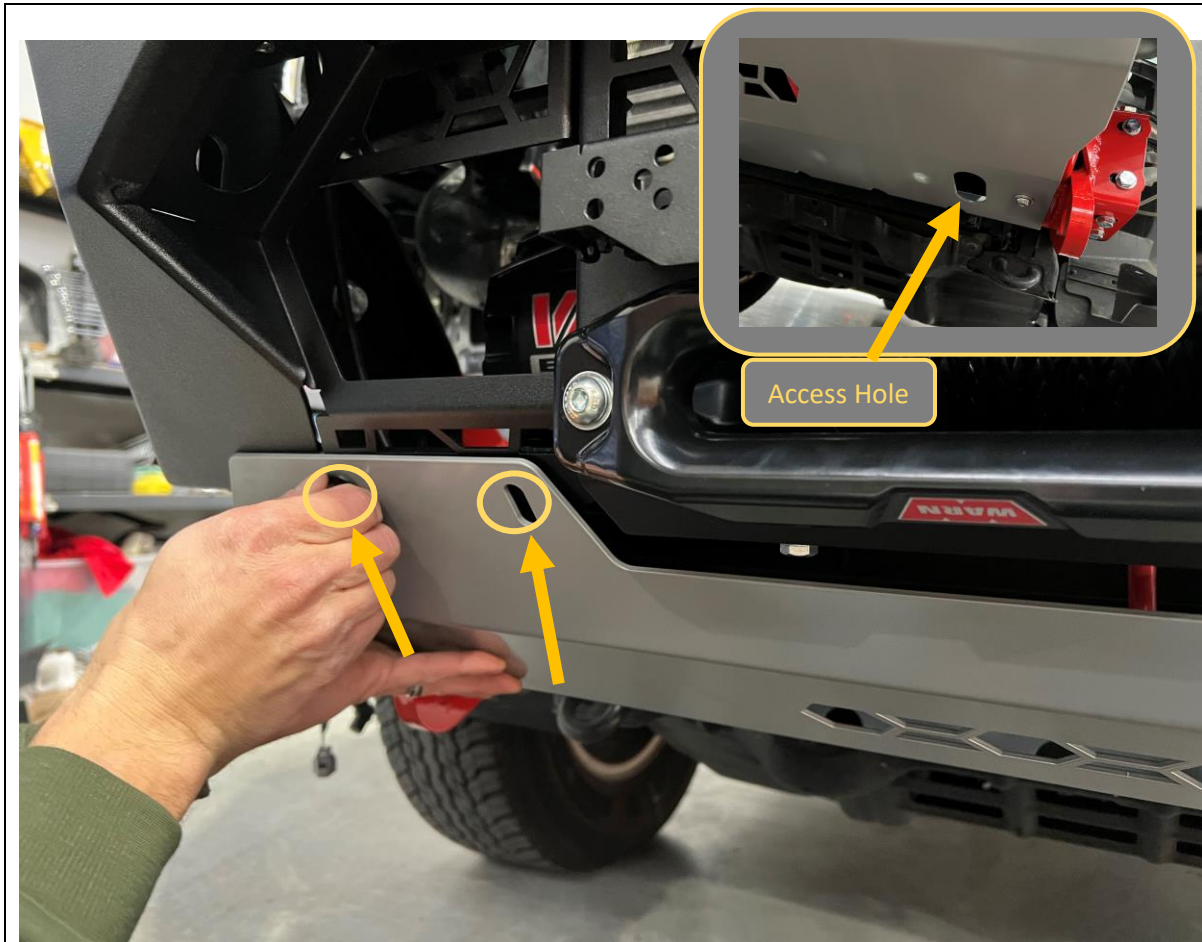


- 95. Re-connect all wiring harnesses to the adaptive cruise sensor, parking sensors and fog lights

- 96. Replace the radiator shroud to top of grille, Secure with factory push center clips.

TOOLS REQUIRED

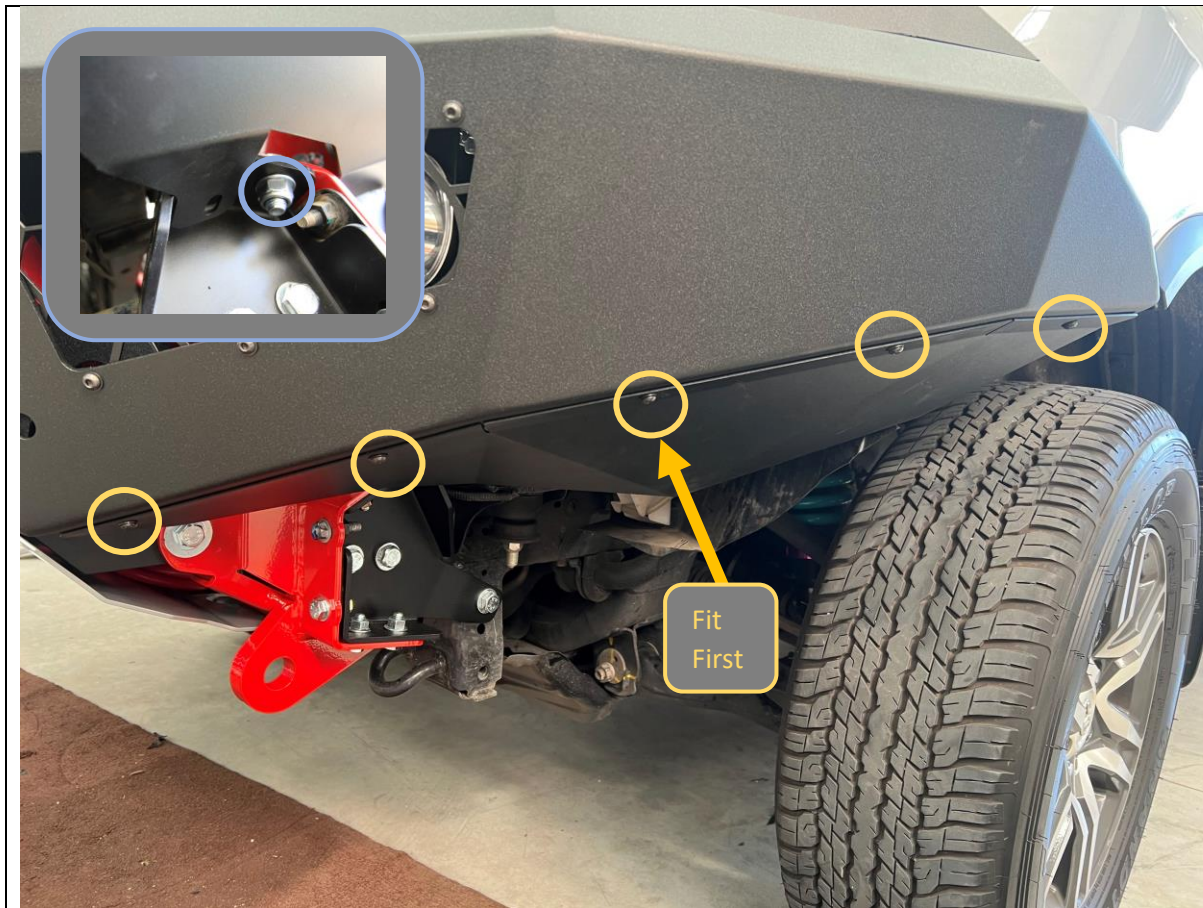
FASTENERS



- 97. Fit bash plate to vehicle.
- 98. First secure the top of the bash plate to the bottom of bar, through Shim plate, Mesh panel, then bar itself. Secure with M8x20 Button head bolts, Flat washer and Flange Nuts.
- 99. Secure bottom of Bash plate to mounts M10x30mm Button head Bolt, Flat washer and M10 Flange Nut. Insert nut through access hole in bash plate as shown.

TOOLS REQUIRED
5mm Hex
6mm Hex
13mm Spanner & Socket
15mm Spanner

FASTENERS
4x M8x20 Button head Bolt
4xM8 Flat washer
2x M8 Flange nut
2x M10x30 Button head Bolt
2x M10 Flat washer
2x M10 Flange nut



100. Fit side under panels to bar and secure with 4x M6x16 Button head bolts and M6 Flat washers, into M6 cage nuts fitted earlier.

Fitting center bolt first will make it easier to align panel to bar.

101. Secure the back corner of under panel to mount using M8x20 Hex bolt, Flat washer and M8 Flange Nut.

102. Repeat for other side of vehicle.

TOOLS REQUIRED
4mm Hex Key
13mm Spanner / Socket

FASTENERS
8x M8x20 Button head bolt
8x M6 Flat Washer
2xM8x20 Hex head
2xM8Flat Washer
2x M8 Flange nut



<p>103. Mark where wheel arch liner intersects with side under panel with paint pen or other marker.</p> <p>104. Create line offset approximately 20mm below intersection point.</p> <p>105. Trim wheel arch liner to this line using utility Knife.</p>	<p>TOOLS REQUIRED Marker Utility Knife</p>
<p>106. Insert wheel arch liner behind flange on side under panel.</p>	<p>FASTENERS</p>



- 107. Fit the logo plate to the front of the bar as shown.
- 108. Fit the Compliance plate in a visible location on the underside of the bar. We recommend placing it on the bottom of the center bash plate.
- 109. Review fitment and double check all bolts are tight.

TOOLS REQUIRED

- Marker
- Utility Knife

FASTENERS



Congratulations!
Head for the tracks and enjoy your newly protected Toyota Fortuner!