

# OCAM

**4x4**  
**ACCESSORIES**

## INSTALLATION INSTRUCTIONS

PART NUMBER: BB2-300

APPLICATION: Toyota LC300

FITTING TIME: 5 hours



OCAM 4x4 Accessories  
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## WARNING

- Do not attach Vehicle Frontal Protection System (**VFPS**) to the vehicle using anchor-ages not intended for this purpose (e.g. engine mounting bolts).
- Do not use this product for any vehicle, make or model other than those specified by the VFPS manufacturer.
- Do not remove the plaque or label from the VFPS.
- Do not modify the structure of the VFPS in any way.

During installation of this product some of the driver aids may have been relocated. Some of these may need to be re-calibrated after fitment by the dealer. While this product has been produced to provide continued functionality of “driver aids” as closely as possible to Original Equipment, road conditions and the combination of other accessories fitted to the vehicle may affect functionality and cannot be anticipated. ***The driver remains responsible for the vehicle at all times.***

## IMPORTANT INFORMATION

- Always wear safety glasses and hearing protection.
- Make sure work area is kept clean at all times.
- Check that all components, as listed, are present.
- Thoroughly read all instructions.
- This product or its fasteners must not be modified in any way.
- These instructions are accurate as at the revision date and do not take into account any changes made by the vehicle manufacturer to vehicle design after the revision date, or other accessories that are or have been fitted to the vehicle.
- It is the responsibility of the installer to confirm correct operation/clearance of all components.
- All holes drilled must have all burrs and swarf removed then coated with a suitable rust preventative paint.
- Ensure that all hardware is fastened to torque list as detailed in these instructions.
- On completion of the job, these instructions are to be given to the customer.

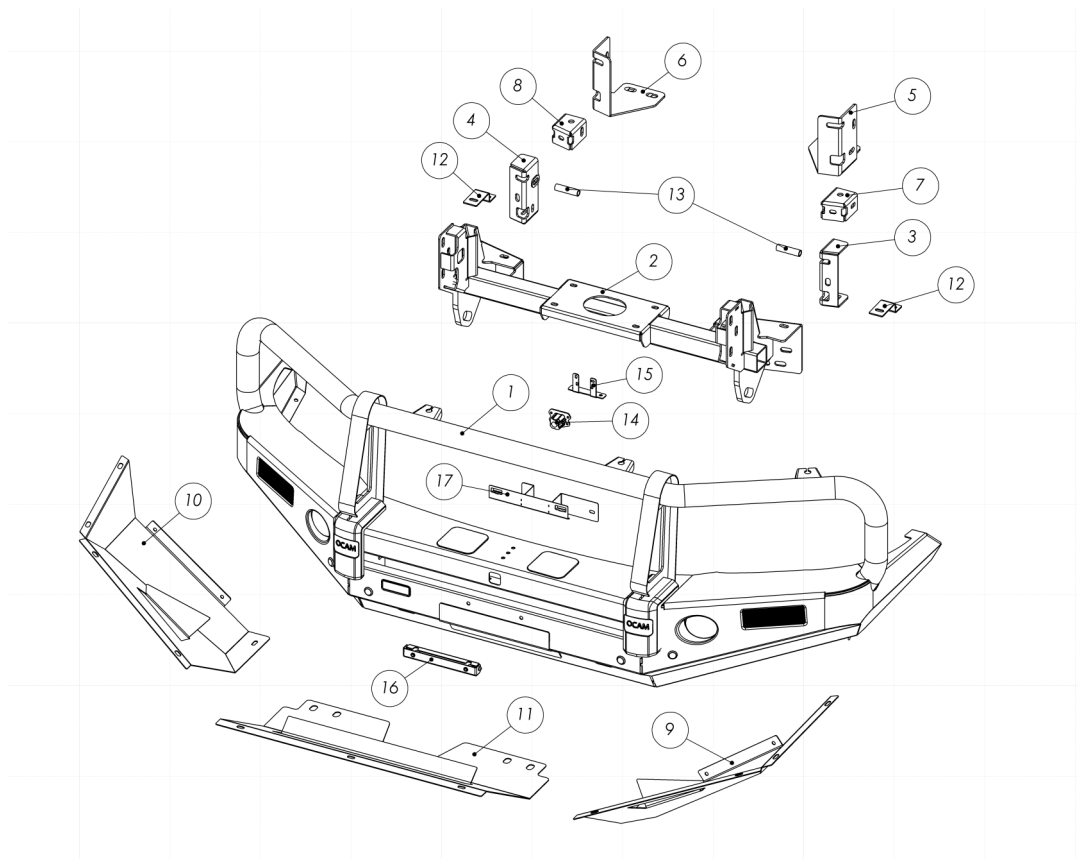
## PRODUCT CARE

- To maintain the appearance of the product, wash and dry regularly using a quality car wash.
- The product should be periodically checked for tightness.

Torque Settings		
BOLT SIZE mm	TORQUE Nm	TORQUE ft.lb
M5	7	5
M6	11.8	8.7
M8	28.8	21.3
M10	57.5	42.3
M12	99.8	73.7


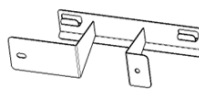
## Tools Required

1. Metric socket and spanners
2. Phillips and flat head screwdrivers
3. Torx drivers
4. Torque wrench
5. Marking pen
6. 2" Masking tape
7. Air hacksaw or Multi-Tool
8. Utility knife
9. IPA (isopropyl alcohol)
10. VHB tape
11. Automotive sealant-adhesive



Item	Part number	Description	Qty
1	200426650	Channel assembly 	1
2	200428727	Winch frame 	1
3	200428554	Outer chassis brkt LH 	1
4	200428555	Outer chassis brkt RH 	1
5	200428553	Inner chassis brkt LH 	1
6	E280008049	Inner chassis brkt RH 	1
7		Chassis support LH 	1
8		Chassis support RH 	1
9	200428662	Bash plate outer LH 	1
10	200428664	Bash plate outer RH 	1
11	200428427	Bash plate centre 	1
12	200428465	Bash plate bracket 	2
13	200428335	Crush tube 	2
14	200428471	Camera cover 	1
15	200451858	Camera relocation brkt 	1



Item	Part number	Description	Qty
16	200451859	Number plate brkt 	1
17		Grille support bracket 	1
18	200421957	Pinch weld @500mm	2

Hardware			
Item	Part number	Description	Qty
1		Hex bolt M12 x 110mm	2
2		Hex bolt M12 x 1.25 x 35mm	6
3		Hex bolt M12 x 1.75 x 40mm	12
4		Spring washer M12	20
5		Flat washer M12 x 32mm	26
6		Flat washer M12 x 24mm	8
7		Hex nut M12	14
8		Hex bolt M10 x 1.25 x 30mm	6
9		Hex bolt M10 x 1.5 x 30mm	4
10		Flat washer M10 x 1.5 x 30mm	14
11		Flange nut M10 x 1.25	6
12		Nyloc nut M10	4
13		Combo bolt kit M8	8
14		Flange nut M8	8
15		Hex bolt M6 x 20mm	2
16		Combo bolt kit M6	17
17		Flat washer M6	4
18		Flange nut M6	4
19		Screw M5 x 16mm	4
20		Flat washer M5	8
21		Nyloc nut M5	4



1. Unwrap the bull bar. Check the contents are correct and there is no damage.
2. Where fitted, remove the number plate.



3. Apply masking tape to both sides of the bumper as shown.



4. Tape the included bumper trimming template to the bumper bar as indicated on the template.
5. Using a marker, draw a line along the bottom edge of the template.

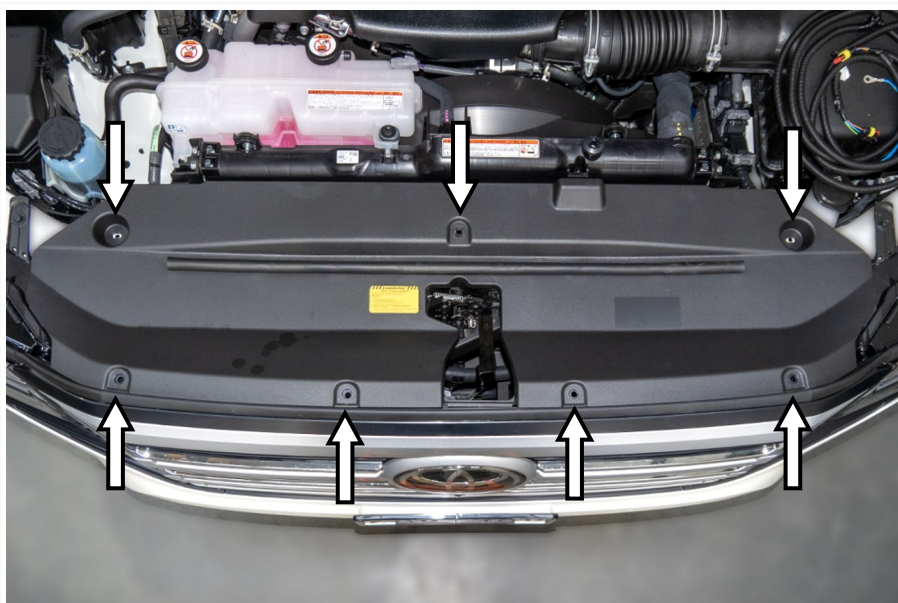




6. Remove the template and repeat for the opposite side.



7. Mark a line across the front of the bumper and grille

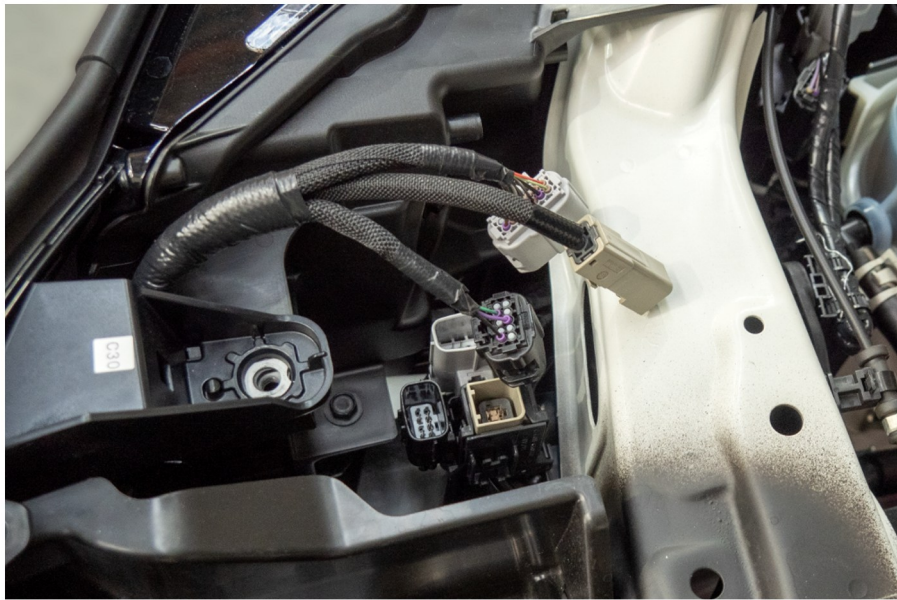


8. Remove the plastic clips securing the radiator top cover. Retain for refitment.
9. Remove the top cover.





10. Remove the three M6 bolts securing the top of the grille. Retain for reinstallation.



11. Disconnect the looms, where fitted, for the front camera, parking sensors and fog lights.



12. Where fitted, disconnect the headlight washer hose at the join shown.





13. Use a tube clamp or cable tie to stop the washer fluid from leaking.

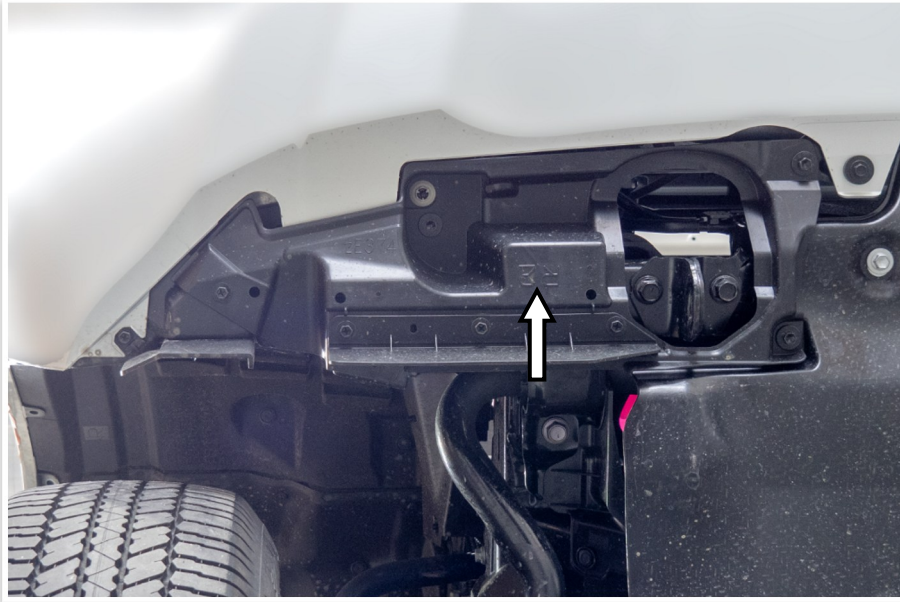


14. From inside the wheel arch, remove and retain the torx head screw at the top.
15. Remove and discard the two lower plastic clips.

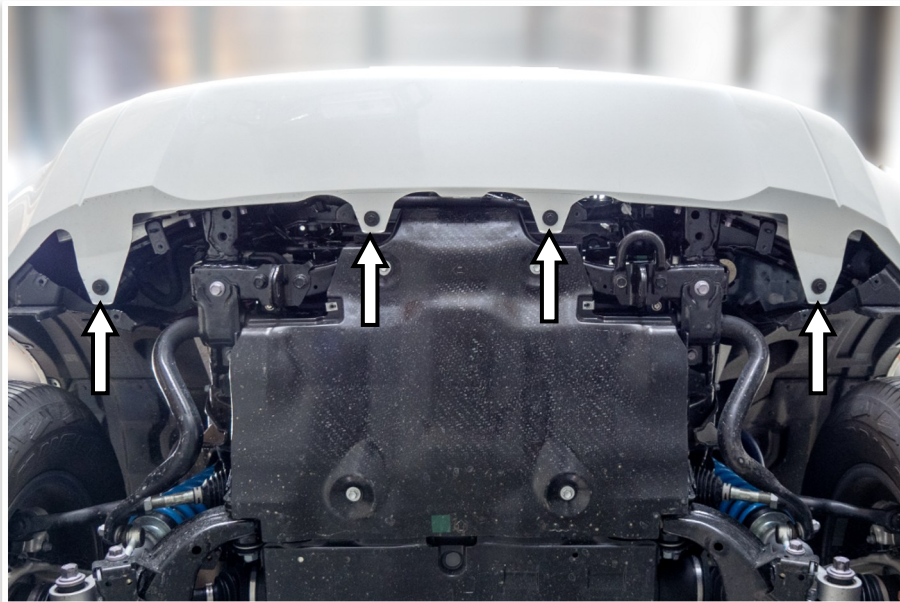


16. Carefully unclip the flare from the bumper bar.
17. Remove and retain the plastic clip at the top of the bumper bar.
18. Repeat for the opposite side.





19. Underneath the bumper bar, remove and discard the fasteners securing the outer cover panels.

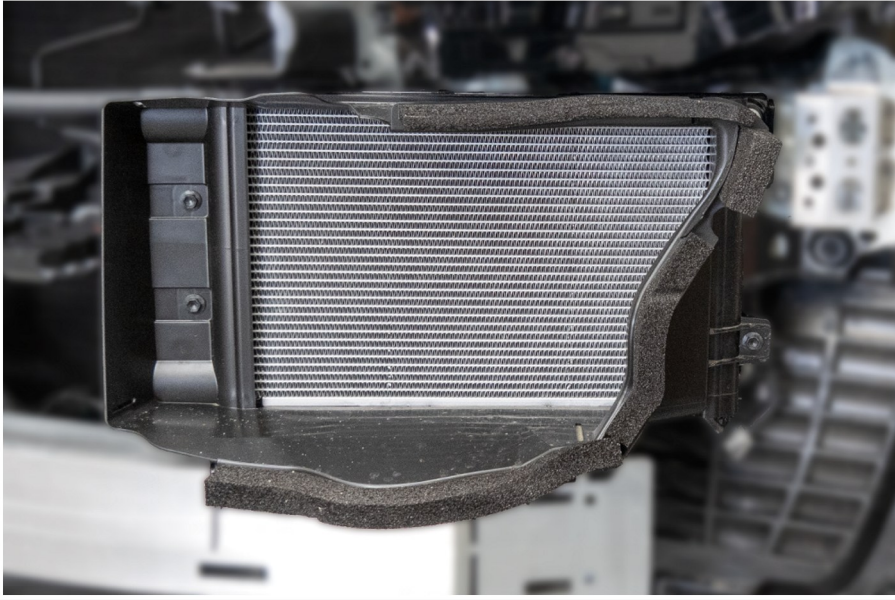


20. Remove and discard the fasteners securing the bottom of the bumper bar.

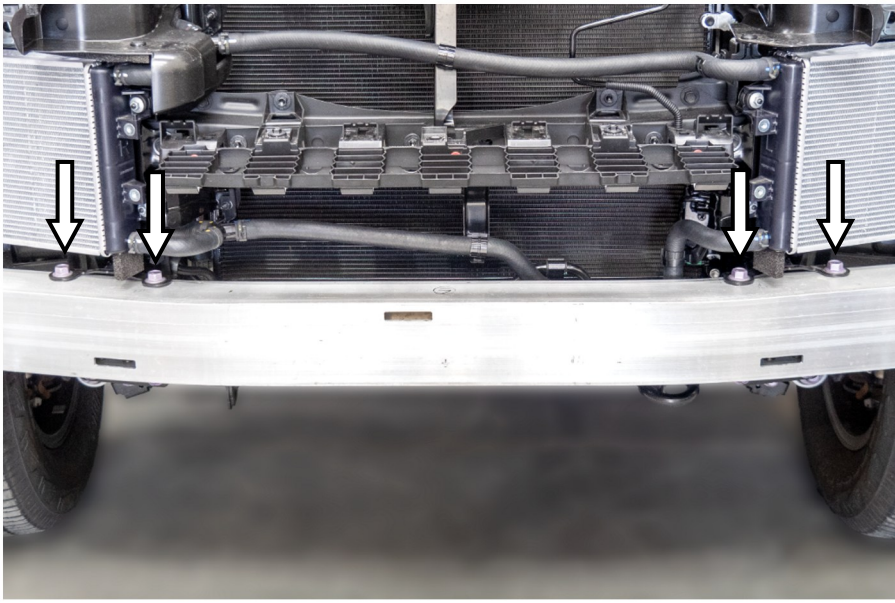


21. Carefully remove the bumper bar from the vehicle.  
22. Remove the plastic panel from the intrusion beam.

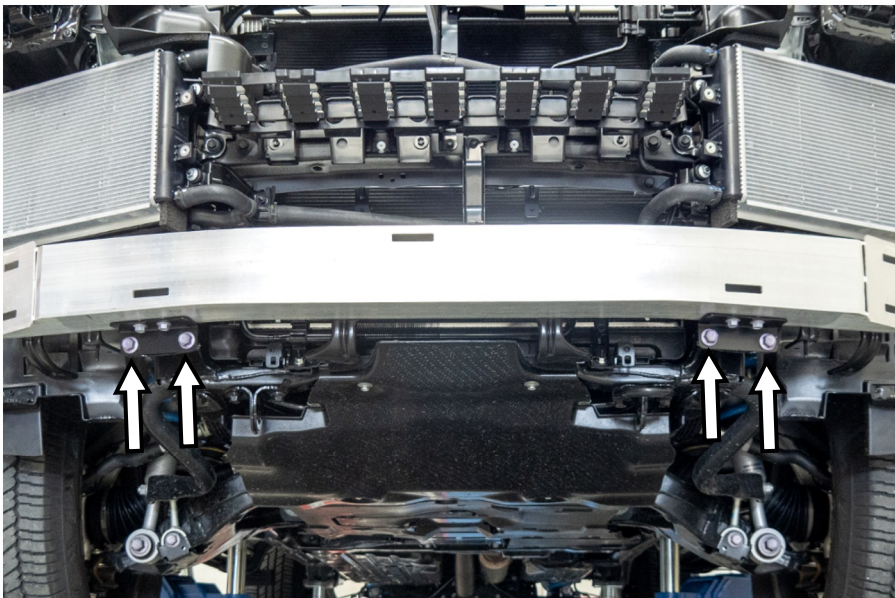




23. Remove both intercooler air guides.



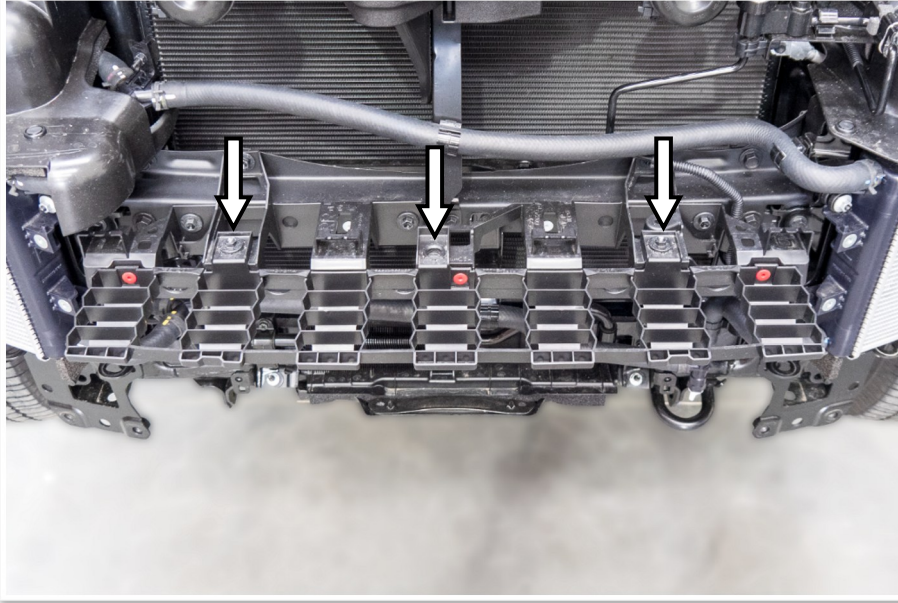
24. With the air guides removed you have access to the top bolts securing the intrusion beam. Remove the four bolts.



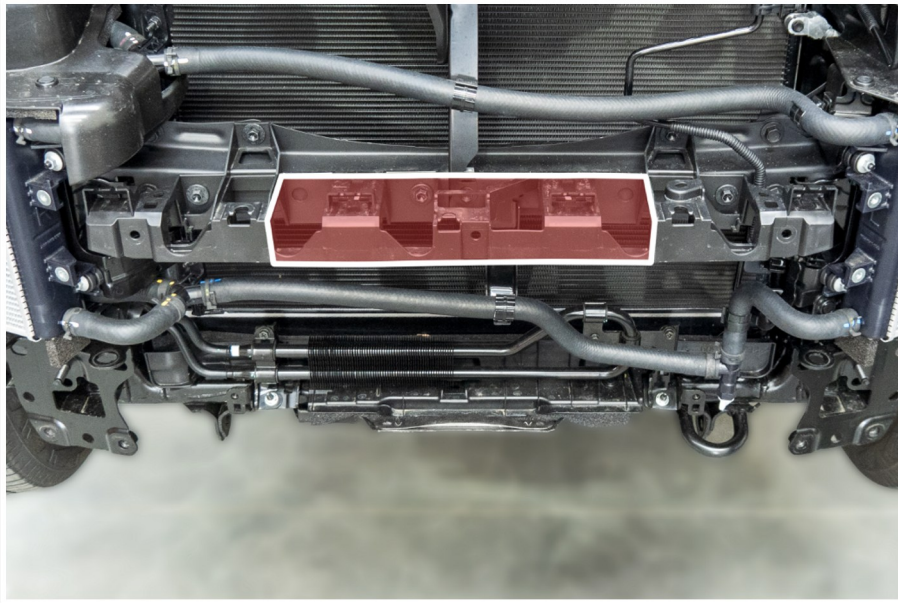
25. Remove the four lower intrusion beam bolts.

26. Remove the intrusion beam.





27. There are three bolts securing the bumper bar support. Remove and discard the bumper support.



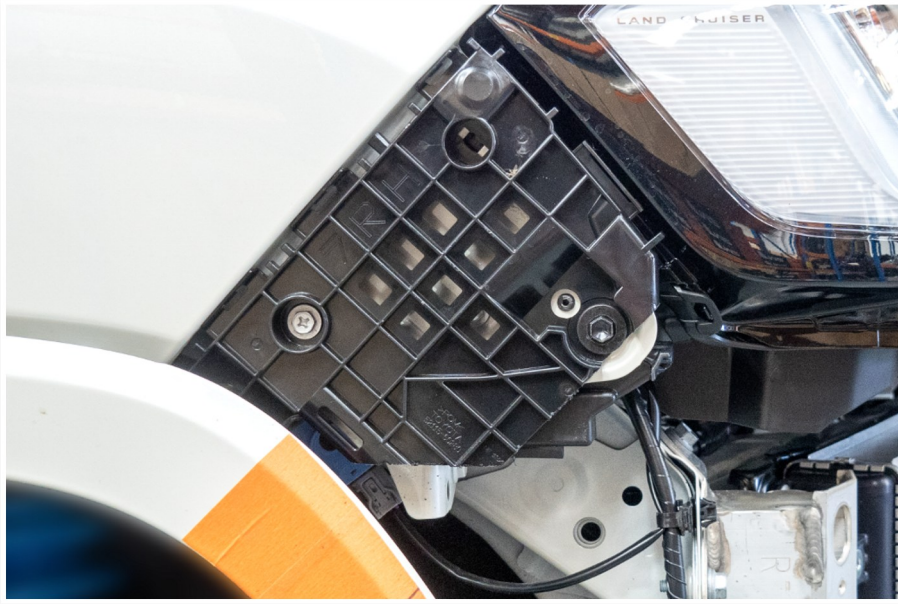
28. If you are fitting a winch you will need to trim the grill support. Trim the centre of the support panel. Do not remove the entire panel as it locates and supports the grille.



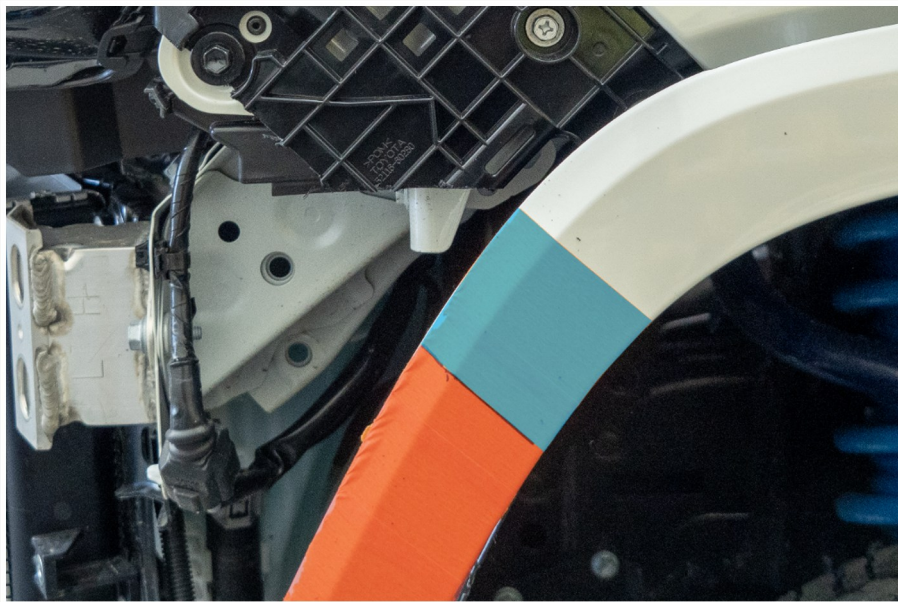
29. The bumper securing brackets need to be trimmed so they don't interfere with the bull bar.

30. Remove the brackets and trim as shown.

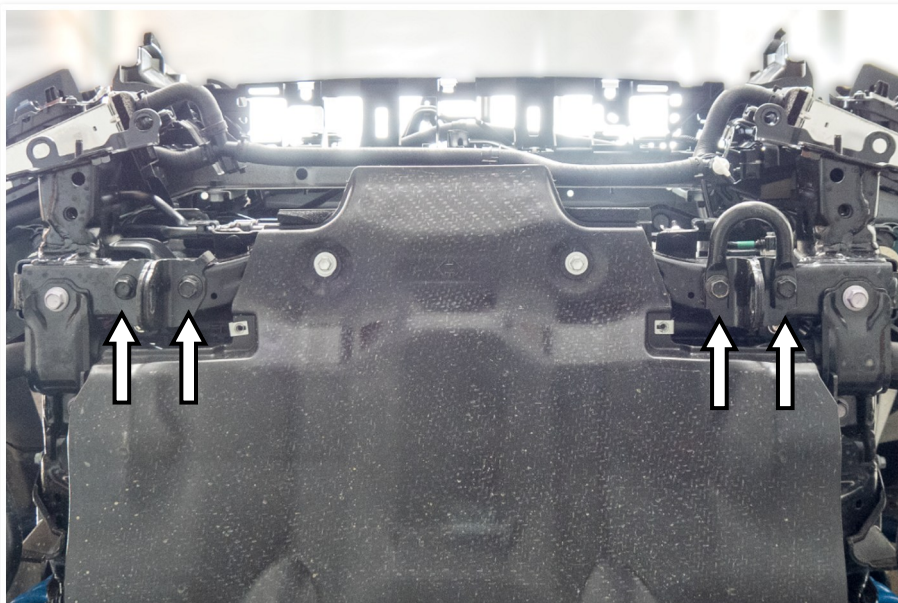




31. After trimming, replace the brackets using the original fasteners.

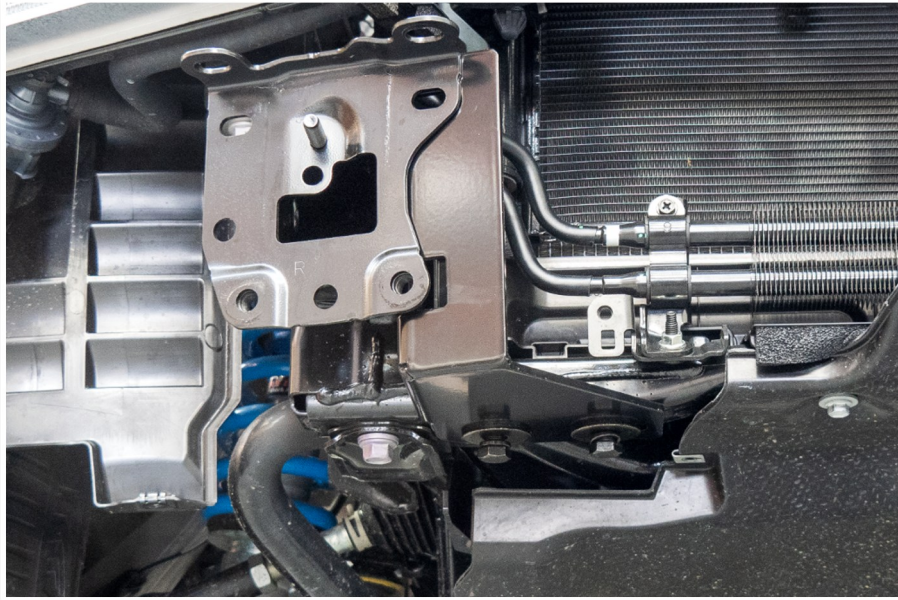


32. Using a grinder, saw or multi-tool, trim both flares as previously marked.



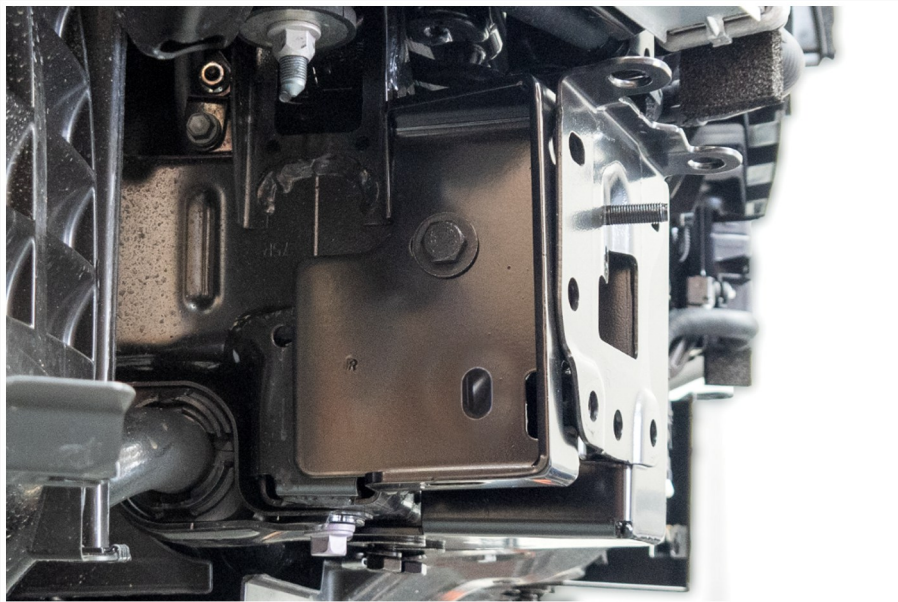
33. Underneath the vehicle, remove the tie downs and tow point. Keep the fasteners.



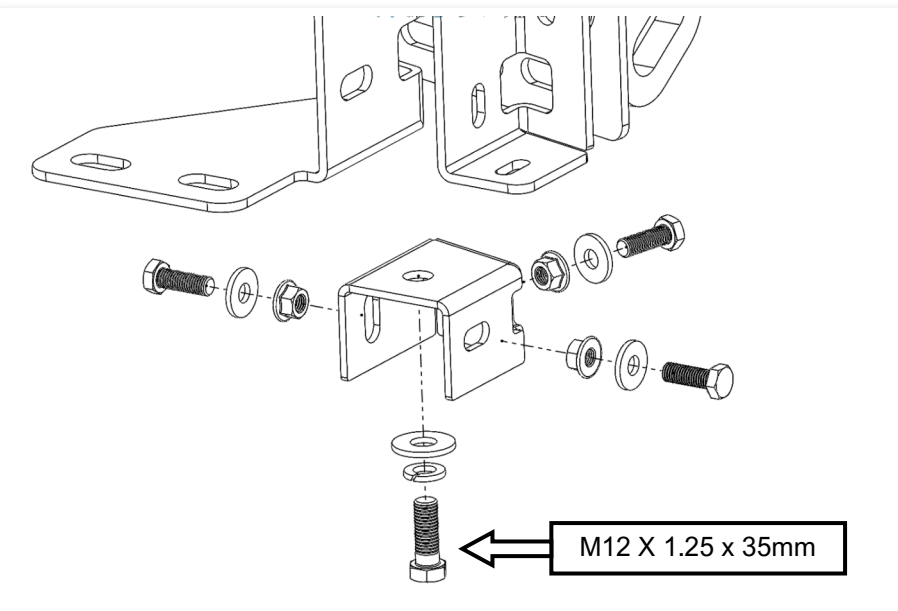
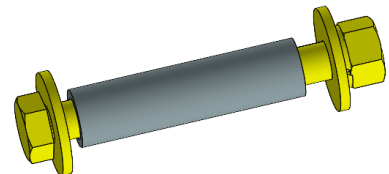


34. Fit the inner chassis support brackets (item # 5 & 6). Secure the lower part of the bracket using the fasteners removed in step 33.

These bolts will need to be removed later on to fit the centre bash plate.

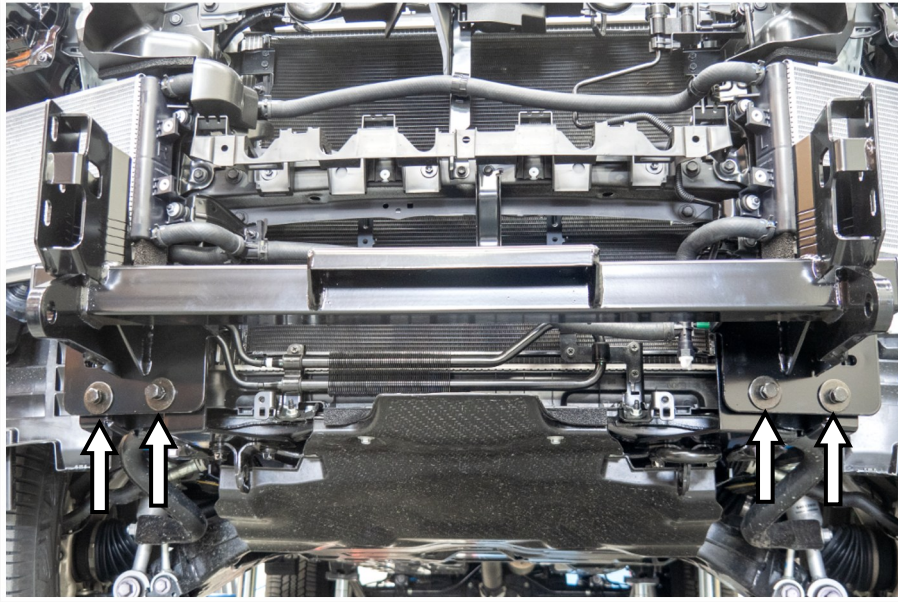


35. Fit the outer chassis support brackets (item # 3 & 4) to the vehicle using two M12 x 110mm hex bolts, two crush tubes (item # 13), four M12 flat washers, two M12 spring washers and two M12 hex nuts. Do not tighten.

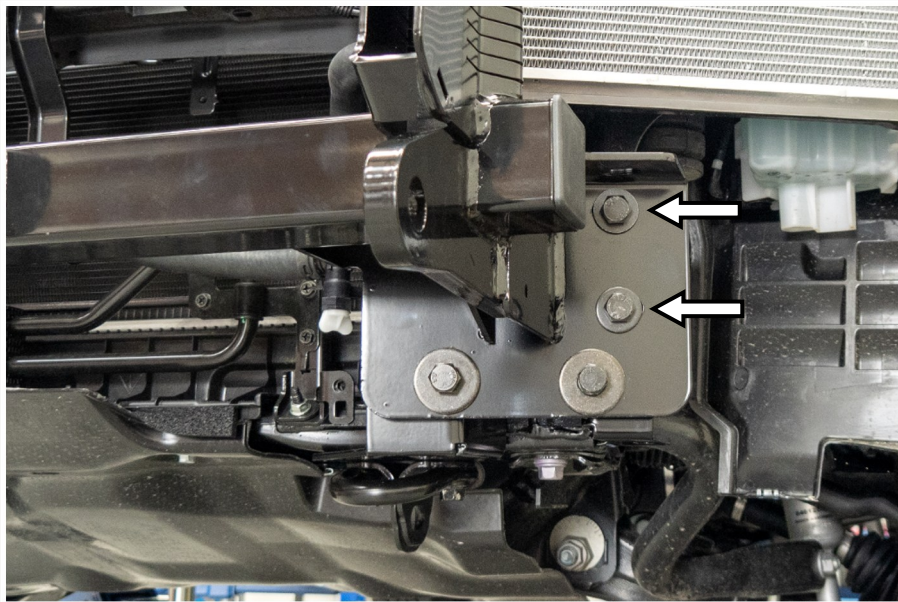


36. Fit the chassis support brackets (item # 7 & 8). These brackets fit to the bottom of the chassis in between the inner and outer chassis brackets. Secure with six M10 x 1.25 x 30mm hex bolts, six M10 flat washers and M10 flange nuts. Secure to the chassis with two M12 x 1.25 x 35mm hex bolts, M12 spring and flat washers.

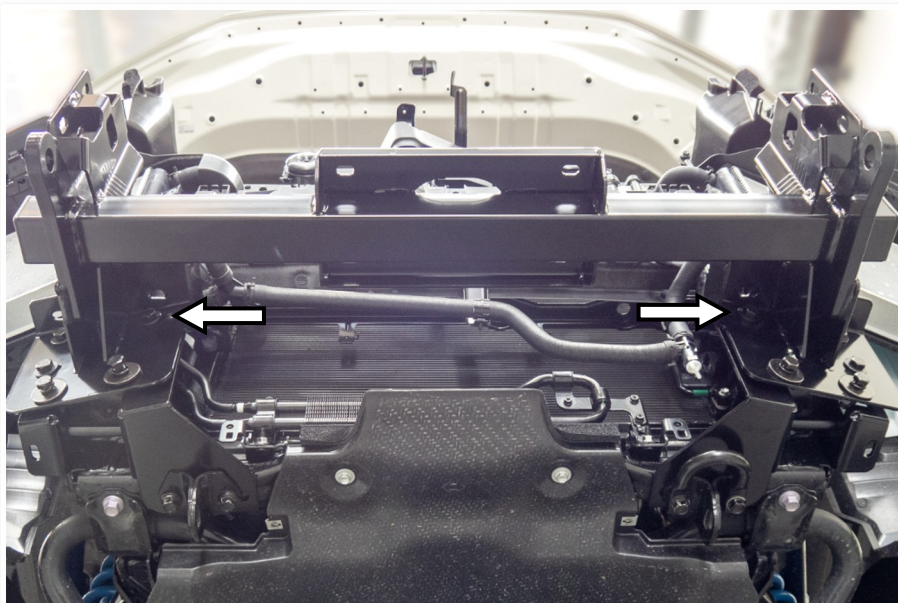




37. Lift the winch frame (item# 2) into position. Secure to the chassis end plates using four M12 x 1.25 x 35mm hex bolts, M12 spring and flat washers. Leave finger tight.

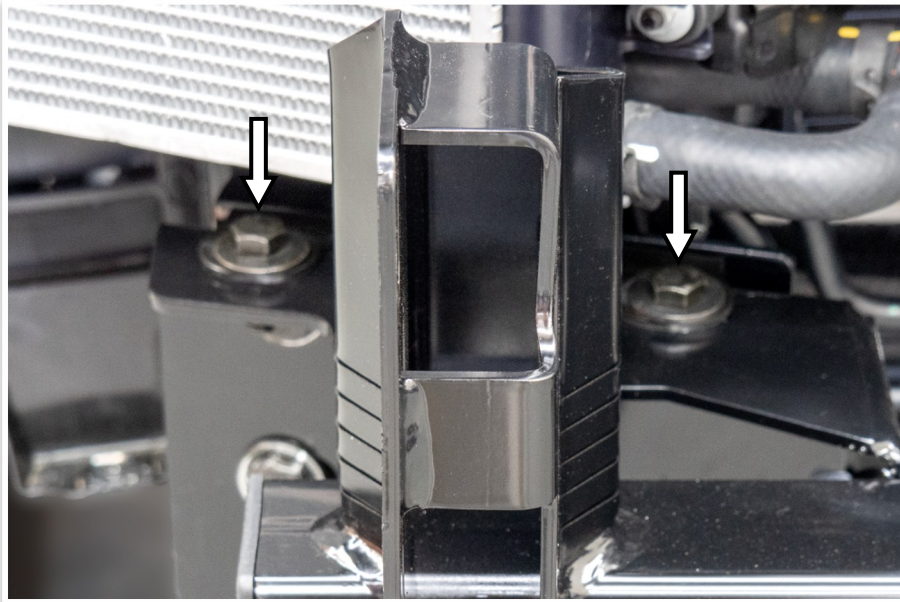


38. Secure the outside of the winch mount using four (two each side) M12 x 1.75 x 40mm hex bolts, eight M12 x 24mm flat washers, four M12 spring washers and four M12 hex nuts. Finger tighten only.

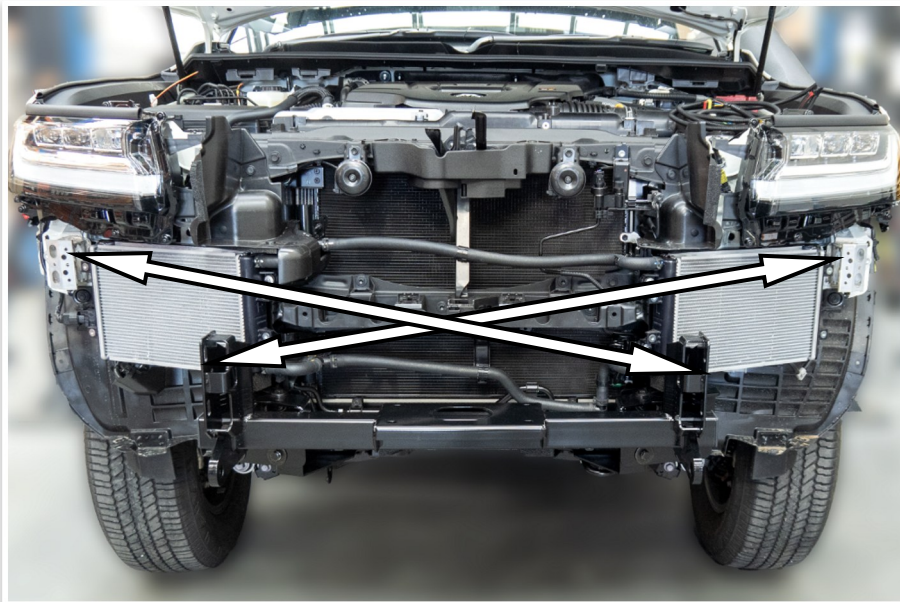


39. On the inside secure with two M12 x 1.75 x 40mm hex bolts, four M12 x 32mm flat washers, two M12 spring washers and two M12 hex nuts. Leave finger tight.





40. Secure the top of the winch mount to the chassis end plate using four M10 x 30mm hex bolts, eight M10 flat washers and four M10 nyloc nuts. Finger tighten only.

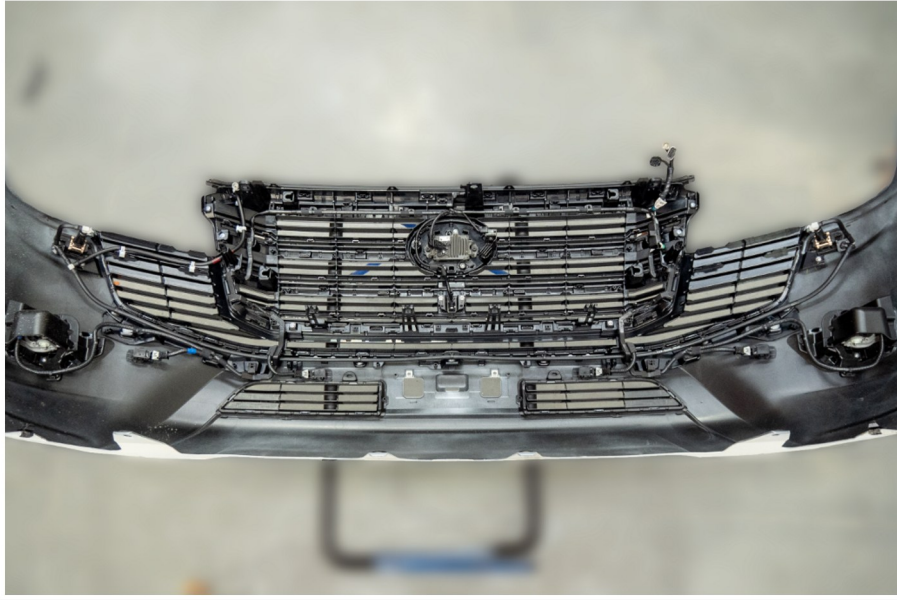


41. Centre the winch mount by measuring from a fixed point on the body of the vehicle to the winch mount on either side.
42. When centred, tighten all the fasteners to the correct torque.

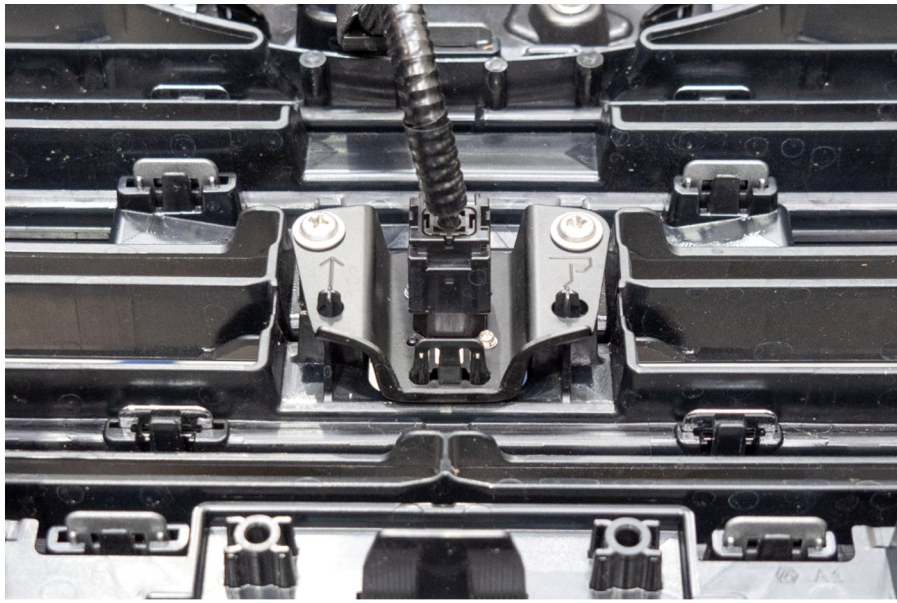


43. If a winch is being fitted, do so now. Use the hardware and instructions supplied with the winch.
44. Remove the winch cover plate from the bar.





45. Place the bumper bar on a stand to access the inside.

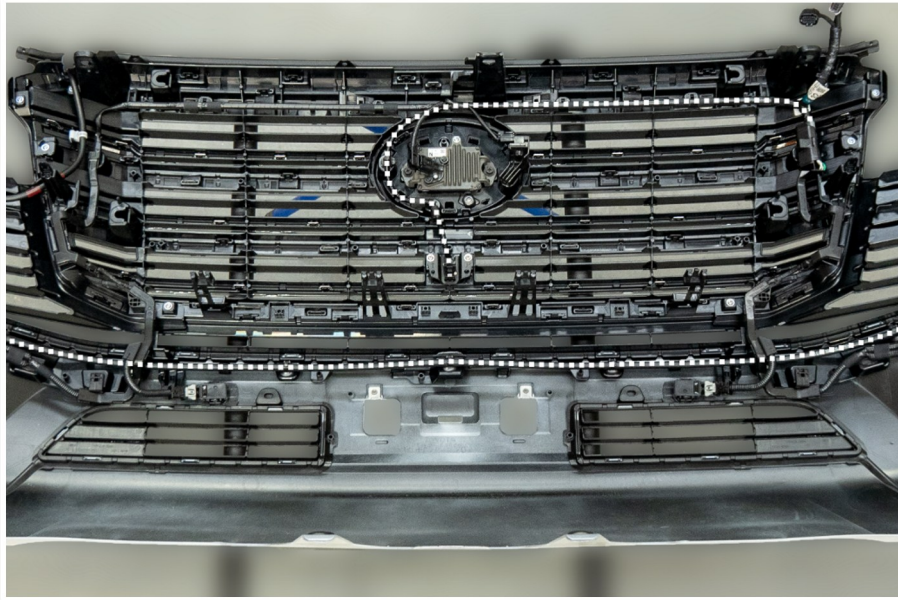


46. If fitted, disconnect and remove the camera.



47. Fit the camera blanking plug into the original camera location and fasten using the original screws.





48. It is necessary to separate the camera loom from the radar unit loom so that the camera loom reaches the camera's new location.
49. Where fitted, remove the headlight washer hose from the bumper bar.

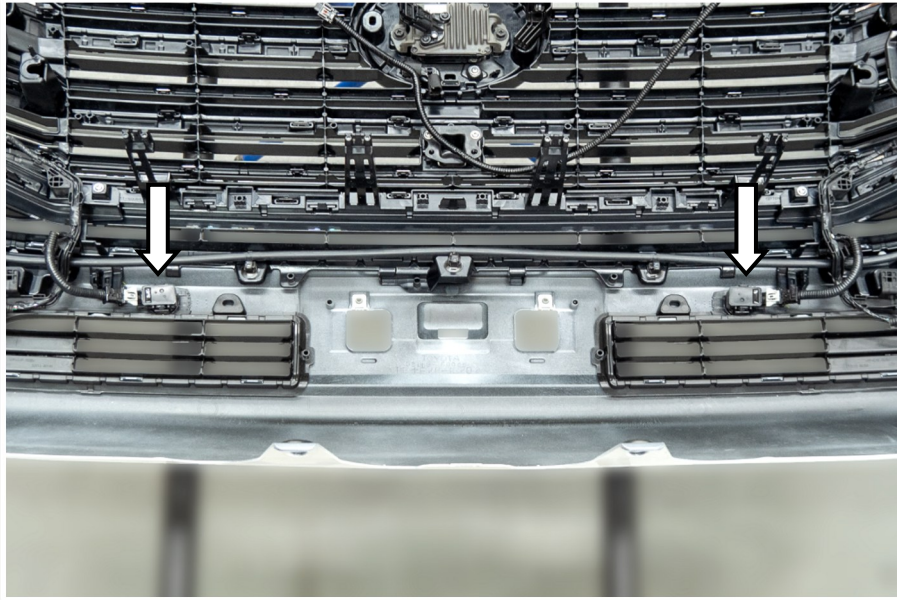


50. Remove the covers from the fog lights

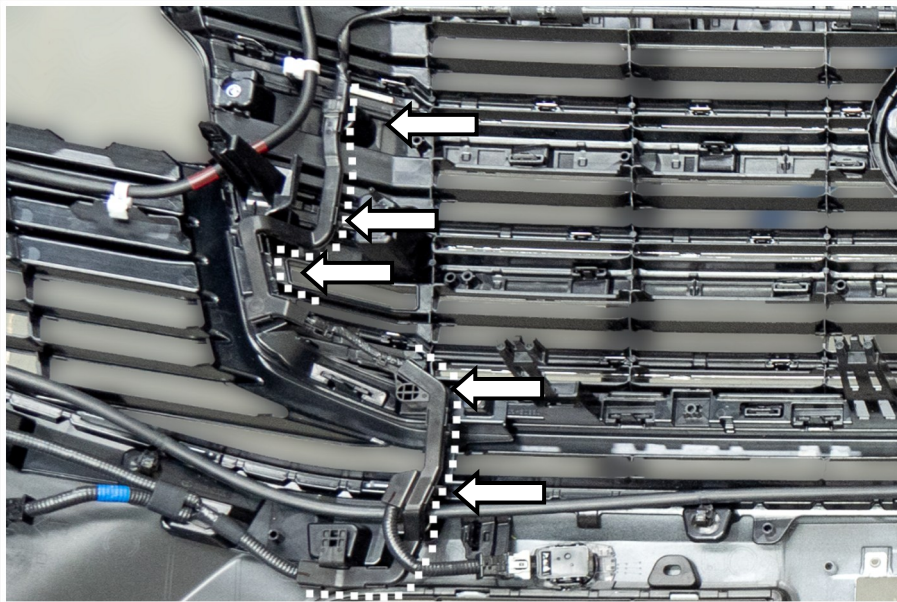


51. Disconnect the fog lights.
52. Note the location and orientation of the parking sensors. Disconnect the parking sensors.
53. Remove the parking sensor and fog light looms from the bumper bar





54. Disconnect the two inside parking sensors.



55. The parking sensor and fog light looms need to be removed from the plastic housings attached to the grille. Carefully remove the plastic covering.

56. Fit conduit to the exposed loom.

57. Trim the bumper bar as previously marked. Ensure to keep the grille retention brackets.

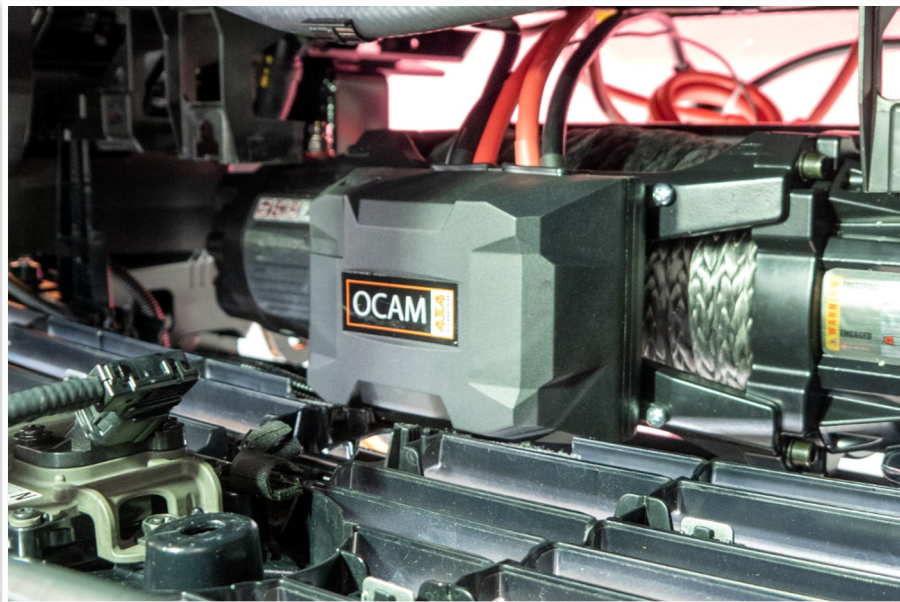


58. Refit the bumper and grille to the vehicle using the original fasteners.

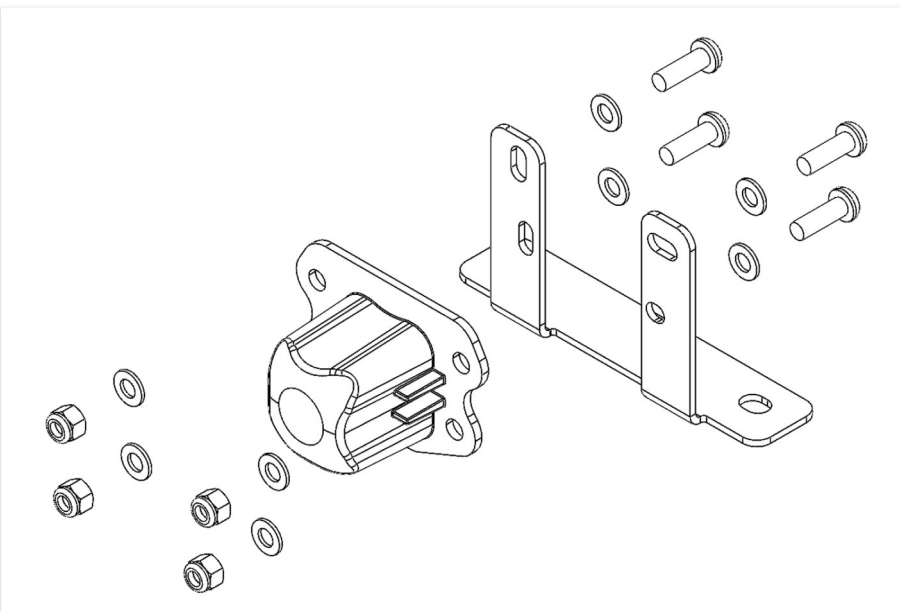




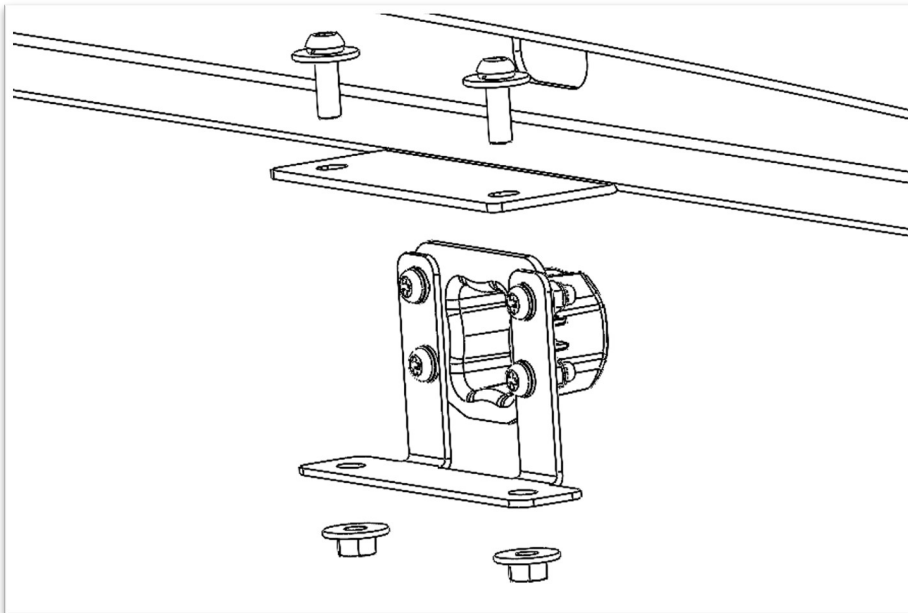
59. Fit the supplied pinch mould to the trimmed edges of the bumper bar and flares.



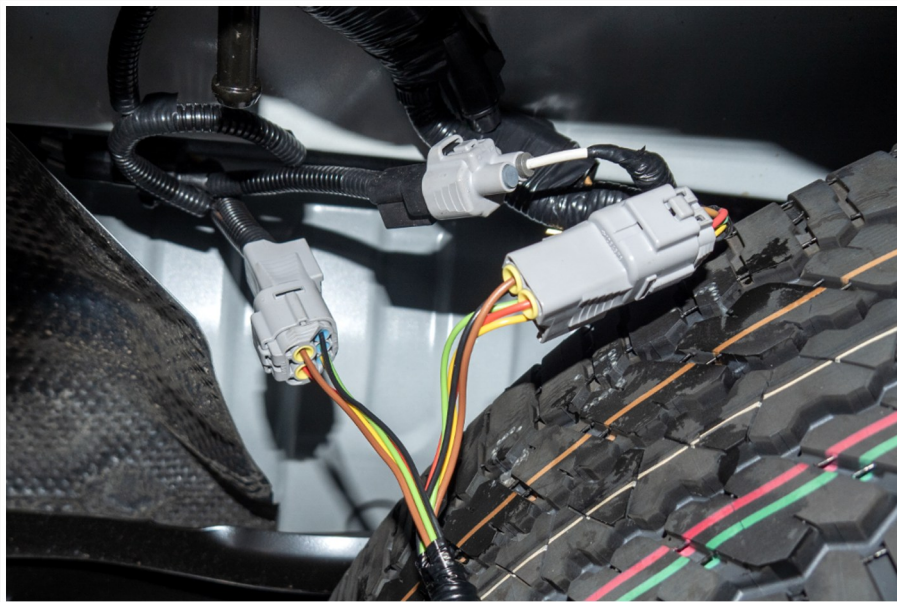
60. Where a winch has been fitted it may be necessary to trim the bottom of the grille to give adequate clearance. This will depend on your winch and control box location.



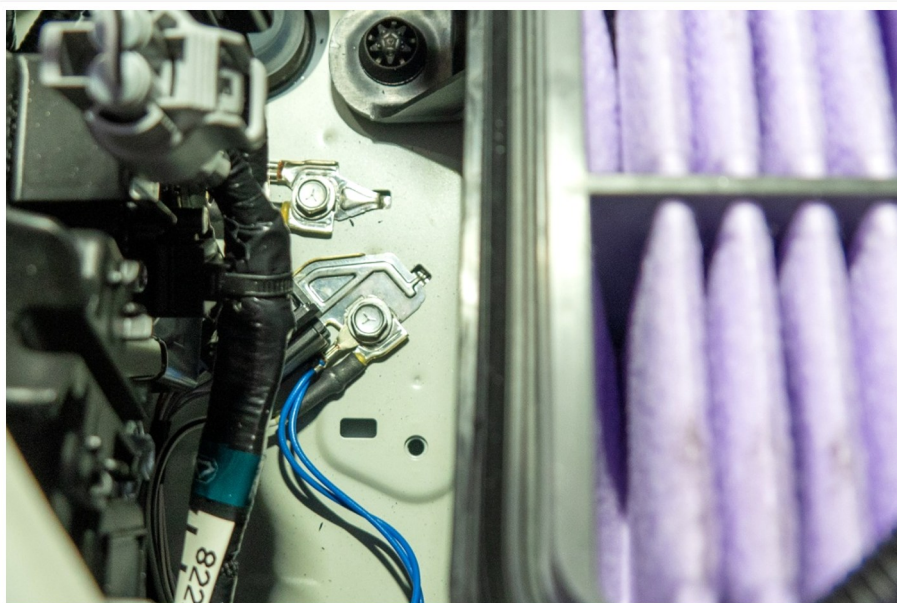
61. If no camera is fitted to the vehicle, fit the supplied camera blank (item# 14) to the camera bracket (item# 15) using four M5 x 16mm button head screws, M5 flat washers and M5 nyloc nuts.
62. If a camera is fitted to the vehicle, fit the camera to the camera bracket using the above fasteners.



63. Fit camera bracket to the bar using two M6 combo bolts and M6 flange nuts.



64. Connect the combination lamp wiring loom to the trailer plug connectors located at the rear left hand side of the vehicle.
65. Route the loom along the left hand side chassis and into the engine bay.



66. Connect the earth lead to the earth point located in front of the airbox.
67. Continue the loom to the front of the vehicle, the longer section to the right hand side.





68. Organise all the cables so they are secured away from any sharp, hot or moving surfaces. Ensure they have enough length to reach their new locations on the bull bar.



69. Lift the bull bar onto the winch mount bracket.

70. Secure using six M12 x 1.75 x 40mm hex bolts, six M12 spring washers, twelve M12 flat washers and six M12 hex nuts. Tighten just enough to hold the bar in place.



71. Align the bar so there is a 20mm gap to the flare and the end of the bar is in line with the edge of the guard.

72. Tighten all fasteners to the correct torque.





73. If a winch is fitted, fit the number plate bracket (item # 16) to the bar using two M6 combo bolt sets.



74. Fit the number plate to the number plate bracket and tighten the bolts of the hinge so the number plate is secure.

75. If no winch is fitted, fit the number plate directly to the bar, there is no need for the number plate bracket.



76. Connect the fog lights, parking sensors and combination lamp looms.

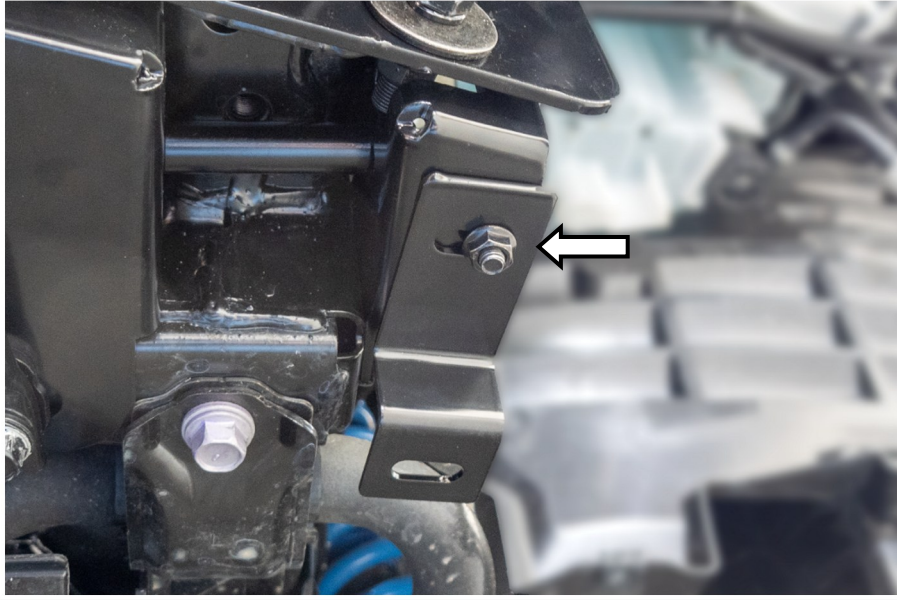
77. Reconnect the vehicles wiring loom and, where fitted, the headlight washer hose.

78. Make sure all lighting and sensors are working correctly.

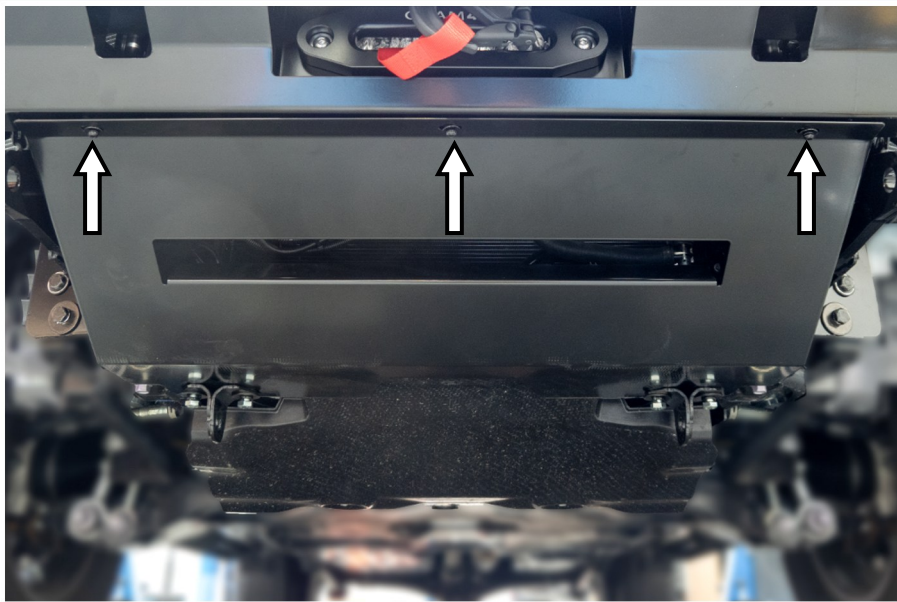
79. Reinstall the radiator top cover.

80. Organise all the cables so they are secured away from any sharp, hot or moving surfaces.





81. Fit the outer bash plate support brackets (item # 12) using M8 combo bolts and M8 flange nuts.

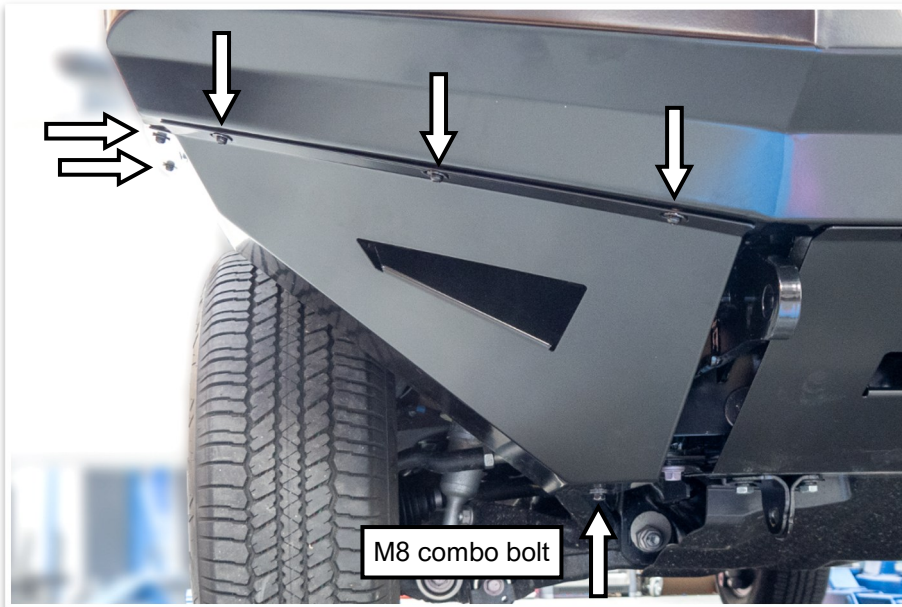


82. Remove the lower bolts from the chassis brackets installed in step # 34.
83. Fit the centre bash plate (item # 11) to the front of the bar using three M6 combo bolts.
84. Secure the rear with the bolts removed above.



85. Temporarily fit or hold the outer bash plates (item # 9 & 10) in position.
86. Mark a line across the bottom of the bash plate.
87. Remove the bash plates and trim the inner guards where marked.





88. Secure the outer bash plates to the bar using ten M6 combo bolts.
89. Secure the inside to the bash plate brackets with two M8 combo bolts and flange nuts.



90. Ensure the guard liners are tucked in behind the rear fold of the bash plates.
91. Tighten all the fasteners securing the bash plates to the correct torque.