

OCAM

4X4
ACCESSORIES

INSTALLATION INSTRUCTIONS

PART NUMBER: BB2-Ranger-18

APPLICATION: Ford Ranger PX-III September 2018 to April 2022

FITTING TIME: 4.5 hours



OCAM 4x4 Accessories
31 Shirley Way, Epping, VIC 3076
Telephone (03) 9357-0306
Email: hello@ocam.com.au
ABN: 33166112278

WARNING

- Do not attach Vehicle Frontal Protection System (**VFPS**) to the vehicle using anchorages 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.

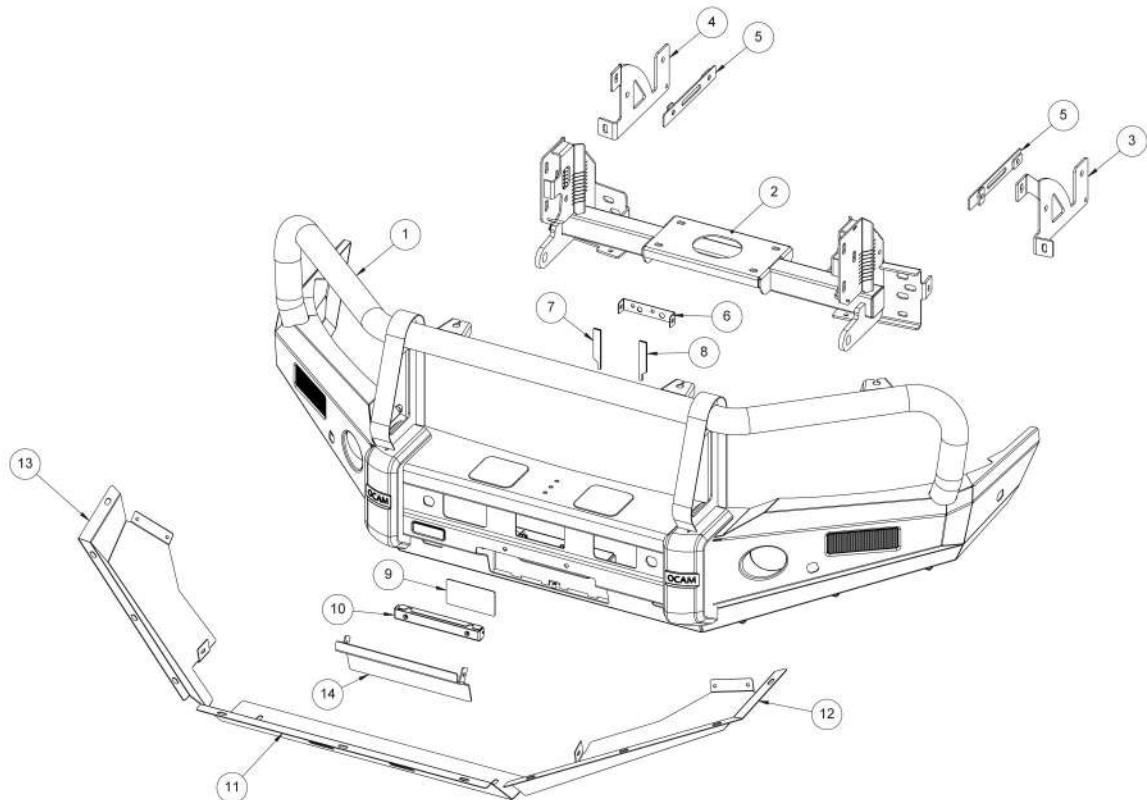
PRODUCT CARE




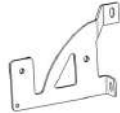






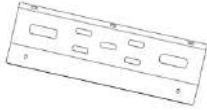

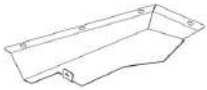
- To maintain the appearance of the product, wash and dry regularly using a quality car wash.
- The product should be periodically checked for tightness.

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. Soldering iron
9. Test light or multimeter
10. Electrical tape



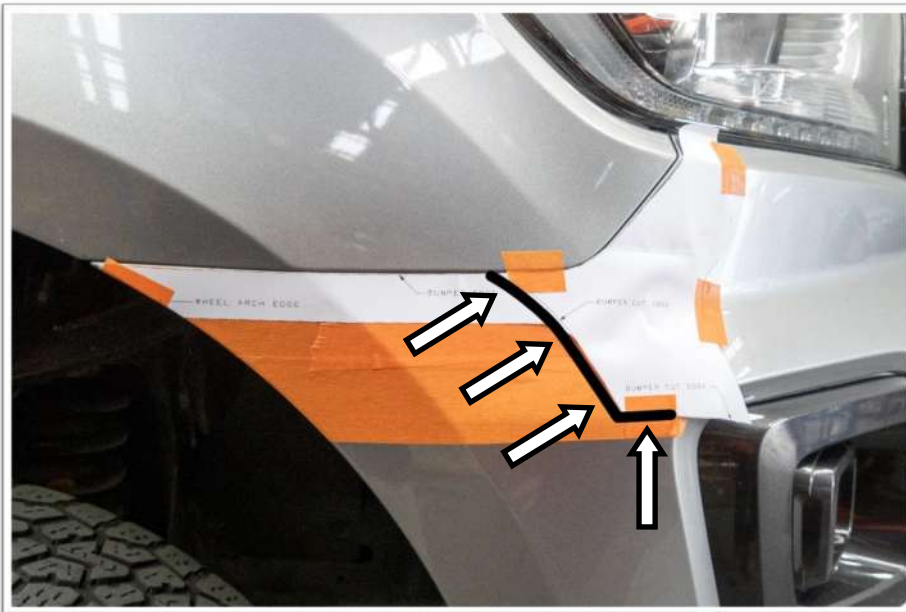
Item	Part number	Description	Qty
1		Channel assembly 	1
2		Winch frame 	1
3		Chassis bracket LH 	1
4		Chassis bracket RH 	1
5		Nut plate 	2
6		Radar backing bracket 	1
6		Adhesion plate RH 	1
8		Adhesion plate LH 	1
9		Radar cover plate 	1
10		Number plate bracket 	1
11		Centre bash plate 	1
12		Outer bash plate LH 	1
13		Outer bash plate RH 	1
14		Winch cover plate	1

Hardware

Item	Part number	Description	Qty
1		Hex bolt M12 x 1.75 x 40mm	10
2		Spring washer M12	10
3		Flat washer M12 x 32mm	16
4		Hex nut M12	6
5		Hex bolt M10 x 35mm	14
6		Hex bolt M10 x 30mm	2
7		Flange bolt M10 x 30mm	2
8		Spring washer M10	16
9		Flat washer M10 x 30mm	26
10		Hex nut M10	12
11		Combo bolt kit M8	4
12		Flat washer M8 x 22mm	2
13		Hex nut M8	2
14		Combo bolt kit M6	15
15		Dome head bolt M6	4
16		Spring washer M6	2
17		Nylon washer M6	2
18		Flat washer M6	6
19		Flange nut M6	2
20		Nyloc nut M6	2
21		Cage nut M6 (2.5mm)	2



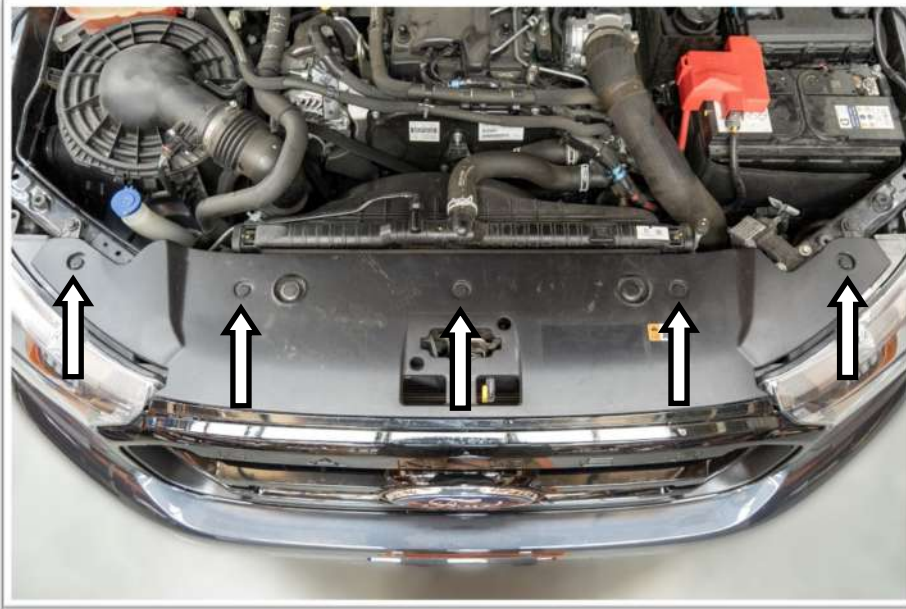
1. Park the vehicle in a suitable location.
2. Where fitted, remove the number plate.



3. Apply masking tape to the sides and front of the bumper bar.
4. Fit the bumper cut template to the vehicle as shown.
5. Using a felt tipped marker, mark a line along the edge of the template. Remove the rear of the template and continue the line



6. The cut line across the front will depend on what model vehicle you have. Some will cut the bumper, others will cut through the grille, mark 10mm down from the crease in the bumper bar.



7. Raise the bonnet.
8. Remove the five plastic clips securing the radiator top cover.



9. There are two hex bolts (8mm head) located behind the inside of the headlights. You will need a long extension to get to them. Remove these two bolts (one either side). Keep for re-installing the bumper bar.



10. Remove the two M6 hex bolts securing the top of the grille.



11. Release the clips along the lower part of the grille and remove.



12. Remove the four (two each side) plastic clips that secure the bumper. Keep these for re-installing the trimmed bumper bar.

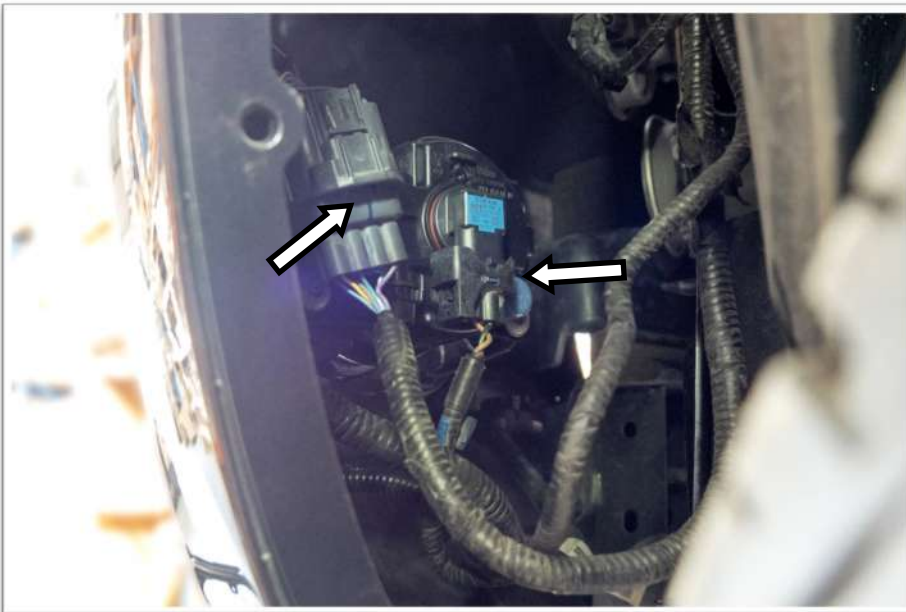


13. From inside the wheel arch, remove the four fasteners securing the guard liner to the bumper bar.

14. Repeat for the other side.



15. From underneath, remove the fasteners that hold the bumper bar in place.



16. On the LHS, pull back the guard liner and disconnect the fog light, and where fitted, parking sensor loom.

17. On the RHS disconnect the fog light.

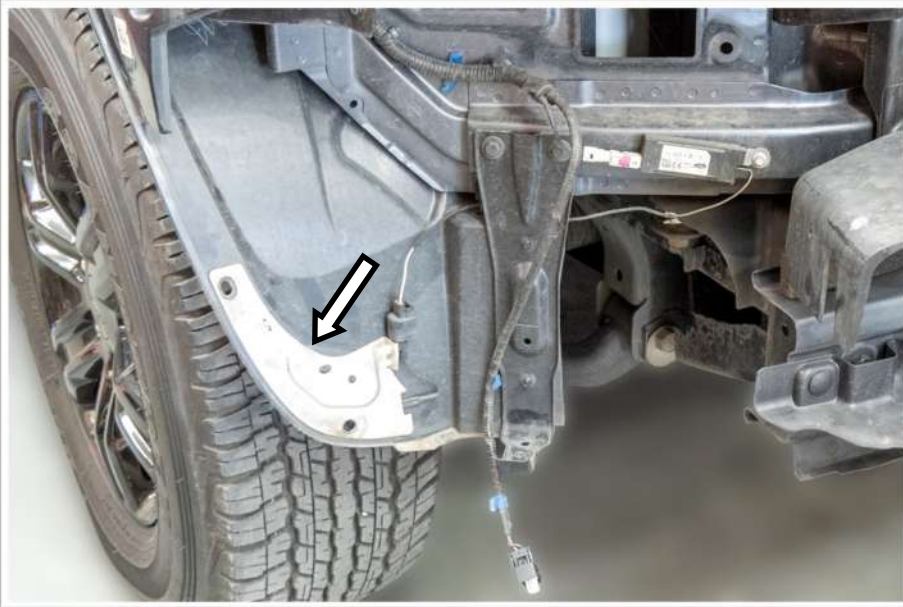


17. Starting on the sides, gently pull the bumper bar away from the guard and headlights.

18. Remove the bumper bar from the vehicle.



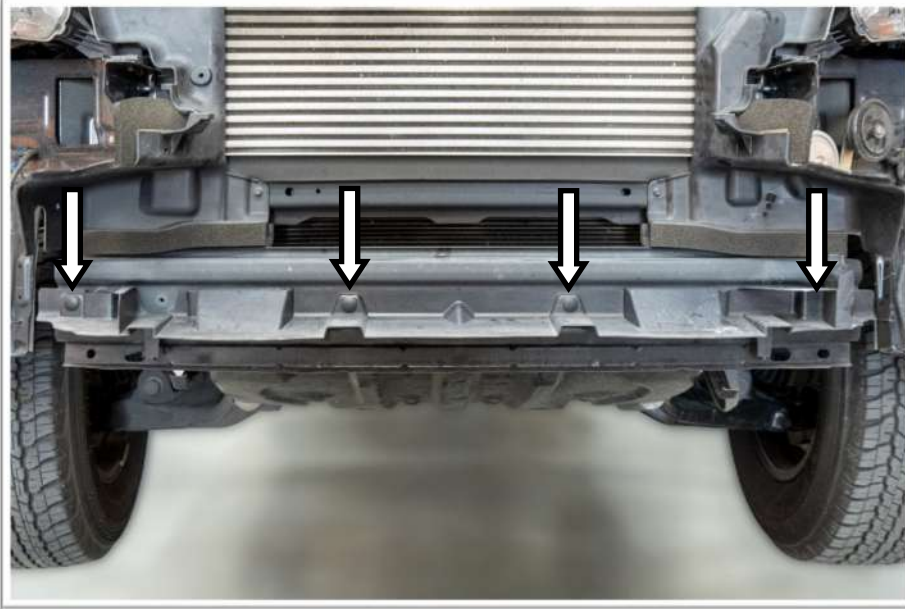
19. Remove the connectors from the back of the headlights. Using a LED test light determine the indicator, park and DRL wires.
20. Splice the combination light looms to the headlight looms. Green-indicator, white-DRL, red -position lamp, black-earth.
21. Test connection is correct, insulate the soldered joins and reconnect the headlight plugs.



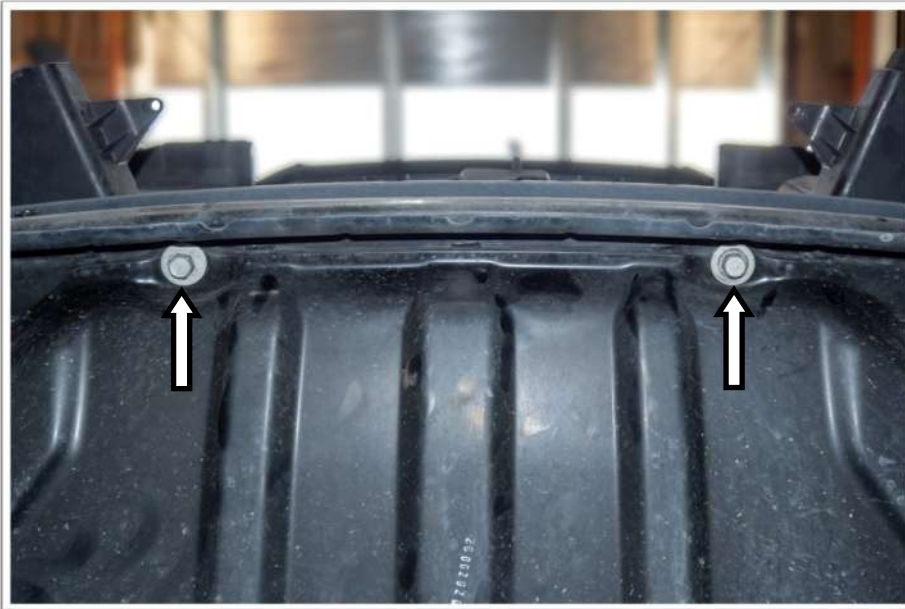
22. On the RHS, remove the two clips that attach the guard liner to the outer bumper bracket.
23. Remove the bumper bar bracket.
24. Carefully remove the DAB antenna from the guard liner.
25. For the LHS, remove the two clips from the guard liner and remove the bumper bar bracket.



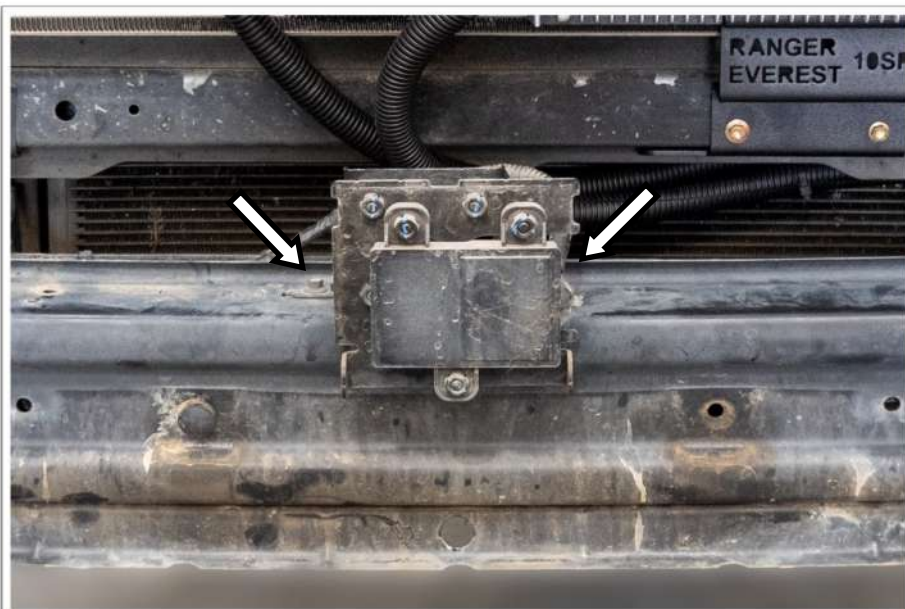
26. Refit the DAB antenna to the underside of the headlight.



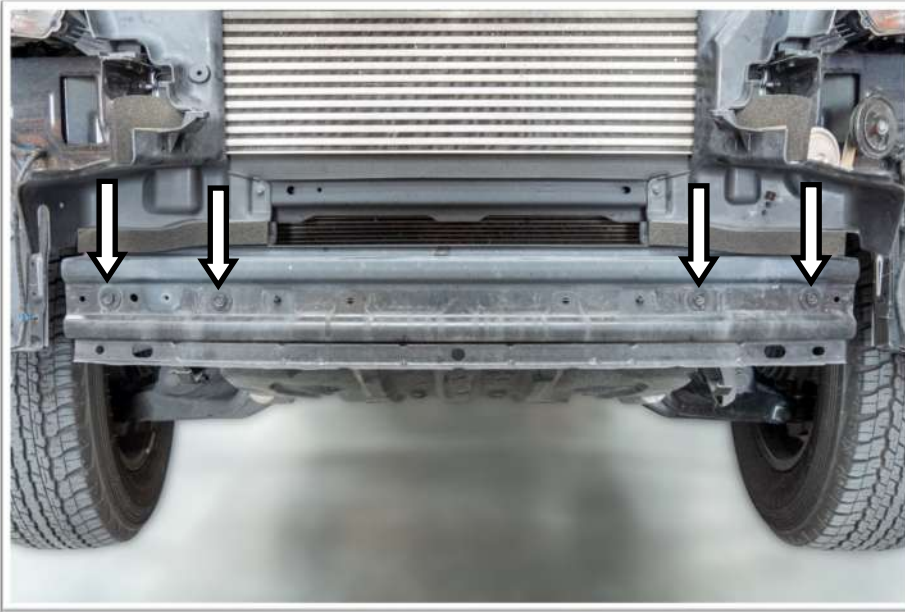
27. Remove the panel attached to the intrusion beam.



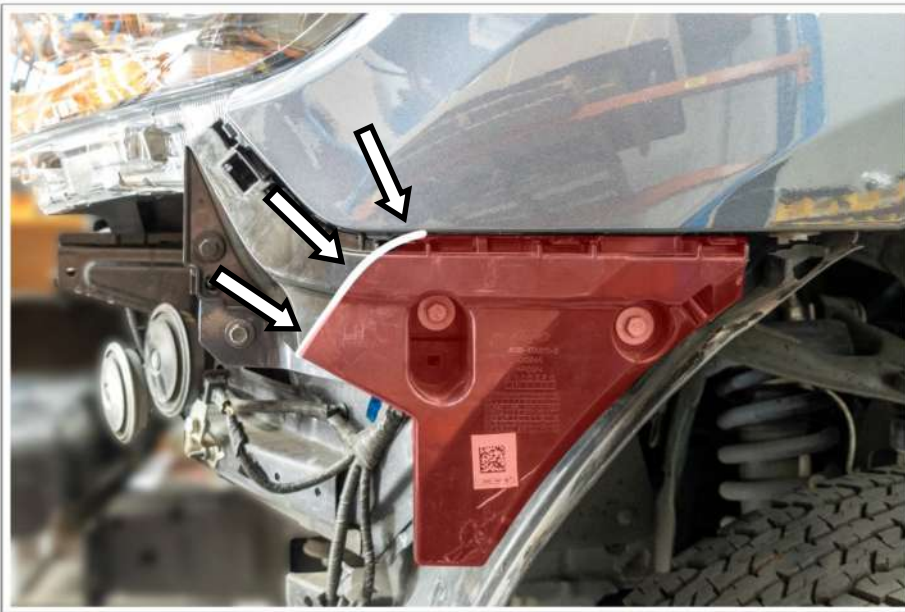
28. Remove the bolts that attach the OE stone tray to the intrusion beam. Loosen the rear bolts and remove the stone tray.



29. Where fitted, disconnect and remove the radar unit from the intrusion beam.



30. Remove the four bolts securing the intrusion beam. Discard the intrusion beam.



31. Remove the bumper bar retaining brackets from the vehicle, these need to be trimmed to match the bumper bar.

32. Trim and refit to the vehicle.



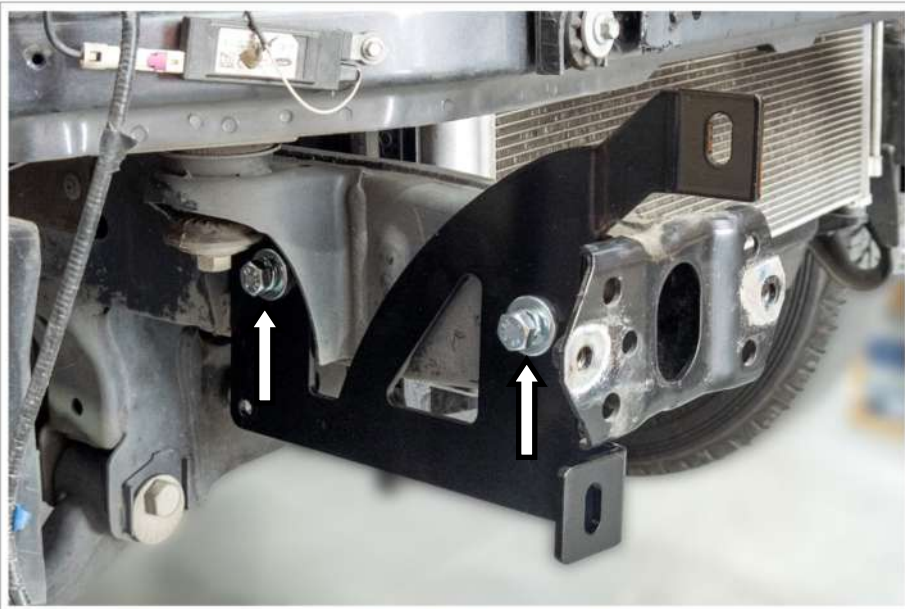
33. Trim the bottom section of the radiator air guides as shown. Discard the lower section.



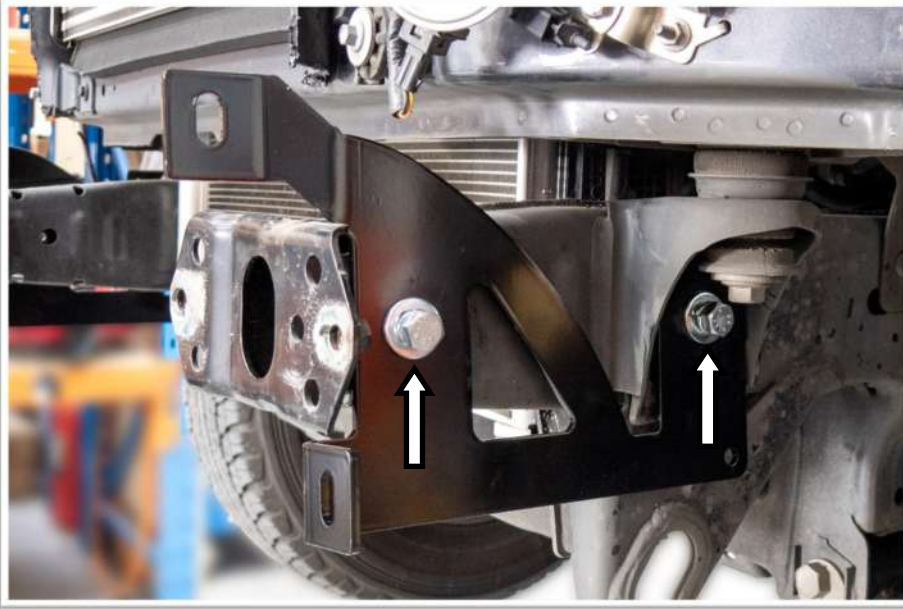
34. If you removed the air guides to trim them, refit them.



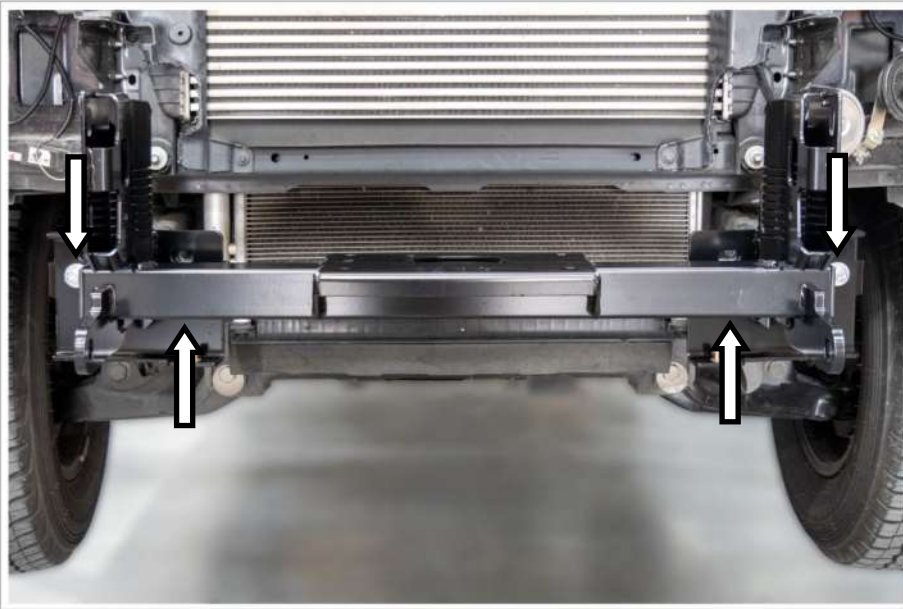
35. Insert the nut plate (item # 5) into the chassis.



36. Attach the chassis bracket (item # 4) to the RHS. Secure with two M12 x 40mm hex bolts, M12 spring and flat washers.



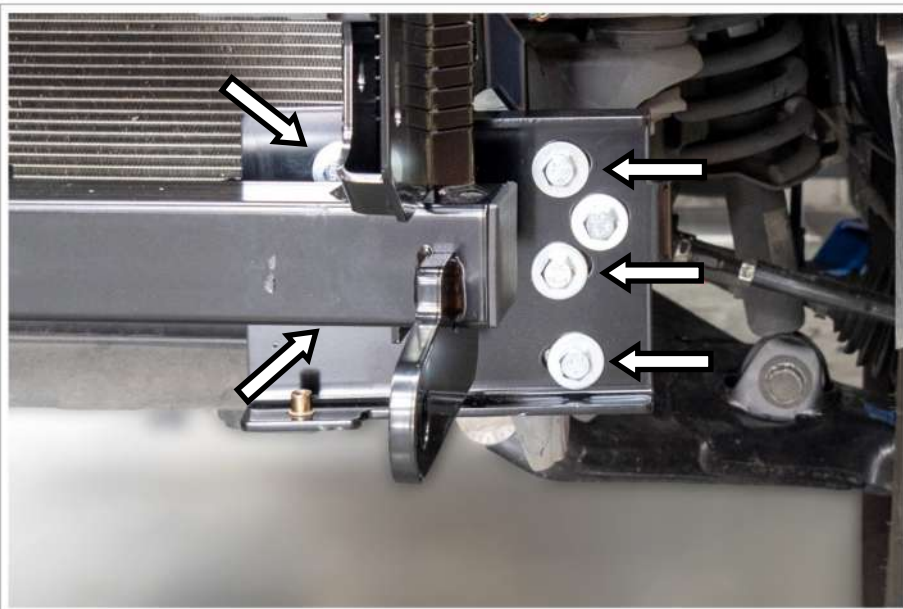
37. Repeat steps 35 & 36 using item # 3 and 5.



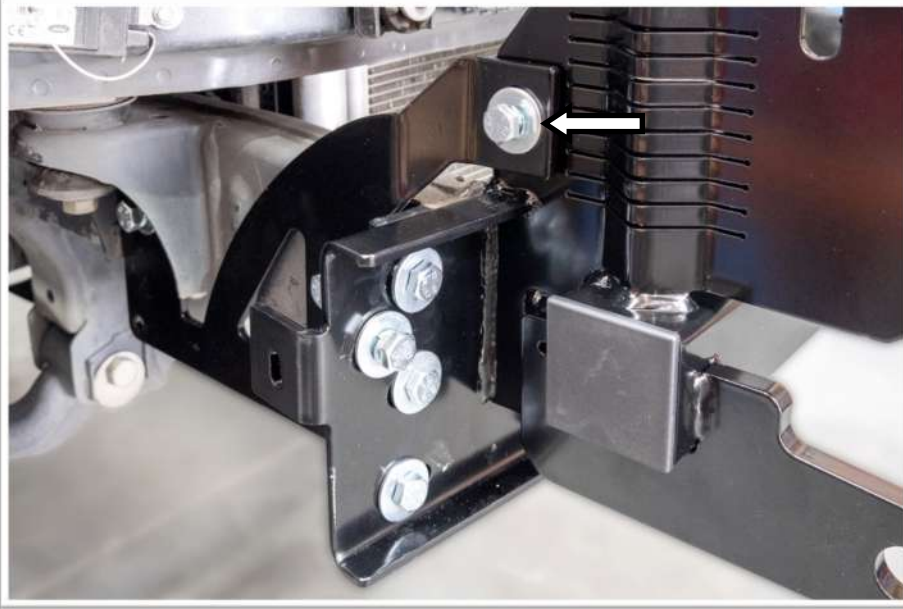
38. Lift the winch mount (item # 2) up to the chassis end plates.

39. Secure the winch mount to the outer holes of the chassis end plates using M10 x 35mm hex bolts, M10 spring and flat washers.

40. Use the same fasteners for the two inside holes.



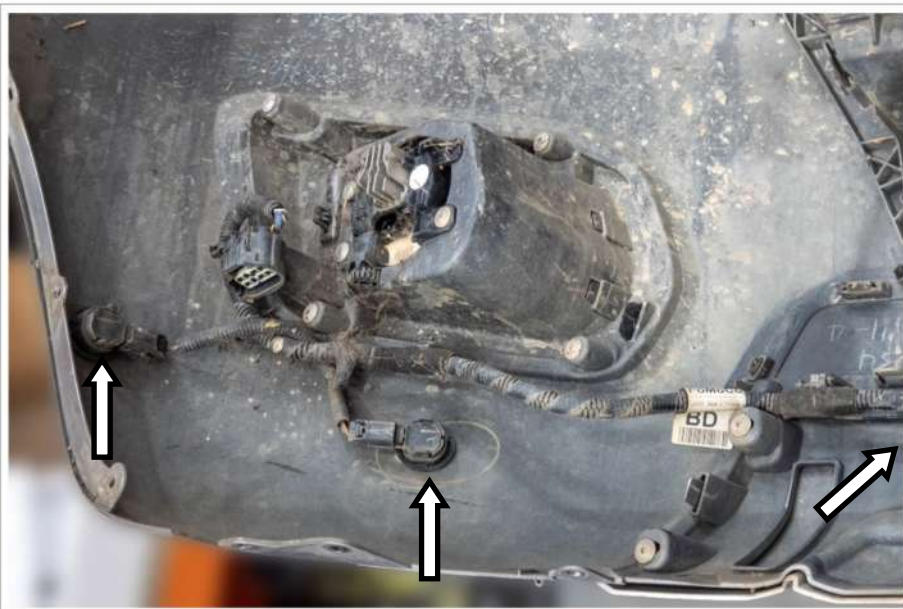
41. Fit M10 x 35mm hex bolts, M10 spring washers, M10 flat washers and M10 hex nuts to the remaining ten locations (five either side) in the winch mount.



- 38. Secure the chassis bracket to the winch mount using two (one either side) M10 x 30mm hex bolts, M10 spring washers, M10 flat washers and M10 hex nuts.
- 39. Align the winch mount so that it is centred to the body of the vehicle.
- 40. Tighten all fasteners to the correct torque.



- 41. Place the bumper bar on a stand so you can access the rear.



- 42. Note the location and orientation of the parking sensors.
- 43. Disconnect the parking sensors.



44. Remove the parking sensor loom from the bumper bar.



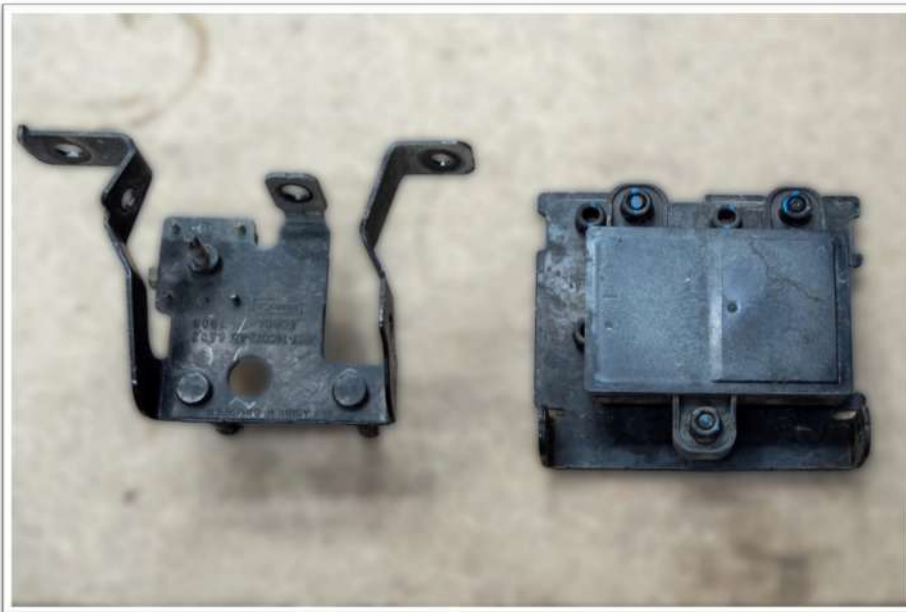
45. Remove the parking sensors and parking sensor brackets from the bumper bar. Again noting the location and orientation of the brackets as they are different and will only fit into the bull bar in their original location.



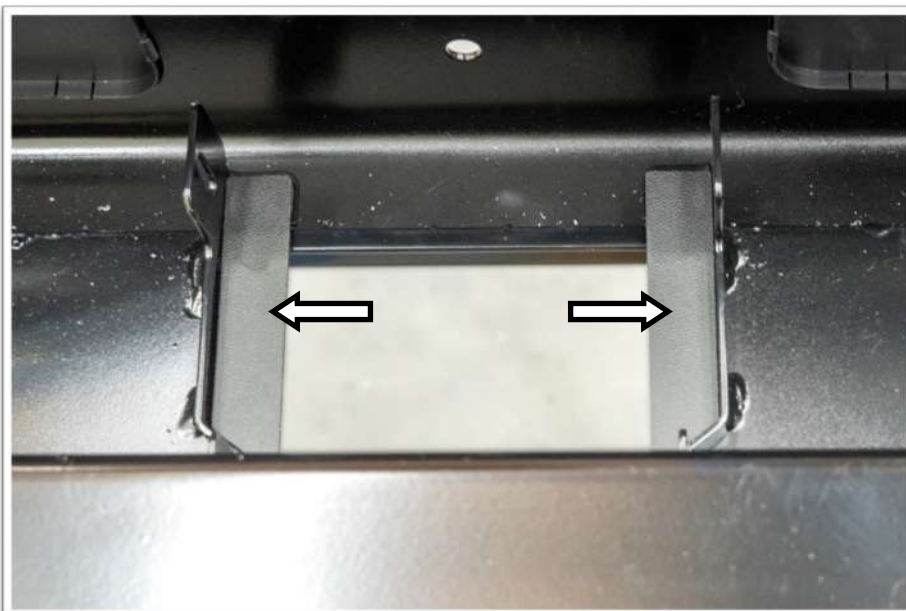
46. Using a air saw or multi tool, trim the bumper as previously marked.



47. Refit the bumper bar and grille to the vehicle using the original fasteners.



48. Separate the radar unit from the mounting bracket.

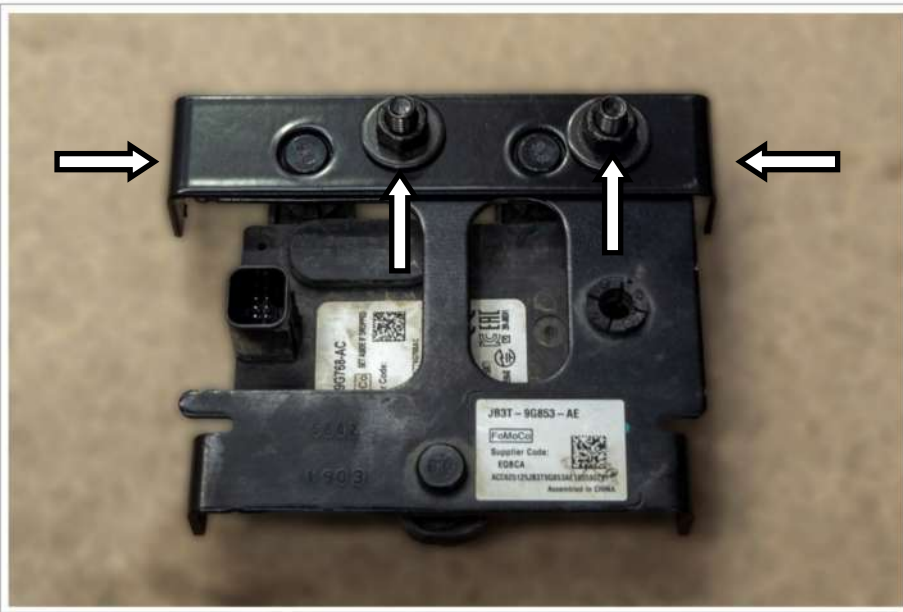


49. Fit the adhesion plates (item # 8 & 9) to the bull bar. Ensure the surface of the bull bar has been prepared correctly.



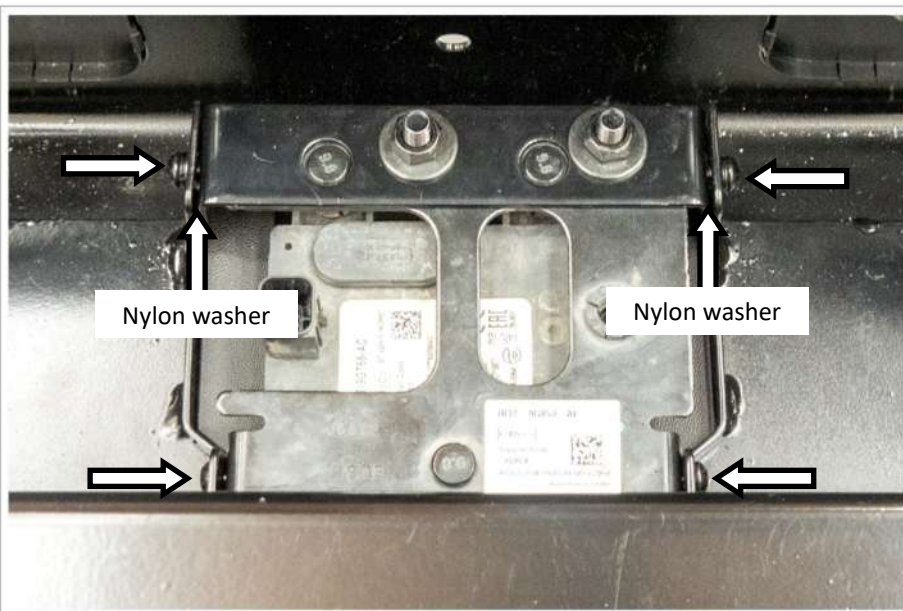


50. Fit the radar cover plate (item # 10) to the bull bar. The textured surface to the front of the bar.



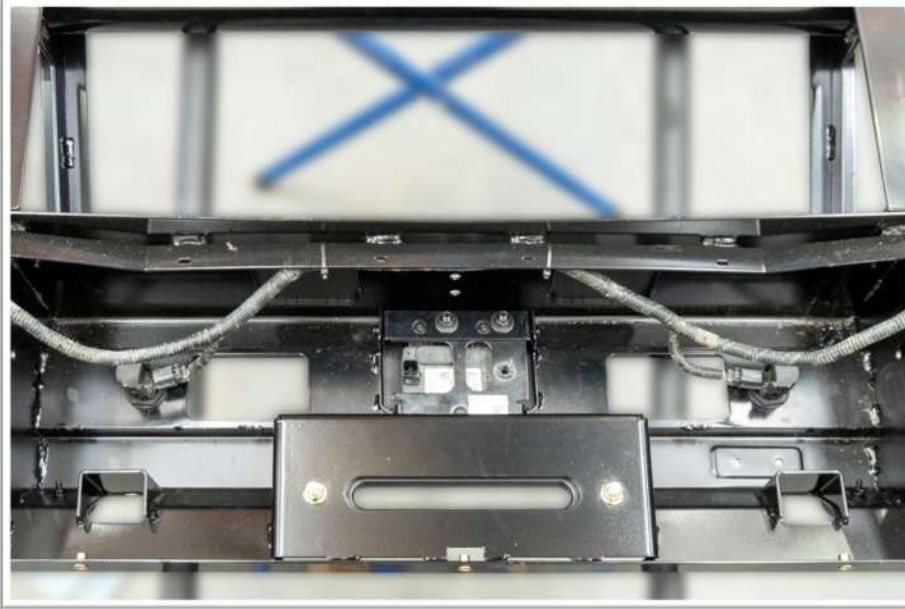
51. Fit two M6 cage nuts to the inside of the radar backing bracket (item # 7).

52. Attach the radar backing bracket to the radar unit with the M8 combination bolts, two M8 flat washers and M8 hex nuts.



52. Attach the top of the radar unit to the bull bar using two M6 x 20mm dome head bolts, M6 spring and flat washers and two nylon washers. The nylon washer is placed between the radar backing plate and the bull bar.

53. Secure the bottom of the radar bracket using two M6 dome head bolts, four M6 flat washers and two M6 nyloc nuts.



54. Fit the parking sensor brackets and parking sensors to the bull bar in the same locations they were removed from.

55. Attach the parking sensor loom to the bull bar.



56. Connect the parking sensor loom to the parking sensors.

57. Secure the loom to the bar with cable ties.

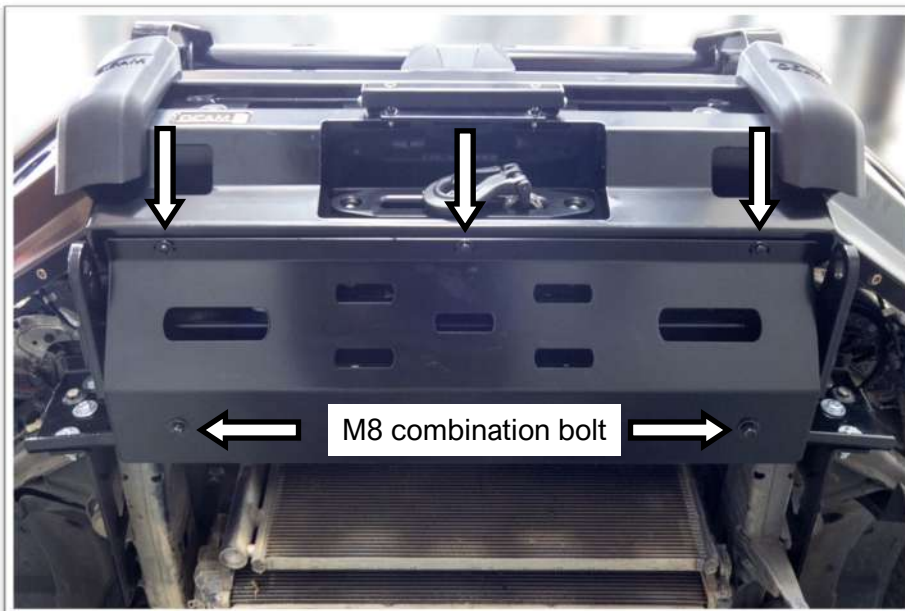


58. Lift the bull bar onto the winch mount bracket.

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



- 60. 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.
- 61. Tighten all fasteners to the correct torque.
- 62. Using the holes in the upright as a template, drill a 10.5mm hole through the winch mounts.
- 63. Paint the drilled hole.
- 64. Secure using the M10 self tapping flange bolts.



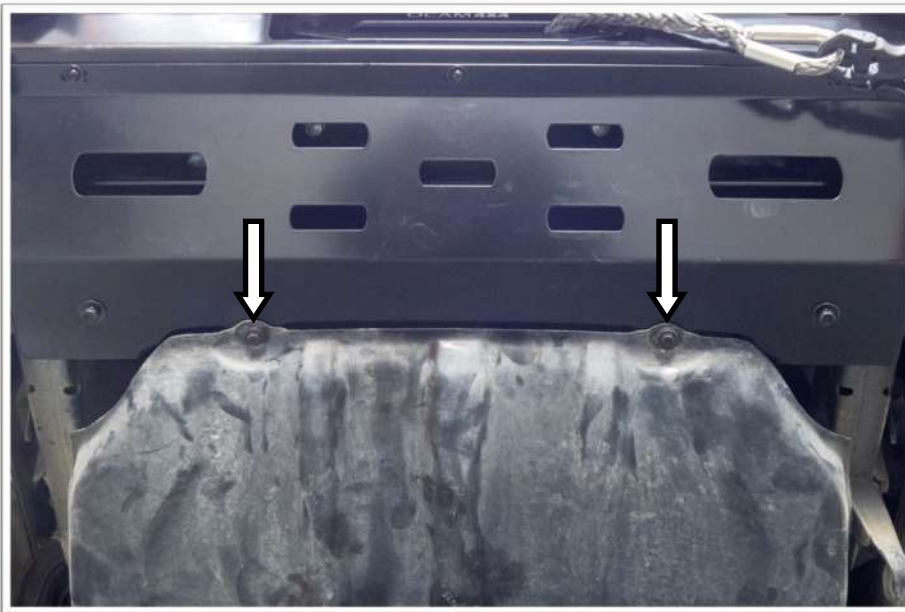
- 65. Fit the centre bash plate to the bar. Secure the rear with two M8 combination bolts.
- 66. Secure the front with three M6 dome head combination bolts.



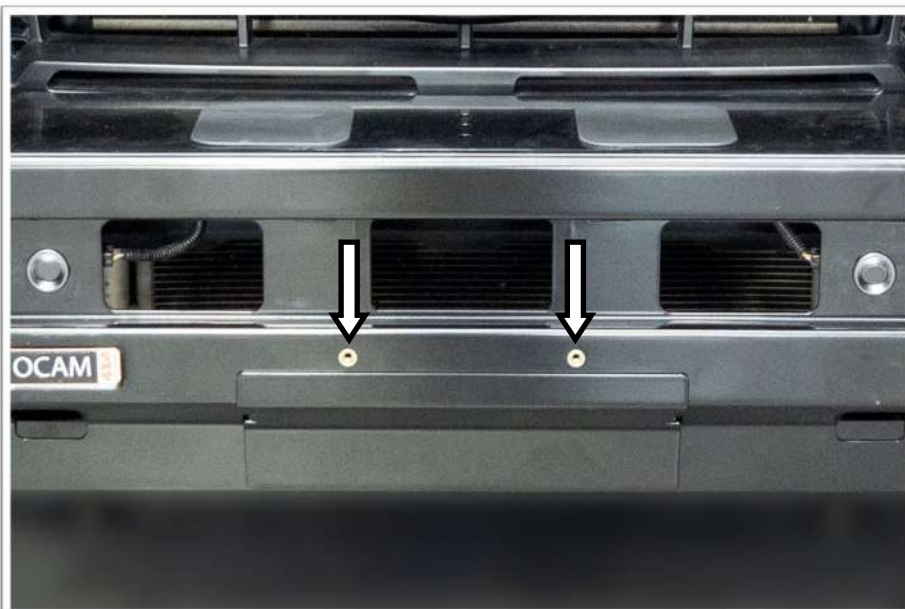
- 67. Hold or temporarily secure the outer bash plates in place.
- 68. Mark a line on the wheel arc liners along the bottom edge of the bash plates.
- 69. Trim the wheel arch liners using a sharp knife or multi tool.
- 70. Connect the parking sensors, combination lamp and fog light looms. Check all are working correctly.
- 71. Using cable ties, neatly secure the looms away from any hot, sharp or moving objects.



- 72. Fit the outer bash plates (item # 13 & 14) to the bar. Ensure the wheel arch liner is tucked behind the rear flange of the bash plate.
- 73. Secure along the outer edge with four M6 dome head combination bolts. At the rear use a M6 dome head combination bolt and flange nut.
- 74. Repeat for the opposite side.



- 75. Refit the OE stone tray.
- 76. To do this, fasten the rear of the stone tray. Mark the location of the front holes onto the centre bash plate.
- 77. Drill holes into the centre bash plate. Paint the holes. Secure to the front bash plate.



- 78. If there is no winch fitted, fit the number plate directly to the bar.



- 79. If a winch has been fitted, fit the supplied number plate bracket (item # 11) using two M6 dome head combination bolts.
- 80. Tighten the hinge so that the number plate will stay in place.

