

OCAM

4x4
ACCESSORIES

INSTALLATION INSTRUCTIONS

PART NUMBER: BB2-CANNON-20

APPLICATION: GWM Cannon, Cannon-L, Cannon-X and Cannon Vanta

FITTING TIME: 4 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.

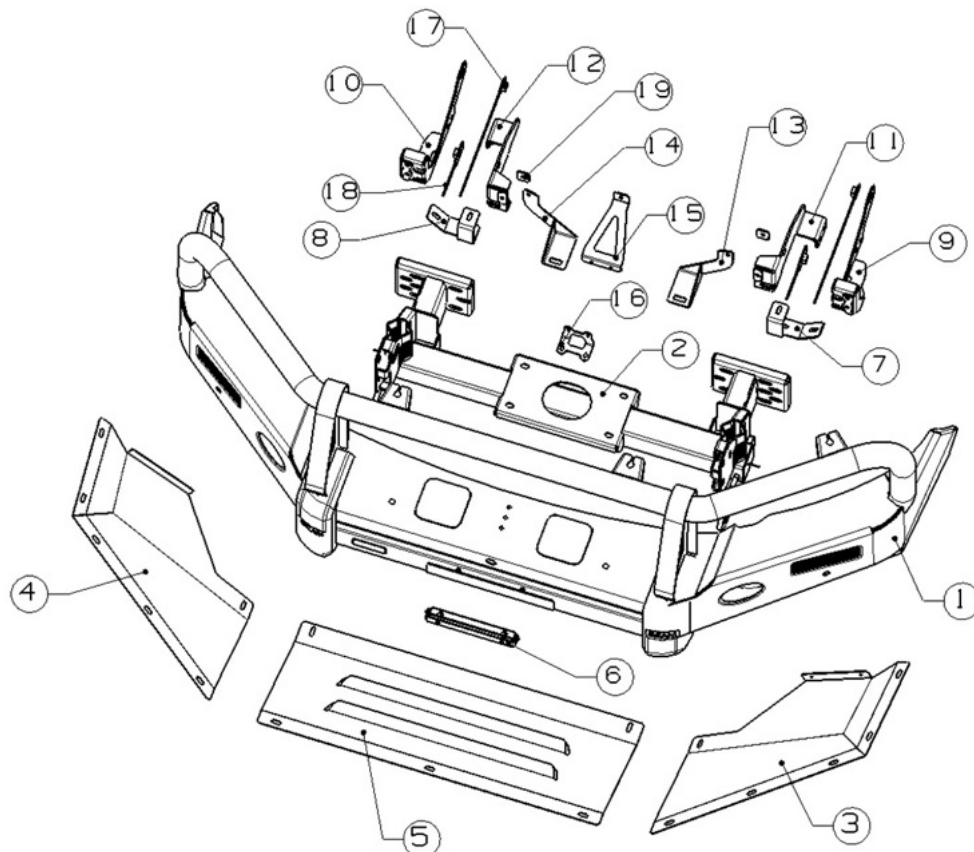
PRODUCT CARE

- 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	Bash plate LHS 	1
4	200428555	Bash plate RHS 	1
5	200428553	Bash plate middle 	1
6	E280008049	Number plate bracket 	1
7	200428662	Bash plate bkt LH 	1
8	200428664	Bash plate bkt RH 	1
9	200428427	Outer chassis bkt LH 	1
10	200428465	Outer chassis bkt LH 	1
11	200428335	Inner chassis bkt LH 	1
12	200428471	Inner chassis bkt RH 	1
13	200451858	OE bash plate bkt LH 	1
14	200451859	OE bash plate bkt RH 	1
15	200421957	Grille support bkt 	1

Item	Part number	Description	Qty
16	200411537	Camera bracket 	1
17	E280012903	Nut plate M12 long 	2
18	E280011608	Nut plate M12 short 	2

Hardware

Item	Part number	Description	Qty
1	3002814	Hex bolt M12 x 35mm	10
2	3000172	Spring washer M12	10
3	3004966	Flat washer M12 x 32mm	16
4	3001504	Hex nut M12	6
5	3002712	Hex bolt M10 x 1.5 x 35mm	10
6	3000161	Spring washer M10	10
7	3005394	Flat washer M10 x 2.2mm x 24mm	10
8		Hex bolt M8 x 20mm	1
9	20011656401	Cage nut M8	2
10	3002511	Hex bolt M6 x 16mm	2
11	3002519	Hex bolt M6 x 20mm	19
12	3002529	Hex bolt M6 x 25mm	2
13	3002541	Hex bolt M6 x 30mm	1
14	3006267	Combo bolt M6 dome head set	2
15	3000136	Spring washer M6	26
16	3000222	Flat washer M6 x 1.6mm x 18mm	26
17	3001569	Flange nut M6	7
18	3001101	Screw M5 x 16mm	2
19	3000281	Flat washer M5 x 10mm	2
20	3001387	Nyloc nut M5	2



1. Raise the bonnet.
2. Remove the radiator top cover securing clips. Remove the radiator top cover. Remove the rubber extrusion from the top cover. Retain the clips for reinstallation.



3. Remove the four hex bolts that secure the top of the grille. Retain the bolts for reinstallation.



4. Remove the two screws (both sides) that secure the guard liner to the bumper bar.



5. Remove the three screws (both sides) that secure the flare to the guard liner. Keep the top two screws.



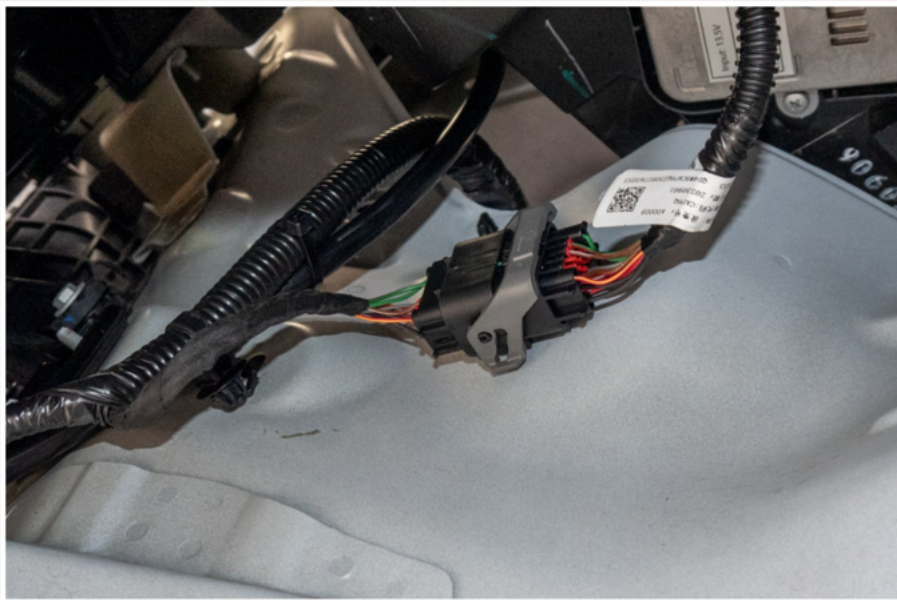
6. Using a sharp knife, trim the tab between the flare and bumper that locates the flare to the bumper bar.



7. With the flare tab cut, carefully pull the flare from the guard to give access to the screws shown.
8. Remove the rear two screws.

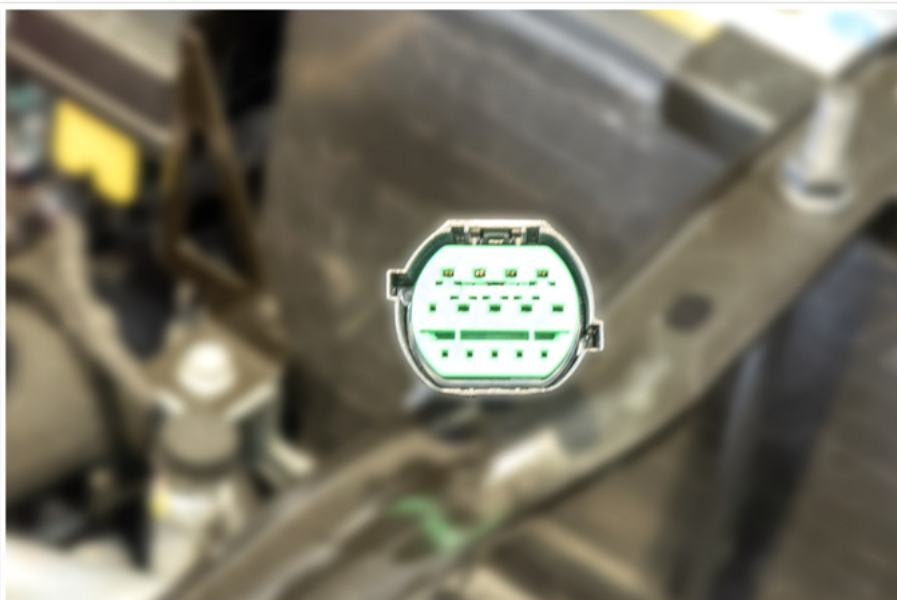


9. From underneath, remove the fasteners securing the bumper bar.

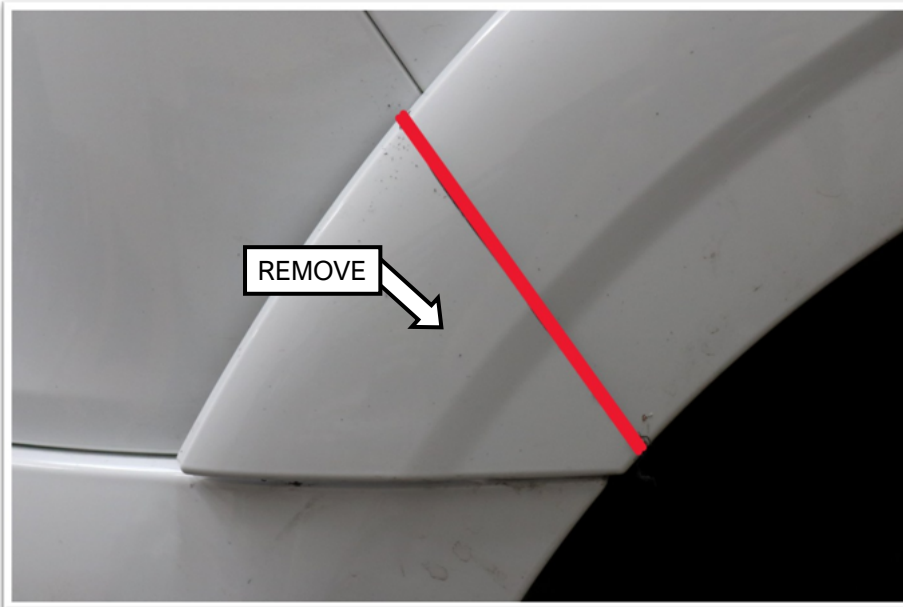


10. Inside the left hand wheel arch you will find the connector for the loom in the bumper bar. Release and disconnect the loom.
11. Carefully remove the bumper bar from the vehicle.

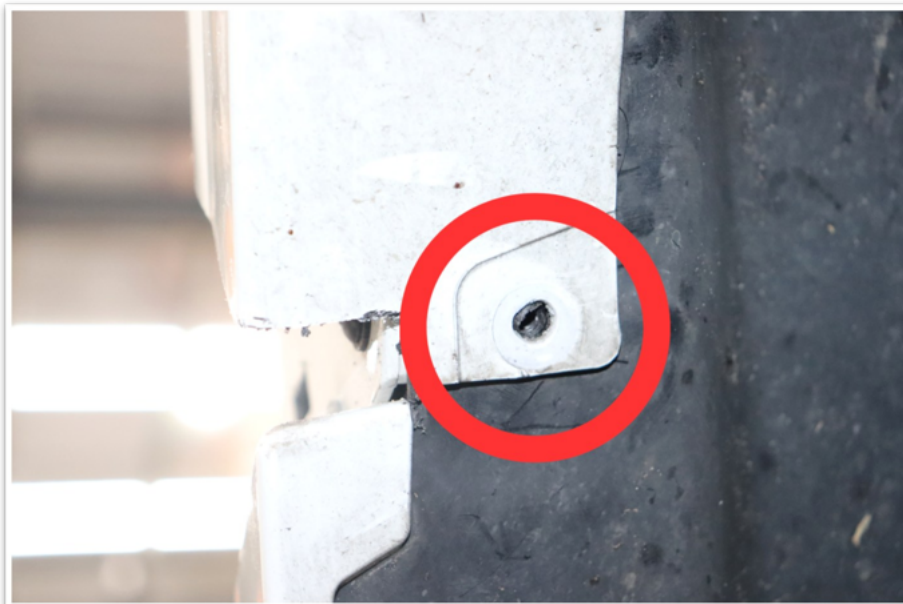
Caution: Pay special attention to the retaining clips underneath the headlights, these can be damaged easily.



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



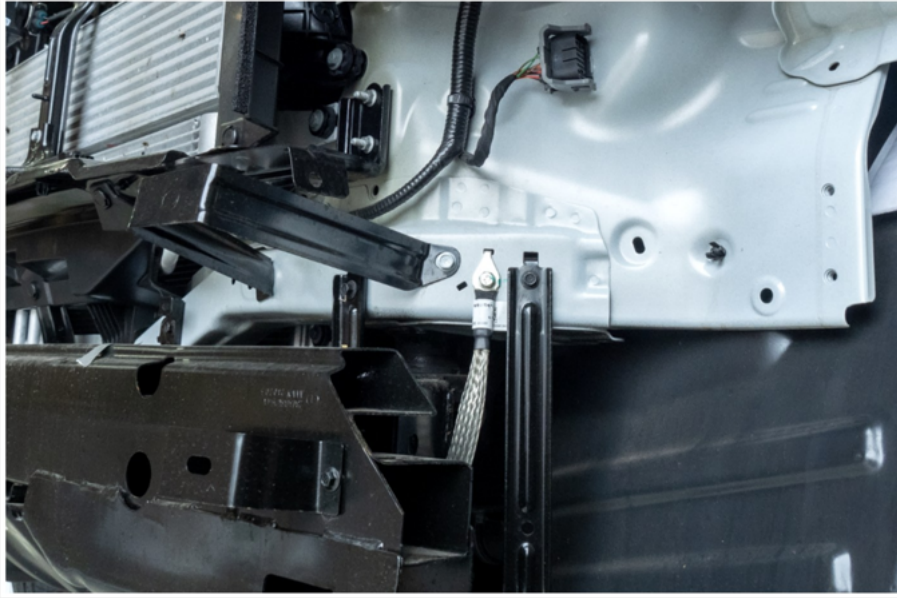
15. Apply cutting template to flares.
16. Trim line will be approximately 10mm forward of and follow direction of join between bumper and fender.



When trimming flares, be careful not to remove mounting hole on inside lip of flare.



17. Remove the front stone tray from the vehicle. Set aside for refitment. Retain the fasteners.



18. Remove the brackets, eight in total, that supported the bumper bar.



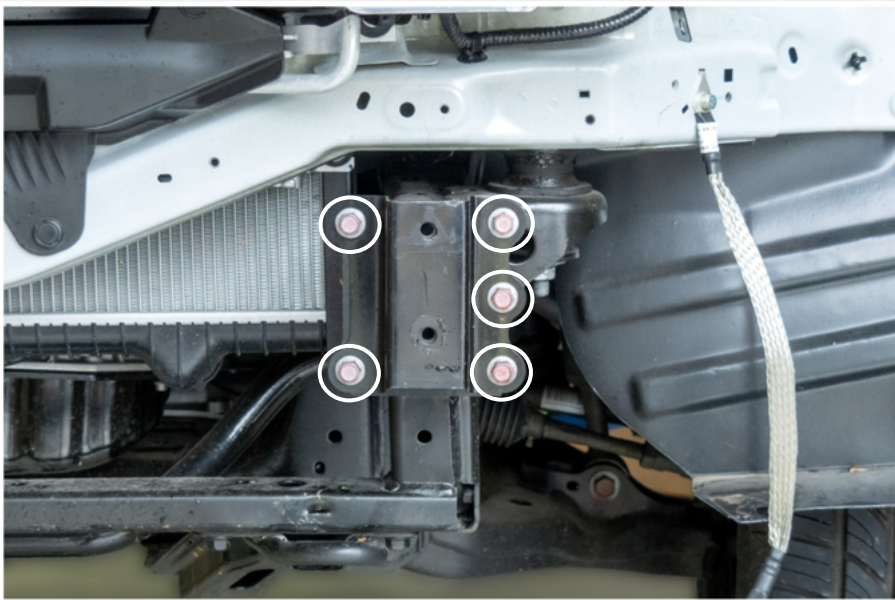
19. Remove the earth strap from the left hand side chassis rail.



20. Remove the earth strap from the right hand side chassis rail.



21. Remove the front intrusion beam.

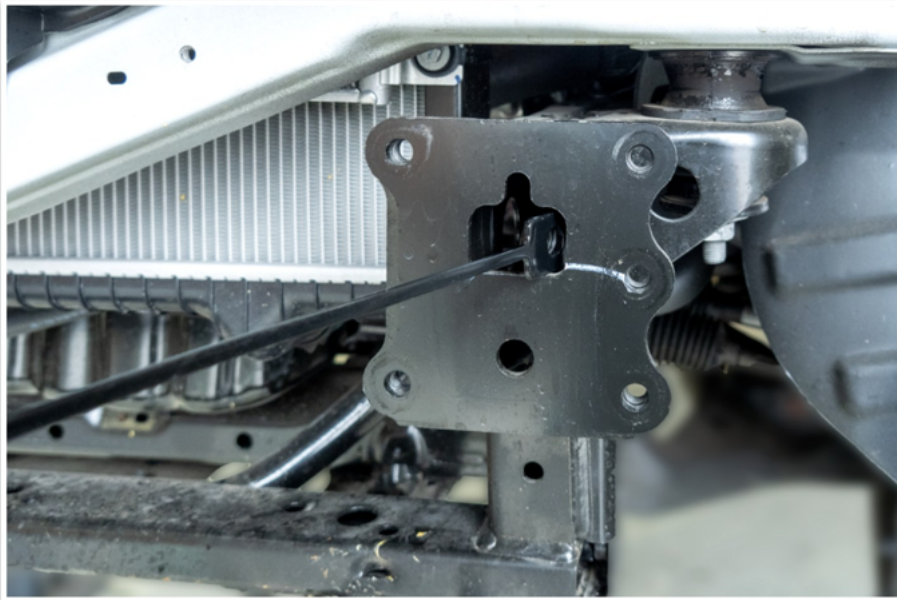


22. Remove the crash blocks from the end of the chassis rails. Keep the fasteners for fitting the winch mount.

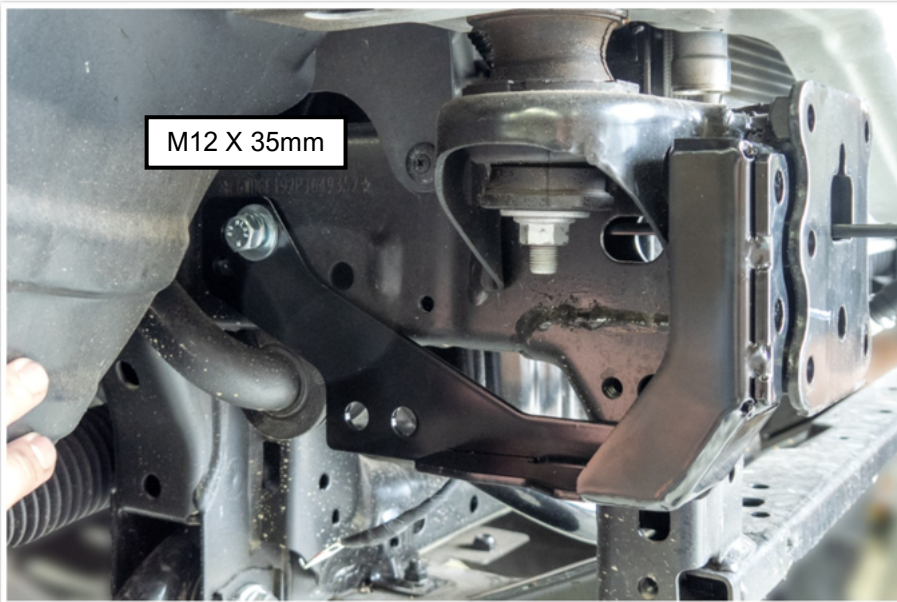


23. Insert M8 cage nuts into the OE bash plate brackets (item # 13 and 14).

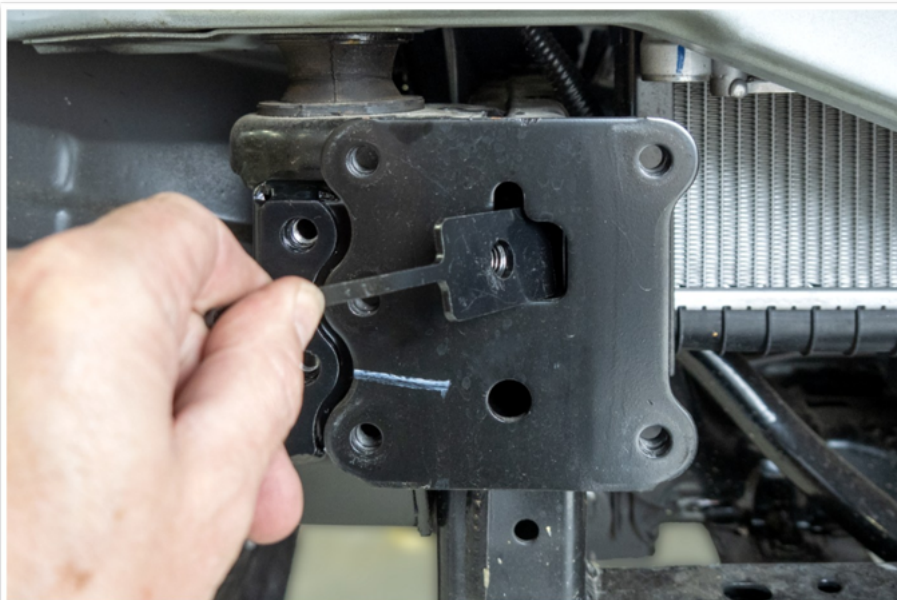
24. Using two of the fasteners removed from bumper support brackets, fit the bash plate brackets to the vehicle as shown.



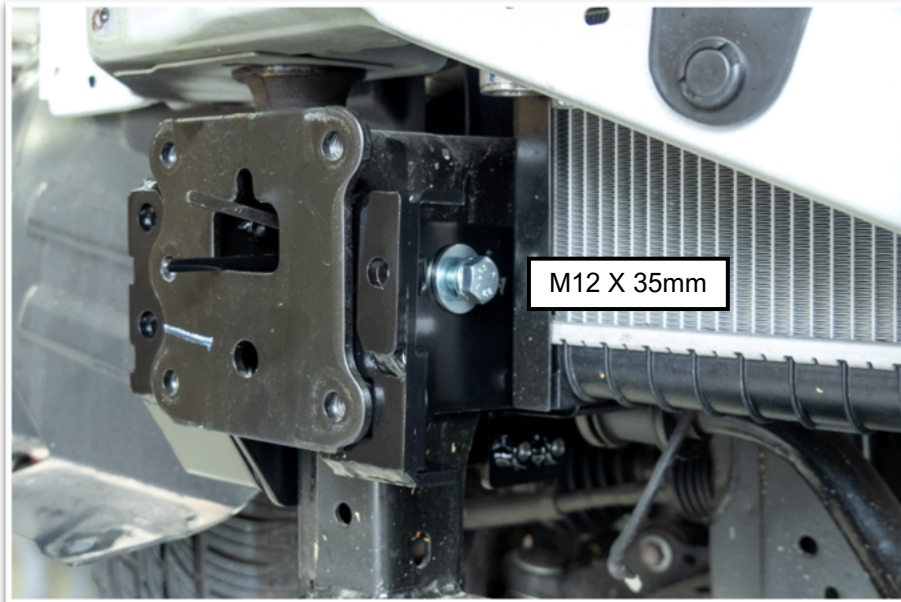
25. Insert the long M12 nut plates (item # 17) into the hole in the front of the chassis end plate.



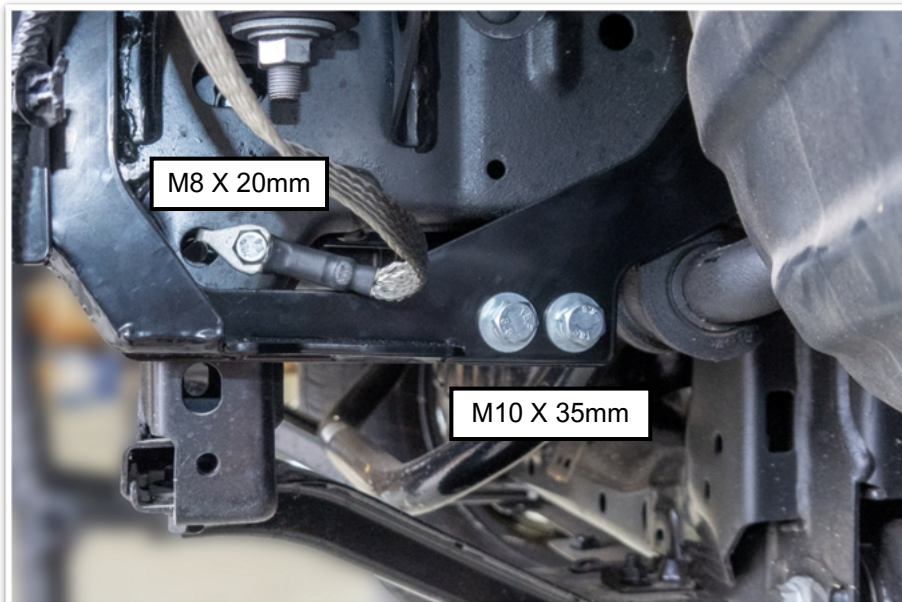
26. Locate the outer chassis brackets (item # 9 & 10) as shown and secure with two, one either side, M12 x 35mm hex bolts, M12 spring and flat washers. Finger tight only.



27. Place the short M12 nut plates (item # 18) into the hole in the front of the chassis end plate.



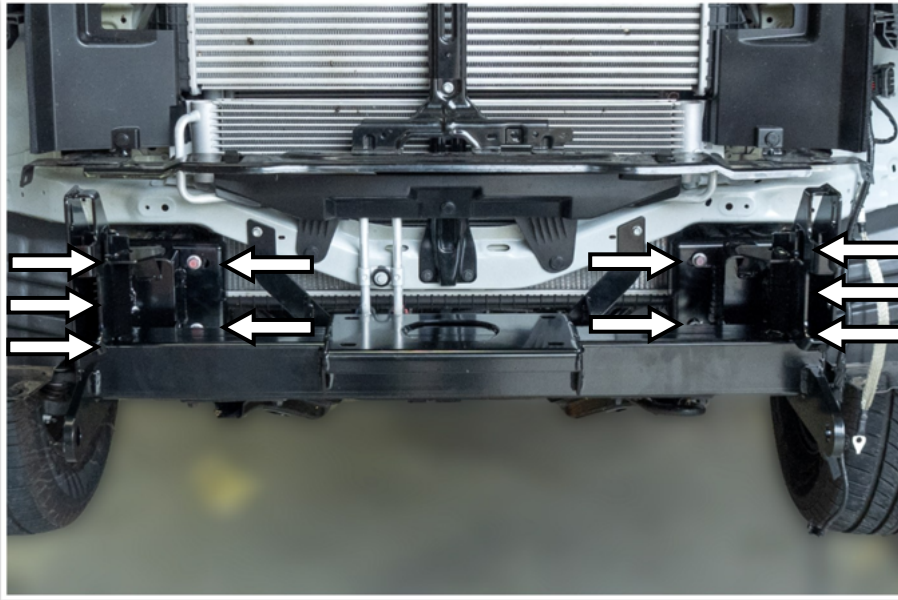
28. Locate the inner chassis brackets (item # 11 & 12) as shown and secure with two, one either side, M12 x 35mm hex bolts, M12 spring and flat washers. Finger tight only.



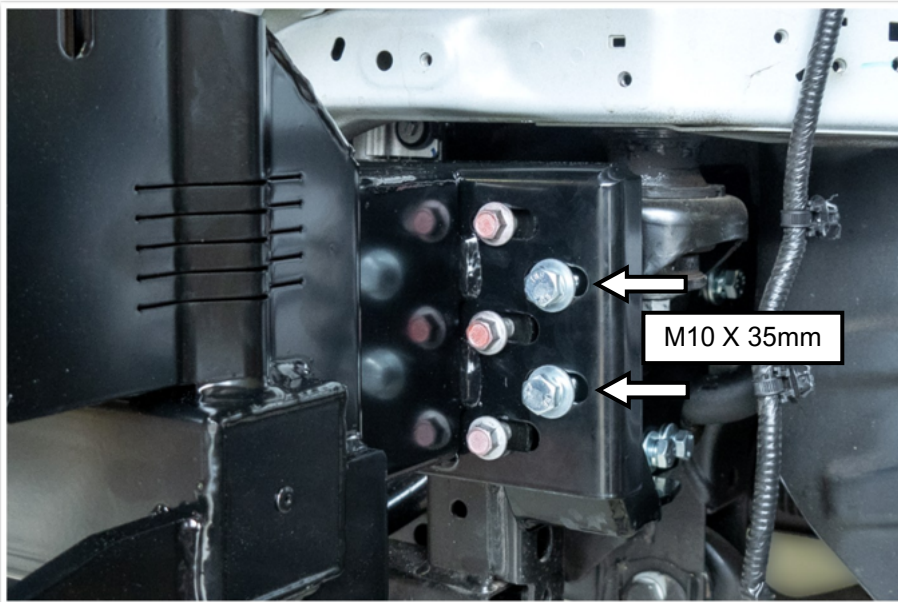
29. Secure the inner and outer chassis brackets to each other using four, two each side, M10 x 35mm hex bolts, M10 spring and flat washers. Finger tighten only.
30. Drill the earth strap eyelet out to 8.5mm.
31. Prepare the chassis rail surface so there is good earthing.
32. Secure the earth strap with a M8 x 20mm hex bolt into the hole above the bracket.



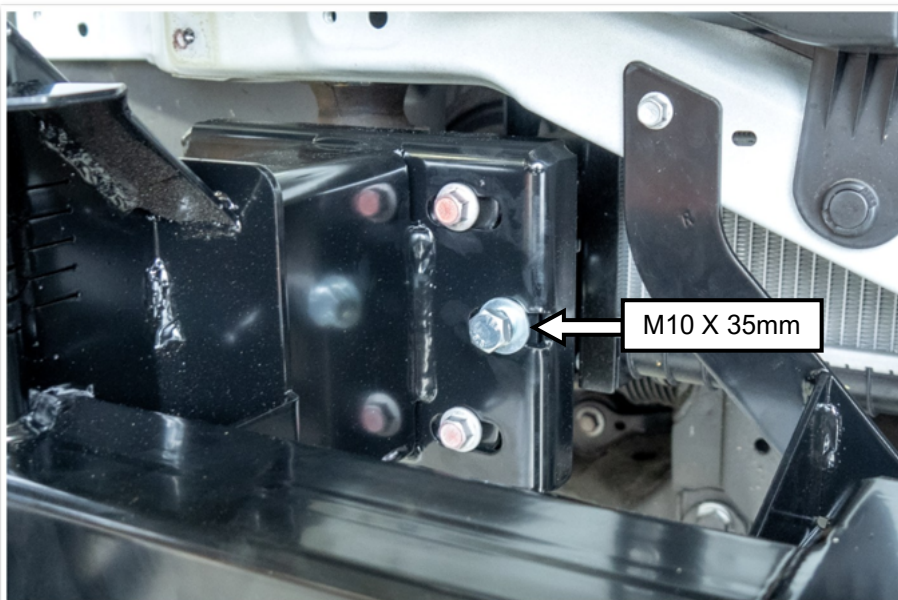
33. Prepare the chassis rail bracket surface so there is good earthing.
34. Refit the earth strap to the original location with a M6 x 30mm hex bolt, M6 spring and flat washer.



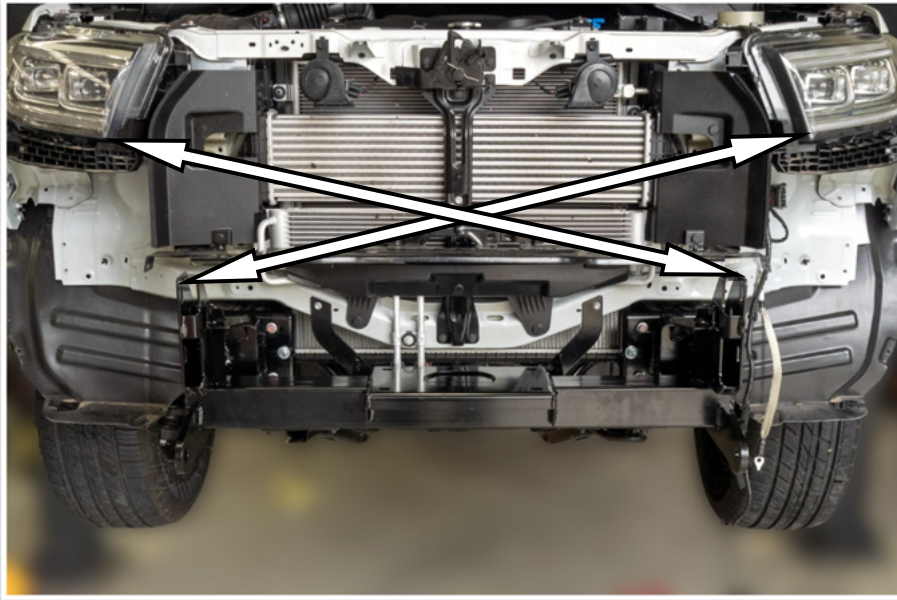
35. Lift the winch frame (item # 2) into place, secure with the fasteners removed from the OE crash boxes. Leave loose so as to be able to adjust the winch mount.



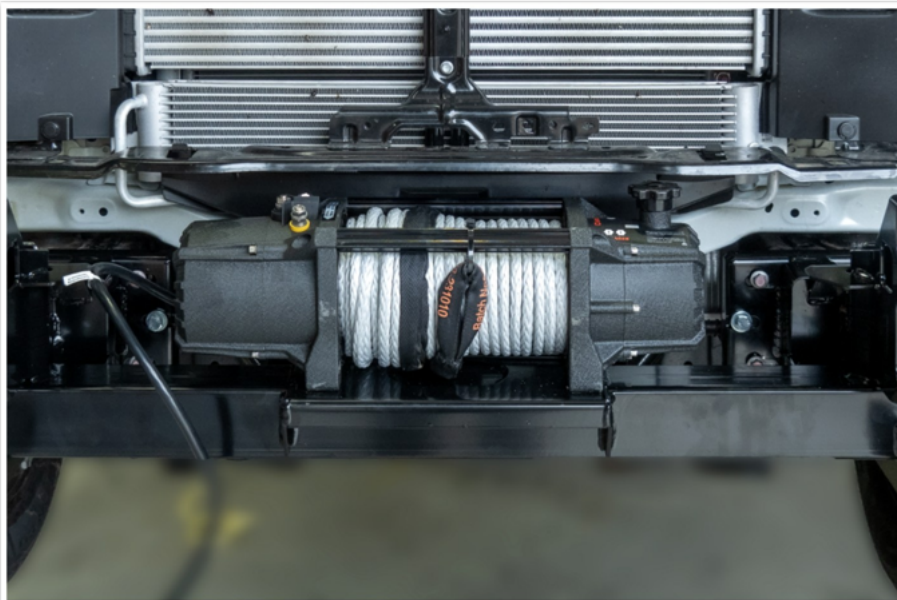
36. Secure the outer chassis brackets to the winch frame using four M10 x 35mm hex bolts, M10 spring and flat washers. Leave loose for now.



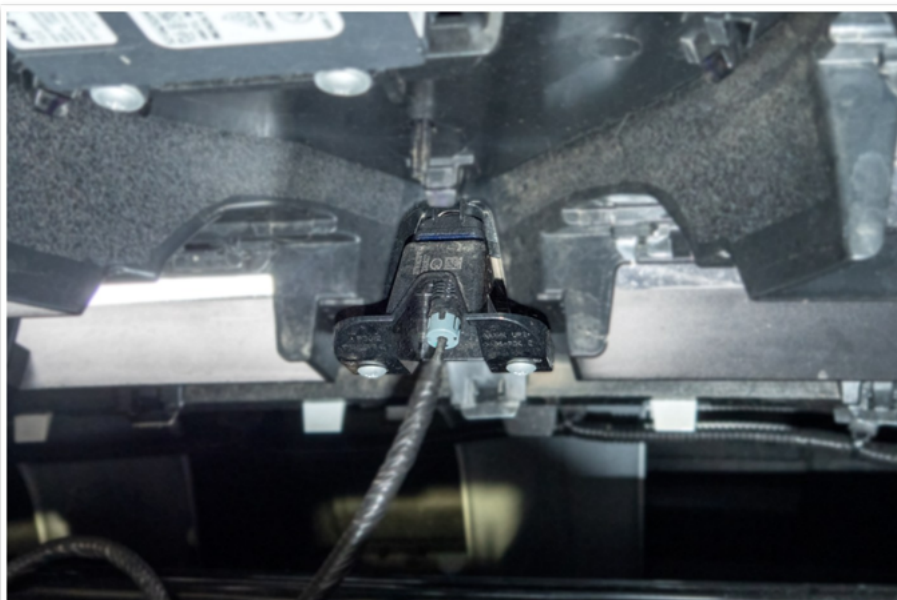
37. Using two M10 x 35mm hex bolts, M10 spring and flat washers, secure the inner chassis bracket to the winch mount. Leave loose.



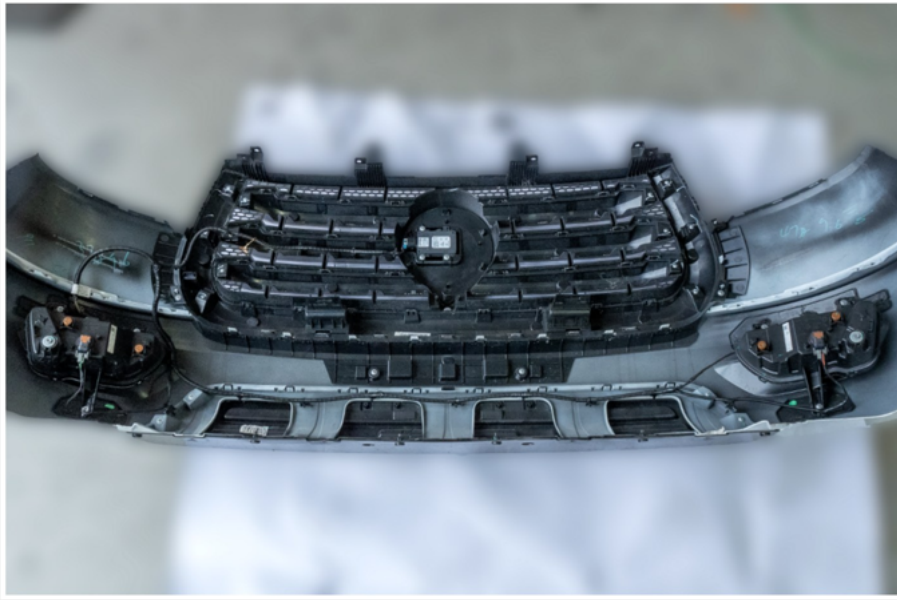
38. Adjust winch frame so that it is located centrally to the body of the vehicle.
39. Once happy with the location of the winch frame tighten all fasteners to the correct torque.



40. If a winch is being fitted, do so now. Use the hardware and instructions supplied with the winch.
41. Remove the winch cover plate from the bar.
42. Fit the hinged number plate bracket (item # 6) to the bar using two M6 dome head bolt sets.



43. Where fitted, remove the front camera. Retain the screws to be used with the grille retaining bracket.



44. Remove the two upper sections of the bumper bar from the lower bumper bar and grille.
45. Keep the screws that secure the upper bumper sections for refitment.



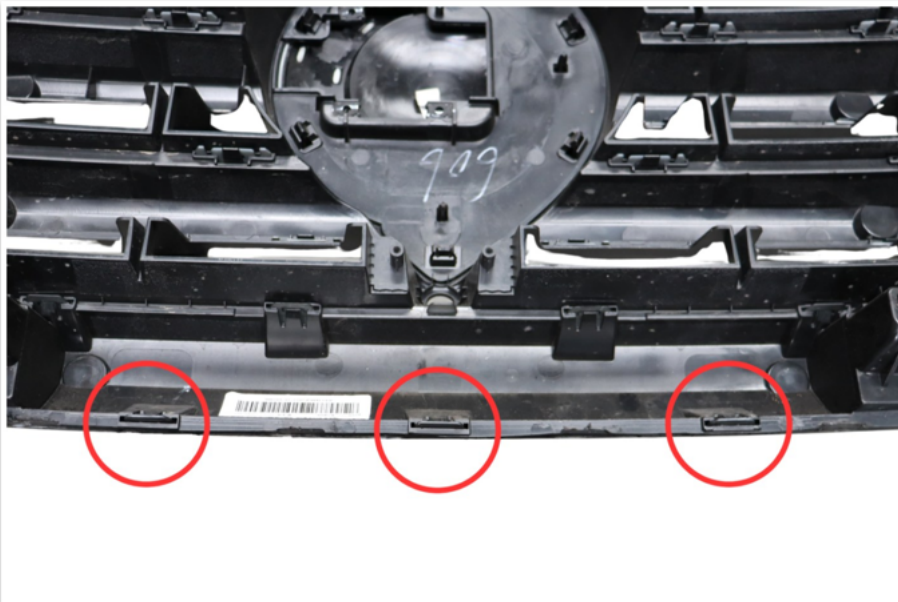
46. Disconnect the fog lights.
47. Remove the fog lights to gain access to the parking sensors. Disconnect the parking sensors.
48. Remove the fog light and parking sensor loom from the lower bumper bar.
49. Noting the location and orientation of the parking sensors, remove the parking sensors from the bar.



50. Reattach the outer bumper section to grille using the original fasteners.



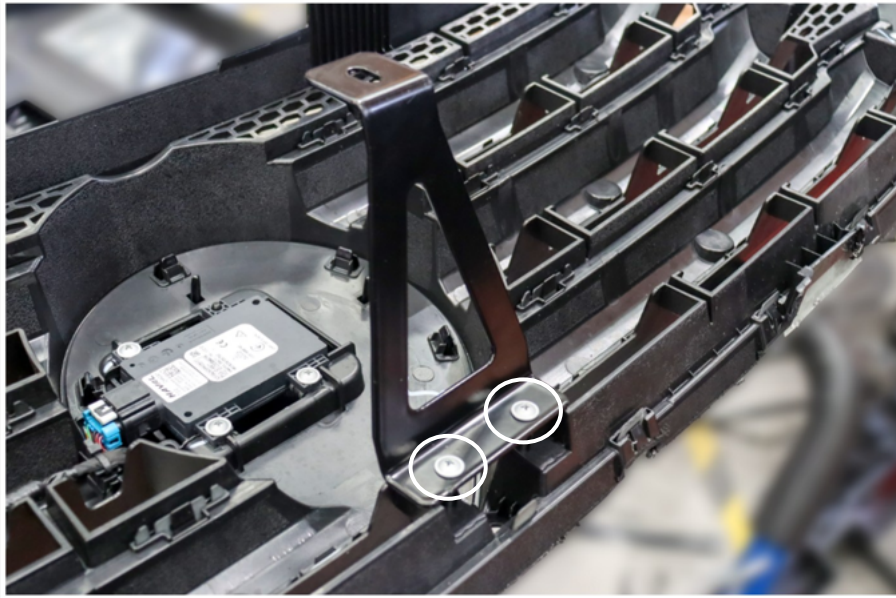
51. Trim bottom lip off of grille.



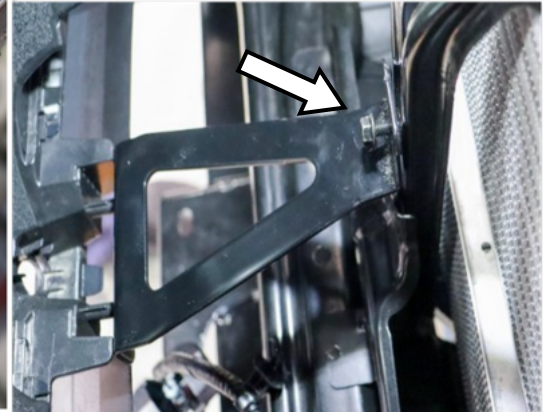
52. Be careful not to remove clips that secure grille cover to grille.



Trimmed grille for reference.



53. Fit the grille bracket (item # 15) to the grille using the screws that secured the camera.



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

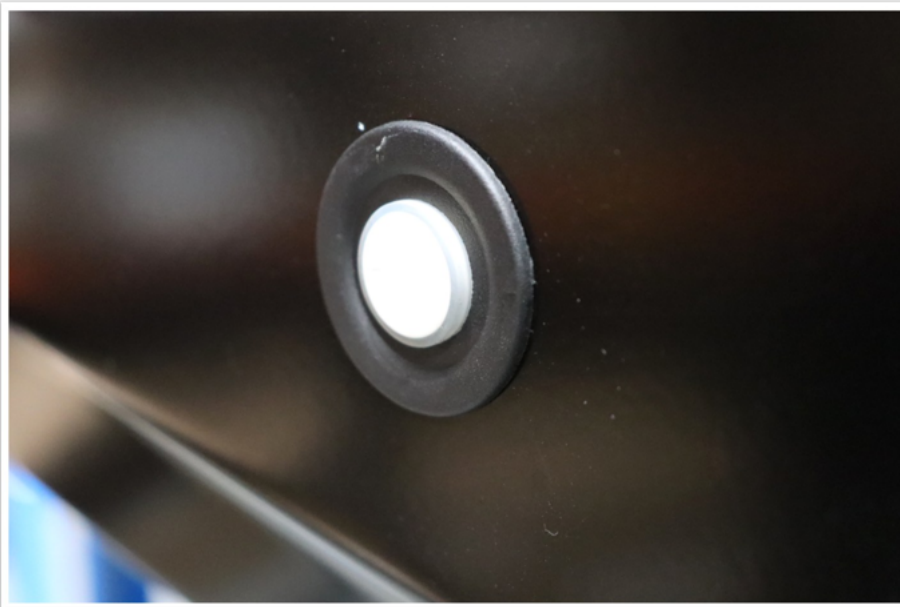
55. Fasten the grille bracket to the centre support stud using a M6 flange nut.



56. Insert sensor seat and secure with nut.



57. Install parking sensors to sensor seat and apply foam pad to back of sensors.



58. Ensure sensor is seated correctly and that original rubber seal is still in place.
59. Opening in sensor seat may need to be widened slightly to suit sensors. A deburring tool can be used or a drill if careful not to drill too wide.



60. Secure sensors in place by clipping on rear cap.

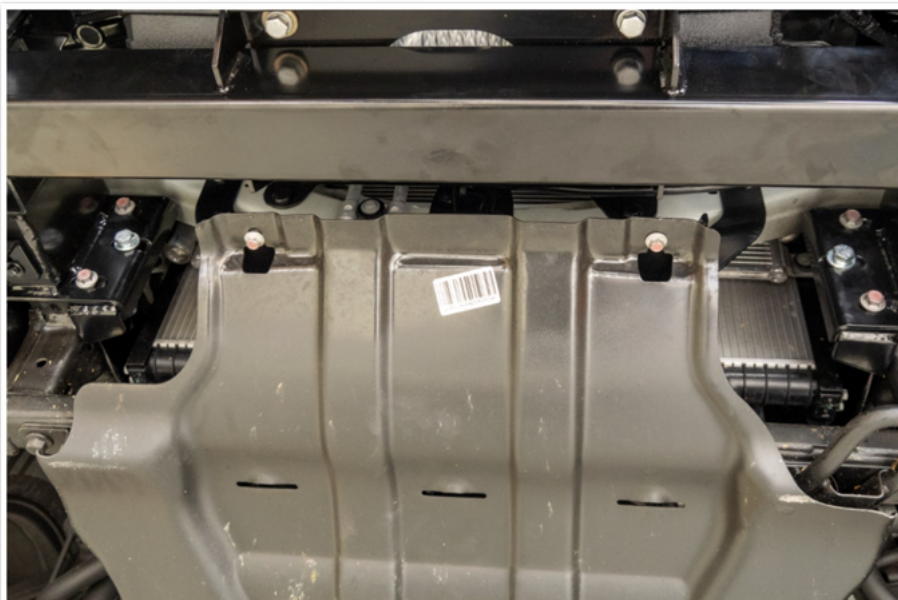


61. Using two M5 screws, M5 flat washer and M5 nyloc nut, attach the camera to the camera bracket (item # 16) as shown.

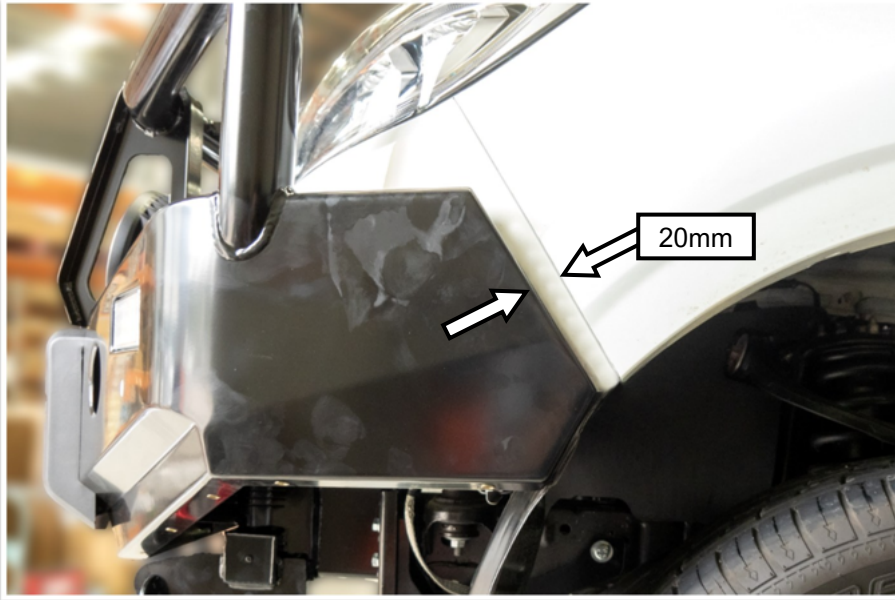


62. Fit the camera to the bull bar using two M6 x 20mm hex bolts, M6 spring, and flat washers and M6 flange nuts.

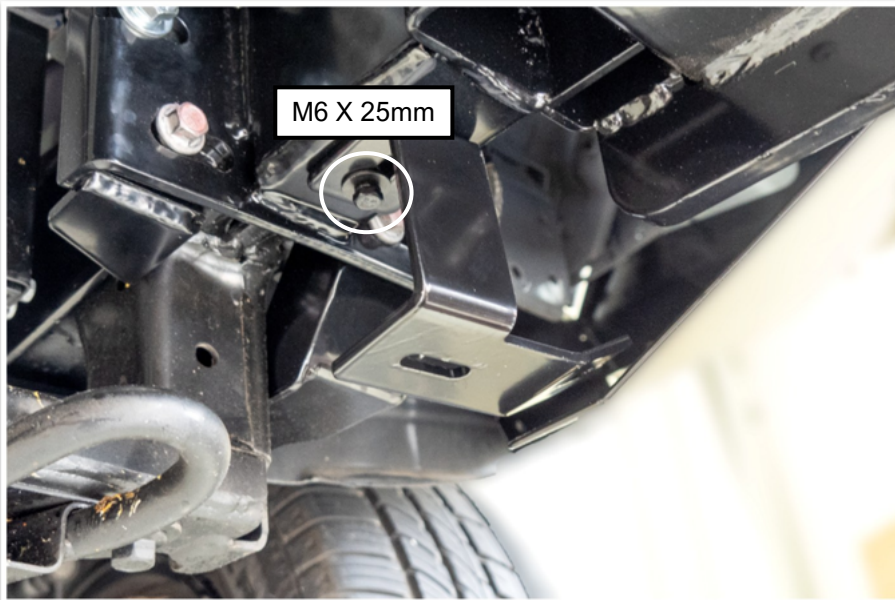
63. Adjust the camera to the correct location and tighten.



64. Refit the OE stone tray using the origin fasteners.



65. Lift the bull bar onto the winch mount bracket.
66. Secure using six M12 x 35mm hex bolts, M6 spring washers, twelve M12 flat washers and six M12 hex nuts. Tighten just enough to hold the bar in place.
67. 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.
68. Tighten all fasteners to the correct torque.



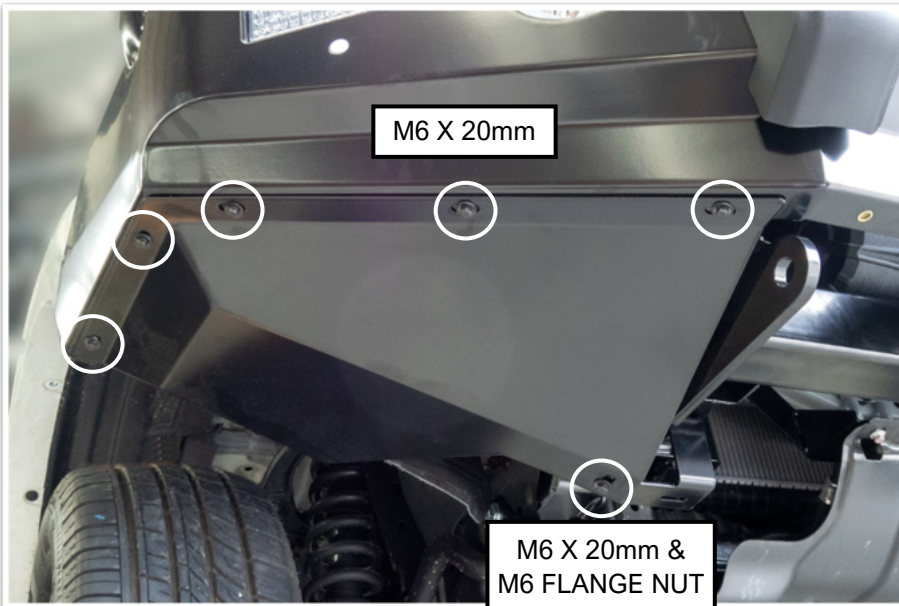
69. Fit the left and right hand bash plate brackets (item # 7 and 8) using M6 x 25mm Hex bolts, M6 spring and flat washers.



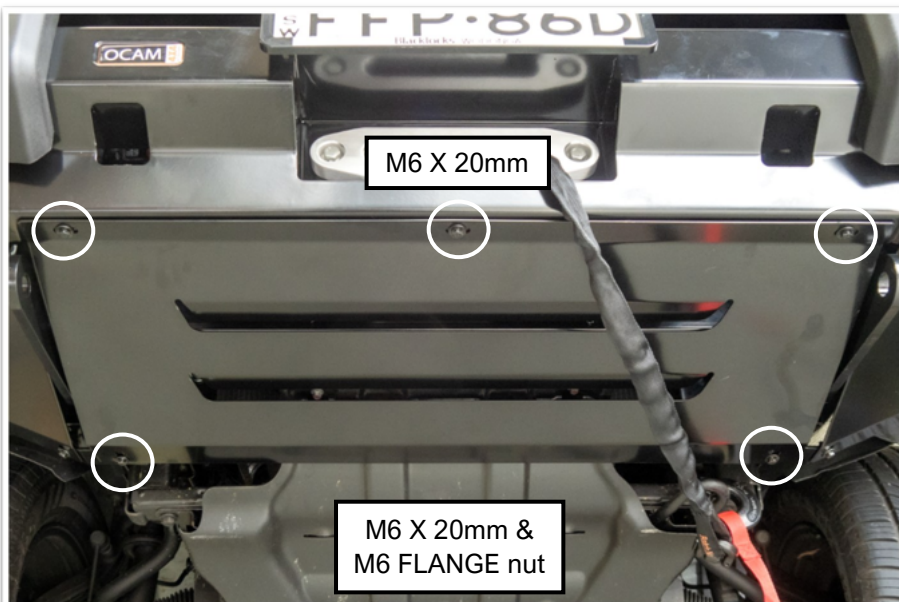
70. Connect the parking sensors, camera (where fitted), combination lamp and fog light looms.
71. Reconnect the loom to the vehicle on the left hand side.
72. Check that the combination lamps, fog lights, camera and parking sensors are working correctly.
73. Using cable ties, neatly secure the looms away from any hot, sharp or moving objects.



74. Hold or temporarily secure the outer bash plates in place.
75. Mark a line on the wheel arc liners along the bottom edge of the bash plates.
76. Remove and trim the wheel arch liners using a sharp knife or multi tool.



77. Fit the outer bash plates (item # 3 and 4) to the bar. Ensure the wheel arch liner is tucked behind the rear flange of the bash plate.
78. Secure along the outer edge with five M6 x 20mm hex bolts, M6 spring and large flat washers. At the rear use a M6 x 20mm hex bolt, M6 spring and large flat washer and M6 flange nut.
79. Repeat for the opposite side.



80. Secure the centre bash plate (item # 5) to the bar with five M6 x 20mm hex bolts, M6 spring and large flat washers and two M6 flange nuts (used for the rear two bolts).
81. Tighten the fasteners for the bash plate brackets.
82. Fit the number plate to the bar or, if a winch has been installed, the number plate bracket.
83. Tighten the number plate bracket hinge bolts.