



FITTING INSTRUCTIONS

Part Number: **3940400**
Product Description: **SAHARA BULL BAR**
Suited to vehicle/s: **FORD RANGER PX 2011ON**
Optional Winch Install Kit: **3540050**
Optional Fitting Kits:
5140020 Sahara Top Tube Kit
5100020 Buffer Kit with hole (Required when fitting top tube).
5100030 Buffer Kit without hole.

WARNING

REGARDING VEHICLES EQUIPPED WITH SRS AIRBAG:

When installed in accordance with these instructions, the front protection bar does not affect operation of the SRS airbag.

ALSO, NOTE THE FOLLOWING:

- ◆ This product must be installed exactly as per these instructions using only the hardware supplied.
- ◆ In the event of damage to any bull bar component, contact your nearest authorised ARB stockist. Repairs or modifications to the impact absorption system must not be attempted.
- ◆ Do not use this product for any vehicle make or model, other than those specified by ARB.
- ◆ Do not remove labels from this bull bar.
- ◆ This product or its fixing must not be modified in any way.
- ◆ The installation of this product may require the use of specialized tools and/or techniques
- ◆ It is recommended that this product is only installed by trained personnel
- ◆ These instructions are correct as at the publication date. ARB Corporation Ltd. cannot be held responsible for the impact of any changes subsequently made by the vehicle manufacturer
- ◆ During installation, it is the duty of the installer to check correct operation/clearances of all components
- ◆ Work safely at all times
- ◆ Unless otherwise instructed, tighten fasteners to specified torque

ARB 4x4 ACCESSORIES

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GENERAL CARE AND MAINTENANCE

By choosing an ARB Bar, you have bought a product that is one of the most sought after 4WD products in the world. Your bar is a properly engineered, reliable, quality accessory that represents excellent value. To keep your bar in original condition it is important to care and maintain it following these recommendations:

- Prior to exposure to the weather your bar should be treated to a Canuba based polish on all exposed surfaces. It is recommended that this is performed on a six monthly basis or following exposure to salt, mud, sand or other contaminants.
- As part of any Pre Trip Preparation, or on an annual basis, it is recommended that a thorough visual inspection of the bar is carried out, making sure that all bolts and other components are torqued to the correct specification. Also check that all wiring sheaths, connectors, and fittings are free of damage. Replace any components as necessary. This service can be performed by your local authorized ARB Stockist

Important electrical system information

The 2011 Ford Ranger uses an advanced wiring system allowing new chassis control systems to be used. Due to this, placing large amounts of additional load to the wiring harness may trigger faults in the ECU or cause permanent damage to the wiring harness.

To prevent overloading the turn and clearance lights must be activated through relays. Relay looms are provided within this kit to wire these lights. For further reference please see the attached wiring diagram at the end of these instructions.

FITTING REQUIREMENTS

REQUIRED TOOLS FOR FITMENT OF PRODUCT:

BASIC TOOL KIT	ELECTRIC DRILL & Ø2, Ø5.5, Ø7 & Ø10MM BITS
JIG SAW WITH BLADE SUITABLE FOR PLASTIC	MATTE BLACK SPRAY PAINT
FILE OR SAND PAPER	MASKING TAPE
BASIC MEASURING TOOLS	ELECTRICAL TAPE (BLACK)
CONVOLUTED TUBE (7MM & 12MM)	SCISSORS

HAVE AVAILABLE THESE SAFETY ITEMS WHEN FITTING PRODUCT:

Protective eyewear



Hearing protection



NOTE: 'WARNING' notes in the fitting procedure relate to OHS situations, where to avoid a potentially hazardous situation it is suggested that protective safety gear be worn or a safe work procedure be employed. If these notes and warnings are not heeded, injury may result.

FASTENER TORQUE SETTINGS:

SIZE	Torque Nm	Torque lbft
M6	9Nm	7lbft
M8	22Nm	16lbft
M10	44Nm	32lbft
M12	77Nm	57lbft

PARTS LISTING

APPLICATION.	PART NO.	QTY	DESCRIPTION
PREPARE VEHICLE	3787985	1	CUTTING TEMPLATE BUMPER
	6151349	2	SELF TAPPING SCREW PHILLIPS HD
MOUNT TO VEHICLE	3758263	1	MOUNT ASSEMBLY
	3758265R	1	CHASSIS BRACE RH
	3758265L	1	CHASSIS BRACE LH
	3758956	1	OE STONE SHEILD BRACKET
	4581011	10	WASHER FLAT M12 x 27 x 4
	6151360	10	HEX BOLT M12 x 1.75 x 35 G8.8
	6151428	10	FLANGE NUT M12
	4581050	10	WASHER SPRING M12
	6151357	6	SEMS BOLT ASSY M10 X 30
	4721760	4	CRUSH TUBE
	6151381	4	HEX BOLT M10 x 1.5 x 80
	3194288	2	NUT PLATE
	4581083	4	WASHER FLAT M10 x 21 x 2
	6151321	10	FLANGE NUT M10
	4581048	4	SPRING WASHER M10
	6151234	3	HEX BOLT M8 x 25 BLACK
	4581047	3	WASHER FLAT M8 BLACK
	6151132	3	FLANGE NUT M8
4581045	3	SPRING WASHER M8 BLACK	
INDICATORS AND FOG LIGHTS	6821151R	1	INDICATOR RH
	6821151L	1	INDICATOR LH
	3163015	1	FOG LIGHT SURROUND KIT
	6821272	1	LOOM INDICATOR CLEARANCE
	6151143	3	TEK-SCREWS
BAR TO VEHICLE	3194293	2	CAGE NUT PLATE
	6151306	6	CAGE NUT M12
	6151360	6	HEX BOLT M12 x 1.75 x 35 G8.8
	4581050	6	WASHER SPRING M12
	4581007	6	WASHER FLAT ½" x 1.1/2" x 4mm
	6151357	4	SEMS BOLT ASSY M10 X 30
	6151321	4	FLANGE NUT M10

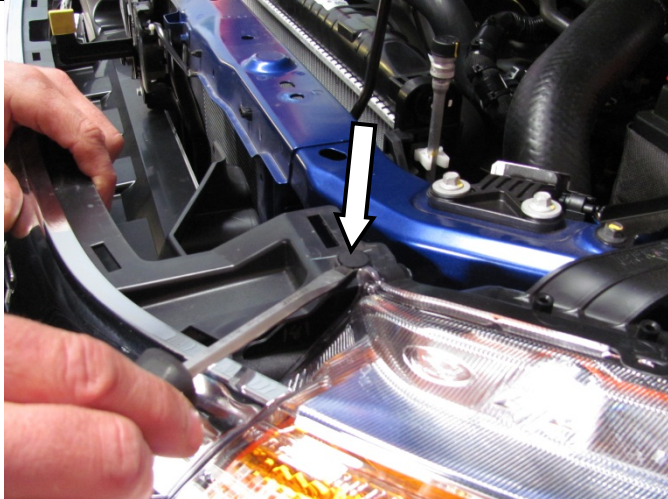
PARTS LISTING

APPLICATION.	PART NO.	QTY	DESCRIPTION
UNDER PANELS TO BAR	6522838	1	STONE SHIELD CENTRE
	6522837R	1	UNDER WING PANEL RH
	6522837L	1	UNDER WING PANEL LH
	3758957	2	BRACKET WING PANEL
	6151301	7	CAGE NUT M8
	6151234	11	HEX BOLT M8 x 25 BLACK
	4581047	11	WASHER FLAT M8 BLACK
	4581045	11	SPRING WASHER M8 BLACK
	6151300	14	CAGE NUT M6
	6151213	14	BOLT M6 x 20 BLACK
	4581082	14	WASHER FLAT M6 BLACK
	4581287	14	SPRING WASHER M6 BLACK
	6151132	4	FLANGE NUT M8
NUMBER PLATE TO BAR (NO WINCH FITTED)	6821189	2	PLASTIC PLUGS
	6151384	2	SELF TAPPING SCREWS
WINCH TO BAR	3540050	1	OPTIONAL WINCH INSTALL KIT
BUFFER KIT (With Top Tube) (5100020)	3162469R	1	BUFFER (RH)
	3162469L	1	BUFFER (LH)
	6151128	12	NUT FLANGE M6
BUFFER KIT (Without Top Tube) (5100030)	3162466R	1	BUFFER (RH) (Blank)
	3162466L	1	BUFFER (LH) (Blank)
WINCH PANEL COVER	6522902	1	PANEL WINCH COVER
	6191005	1	RUBBER TRIM
	6151256	2	M6 X 16 BUTTON HEAD S/S
	4581304	2	M6 X 20 FLAT WASHER S/S
	6151128	2	M6 FLANGE NUT
TOP FRAME (KIT 5140020)	6131718	1	TOP FRAME ASSY
	6151255	2	BOLT M12 X 1.75 X 40mm
	4581049	2	WASHER M12 FLAT
	4581050	2	WASHER SPRING M12
WING BRACES	4681392R	1	WING BRACE R/H
	4681392L	1	WING BRACE L/H
	6151357	8	SEMS BOLT ASSY M10 X 30
	6151321	8	FLANGE NUT M10

FITTING PROCEDURE

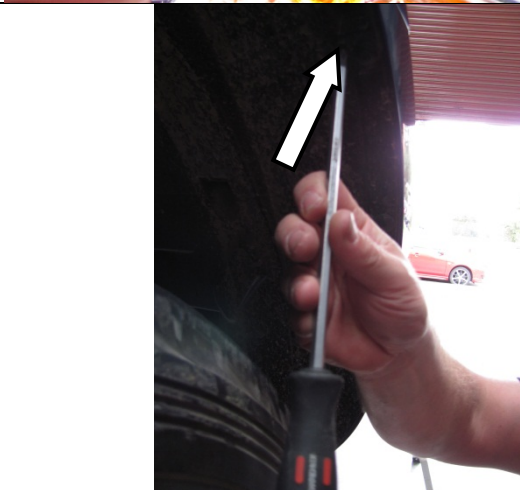


1. Read the instructions thoroughly before starting.
2. Open the bonnet and remove the plastic cover above the grille.



3. Remove the plastic clips from the top / rear corners of the grille. Place clips in a safe place.

Note: Take note where fasteners are removed from as some have to be replaced later in the fitment.



4. Remove all the bumper fasteners along the inside edge of the wheel arches.

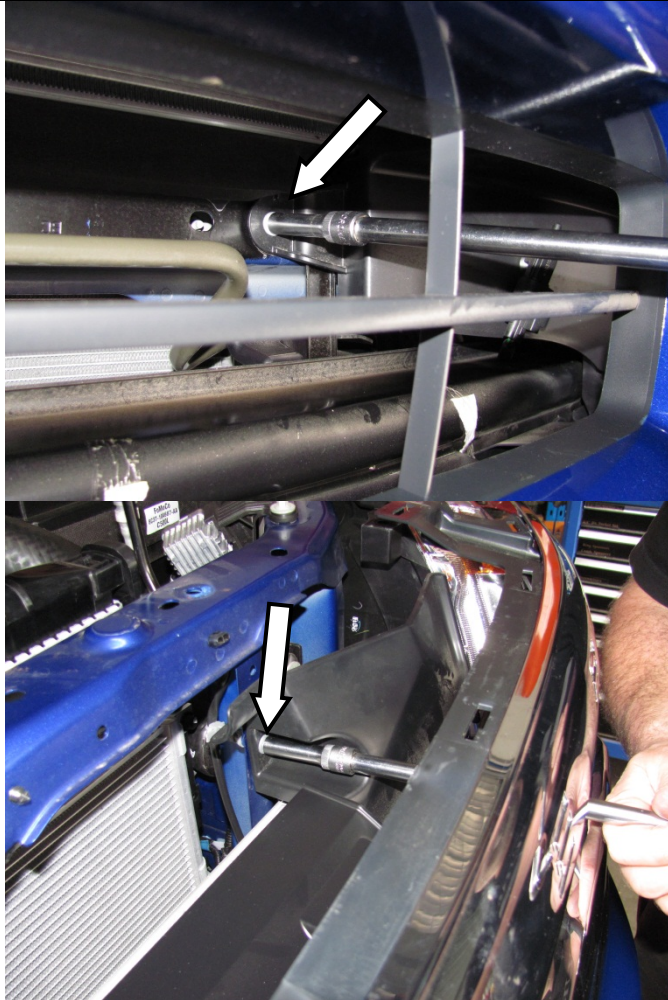


5. Remove all the fasteners securing the bottom of the bumper to the vehicle.

FITTING PROCEDURE



6. Undo and remove the screws and plastic clips behind the grille near the lower inner edge of the head lights.



7. Using a socket extension, remove the screws holding the inner grille air deflectors to the vehicle. Place in a safe place.

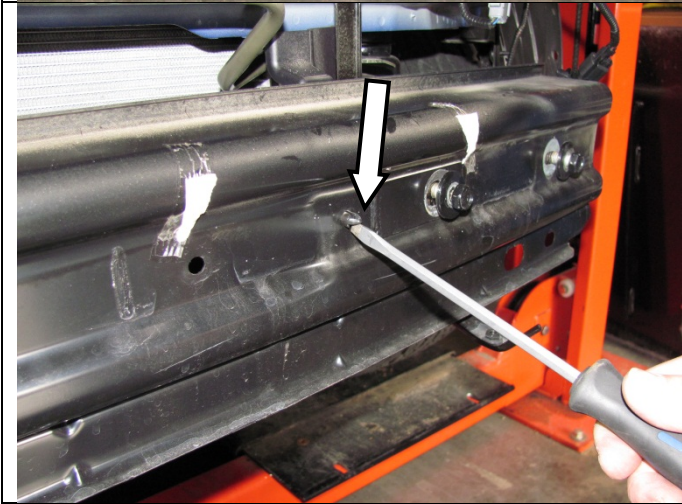


8. Starting on the RH side of the vehicle, carefully pull the rear most corner away from the vehicle un-clipping the bumper. With the assistance of another person remove the bumper from the vehicle and place in a safe place where it will not be damaged. Disconnect the sensor attached to the bumper and allow it to hang loose. If fog lights are fitted they will need to be disconnected.

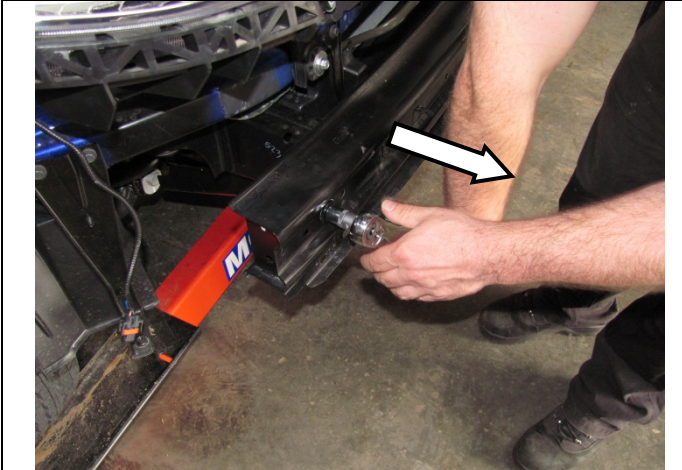
FITTING PROCEDURE



9. Remove the plastic panel attached to the front cross beam by removing the plastic clips. Discard the panel.



10. Use a screw driver to push the two plastic clips inward from the front cross beam. Do not remove the clips as they will be used later.

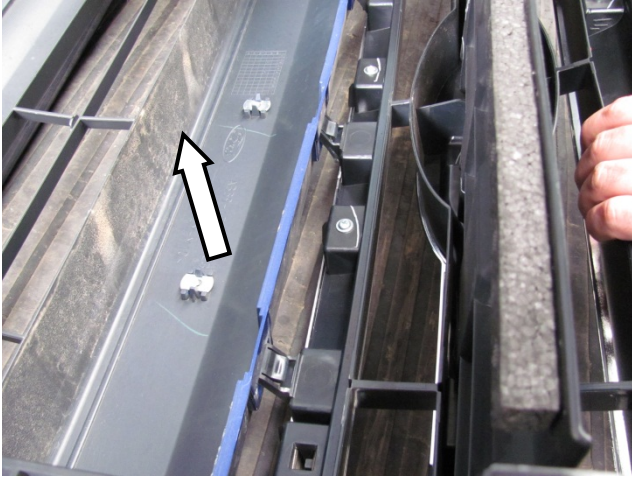


11. Remove the front cross beam and discard



12. Remove the factory under panel and place in a safe place. Do not completely remove the rear bolts. Leave loose.

FITTING PROCEDURE



13. Carefully unclip the grille from the bumper and place in a safe place.



14. Remove the RH and LH bumper retention blocks from either side of the vehicle and place in a safe place.



15. Remove and discard the inner guard support brackets from both sides of the vehicle.



16. Starting with the RH bumper retention block removed in step 18, mark as shown using a white marker pen. Note the position of the marking in relation to the lugs on the top edge of the block.



17. Use a saw suitable for cutting plastic and cut along the marker line.

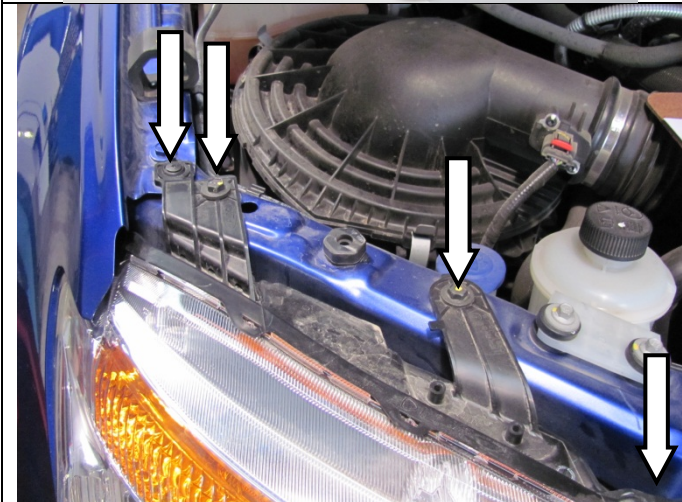
FITTING PROCEDURE



18. Mark a line as shown parallel with the top edge in line with the tapered hole at the front of the block.
19. Mark a line from the end of the line marked in the previous step down to the bottom front corner of the block as shown.
20. Use a saw suitable for cutting plastic and cut along the marked line.
21. Use a file or sandpaper to de-bur all cut edges. The final part should like the one pictured.
22. Repeat steps 16-21 to mark and cut the LH block.
23. Set aside for later fitment.



24. Starting on the RH side of the vehicle, remove the plastic clip, the two hex screws and the torx screw holding the headlight assembly in place and set aside.
25. Repeat on the LH side.



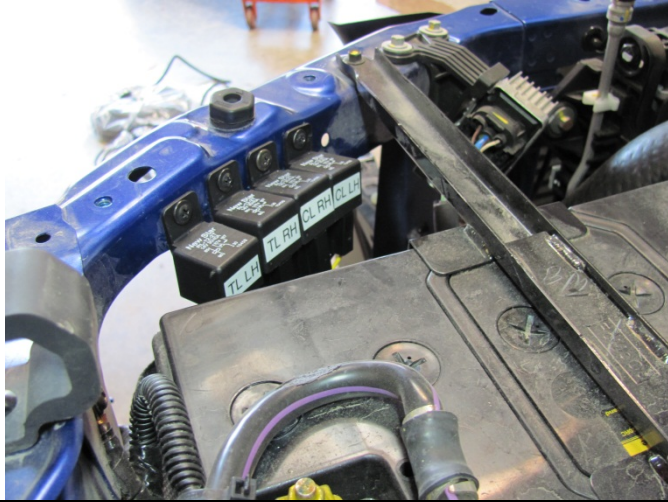
26. Carefully remove the head light assemblies from the vehicle, carefully unclipping the main head light globe plugs and completely removing both the turn tight globes and left hand side clearance light globe.
27. Place the head light assemblies in a safe place where they will not be damaged.
28. Remove lower bumper support bracket both sides and discard.



FITTING PROCEDURE

Refer to table below for Wire Colour designations of P/No: 6821272

LOOM INDICATOR / CLEARANCE	
DESCRIPTION	WIRE COLOUR
Main battery positive	Red
Main battery negative	Black
Clearance Light signal wire	Blue / Black
Left hand turn light signal wire	Green / Black
Right hand turn light signal wire	Yellow / Black



29. Using the tek-screws provided, attach the 3 relays to the panel directly behind the LH head light as shown.



30. Route the battery positive and the battery negative wires to the relevant sides of the vehicles battery. Do not attach at this stage.

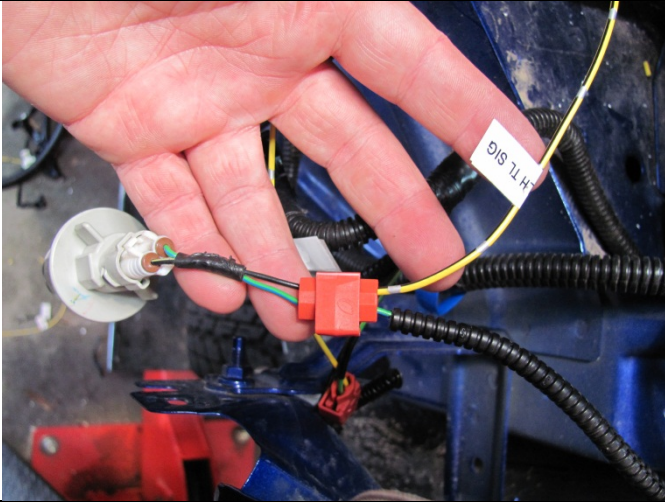


31. On each side of the vehicle, carefully cut back the protective tubing from the turn light globes wiring being careful not to damage the wires inside.

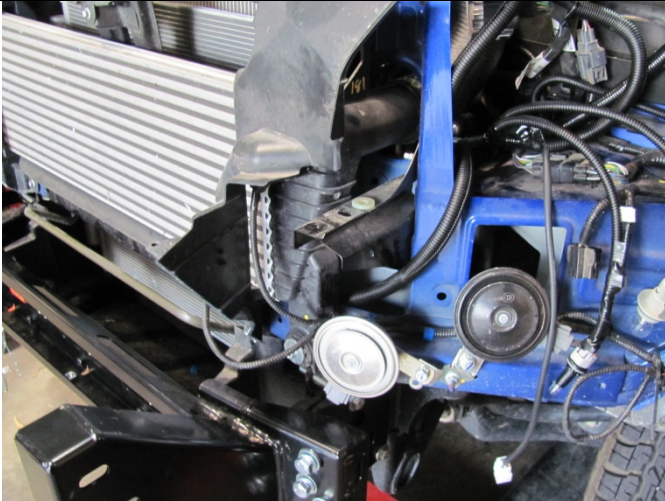
FITTING PROCEDURE



32. On the left side of the vehicle, carefully cut back the protective tubing from the clearance light globes wiring being careful not to damage the wires inside.

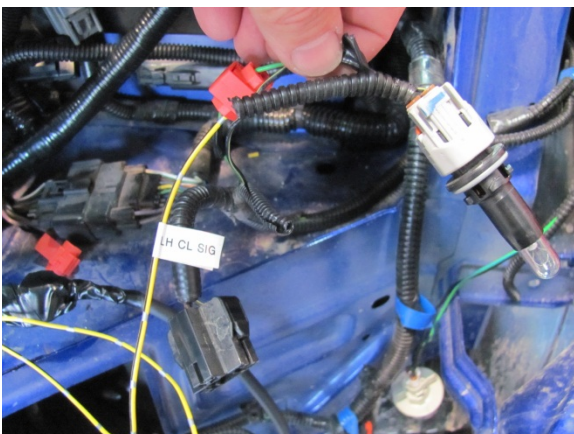


33. Starting on the LH side of the vehicle, scotch-lock the Clearance light signal wire of the loom (Blue / Black) to the OE positive clearance light wire (Green / Yellow).
34. Scotch-lock the Left Hand turn light signal wire of the loom (Green / Black) to the OE positive turn light wire (Green / Blue)
- Cover the connections with black electrical tape for protection.



35. Route the remainder of the loom across the front of the vehicle along the cross beam that runs below the intercooler as shown.

Note: It is recommended that all wires are covered with protective convoluted tubing to prevent damage during use.



36. On the RH side of the vehicle, scotch-lock the Right Hand turn light signal wire of the loom (Yellow / Black) to the OE positive turn light wire (Blue / Yellow)
37. Cover the connections with black electrical tape for protection.

Note: A test light should be used to ensure that the correct wires are chosen.

FITTING PROCEDURE

Note: All wiring should be checked against the wiring diagram attached at the end of these instructions.

38. Tidy all wiring and secure neatly to the vehicle using the cable ties supplied with the indicator/clearance loom. Ensure they are kept away from sharp and moving parts.
39. Replace the head light assemblies by reversing the removal step above ensuring that the LH and RH White Connectors (to suit 6821151L/R) are able to hang down from below the head lights.
40. Connect the positive and negative battery wires to relevant terminals on the vehicles battery.



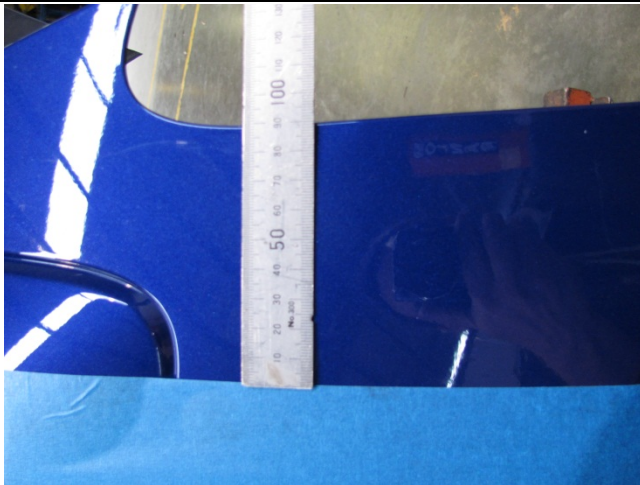
41. Carefully mask the area surrounding each side of the guard as shown (RH shown, LH same).
42. Thoroughly clean the area.
43. Using Matte Black spray paint, paint the masked area.
44. Allow to dry.
45. Re-fit the bumper retention blocks modified earlier.

Note: If you are fitting driving lights to the bar it is advisable that you install the wiring loom at this point.

FITTING PROCEDURE



46. Remove the two black plastic air deflectors attached to the bumper and set aside.
47. Place the bumper on a stand facing upwards.
48. Use masking tape to mark a straight line across the front of the bumper using the sharp corner at the front of the bar as a guide.



Note: The line should end up being 90mm below the edge of the bumper that mates with the vehicles guard.

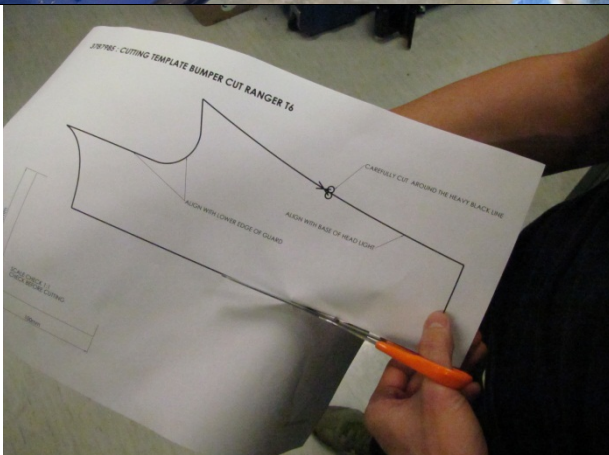


49. Using a jig saw or similar, carefully cut along the line made in the previous step.

Note: It is advised that you take steps to prevent damage to the bumper when cutting such as placing masking tape on the jigsaw foot as shown.

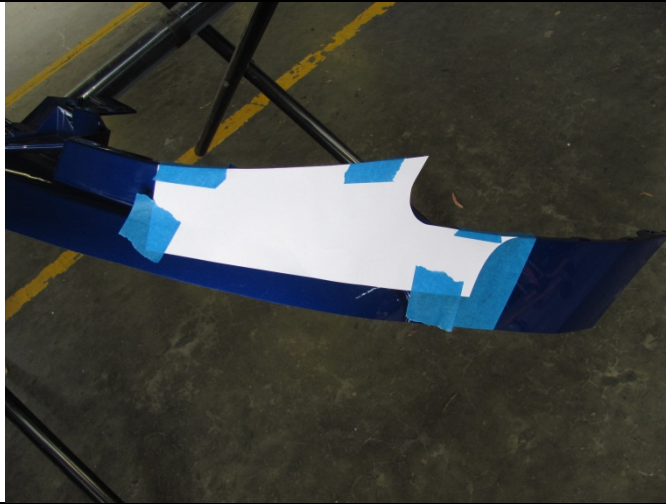


Warning: Cutting operations can result in flying debris, please use appropriate protective gear

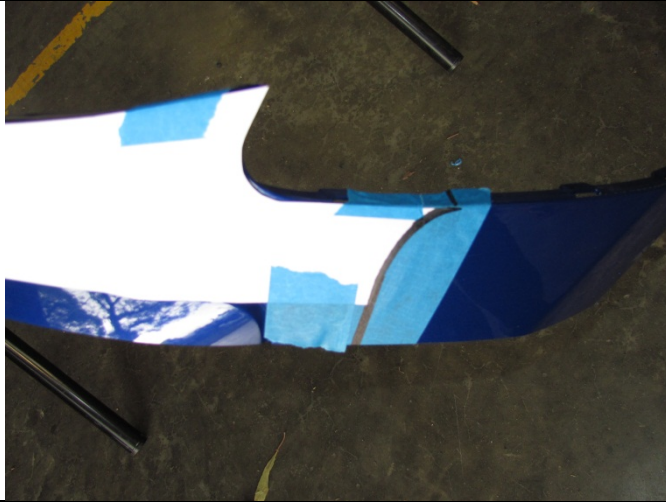


50. Using scissors carefully cut out the supplied paper template.

FITTING PROCEDURE



51. Attach the template to the bumper as shown using masking tape.
52. Place a piece of masking tape on the bumper at the rear of the template as shown (this will be used to mark on).

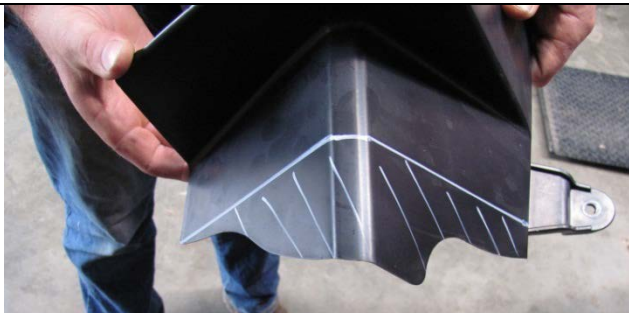


53. Using a marker pen, carefully trace a line along the rear most edge of the template continuing down the cut edge of the bumper.
54. Carefully remove the template and repeat on the opposite side of the vehicle by reversing the template.
55. Carefully cut along the marked lines removing the rear most sections of the bumper.



56. Mark two lines on each side of the bumper 70mm down from the edge that mates with the vehicles guard and 80mm from the rear most edge as shown.
57. Carefully cut along the marked lines creating a rectangular notch. Discard the cut piece.
58. De-bur the cut edges with a file or sandpaper.

Warning: Be careful when cutting and de-burring that you don't damage the paint on the visual surfaces of the bumper.



59. Mark the RH air deflector removed in step 46 as shown using the bottom edge of the lower mounting lug as a starting point across to the bottom corner of the opposite edge.
60. Carefully cut along the marked lines removing the lower off cut. Discard off cut.

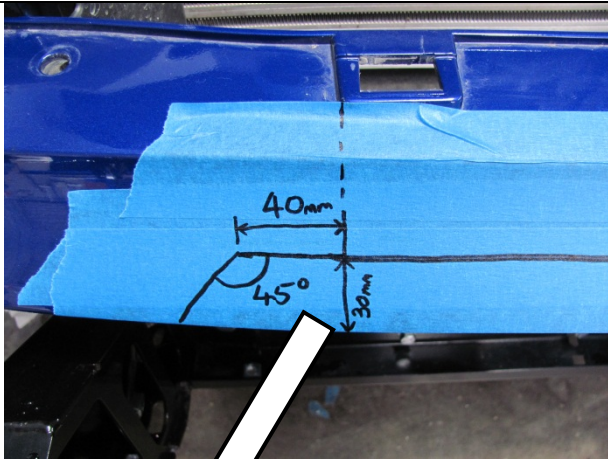
FITTING PROCEDURE



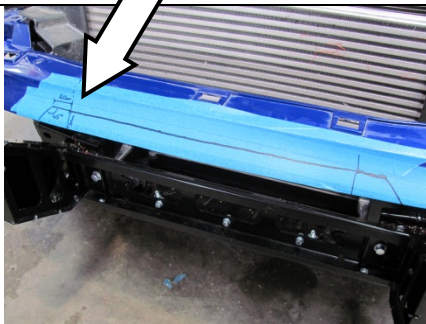
61. Mark the LH air deflector removed in step 46 as shown using the bottom edge of the lower mounting lug as a starting point, marking a line perpendicular to the vertical edge below the lug.
62. Carefully cut along the marked line removing the lower off cut. Discard off cut.



63. On both the RH and LH air deflectors, mark a line from the bottom corner of the lower mounting lug up to the forward / bottom edge of the bumper mounting lug as shown.
64. Carefully cut along the marked line removing the lower off cut. Discard off cut.
65. Refit the air deflectors to the vehicle using the two factory screws in each side.
66. Refit the bumper to the vehicle by reversing the removal steps.



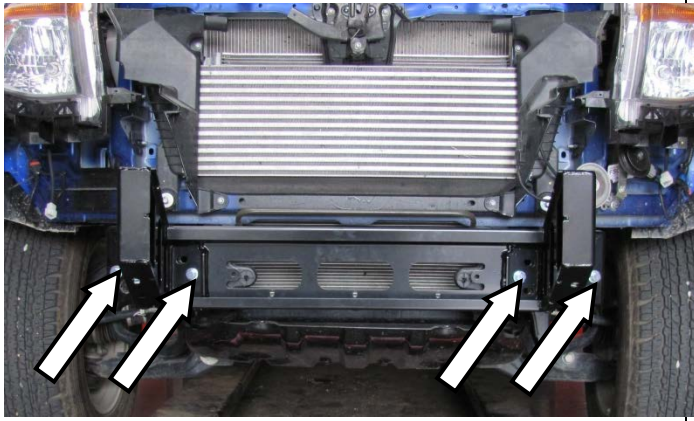
67. Tape the front centre face of the bumper as shown.
68. Using the outside edges of the two grille clip receivers on either side of centre as guides, mark vertical lines directly down the front of the bumper.
69. Mark a parallel line 30mm from the bottom edge of the bumper starting and finishing 40mm outboard of the vertical line marked above.
70. On both sides of the vehicle mark a line 45 degrees down to the bottom edge of the bumper.
71. Carefully cut along the marked lines. Discard the cut piece.
72. De-bur the cut edges with a file or sandpaper.



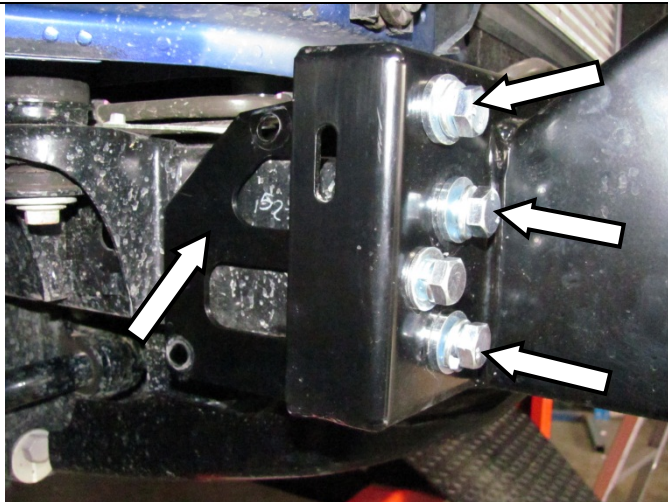
73. Drill a $\text{Ø}2\text{mm}$ hole through each end corner of the bumper into the guard sheet metal.
74. Attach the bumper to the guards using the Phillips head self-tapping screws.



FITTING PROCEDURE



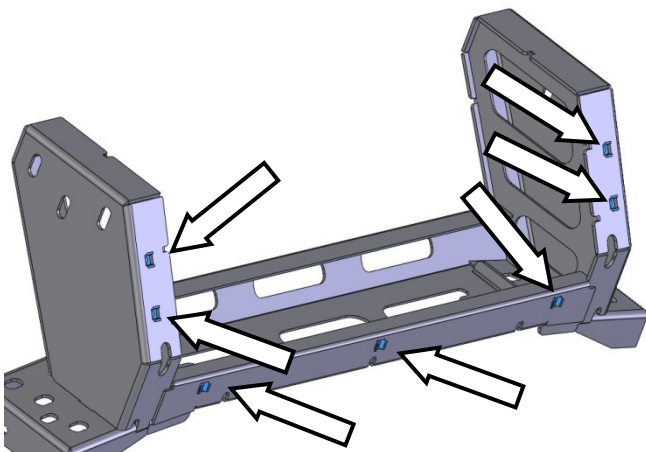
75. Attach the mount bracket to the chassis end plates using four M10 SEMS bolts into the captive nuts. Leave loose at this stage.



76. Place the right hand chassis brace onto the back of the chassis face plate and loosely attach it to the mount bracket using two M12 bolts, three M12 spring washers and three M12 flat washers and three M12 Flange nuts.
77. Repeat on the LH side.



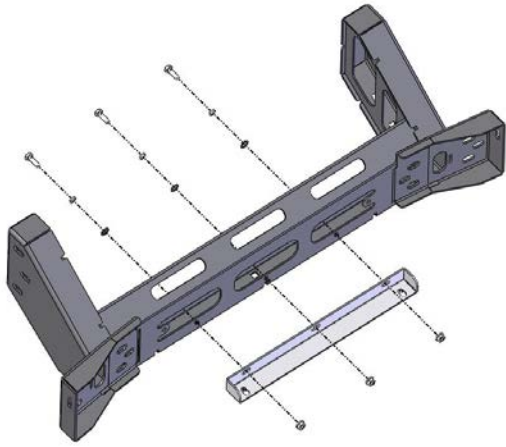
78. Place two M12 bolts, two M12 spring washers and two M12 flat washers and two M12 Flange nuts into the two holes on the inboard side of each chassis face plate. Leave loose at this stage.
79. Repeat on the LH side.



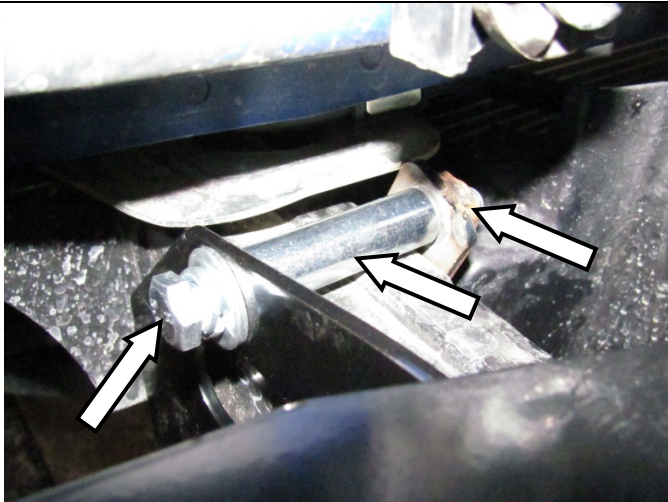
80. Fit seven M8 cage nuts into the mount bracket from the inside.

Note: A flat blade screw driver can be used to aid placement of the cage nuts.


FITTING PROCEDURE

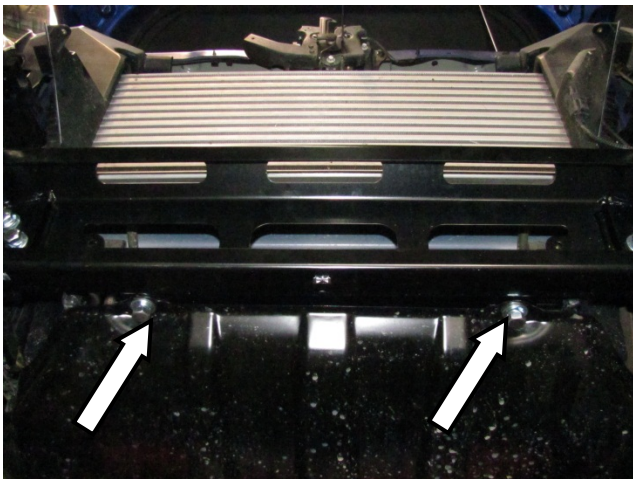


81. Attach the OE stone shield bracket to the chassis mount using three M8 x 25 black bolts, three M8 black flat washers, three M8 black spring washers and three M8 flange nuts. Leave loose at this stage.





82. Secure the rear of the chassis braces to the chassis using two M10 x 80 bolts, two M10 spring washers and two M10 flat washers through two crush tubes into the nut plate assemblies on each side of the vehicle. Leave loose at this stage.

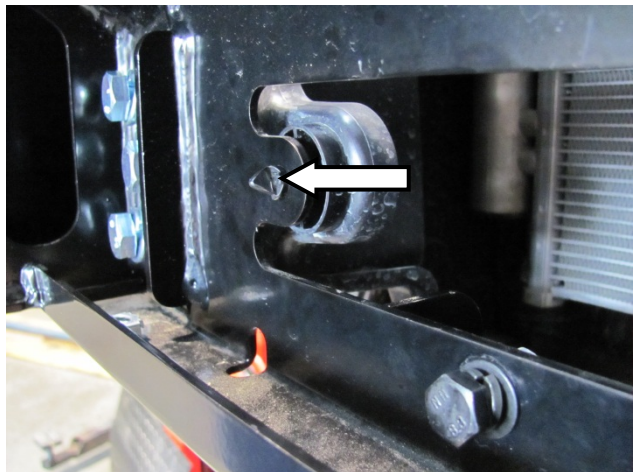
 M10 - 44Nm



83. Re fit the OE stone shield to the bracket fitted in step 81 using two M10 SEMS bolts and two M10 flange nuts.

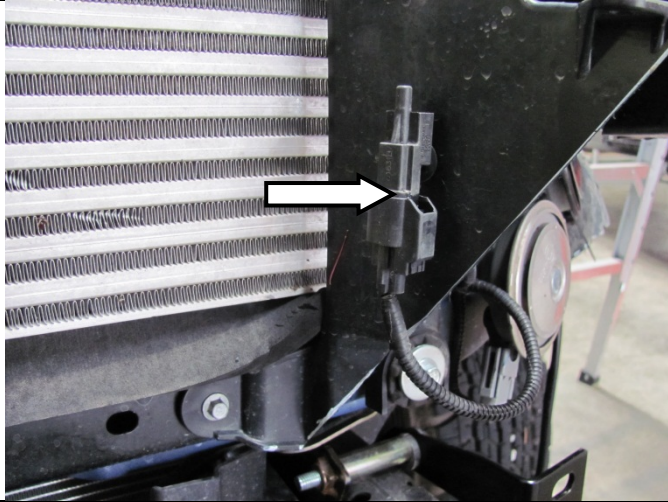
 M10 - 44Nm

 M12 - 77Nm



84. Using the original plastic clips re-fit the factory air deflector to the two holes in the mount bracket.

FITTING PROCEDURE



85. Using the pegs on the sensor removed in step 8 as a guide, Drill two Ø5.5mm holes in the LH air deflector so that the sensor can be fitted approximately 40mm forward of the rear edge of the air deflector as shown.
86. Push the pegs into the drilled holes, attaching the sensor.
87. Re fit the Grille and secure with original fasteners.



88. Place the bar face down on a surface that will not damage it.
89. Attach the buffers to the bar as shown using twelve M6 flange nuts.

Warning: Do not over tighten the nuts or you risk pulling the studs from the buffers.



90. If fitting Top Tube, fasten with two M12 x 40 Bolts, spring and Flat Washers.

If fitting a winch refer to fitting instructions 3787989 supplied with 3540050 winch install kit.



M12 - 44Nm (Critical)

FITTING PROCEDURE

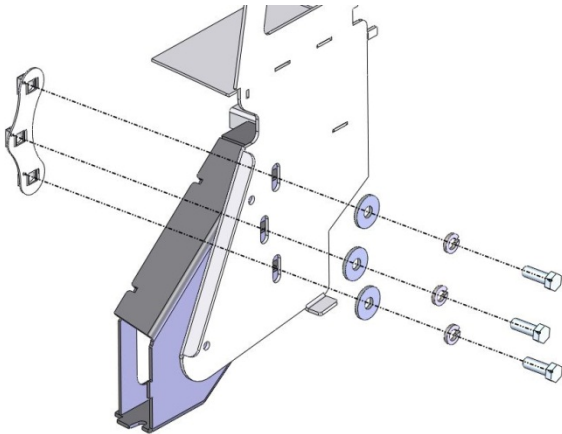


91. Fit three M12 cage nuts to each of the cage nut plates as shown.



92. With the assistance of another person, place the bar on the mount brackets.

Warning: Due to the weight of the bar and winch if fitted, it is advised that you use some form of mechanical assistance when lifting the bar onto the vehicle such as an elevating trolley.




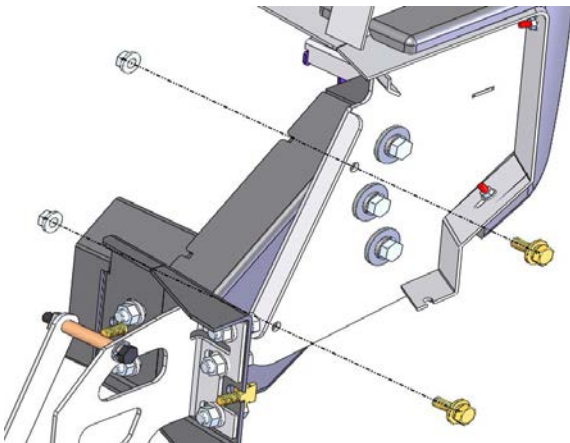
93. Attach the bar to the mount bracket using six M12 bolts, six M12 spring washers and six large diameter M12 flat washers, into the nut plates which are placed inside the box upright sections of the mount bracket. Leave loose at this stage.

FITTING PROCEDURE



94. Position the bar so that it is level and there is a gap between the top face of the wings and the bottom edge of the guards of 18-22mm and the wing tips are aligned with the edge of the wheel arch.
95. Centralise the bar and tighten all mounting bracket related fasteners to the specified torque.
96. Tighten the bar to mount fasteners to the specified torque.


 M12 - 77Nm



97. Double check the position of the bar.
98. If happy with the position of the bar drill four Ø10mm pinning holes using the pre-cut holes in the bar uprights as guides.
99. Use paint or rust protection on the drilled holes.


Warning: Drilling operations can result in flying metal debris, safety glasses should be worn.

100. Pin the holes using four M10 SEMS bolts and four M10 flange nuts.

 M10 - 44Nm



101. Fasten the (L&R) Wing Braces using M10 SEMS bolts and Flange nuts (four each per side)

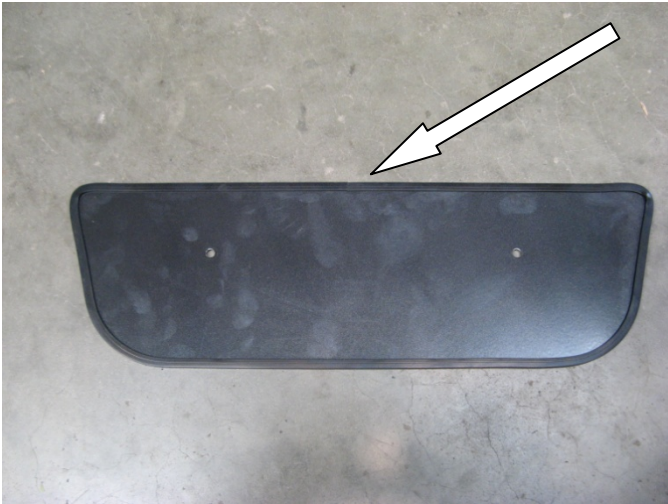
 M10 - 44 Nm

NOTE: Photo depicts LHS Brace, off the vehicle for clarity.

FITTING PROCEDURE

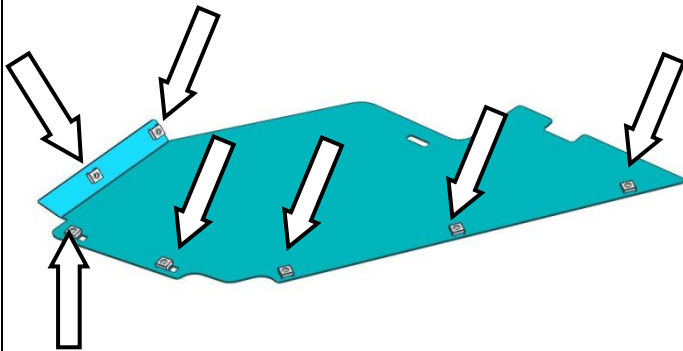


102. If fitting driving lights it is advisable to fit them now.



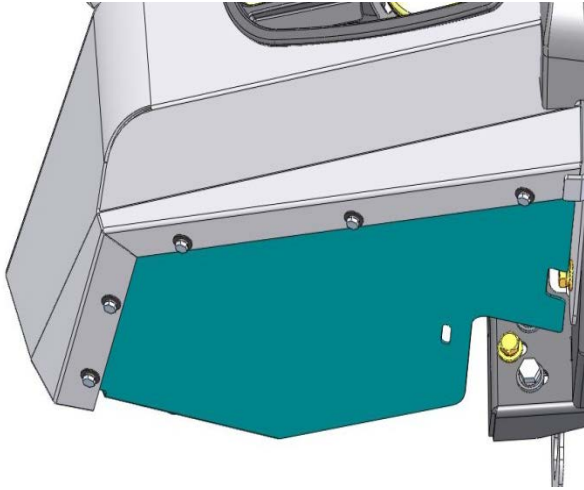
103. If not fitting winch, fit rubber trim around Winch Panel starting at the back.

104. Trim the rubber to start point and secure Panel to the top of the Bar using M6 x 16mm S/S Button head bolts, S/S washers and M6 Flange Nuts.



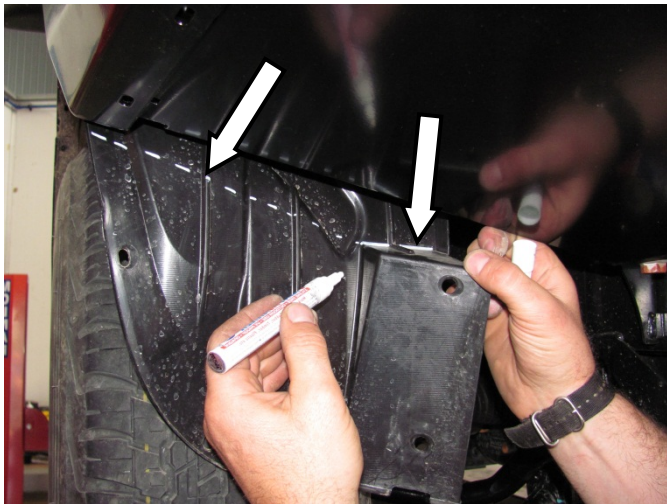
105. Fit four M6 cage nuts to each of the under wing panels as shown.

FITTING PROCEDURE



106. Fit the RH under wing panel to the RH wing as shown and attach using five M6 hex bolts, five M6 spring washers and five M6 flat washers.

107. **Repeat** on the LH side.



108. On the plastic OE inner guards, mark lines from the bottom corners of the bar wing tips down to the square corners in the inner guards. Continue the line along the horizontal corner.

109. Using scissors, sheers or a sharp knife, carefully cut along the marked line and discard the bottom section.



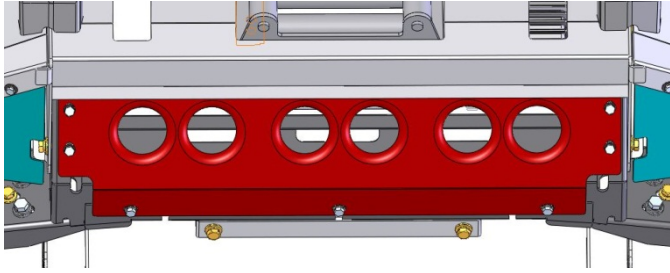
110. Mark and drill two Ø7mm holes through each of the inner guards in line with the cage nuts.

Tip: Removing the front wheels will aid access for this task.


111. Attach the inner guards to the under wing panels using two M6 hex bolts, two M6 spring washers and two M6 flat washers on each side of the vehicle.



FITTING PROCEDURE



112. Attach the centre stone shield to the mount bracket using seven M8 hex bolts, seven M8 spring washers and seven M8 flat washers into the cage nuts fitted in step 80.

 M8 - 22Nm

- Check operation of all lights
- Check operation of winch (if fitted)

FITTED PRODUCT



WIRING DIAGRAM

