



FITTING INSTRUCTIONS

Part Number: **3421820 3421830**

Product Description: **SUMMIT STEEL BULL BAR**

Suited to vehicle/s: **Toyota Land cruiser Prado 150 Oct 13 On-
3421820: Suited GX and GLX 3421830: Suited to VX and Kakadu**

Optional Kits: **3500720** Winch Install Kit
3500590 Fog Light Kit (LH&RH Lights)
3500530 ARB AUX Fog Light Loom
3500680 Fog Lamp Housing Clear Lens Kit
3500700 Anti Reflective Tape Kit
3521040 Front Camera Relocation kit.

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 Carnuba 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.

FITTING REQUIREMENTS

REQUIRED TOOLS FOR FITMENT OF PRODUCT:

METRIC SOCKET SET	METRIC RING AND OPEN ENDED SPANNER SET
ELECTRIC DRILL 13 MM CAPACITY	3, 7, 8.5, 10 & 13 mm DRILL BITS
TORQUE WRENCHES 9-96Nm	PHILLIPS AND FLAT BLADE SCREW DRIVER SETS
FELT TIP MARKER PEN	HACKSAW BLADE
FINE FILE OR SAND PAPER	JIG SAW OR MULTI-TOOL WITH BLADE SUITABLE FOR PLASTIC
METRIC TAPE MEASURE	ROLLS OF 25 mm & 50 mm WIDE MASKING TAPE
TOUCH UP PAINT – BLACK FAST DRYING ENAMEL	SCISSORS
SMALL EXT CIR CLIP PLIERS	COLD CHISEL

HAVE AVAILABLE THESE SAFETY ITEMS WHEN FITTING PRODUCT:

Protective eyewear		Hearing protection	
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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	9	7
M8	22	16
M10 / 3/8" UNC	44	32
M12 x 1.75	77	57
M12 x 1.25	96	71

PARTS LISTING			
APPLICATION.	PART NO.	DESCRIPTION	QTY
FIT MOUNT BRACKETS TO CHASSIS	4654024R	BRACKET MOUNT ASSY PRADO 150 RH	1
	4654024L	BRACKET MOUNT ASSY PRADO 150 LH	1
	3757995R	BRACKET REINFORCING MOUNT	1
	3757995L	BRACKET REINFORCING MOUNT	1
	6151306	NUT CAGED M12 1.8-3.2	2
	6151040	BOLT HX HD M10 x 1.25 x 30 GR8.8 TZP480	8
	6151234	BOLT M8 x 1.25 x 25 Gd 8.8 BP	2
	6151094	BOLT M12 x 1.25 x 30 Gd 8.8 ZP	2
	6151255	BOLT M12 x 1.75 x 40 Gd 8.8 ZP	6
	4581048	WASHER SPRING M10 TZP480	8
	4581064	WASHER SPRING M12 TZP480	2
	4581050	WASHER SPRING 1/2 x 3/16 x 3/16 ZP	6
	4581047	WASHER SPRING M8 x 3/32 x 3/33 BLK ZN	2
	4581040	WASHER FLAT, M10 x 25 x 3 ZP	8
	4581049	WASHER FLAT, 1/2 x 1 1/8 x 3 GOLD ZN	12
	4581307	WASHER FLAT, M8 x 20 x 2 BLK ZN	2
	3194155	PLATE CAGE NUT PRADO 150	2
	6151428	NUT FLANGE M12 X 1.75 ZP	4
FIT MOULDINGS AND LIGHTS	3163082	KIT SURROUND ARB FOGLIGHT	1
	3500880	GRILLE SPLIT PAN KIT	1
	5100200	BUFF KIT 2PCE FRONT SECTION	1
	5100210	BUFF KIT 2PCE REAR UPRIGHT BAR	1
	6821287	LAMP LED INDICATOR CLEARANCE	2
	6821116	GROMMET NYLON SNAP IN TYPE	4
FIT LICENCE PLATE BRACKET	4581287	WASHER SPRING M6 x 2.5 x 1.6 BLK ZN	3
	6151213	BOLT M6 x 1.0 x 20 Gd8.8 BZ	3
	4584295	WASHER FLAT M6 X 12 X 1.3 BLK ZN	3
	6151173	NUT FLANGE M6 x 1.0 BZP	3
	6821189	GROMMET RND FC 1500 080 090	2
	3759488	BRACKET LIC PLATE FIXED LARGE RAD	1
	6151384	SCREW ST PHDCOL PH 5.2 X 16 TBZP480	2
MISC	6191025	PINCH WELD 480mm NARROW LONG	2
	3789208	F/INST TEMPLATE PRADO 150 10/13 ON B	1
	180302	CABLE TIE 4.8 X 180 MM BLACK	10
	3789207	TEMPLATE BUMPER CUT PRADO 150 10/13 ON	1
	2125578	TAPE PARKER BLANK PRADO 150 14/-	1

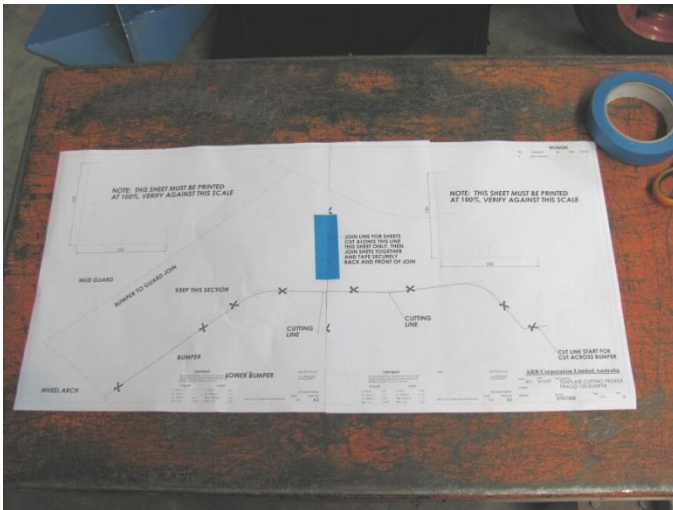
PARTS LISTING

APPLICATION.	PART NO.	DESCRIPTION	QTY
FIT WINCH ACCESS COVER PANEL	4581287	WASHER SPRING M6 x 2.5 x 1.6 BLK ZN	4
	4584295	WASHER FLAT M6 X 12 X 1.3 BLK ZN	4
	6151173	NUT FLANGE M6 x 1.0 BZP	4
	6522985	PRESS FORM WINCH COVER PANEL	1
	6151213	BOLT M6 x 1.0 x 20 Gd8.8 BZ	4
FIT BAR TO MOUNT	6151428	NUT FLANGE M12 X 1.75 ZP	6
	4584323	WASHER FLAT 1/2 x 1.1/2 x 4 SILVER TZP480	6
	4581007	WASHER SPRING M12 TZP480	6
	6151360	BOLT M12 x 1.75 x 35 Gd 8.8 ZP	6
	6151357	BOLT SEMS M10 X 30 ZP Gd 8.8	4
	6151321	NUT FLANGE M10 x 1.5 ZP	4
FIT BRACES TO BAR	3194922	BRACE WING MOUNT PRADO 150	2
	6151045	BOLT M10x1.5x25 Gd8.8	2
	4581048	WASHER SPRING M10 TZP480	2
	4581040	WASHER FLAT, M10 x 25 x 3 ZP	2
	6151357	BOLT SEMS M10 X 30 ZP Gd 8.8	4
	6151321	NUT FLANGE M10 x 1.5 ZP	6
FIT UNDER PANELS TO BAR	6523130	PAN CENTRE PRADO 150	1
	6522987R	PANEL WING PRADO ALU RH	1
	6522987L	PANEL UNDER WING PRADO ALU LH	1
	6151315	NUT CAGED M6	6
	6151262	BOLT M8 x 1.25 x 20 Gd 8.8 BZ	7
	4581047	WASHER SPRING M8 x 3/32 x 3/32 BTZP480	7
	4581307	WASHER FLAT, M8 x 20 x 2 BLK ZN	7
	6151301	NUT CAGED M8 3.3-4.7	5
	4581082	WASHER FLAT, M6 x 19 x 1.6 BZ	8
	4581287	WASHER SPRING M6 x 2.5 x 1.6 BLK ZN	8
	6151213	BOLT M6 x 1.0 x 20 Gd8.8 BZ	8
	6151132	NUT FLANGE M8 x 1.25 ZP	2

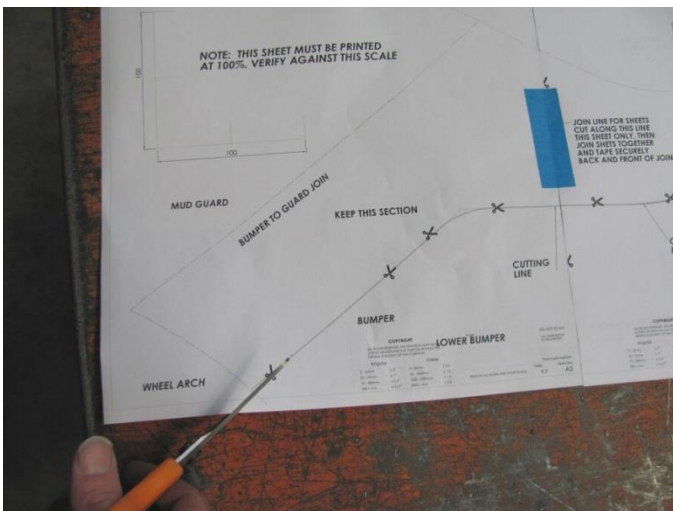
FITTING PROCEDURE



1. Remove licence plate



2. Using the scale on templates confirm print is to the correct size. Carefully align and join cutting template sheets from fitting kit on the vertical aligning line as indicated on sheets as shown and tape together front and back



3. Using scissors accurately cut out the bumper cutting template along designated bumper cutting line as shown.

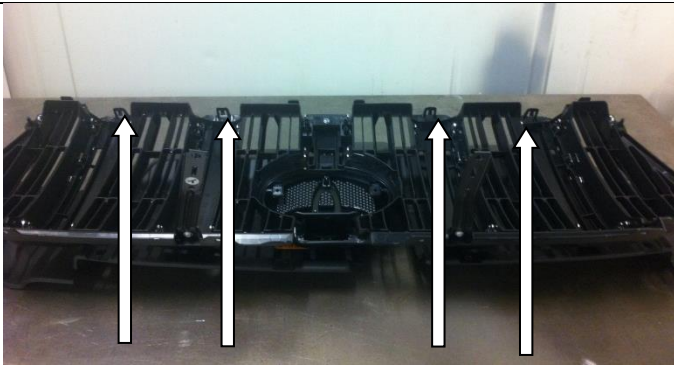
FITTING PROCEDURE



4. Remove radiator top cover by popping out the plugs as shown. Retain for reuse.



5. Remove the four bolts retain the top of the grille as shown. Retain for reuse.



6. Remove grille by releasing the lower tabs connected to the bumper as shown.

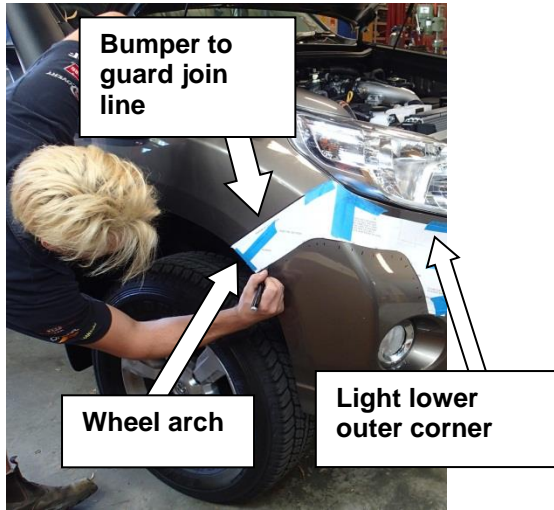


FOR KAKADU ONLY:

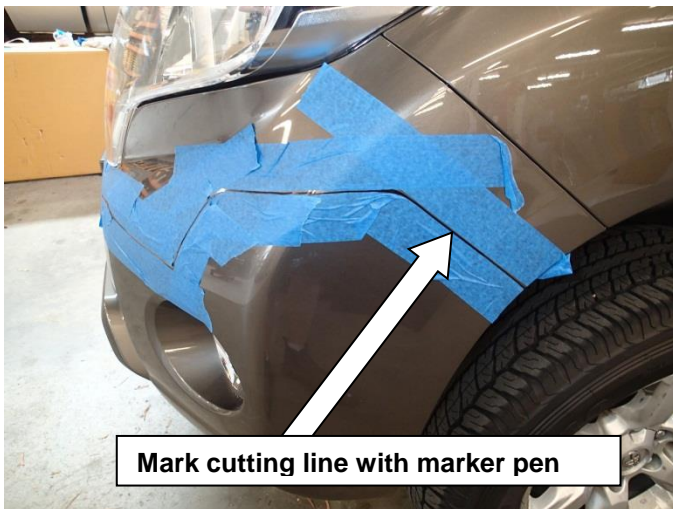
7. Remove screws retaining camera to grill
8. Remove the bracket from the camera.

**Retain the 4 screws for reuse.
Discard the bracket**

FITTING PROCEDURE



9. Carefully and accurately fit the template to the RHS of the bumper using the identified reference points aligning with the wheel arch, join of bumper and guard the head lamp outer lower corner and tape in position. **Make sure the template sits as flat as possible on the bumper as any misalignment could affect the final cut profile accuracy on the vehicle.**

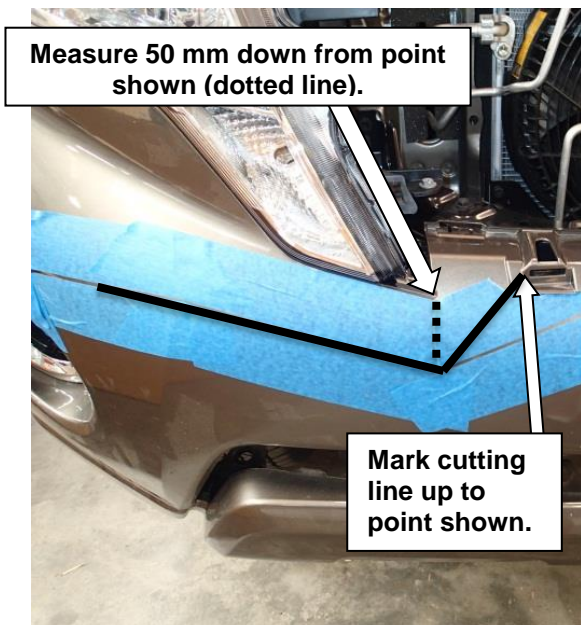


10. Mark the cutting line around to the front face of the bumper.

11. Remove the cutting template from the RHS, reverse it and reposition it on the LHS, tape in position and once again mark cutting line.



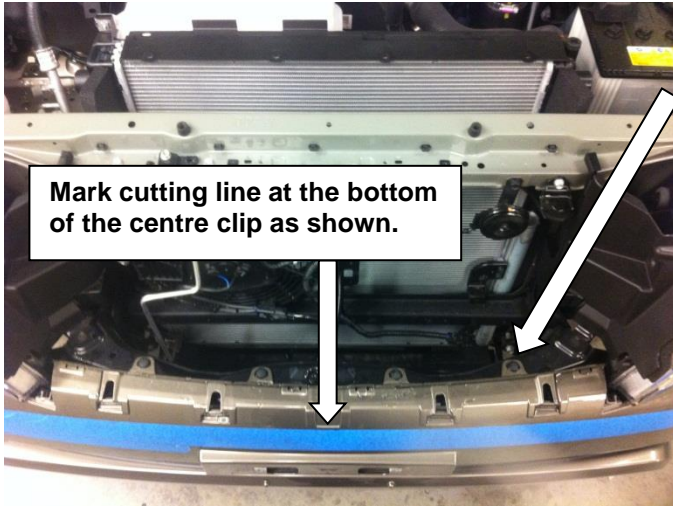
Finished bumper cut looks like this.



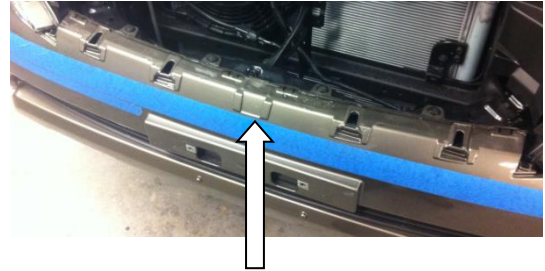
12. Measure down 50 mm from the point shown and mark a line to meet the template.

13. Mark from the point up to the inner edge of the outer grille clip housing as shown.

FITTING PROCEDURE



14. Continue to mark the cutting line position across the centre of the bumper as shown.
15. Remove the plastic rivets securing the top of the bumper.



16. Remove the screws securing the bumper to wheel arch area and across the lower section across the front so that there are no more fasteners securing the bumper.
17. Remove the lower joining panel from the bumper to the sump guard.
18. Work the inner guard liners away from the bumper and reaching in behind, undo the connections to the following if fitted:- fog lamps, parking sensors (connection is on LHS of vehicle), headlamp washers (use a cable tie to crimp off the hose to prevent washer bottle leaking).



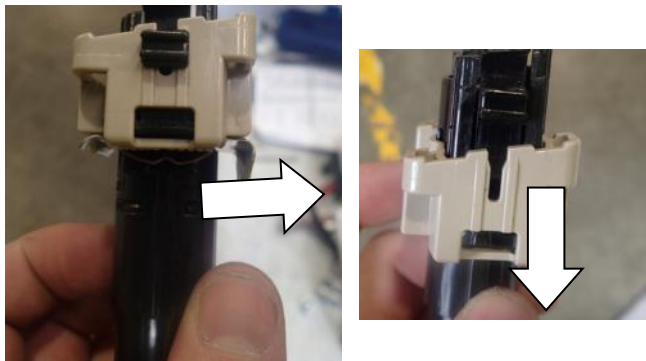
19. Carefully, and ideally with the aid of a friend, unclip each outer of the bumper at the guard as shown and remove bumper.
20. If fitted, remove washer jets from bumper and retain for reuse later.
21. Place bumper face up on soft surface.

FITTING PROCEDURE



FOR VX & KAKADU ONLY:

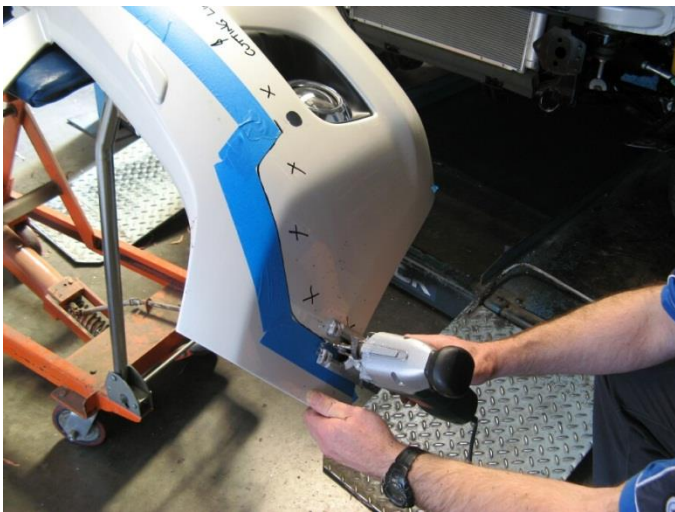
22. Mark each sensor and harness plug for identifying position in bumper, then **carefully** remove sensors, disconnecting from the harness first, then unclipping the sensor from the holding sleeve, finally remove the sleeves from the bumper holes



FOR VX & KAKADU ONLY:

23. VX and Kakadu only: Remove headlight washers from bumper.
For clarity, pictures show washers already removed from bumper.

First remove the steel clip by sliding it in the direction shown.
Next slide the cream coloured plastic retainer down and off the body of the headlight washer
The headlight washer can now be removed out the front of the bumper.



24. With the bumper face up and on a suitable bench or the like, carefully cut the bumper along the cutting line with a multi-tool or similar tool. Take care not to damage surface above cutting line.

25. When finished, deburr cut edge with file, then remove protective tape.



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

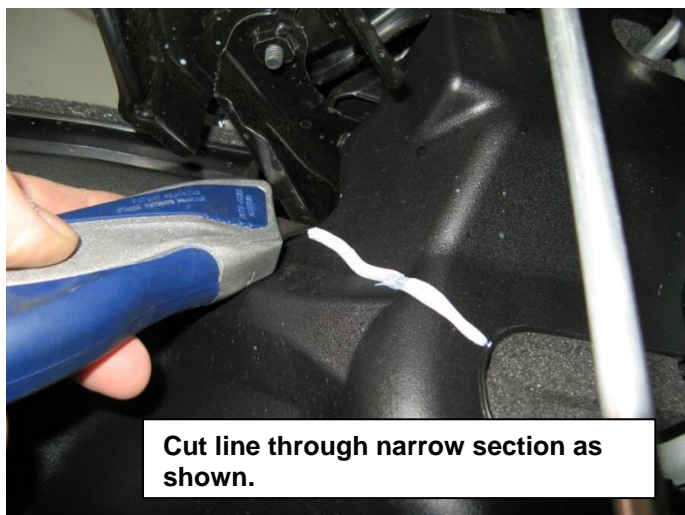
FITTING PROCEDURE



26. Remove reinforcing beam (refer next step).

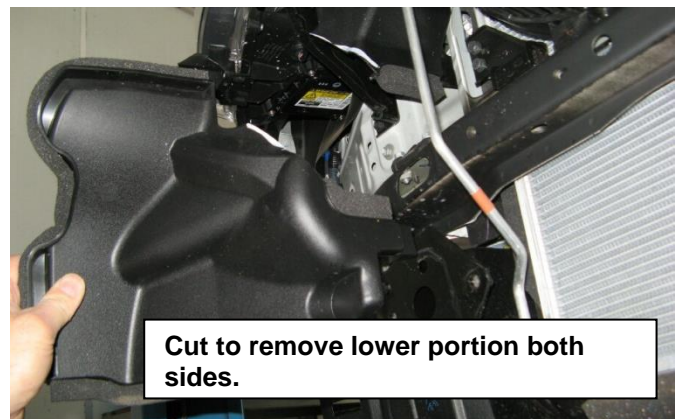


27. Remove reinforcing beam at mounts to chassis by undoing the M10 fine thread bolts. Recycle / discard beam, it will not be reused.



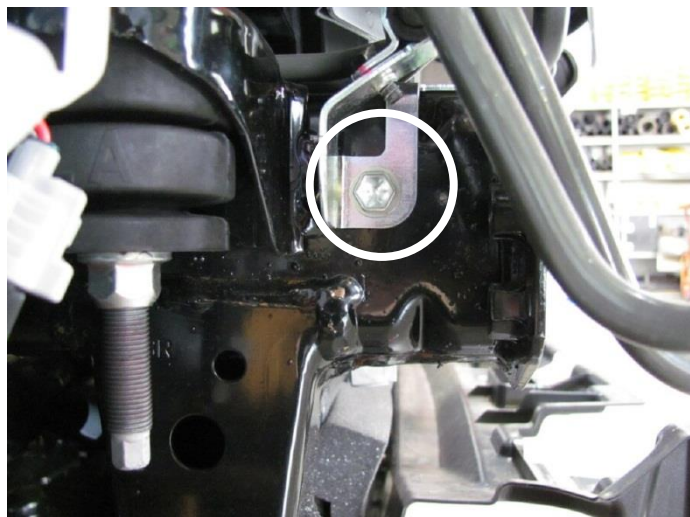
Cut line through narrow section as shown.

28. Mark a cutting line as shown then cut plastic air deflectors, both sides so lower portion is removed to clear bull bar mounts.



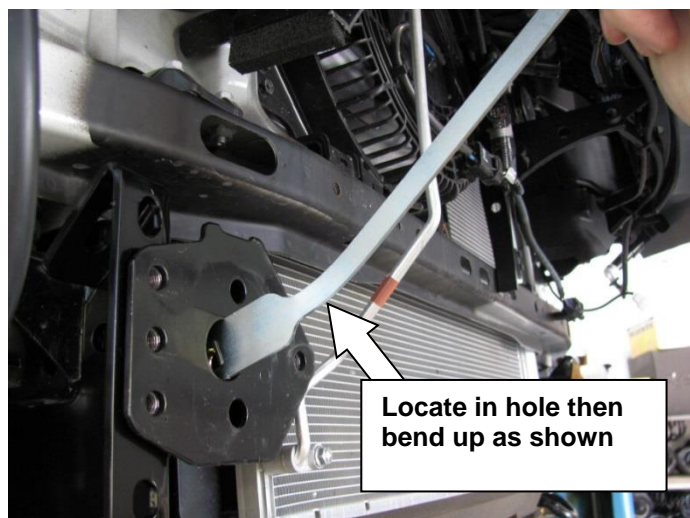
Cut to remove lower portion both sides.

FITTING PROCEDURE



FOR PETROL MODELS ONLY:

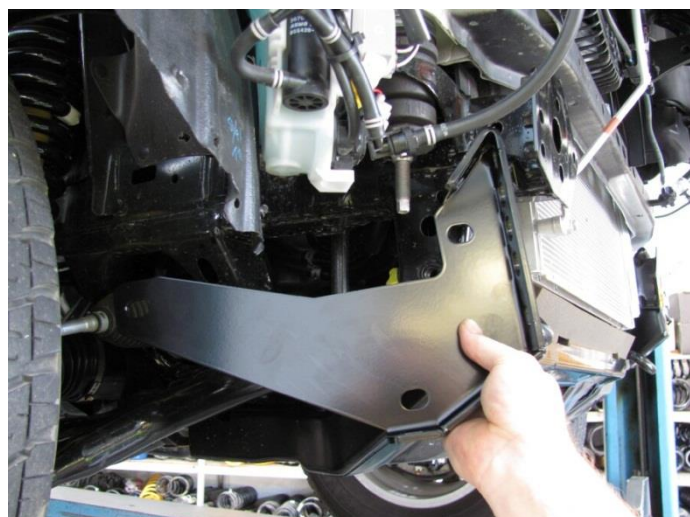
29. Remove clamp from power steering pipes, by undoing the M10 bolt into the side of the chassis and the bolt holding the clamp plate. Set aside as this bracket will be reused.



30. Insert M12 cage nuts to nut plate extensions

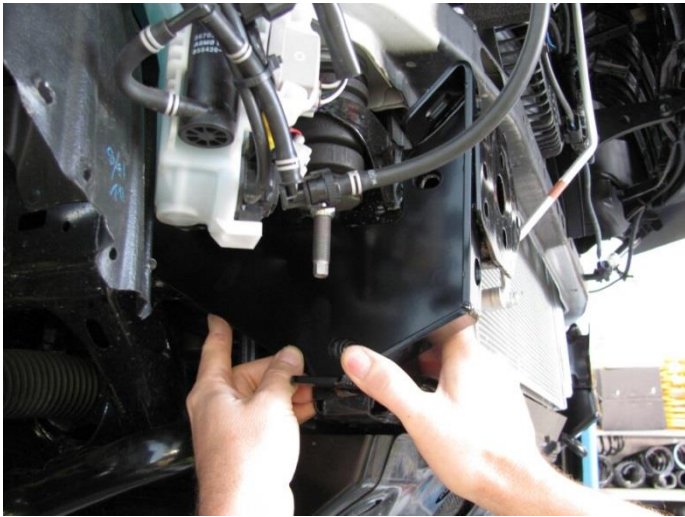
31. Bend up the nut plate on the RHS only as shown, this is to clear cross tube in chassis.

32. Insert nut plates in chassis holes on both sides with approximately 40 mm still protruding.

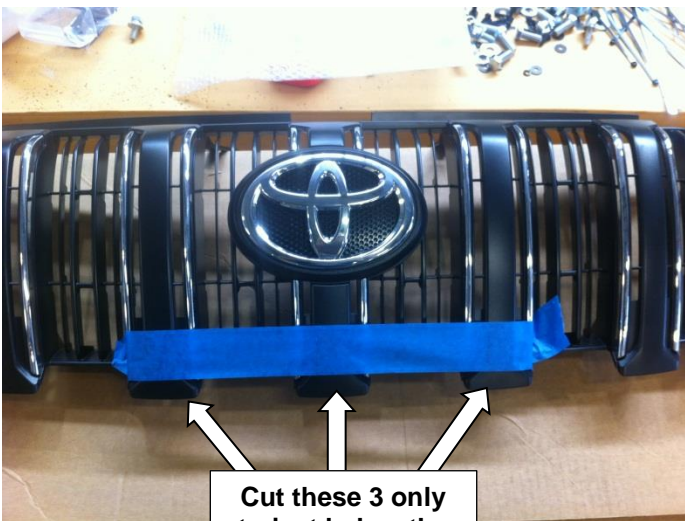
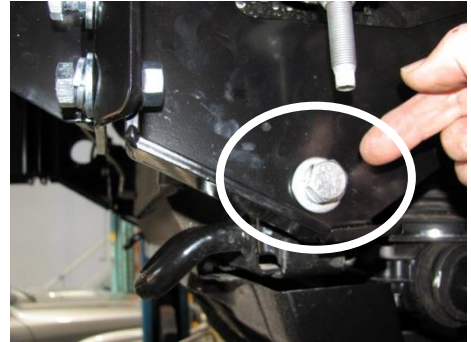


33. Fit handed specific side braces as shown, locating over the captive nuts at the rear of the chassis.

FITTING PROCEDURE



34. When side braces are fitted in position as shown, insert ***fine thread M12 x1.25P x 30 bolt*** and washer sets into lowest hole position to chassis. There is an existing captive nut in chassis, ***but do not do up tight.***



Cut these 3 only to just below the chrome trim.

FOR WINCH BARS ONLY:

35. Apply masking tape along the bottom edge of the chrome part of the grille as shown.

IMPORTANT: See notes at **steps 36 before cutting**



36. Use a multi -tool to carefully cut away the front section of the grill, leaving the rear clip intact as shown.

IMPORTANT: Ensure clip at rear is not cut through as shown below.

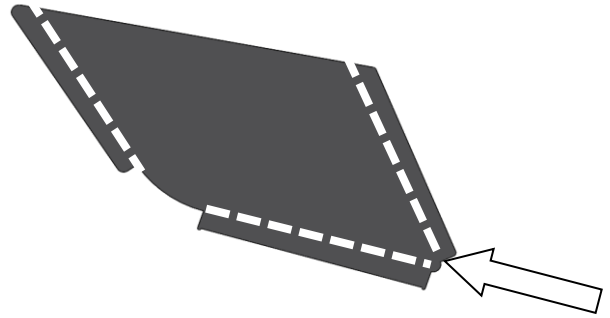


Warning: Cutting operations can result in flying debris, safety glasses should be worn.

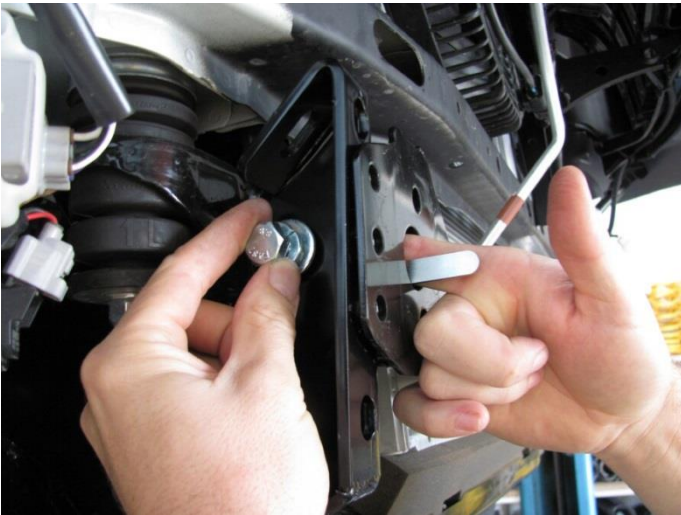
FITTING PROCEDURE



37. Apply day time running lamp covers as shown to blank off the lower section of the light area. Right hand light and cover shown.



38. Align point shown to the lowest point on the light.
Align the dashed lines with the edges on the light. The excess material will fold around the edge of the light



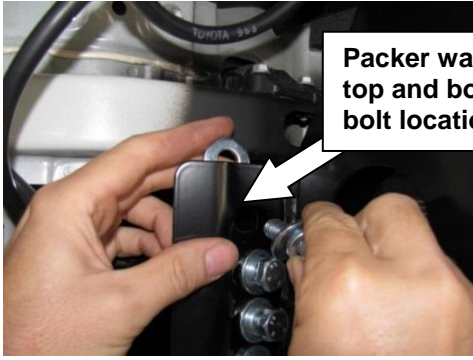
39. Insert M8 x 25 coarse pitch bolt and washer set, **but do not do up tight.**

40. Insert M12 x 35 coarse pitch bolt and washer set into rearmost hole into cage nut on extension plate, **but do not do up tight.**



41. Fit impact absorbers to chassis ends using **fine thread M10 x 1.25P x 30 bolt** and washer sets supplied, note that the brackets are handed, slide them towards the centre of the vehicle on the adjustment slots **do not do up tight.**

FITTING PROCEDURE



Packer washers
top and bottom
bolt locations

42. Fit M12 bolt, washer and flange nut sets to top and bottom positions as shown. Insert M12 flat packing washer between the rear face of the impact absorber flange and the front face of the side brace as shown, **but do not do up tight.**

43. Once all bolts are in place nip up the bolts in the side brace.

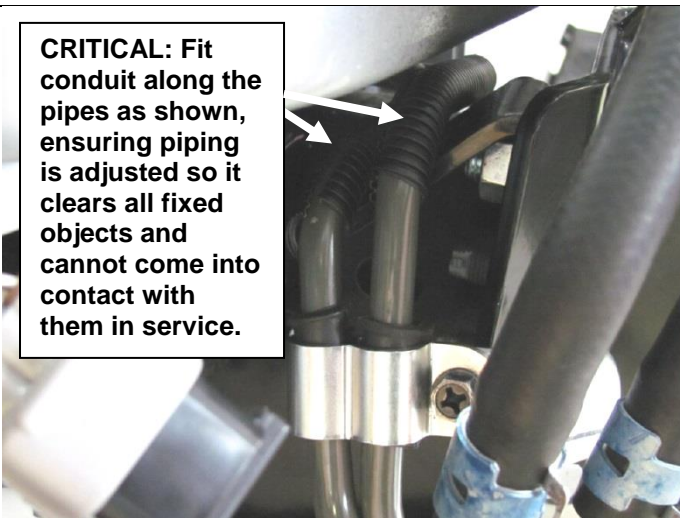


FOR PETROL MODELS ONLY:

44. Modify the clamp plate by cutting off the flange as shown then drilling a Dia 8.5 hole, 8 mm from the bend as shown.



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



CRITICAL: Fit conduit along the pipes as shown, ensuring piping is adjusted so it clears all fixed objects and cannot come into contact with them in service.

FOR PETROL MODELS ONLY:

45. Fit the clamp back into position, and bolt to the vertical flange on the bull bar mount bracket using a 8 mm bolt washer and nut set. If there is no hole in flange, drill a Dia 8.5 hole 70 mm down and 8 mm in from the edge of the flange.



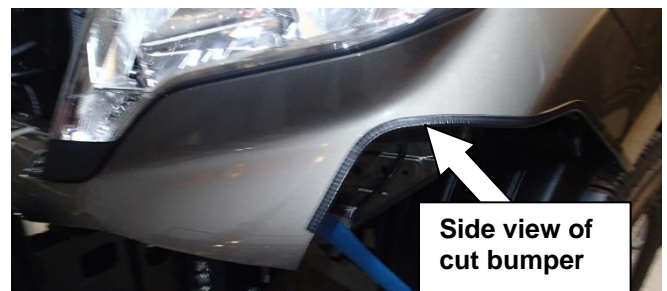
M6 - 7 Nm.

46. **CRITICAL:** Adjust the piping so it clears all fixed objects and apply some conduit over the pipe where it runs above the mount bracket.



47. Fit bumper back onto vehicle

48. Fit pinch weld to cut area, starting at the wheel arch as shown, trim to length.



Side view of
cut bumper

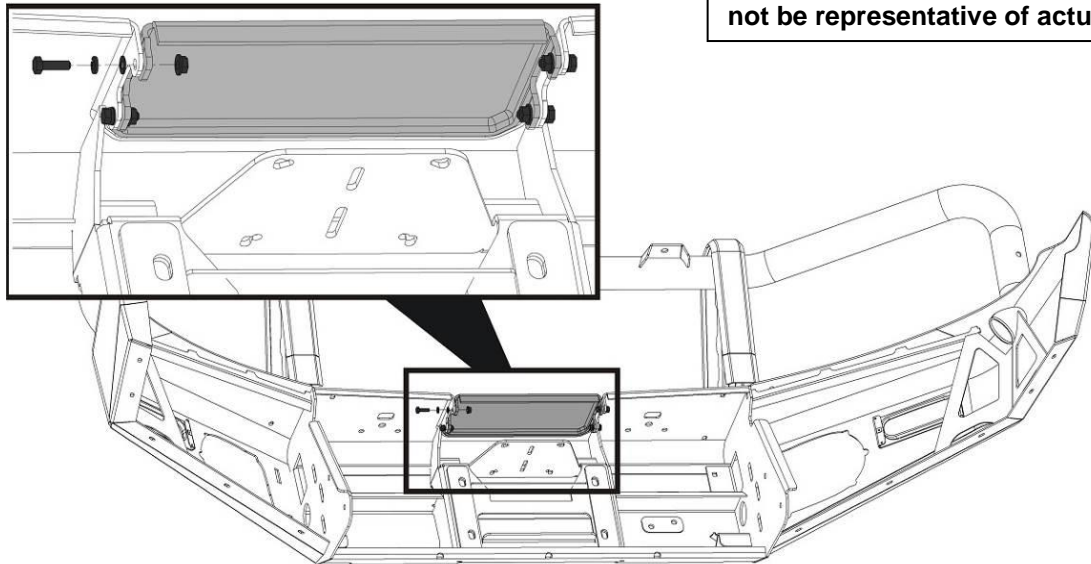
FITTING PROCEDURE

Note: If fitting a winch proceed using fitting instructions 3789337 supplied with 3500720 winch install kit. Once the winch is fitted please continue to step 52. If no winch is being fitted continue from step 49.

49. Slide the winch cover panel from the bottom up until it is level with the top face of the bar.

50. Fit the winch cover panel to the bar using 4 x M6 x 20 hex bolts, spring washers, flat washers and flange nuts.

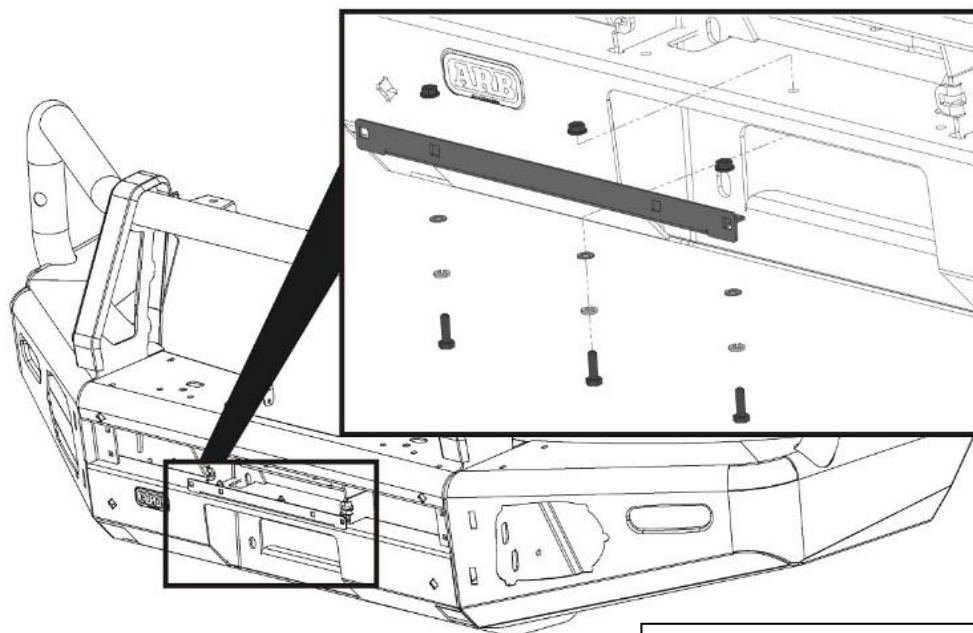
Warning: Be careful not to scratch the finish of the winch cover panel.



Generic image. Bull Bar shown may not be representative of actual product.

51. Fit the number plate bracket to the top face of the lower-centre pan on the bar using 3 x M6 x 20 hex bolts, spring washers, flat washers and flange nuts.

Note: If you are fitting a winch, fit the folding number plate bracket supplied in winch install kit "3500720 WINCH INSTALL KIT" – See fitting instructions 3789337



Generic image. Bull Bar shown may not be representative of actual product.

Note: The following steps show the fitment of the plastic moulded parts. The mouldings are supplied in kits along with all fasteners required for fitment. It is important that the fasteners supplied with each kit are only used for the mouldings from the same kit.

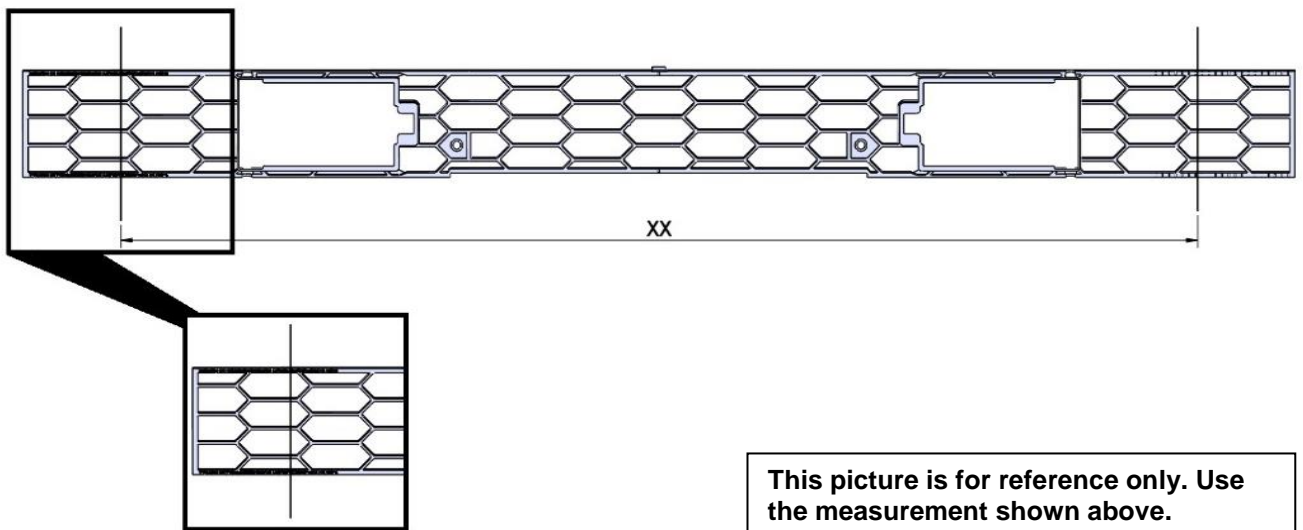
The kits included in this bar kit are as follows:

52. Layout the contents of each of the following kits ensuring the contents are kept separate from each other.

Kit No.	Description
5100200	BUFF KIT 2PCE FRONT SECTION
5100210	BUFF KIT 2PCE REAR UPRIGHT BAR
3500880	SPLIT PAN MESH KIT
3163082	FOG SURROUND KIT

53. Mark the grille panel to be cut at the 770mm marks at each end on the back face.

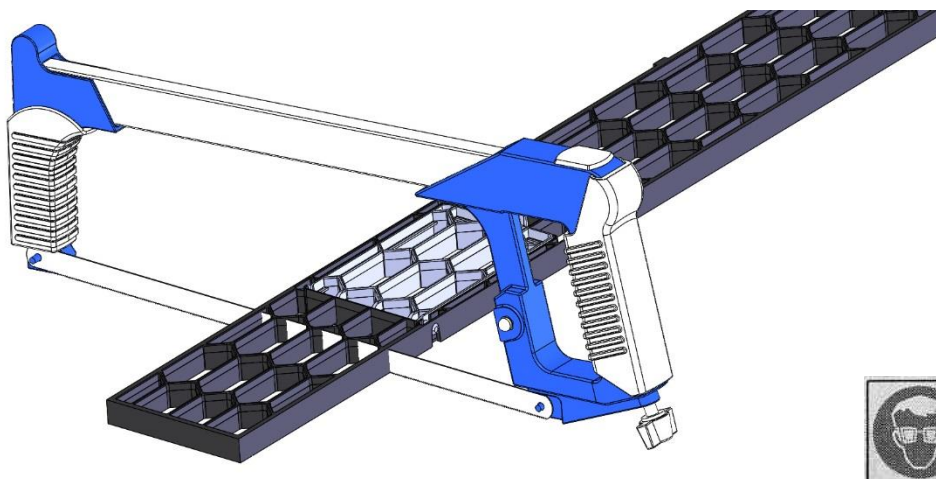
Note: When marked, double check the measurement with a measuring tool.



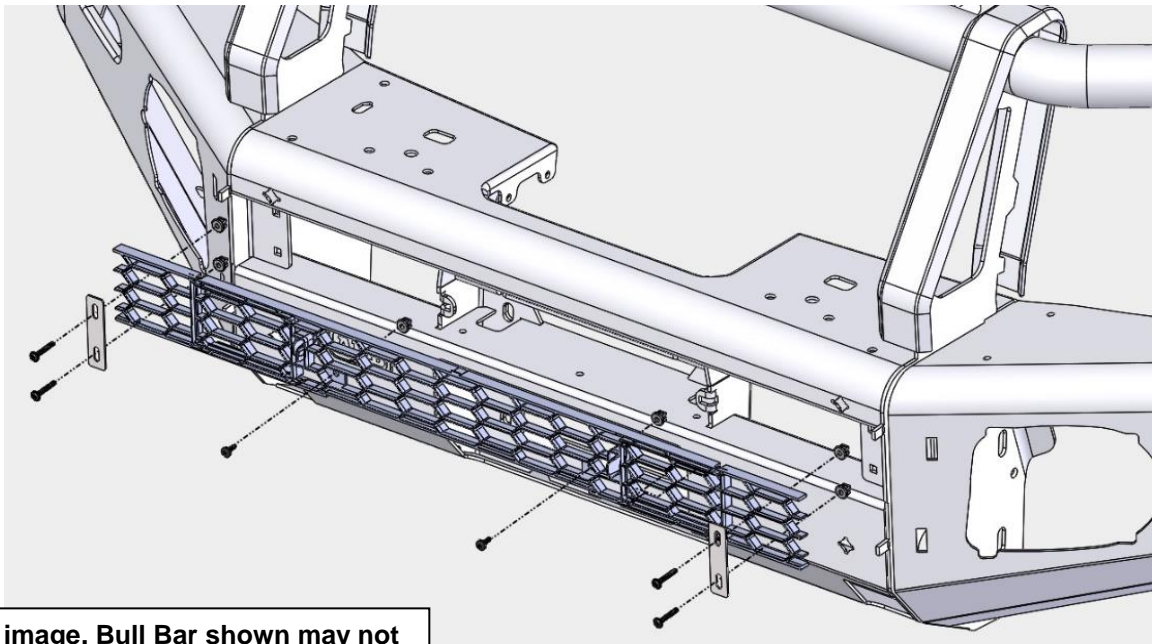
This picture is for reference only. Use the measurement shown above.

54. Use a hacksaw or similar cutting tool to carefully cut the grille panel at the positions marked in the step above.

55. Discard the off cuts and clean up the cut edges using a file or sandpaper.



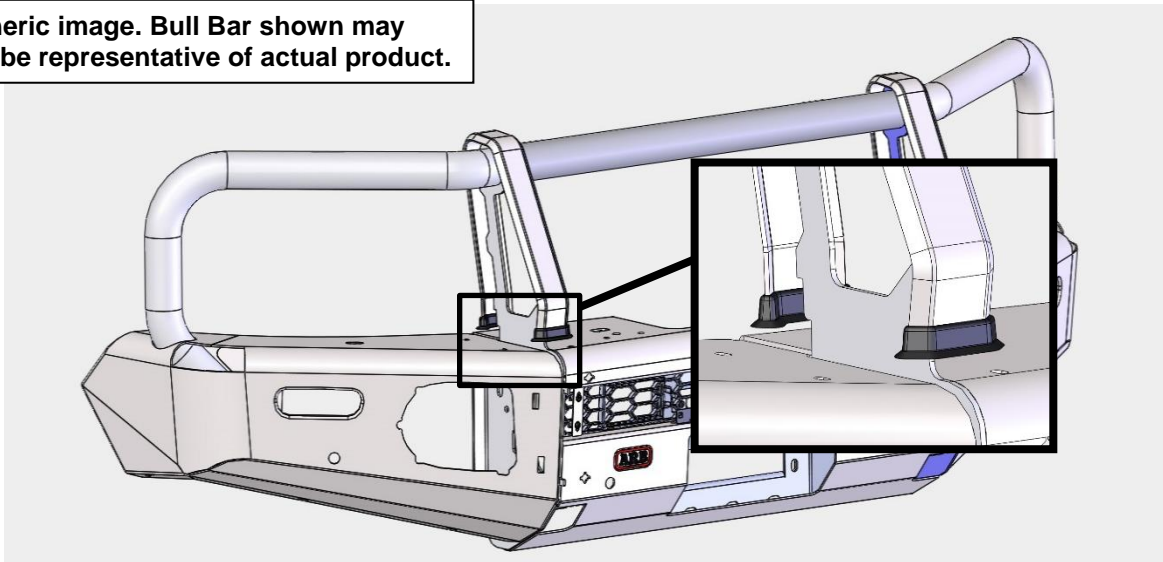
56. Insert the 6 x plastic grommets into the 6 square holes in the front face of the bar.
57. Insert the grille into the bar so that the hatches open outward (facing the front of the bar).
58. Attach the grille to the centre of the bar using the short screws into the grommets fitted above.
59. Attach the ends of the grille to the bar using the longer screws, through the clamp plates into the remaining grommets.



Generic image. Bull Bar shown may not be representative of actual product.

60. Fit the rubber intersection mouldings to the base of each upright cover strap.

Generic image. Bull Bar shown may not be representative of actual product.

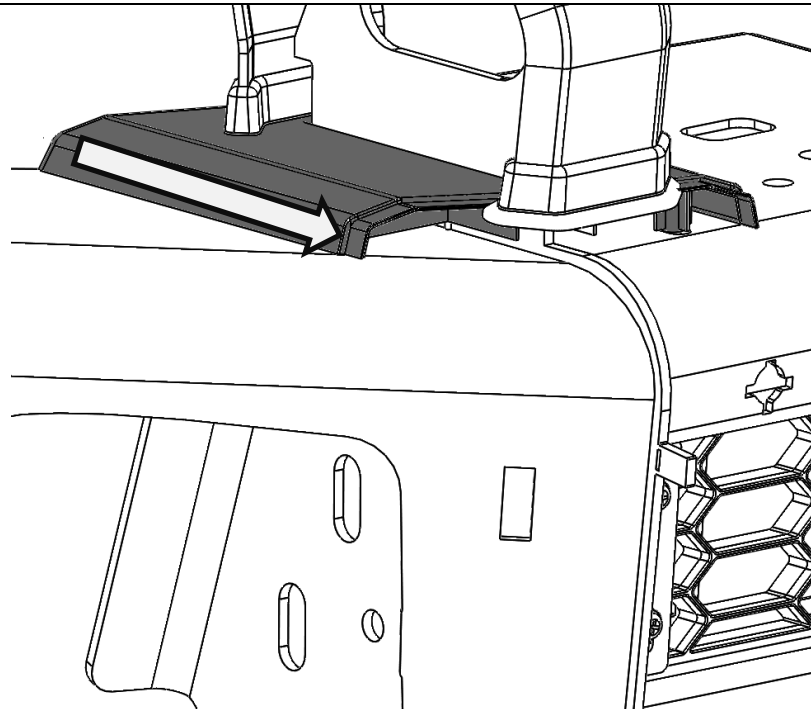


61. From the rear of the bar, slide the rear buffer sections under the rubber mouldings.

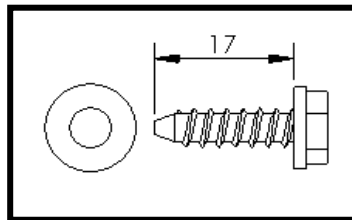
Fit 4 x screws and washers. Do not tighten screws. Leave enough play in buffers for adjustment later.

Note: Ensure that the skirts of the rubber intersection mouldings are not folded back on themselves and are sitting flat against the buffers.

Generic image. Bull Bar shown may not be representative of actual product.



Fit washers under screw heads

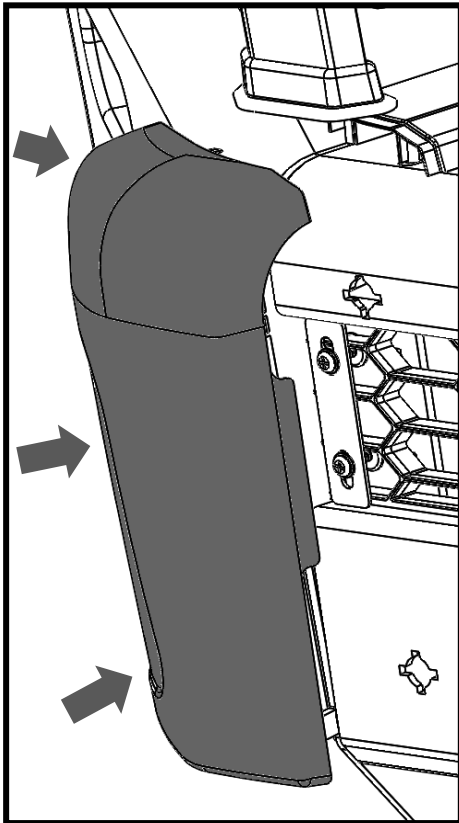


62. By aligning the front buffer with the tongue of the rear buffer, attach the front buffers to the front face of the bar. Ensure each buffer sits flat against the face of bar and is keyed into the top section of the rear buffer.

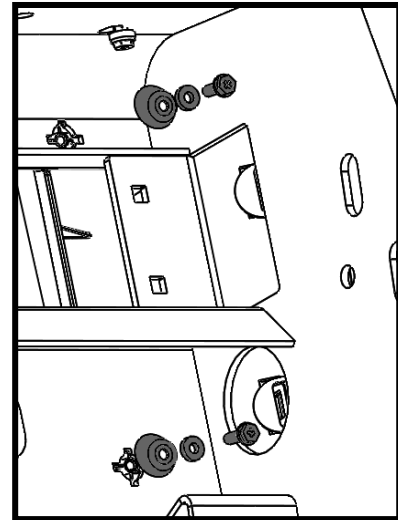
Secure wing side using retaining clips.

Secure inner side using the angled cup washers, flat washers and screws.

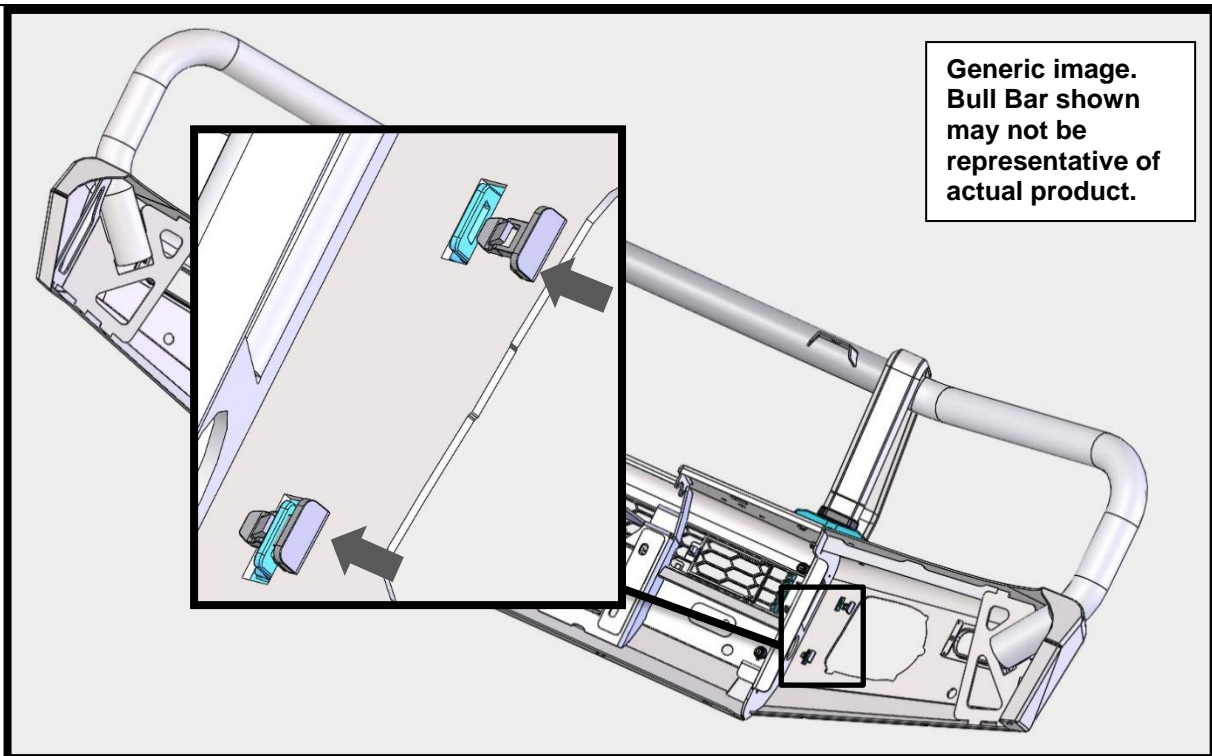
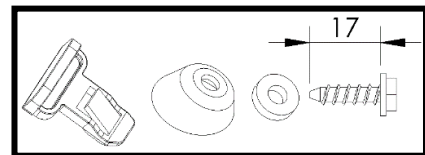
The widest point of the cup washers goes to the top of the bar.



Generic image.
Bull Bar shown
may not be
representative of
actual product.



Fit washers under screw heads.



Generic image.
Bull Bar shown
may not be
representative of
actual product.

FITTING PROCEDURE

FOR KAKADU ONLY:

63. Install camera relocation kit 3521040 now as per fitting instruction supplied in kit.



RHS WING SHOWN

FOR VX & KAKADU ONLY:

64. Route the sensor loom and head lamp washer pipe through the slot behind the grill in bull bar uprights and secure .

FOR VX & KAKADU ONLY:

65. Fit the sensor sleeves, then fit sensors into original positions as marked

66. Connect the loom to the sensors and secure the loom with cable ties and secure with cable ties



67. Fit the small plastic grommets to the bar and attach the combination LED lamps to the bar using the screws provided with the lamp kit.

68. Wire the combination lamp (kit: 6821287) to the vehicles indicator and clearance lamp wiring.

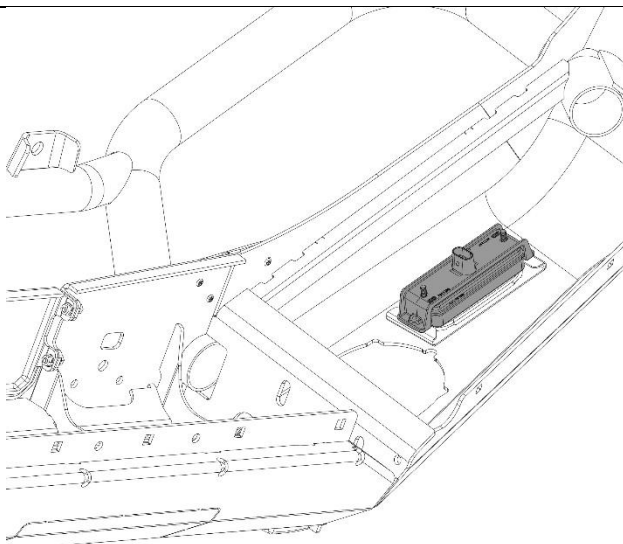
Caution: Cable tie all cables together and keep all cables clear of sharp edges and moving parts.

Wiring:

Green wire is Turn signal + (pos)

Red is running lamp + (pos)

Black is - (neg)



FITTING PROCEDURE

NOTE: The wiring in vehicles fitted with factory 19W fog lights is not suitable for running ARB fog lamps.

For vehicles without factory fog lamps:

69. Install ARB wiring loom 3500440 and switch into vehicle. Refer to instructions supplied with loom. Place switch inside cabin in a suitable position.
70. Connect ARB fog lights (# 6821201) to wiring loom.
71. **CAUTION:** Ensure that all cables are securely fastened away from sharp, abrasive or hot surfaces.

Keep these items

Discard these items



Black/white trigger wire

Cover black wire bullet terminal with tape

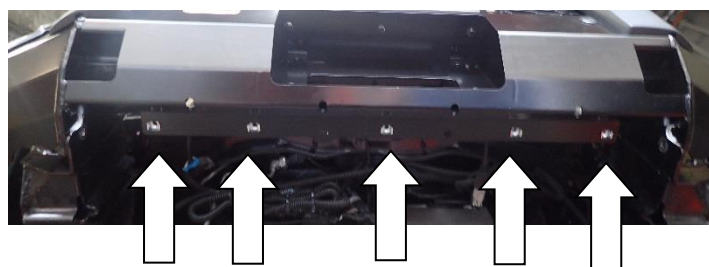


Connect trigger wire to either white fog lamp supply wire as shown from rear of connector



For vehicles with factory fog lamps:

72. The factory fog light switch can be used in conjunction with the ARB loom 3500440 to power the ARB fog lights.
 73. Discard loom switch and thin yellow wire from 3500440.
 74. Install ARB wiring loom 3500440 into vehicle. Do not install switch or thin yellow wire.
- CAUTION:** Ensure that all cables are securely fastened away from sharp, abrasive or hot surfaces.
75. Identify the black/white trigger wire from 3500440 as shown.
 76. Connect the black/white trigger wire to the factory fog light wire using the supplied scotch lock or a female bullet connector. The factory fog light wire is white and can be found at the back of the harness connector as shown.
 77. Tape the bullet terminal from the black wire from 3500440 to prevent short-circuits. Securely fasten it away from sharp, abrasive or hot surfaces.



78. Fit 5 X M8 cage nuts to the lower pan of the bar as shown.

FITTING PROCEDURE



79. 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.



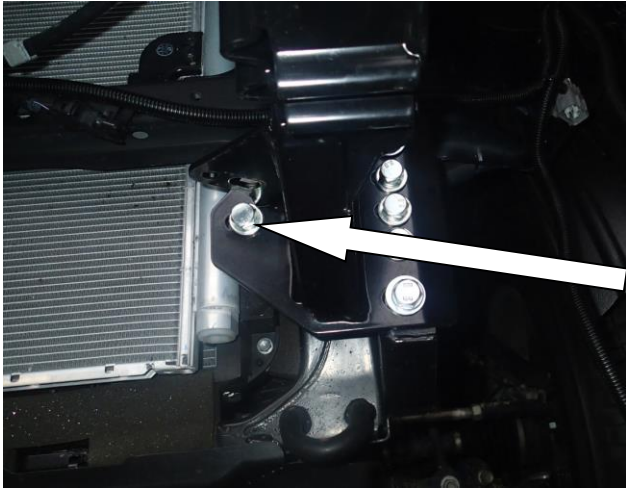
80. Attach the bar to the mount bracket using 6 x M12 X 40 bolts, 6 x M12 spring washers and 6 large diameter M12 flat washers, 6 x M12 flange nuts. Leave loose at this stage.



81. Ensure the bar is sitting on the vehicle level and the gap between the bumper bar cut and the bull bar wing is even.

**18-20 mm GAP
REQUIRED**

FITTING PROCEDURE



82. If the bull bar is not centred on the vehicle, back off the mount bracket bolts to chassis, tap the mount brackets sideways with a soft hammer until the bar is central. Retention bolts to specified torque.



M12 X1.75 - 96 Nm.



M12 X1.75 - 77 Nm.



M10 - 44 Nm.

Tighten the inner bolt shown on **both** sides first. Only then move onto outside bolts. Failure to do so will skew the bar to one side of the vehicle.



83. Once happy with the position of the bull bar and the clearance gap is 18-20 mm, tighten all the mount bolts to specified torque.



M12 - 77 Nm.



M10 - 44 Nm.



84. Using an electric drill and a Dia10.0 mm drill bit, drill two pinning bolt holes through the bull bar upright each side using the holes in the mount bracket flanges as a guide. One hole is located in the lower lug of the mount face and one up above the welded nuts. Use access through the light surround opening for the top hole.

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



85. Fit the pinning bolts to the bull bar in the drilled positions using 4 x M10 SEMS bolt and washer sets and M10 flange nuts.



M10 - 44 Nm.

FITTING PROCEDURE




86. Attach lower brace straps ensure the top face of the brace strap mates with the underside of the bull bar brace mount, and the underside of the brace strap mates with the top face of the impact absorber gusset as shown in the figure.

87. Fix to impact absorber guss with 1 X M10 SEMS bolts and flange nuts.

88. Fix to bull bar with 1 x M10 X 25 bolts, 1xM10 spring washers and 1xM10 flat washer.


Tighten the M10 bolts retaining the bull bar brace mount.

 M10 - 44 Nm.



89. Using a Ø10 mm drill bit, drill and pin the straps at the adjustment end using the pilot hole as a guide, as shown (note strap fits above the gusset as shown).

90. Fit and torque the M10 pinning bolts and flange nut sets to specifications

 M10 - 44 Nm.



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



91. Assemble and install combination light surrounds (p/n 3163082) as per instructions no. 3789190 supplied with surround kit. Note: Optional fog lamps can be installed at this point as per fitting instruction supplied with fog lamp kit.

CAUTION: Cable-tie all cables together and keep all cables clear of sharp edges and all moving parts.

92. Check the operation of all lights wired during bar fitment.

FITTING PROCEDURE



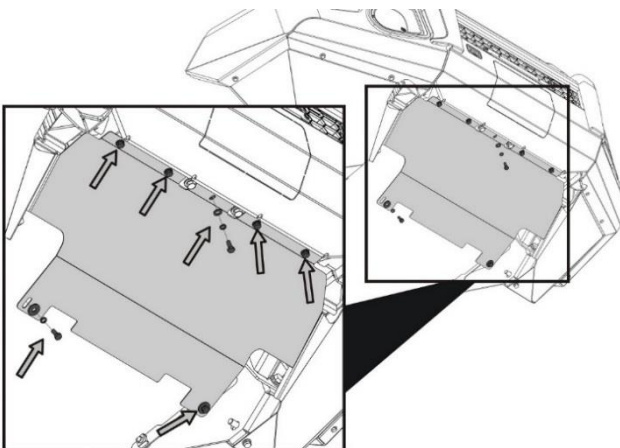
FOR VX & KAKADU ONLY:

93. Insert the headlight washers into the bar and connect hoses.
Installation is the opposite of removal.
Insert the washer in from above, slide the cream coloured part on and secure with steel clip.
Connect hose
Remove cable tie installed in step 18
Check that washer clears fog lights



FOR VX & KAKADU ONLY:

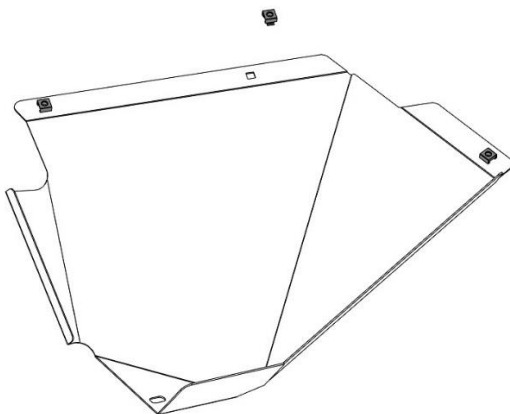
94. Carefully pull up the washer to access the alignment knobs. Re align the washer so it sprays on the centre of the light.



95. Attach the centre stone shield to the bar and the vehicle as shown using M8 hex bolts, spring washers and flat washers.
96. Centralise the panel and tighten the bolts.

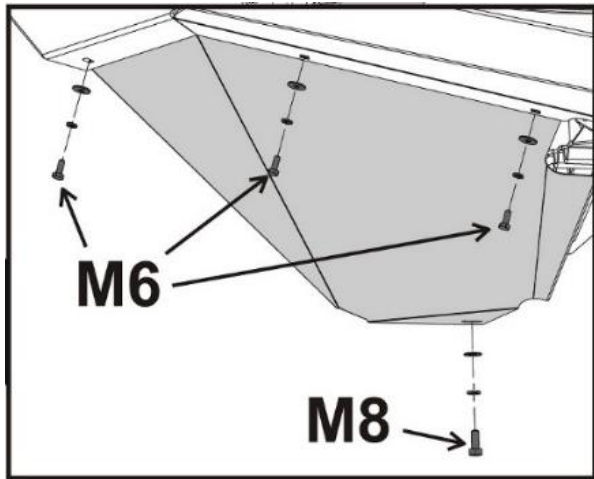


M8 - 22 Nm.



97. Fit 3 X M6 cage nuts into each of the under wing panels as shown.

FITTING PROCEDURE



98. Attach the under wing panels to the bar using M6 hex bolts, spring washers and flat washers.
99. Attach the under wing panels to the mount brackets using M8 hex bolt, spring washers and flat washers.



M6 - 7 Nm.



M8 - 22 Nm.



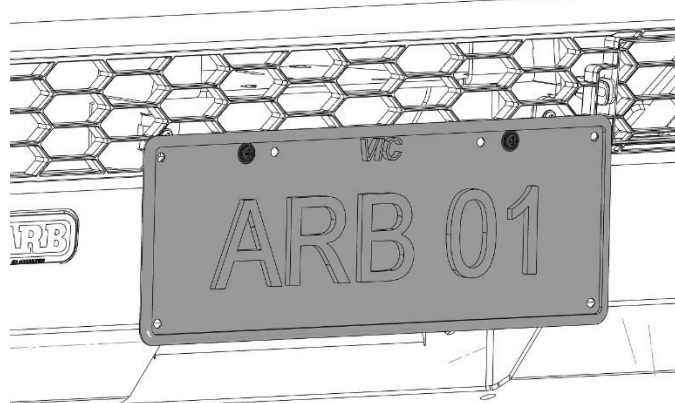
100. Trim the outer edge of the fender liner as shown so that it will clip in behind the wing



101. Push the outer edge of the liner forward past the wing return edge so that it snaps in place
102. Carefully trim off the bottom of the guard liner 10 mm up from the lower face of the wing under panel
103. Push up and tuck fender liner in behind the return flange on the wing under panel.



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



104. Fit the 2 larger plastic grommets into the license plate bracket.
105. Attach the license plate to the bracket using 2 self-tapping, Philips head screws.

Note: This step applies to both the fixed and folding license plate brackets.

ONCE BAR IS FITTED:

- ◆ **Ensure all bolts are tensioned correctly**
- ◆ **All wiring is clear of sharp edges or moving surfaces and secured properly**
- ◆ **Piping is secured well away from sharp or moving components**
- ◆ **Check operation of winch if fitted**
- ◆ **Check all wiring and connections to turn signal lamps, sensors, headlamp washers etc. are functioning correctly**

FITTED PRODUCT

