ARB FITTING INSTRUCTIONS

Part Number:	**32 or 34 21760 F/Kits 6173503 or 6173504 (Winch Bar)**
Product Description:	**Deluxe Non Winch or Winch Bull Bars non parking sensors**
Suited to vehicle/s:	**TOYOTA PRADO 150 MODELS SX, GX, GXL** *****Does not suit parking sensors***

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.

FITTING REQUIREMENTS

REQUIRED TOOLS FOR FITMENT OF PRODUCT:

METRIC SOCKET SET	**METRIC RING AND OPEN ENDED SPANNER SET**
ELECTRIC DRILL 13MM CAPACITY	**3, 7, 8.5, 10 & 13mm DRILL BITS**
SHARP KNIFE	**PHILLIPS AND FLAT BLAD SCREW DRIVER SETS**
FELT TIP MARKER PEN	**HACKSAW BLADE**
FINE FILE OR SAND PAPER	**ELECTRIC JIG SAW**
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 CHIZEL**

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

NOTE:

- **OPTIONAL FOG LAMPS TO SUIT THIS PRODUCT ARE P#6821201. IF LOOM AND SWITCH REQUIRED USE P#3500440 LOOM KIT**
- **UP TO 900 SERIES ROUND OR 800 RECTANGULAR DRIVING OR FOG LAMPS SUIT THIS PRODUCT**

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PARTS LISTING			
APPLICATION.	**PART NO.**	**QTY**	**DESCRIPTION**
MOUNT BRACKET (IMPACT ABSORBER) TO CHASSIS	3757998R&L	1 PR	BRACKET ASSY IMP ABS RH & LH
	3757995R&L	1 PR	BRACE
	6151040	8	BOLT M10X1.25P(FINE)X30
	4581040	8	WASHER FLAT M10 X 25 X 3THICK
	4581048	8	WASHER SPRING M10
	6151306	2	NUT CAGE M12 X 1.75P
	3194155	2	PLATE EXTENSION CAGE NUT
	6151094	2	BOLT M12 X 1.25P(FINE) X 30
	4581049	14	WASHER FLAT M12 X 25 X 3THICK
	4581050	10	WASHER SPRING M12
	6151360	8	BOLT M12 X 1.75 X 35 (COARSE PITCH)
	6151428	6	NUT FLANGED M12
BULL BAR TO MOUNT BRACKETS	6151360	6	BOLT M12 X 1.75 X 35 (COARSE PITCH)
	4581007	6	WASHER FLAT M12 X 37 X 4
	4581050	6	WASHER SPRING M12
	6151428	6	NUT FLANGED M12
	6151357	4	BOLT SEMS M10 x 30 LONG
	6151321	4	NUT FLANGE M10
BUFFERS TO BULL BAR	3162470R&L	1 PR	BUFFER SLOTTED RH & LH
	6151128	12	NUT FLANGED M6
LICENCE PLATE TO BULL BAR	6151384	2	SCREW PAN HD
	6821189	2	GROMMET RND HD
LIGHT INSERT AND INDICATORS	3163015	1	COMBINATION LIGHT SURROUND KIT
	6821151R&L	1 PR	INDICATOR/CLEARANCE LAMP RH/ LH
	6821152	2	LOOM INDICATORS
	180701	6	SCOTCH LOKS
WINCH TO BULL BAR *(3421450 WINCH BAR ONLY)*	3756499	1	CONTROL BOX MOUNT
	EG50	2	RUBBER GROMMET
	6151074	2	BOLT 3/8" x 1 ¾" HEX HEAD
	6151073	2	BOLT 3/8" x 1 ½" HEX HEAD
	4581040	4	WASHER FLAT M10
	4581048	4	WASHER SPRING M10
	6151234	2	BOLT M8 x 25mm BZ
	6151132	2	NUT FLANGE M8
	4581307	2	WASHER FLAT M8 BZ
	180302	6	CABLE TIES
BRACE STRAPS	4681374 R&L	1 PR	STRAP BRACE LOWER
	6151357	6	BOLT SEMS M10 x 30 LONG
	6151321	6	NUT FLANGE M10
STONE TRAY TO BULL BAR	6522779	1	STONE TRAY
	6151300	4	CAGE NUT M6
	6151213	6	BOLT M6 x 20 BZ
	4581082	6	WASHER FLAT M6 x 20 BZ
	4581287	6	WASHER SPRING M6 BZ
WING UNDER PANELS TO BULL BAR	6522910R&L	1 PR	PANEL WING UNDER SIDE
	6151300	8	CAGE NUT M6
	6151213	8	BOLT M6 x 20 BZ
	4581082	8	WASHER FLAT M6 x 20 BZ
	4581287	8	WASHER SPRING M6 BZ
	6151234	2	BOLT M8 x 25 LONG BZ
	4581307	2	WASHER FLAT M8 BZ
	4581047	2	WASHER SPRING M8 BZ
	6151132	2	NUT FLANGE M8
MISCELLANEOUS	180302	18	CABLE TIES
	6191025	2	PINCH WELD NARROW 480mm LONG
	3787068	1	TEMPLATE BUMPER CUT

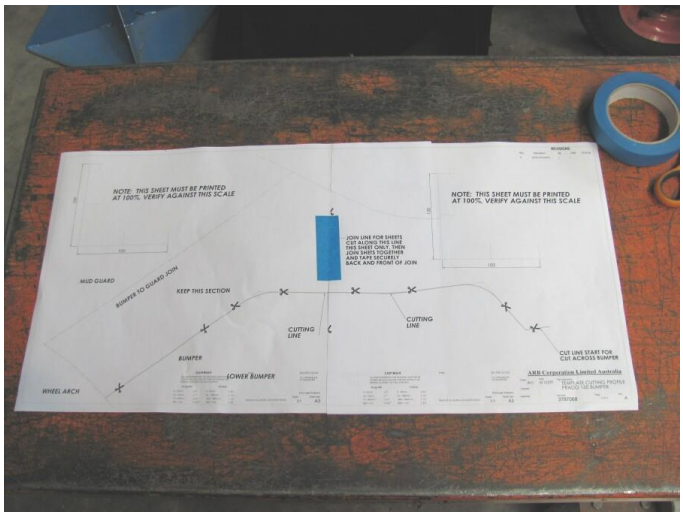
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PREPARATION TO VEHICLE



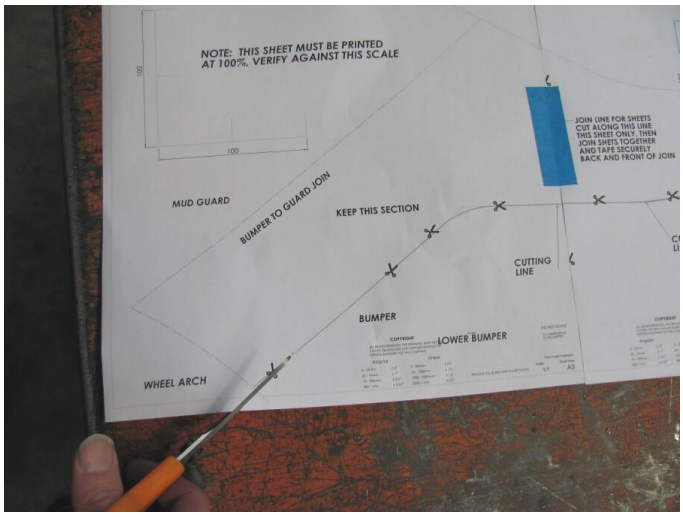
1. Remove number plate

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2. 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

.

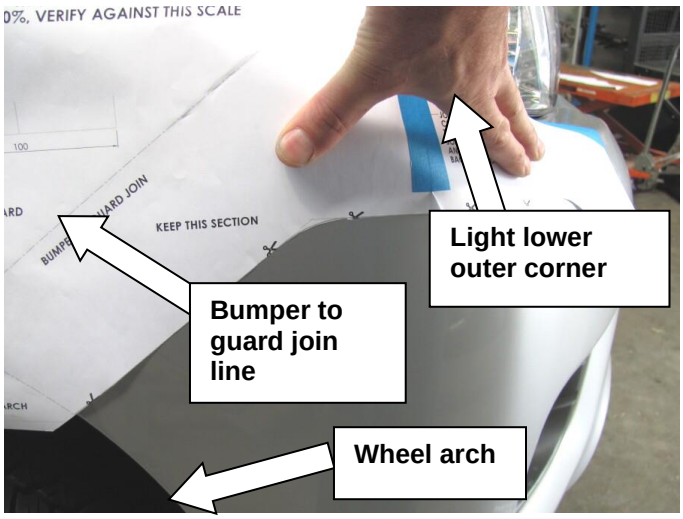


3. Using scissors accurately cut out the bumper cutting template along designated bumper cutting line as shown.

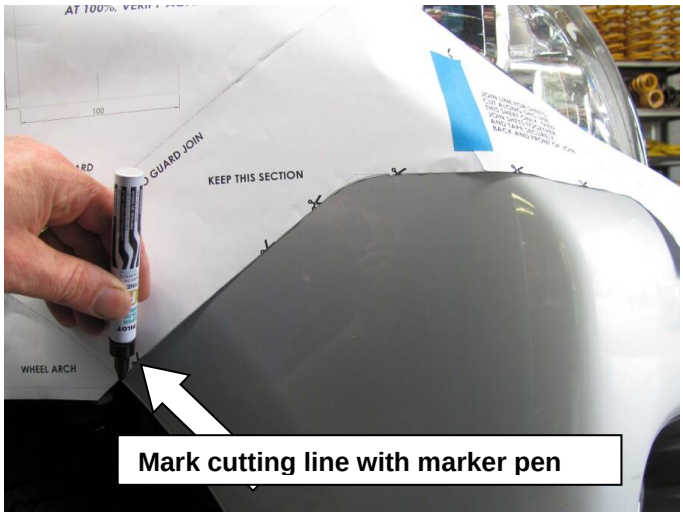
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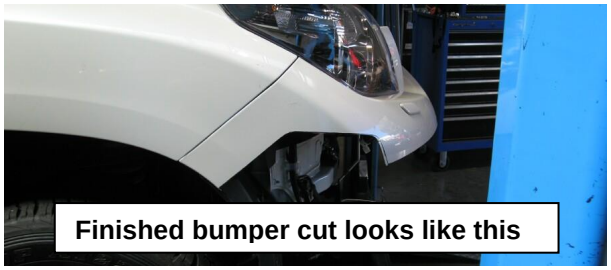


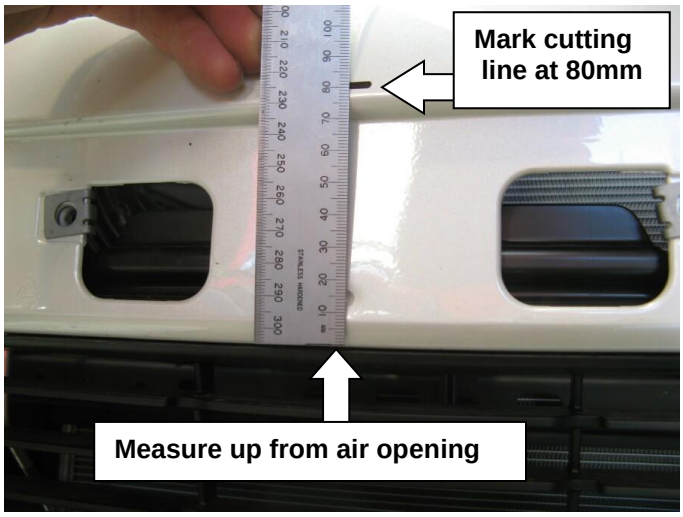
4. Carefully and accurately fit the template to the RHS of the bumper using the identified reference points aligning with the wheel arch, join of bumper and guard the head lamp outer lower corner and tape in position. ***Make sure the template sits as flat as possible on the bumper as any misalignment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



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

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

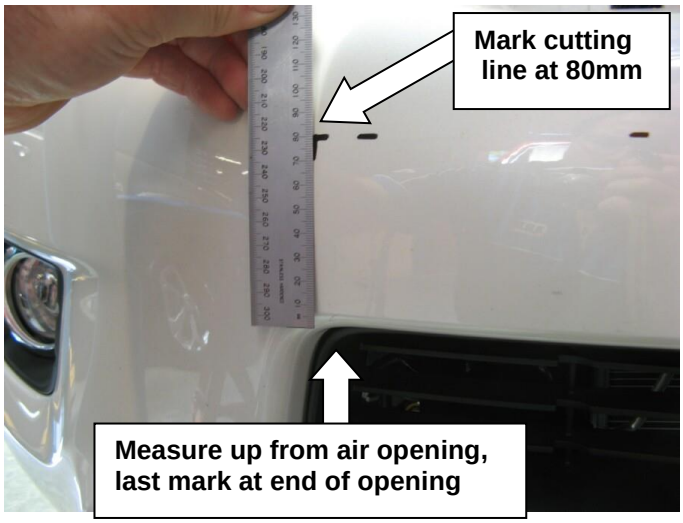




7. Mark a position for the centre of the cutting line at the centre front of the bumper above the lower opening in bumper at 80mm as shown.

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PREPARATION TO VEHICLE



8. Continue to mark the cutting line position across the center of the bumper above the number plate location as shown out to the extent of the air opening in the bumper as shown. Continue to mark at 80mm as shown.



9. Apply some 25mm masking tape joining the cutting line positions from the most inboard position of the profile from the template to the mark on the outside of the 80mm marks across the centre of the bumper. Mark this line joining the two profiles, repeat for the other side of the bumper.



10. Apply 50mm masking tape along the top side of the cutting line right across the bumper as shown

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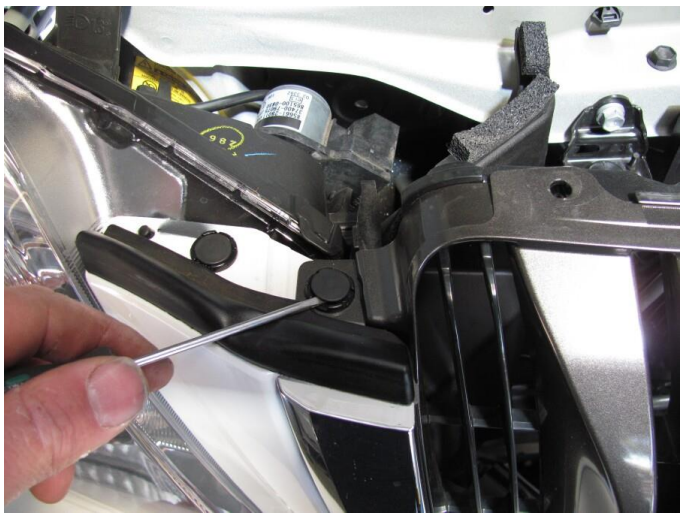
11. Note that the cutting line is co incident with the lower edge of the 50mm tape, ***this is critical.***



12. Once bumper cutting has been marked out, the bumper can be removed

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13. Remove the plastic rivets securing the courtesy panel above the grille



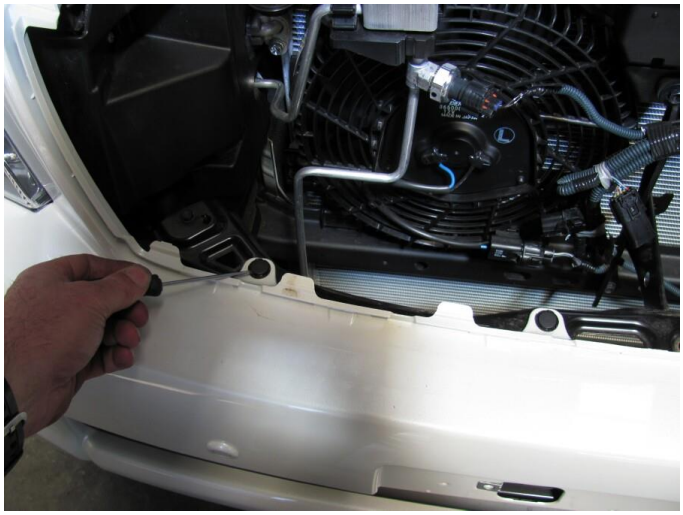
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14. Remove the plastic scrivets securing the top of the grille

15. Release the clip positions along the lower edge of the grille to the bumper then remove grille

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PREPARATION TO VEHICLE



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16. Remove the plastic rivets securing the top of the bumper

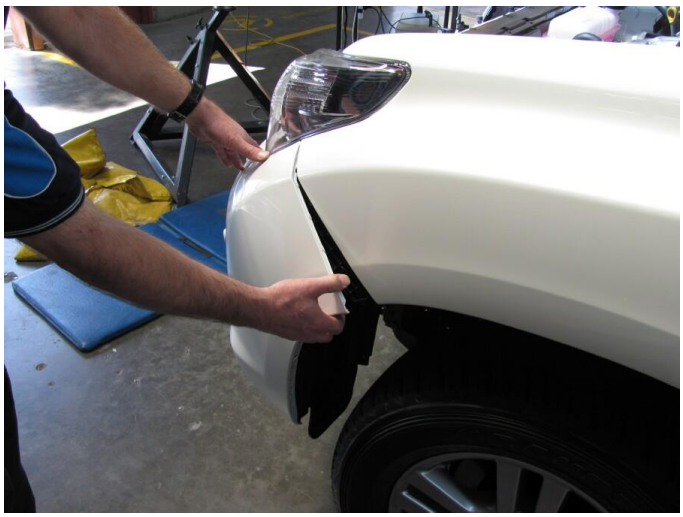


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17. Remove the screws securing the bumper to wheel arch area and across the lower section across the front so that there are no more fasteners securing the bumper

18. Remove the lower joining panel from the bumper to the sump guard

19. 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).



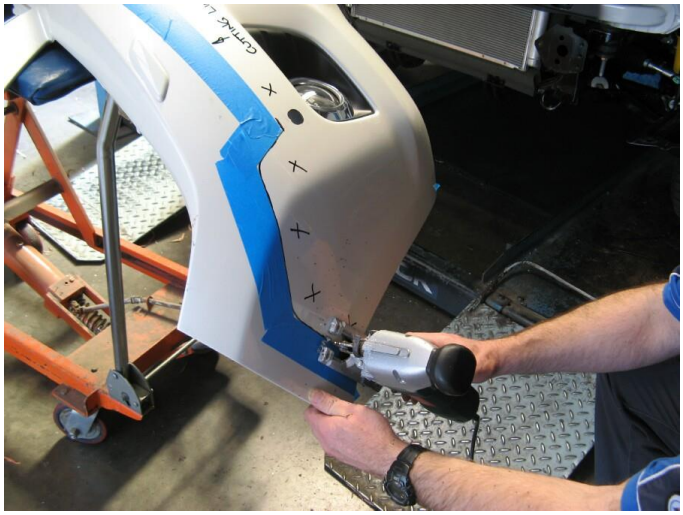
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20. Carefully, and ideally with the aid of a friend, unclip each outer of the bumper at the guard as shown and remove bumper.

21. Place bumper face up on cutting table.

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PREPARATION TO VEHICLE



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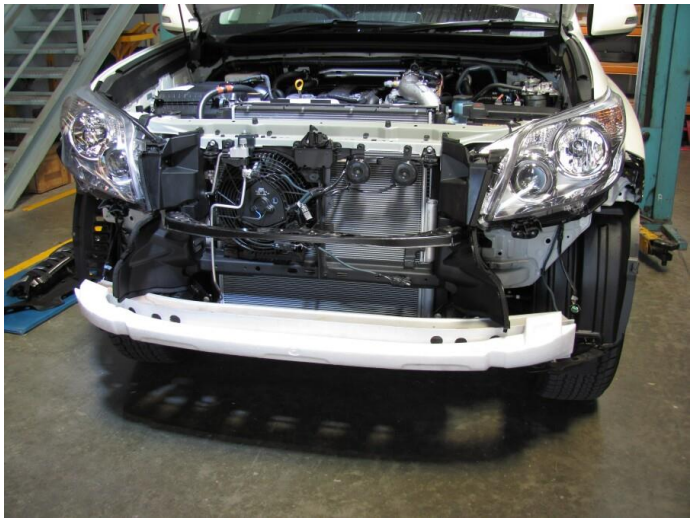
22. With the bumper face up and on a suitable bench or the like, carefully cut the bumper along the cutting line with a jig saw or similar tool. Take care not to damage surface above cutting line, washer jets etc.

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





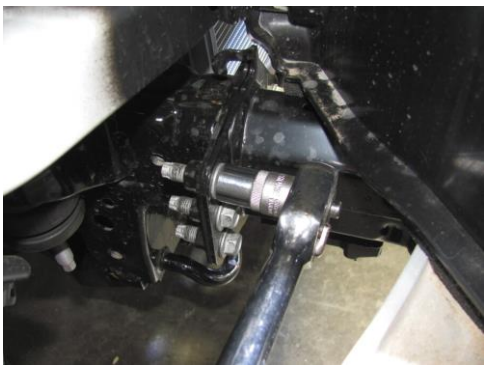
Warning: Cutting operations can result in flying debris, safety glasses should be worn.



24. Remove reinforcing beam foam pad, then remove the beam, *refer next step*.

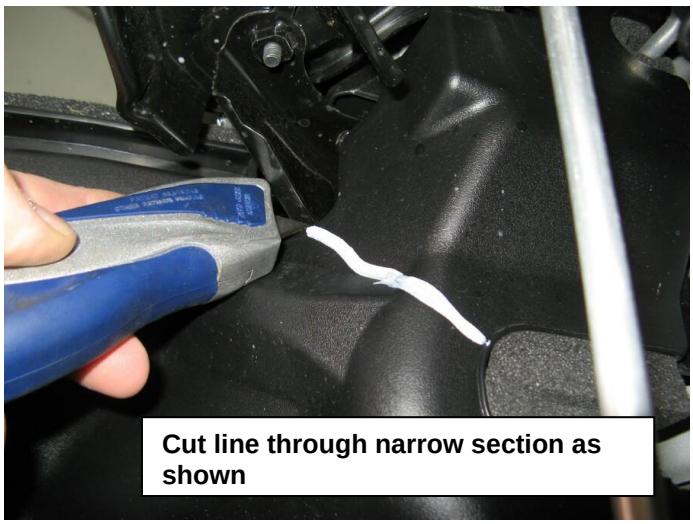


25. Remove reinforcing beam at mounts to chassis by undoing the M10 fine thread bolts. Set beam aside, it will not be reused



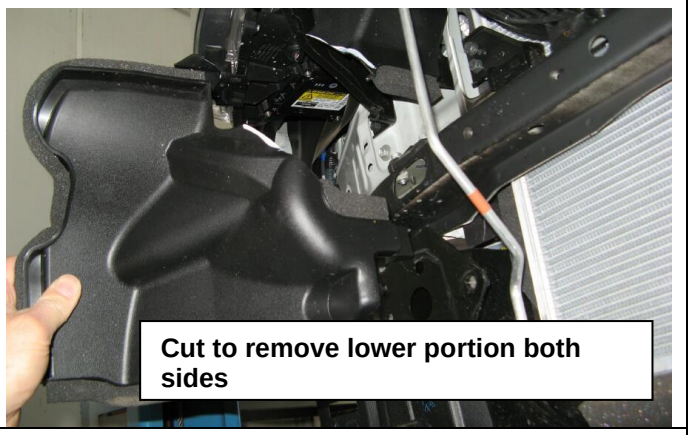
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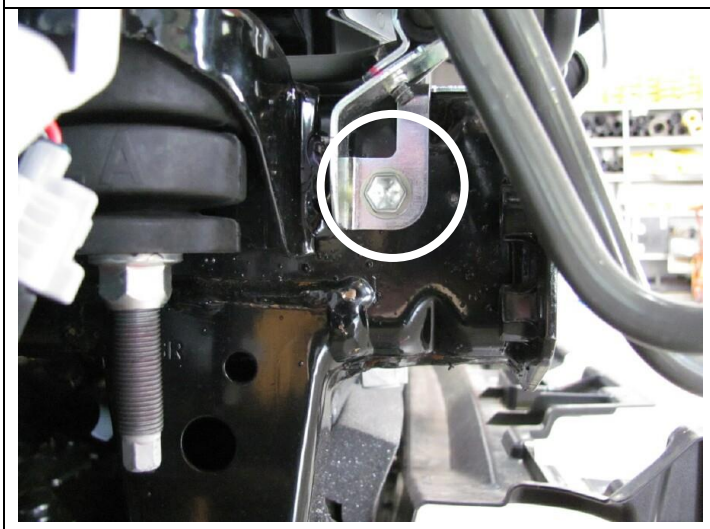


Cut line through narrow section as shown

26. 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



27. **PETROL MODELS ONLY:** 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



28. Using a power drill with Dia13mm bit, drill out captive nut in hole immediately behind chassis flange as shown, for both RH and LH chassis ends

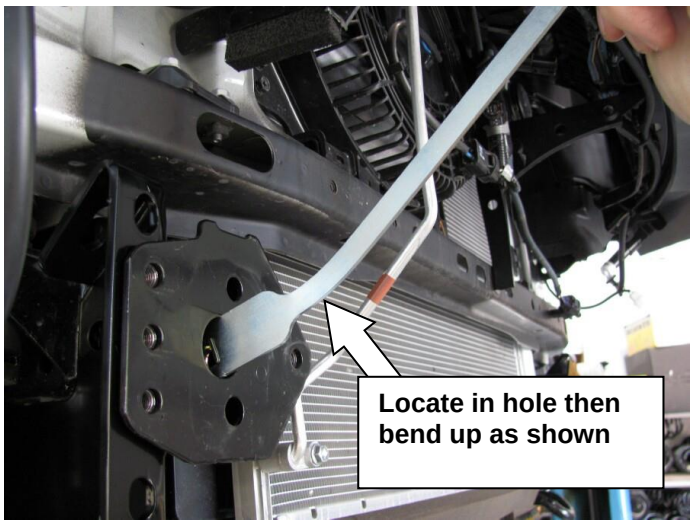




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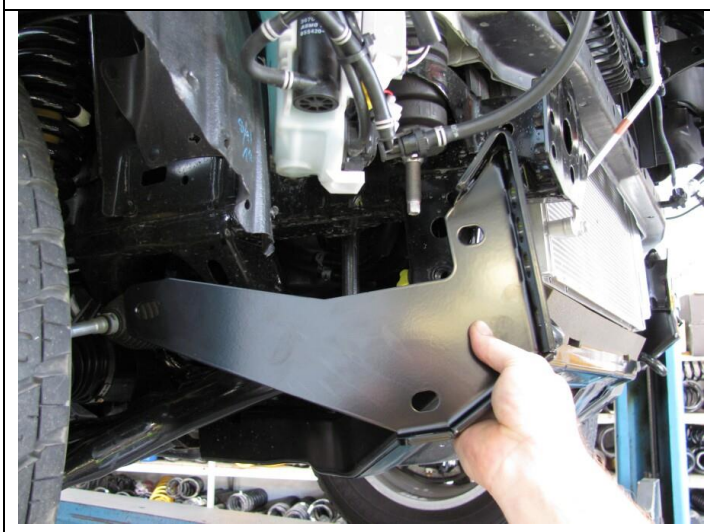
PREPARATION TO VEHICLE



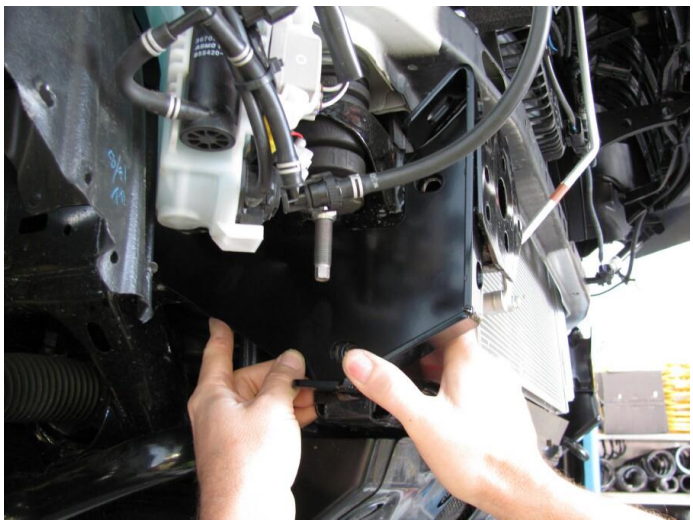
29. Insert M12 cage nuts to nut plate extensions

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

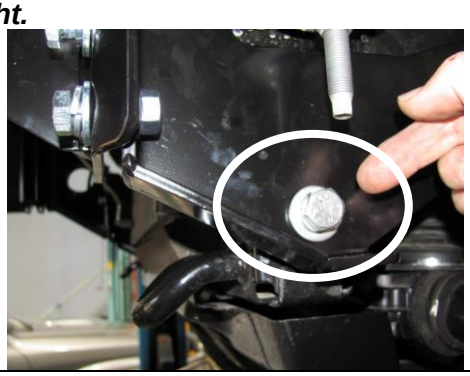
31. Insert nut plates in chassis holes both sides with approximately 40mm still protruding



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

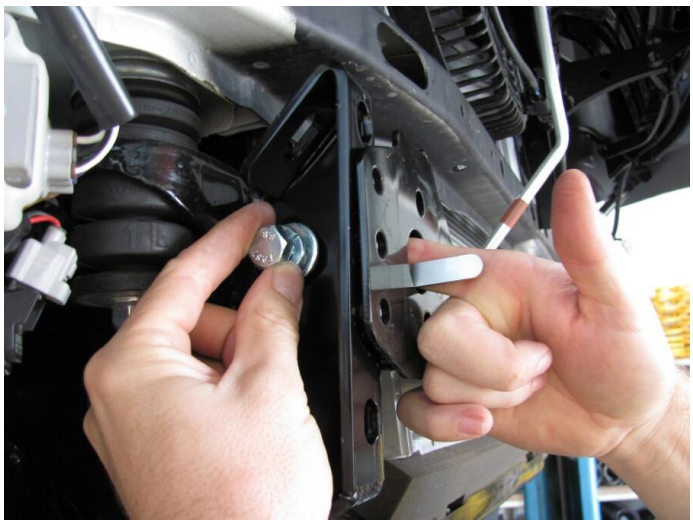


33. When side braces are fitted in position as shown, insert ***fine thread M12 x1.25P x 30 bolt*** and washer sets into lowest hole position to chassis. There is an existing captive nut in chassis, ***but do not do up tight.***



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PREPARATION TO VEHICLE

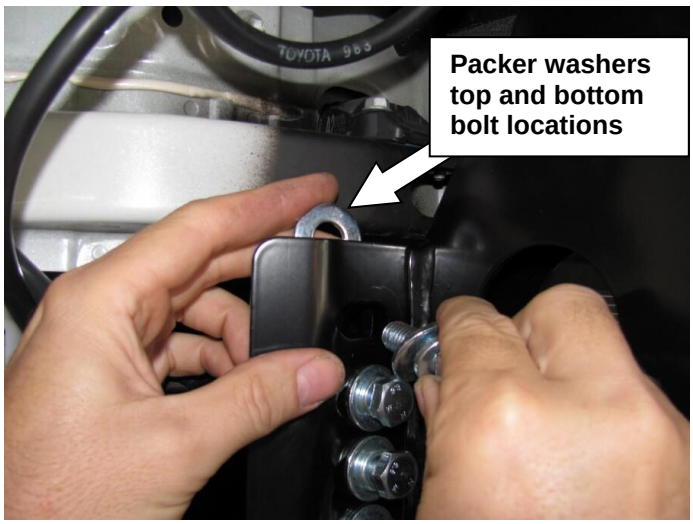


34. Insert M12 flange nut through hole in chasses flange, you can retain with ring spanner, then insert M12 x 35 coarse pitch bolt and washer set, ***but do not do up tight***

35. 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***



36. 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***



37. 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.***

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

39. Then tighten to full torque the bolts of impact absorbers to chassis flange, ***starting with the two inner first*** then moving outboard to vertical rows of 5 bolts on outer flange position. Now, tension up side brace bolts to full torque

NOTE: When fitted, if bull bar requires sideways adjustment to align with vehicle, the bolts of the mount to chassis will need to be loosened, adjustment made then re-tensioned. This is best done before angular brace straps are fitted and pinned.

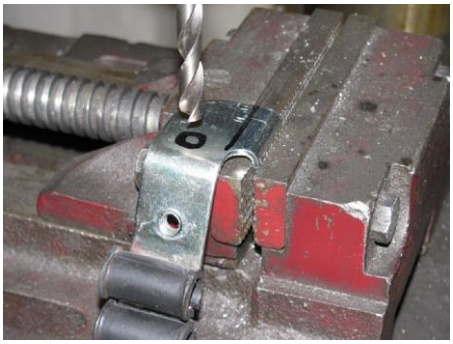
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PREPARATION TO VEHICLE



40. **PETROL MODELS ONLY:** Modify the clamp plate by cutting off the flange as shown then drilling a Dia 8.5 hole 8mm from the bend as shown







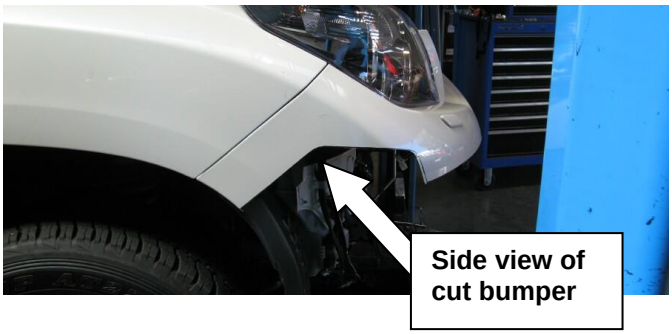
CRITICAL: Fit conduit along the pipes as shown, ensuring piping is adjusted so it clears all fixed objects and cannot come into contact with them in service

41. **PETROL MODELS ONLY:** Fit the clamp back into position, and bolt to the vertical flange on the bull bar mount bracket using a 6mm bolt washer and nut set. If there is no hole in flange, drill a Dia 8.5 hole 70mm down and 8mm in from the edge of the flange

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



43. Fit bumper back onto vehicle



Side view of cut bumper

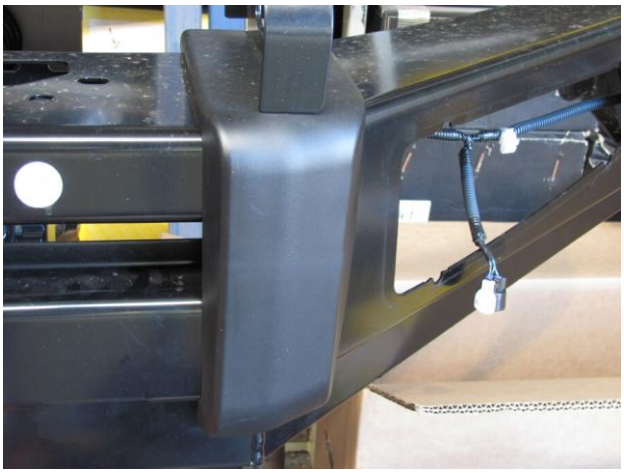
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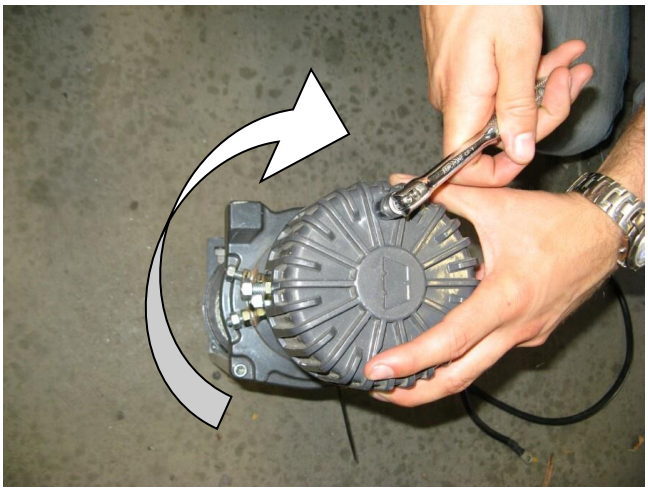
44. Fit pinch weld to cut area as shown, trim to length.

BULL BAR PREPARATION



45. Fit the buffers to either side of the bull bar using 6 x M6 flange nuts. Do not over tighten.
46. Fit M6 cage nuts for stone tray fixing to lower pan to the four holes in underside of pan. ***NOTE: The nut bodies are inside the bull bar, MUST BE COMPLETED BEFORE WINCH RFL IS FITTED.***

WINCH FITMENT ONLY



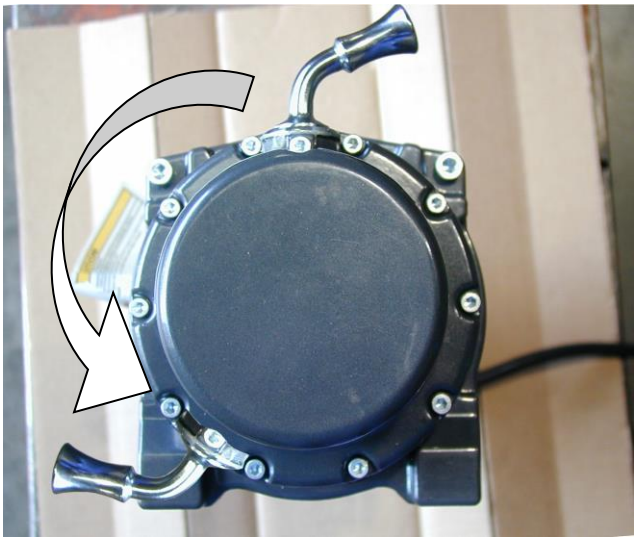
IF FITTING A WINCH

47. Rotate the winch motor 90 degrees as shown

NOTE: Follow the winch manufacturers instructions regards motor rotation and drainage requirements

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WINCH FITMENT ONLY



48. Remove the cap head screws retaining the gearbox to the winch drum. Carefully lift the gearbox a small amount (5 mm) and rotate144 degrees counter clockwise (four hole spacings) and re-fit the cap screws . This places the winch handle in the correct orientation.

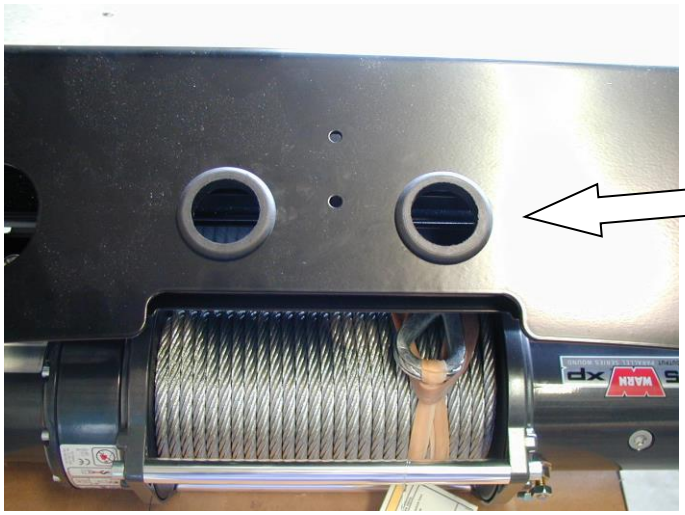
49. Lay the winch on a suitable flat surface and place the bull bar on top so that the wire rope will feed through from the bottom.

50. Using the two 3/8” x 1 1/2”long bolts, M10 flat and spring washers, attach the bull bar to the winch through the top two bolt holes



51. Remove the cir clips from the bottom of the vertical rollers of the fairlead and push the pin upwards. Push the vertical rollers inwards on the lower edges as shown and using two 3/8” x 1 ¾” bolts M10 flat and spring washers, attach the lower section of the roller fairlead to the bull bar and winch.

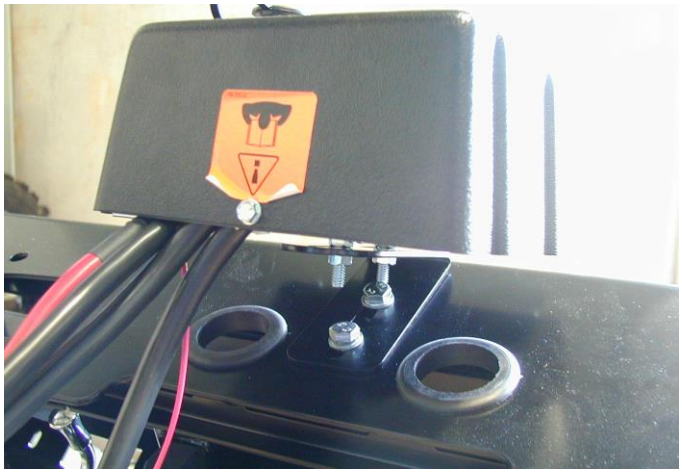
52. Replace the cir clips on the vertical rollers on both sides.



53. Insert the two rubber grommets into the top face of bull bar.

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WINCH FITMENT ONLY



54. Attach the control box to the control box bracket as shown.

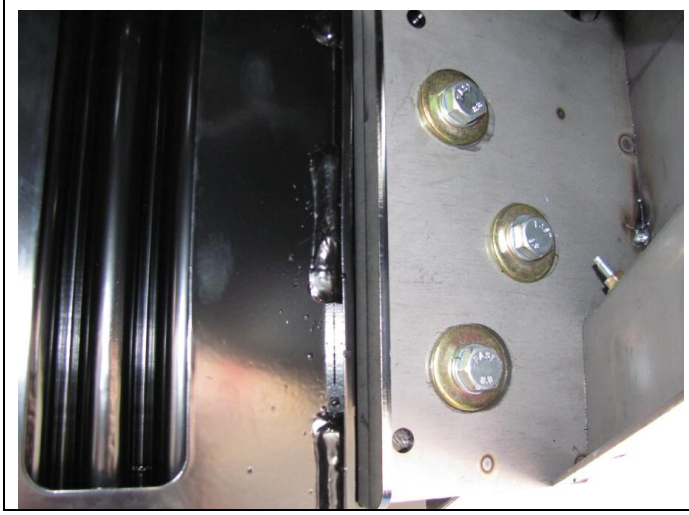
55. Fit the control box to the bull bar with two M8 x 25mm bolts, M8 flat washers and M8 flange nuts.



56. Run the cables through the rubber grommets and connect to the winch as per the wiring diagram supplied with the winch.

57. Using cable ties fix the cables securely and ensure they are well away from any moving, sharp or hot surfaces.

BULL BAR FITMENT TO VEHICLE



58. With assistance guide the bull bar into position on the vehicle. The uprights on the bull bar sit outside the impact absorber blades.

59. Bolt the bull bar into position using the M12 bolts, spring washer, large body washer and flange nuts 3 places per side of bull bar as shown. Tighten the bolts firmly – but allow enough movement for the bull bar to be adjusted

60. If winch fitted route cables up into the engine bay and secure.

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BULL BAR FITMENT TO VEHICLE

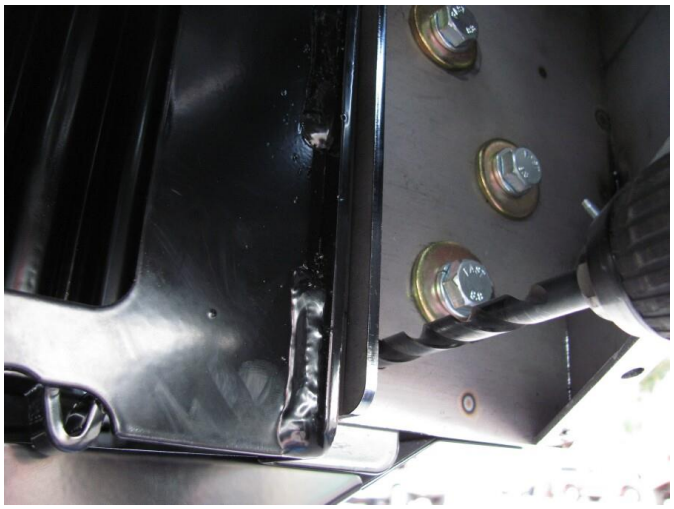


61. Ensure the bull bar is sitting on the vehicle level and the gap between the bumper bar cut and the bull bar wing is even.

20-25 mm (3/4-1”) GAP REQUIRED

62. 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

63. Once happy with the position of the bull bar and the clearance gap is 20-25mm, tighten all the mount bolts to specified torque



64. 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.

65. 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.





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



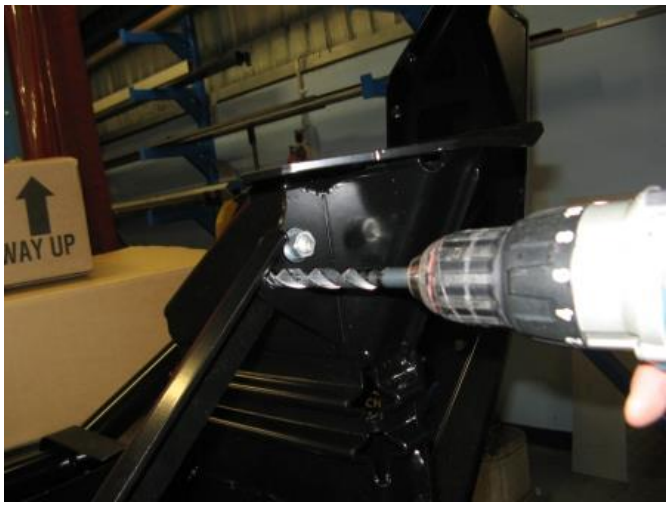
66. Install the handed lower brace straps ensure the top face of the brace strap mates with the underside of the bull bar brace mount, and the underside of the brace strap mates with the top face of the impact absorber gusset as shown in the figure. Fix with two M10 SEMS bolts and flange nuts.

67. Tighten the M10 bolts retaining the bull bar brace mount.

NOTE: The M10 bolts must have the nuts on the lower side

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BULL BAR FITMENT TO VEHICLE



68. Using a Dia10mm 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).

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





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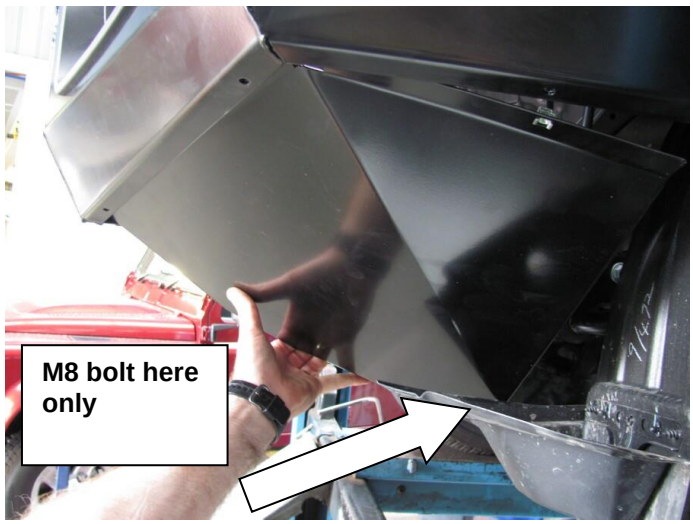


70. Assemble and install combination light surrounds (p/n 3163015) as per instructions no. 3786421 supplied with surround kit. Note: Optional fog lamps can be installed at this point as per fitting instruction no. 3783315 supplied with fog lamp kit no. 6821201.

71. Check that the lights clear the bumper cut line, if not trim the bumper edge to clear by at least 15mm

72. Wire the combination lamp 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)



73. ***Check that all connections have been made, fog lights, indicators***

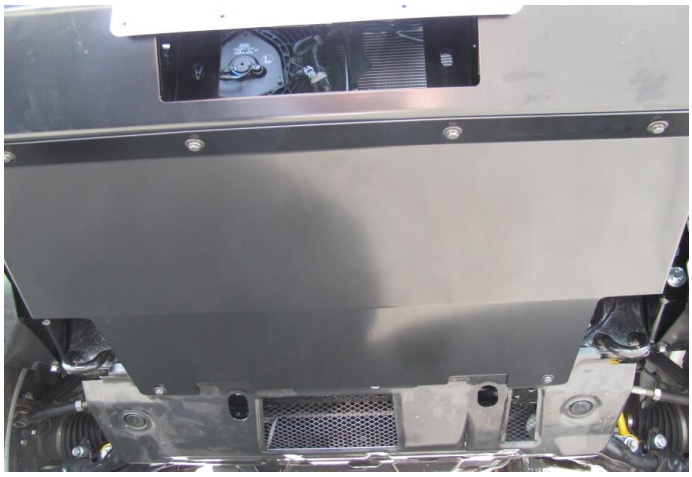
74. The wing under panels can now be fitted.

75. Fit M6 cage nuts to the inside of the wings lower flanges, 3 places per wing.

76. Fit the wing panels as shown and secure with M6 bolt and washer sets and M8 bolt and washer set to position on side brace to chassis

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BULL BAR FITMENT TO VEHICLE



77. The stone shield can now be fitted using 6 x M6 bolt and washer sets

78. Rear fixing position is to sump guard 2 x M6 captive nuts





79. The licence plate can now be attached to the bull bar. Insert the two plastic square plugs supplied into the two square holes in the face of the bull bar (note slot allows for adjustable number plate hole pitch, ensure grommet flanges fit over the narrow width of the slot to engage correctly).



80. If winch fitted, position the licence plate as shown fastening top picture using lower holes. If winch not fitted use the top row of holes, licence plate is positioned lower and covers RFL opening in front of bull bar, lower picture.

81. Using the two dome head screws supplied screw into position firmly.



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

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BULL BAR FITMENT TO VEHICLE



83. Push the outer edge of the liner forward past the wing return edge so that it snaps in place

84. Carefully trim off the bottom of the guard liner 10mm up from the lower face of the wing under panel

85. Push up and tuck fender liner in behind the return flange on the wing under panel.

86. Drill dia 7mm hole through fender liner co-incident with the hole in the return flange of the wing. Loosely retain with cable tie.

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



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