

ARB **FITTING INSTRUCTIONS**

LAND ROVER DISCOVERY 4 **ARB BULL BAR AND WINCH BAR** **Not suitable for HSE & V8 models.**



- **PART No 3432200 DISCOVERY 4 WINCH BAR**
- **PART No 3232200 DISCOVERY 4 BULL BAR**

WARNING

FOR VEHICLES EQUIPPED WITH SRS AIRBAG
WHEN INSTALLED IN ACCORDANCE WITH THESE INSTRUCTIONS, THE FRONT PROTECTION BAR DOES NOT AFFECT OPERATION OF THE SRS AIRBAG.

TAKE NOTE OF 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.**

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GENERAL CARE AND MAINTENANCE

By choosing an ARB set of side rails, you have bought a product that is one of the most sought after 4WD products in the world. Your side rails are a properly engineered, reliable, quality accessory that represents excellent value. To keep your side rails 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 side rails and bull 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:

POWER DRILL WITH 8 & 10MM BITS	SCREWDRIVER SET
METRIC SOCKET SET & SPANNERS	KEY HOLE SAW
TORX BIT SET	SHARP KNIFE & WHITE MARKER
SENSOR SAFE SILICONE	

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

USE	PART no	QTY	DESCRIPTION
IMPACT ABSORBER TO CHASSIS	3758047L	1	CHASSIS MOUNT BRACKET ASSEMBLY
	3758047R	1	CHASSIS MOUNT BRACKET ASSEMBLY
	6151204	4	BOLT M10 x 35 x 1.5p HEX HEAD
	6151321	4	NUT FLANGE M10 x 1.5
	4581040	4	WASHER FLAT M10
	4581048	4	WASHER SPRING M10
	6151022	8	BOLT M8 x 25mm HEX HEAD
	4581044	8	WASHER FLAT M8
	4581046	8	WASHER SPRING M8
	CR08	1	SPIRAL WRAP
BULL BAR TO IMPACT ABSORBER	6151204	8	BOLT M10 x 35 x 1.5p HEX HEAD
	6151321	8	NUT FLANGE M10 x 1.5
	4581040	8	WASHER FLAT M10
	4581048	8	WASHER SPRING M10
BUFFERS TO BULL BAR	3162470L	1	BUFFER 260 x 230 STANDARD
	3162470R	1	BUFFER 260 x 230 STANDARD
	6151128	12	NUT FLANGE M6
LICENCE PLATE TO BULL BAR	6821116	2	NYLON PLUG
	6151143	2	SCREW TEK 8-18 x 20mm
FOG LIGHTS, INDICATORS AND SENSORS (IF FITTED) TO BULL BAR	6151300	4	CAGE NUT M6
	6821116	4	NYLON PLUG
	3758046L	1	FOG LIGHT BRACKET
	3758046R	1	FOG LIGHT BRACKET
	3756778L	1	COVER MOUNT BRACKET
	3756778R	1	COVER MOUNT BRACKET
	3758092	2	BRACKET OUTER SENSOR MOUNT
	3758093	2	BRACKET INNER SENSOR MOUNT
	6821151L	1	INDICATOR COMBINATION LAMP
	6821151L	1	INDICATOR COMBINATION LAMP
	6821152	2	COMBINATION LAMP WIRING LOOM
	180701	6	SCOTCH LOCK
	6151309	6	CAPTIVE U-TYPE NUT
	3162468	2	FOG LIGHT INSERT
	6151317	8	SCREW 8-18 x 5/8 PAN HEAD
	6151213	8	BOLT M6 x 20mm BLACK ZINK
	4581082	8	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	4	WASHER SPRING M6 BLACK ZINK
	6151128	4	NUT FLANGE M6
	6151308	4	SCREW 8-AB X 1" PAN HEAD
	6151460	4	SCREW SELF TAPPING
	3787854	1	DRILLING TEMPLATE OUTER
	3787855	1	DRILLING TEMPLATE INNER
	6821198	1	INDICATOR LOOM KIT
WINCH TO BULL BAR (SUPPLIED WITH FITTING KIT 6171975 ONLY)	3756499	1	CONTROL BOX MOUNT
	BLB850	3	WINCH LEAD 850mm BLACK
	6151074	2	BOLT 3/8" x 1 3/4" HEX HEAD
	6151073	2	BOLT 3/8" x 1 1/2" HEX HEAD
	4581040	4	WASHER FLAT M10
	4581048	4	WASHER SPRING M10

	6151021	2	BOLT M8 x 20mm
	6151132	2	NUT FLANGE M8
	4581044	2	WASHER FLAT M8
	180302	6	CABLE TIES

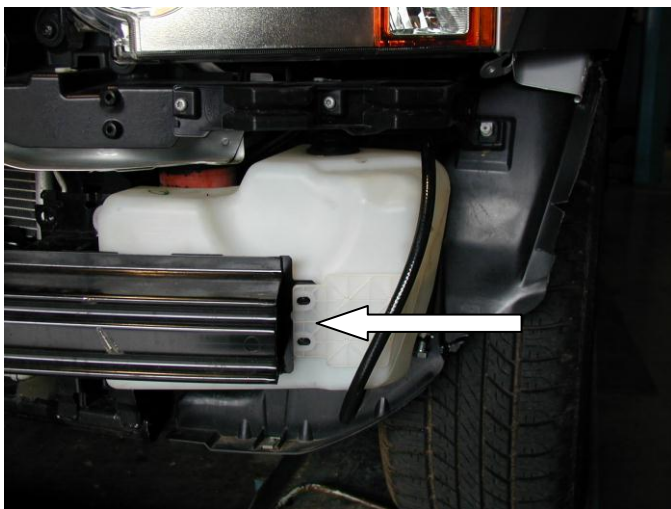
USE	PART No	QTY	DESCRIPTION
WASHER BOTTLE SUPPORT TO IMPACT ABSORBERS	3756801	2	WASHER BOTTLE SUPPORT BRACKET
	6151301	4	CAGE NUT M8
	6151021	4	BOLT M8 x 20mm HEX HEAD
	4581044	4	WASHER FLAT M8
	4581046	4	WASHER SPRING M8
	6151300	2	CAGE NUT M6
	6151213	2	BOLT M6 x 20mm BLACK ZINK
	4581082	2	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	2	WASHER SPRING M6 BLACK ZINK
STONE TRAY & FAIRLEAD COVER TO BULL BAR	6542109	1	STONE TRAY
	3758045	1	FAIRLEAD COVER
	6151357	4	BOLT M10 SEMS
	6151304	4	CAGE NUT M10
	6151300	4	CAGE NUT M6
	6151213	6	BOLT M6 x 20mm BLACK ZINK
	4581082	6	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	6	WASHER SPRING M6 BLACK ZINK
WASHER BOTTLE STONE TRAYS TO BULL BAR	6542110L	1	WASHER BOTTLE TRAY
	6542110R	1	WASHER BOTTLE TRAY
	6151301	2	CAGE NUT M8
	6151300	10	CAGE NUT M6
	6151262	2	BOLT M8 x 20mm BLACK ZINK
	4581045	2	WASHER FLAT M8 BLACK ZINK
	4581047	2	WASHER SPRING M8 BLACK ZINK
	6151213	10	BOLT M6 x 20mm BLACK ZINK
	4581082	10	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	10	WASHER SPRING M6 BLACK ZINK
RETAINING FENDER LINERS TO WASHER BOTTLE TRAYS	6151300	4	CAGE NUT M6
	6151213	4	BOLT M6 x 20mm BLACK ZINK
	4581082	4	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	4	WASHER SPRING M6 BLACK ZINK
MISCELLANEOUS	180302	10	CABLE TIES
	3162152	2	ARIAL PLUG
	6191009	1	PLASTIC SIDE MOULDING

VEHICLE PREPARATION

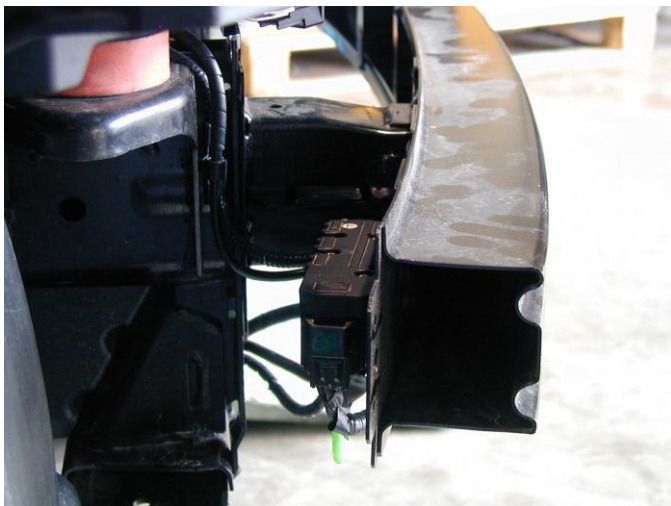


1. Remove the grill and then the headlights from the vehicle.
2. Remove the flares from the vehicle.
3. Remove the bumper bar from the vehicle.

NOTE: Be prepared to block or clamp off the washer bottles lines to prevent water leaking on the ground.

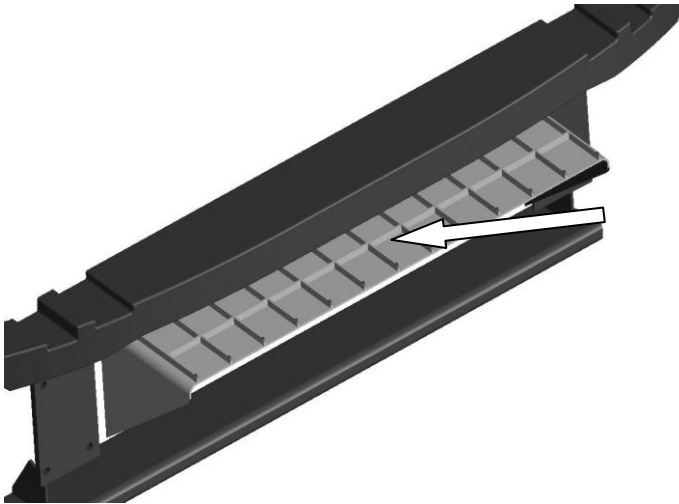


4. Remove the two bolts attaching the bumper cross bar to the washer bottle.



5. On air suspension models, remove the solenoid pack attached to the right hand side of the crossbar.
6. Remove the crossbar from the vehicle.

VEHICLE PREPARATION



7. If fitting a winch the plastic air ram will need to be removed.



Short loom .



Longer relay loom .

8. To wire up the indicators from the bull bar to the vehicle indicators a short loom must be fitted .

A longer loom with two relays is also to be fitted in conjunction with the short turn signal loom .



9. Open the bag containing the long wiring loom with relays .

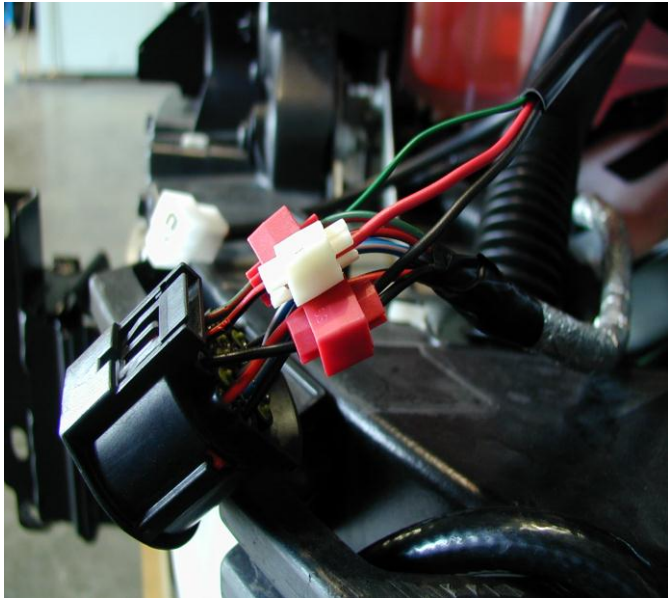
Lay the loom across the engine bay from headlamp to headlamp with the relays on the Left Hand (battery) side of the vehicle .

Place the relays on the inner guard (as shown) as close as possible to the battery .

Using a drill and a Phillips head bit attach the relays to the vehicle with the screws provided .

Note :- Ensure wiring will not rub on any metal part or sharp edges .

VEHICLE PREPARATION



10. Find the clearance , indicator and earth wires for each headlight using a test lamp.

Removal of the headlamp will make this easier . Wire the park lamp wire ONLY AT THIS STAGE from the short indicator looms into the head light looms using the scotch locks provided .

WIRING TABLE FOR SHORT LOOM

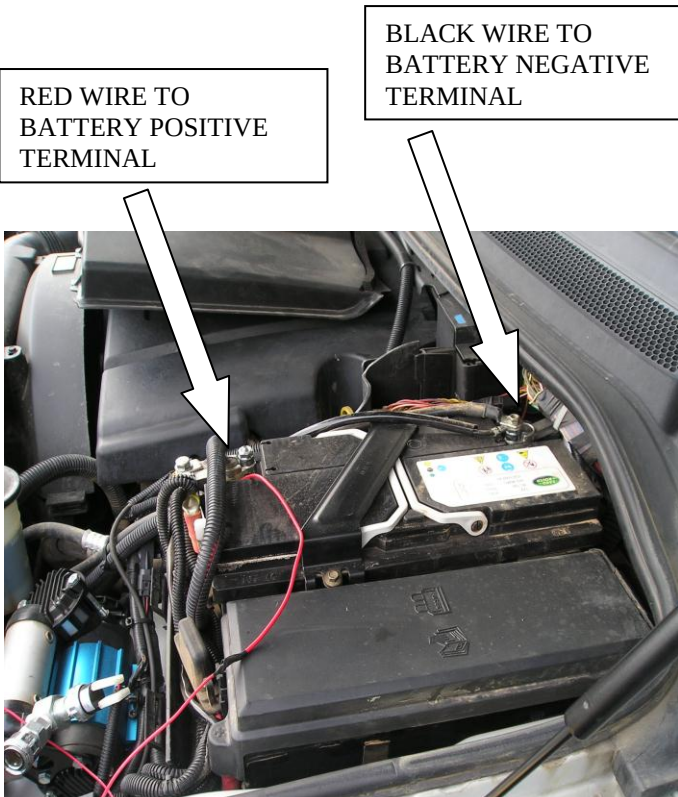
FUNCTION	INDICATOR HARNESS	VEHICLE COMBINATION LAMP	
		RIGHT	LEFT
INDICATOR	GREEN	GREEN / WHITE	GREEN / RED
EARTH	BLACK	BLACK	BLACK
PARK LAMP	RED	RED / ORANGE	RED / BLACK

11. The remaining wires from the short loom (tabled above) will now in conjunction with the longer loom - will be both wired into the vehicles headlamp loom . The table below lists the colour & function of the longer relay loom .

WIRING TABLE FOR LONG LOOM

FUNCTION	RELAY HARNESS	SHORT INDICATOR HARNESS	
		RIGHT	LEFT
BATTERY POSITIVE	RED	-----	-----
BATTERY EARTH	BLACK	-----	-----
VEHICLE RH INDICATOR	GREEN / BLACK	-----	-----
BULL BAR INDICATOR	GREEN	GREEN	GREEN
BULL BAR INDICATOR	BLACK	BLACK	BLACK
VEHICLE LH INDICATOR	YELLOW / BLACK	-----	-----
BULL BAR INDICATOR	YELLOW	GREEN	GREEN
BULL BAR INDICATOR	BLACK	BLACK	BLACK

12. The two wires for each common function from both looms can now be combined and scotch locked to the appropriate wire in the vehicles head lamp loom . Replace the headlamps back into the vehicle if removed .
13. Wire the positive wire to the battery and the earth wire to the negative as shown .



VEHICLE PREPARATION



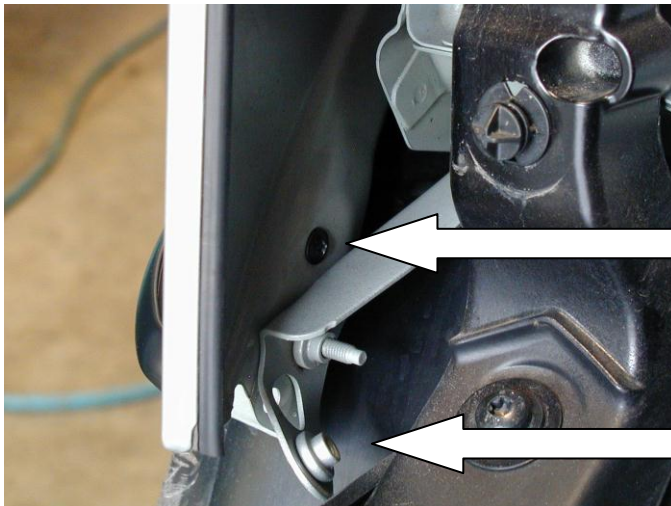
14. With all the wiring connections now made , feed the harness down so that it sits neatly and retain in place with the cable ties provided .

Note :- Ensure all wiring will not rub or touch on any metal parts , sharp edges and hot or moving parts .



15. Replace the headlight to gain a visual reference of the line to be cut. Mask the flare along the line of the headlight.
16. Remove the headlight and remove the flare.
17. Cut the flare along the line of the masking tape.

NOTE: Be careful not to cut too much off the inner tab that attaches the flare to the guard.



18. Replace the flares making sure to replace the screw at headlight level.
19. Bend the tag that hangs down below the line of the guard up and out of the way.

Replace screw

Bend tag

VEHICLE PREPARATION



20. Once satisfied with the cut of the flare, replace the headlight and the grill.



- 21. Clean the flare where it has been cut and attach the plastic side moulding to the flare.
- 22. Cut the plastic side moulding with a Stanley knife along the back edge of the flare.
- 23. It is recommended that the lower portion of the bodywork below the flare cut off be painted black. Clean the surface with prep wash then mask the surrounding area.



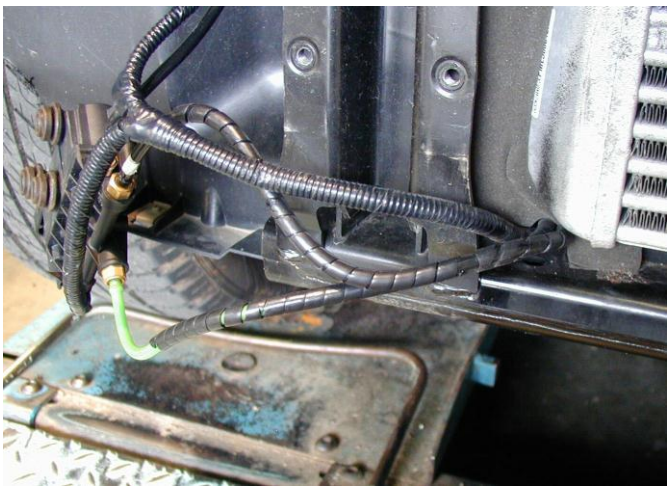
If fog lights not fitted go to step 26

- 24. Using a TORX bit, remove the fog lights from the bumper bar and keep the six retaining screws.
- 25. Remove the fog light wiring loom from the bumper bar.

VEHICLE PREPARATION



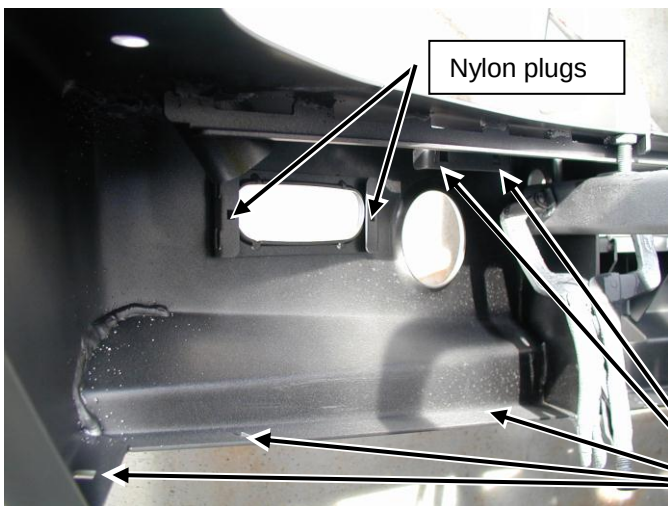
26. Unclip the headlight washer hose from the nozzle and remove both the headlight washers and the hose.



If air suspension not fitted go to step 28.

27. Cut the supplied spiral wrap in half. Wind the spiral wrap around the two lower air hoses that connect to the suspension actuators.

BULL BAR SETUP

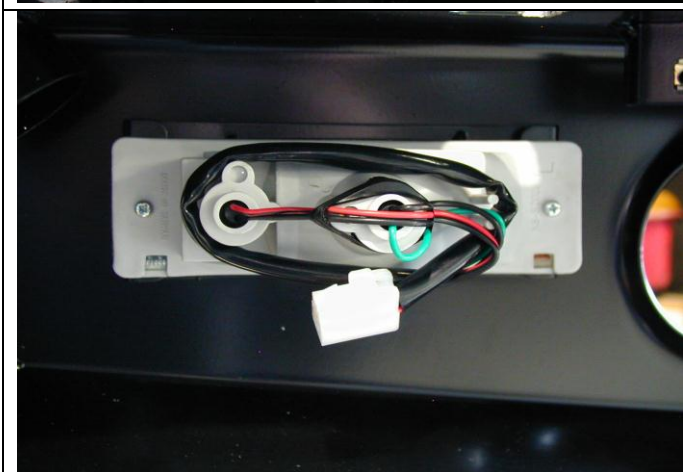


28. Fit both the right and left hand buffers to the bar using M6 flange nuts. DO NOT OVER TIGHTEN.

29. Fit 14 M6 cage nuts (10 into the wings and four into the main pan) and four nylon plugs to the bar.



30. If vehicle is fitted with parking sensors cut out templates supplied with instructions. Place outer templates over indicator recess and inner templates over high lift jack opening as shown. Mark holes with a felt tip pen. Drill 16mm holes in marked positions. File or die-grind slightly to achieve a snug fit (not a tight fit). De-burr and paint when done.

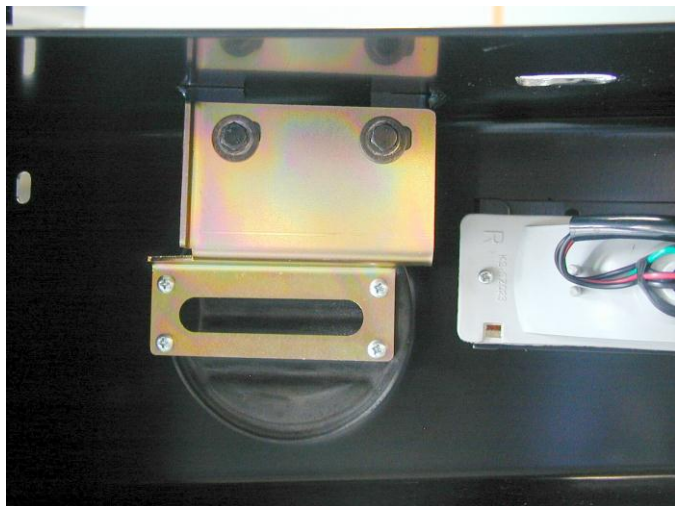


31. Install the indicators into the bar using the self tapping screws (8-AB X 1" pan head) supplied with the fitting kits. Discard the screws supplied with the indicators.

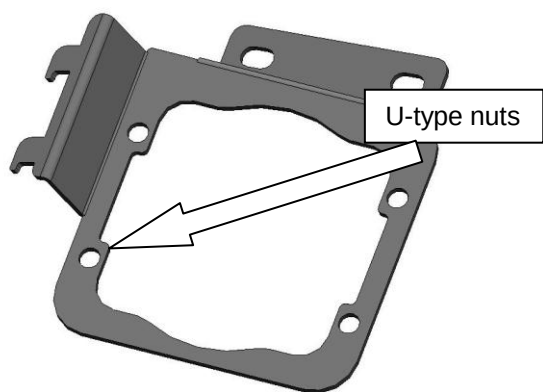
NOTE: The indicators should be installed with the drain holes at the bottom



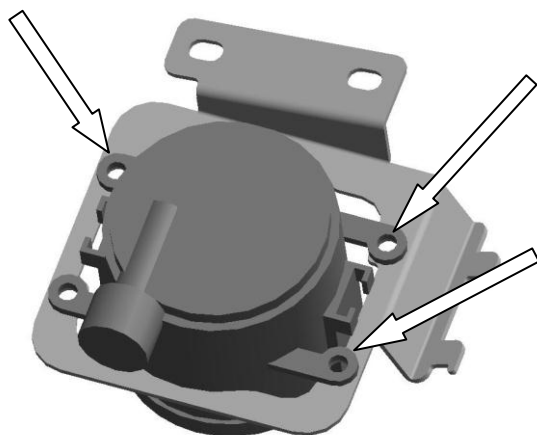
32. If there are no fog lights fitted to the vehicle, fit the fog light insert supplied to the bar. Fit the fog insert bracket to the fog light insert with the eight pan head screws as shown opposite.



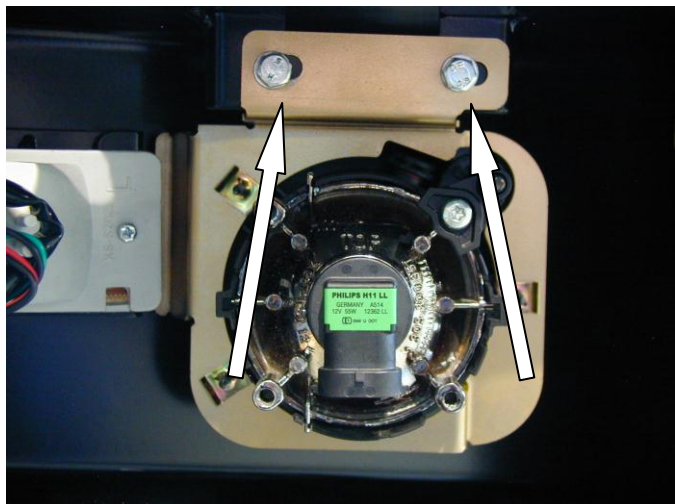
33. Fit the fog light insert assembly to the bar using two M6 x 20mm black bolts, M6 flat black washers and M6 black spring washers.



34. For vehicles with fog lights, fit the U-type nuts to any three of the four holes on the fog light bracket.



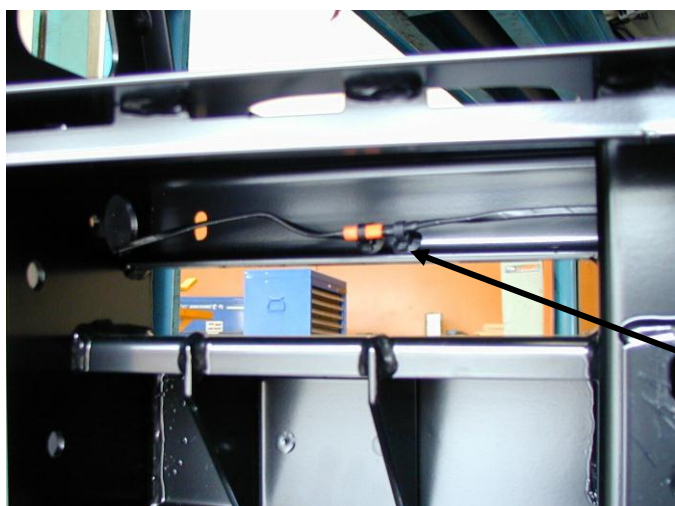
35. Using the original TORX head screws removed with the fog lights earlier; fit the fog lights into the fog light brackets.



36. Clip the fog light assembly into the indicator bracket and fix in place using two M6 x 20mm black bolts, M6 flat black washers and M6 black spring washers.

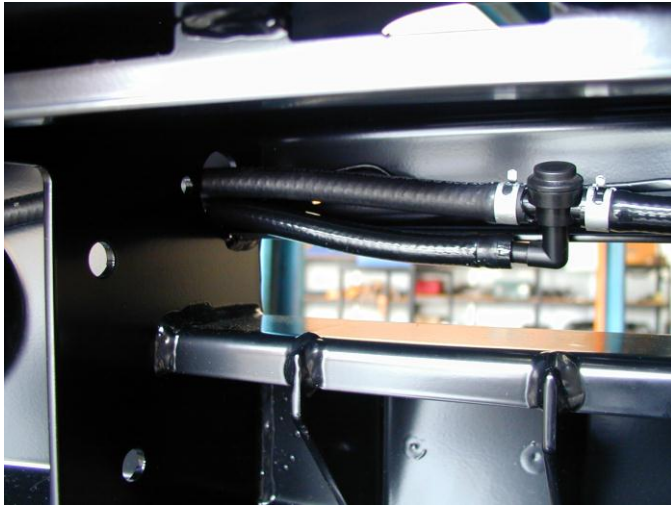


37. If fitted, re-fit the head light washers into the bar using the original spring clips.

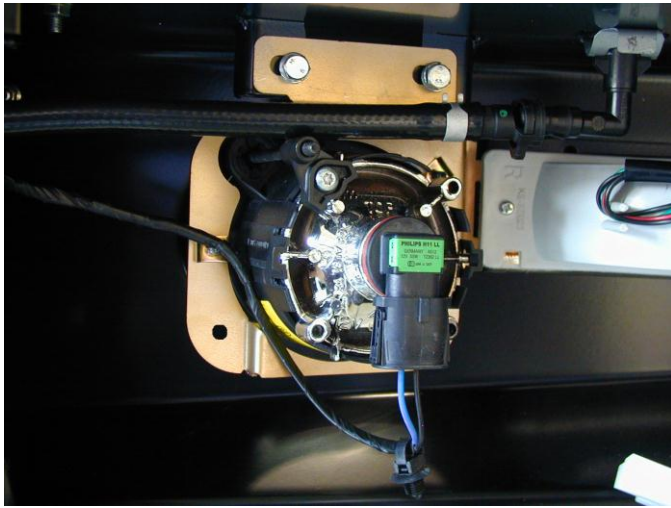


38. Run the fog light wiring loom through the bullbar. Remove the plastic clips as necessary.

Remove



- 39.Run the hoses removed from the bumper through the bar being careful not to kink any lines.
- 40.Secure to bar with a few cable ties.



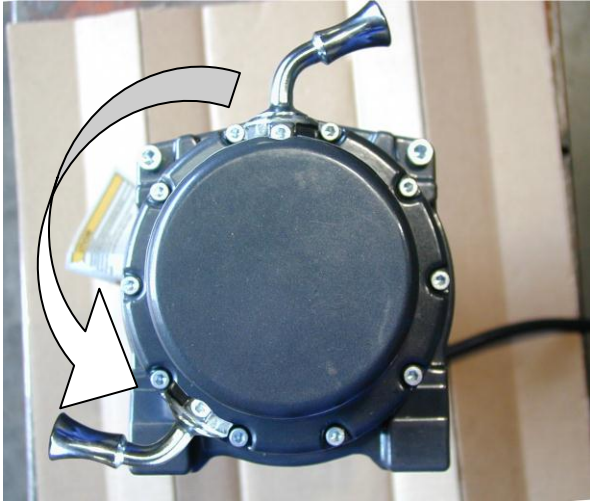
- 41.Fit the fog light loom to the fog light and fit the washer hose to the headlight washer. Cable tie the head light loom and the washer hose together making sure they are away from sharp edges.

WINCH FITMENT

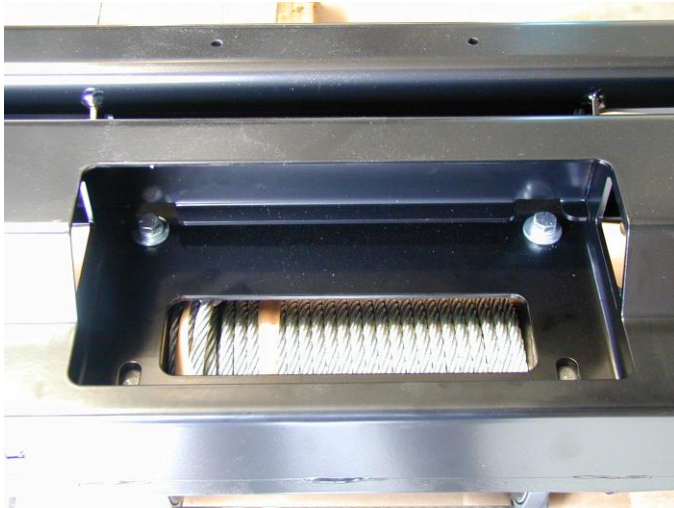


IF NOT FITTING A WINCH GO TO STEP 53

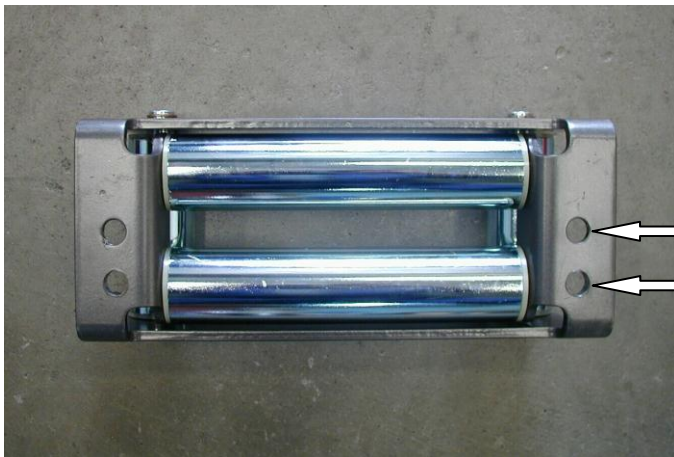
- 42.If fitting a Warn winch, replace the three cables in the control box marked A, F1 and F2 with the three 850mm cables from the fitting kit. Mark the new cables as per the original cables.



43. Remove the cap head screws retaining the gearbox to the winch drum. Carefully lift and rotate the gearbox 144 degrees counter clockwise (four hole spacings) and re-fit the cap screws.



44. Lay the winch on a suitable surface and place the bull bar on top so that the wire rope will feed from the bottom.
45. Using two 3/8" x 1 1/2" bolts, M10 flat and spring washers, attach the bull bar to the winch through the top two holes



46. Using a 12mm drill bit, drill two new holes in the roller fairlead 25mm below the original holes.

Drill the new hole 25mm below original



47. Remove the cir-clips from the bottom of the vertical rollers of the fairlead and push the pin upwards. Push the vertical rollers inwards and using two 3/8" x 1 3/4" bolts M10 flat and spring washers, attach the roller fairlead to the bar.
48. Replace the circlips on the vertical rollers.



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

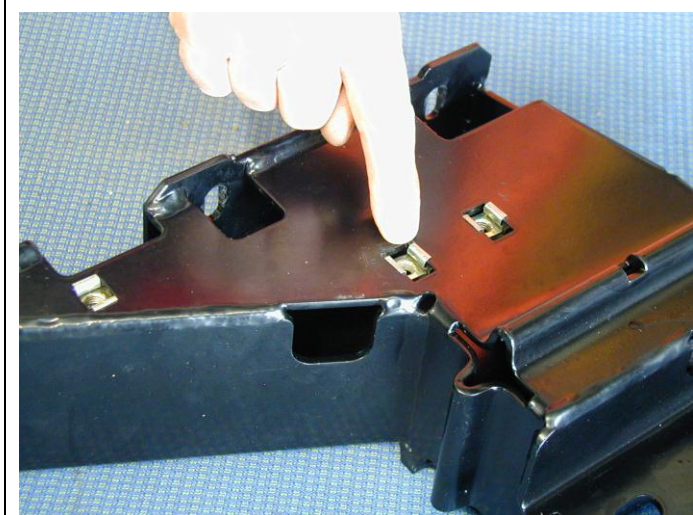


50. Attach the control box to the control box bracket.
51. Fit the control box to the bar with two M8 x 20mm bolts, M8 flat washers and M8 flange nuts.

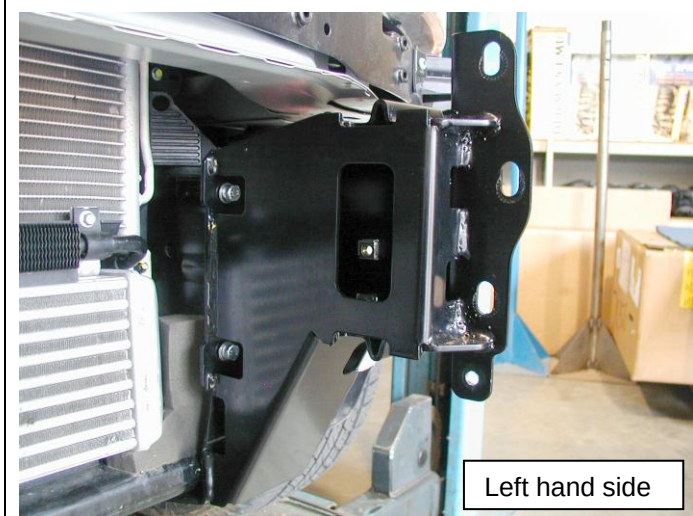


52. Run the cables through the rubber grommets and connect to the winch as per wiring diagram supplied with the winch.
53. Using cable ties, fix the cables away from any moving, sharp or hot surfaces.

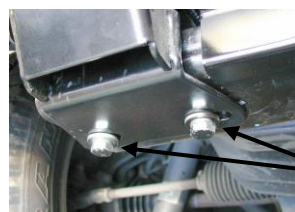
BULL BAR FITMENT TO VEHICLE



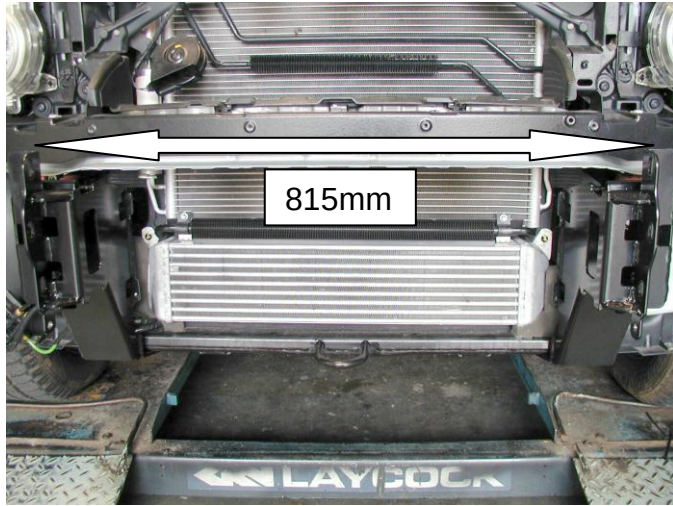
54. Fit the six M8 cage nuts to the impact absorbers.



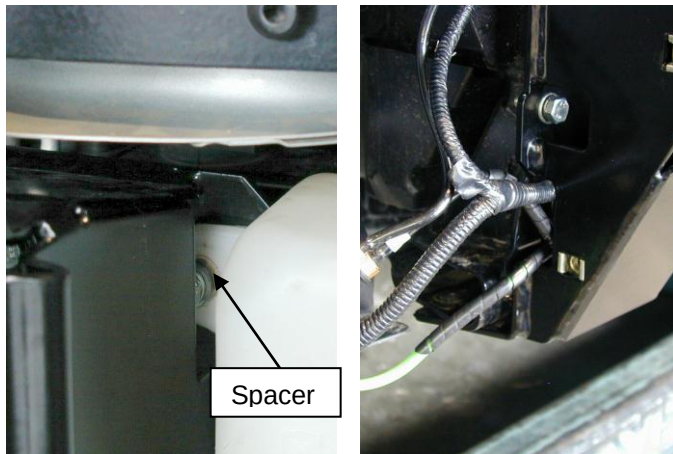
55. Mount both the impact absorbers to the vehicle using four (a side) M8 x 25mm bolts, M8 flat and spring washers in the front face, two (a side) M10 x 35mm bolts, M10 flat washers, M10 spring washers and M10 flange nuts in the underside.
(DO NOT TIGHTEN)



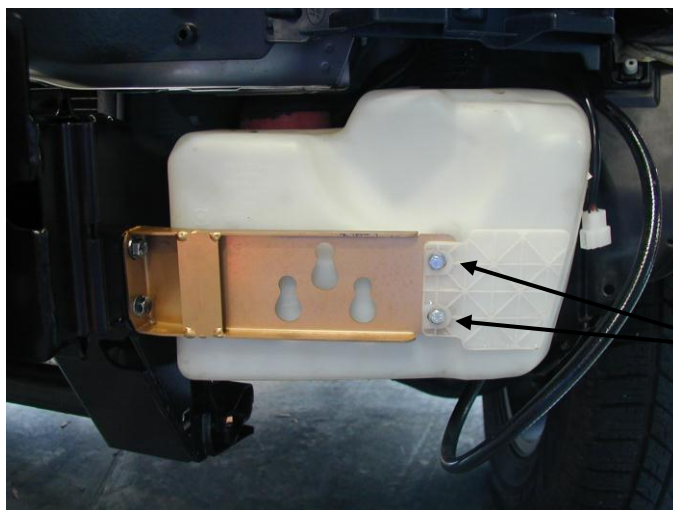
M10 bolts



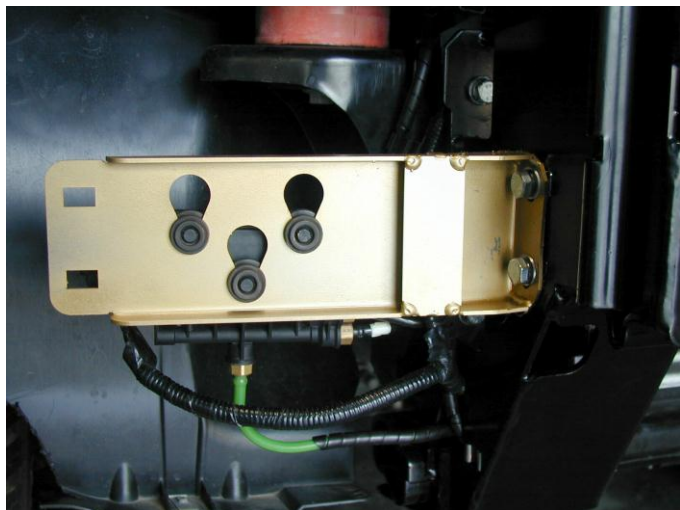
- 56. Centralise the mounts so that the surface that mounts to the bull bar is vertical.
- 57. The mounts must be positioned so that there is 815mm gap between the outside surfaces of the bull bar mounting face.
- 58. Tighten all the bolts.



- 59. On the left hand side, the washer bottle sits in front of the mount face. (Make sure that the metal spacer in the washer bottle tag remains in place)
- 60. On the right hand side, the air lines on air suspension models run through the gap in the impact absorber backing plate.

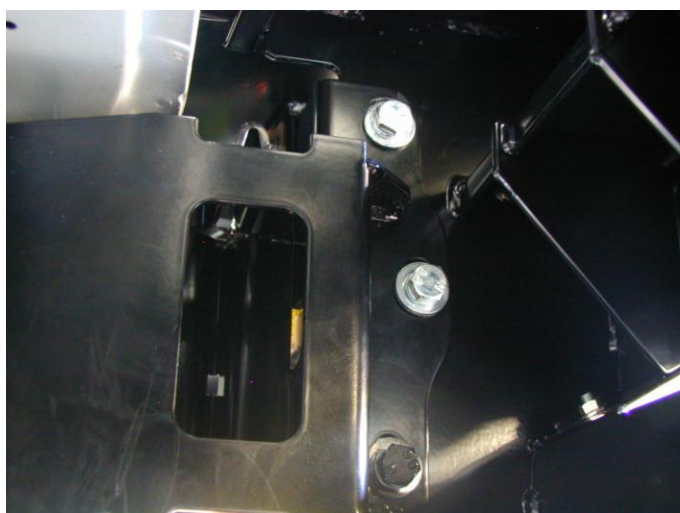


- 61. Install two M6 cage nuts into one of the Washer bottle brackets.
- 62. Attach the washer bottle bracket with the cage nuts installed to the left hand side impact absorber using two M8 x 20mm bolts, M8 flat and spring washers.
- 63. Fix the washer bottle to the bracket using two M6 x 20mm black bolts, M6 flat black washers and M6 black spring washers.

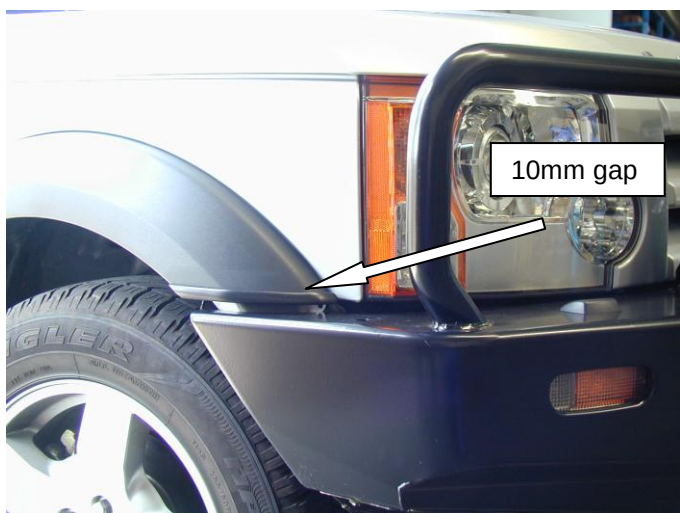


64. Attach the washer bottle bracket without the cage nuts to the right hand side impact absorber using two M8 x 20mm bolts, M8 flat and spring washers.

65. On vehicles equipped with air suspension, attach the solenoid pack to the bracket.



66. With the help of another person, lift the bull bar into position and fix in place using 3 (a side) M10 x 35mm bolts, M10 flat washers, M10 spring washers and M10 flange nuts. Do not tighten.



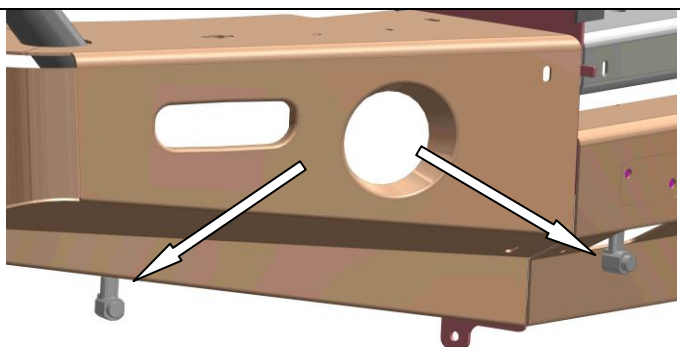
67. Adjust the bar so there is approximately a 10mm gap between the bull bar wing and the bottom of the flare. When the bar is in the correct position tighten the bolts.



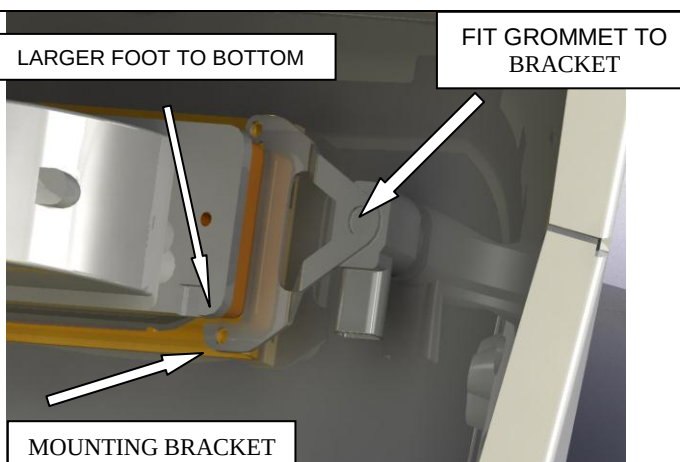
68. Using a 10mm drill bit; drill the pinning bolt hole using the hole in the upright as a guide.
69. Fix in place using a M10 x 35mm bolt, M10 flat washer, M10 spring washer and M10 flange nut. Repeat for the other side.
70. Connect the indicators to the indicator loom. Re-connect the fog light loom, headlight washer hose and the ambient temperature sensor.



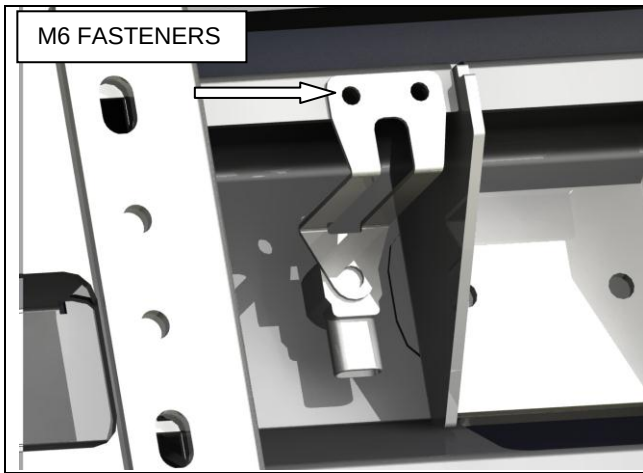
71. Fit original rubber grommets to sensors as shown.



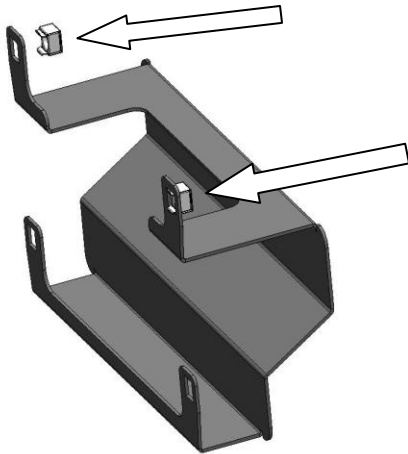
72. Plug sensors into loom. Hang down from vehicle as shown facing forward. Test vehicle parking system is operating correctly.



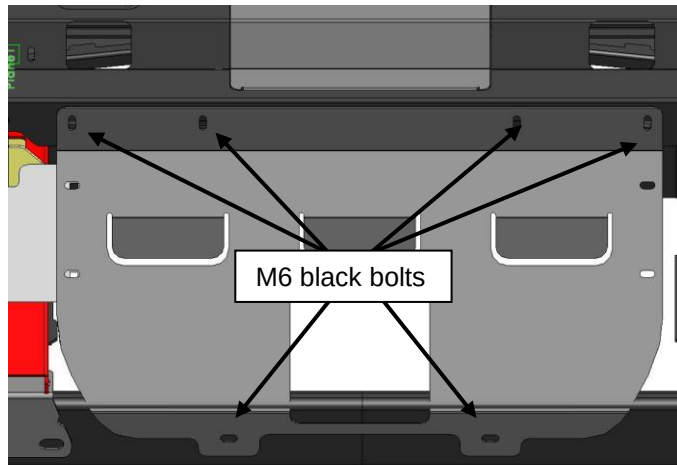
73. Start from right to left **fit and test one sensor at a time**. Fit small blanking grommets to outer brackets making sure the larger area faces the sensor. Fit outer brackets as shown. Secure to indicator mount using small self tapping screws. If you wish to achieve a tighter hold bracket may be bent slightly. Test sensor system.



74. Inner sensor mounting. If sensors are activating try to rotate slightly and re-test. Once all sensors are fitted and working correctly apply a small amount of sensor safe silicone to both bracket and bar to limit movement of sensor.

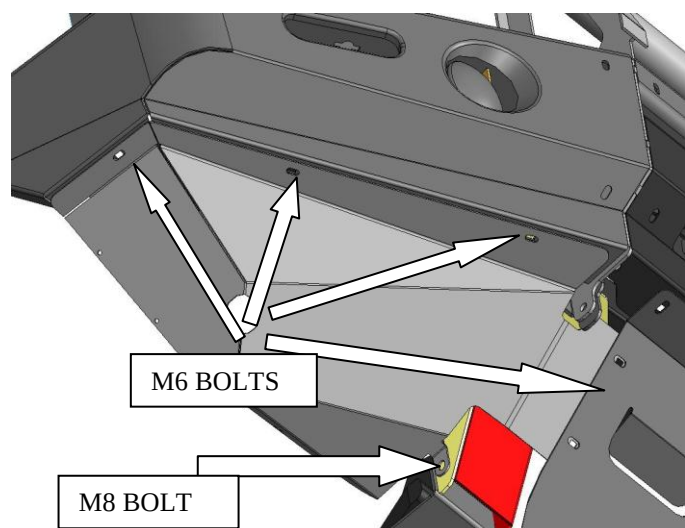


75.If no winch is fitted fit fairlead cover panel now. Insert 4 of the M10 cage nuts as shown and secure from inside bar (winch mounting holes) using 4 X M10 SEMS bolts.



76.Fit the stone tray to the bar using six M6 x 20mm black bolts, M6 black flat washers and M6 black spring washers.

WASHER BOTTLE GUARD FITMENT TO BULL BAR



77. Fit two M6 cage nuts to back surface of guards. Fit the washer bottle stone guards to both sides of the bull bar .
78. Use the three M6 x 20mm black bolts, M6 black flat washers and M6 black spring washers to attach the guards to the wing along the front and side edges .
79. Attach the M8 x 20mm black bolt , M8 black flat washer and M8 black spring washer to attach the guard to the impact absorber as shown .



80. Trim the inner guard in line with the lower edge of the washer bottle cover .
 81. Using the washer bottle guard as a template mark the position of two cage nuts located on the rear fold with a paint marker onto the fender liner .
- Drill Using a 8 mm drill bit - drill the two holes .



82. To fit the license plate to the bar, first push two nylon plugs into the front face of the top pan. Fit the license plate using two 8-18 x 20mm tek screws .
83. Ensure all lights are functioning correctly and all bolts are fully tightened .

Also supplied in the kit are two 16mm plugs. The two plastic plugs are for the holes in the top surface of the wings if no CB aerials are fitted.