

LAND ROVER DISCOVERY 3

ARB BULL BAR AND WINCH BAR

- **PART No 3432150 DISCOVERY 3 WINCH BAR**
- **PART No 3232150 DISCOVERY 3 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.**

TOOLS REQUIRED :- METRIC 3/8 DRIVE SOCKET SET, METRIC RING AND OPEN ENDED SPANNERS, TORX BIT SET, PHILLIPS AND FLAT SCREWDRIVERS, KEY HOLE SAW, DRILL AND 8 & 10 mm DRILL BIT , SHARP KNIFE AND A WHITE PAINT MARKER .

USE	PART No	QTY	DESCRIPTION
IMPACT ABSORBER TO CHASSIS	3756789L	1	CHASSIS MOUNT BRACKET ASSEMBLY
	3756789R	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 AND INDICATORS TO BULL BAR	6151300	4	CAGE NUT M6
	6821116	4	NYLON PLUG
	3756792L	1	FOG LIGHT BRACKET
	3756792R	1	FOG LIGHT BRACKET
	3756778L	1	COVER MOUNT BRACKET
	3756778R	1	COVER MOUNT BRACKET
	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	4	BOLT M6 x 20mm BLACK ZINK
	4581082	4	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	4	WASHER SPRING M6 BLACK ZINK
	6151308	4	SCREW 8-AB X 1" PAN HEAD
	6821198	1	INDICATOR LOOM KIT
WINCH TO BULL BAR (SUPPLIED WITH FITTING KIT 6171975 ONLY)	3756499	1	CONTROL BOX MOUNT
	EG50	2	RUBBER GROMMET
	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 TO BULL BAR	6542064	1	STONE TRAY
	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 TRAY TO BULL BAR	6542065L	1	WASHER BOTTLE TRAY
	6542065R	1	WASHER BOTTLE TRAY
	6151301	2	CAGE NUT M8
	6151300	6	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	6	BOLT M6 x 20mm BLACK ZINK
	4581082	6	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	6	WASHER SPRING M6 BLACK ZINK
RETAINING FENDER LINERS TO WASHER BOTTLE TRAYS	3757570	4	BRACKET CAGE NUT M6
	6151300	10	CAGE NUT M6
	6151213	10	BOLT M6 x 20mm BLACK ZINK
	4581082	10	WASHER FLAT M6 x 20 BLACK ZINK
	4581287	10	WASHER SPRING M6 BLACK ZINK
AMBIENT TEMP SENDER TO IMPACT ABSORBER	6151021	1	BOLT M8 x 20mm HEX HEAD
	6151132	1	NUT FLANGE M8
	4581044	1	WASHER FLAT M8
MISCELLANEOUS	180302	10	CABLE TIES
	3162152	2	ARIAL PLUG
	6191009	1	PLASTIC SIDE MOULDING
	4721542	1	WASHER BOTTLE HOSE 8mm x 400mm

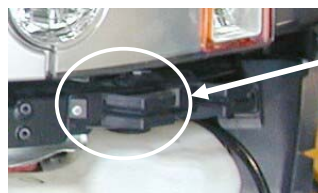
VEHICLE PREPARATION



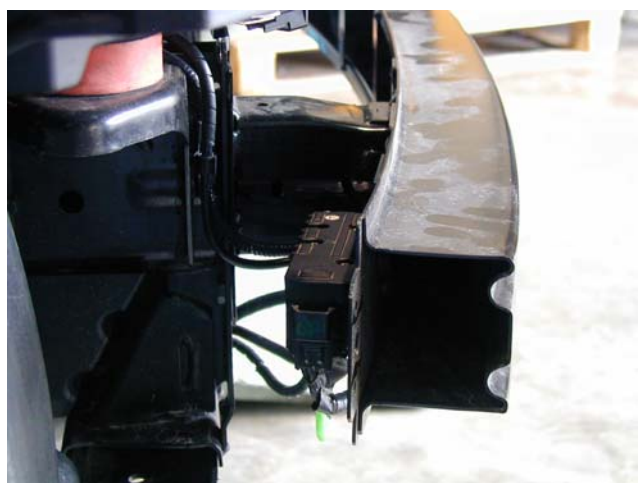
1. Remove the grill and then the headlights from the vehicle.
2. Remove the flares from the vehicle.
3. Remove the bumper bar from the vehicle.



4. Remove the two bolts attaching the bumper cross bar to the washer bottle.
5. Remove the inside plastic brackets and brake off the inside sections of the outer plastic brackets.

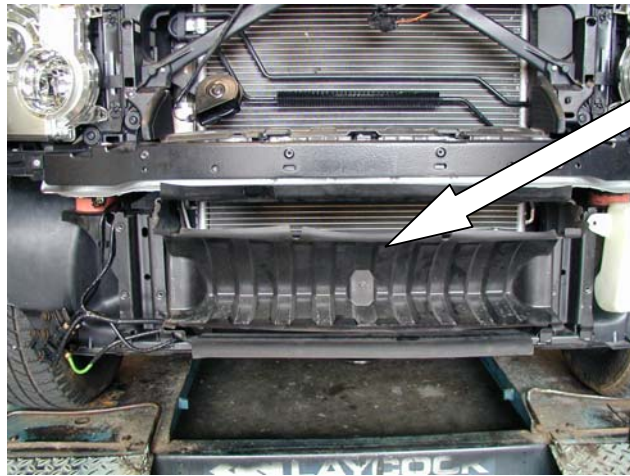


Remove this section from both outside brackets



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

VEHICLE PREPARATION



8. Remove the air shield from the vehicle, and remove the ambient temperature sender from the air shield.



Short loom .



Longer relay loom .

9. 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 .



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

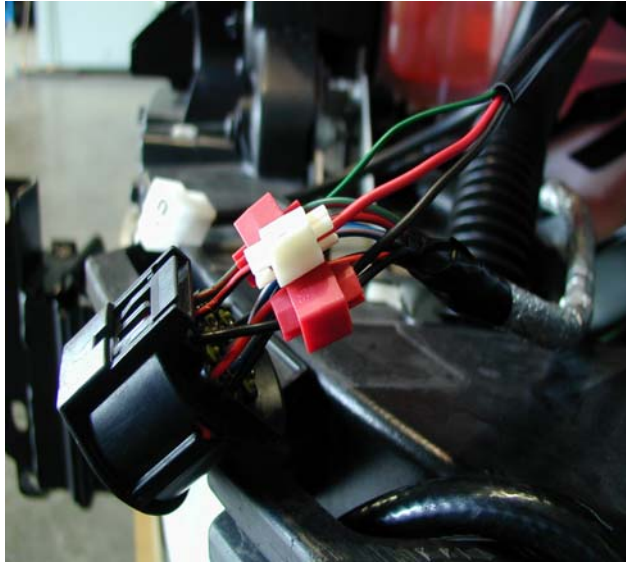
Lay the loom across the engine bay from headlamp to headlamp with the relays on the Left Hand (battery) side of the vehicle .

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



RED WIRE TO
BATTERY POSITIVE
TERMINAL

BLACK WIRE TO
BATTERY NEGATIVE
TERMINAL



11. 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

12. 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

13. 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 .
14. Wire the positive wire to the battery and the earth wire to the negative as shown .

VEHICLE PREPARATION

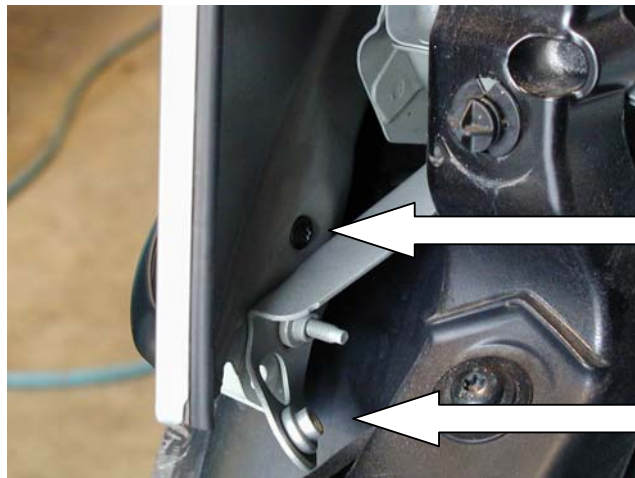


15. With all the wiring connections now made , feed the harness down so that it sits neatly and retain in place with the cable ties provided .

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



16. Replace the headlight and mask the flare along the line of the headlight.
17. Remove the headlight and remove the flare.
18. Cut the flare along the line of the masking tape.



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

Replace screw

Bend tag

VEHICLE PREPARATION



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



22. Clean the flare where it has been cut and attach the plastic side moulding to the flare.

23. Cut the plastic side moulding with a Stanley knife along the back edge of the flare.

24. 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 22

25. Using a TORX bit, remove the fog lights from the bumper bar and keep the six retaining screws.

26. Remove the fog light wiring loom from the bumper bar.

VEHICLE PREPARATION



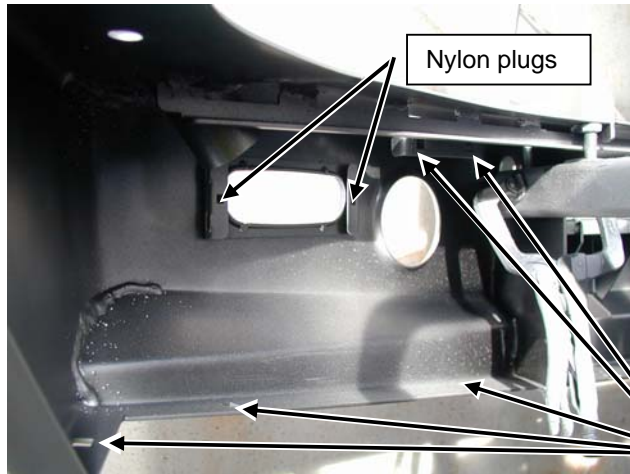
27. Unclip the headlight washer hose from the nozzle and remove both the headlight washers and the hose.



If air suspension not fitted go to step 23.

28. 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



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

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

M6 cage nuts



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

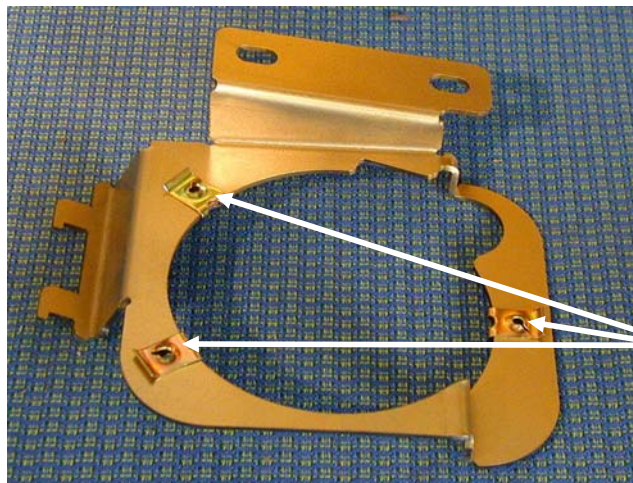


32. If there are no fog lights fitted to the vehicle, fit the fog light insert supplied to the bar. Fit the fog insert bracket to the fog light insert with the eight pan head screws as shown opposite.

BULL BAR SETUP



27. 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.



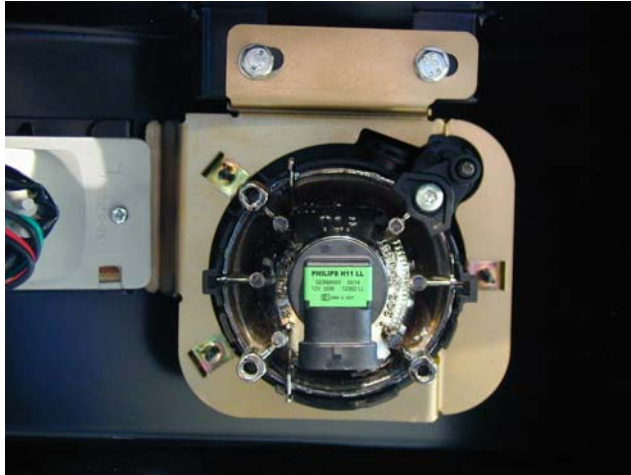
33. For vehicles with fog lights, fit the U-type nuts to the fog light brackets as shown opposite.

U-type nuts



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

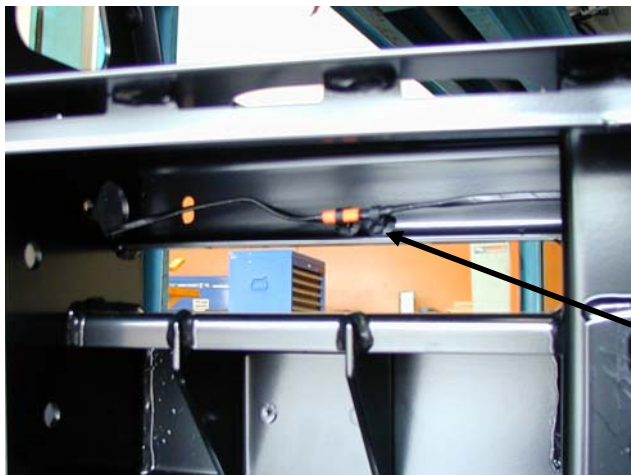
BULL BAR SETUP



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.



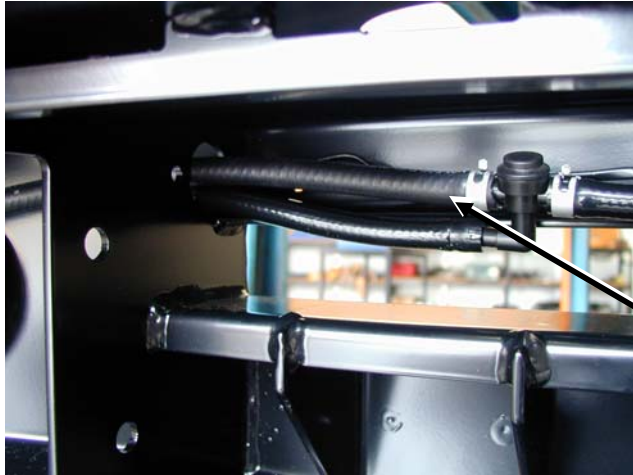
35.If fitted, re-fit the head light washers into the bar using the original spring clips.



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

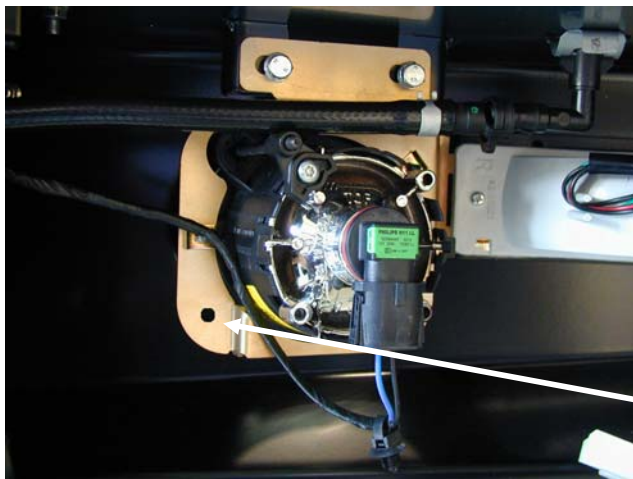
Remove

BULL BAR SETUP



- 37. Replace the small section of hose that runs between the headlight washers with the hose supplied in the fitting kit.
- 38. Run the hose through the bull bar to both headlight washers.

Replace hose



- 39. 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.

This hole can be used to clip the wiring loom to the bracket

WINCH FITMENT



IF NOT FITTING A WINCH GO TO STEP 47

- 40. 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.

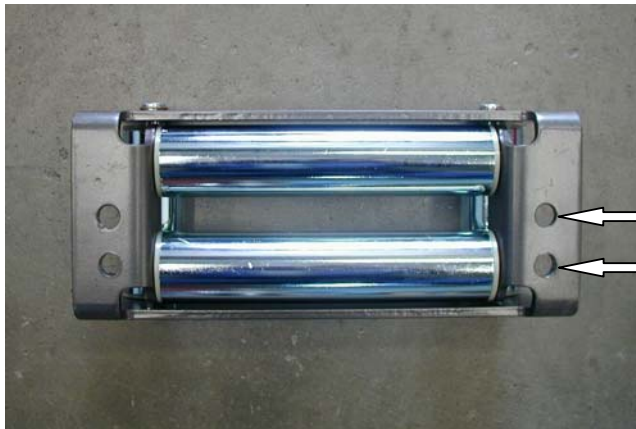
WINCH FITMENT



41. 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.



42. Lay the winch on a suitable surface and place the bull bar on top so that the wire rope will feed from the bottom.
43. 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



44. 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

WINCH FITMENT



45. 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.
46. Replace the circlips on the vertical rollers.



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



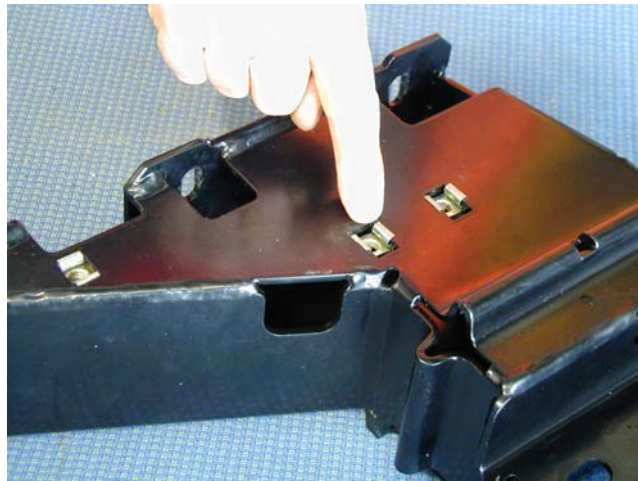
48. Attach the control box to the control box bracket.
49. Fit the control box to the bar with two M8 x 20mm bolts, M8 flat washers and M8 flange nuts.

WINCH FITMENT

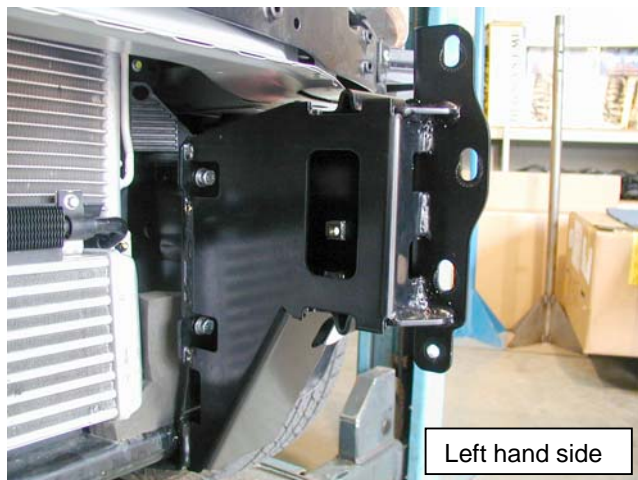


50. Run the cables through the rubber grommets and connect to the winch as per wiring diagram supplied with the winch.
51. Using cable ties, fix the cables away from any moving, sharp or hot surfaces.

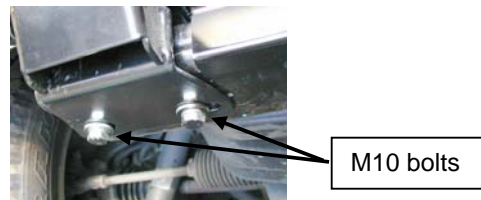
BULL BAR FITMENT TO VEHICLE



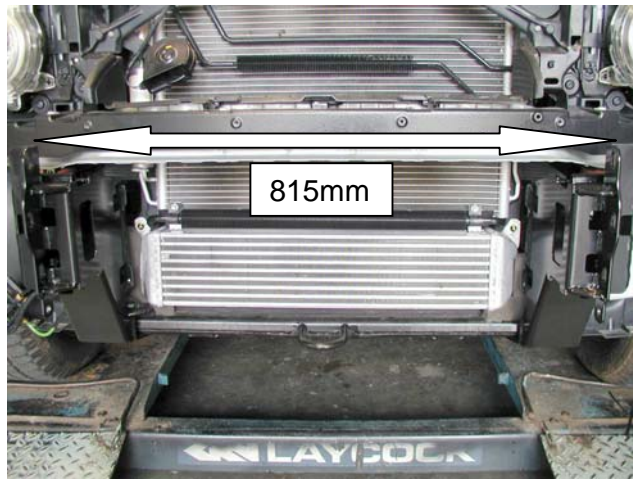
52. Fit the six M8 cage nuts to the impact absorbers.



53. 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)



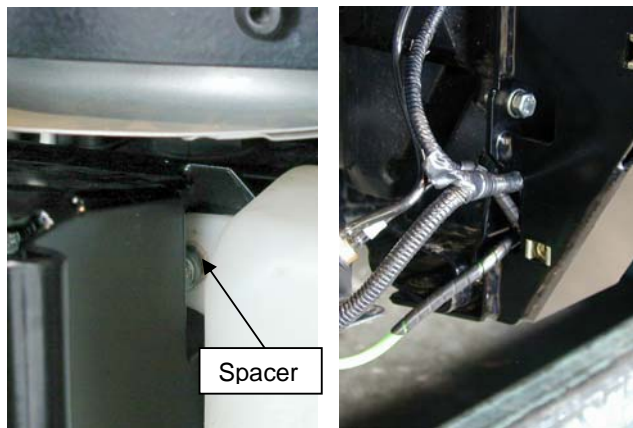
BULL BAR FITMENT TO VEHICLE



54. Centralise the mounts so that the surface that mounts to the bull bar is vertical.

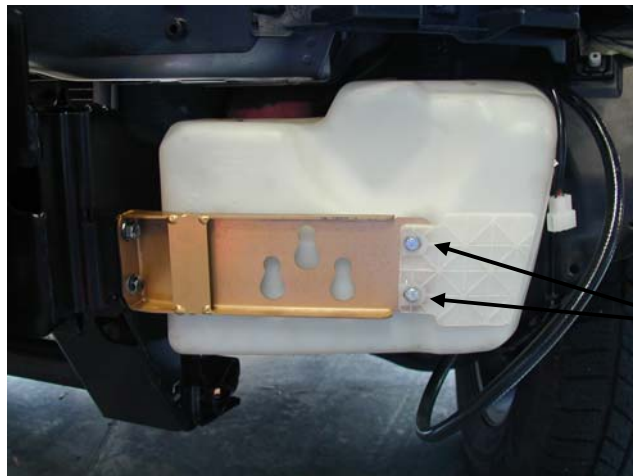
55. The mounts must be positioned so that there is 815mm gap between the outside surfaces of the bull bar mounting face.

56. Tighten all the bolts.



57. 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)

58. On the right hand side, the air lines on air suspension models run through the gap in the impact absorber backing plate.

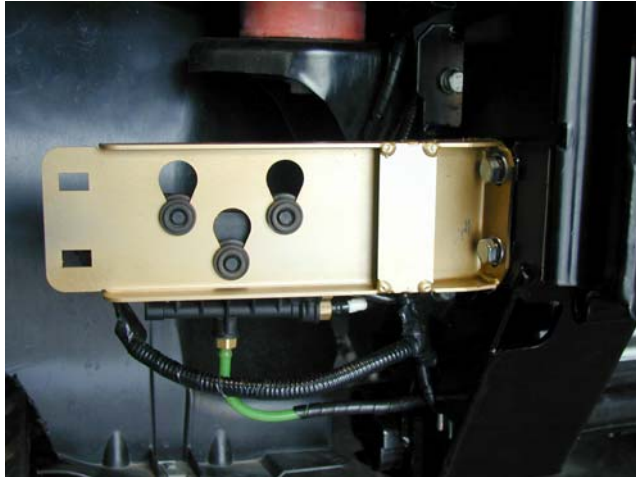


59. Install two M6 cage nuts into one of the Washer bottle brackets.

60. 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.

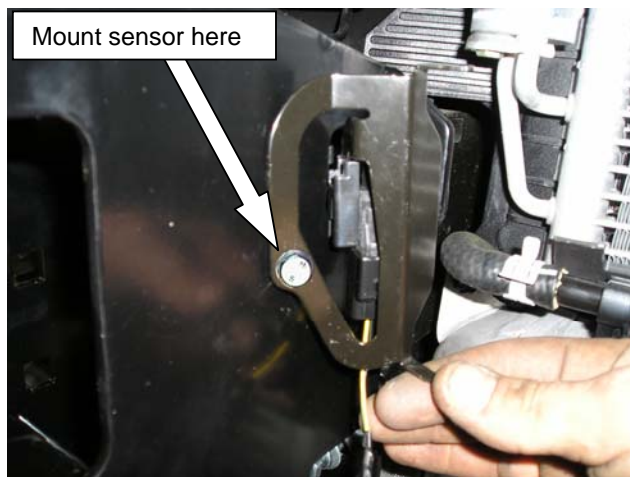
61. Fix the washer bottle to the bracket using two M6 x 20mm black bolts, M6 flat black washers and M6 black spring washers.

BULL BAR FITMENT



62. 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.

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



64. Carefully bend the bracket that holds the temperature sensor to 90 degrees.

65. Re-install the ambient temperature sensor to the right hand side impact absorber using a M8 x 20mm bolt, M8 flat washer and M8 flange nut.



Bend the bracket along the crease line to 90 degrees



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.

BULL BAR FITMENT TO VEHICLE



61. 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.

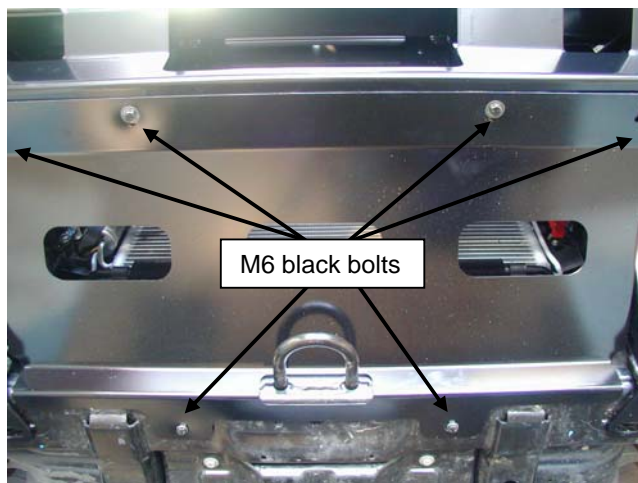
10mm gap



67. Using a 10mm drill bit; drill the pinning bolt hole using the hole in the upright as a guide.

68. Fix in place using a M10 x 35mm bolt, M10 flat washer, M10 spring washer and M10 flange nut. Repeat for the other side.

69. Connect the indicators to the indicator loom. Re-connect the fog light loom, headlight washer hose and the ambient temperature sensor.



70. 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



- 71. Fit the washer bottle guards to both sides of the bull bar .
- 72. 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 .
- 73. 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 .



- 74. On the right hand side of the vehicle , Push the out side edge of the fender liner forward and tuck it in behind the outer edge of the washer bottle guard .

Using a paint marker mark the upper and lower holes (through the guard onto the fender liner) .

Repeat the marking of the holes on the Left hand side of the vehicle.

- 75. Using a 8 mm drill bit - drill the upper and lower hole in the **right hand side** fender liner .



- 76. With both the upper and lower holes marked on the Left hand side , **pull the fender liner rearward – clear of the washer bottle guard** and drill the holes.

WARNING :- DO NOT DRILL THE LEFT HAND FENDER LINER HOLES IN PLACE AS THE WASHER BOTTLE WILL BE PUNCTURED .

WASHER BOTTLE GUARD FITMENT TO BULL BAR



77. Install the cage nut into the cage nut bracket as shown below .



78. Insert the cage nut bracket up through the access hole and line up the hole in the fender liner and bottle guard , use the M6 hardware supplied to bolt the fender liner to the washer bottle guard .

Repeat for the lower hole and for the Left hand side . **Break off the excess length of cage nut bracket when finally secured .**



79. Trim the inner guard in line with the lower edge of the washer bottle cover .

80. Using the washer bottle guard as a template mark the position of three cage nuts located on the rear fold with a paint marker onto the fender liner .

Drill Using a 8 mm drill bit - drill the three holes .



81. 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 .

82. 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.