

Defender 21+ front bar Cheat sheet.

1. Pop the bonnet release catch, the driver's door needs to be slightly ajar.
2. Lift the vehicle on the designated lifting pads. There is an arrow on the bottom plastic trim locating the positions.



3. Remove the 4 plastic clips and the 4 x torx (T27?) screws from the top of the grill. Push back the cover to release the back sides.



4. Release the clip on the top corner of the grill, then release the plug.



5. The grill will require the 4 tabs on each side pressing, use either a large flathead screwdriver or pry bar.



6. The headlight surround will need removing next, remove the 10mm hex bolt.



7. Release the tabs along the top of the headlight surround using a long thin screwdriver.



8. Push the surround down slightly to release the 2 small barbs on the bottom.



9. The remaining clips are easily broken, reach in behind and release them using a 90 degree pick tool.



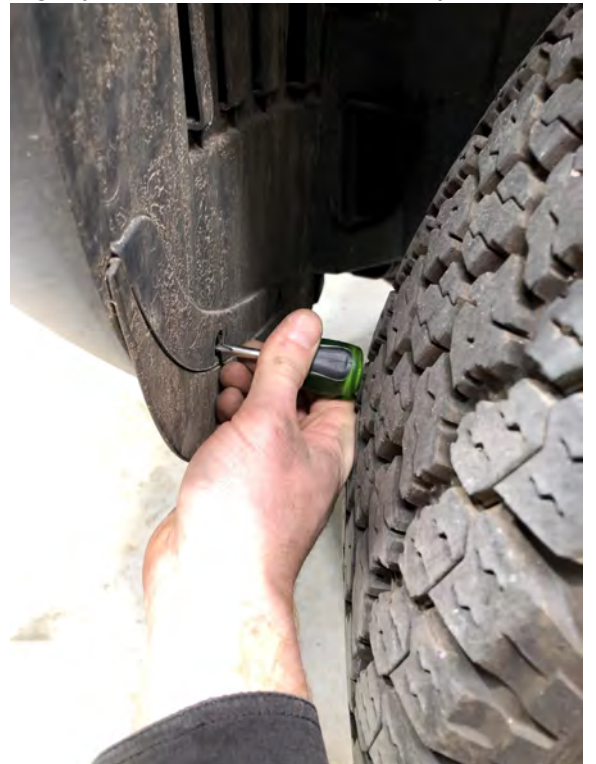
10. On the passenger side, the back of the surround can get caught on the cable, pushing the cable aside before trying to remove the surround.



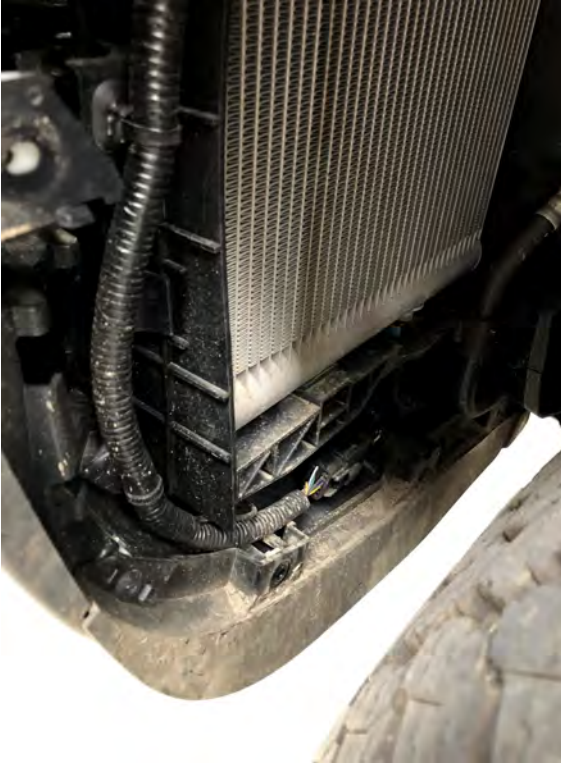
11. Remove the 3 plastic clips holding in the front of the wheel arch liner.



12. Remove the 4 x phillips screws, turn the wheel slightly to allow space for a stubby screwdriver.



13. Remove the wheel arch liner to expose 2 plugs on the LHS (only one can be seen in this picture-there is a small one behind it), unclip the harness off the bumper.



14. Undo the 5 x 10mm hex bolts along the top of the bumper.



15. Fold back the small tab on the front of the wheel arch.



16. Undo the 4 x slotted screws on the underneath plastic cover.



17. Use force to pull the lower plastic cover directly forward.



18. Now the underneath plastic cover is off, remove the 4 x T30 Torx screws.



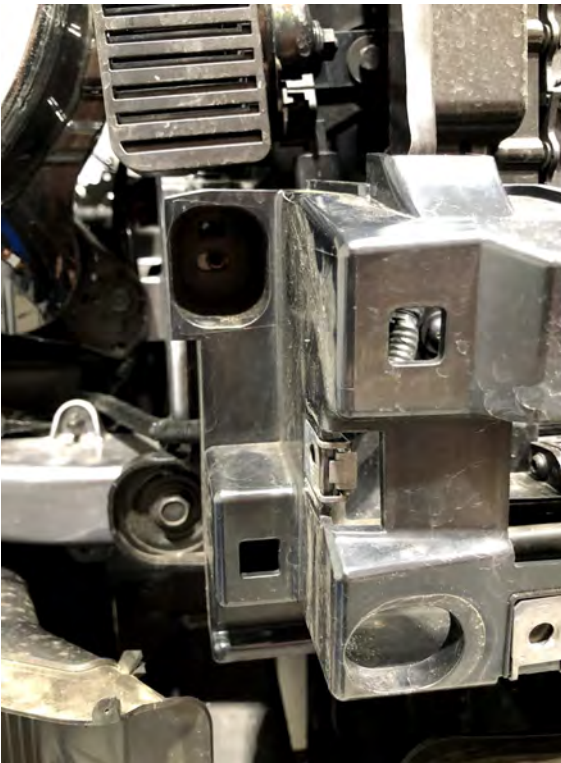
19. The bottom of the flare will need pulling back slightly to release the tongue on the bottom, releasing the clip on the flare from the inside.



20. Release the barb from the inside, now the bumper can be removed, use force to remove, these clips can break easily. It can get stuck in the corner shown but it will release with more force.



21. The lower middle air duct will need removing. Remove the 4 x 10mm hex bolts.



22. Continue to remove the T30 torx screws along the top and lower section.



23. To remove the middle air ducts the top cover will need pulling forward to release this plastic dowel.



24. Pry back the 2 fern tree style clips each side to remove the air ducts. These will be reinstalled later.



25. The air ducts in front of the side radiators will need removing. Remove the 10mm hex bolt from the front first.



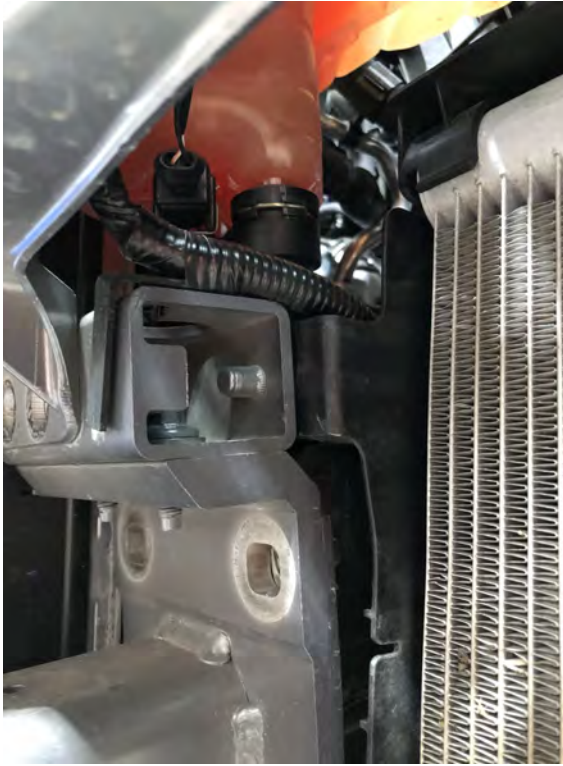
26. The painted 10mm hex bolt holding the fender on will need removing. This allows the air duct to be removed in the next step.



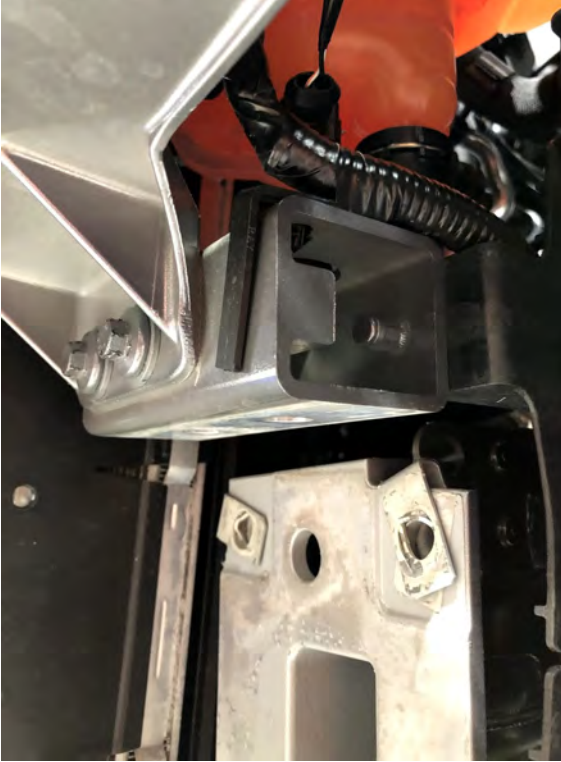
27. The fender can now be carefully pulled back so the air duct can be removed.
28. Release the 2 barbs on each side clipping onto the radiator.
29. To remove the lower aluminium cross member, undo the 10mm hex nut holding on the plastic radiator surround.
30. Remove the 2x10mm hex bolts going in from the front.



31. Remove the 10mm nut on the back of the square section, it is easily accessible from under the wheel arch with an extension on a ratchet.
32. Release the cable from the top of the square section on, fern tree style clip, left hand side.



33. The 4 main bolts (13mm hex) can now be removed, speed fasteners are used and do not like the impact gun as there is threadlocker on the bolts, using a hand ratchet.



34. Remove the 4 bolts holding the tubular lower section on, release the clips on each side for the radiator hose.



35. The lower aluminium cross section can now be removed.

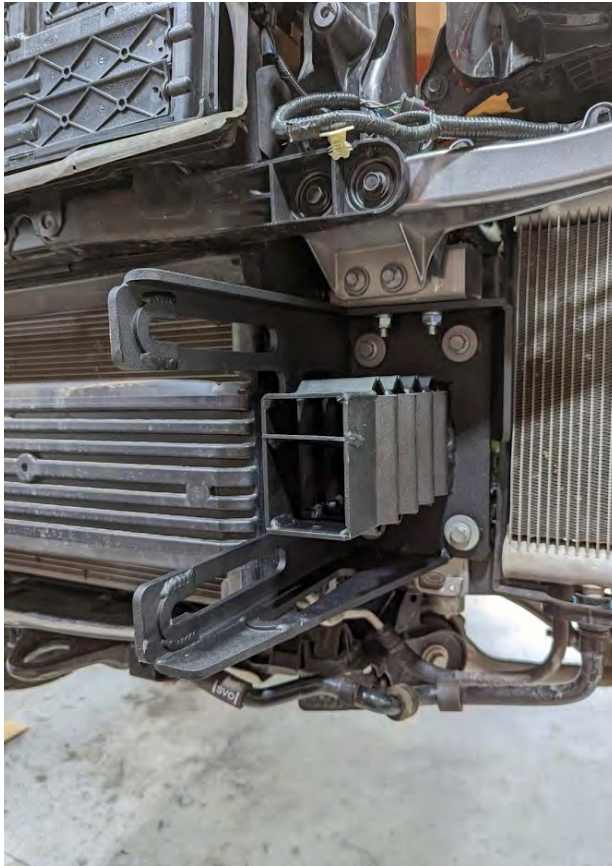
36. The square section on the top of each side of the previously removed aluminium cross member is remounted onto the top of the chassis brackets using M10 bolts. (not original M8 bolts) Do not fully tighten yet.



37. Install the chassis brackets using the original bolts, do not fully tighten yet,

38. Set the inside width of the brackets to 760mm.





- 39. Install the winch cradle using the M10 bolts.
- 40. The recovery points can be installed and tightened in the front of the winch cradle.

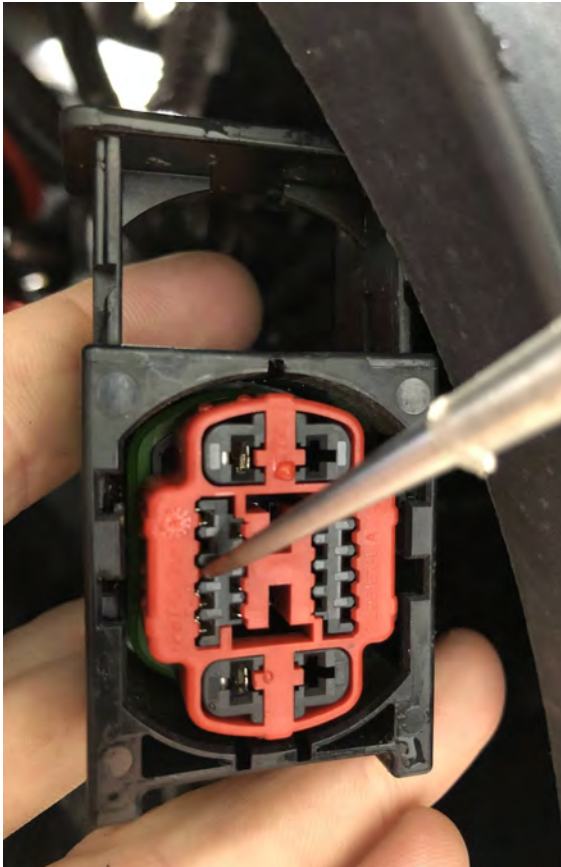
- 41. All the bolts should be firm but not tight to allow alignment for the bar.
- 42. Remove the plastic trim from each side of the wing.



43. Install the bar tightening 1 bolt on each side.
44. Make any adjustments front to back and left to right on the cradle.
45. Remove the bar and tighten all the bolts on the chassis brackets and winch cradle.
46. If a winch is optioned, it must be installed before the bar is re-installed.
47. Wiring for the lights is easier to do before the bar is re-installed but it can be done at the end by removing the wheel arch liner.



48. Entend the blue wire on the back of the 40W square spot lights, this is for the indicator function, solder the end onto the 3rd wire down on the outside column of wires with the tab at the top.



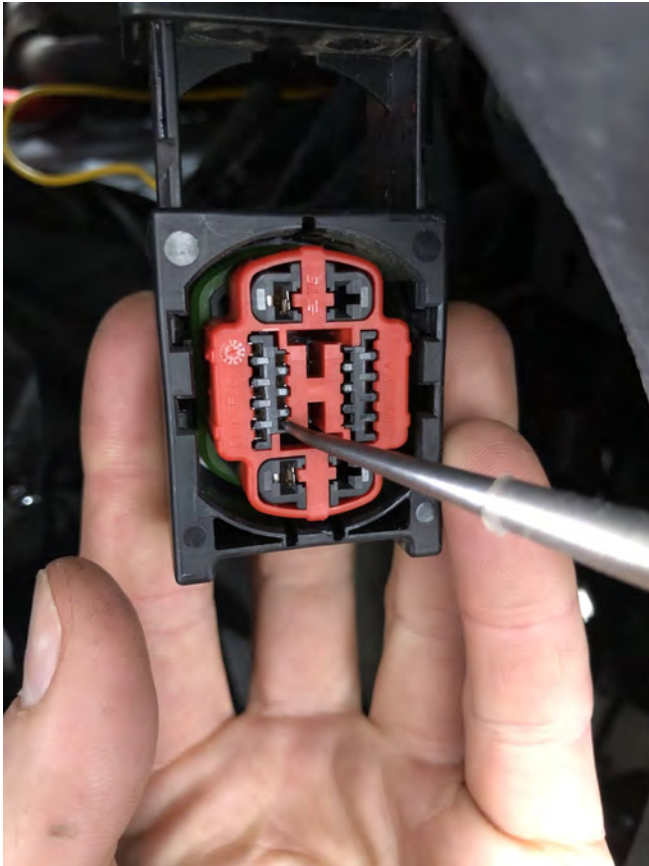
49. Using a double wiring harness, plug in and run the cable in the existing clips along the bottom of the top air ducts. bridge another deutsch connector onto one other plug wire on the double harness if a light bar is being installed.



50. Find a suitable position to mount the relay.



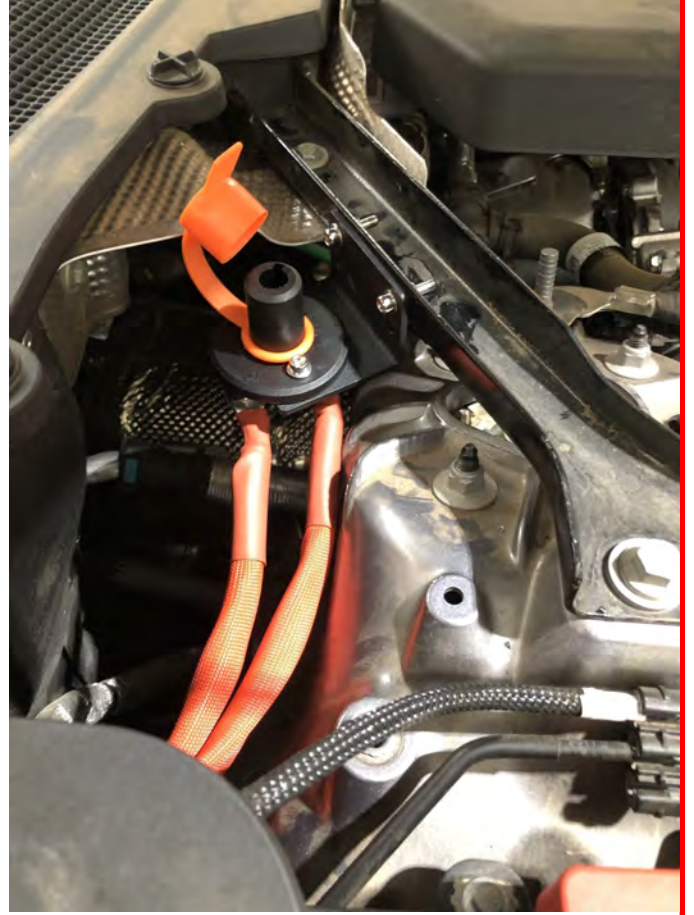
51. Cut the red wire and the red hoop on the wiring harness, but off the switch at the required length.
52. Bare the wire to expose the 3 core.
53. Black is earth, the harnesses may vary with the other colours, strip the ends and test which is the trigger for full beam. (Hold positive and negative on the battery and test with one of the other colours)
54. Solder the trigger wire onto the full beam. Full beam is the 4th down on the inside column with the tab at the top. (Note - Full beam will not show a positive signal if the plug is out).



55. For positive/negative for the light wiring and winch.
56. Remove the black cover labelled C5 & C6.
57. Attach the positive on the light harness onto C5.
58. Light bar negative was put on the earth under where the relay was mounted.



59. Winch wiring positive was installed onto C6, and the isolator switch was mounted onto the strut brace.



60. The winch negative was attached to the earth jump start on top of the strut.
61. The winch will require a 450 amp fuse to finish the circuit on C6. (Fuse is the same as the one in the photo).



62. Remount the tubular section, using the 2 centre bolts only.



63. Trim the tab off the bottom of the flare.



64. Trim and reinstall the radiator air ducts for the radiators, both sides. Trim off the lower corner (Not shown in this photo) to allow extra space to be able to tighten the bar onto the chassis brackets.



65. Put the lower brake air ducts back in place. Press the fern tree clip back into its original hole.



66. Carefully remove the sensors individually and pry the sensor housing off the bumper. take note of the sensor plug direction. Clean up the high points with a flappy disc.
67. Using double sided tape, reinstall the sensor housing ensuring the sensor retaining clips are vertical. Apply sikaflex over the sensor housings.



68. To allow additional clearance for larger tyres, it is optional to tilt the top of the radiator backwards using a nut./washers



69. The lower part of the radiator surround is carefully trimmed off.



70. The plastic radiator surround may require trimming.



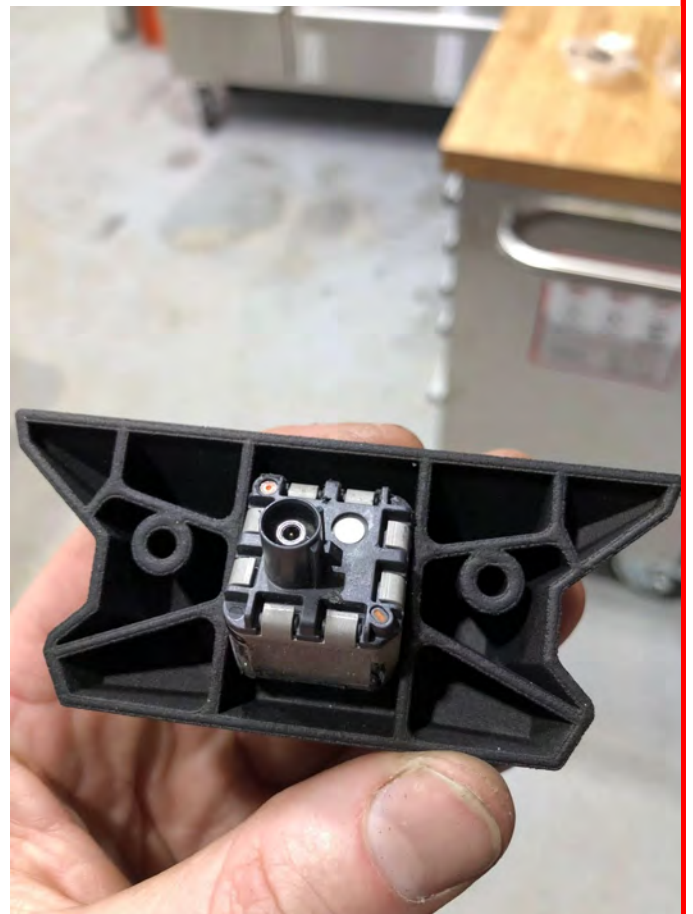
71. The bottom bolt on the radiator surround is repositioned to the opposite side.



72. Install the camera into the camera relocation bracket, Press in firmly.

73. Apply sikaflex at the top and bottom of the camera.

74. Fasten with the screws provided.





75. Install the 40w spot lights, use additional spacers to pack up for better alignment.



76.

77. Install the sensor harness on to the bar using the holes and slots for cable ties.



78. Mount the bash plate rear bracket, do not fully tighten yet.
79. Tape nut plates on the top side.



80. Install the bar and tighten the 3 bolts each side, ensure the bar is level, install the grill to use as a reference line.



81. Install the bash plate.



82. The under wing cover plates may require cutting to sit neater against the wheel arch liner or more of the wheel arch liner can be cut.



83. Reinstall the wheel arch liner and trim to suit the underwing cover plates.



84. Reinstall the wheel arch liner and trim to suit the underwing cover plates.

85. The rear of the radiator plastic may require trimming to help the wheel arch liner align neater.



86. Install the underwing cover plates. Use M8 button head bolts to secure onto the bash plate.





- 87. Re-install the headlight trim and grill.
- 88. Plug in any plugs removed in previous steps.



