2023 INEOS Grenadier Petrol Wagon 24 Gallon Auxiliary Tank

Product Information/Install Instructions for

2023+ Ineos Grenadier Petrol

Kit P/N: INEGRA-P



If you would like to follow along your installation with a video, please follow the link below (please note vehicle in video is right hand drive):

CLICK HERE FOR INSTALL VIDEO

Brass:	Electrical:
○ 1 x P6 1/4 x 1/8 Elbow ○ 1 x P6 5/16 x 1/8 Elbow ○ 1 x P3 5/16 x 1/4 Straight ○ 1 x P7 5/8 x 1/2 Reducing Joiner ○ 1 x 025C-02 1/8 MxF Elbow ○ 1 x TS16 Tee (Norma)	○ 1 x LRA PG-210 Switch Gauge ○ 1 x 3mm Two Core Wire @ 5000mm ○ 1 x Red Eye Terminals ○ 5 x 3mm Heat Shrink Tube @ 30mm ○ 1 x Red Insulated Terminal
Bolts / Nuts:	**Misc Parts:**
○ 2 x M8 x 30mm Bolts ○ 3 x M10 x 30mm Bolts ○ 4 x M10 x 40mm Set Screws ○ 1 x M8 Nyloc Nut ○ 3 x M10 Nyloc Nuts ○ 4 x M10 Nuts ○ 2 x M8 x Spring Washers ○ 4 x M10 Spring Washers ○ 1 x M8 x 20mm Washer ○ 2 x M8 x 25 Flat Washers ○ 14 M10 x 25mm Washers ○ 5 x M5 x 10 Pan Head Screws ○ 5 x M5 Spring Washers ○ 6 x M5 x 10 Cap Screws ○ 6 x M5 Washers ○ 1 x M8 x 20mm Bolt on 150mm Strap ○ 1 x TEK Screw	○ 1 x FPINEGRA-PFP-2 Fill Pipe With ICV ○ 1 x FBINEGRA-P Fill Bend ○ 1 x TFINEGRA-P Twin Filler ○ 1 x L/H Secondary Bracket ○ 1 x R/H Secondary Bracket ○ 1 x EP-INEGRA-P-1 Exhaust Piece ○ 1 x EP-INEGRA-P-2 Exhaust Piece ○ 1 x 4 Bolt Exhaust Flange Gasket ○ 4 x M10 x 35mm1.25P Flanged Bolt ○ 4 x M10 1.25P Flanged Nut ○ 1 x 3” Exhaust Clamp ○ 1 x TFNL227 Petrol Cap ○ 1 x FV11 Roll Over Valve ○ 1 x LRA-FTG-2 ○ 1 x XHNOTION ICV (Fitted to PFP-2) ○ 1 x FLVV 80-16 ○ 1 x BS 337 O/Ring ○ 1 x Heat Shield Profile Glued to Tank

Hose Clamps:	Cable Ties:
○ 4 x 1/4" Hose Clamps ○ 2 x 1/2" Hose Clamp ○ 4 x 5/8" Hose Clamps ○ 8 x 1 1/4" Hose Clamps ○ 2 x 1/4 Pinch Clamp	○ 5 x 11" Cable Ties ○ 10 x 7" Cable Ties
Sender:	**Pumps & Filters:**
○ 1 x 0-90 OHMS Sender Unit 500mm Earth Wire	○ 1 x Fuel Transfer Pump ○ 1 x Fuel Pump Mounting Bracket
Hose:	**13 Pages of Fitting Instructions Consisting of:**
○ 1 x 6mm Fuel Hose @ 1300mm ○ 1 x 8mm Fuel Hose @ 950mm ○ 1 x 8mm Fuel Hose @ 780mm ○ 1 x 32mm Hose @ 100mm ○ 2 x 32mm Hose @90mm ○ 1 x 35mm Hose @ 90mm ○ 1 x 16mm Fuel Hose @ 270mm ○ 1 x 16mm Fuel Hose @ 1000mm ○ 1 x 16mm Conduflex @ 680mm	○ 2 x Pages Fitting Instructions ○ 2 x Pages Fitting Kit Contents ○ 6 x Pages Reference Pictures A-K ○ 1 x Page WDSGPG210 Diagram ○ 1 x Page Fittings Diagram ○ 1 x Page Heat Shield Cutting Guide

Replacement gas cap part number: 77300-53020 (Toyota OEM part number)

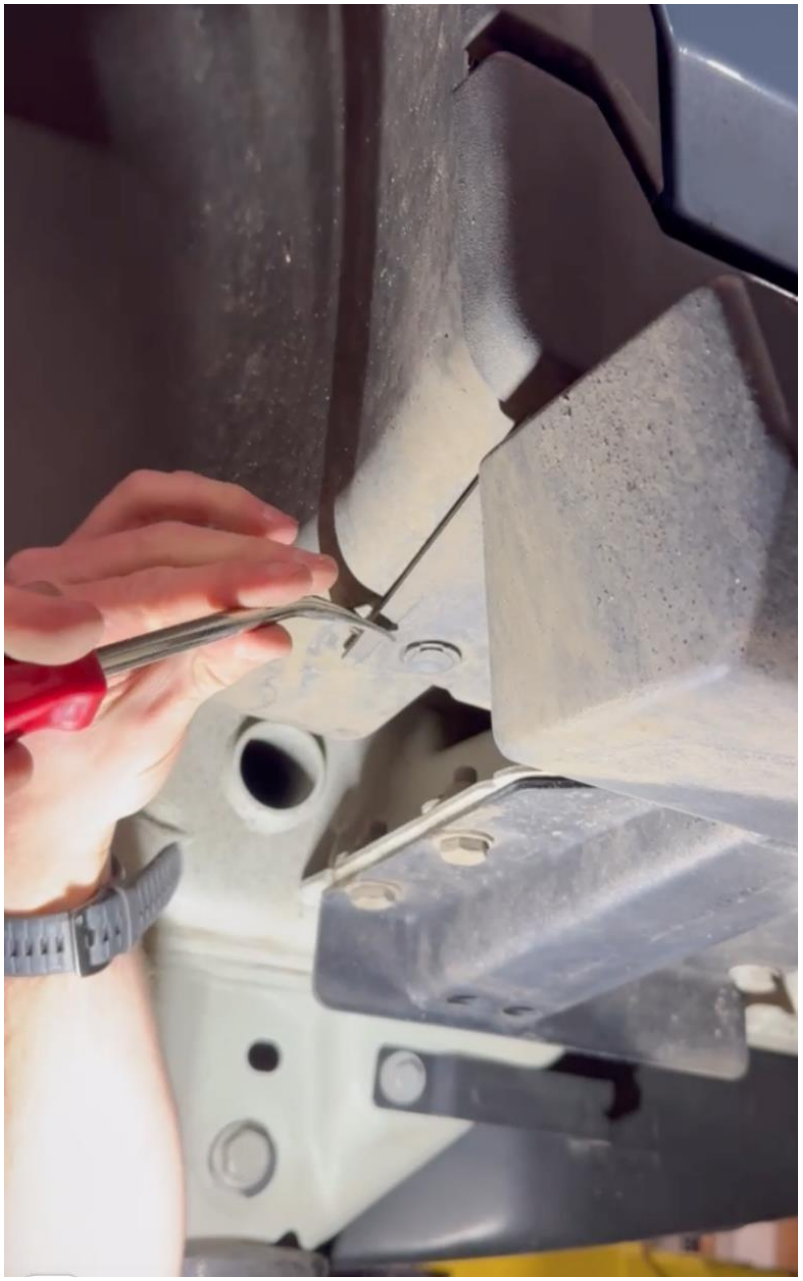
This auxiliary fuel tank fits up under the rear of the vehicle, it has a capacity of 90Lt. The standard filler is replaced with a new twin filler neck. Fuel is transferred via an electric pump that will pump fuel from the auxiliary tank into the OEM tank. A combination switch/gauge will be located into a suitable position in the dash. When the switch is in operation an ORANGE light will be ON, indicating the transfer pump is in operation. A series of lights will also indicate fuel level. All GREEN lights on showing FULL, one RED flashing light showing EMPTY

Pg.3

1. Remove the RHR wheel, and fasteners holding the wheel arch flare and fender liner. Then using plastic trim tool remove the wheel arch flare and fender liner to give us more room, and access to the filler neck later (be gentle, it will be tight)



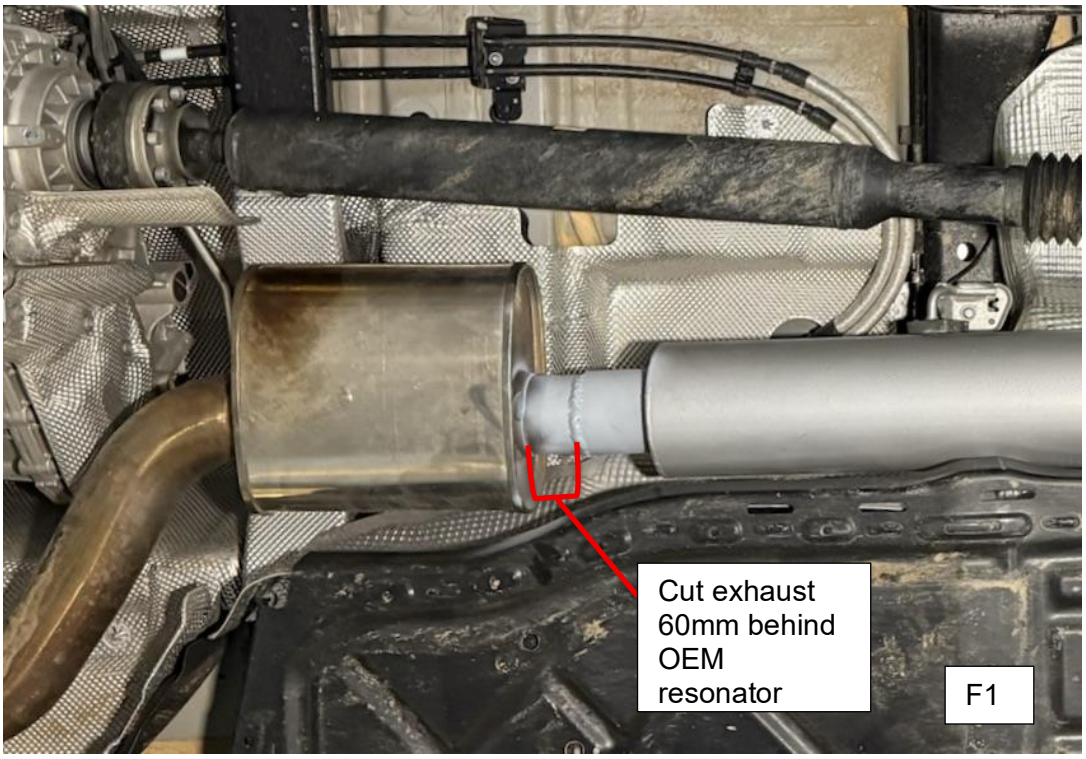




2. Remove rear skid plate to gain access to installation area

3. Cut the OE exhaust pipe where it exits the resonator 60mm back from the weld just before the slight bend (easier to remove in two pieces). Disconnect the exhaust hanger mounts (note their location as they are different), remove the OE muffler, and tail pipe assembly (Refer Pic F1 F2)

4. Remove the rear section of the Heat Shield.

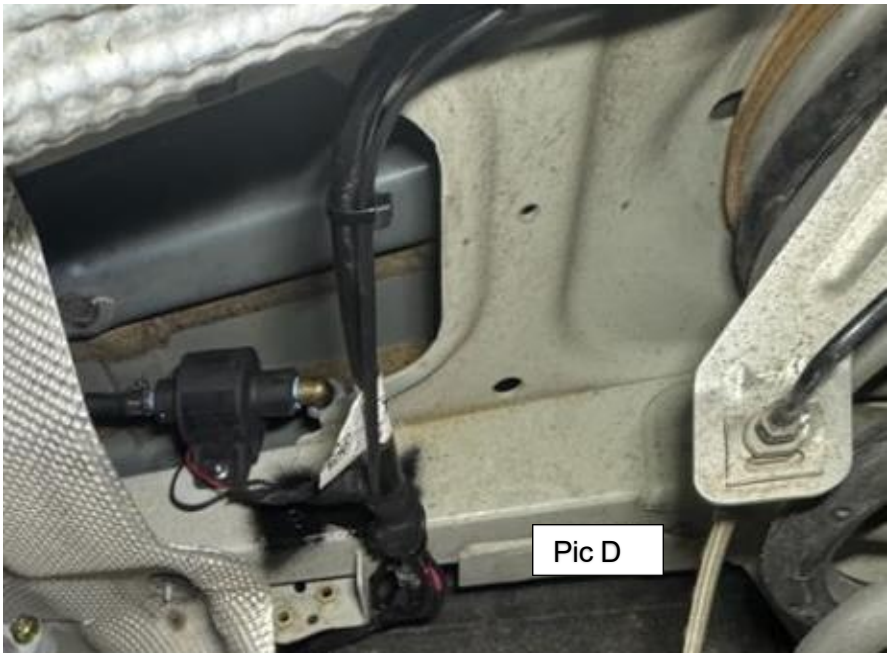


F1


F2

Pg.5

5. Fit the transfer pump to the crossmember making use of pump bracket with M8 x 20 bolt on strap. (Refer Pic D) please keep in mind if fuel pump is mounted above fuel tank, it will need to be removed to replace the pump





(5/16th riv nuts included for upgraded fuel pump)

6. Mount the switch gauge unit in a suitable location. We suggest in the L/H corner of the dash facia 20mm down and 25mm across. Ensure the hole for the switch is drilled to 20mm, when installing the switch if the exterior sticker is coming off the hole needs to be drilled larger as the switch control panel can be damaged if it is too tight. Locate the fuse panel underneath the ignition, making use of a fuse tap we can get power for our switch using FC21 fuse location. Complete wiring as per the WDSGPG210 wiring diagram and run the twin core cable to the rear of the vehicle under the kick panels and exit out through the grommet in the L/H rear wheel arch just above the frame rail located behind the factory battery and fuse box (Ref Pic C) this will lead to the drivers rear kick panel for later connection to the pump and sender unit.



Remove the five Phillips-head mounting screws from the sending unit, and carefully remove the sending unit from the tank.

Bench test the sending unit with an ohm meter. Ensure free movement of the float, ohm range should be 0-92Ω

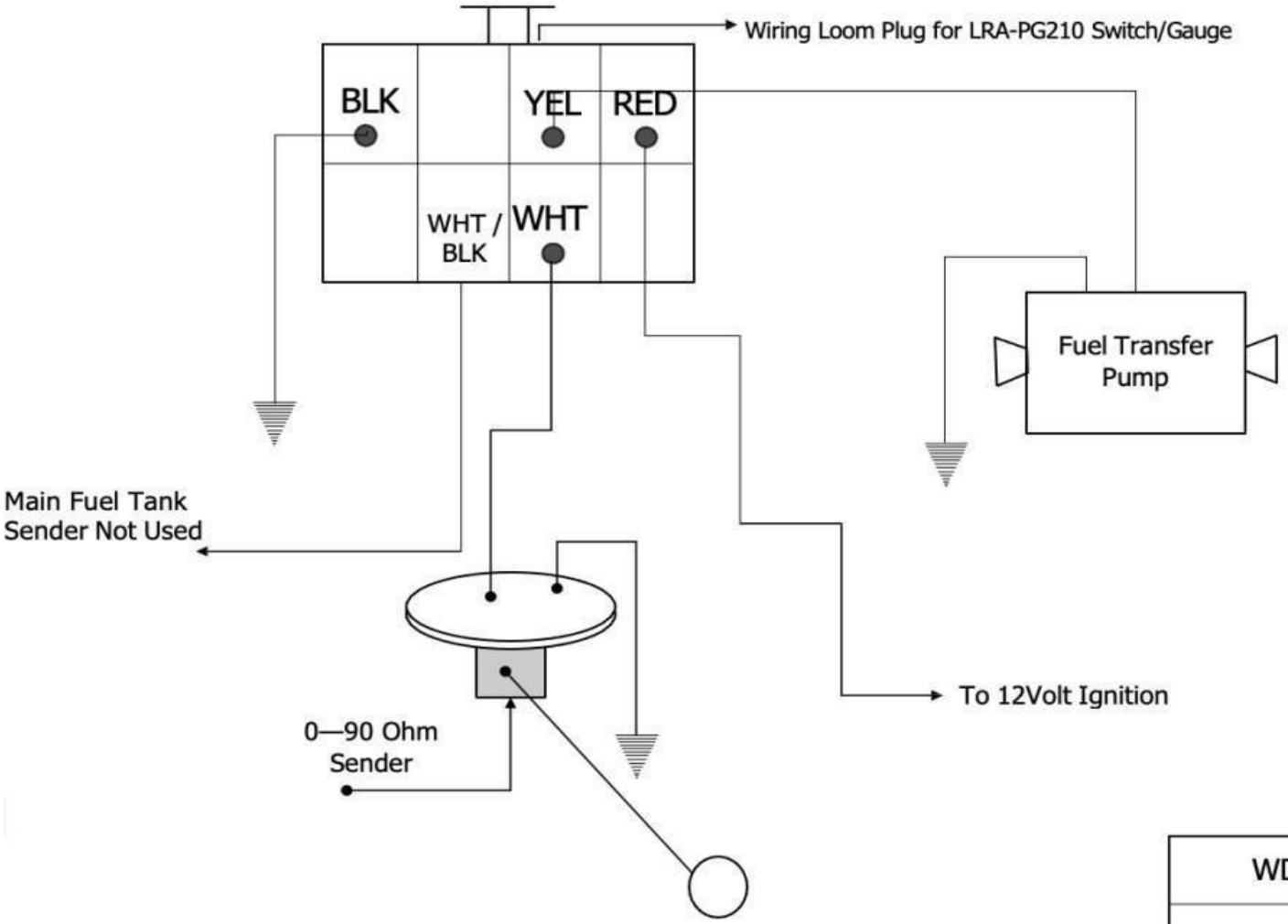
Install the supplied magnet into the tank in the vicinity of the fuel pick up port.

Carefully Install sender unit using the five original Phillips-head mounting screws with a small amount of blue thread locker applied to each one.

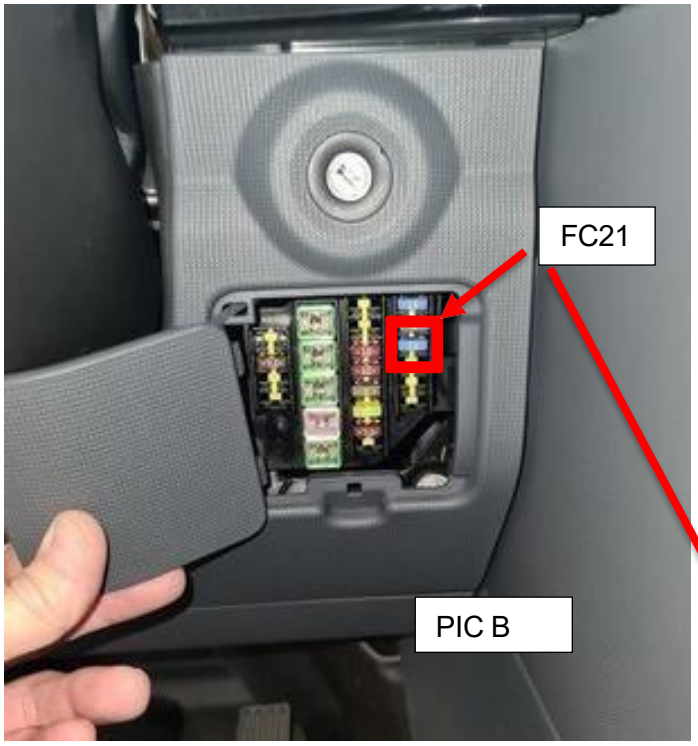
It is recommended that when reinstalling the sending unit to add ring terminals and a length of wire to make connecting wires simpler during tank install



Sample Picture



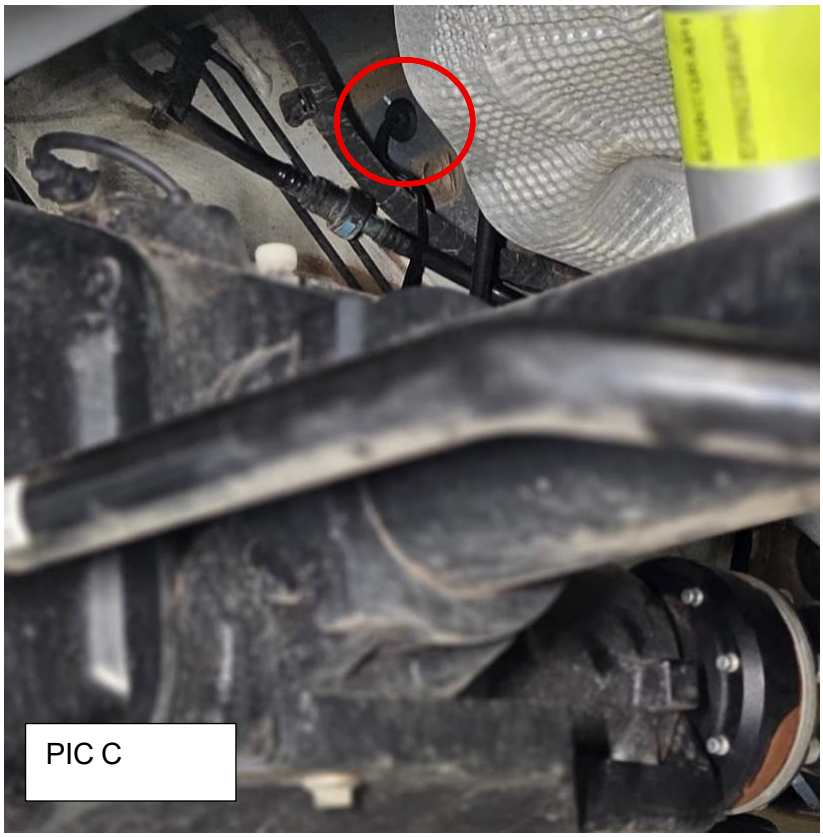
WDSGPG210



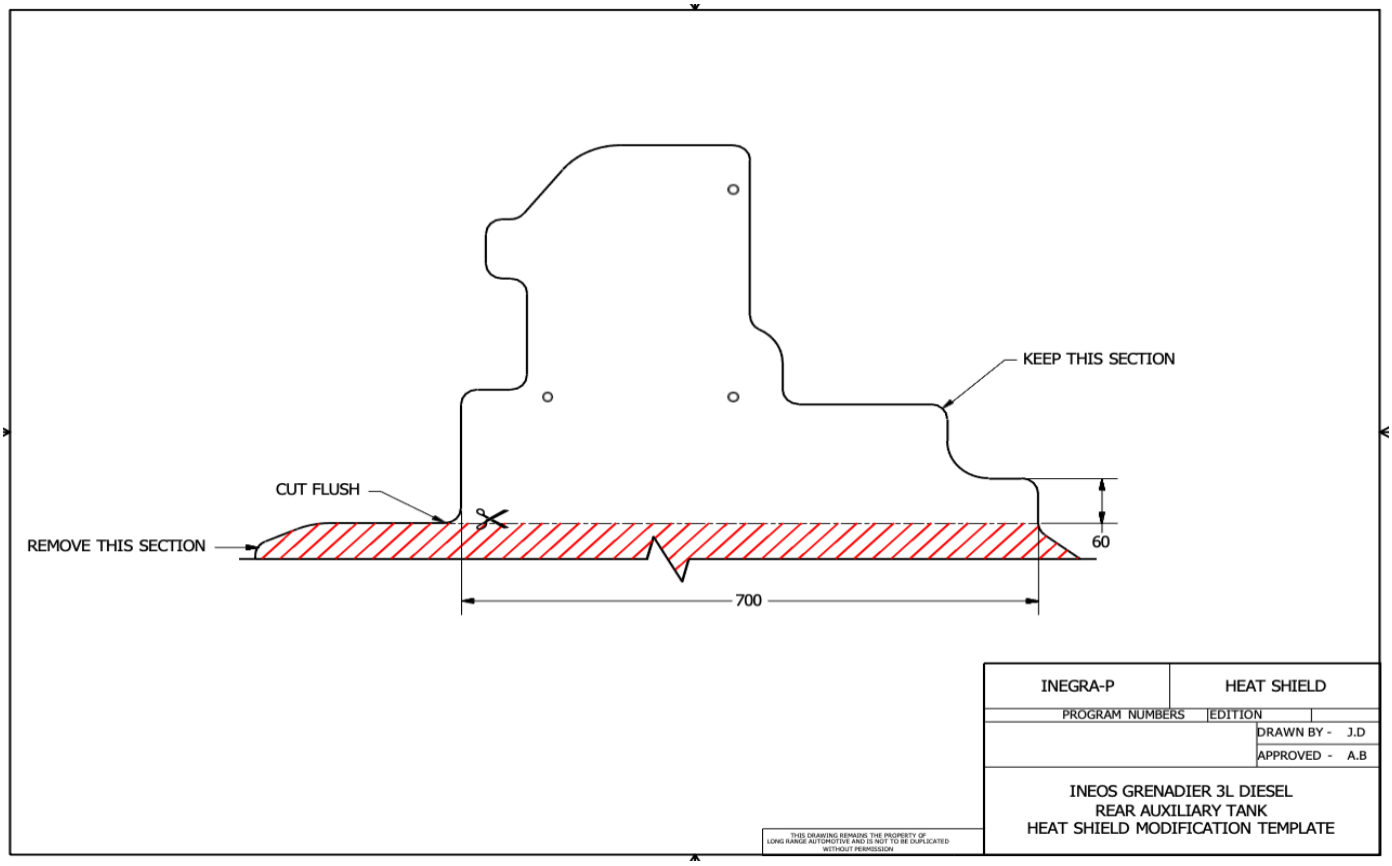
COCKPIT ELECTRICAL CENTRE



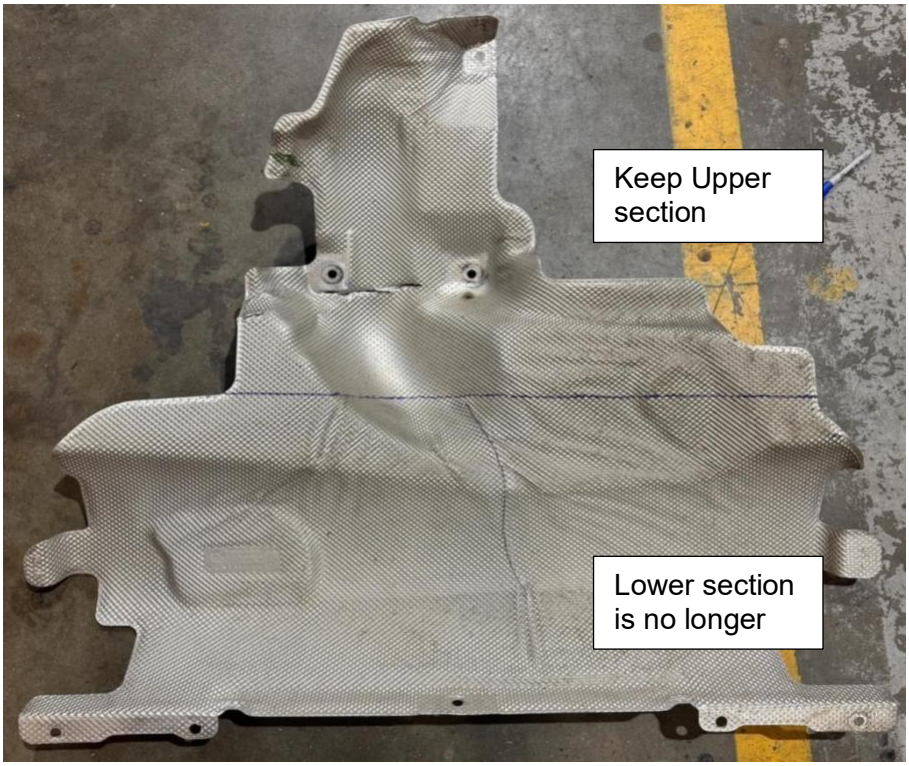
FUSE POSITION	DESCRIPTION	AMPERAGE
FC01	Reserved	FREE
FC02	Reserved	FREE
FC03	HVAC Module	7.5
FC04	Clock / Theft Alarm / Logistics	5
FC05	Body Control Module 1	40
FC06	Body Control Module 2	30
FC07	Additional Heater Step 3	40
FC08	Additional Heater Step 2	40
FC09	Additional Heater Step 1	40
FC10	Reserved	FREE
FC11	HVAC Module	7.5
FC12	Head Unit	20
FC13	Emergency Call	5
FC14	Ignition Switch / Steering Wheel	10
FC15	Onboard Diagnostics (OBDII)	10
FC16	Reserved	FREE
FC17	Reserved	FREE
FC18	Reserved (Diagnostics)	FREE
FC19	Reserved	FREE
FC20	Reserved	FREE
FC21	12V Front Outlet	15
FC22	USB Charging	5
FC23	12V Rear Outlet	15

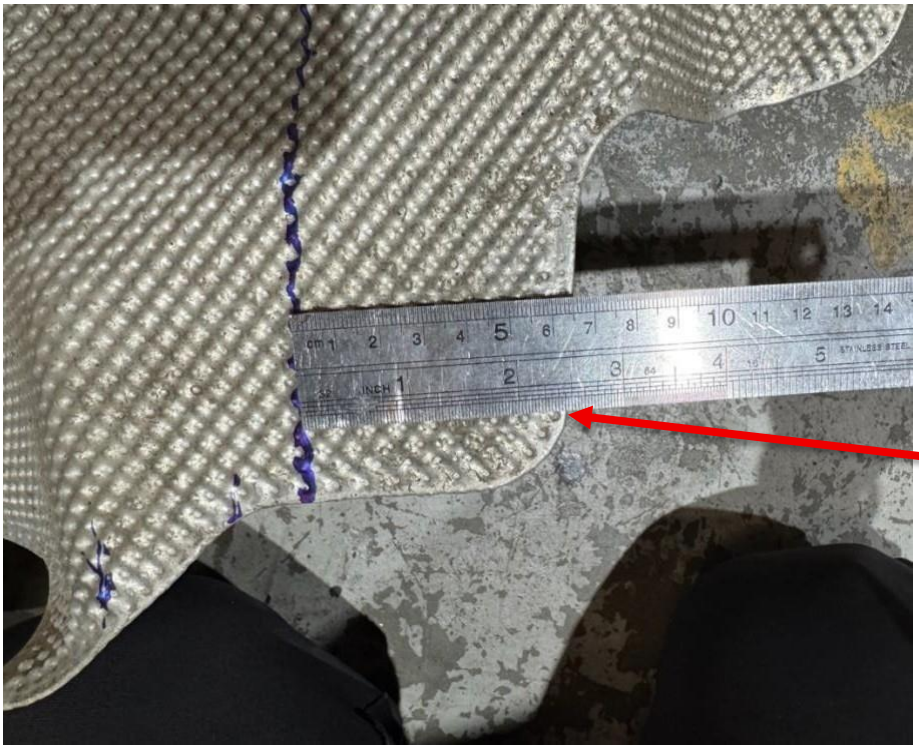


7. Trim the exhaust shield as per (Refer Drawing Heat Shield Cutting Guide) and refit after installing fuel transfer pump.



Pg.10


Keep Upper section
Lower section is no longer

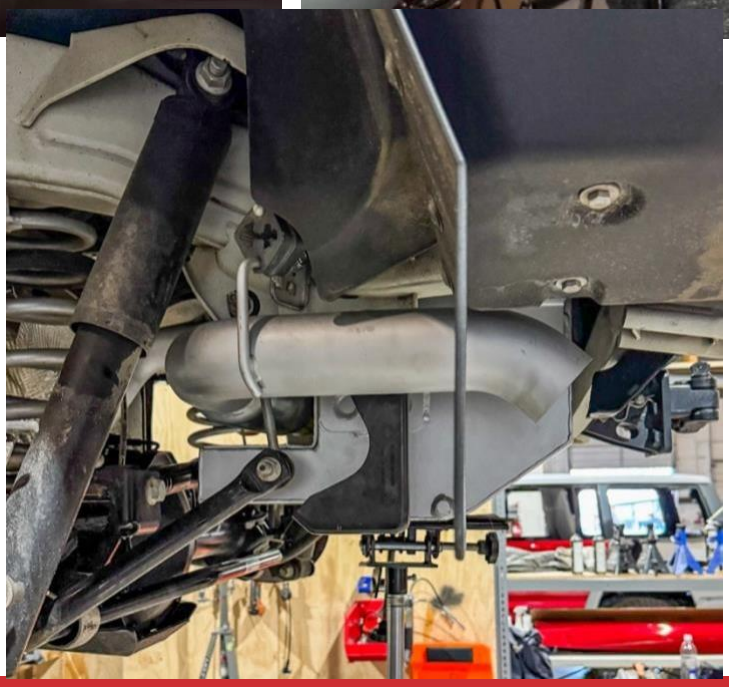

Cut heat shield 2 3/8th inches away from flat edge

Pg.11

8. Fit the replacement exhaust pipe sections and mount the rear tail pipe with the R/H Rear OE exhaust hanger and 4 x M10 x 30mm bolt, gasket and nuts. Before welding the new exhaust to the OEM exhaust check the clearance of the panhard bolt to the newly fitted exhaust and ensure that there is sufficient clearance. Complete welding of exhaust pipe join fully. We will need to save the right hand muffler exhaust hanger/ rubber for new exhaust



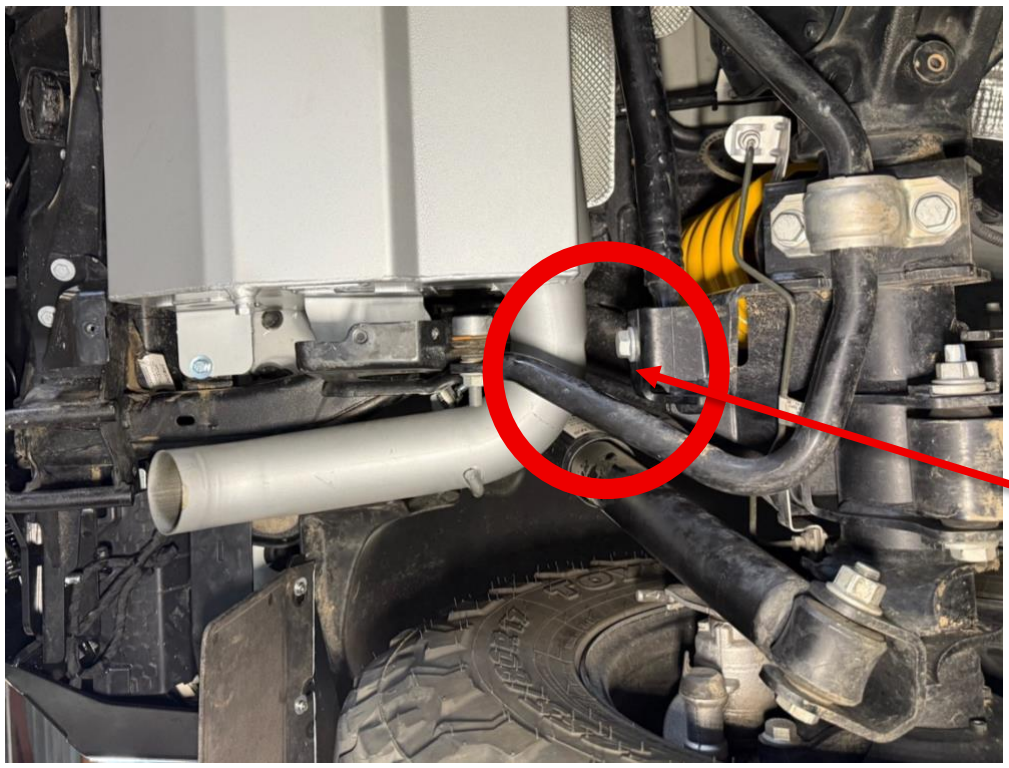




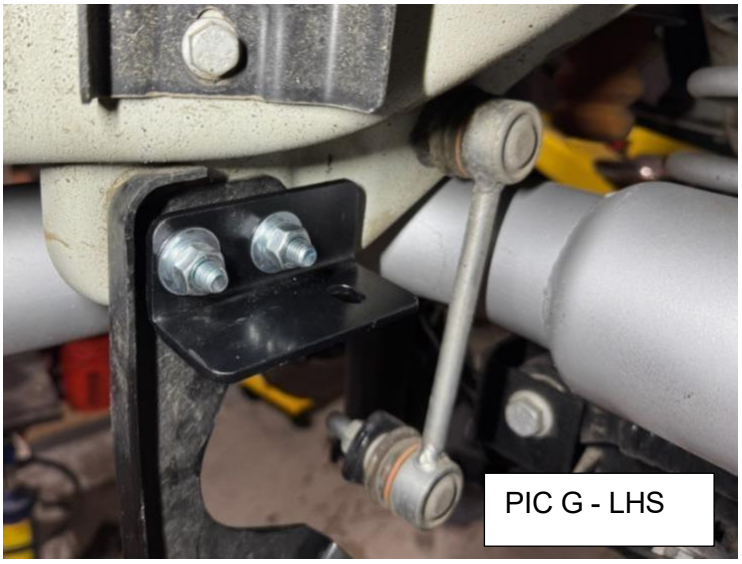
Pg.12

9. Replace the 4 x OE shield hanger bolts with M10 x 40mm Set Screw bolts. Fit the new L/H secondary bracket onto the hanger bracket studs with M10 spring and flat washers. Repeat on the RHS but do not tighten for now (Refer Pic G, H,and I)

   (Please ensure clearance for the Panhard bar axle bolt to the exhaust)



*Please ensure there is clearance for panhard bar axle bolt to pass freely by the exhaust



PIC G - LHS

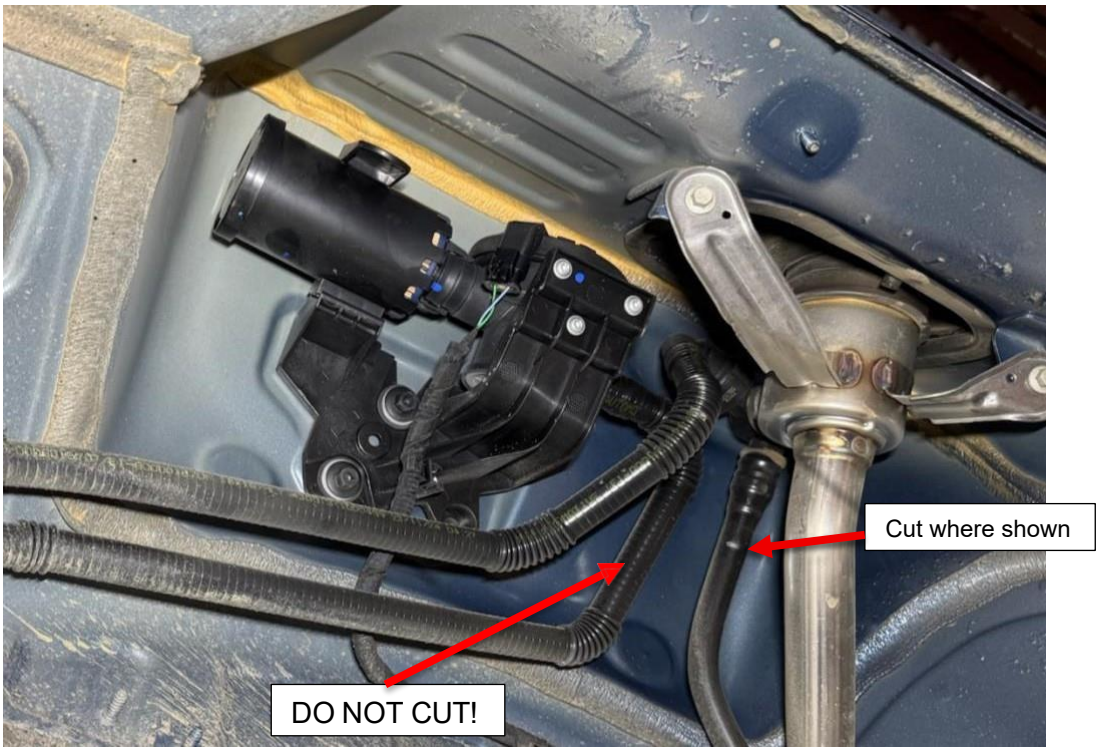


PIC H - RHS

Pg.13

10. Remove the OEM filler neck hose from the factory fuel tank as well as the 10mm nut holding the neck in place. Be sure to put a rag or cap over the fuel tank to ensure no debris gets in.



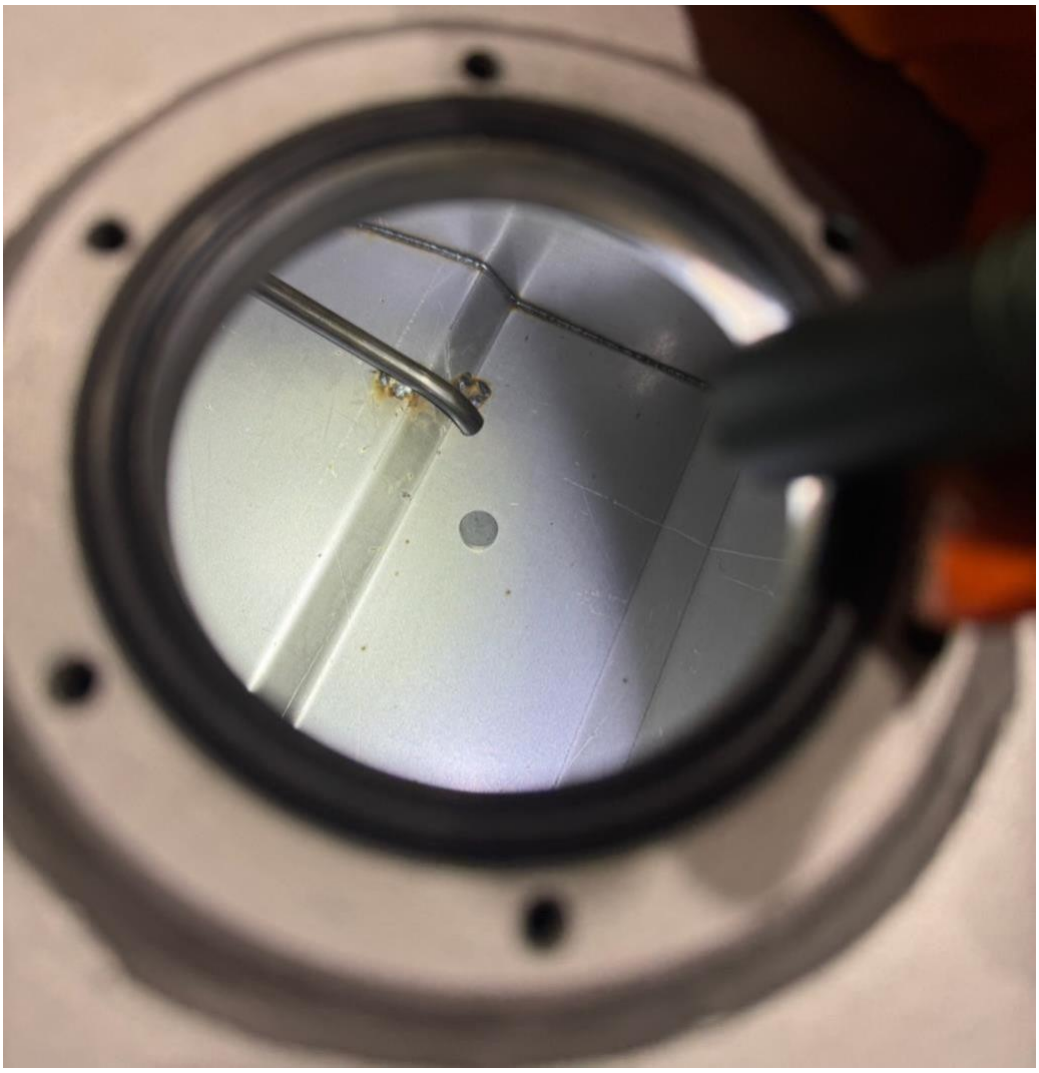


11. Remove the OEM filler neck and proceed to measure 130mm down from the weld/bottom of neck and cut as marked. Be sure to deburr the filler neck section before reinstalling, also be sure to blow out any shavings with compressed air.



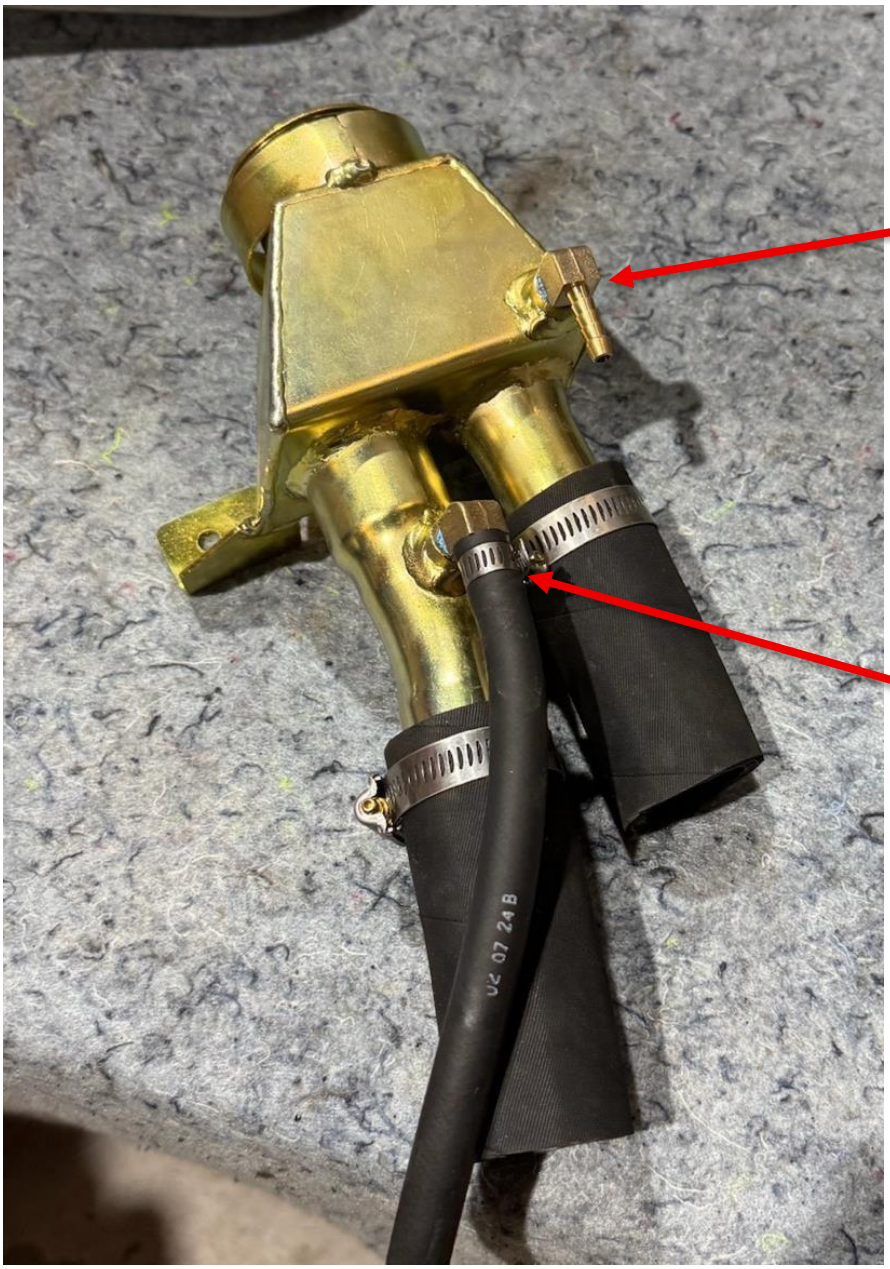
Pg.15

12. Place magnet in tank as close to fuel pickup as possible, be sure not to obstruct the inlet



Pg.16

13. Assemble fittings into TFINEGRA-P twin filler (Refer to Fittings Drawing).



When installing the threaded barb fittings into the filler neck or tank we highly recommend using “Blue Monster Thread Tape” to fully seal threads

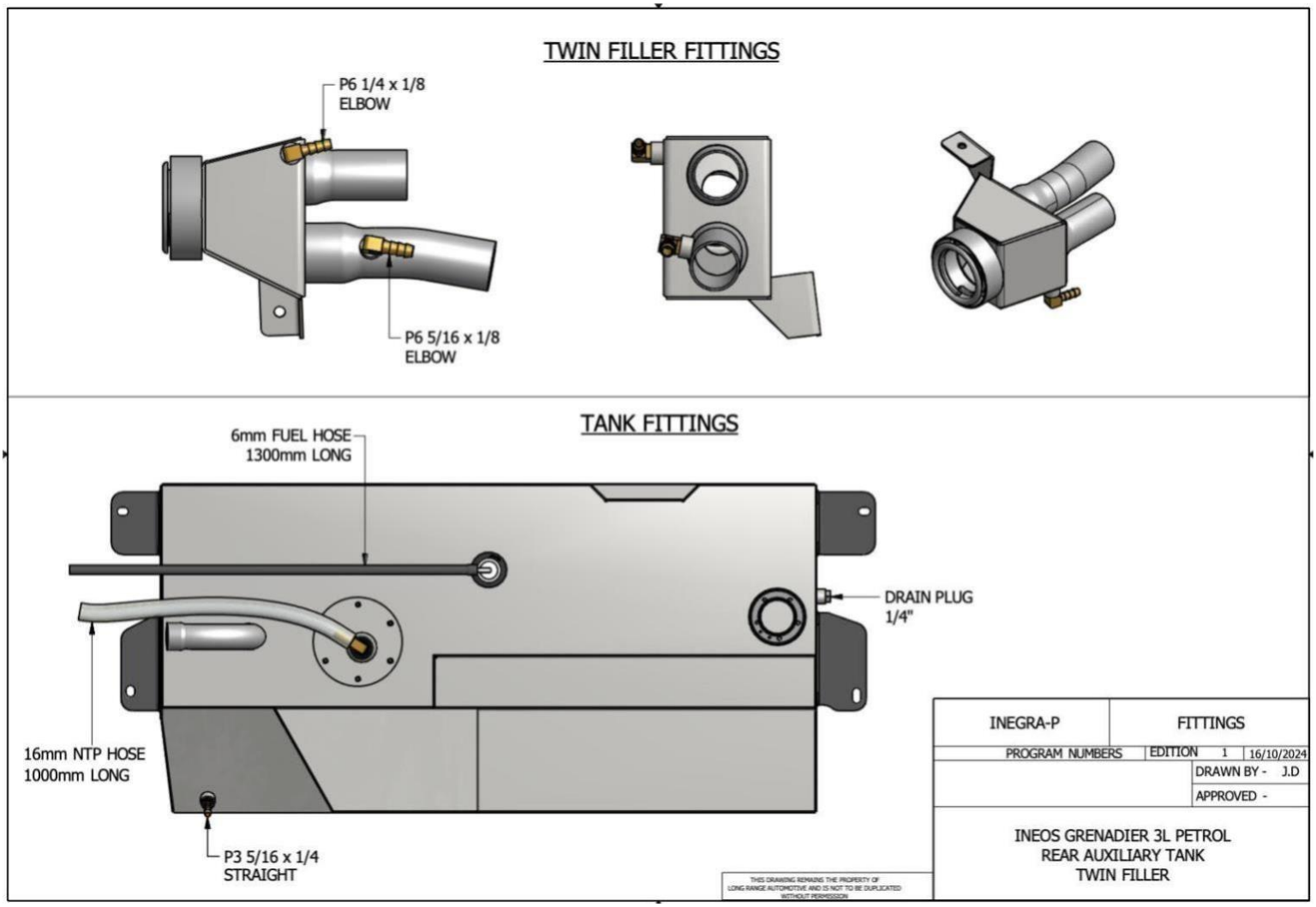


14. Fit the twin filler into position connecting to the OE fill pipe with 100mm of 32mm hose and clamps.

15. Use 950mm length of 8mm fuel hose to connect the outlet of transfer pump to pump in port on the main tank branch of the twin filler.

16. Complete the wiring of the pump. Run the sender wire to the LHR corner for later connection.

17. Assemble fittings into the tank (Refer Drawing Fittings).



Remove the five Phillips-head mounting screws from the sending unit, and carefully remove the sending unit from the tank.

Bench test the sending unit with an ohm meter. Ensure free movement of the float, ohm range should be 0-92Ω

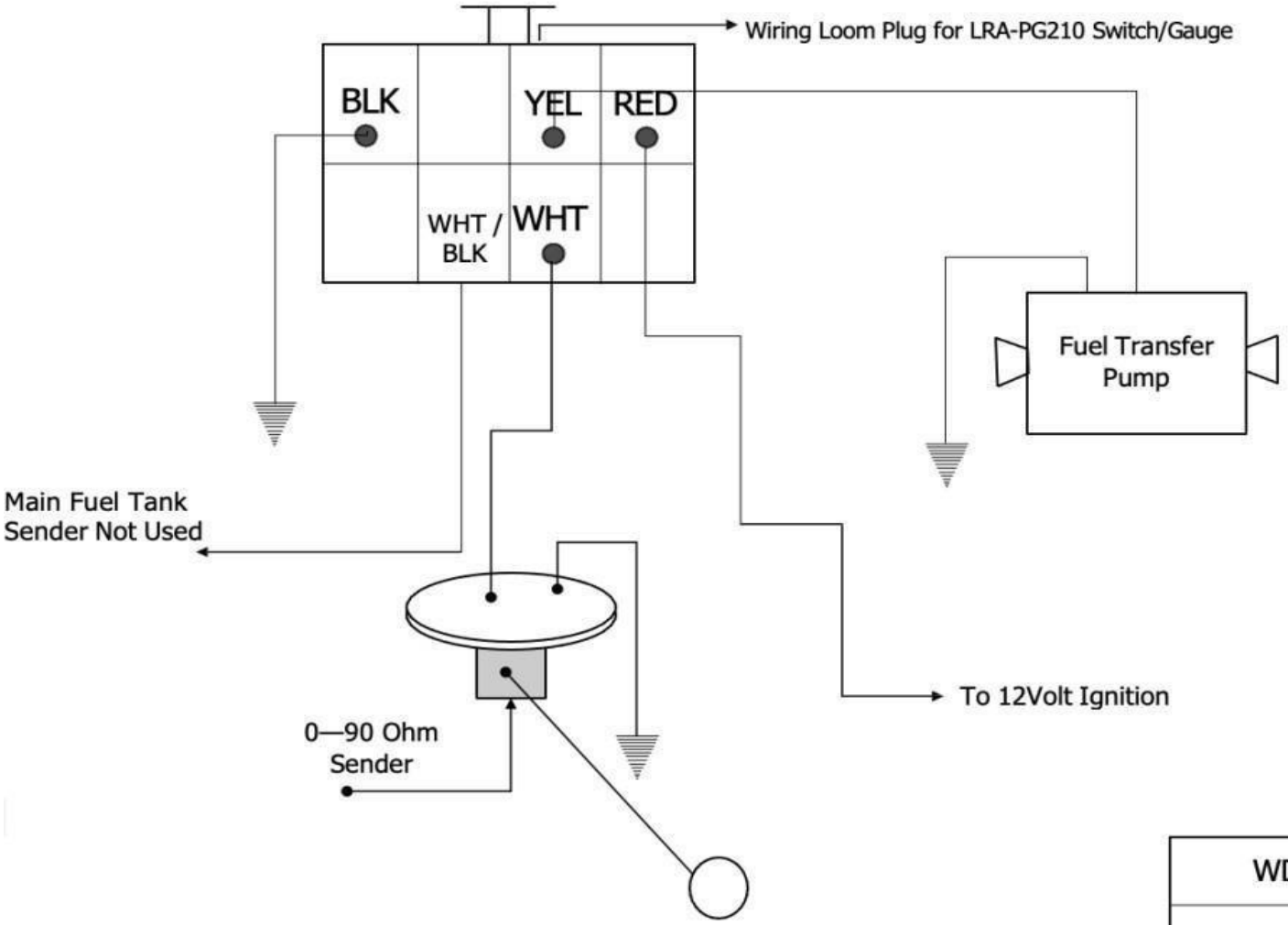
Install the supplied magnet into the tank in the vicinity of the fuel pick up port.

Carefully Install sender unit using the five original Phillips-head mounting screws with a small amount of blue thread locker applied to each one.

It is recommended that when reinstalling the sending unit to add ring terminals and a length of wire to make connecting wires simpler during tank install

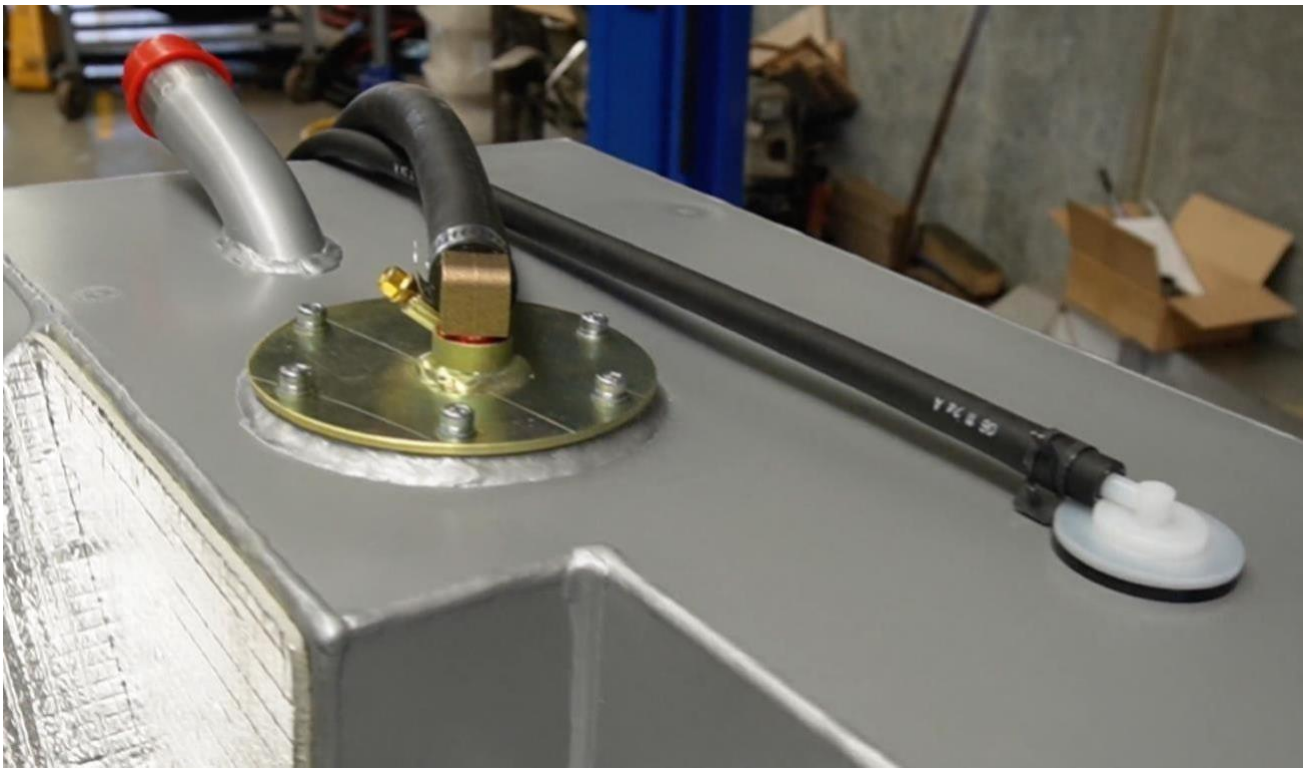


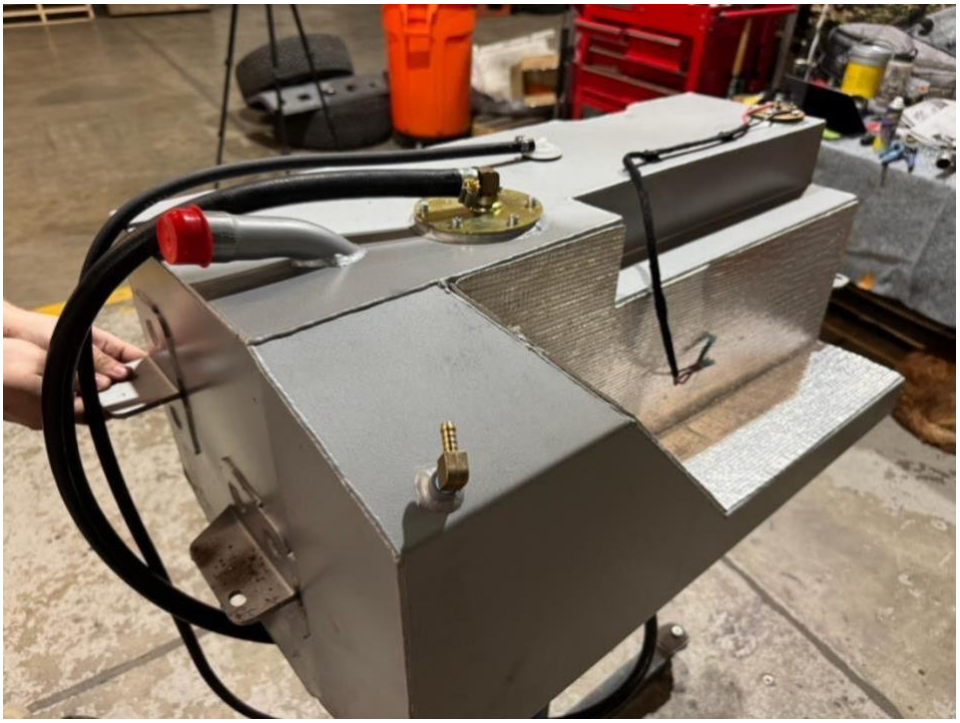
Sample Picture

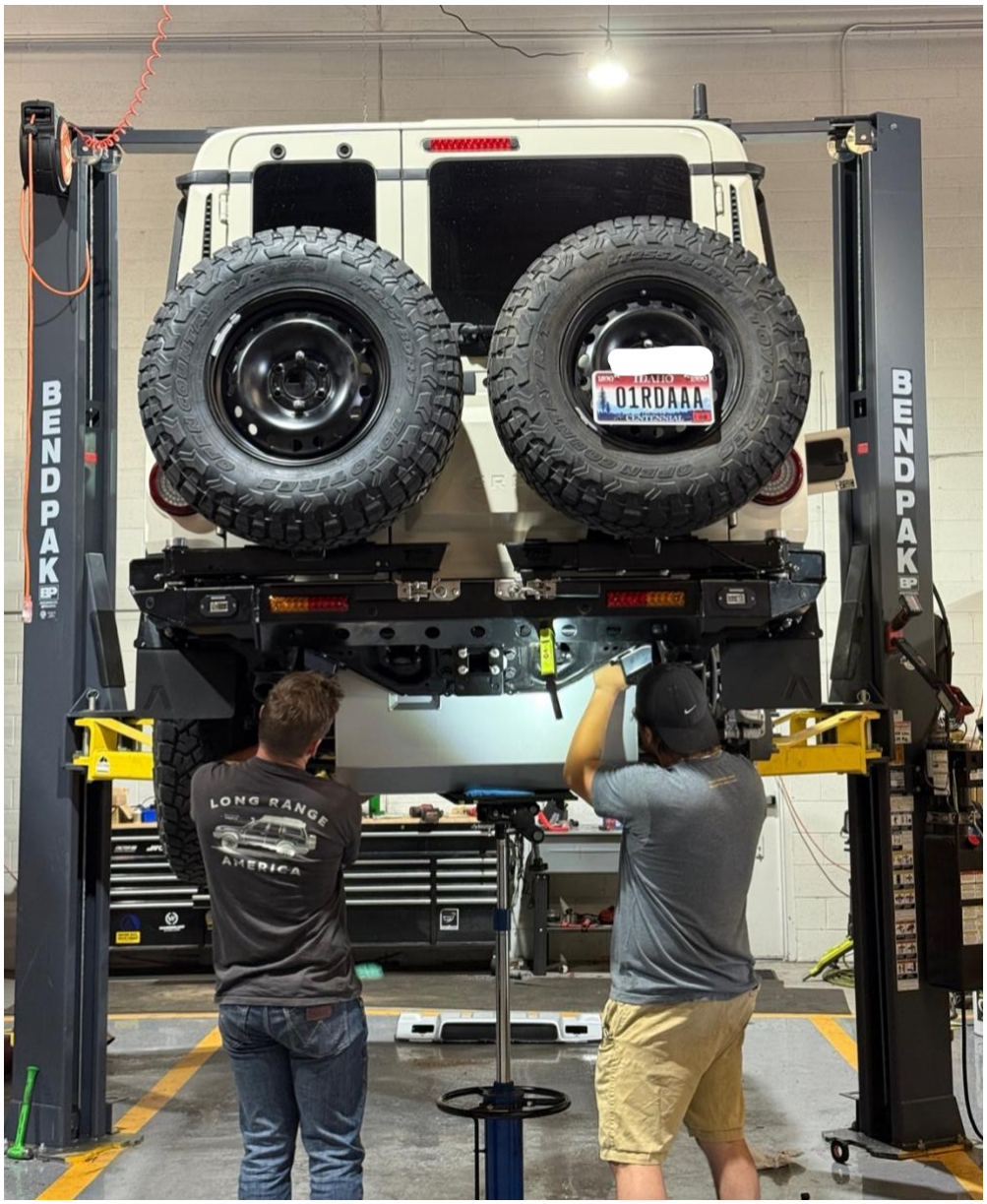


WDSGPG210

18. Fit the 1300mm 6mm fuel hose to the rollover valve and the 1000mm 16mm hose to the FLVV both pointing towards the RHS



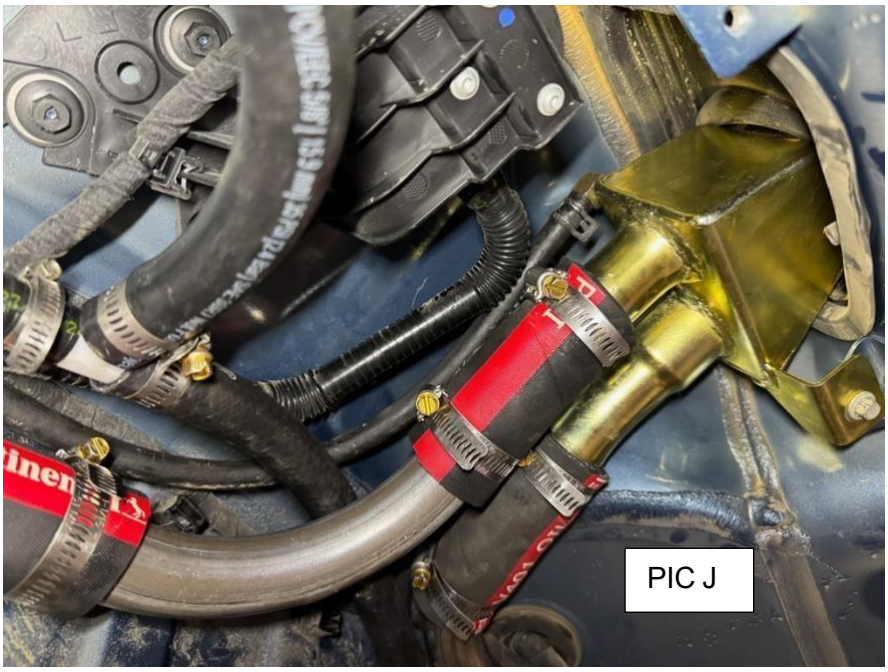




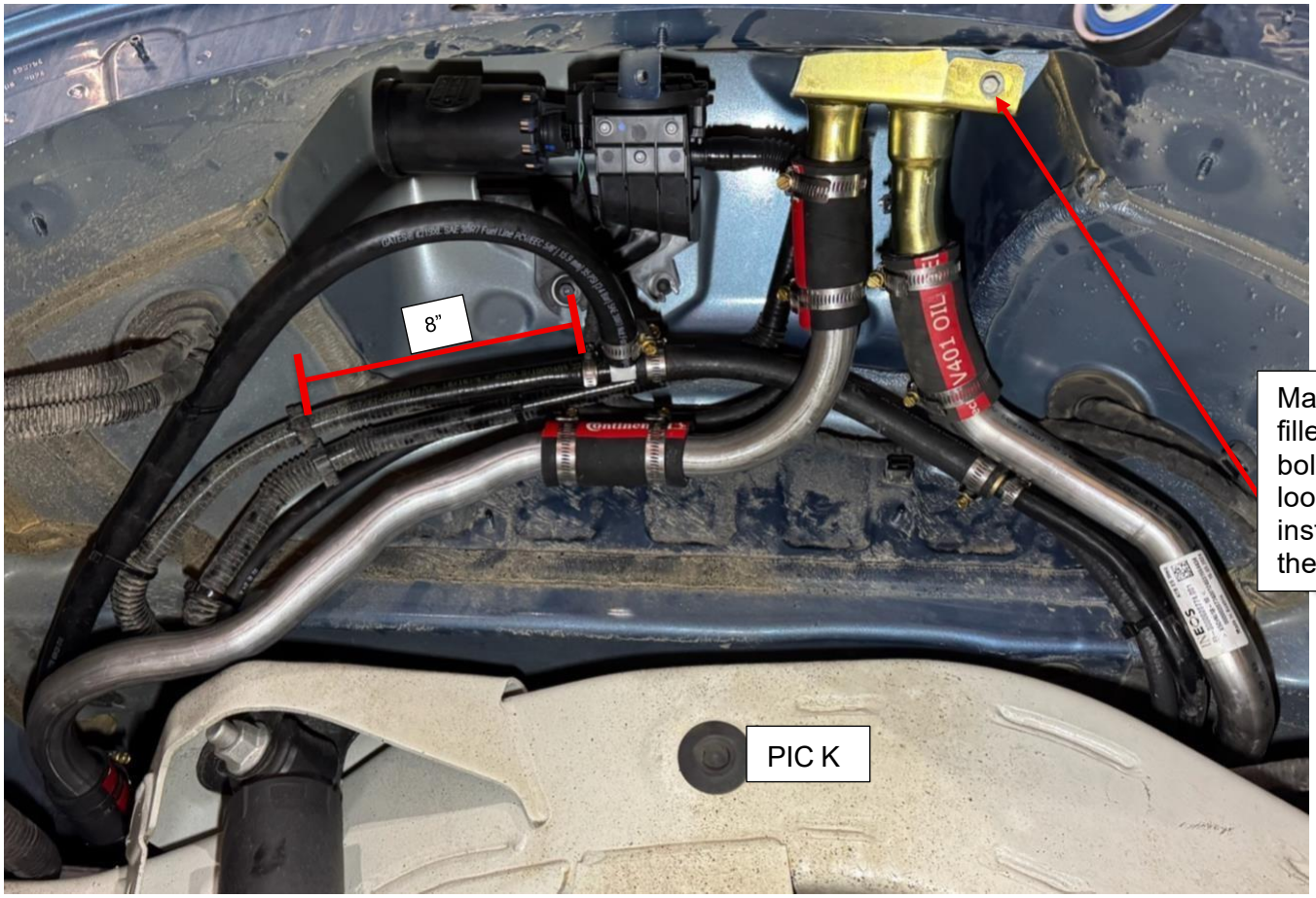
19. Begin to jack the tank into position, feeding the 6mm and 16mm hoses up over the chassis rail, once you have the tank brackets past the hanger brackets, connect the sender unit wire and earth, tighten the bolts on the RHS hanger and secondary bracket. Fix the tank with M8 x 30 bolts spring and flat washers + M10 x 30mm bolts washers and Nyloc nuts.

20. Connect the 1000mm length of 16mm hose to the TS16 Tee in vent line. Connect the 1300mm 6mm vent line from the roll over valve to the P6 1/4 x 1/8 elbow on the twin filler. Connect the 1100mm length of 8mm fuel hose to the fuel pick up on the auxiliary tank and up to the inlet side of the pump. Cover with wiring loom. (Refer Pic J & K)

*Please note that fitment is tight, it will take some adjusting of the hoses and pipes to get everything seated correctly



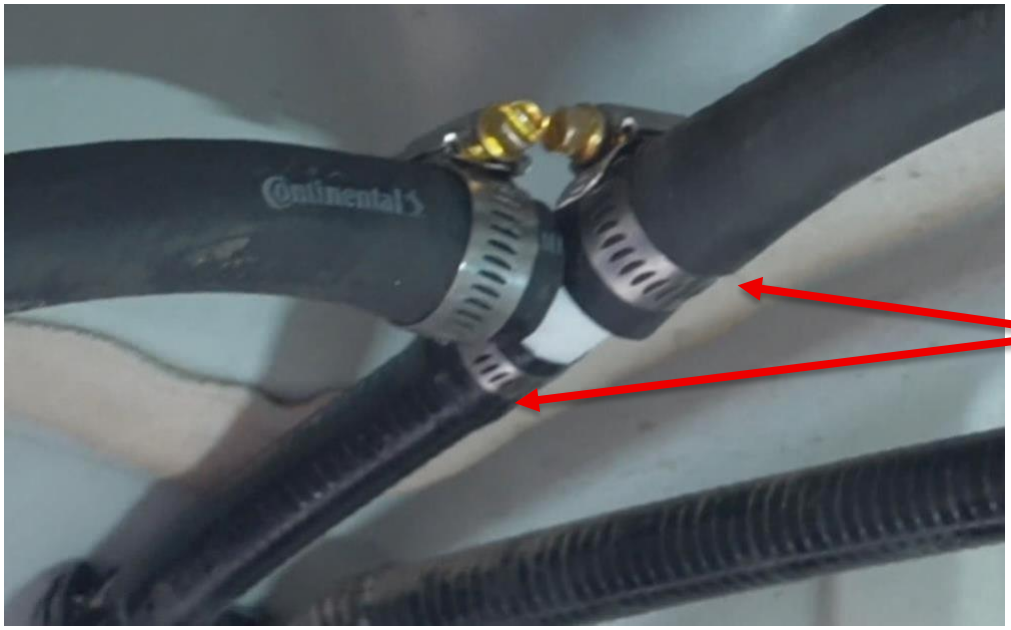
PIC J



PIC K

Make sure filler neck bolts are loose when installing the hoses

21. Assemble the auxiliary tank fill pipe with pipes 1+2 and the two 90mm lengths of 32mm hose and one length of 35mm hose, put it all together, check alignment and then tighten all clamps.



22. Neatly cable tie all hoses and wiring, do a final tighten of all bolts and hose clamps.



23. Ensure all clamps hoses are tucked up neatly to allow the plastic wheel arch cover to fit. reinstall cover and wheel arch flare.



Pg.23

- Are all hose clamps tight and secure?
- Are all nuts and bolts secured?
- Are mounting brackets and straps secure?
- Are Fuel Gauge Sending Unit bolts secured?
- Are all fuel lines secure with no kinks?
- Does tank interfere with, or rub on, other vehicle components?
- Is tank calibration accurate?

☐ Congratulations! You have completed the install!

