INSTALLATION INSTRUCTIONS FOR AN AUXILIARY TANK

THE LONG RANGER

THE BIG TANK FOR A BIG COUNTRY

MADE IN AUSTRALIA

JEEP WRANGLER

JL Petrol 4 Door models 2019 on (V6 engine)

TA84P – AUXILIARY 70-LITRE TANK

GENERAL NOTES

a) Take a few minutes to read through this installation guide before proceeding.

b) Fitting time is approximately 5.5 hours for the tank with an experienced tank installer.

c) This LONG RANGER tank locates between the prop shaft and exhaust on left hand side.

d) The lowest point of the LONG RANGER tank is level with the OEM transfer case skid plate.

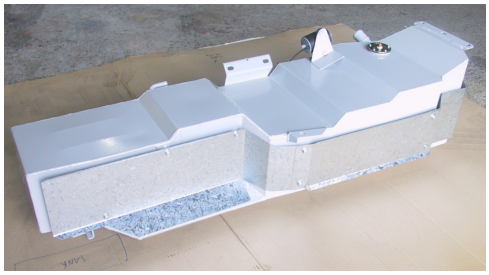
e) A vehicle hoist is not essential but will speed the job up significantly.

f) This LONG RANGER tank is filled via a T piece filler to the original tank. Fuel is transferred as required to the original tank via an electric pump.

g) Check that tools, clothing and footwear are clean before working on the interior of the vehicle.

h) LONG RANGER tanks are coated with a high-performance primer/topcoat. For added protection, an additional topcoat may be added. If the vehicle has been rust proofed, it is suggested that the tank (and any changes made to the vehicle during fitting) be touched up after installation.

Special tools: An electrical crimping tool, metal cutting equipment, drill, fuel sealant and 20mm step drill or hole saw, 1/4BSP thread tap are required.



INSTALLATION KIT TA86P

QTY DESCRIPTION This LONG RANGER installation kit has been checked by _____

- ❑ 1 LONG RANGER TANK (**TA84P**)
- ❑ 1 **TA84PHSA** (heat shield, mounted on tank)
- ❑ 1 **TA84PHSB** (heat shield, mounted on tank)
- ❑ 1 Canister mounting bracket **#TR84CM**
- ❑ 1 Carbon canister TLR **#CC01**
- ❑ 1 TA84SFN1 (T Piece filler neck junction))
- ❑ 1 Bolt M10 x 30mm with 400mm tag **SF21** (*Rear centre mount*)
- ❑ 1 **FAUBOLTA84** (tank mounting)
- ❑ 1 Hole reamer **#TA84TOOL**
- ❑ 2 Tek screw (canister mount)
- ❑ 2 Bolts M12 x 30 x 1.5 pitch (rear tank mounting)
- ❑ 2 Flat washers M12
- ❑ 2 Spring washer M12
- ❑ 2 Self-locking nuts M10 (for ubolt)
- ❑ 3 Flat washers M10 x 32
- ❑ 1 Plain ZP nut M10 (rear tank mounting)
- ❑ 1 Spring washer M10 (rear tank mounting)
- ❑ 3 Bolts M8 x 20 (front and side tank mounting)
- ❑ 3 Flat washers M8 X 24
- ❑ 3 Spring washer M8
- ❑ 3 Bolts M6 X 20 (canister mount)
- ❑ 3 Self-locking nuts M6
- ❑ 6 Flat washers M6
- ❑ 2 Bolts M5 x 20 (pump mounting)
- ❑ 2 Flat washers M5
- ❑ 5 M4 x 8 screws (sender unit).
- ❑ 2 Hose clamps HS24 (FIller)
- ❑ 3 Hose clamps HS20 (Filler)
- ❑ 2 Hose clamps HS08 (16mm hoses)
- ❑ 6 Hose clamps MH6 (12.5mm hoses)
- ❑ 8 Hose clamps MH4 (6.6mm and 8mm hoses)
- ❑ 3 Brass fittings 1/4 BSP x 12.5mm elbow (for canister and Auxiliary fast fill breather)
- ❑ 2 Plastic joiner/reducer 16x12.5mm (PLJORE5812 – carbon canister hoses)
- ❑ 1 Electrical Power Take Off (ELPWRQTMICRO2 - **54415-10**)
- ❑ 1 Terminal red male bullet connector
- ❑ 1 Terminal red female bullet connector
- ❑ 2 Terminal red female spade connector
- ❑ 1 Terminal red M5 eye
- ❑ 1 Switch/Gauge timer module with wiring loom (**ELSWGA354-8**)
- ❑ 1 Switch/Gauge LED 24mm round (**ELSWGATIMER12V01B**)
- ❑ 1 Fuel pump 12-volt # **ELFUPU12V05** (*FP020*)
- ❑ 1 Fuel level sender unit, **#ELSETLR2-90TA84** (factory modified)
- ❑ 1 Fuel filter in-line 8mm" # **Z14**
- ❑ 10 Cable ties 200mm
- ❑ 10 Cable ties 300mm
- ❑ 1 Fuel hose, 38mm ID x 85mm long (Aux. tank to OEM tank)
- ❑ 2 Fuel hose 12.5mm ID x 800mm (canister)
- ❑ 1 Fuel hose 12.5mm ID x 1900mm (aux fast fill breather)
- ❑ 1 Fuel hose 8mm ID x 200mm (aux pickup to filter)
- ❑ 3 Fuel hose 8mm ID x 50mm (filter to pump inlet and system breather)
- ❑ 1 Fuel hose 8mm ID x 700mm (transfer hose, pump outlet to filler)
- ❑ 1 Fuel hose, 6.5mm ID x 400mm long (system breather)
- ❑ 1 Long Ranger auxiliary tank fitting guide

Owners information pack

- ❑ 1 Warranty Information Sheet and Return Card
- ❑ 1 Long Ranger sticker
- ❑ 1 Long Ranger TA86 owner operating manual
- ❑ 1 TA86 owner's manual supplement (stick on)

INSTALLATION GUIDE

1. The first thing to do is verify the correct tank for your model has been ordered.
2. For LHD vehicles please cautiously interpreted the instructions for some step.
3. Although the LONG RANGER tank has been cleaned and sealed at the factory, it is recommended that its interior be vacuumed again as an added precaution against blocked filters and/or fuel pump damage.
4. If parts are missing or damaged, if foreign matter is found in the tank, or if any problems arise during installation, contact the factory office without delay for advice phone (02) 4953 3288, fax (02) 4953 1916 or visit www.thelongranger.com.au
5. Remove trim panel from below the steering column, RHS kick panel and RHS sill panel.
6. **Refer to photo 1:** Locate a suitable position for the switch and drill 20mm hole. We suggest on RHS of steering column, measure across 17 & up 17mm.
   Caution: there is one layer of plastic and one layer of material, we have found a step drill works ok and didn't grab the fabric or partially drilling through with a hole saw and cutting the fabric .
   ***Note**: We recommend consultation with the vehicle's owner if there is any doubt about the placing of the switch. Please ensure there is clearance behind the panel before drilling, Dash layout can vary in different counties and can change without notice so current picture may not represent what you have.*

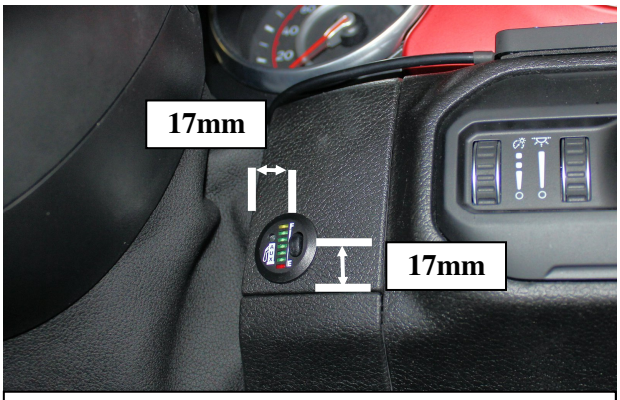


Photo 1: Switch location

***IMPORTANT**: The Jeep is fitted with SRS Air Bags. Exercise EXTREME CARE when working on the electrical system*

7. **As per wiring diagram and photo 2**: Mount timer module under dash in suitable location (black box) on RHS of steering column. Plug the switch into loom from timer module, remove the fuse from holder and plug main loom into module.
8. **As per wiring diagram and photo 2**: Connect earth to earth stud behind RHS kick panel. Connect red power wire to and ignition source, We have supplied a power take off unit to use in fuse box under the bonnet. (alternatively your vehicle may be fitted with an optional auxiliary harness under the glove box which has a Pink/Orange wire (may need to extend wires), confirm it is a 12-volt ignition power source. Have secondary fuse holder behind panel for easy access. *Note: leave all trim panels off till finished of job.*

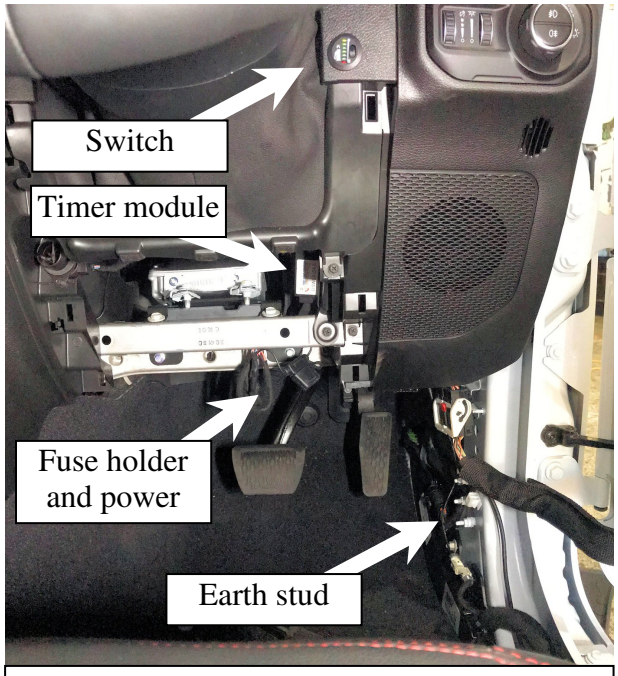


Photo 2: Wiring under dash

9. Run harness behind RHS kick panel and along door sill and though rubber grommet under seat and seal with suitable sealant.

10. Neatly fasten all wiring under dash to prevent chafing. Protect wiring where necessary with sheathing.

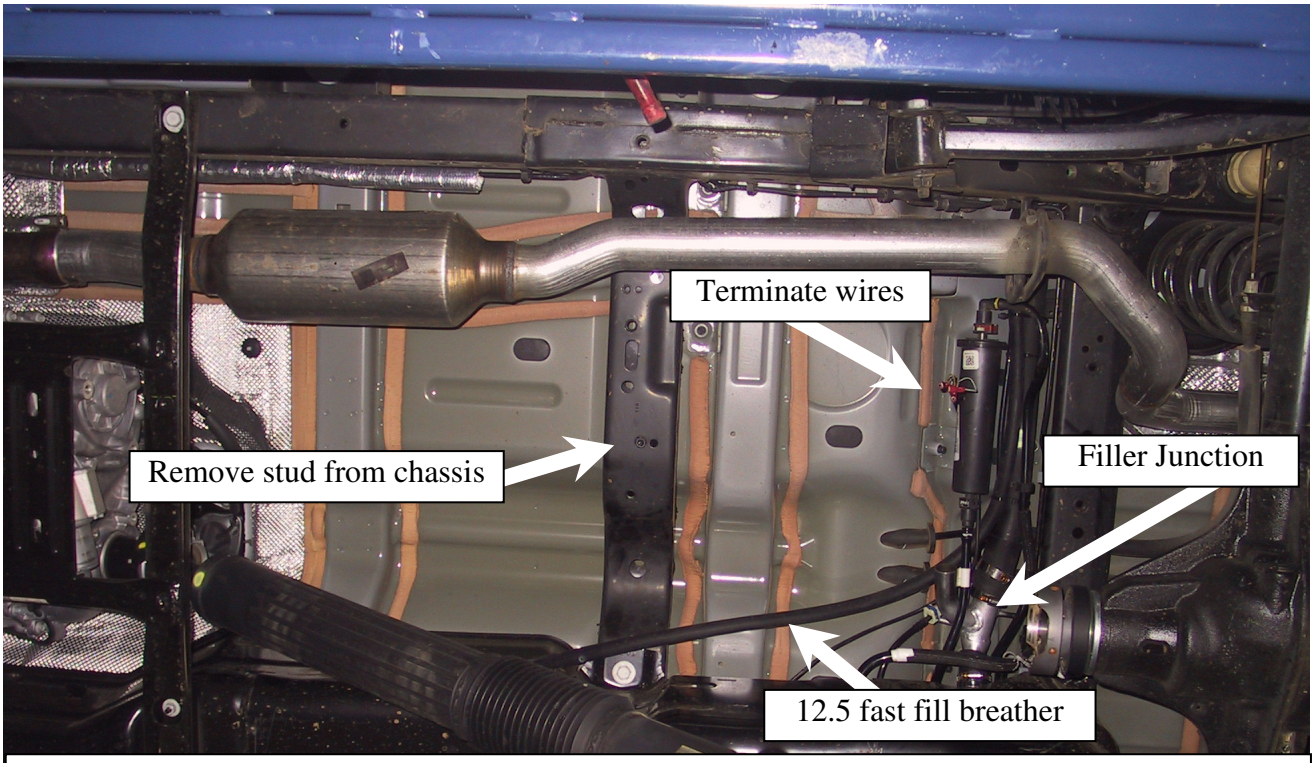


Photo 3: prepare tank area

11. Remove LHS tail light, raise vehicle to a convenient height. *Note: Remove plastic bolt from inside vehicle*

12. Disconnect tail shaft from diff.

13. **As per photo 3**: Prepare the tank area, bend and snap stud from chassis. *Warning: This step must be done prior to any fuel hoses being removed from vehicle to avoid any possible ignition of fuel fumes*.

14. **As per photo 4**: Remove steel section of filler neck by removing nut and hose clamp.

15. **As per photo 5**: Mark location and drill a 5mm pilot hole, use supplied reamer tool to enlarge hole out to 11.5mm with flare and tap a ¼ BSP thread. With suitable sealant fit the ¼ BSP x 12.5mm elbow to filler neck with orientation as shown, connect the 12mm fast fill breather hose to elbow and refit OEM filler neck.

16. NOTE: *To ensure trouble-free performance when re-fuelling, the following principles must be applied with respect to fuel hoses. Ensure that there are no kinks, and no pinched or drooping sections. Ensure the filler and breather hoses have a steady and consistent gradient throughout their full length, with no low*

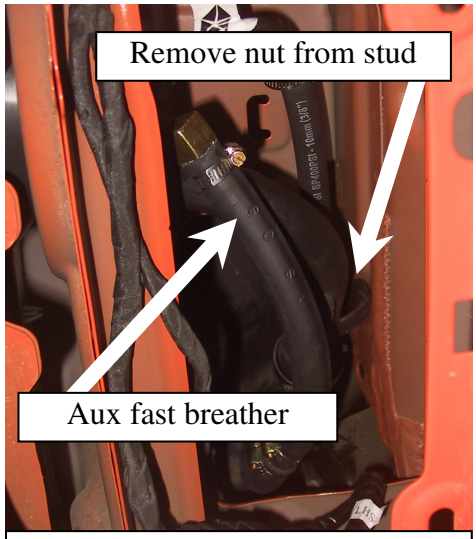


Photo 4: Auxiliary breather

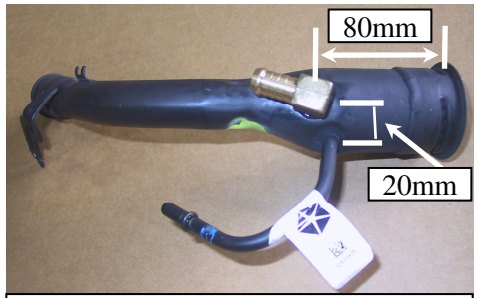


Photo 5: Fit brass elbow

points where fuel could lie and hinder airflow during filling. Ensure there is adequate clearance between all hoses and moving vehicle components. Do not over tighten cable ties and squash hose.

17. **As per photo 6 & plumbing diagram** Unclip lower inner guard and run the auxiliary fast fill breather down along filler neck towards main fuel tank and fasten with cable ties, leave hanging as per photo 3.

18. **As per wiring diagram and photo 7**: Continue wiring harness along RHS chassis rail, over top of OEM fuel tank and terminate wires as shown, leave enough length for connection to tank.

19. Install the fuse under dash, test the sender with a multimeter, it should read 2-90 ohms, temporarily connect the sender, set sender to full and ensure all green lights illuminate when ignition is turned on, you can also move the float arm and watch the gauge go down after waiting a minute or cycle the power from "Off" to "On" to get an instant reading after moving sender to new position. If the gauge is not working at this point resolve any wiring issue before proceeding.

20. **As per photo 8**: Fit sender unit to tank with screws and gasket supplied. This has been set-up in our factory and when held on side of tank should be just off the bottom when on empty. This will only fit in one position which should have the float will aiming to the forward section of tank, this will avoid baffles and internal pipes etc.

21. **As per photo 8**: Fit pump to tank using M5 bolts supplied with outlet towards front of tank, connect earth to one of the bolts with eye terminal supplied.

22. **As per photo 8 and the plumping diagram**: Fit filter and hoses to pickup and pump.

23. **As per photo 8**: Fit system breather to 6.5mm outlet at rear side of tank.

24. **As per photo 7 & 9:** Disconnect filler from fuel tank and remove the rubber joiner, trim as per measurements and fit T piece to main filler

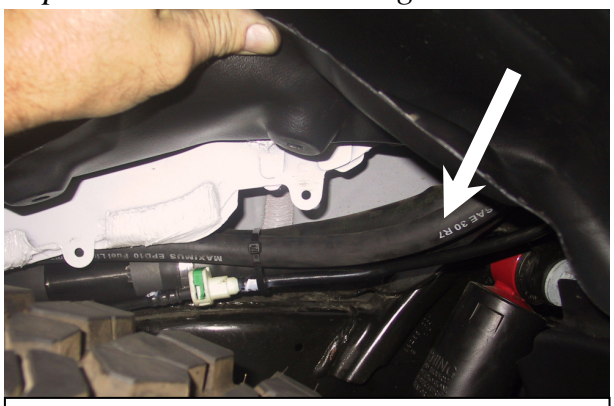


Photo 6: Fast fill breather

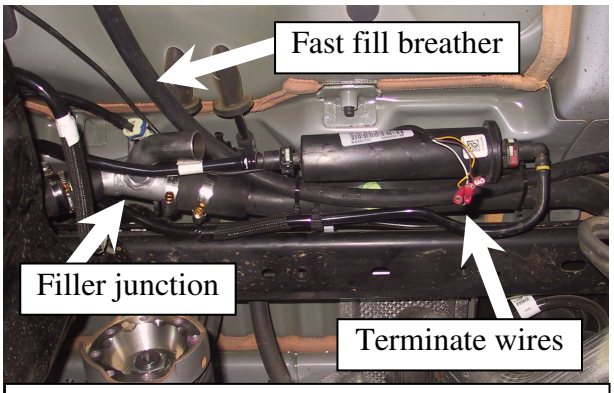


Photo 7

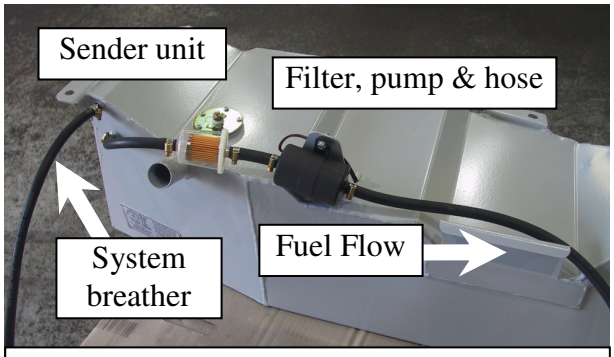


Photo 8: Fitting components to tank

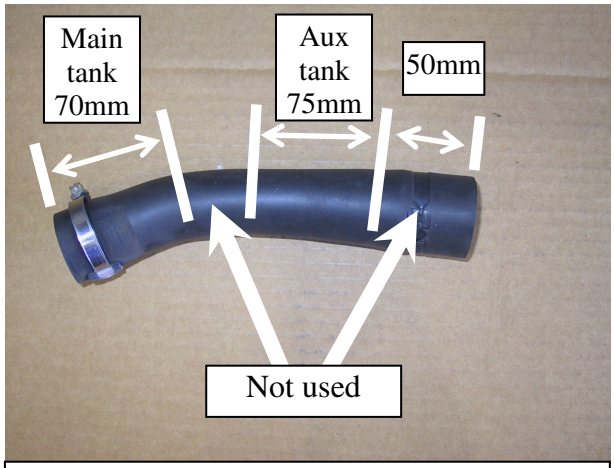


Photo 9: Prepare rubber filler hose

pipe and OEM tank, Note: loosely fit clamps but leave loose at this stage.

25. Fit tank, support in place and loosely fit bolts and U bolt and tag bolt. Check for clearance all round and tighten all M12 & M8 bolts with spring and flat washers, fit tag bolt to rear centre hole, check for clearance all round, check all hoses and wiring, fasten all mounting bolts.

26. **AS per photo 10:** Connect the filler to the Aux tank with clamp supplied.

27. As per the plumping diagram: connect the system breather to the filler junction, note: go over cross member.

28. **As per plumbing diagram**: Connect the 12mm fast fill breather to the Auxiliary tank, ensure no low areas for fuel to lay and cause slow filling issues.

29. **As per plumbing diagram and Photo 10**: Connect hose from pump outlet to filler junction, ensure no kinks in hose.

30. Connect wiring to pump and sender unit.

31. Cable tie all in place including plumbing and wiring and area over.

32. Refit tail shaft.

33. **AS per photo 11:** Fit new canister mount to cross member and top coil mount on RHS, using two tek screw and one M6 x 20 bolt supplied.

34. **AS per photo 12:** Fit 2 brass ¼ bsp x 12.5mm elbows to canister, note the direction. The air flow direction through canister is not important.

35. **AS per photo 12:** Fit canister to cradle with two M6 x 20 bolts.

36. **As per photo 13**: Unclip plastic guard from rear RHS wheel arch to reveal the 16mm rubber hose on OEM carbon canister.

37. **As per plumbing diagram and photo 12 & 13**: Cut this 16mm hose at the bottom and insert the two plastic joiner/reducers 16x12.5mm, fit the 12mm rubber fuel hose from the new canister to these two plastic joiners and cable

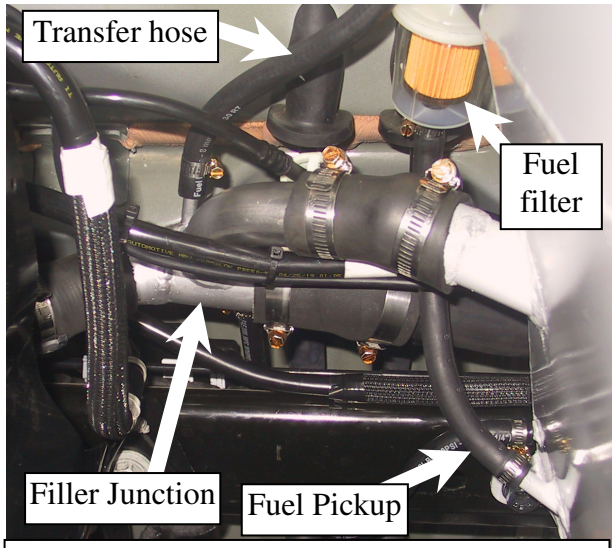


Photo 10: Connect T piece to Aux. Tank

Photo 11: Canister mount

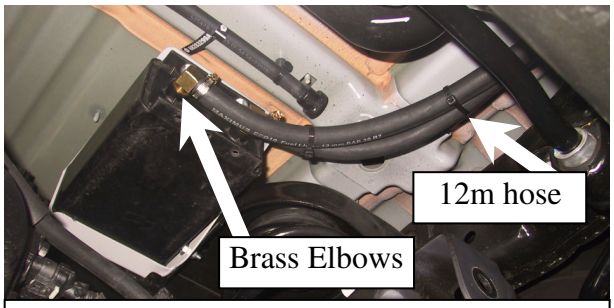


Photo 12: Carbon canister mounting

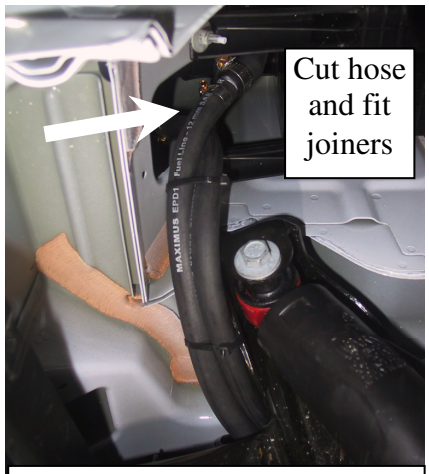
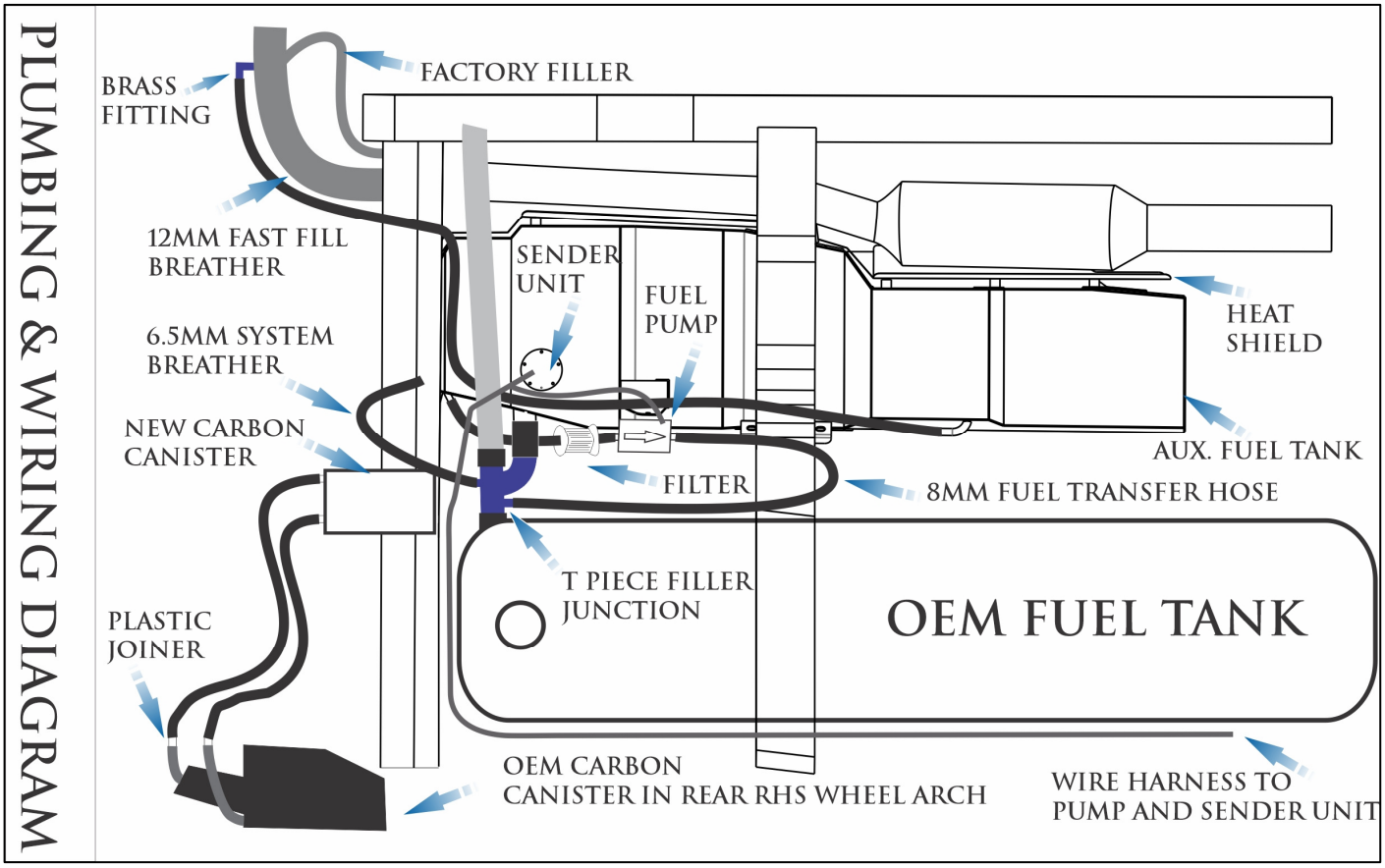
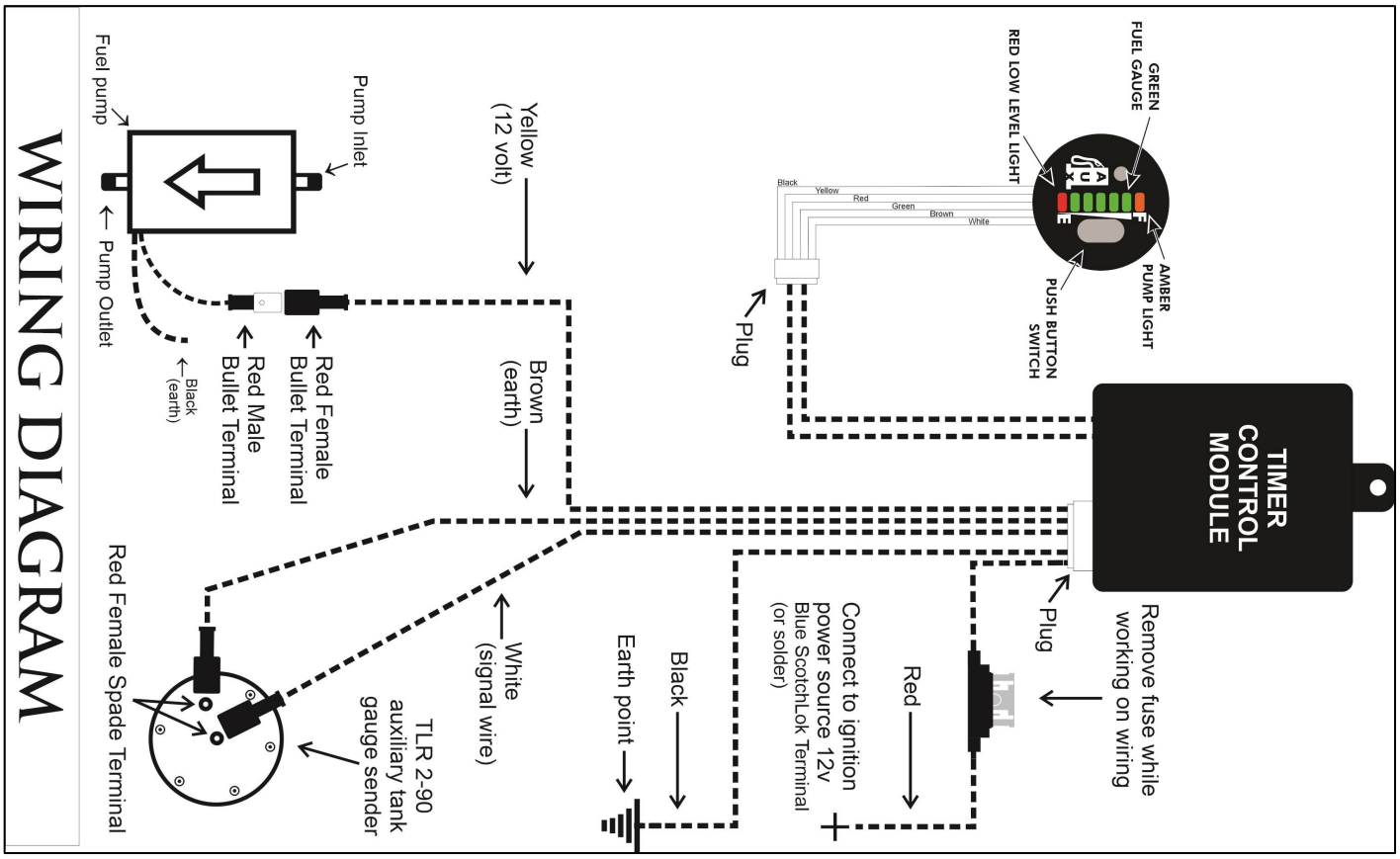


Photo 13: OEM canister

tie neatly in place.

38. Check over the whole job, ensure all wiring and hoses will not chafe, rub or contact moving parts. Protect wiring where necessary with sheathing.
39. Test operation of fuel pump
40. Replace trim around doorsill and refit carpet to RH side.
41. Fit switch into hole, replace all trim and tidy area from fingerprints and off cuts of wire.
42. Replace taillight.
43. Place the owner's information pack on the passenger's seat.
44. We suggest that the tank be filled with a test load of fuel, test drive vehicle and inspect all fittings for leaks (not included in the quoted price).


PLUMBING & WIRING DIAGRAM
BRASS FITTING
FACTORY FILLER
12MM FAST FILL BREATHER
SENDER UNIT
FUEL PUMP
HEAT SHIELD
6.5MM SYSTEM BREATHER
NEW CARBON CANISTER
AUX. FUEL TANK
FILTER
8MM FUEL TRANSFER HOSE
T PIECE FILLER JUNCTION
OEM FUEL TANK
PLASTIC JOINER
OEM CARBON CANISTER IN REAR RHS WHEEL ARCH
WIRE HARNESS TO PUMP AND SENDER UNIT


WIRING DIAGRAM
Fuel pump
Pump Inlet
Pump Outlet
Black (earth)
Red Male Bullet Terminal
Red Female Bullet Terminal
Yellow (12 volt)
Brown (earth)
Plug
Black
Yellow
Red
Green
Brown
White
RED LOW LEVEL LIGHT
GREEN FUEL GAUGE
AMBER PUMP LIGHT
PUSH BUTTON SWITCH
TIMER CONTROL MODULE
Plug
Remove fuse while working on wiring
Red
Connect to ignition power source 12v Blue ScotchLok Terminal (or solder)
Black
Earth point
White (signal wire)
TLR 2-90 auxiliary tank gauge sender
Red Female Spade Terminal