INSTALLATION INSTRUCTIONS FOR AN AUXILIARY TANK

THE LONG RANGER

THE BIG TANK FOR A BIG COUNTRY

MADE IN AUSTRALIA

JB64/74 Suzuki Jimny

Suits petrol models with 40lt OEM tank

TR87 – REPLACEMENT 80-LITRE TANK

GENERAL NOTES

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

b) Fitting time is approximately 4 hours when done on a hoist which is not essential but will speed the job up significantly.

c) The original filler, fuel level sender unit, pick-up unit, are reused in this installation. Extreme care and cleanliness is recommended when handling fuel level sender and submerged fuel pump units.

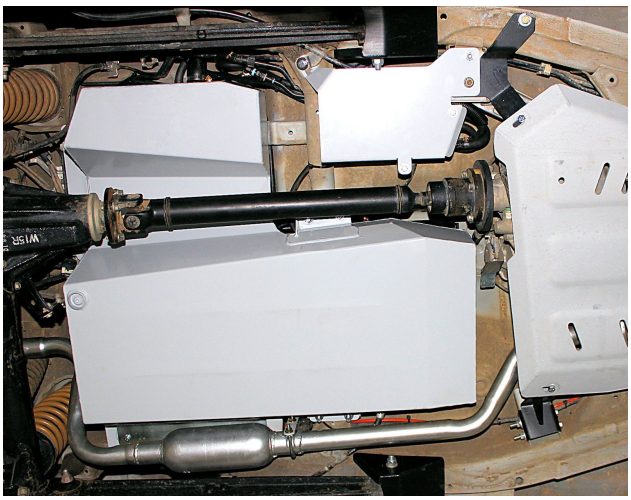
d) We modify the OEM exhaust with all parts supplied in our kit, if your vehicle has an aftermarket system it most likely will not be compatible unless it has been designed specifically to fit our tank. At the time of release the Torqit system was compatible, Approximately 30min has been allowed during the install for this job if you don't have the skills for this job it may need to be sub contracted out at extra cost.
Note: as the vehicles get older the exhaust bolts might become problematic to remove, extra time and cost might be involved for remove old exhaust system on older vehicles.

e) LONG RANGER tanks are coated with a high-performance primer. For added protection, a 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.

f) Check if the vehicle owner wants to retain the original tank and any associated parts.

g) The trip meter distance to empty (range) will no longer work as intended by the manufacturer, it is expected you could double the DTE reading with the new larger tank fitted.

Special tools: Metal grinding, cutting equipment, universal fuel line disconnect tool (see photo 2).



INSTALLATION KIT TR87

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

- ❑ 1 LONG RANGER TANK (**TR87**)
- ❑ 1 Heat shield **#TR87HS** (pre fitted to the tank)
- ❑ 1 Rollover valve **#VAROLL07** (*Factory fitted in top of tank).*
- ❑ 1 Rollover valve grommet **#VAROLL08** (*Factory fitted in top of tank).*
- ❑ **1** Hot Dog Muffler 9x13/4 **#EXHHOTDOG9x175**
- ❑ **1** Exhaust pipe, front section **#TR87EP13**
- ❑ **1** Exhaust pipe, rear section **#TR87EP14**
- ❑ 1 Handbrake cable bracket **#TR87B1**
- ❑ 1 Exhaust hanger bracket (exhaust clamp) **#TR87B2**
- ❑ 1 Exhaust hanger bracket (chassis) **#TR87B3**
- ❑ 1 Clamp ring #R55CR (pickup unit)
- ❑ 1 Replacement float arm **#FLARTR87L**
- ❑ 1 Canister relocating bracket **#TA87CM**
- ❑ 1 Carbon canister **#CC01**
- ❑ 4 Exhaust clamp C7 (1 7/8)
- ❑ 2 Ubolt C4 x M8
- ❑ 2 Ubolt M10 x 75x54 #FAUBOLTA48 (troopy)
- ❑ 1 Blanking rod, steel, 6.5mm OD x 25mm Long
- ❑ 6 Screws M5 x 12mm (Pickup unit)
- ❑ 3 Bolt M6 x 20 (OEM canister mounting to bracket)
- ❑ 4 Bolt M6 x 16 (TLR carbon canister mounting)
- ❑ 7 Self-locking nuts M6
- ❑ 10 Flat washers M6
- ❑ 2 Spring washer M6
- ❑ 3 Bolts M8 x 20 (for exhaust hanger, H/brake cable, rear tank mount and OEM canister bracket to chassis)
- ❑ 5 Self-locking nuts M8
- ❑ 8 Flat washers M8 x 24
- ❑ 4 Spring washers M8
- ❑ 4 Self-locking nuts M10 (Front tank mounting U bolts)
- ❑ 4 Flat washers M10 x 30
- ❑ 10 Hose clamps MH4 (6.5 and 8mm hose)
- ❑ 4 Hose clamps MH6 (10mm hose)
- ❑ 1 Brass fittings 1/4 BSP x 5/16” Straight (for New canister outlet)
- ❑ 1 Brass fittings 1/4 BSP x 1/4” Straight (for New canister inlet)
- ❑ 2 Bung for blanking 8mm fuel pipes off during cutting (# BUPT007)
- ❑ 5 Cable tie 200mm
- ❑ 1 Fuel hose 10mm ID x 260mm (link breather)
- ❑ 1 Fuel hose 8mm ID x 900mm (OEM canister to top of filler)
- ❑ 1 Fuel hose 8mm ID x 800mm (OEM canister to purge line on chassis)
- ❑ 1 Fuel hose **EFI** 8mm ID x 950mm (Fuel pickup unit to fuel line on RHS chassis)
- ❑ 1 Fuel hose 6mm x 1100mm (Rollover valve in top of tank to new canister inlet)
- ❑ 1 Fuel hose 6mm x 50mm (Pickup unit blanking hose)
- ❑ 1 Warranty information sheet and return card
- ❑ 1 Long Ranger sticker
- ❑ 1 Long Ranger auxiliary tank fitting guide

WARNING

Suzuki have used the same size steel fuel lines for both the EFI and emissions system, if the fuel tank is removed for any reason and not fitted back correctly the EFI system can be connected to the emissions system. If the car does not start as expected after tank fitment, immediately stop and check the EFI hose from the pickup unit is connected to the correct fuel line on chassis rail, if incorrectly connected the EFI pump will push fuel to engine manifold and potentially end in a hydrolocked engine!
If correct and still not starting, it could be as simple as the electrical plug on the EFI pickup unit not clipped in correctly.

INSTALLATION GUIDE

DANGER - WHILE WORKING WITH FLAMABLE LIQUID
AVOID FLAMES, SMOKING AND GRINDING SPARKS WITH FUEL PRESENT
BE PREPARED WITH SUITABLE FIRE FIGHTING EQUIPMENT ON HAND

1. The first thing to do is check that the correct tank has been ordered for your model of vehicle and all items listed in the LONG RANGER kit have been received, and that nothing has been damaged in transit.
2. 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.
3. 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 or visit www.thelongranger.com.au or email any comments about tank fitting to fitting@thelongranger.com.au
4. Rust proof or repaint all bare metal parts which have been modified.
5. Check any reused original parts for deterioration or damage and replace if required.
6. Remove RHS rear inner plastic guard in wheel arch.
7. Disconnect filler, fast fill and vent line from filler neck.
8. Raise vehicle.
9. Completely remove tail shaft.
10. **As per photo 1**: Disconnect exhaust system at centre flange and rear flange and remove centre muffler section complete from vehicle.

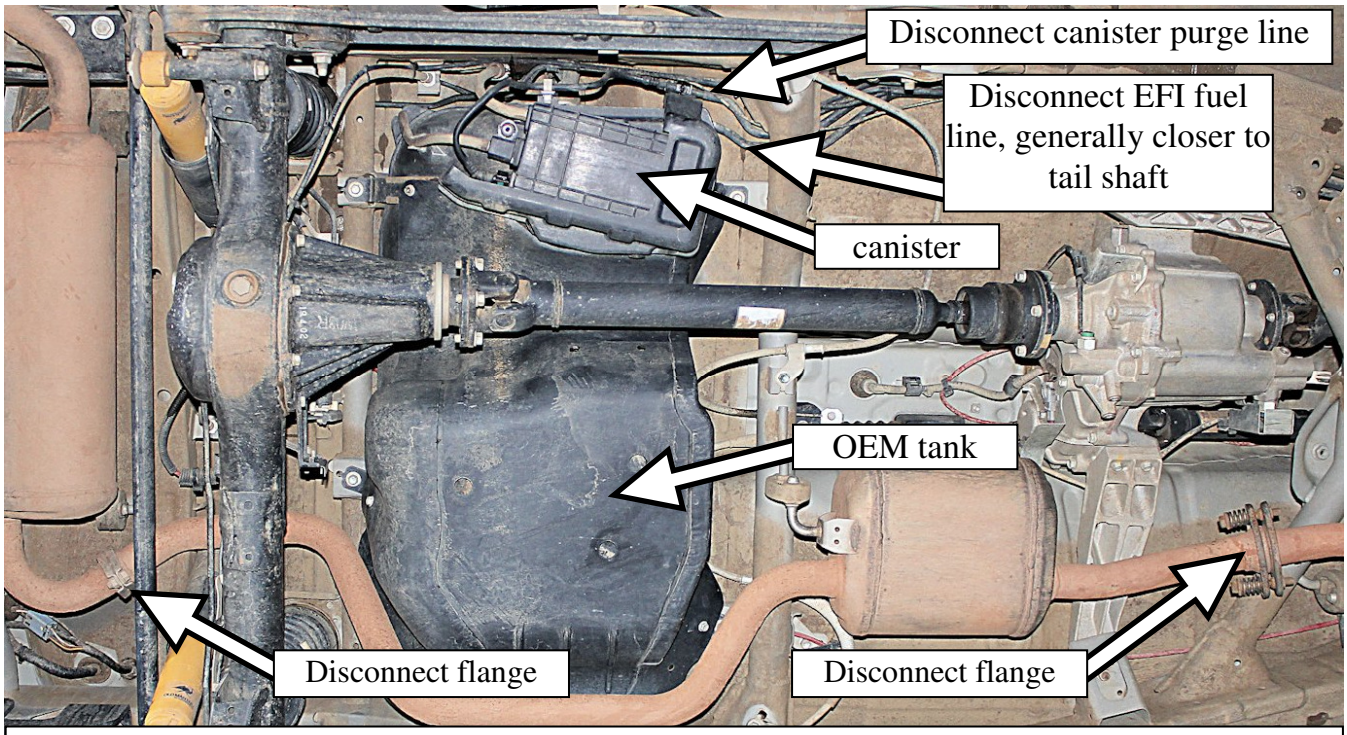


Photo 1: Tank removal preparation

11. **As per photo 1:** Remove tank guard and canister guard (4x M6 bolts in tank guard and 3x plastic clips in canister guard).
12. Disconnect and remove canister and plastic nuts. ***Important:*** *Mark which steel chassis fuel line the canister is connected too.*
    Caution: ***Fuel lines are under pressure for following step.***

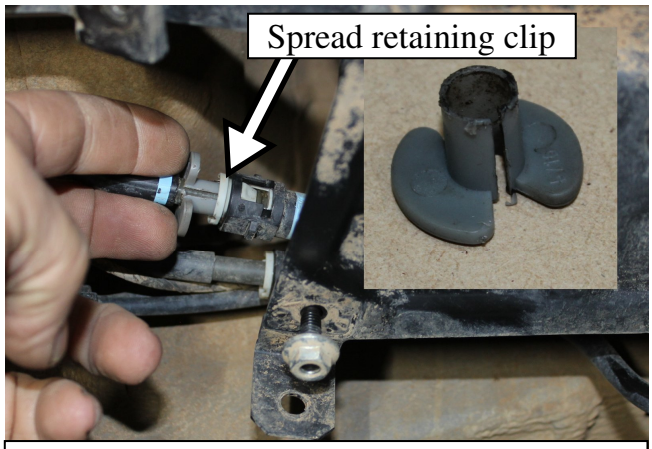


Photo 2: Disconnect fuel lines

13. **As per photo 1 and 2:** Disconnect fuel lines at front of tank. This will require a universal fuel line disconnect tool to push inside connector and spread retaining clip. Disconnect purge line from canister.
    Important: *The two steel fuel lines are the same size, ensure to mark which steel chassis fuel line the canister purge line is connected too.*
    Important: *Fit Supplied 8mm bungs to the two fuel lines to prevent fuel ignition during future steps requiring metal cutting.*
14. Support tank and remove tank straps.
15. Lower tank about 300mm and disconnect electrical fitting on top of tank. Continue complete removal of tank and remove from the area to keep safe for future metal cutting.
16. **As per photo 3**: Disconnect RHS hand brake cable from bracket and reroute over top of cross member. Fit bracket #TR87B1with OEM bolt to original mounting hole at bottom and refit H/brake cable on top with supplied M8x20 bolt, nyloc nut and washer.
17. **As per photo 3**: Fit new exhaust hanger bracket to original front LHS tank support mount with OEM bolt.
18. Remove rubber exhaust hanger and fit to new hanger bracket.
19. **As per photo 3**: Place the plastic bag from fitting kit over fuel pickup lines and seal to prevent fuel igniting fuel in following metal cutting steps.

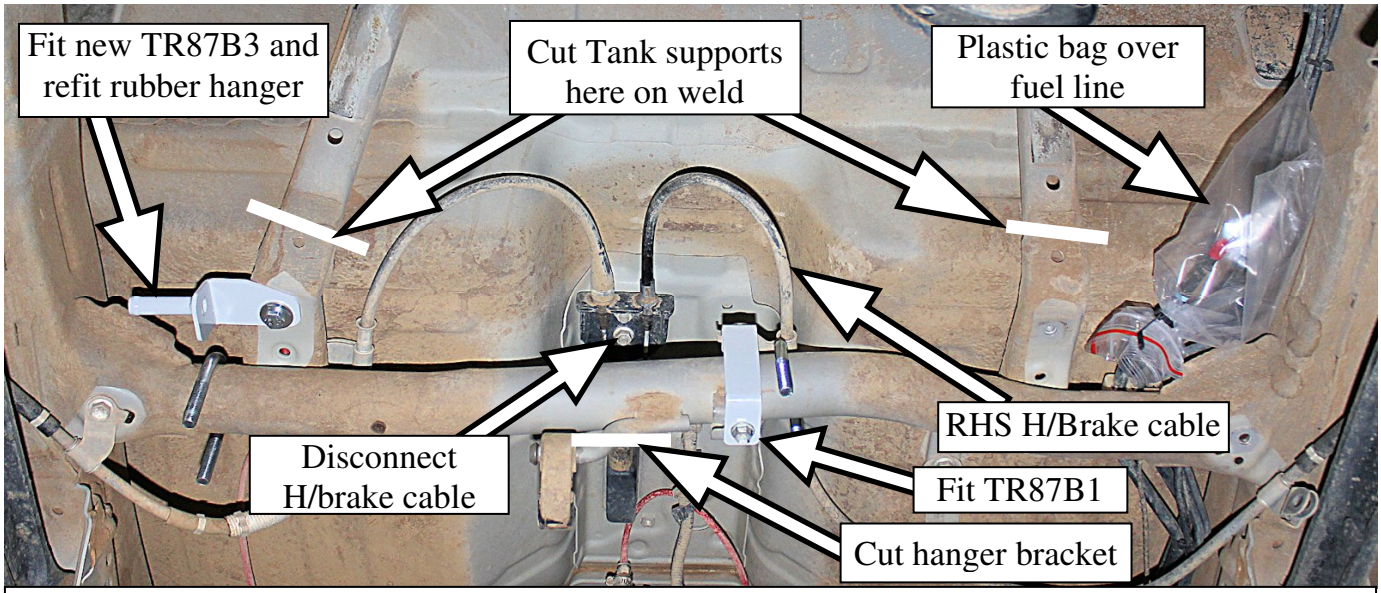


Photo 3: Prepare tank area

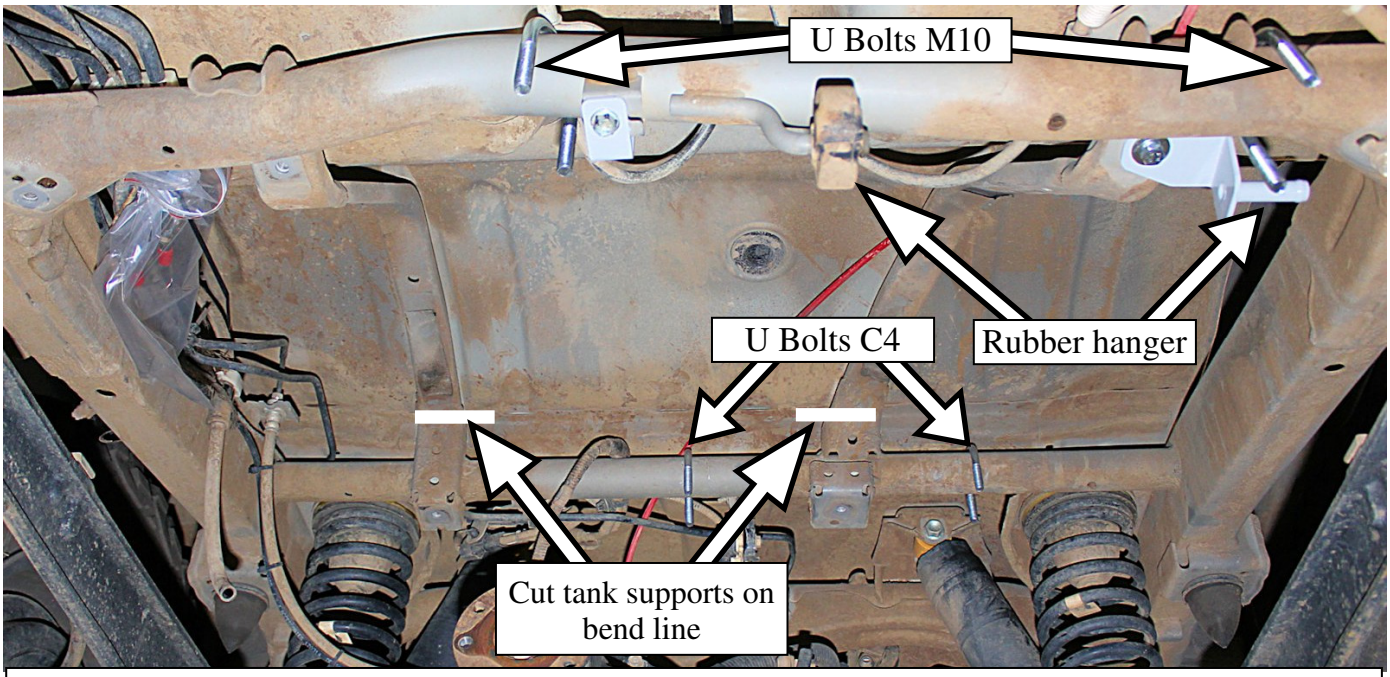


Photo 4: Prepare tank area

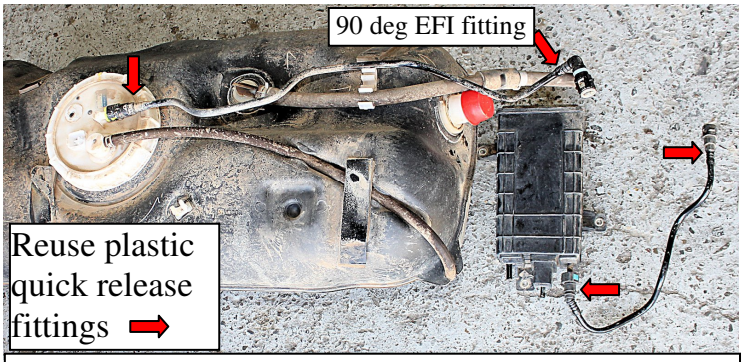


Photo 5: Remove fittings

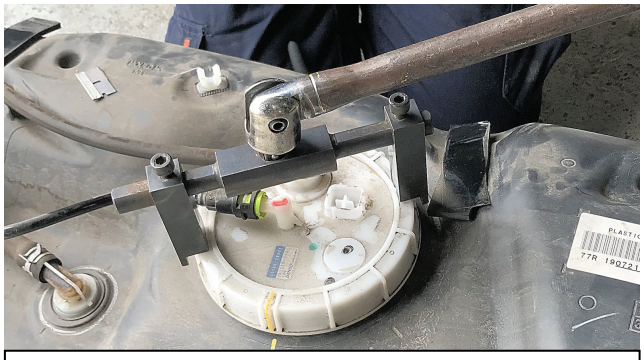


Photo 5a: Remove pickup unit

WARNING: Ensure no fuel fumes are present during the following steps that require metal cutting, do not have any damp fuel rags in the area of grinding, ensure OEM fuel tank is well away from the area.

20. **As per photo 3 and 4**: Mark tank supports and cut from vehicle. Rust proof bare metal.
NOTE: A reciprocating saw will be safer with less sparks being produced than an angle grinder.

21. **As per photo 3**: Cut off exhaust hanger and rust proof bare metal.

22. **As per photo 5 and 5a**: Clean top of tank and surrounds thoroughly, remove the pump unit from original fuel tank. ***IMPORTANT:*** *Carefully inspect the unit and intake filter screen for damage or contamination and clean or replace if required (report any fuel contamination observed to the vehicle owner). If O-ring has swelled it may need to be left in the sun for a brief period to dry out.*

23. **As per photo 6**: Carefully unclip the float arm and replace with the new longer one supplied. ***Note:*** *Sit pickup unit on flat surface with a 40mm packer under it and check float is just touching surface. Failure to use packer will result in larger quantity of fuel in tank when nearing empty with possible customer complaints and tank removal to rectify. With this configuration we believe there will be approximately 13lt left when the low fuel light comes on and approximately 8lt left when the last bar flashes.*

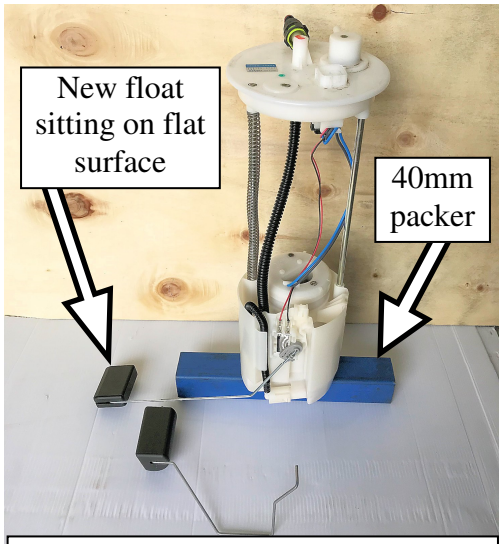


Photo 6: Setting up float arm

24. **As per photo 7**: Carefully fit the pickup unit using the existing O-ring, with new M5x12 screws and R55CR clamp ring supplied. ***NOTE:*** *The unit can only be fitted in one orientation with the float aiming towards the front right corner, ensure the float does not foul on internal baffling and tank sides. Run hose towards the rear RH corner.*

25. **As per photo 7**: Mount additional carbon canister (**#CC01)** to tank with supplied 4x M6x12 bolts, 4x flat washer, 2 nyloc nuts and 2x M6 spring washer, *Note: have the inlet on the filler side.*

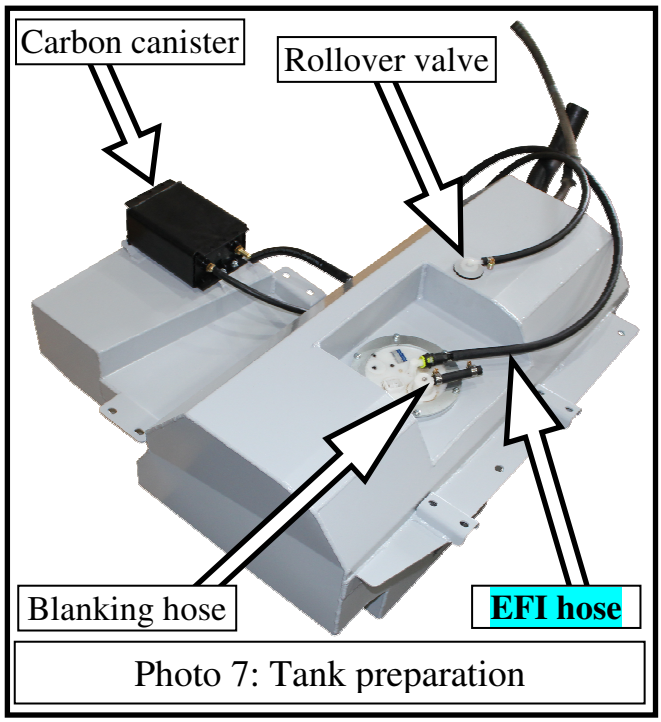


Photo 7: Tank preparation

26. **As per plumbing diagram and photo 7**: Fit ¼ x ¼ BSP straight brass to canister inlet. Fit 5/16 x ¼ BSP straight brass to canister outlet, with a suitable sealant.

27. **As per plumbing diagram and photo 7**: Fit 6mm x 1100 hose to roll over valve on top of tank MH4 clamp supplied.

28. **Refer to Plumbing Drawing and Photo 5**: Remove the four required plastic quick release fittings from hard plastic fuel lines.
Note: The 90deg fitting is on the Fuel Pickup EFI hose.
Note: Ensure not to damage barbs to prevent fuel leaking. Can leave the quick connect fitting for the EFI pickup on the pump unit, only remove the hose from it.

29. **As per plumbing diagram and photo 7**: Fit 8mm x 950 long **EFI hose** to pick up on pump unit using O:E straight barb onto the pump unit and hose clamp.

30. **As per plumbing diagram and photo 7**: Fit 6mm x 50 blanking hose and blanking piece with MH4 clamps supplied to fitting on pickup unit.

31. **As per photo 4**: Place 2 x M10 Ubolts and the 2 x C4 Ubolts on front cross member in location indicated.

32. Lift the Long Ranger tank into position, while doing this connect the pickup unit's wiring, ensure it locks into place.

33. Fit original bolts to the two rear OEM tank mounts with large washers supplied.

34. Fit front two M10 "U" bolts with nyloc nuts and large washers supplied and the rear two M8 Ubolts and large washers.

35. Check for clearance all round tank, tension all tank mounting hardware. *Note: ensure the EFI hose from top of tank is not squashed or will rub on any cut edges.*

36. **As per plumbing diagram:** Connect 6.5mm hose from roll over valve to inlet on additional TLR canister.

37. **As per plumbing diagram:** Connect **EFI** 8mm pickup hose from EFI unit in tank to steel line on R/H chassis rail. Use 90° plastic barb from OEM line previously removed and hose clamp. ***Note:*** *The two steel fuel lines are the same size, you will have marked in a previous step which of these is for the canister purge line, we have found the EFI Pickup line is closer to the tail shaft.*
Warning: Failure to do this step correctly could result in permanent damage to the engine when trying to restart as fuel from the EFI pump could end up in the combustion chamber.

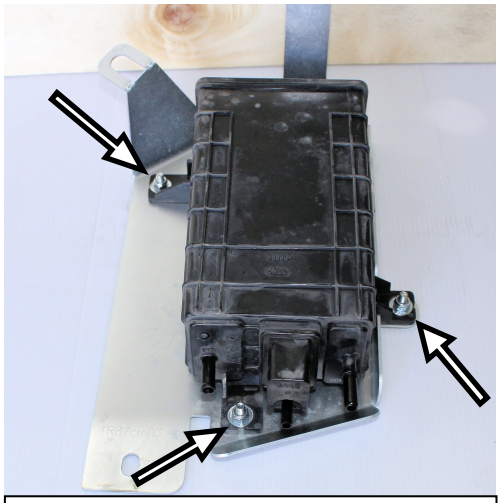


Photo 8: Mount OEM canister

38. **As per plumbing diagram:** Fit 10mm x 260mm link breather.

39. **As per photo 8:** Fit OEM canister to mounting bracket (#TA87CM) M6 bolts, nuts and washers.

40. **As per photo 9:** Mount canister assembly to vehicle with two OEM bolts and one M8 x 20 supplied .

41. **As per plumbing diagram:** Fit original canister hose from "outlet" on TLR canister to centre port on OEM canister.

42. **As per plumbing diagram:** Fit 8mm x 900 long hose from OEM canister left port to hard pipe at top of filler neck.

43. **As per plumbing diagram and photo 9**: Connect 8mm x 800mm canister purge hose to port on OEM canister using OEM 45° barb then connect to steel line closest to chassis rail using OEM straight barb and hose clamps.

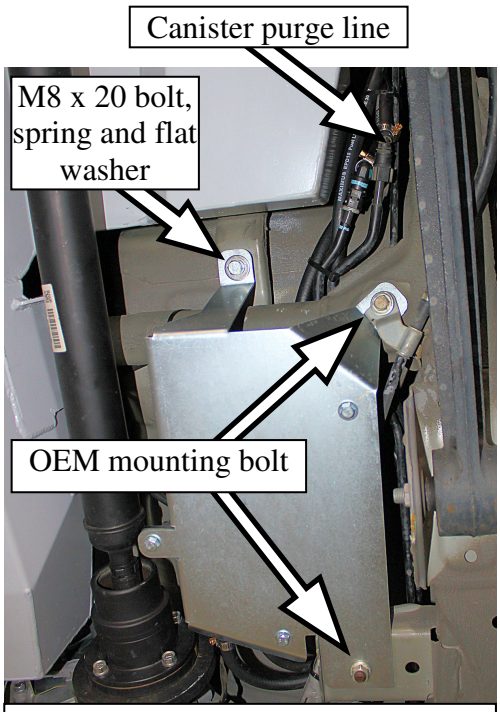


Photo 9: OEM canister mounting

44. Connect filler hose to the new tank.

45. **As per plumbing diagram** : Cut 220mm from OEM fast fill breather hose and fit to new breather pipe on tank.

46. Refit plastic inner guard.

47. **As per Photo 10**: Cut ends from OEM exhaust and refit ends to the vehicle.

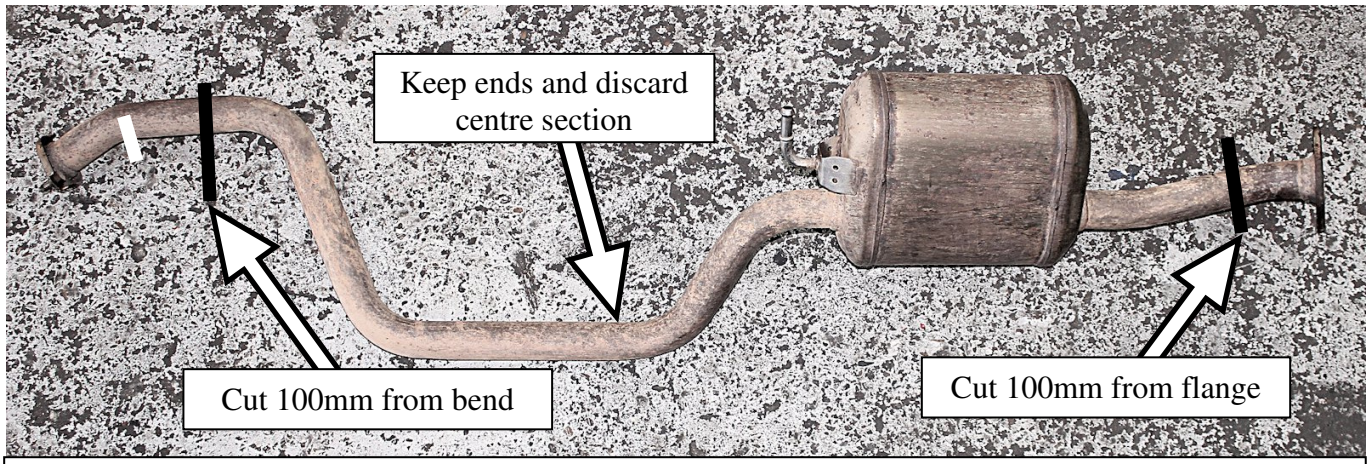


Photo 10: Cut exhaust system in two places as shown

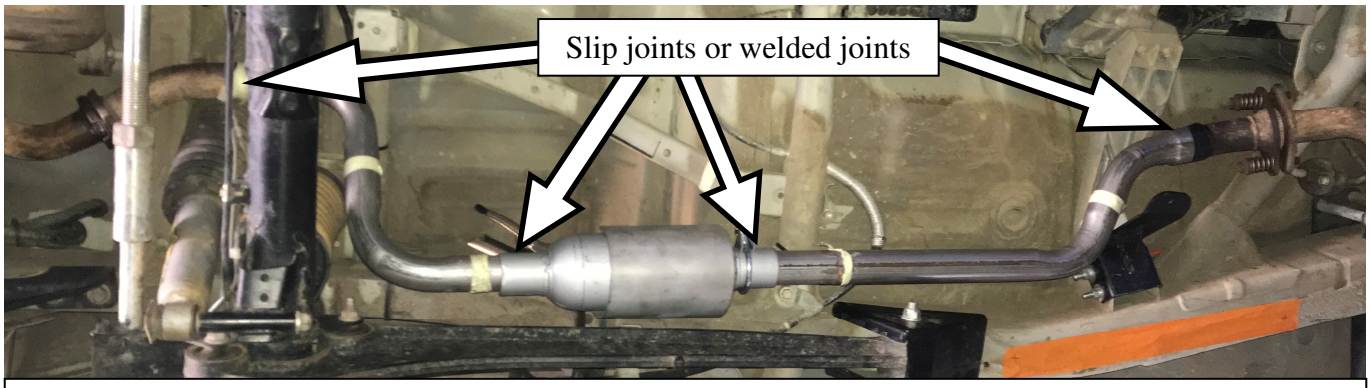


Photo 11: Rebuild mid-section of exhaust with parts supplied

48. **As per Photo 11**: Loosely assemble exhaust on vehicle with new hot dog and two pieces of pipe, ensure a good fit. We strongly recommend welding these joints, if this is not possible we have supplied enough exhaust clamps to make these connections as slip joints, With an angle grinder and cut off wheel cut one 25mm long slit at each join on the outer pipe, this allows the pipe to squash tight on the inner pipe, apply suitable exhaust sealant and fit exhaust clamps.
Note 1: If using slip joints also do following step while fitting exhaust clamp to front of Hot Dog.
Note2: The hot dog is directional, if you have the internal open flute towards the engine it will be slightly quiter than if they are facing to rear of vehicle.
Note 3: If using slip joints and exhaust clamps ensure the rear clamp has the thread aiming away from the shock as it my rub on some rubber boots.
Note 4: If you do not have the required skills to modify the exhaust this step may need to be contracted out at extra cost.

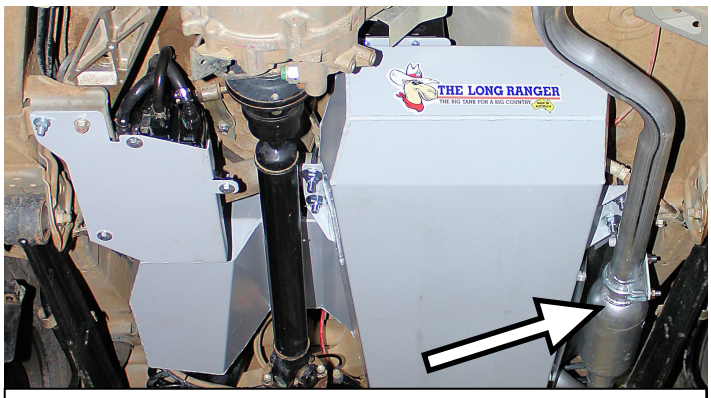


Photo 12: New exhaust hanger

49. **As per Photo 12:** Fit bracket #TR87B2 and C7 Exhaust clamp.

50. Re Fit tail shaft.

51. Double check all hose clamps, fittings and bolts.

52. **<u>WARNING</u>: If the car does not start as expected, immediately stop and check the EFI hose from the pickup unit is connected to the correct fuel line on chassis rail, if incorrectly connected the EFI pump will push fuel to engine manifold and potentially end in a hydrolocked engine! If correct and still not starting, is the electrical plug on the EFI unit plugged in correctly.**

53. 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).

Explain to the owner the operation of the LONG RANGER TANK.

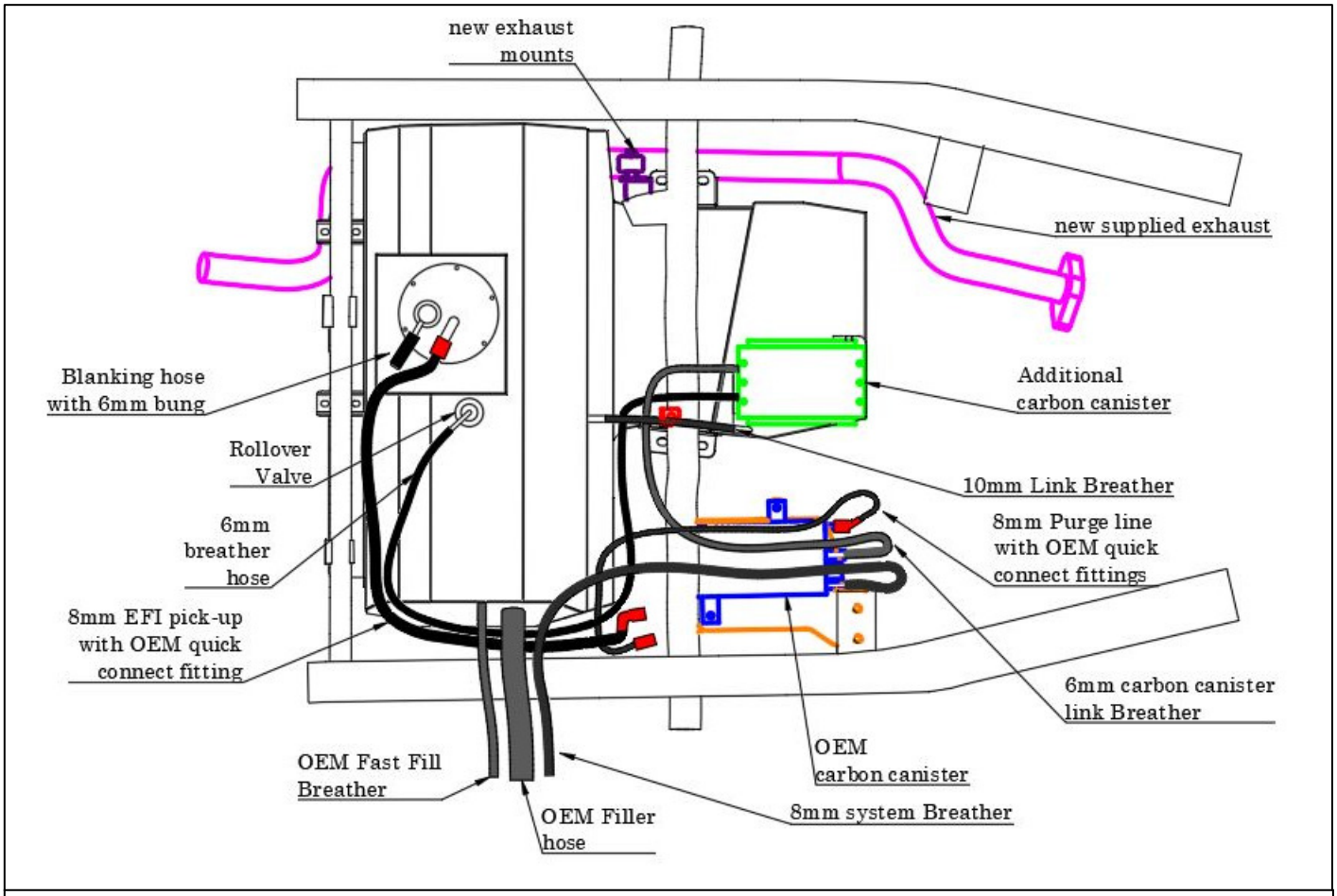
54. The LONG RANGER tank will fill in a similar fashion to the tank it replaces, but the operator has the option of carrying a substantially larger quantity of fuel.
55. Due to the different shape of the LONG RANGER tank, the gauge will measure a larger quantity of fuel and will remain on *FULL* for a longer distance before slowly moving to *EMPTY*. The **trip computer** with distance (driving range) to empty will no longer accurately show the distance left to travel. The computer still thinks the tank only has 40lt and will not give a larger range reading with the new tank installed. It is suggested that the readings be cautiously interpreted along with the gauge until familiar with the new readings. As a rough guide the RANGE will be approximately 100% greater with this new 80lt tank installed. It should also be noted a Jimny with OEM tank can drive for a reasonable distance after the range says zero, with the Longranger this is no different, there is an Jimny FAQ tab on our website to explain what to expect.
56. Our testing has shown the distance between the “Low fuel light/Flashing light” and “Flashing light/running out of fuel” are the same so for example if you travel 65km from the time the low light comes on till it starts to flash you can expect to run out of fuel 65km after the flashing light comes on.
57. The the low fuel light is activated with approximately 15% (6lt) in OEM tank, this figure is now approximately doubled with the longranger tank fitted, It should also be noted there is a secondary low level indicator and the last bar starts to flash.
58. The quoted capacity of the LONG RANGER tank was determined by a bench test. The actual operating capacity may vary slightly from vehicle to vehicle and the filling can vary depending on the slope of fuel station filling area or filling to the first click may not fill tank to capacity.
59. The vehicle manufacturer selected springs without accounting for a bigger fuel tank. Several suspension modification options are available.
60. The LONG RANGER tank is a premium quality accessory that will provide many years of satisfactory service provided that the Care and Maintenance items listed below are taken care of each time the vehicle is serviced.

Hand these instructions, together with the Warranty Registration card and warranty information, to the owner. Neatly apply the LONG RANGER sticker to the rear bumper or window.

CARE AND MAINTENANCE

1. After the first 1,000 kilometres, clean or replace the fuel filter, check that there is no rubbing or chafing of the tank, fuel hoses or associated components.

2. At each of the vehicle manufacturer’s recommended services, check all fastenings for the correct tension, that rust preventative has been correctly applied where applicable, release the tank drain plug and confirm that there is no water present, and replace the fuel filter according to manufacturer’s recommendations.



Plumbing drawing

What to check if your Jimny won't start after installing Long Range Fuel Tank…

Do not attempt to restart vehicle until you have checked the fuel lines

1. The electrical plug on top of the tank may not be connected.

2. Suzuki have used the same size fuel lines for both the EFI system and the Canister Purge line,
If the fuel tank has been removed for any reason it is possible to refit the fuel tank and have these two fuel lines incorrectly fitted. In which case the EFI pump is no longer being supplied fuel from the in tank pump and the emissions system will now have fuel in it once the ignition is turned on.

The canister purge line is connected to the engine manifold via an electronically controlled valve and vacuum line. In normal operation the canister is purged of the fuel fumes into the engine via the vacuum line, the valve usually opens when the vehicle reaches operating temp.
We can confirm that on a 2020 Jimny when cold the purge valve is closed at lease till the blue "cold engine" light goes out, once the vehicle reaches operating temp the computer controls the opening and closing as it see fit.

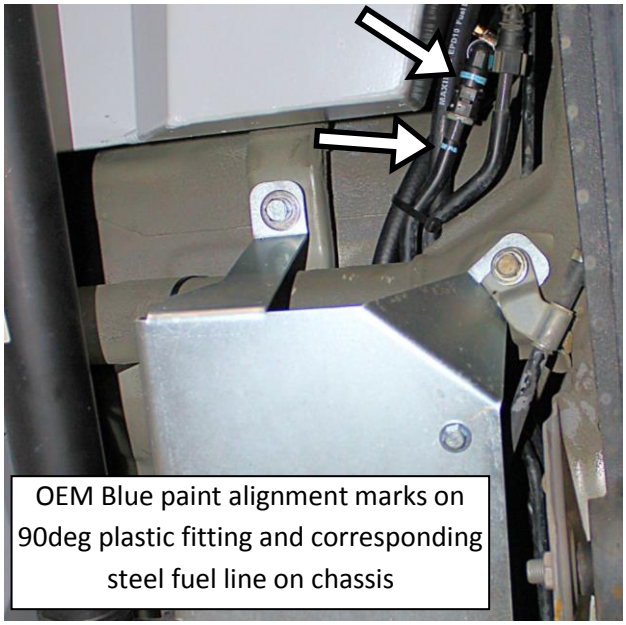
If this has happened the purge valve may stop the fuel from going into the manifold but if fuel can bypass the valve then the valve might be damaged from the Hi Pressure EFI Pump of even worse fuel can enter the combustion chamber and a possible hydro locked engine from continual attempts to start.

If this has happened check the fuel lines have been connected the way they were prior to tank removal. As per the picture below we have found the Jimny OEM EFI pickup line has a blue marking on both the 90deg plastic quick disconnect fitting and the steel fuel line for easy identification.

If these have been fitted incorrectly and an attempt to start the engine has been made it would be wise to remove the excess fuel from the canister purge line. In the picture below we show the purge valve. Disconnect the canister purge line down at the steel line near the fuel tank and from the inlet at the bottom of the purge valve and blow the fuel back out.

If the vehicle displays any symptoms seek mechanical advice to trouble shoot the issue further.

Note: We are not sure how much pressure the purge valve can handle before allowing fuel to pass into the manifold. It may be damaged by the EFI pump pumping fuel into it, this could allow air to be continually entering the manifold and affect the performance.
Note: Continued cranking of a non-starting engine in the above situation can result in serious damage to the engine. EG: fuel bypassing into the manifold could result in a hydro locked engine. An engine compression test would verify internal engine damage.


OEM Blue paint alignment marks on 90deg plastic fitting and corresponding steel fuel line on chassis