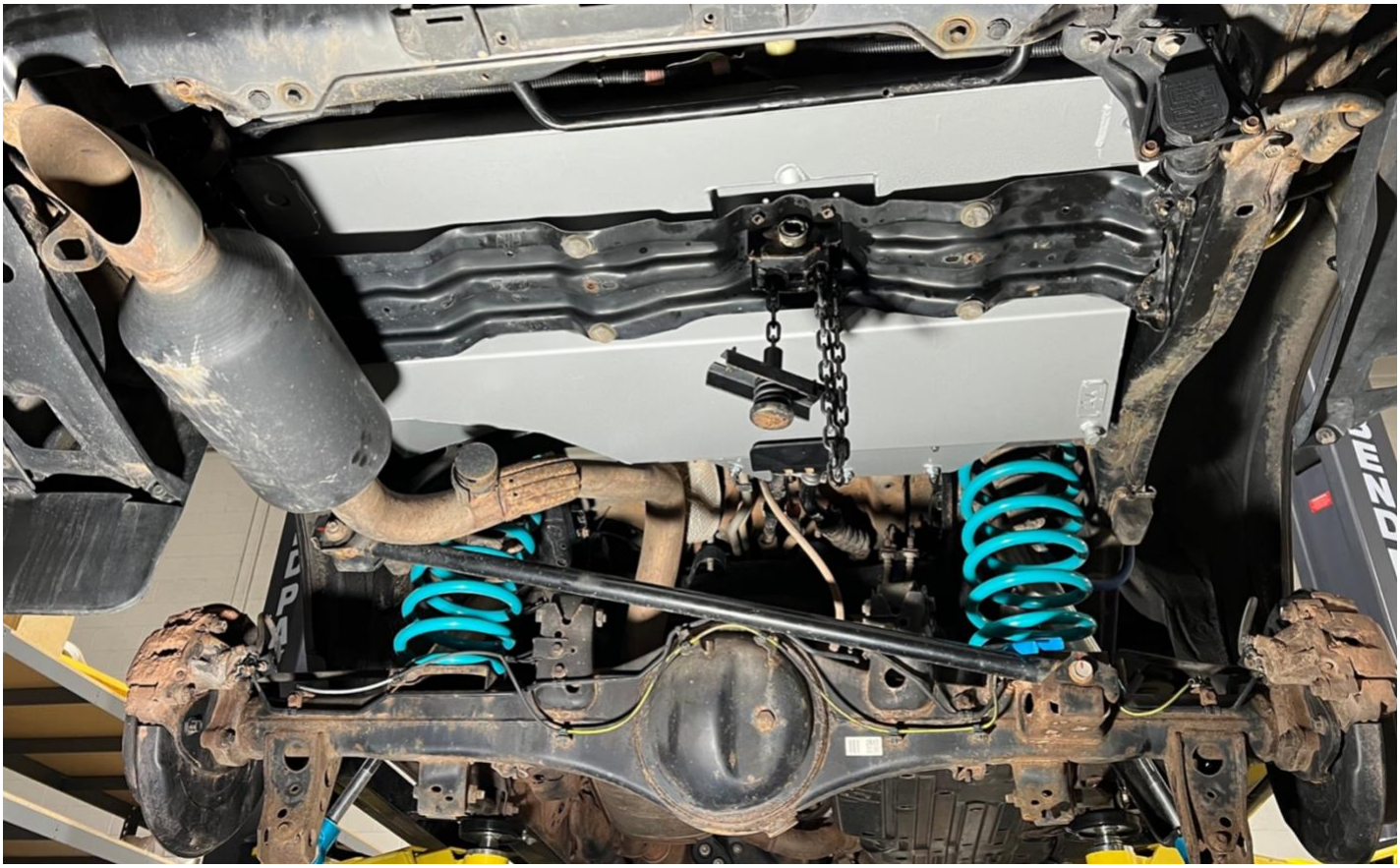
2007-2021 Toyota Land Cruiser 200 Series 12.5 Gallon Auxiliary Tank Instructions

Product Information/Install Instructions for

Toyota Land Cruiser 200 Series Main Replacement Tank

Kit P/N TLC200A-12.5GAL





D. INSTALLATION KIT CONTENTS

HARDWARE	HOSES & CLAMPS	MISC PARTS
2 x M8 x 25mm Bolt	1 x 8mm Fuel Hose @ 13.78" Long	1 x Twin Filler #TFTLC200US
8 x M8 x 20mm Washer	1 x 8mm Fuel Hose @ 39.37" Long	4 x M10 x 30mm Bolt with 5mm x 5.91" Strap
12 x M10 x 25mm Washer	1 x 12mm Fuel Hose @ 33.86" Long	2 x M8 x 25mm Bolt with 5mm x 5.91" Strap
4 x M8 Nyloc Nut	1 x 16mm Fuel Hose @ 21.65" Long	1 x Right-Hand Secondary Bracket
11 x M10 Nyloc Nut	1 x 35mm Fuel Hose @ 3.15" Long	1 x Left-Hand Secondary Bracket
3 x M10 x 85mm Center U-Bolt	1 x 35mm Fuel Hose @ 3.94" Long	1 x Spare Wheel Bracket
2 x 30mm Pan Head TEK Screw	6 x 1/4" Hose Clamp	12 x 7" Cable Ties
1 x 25mm Pan Head TEK Screw	2 x 5/8" Hose Clamp	3 x 11" Cable Ties
1 x M10 x 30mm Bolt	2 x 1/2" Hose Clamp 4 x 1-1/4" Hose Clamp	1 x Z14 Filter (for Fuel Transfer Pump) 1 x Fuel Transfer Pump Magnet (to be used inside auxiliary tank) 1 x Breather Kit (2 x 3/8" Hose Clamps, 1 x P10-0606 (3/8" x 3/8" BSP) Adapter, 1 x 38-CS06 + Foam Filter, 1 x P7R-1006 5/8" x 3/8" Reducing Joiner, 1 x 10mm Fuel Hose @ 2.95" Long)
BRASS	**ELECTRICAL**	
1 x P6 5/16" x 1/4" 8mm Elbow	1 x LRA-PG210 Switch Gauge	
1 x P6 5/16" x 1/8" 8mm Elbow	1 x 10 Amp Fuse and Holder	
1 x P3 5/8" x 3/8" 16mm Straight	2 x 3mm Single Core Red @ 11.81" Long	
1 x P6 5/8" x 3/8" 16mm Elbow	1 x 3mm Two Core @ 236.22" Long	
1 x P6 1/2" x 3/8" 12mm Elbow	2 x Red Insulated Terminal	
	1 x Red Eye Terminal	
	1 x Blue 6mm Eye Terminal	
	3 x 3mm Shrink Tube @ 1.18" Long	
	1 x 0-90 Ohm Sender Unit (with 27.56" Ground Attached)	

NOTE: If a replacement fuel filler cap is needed, they are available at AutoZone (Duralast, p/n 6817A)

A. INSTALLATION

1. Select a suitable location in the dash to mount the switch/gauge unit. We recommend using one of the switch blanks

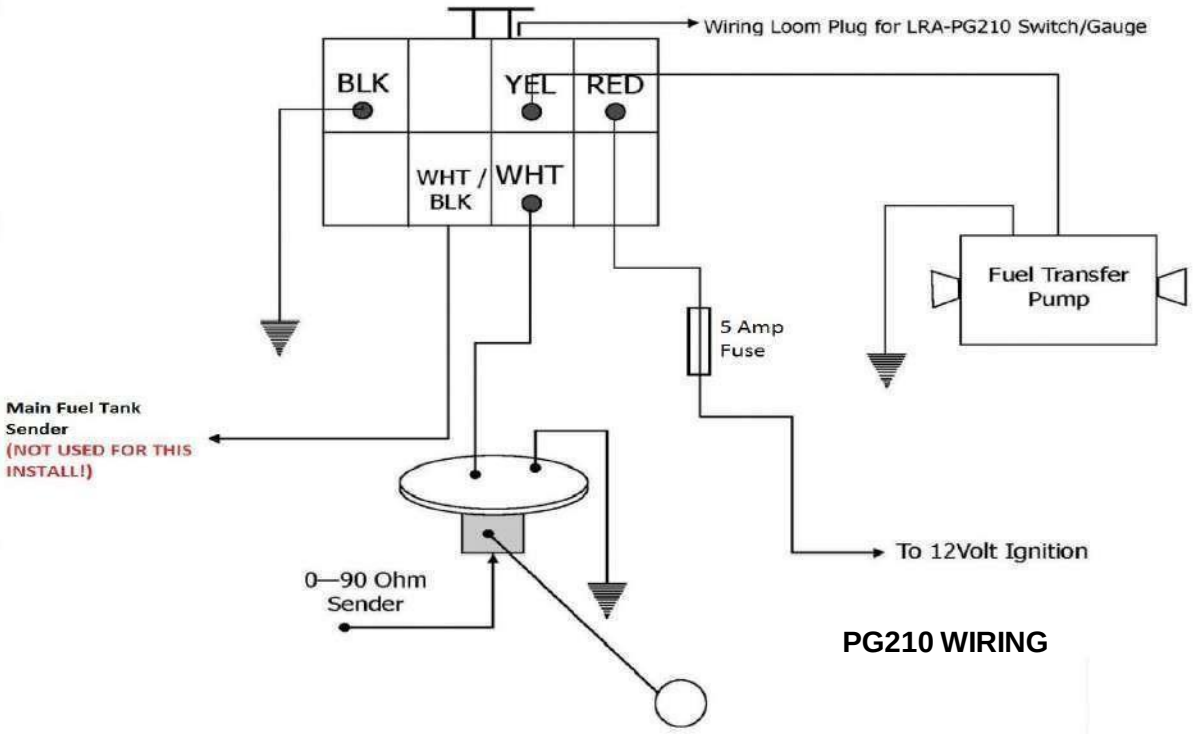


2. Use a step bit (adjustable drill bit) to drill a 20mm (.78”) hole in the switch blank cover. Use a small file to carefully adjust the hole size as needed.
3. The switch is fairly sensitive to installation. The hole diameter can be no smaller than 20mm or .78”. If it is too small, and the switch is forced into place, the switch may be damaged or not function properly. You will need to test-fit and carefully file or cut out more material if needed. **DO NOT FORCE SWITCH INTO PLACE WHILE TEST-FITTING. IF STICKER IS BEING PUSHED OFF OF SWITCH ENLARGE THE HOLE.**
4. Connections should be soldered and heat shrunk, **not just crimped**.
5. Double-check all connections when done.

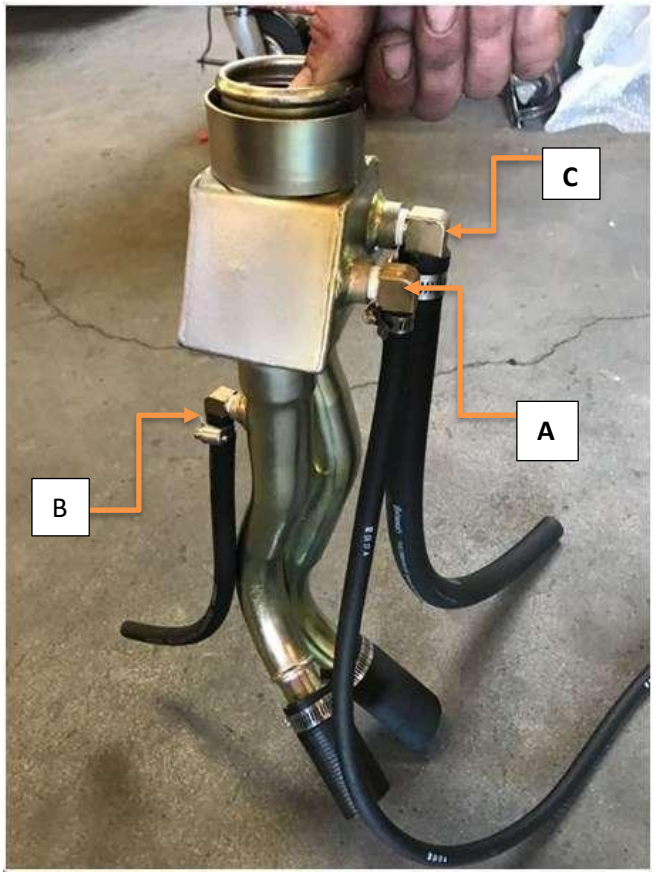
B. WIRING

1. Connect switch to an ignition source, A fuse tap is a common solution for tapping into an ignition power source
2. Run the twin core sheath cable under the left-hand trim pieces and behind the quarter panel trim, and out through the grommet near the rear passenger seats.
3. Leave enough wire to reach the fuel gauge sending unit.
4. Please do not route wiring under vehicle, avoid any rubbing, pinching, and exhaust/ hot components
5. The white and black striped wire will not be used. GET READY

1. We recommend power washing the underside of the vehicle, to remove mud and debris.
2. Unpack tank and installation kit. Review packing list and kit.



PG210 WIRING





B. INSTALL HARDWARE IN FILLER NECK

1. Locate the filler neck and install the three brass fittings as follows:
    a) P6 1/4” x 1/4” elbow into the main tank socket of upper box.
    b) P6 5/16” x 1/8” elbow into lower main tank fill pipe, this becomes the transfer port.
    c) P6 5/8” x 3/8” elbow fitting into the auxiliary fast fill socket of upper box.
2. Loosely fit hoses to filler neck hoses
3. At this point, all three hoses should be installed on the barb fittings along with the appropriate hose clamps. Make sure to tighten the hose clamps properly because once the filler neck is installed in the vehicle these will be very difficult to access.

C. SET UP AUXILIARY TANK

1. Install a P6 5/16” x 1/4” elbow into the fuel pick up at the front of the tank, point up. Fit 48-inch length of 8mm hose to the fuel pick up with a hose clamp. Keep in mind this will also be very difficult to access once the tank is installed..

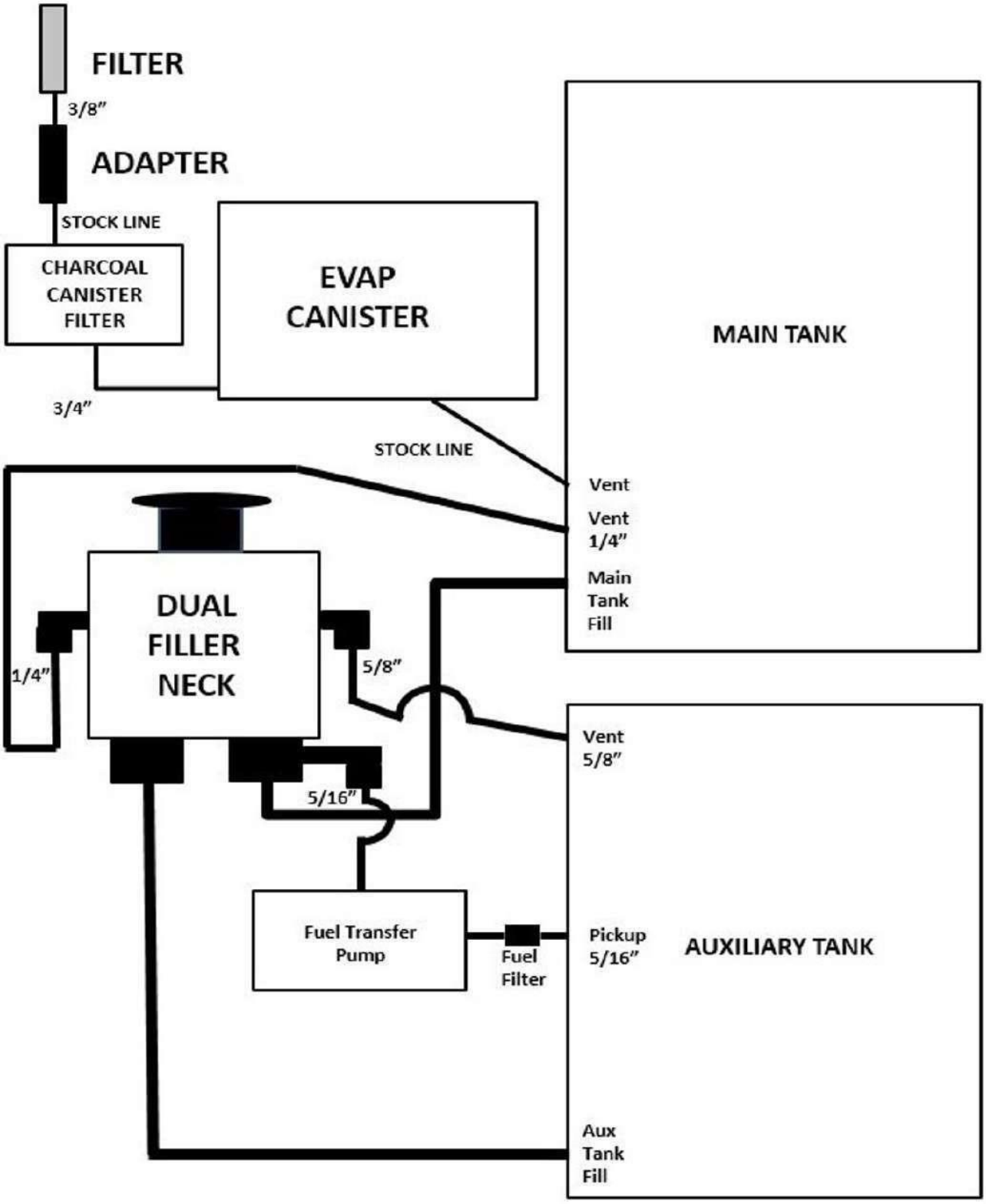
2. Screw the P3 5/8” x 3/8” straight fitting into the filler neck side of the tank. (fitting supplied may have a 90° elbow)





3. Remove the five Phillips-head mounting screws from the sending unit, and carefully remove the sending unit from the tank.
4. Bench test the sending unit with an ohm meter. Ensure free movement of the float, ohm range should be 0-92Ω
5. Install the supplied magnet into the tank in the vicinity of the fuel pick up port.
6. Carefully Install sender unit using the five original Phillips-head mounting screws with a small amount of blue thread locker applied to each one.
7. It is recommended that when reinstalling the sending unit to add ring terminals and a length of wire to make connecting wires more simple during tank install




FILTER
3/8"
ADAPTER
STOCK LINE
CHARCOAL CANISTER FILTER
EVAP CANISTER
MAIN TANK
3/4"
STOCK LINE
Vent
Vent 1/4"
Main Tank Fill
DUAL FILLER NECK
1/4"
5/8"
Vent 5/8"
5/16"
Fuel Transfer Pump
Fuel Filter
Pickup 5/16"
AUXILIARY TANK
Aux Tank Fill

A. REMOVE THE REAR WHEELS, SPARE WHEEL AND RIGHT-HAND REAR WHEEL INNER PLASTIC COVER

1. Remove right rear wheels along with the spare wheel.
2. Remove the right-hand rear wheel inner plastic cover / fender liner.

B. INSTALL THE AUXILIARY TANK MOUNTING BRACKETS

1. Remove the four bolts from the top of the wheel carrier, followed by the three bolts on each side attaching the brackets to the frame.
2. Remove both bolts from the forward support for the spare wheel followed by cutting as seen bellow.
3. The rear hoop/spare wheel bump bar will need to be bent down 25mm (1 inch, to allow the spare wheel to pull up properly). You will need to cut off the small bracket (with two bolt holes) from the rear hoop and grind the surface smooth. Be sure to paint all exposed metal to prevent corrosion.



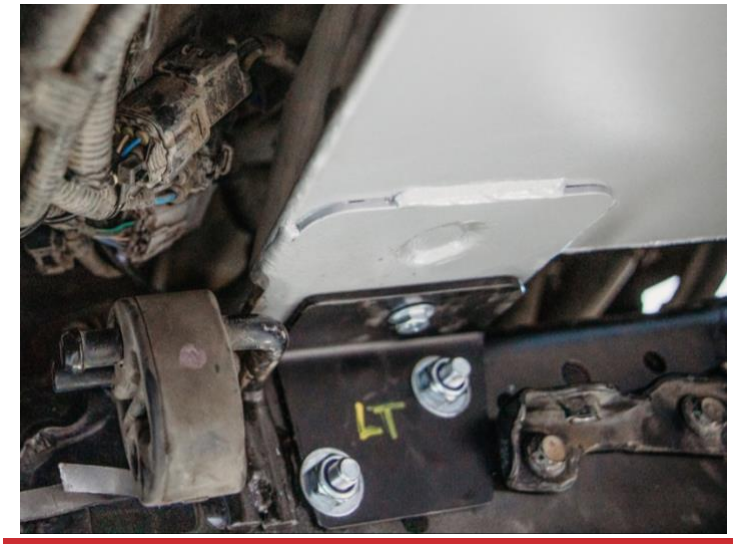




4. Replace the front spare wheel bracket with the unit supplied in the LRA kit.
5. Take a look at the inside of the frame rails where the spare tire carrier cross member “L” brackets were attached:
    a) If there are 2 sets of holes (you’ll see 3 holes; the L brackets would have been attached to the upper set of holes) then proceed.
    b) If there is only one set of holes (later model 200s), you’ll need to drill another set of holes 28mm (1.125 inches) lower and insert a set of riv-nuts or similar fixtures. This will be the new (and lower) attachment point for the “L” brackets. Use the template from the kit to drill holes in the rail to match the mounting position for the spare wheel carrier in the new lower position.



6. Bolt the new left-hand secondary bracket in place (just forward of the rearmost exhaust hanger) using the M10 x 30mm bolts with straps, washers and Nyloc nuts. You will need to drill the rear hole out to 10.5mm as it is a slot.
7. Bolt the right-hand secondary bracket in place using the remaining M10 x 30mm bolts with straps, washers and Nyloc nuts





C. Vehicle preparation

A. Lexus gx570 installs involve a replacement or accommodation of a round headed bolt only used on that model. this must be done to prevent rubbing on the tank.

B. The bracket shown must be trimmed to eliminate rubbing on the top of the tank. A rubber insulation pad (provided by the installer) may also be applied to provide insolation between tank and bracket/ body.





D. REMOVE/MOVE THE CHARCOAL CANISTER FILTER

1. Locate the evaporative emissions (evap) canister. On the passenger side is the charcoal canister filter (black plastic box with two hoses), which will need to be relocated to the passenger fender well near the dual filler neck. Note the orientation of the filter as routing incorrectly may damage canister. Inspect filter for any dust or debris, and clean or replace if needed. Replacement is recommended by Toyota if not in good order.



D. **REMOVE/MOVE THE CHARCOAL CANISTER FILTER *(continued)***

2. The wire loom going to the evap canister is held onto the underside of the body with a clip which needs to be removed and the tab flattened flush with the floor. Follow the wire loom back to the frame and find the tape junction. Removing the tape will allow enough extra length to reroute the wire loom out of harm's way.





3. Remove the hose from the evap canister and replace it with the 16mm hose provided. This hose needs to be routed over the passenger frame rail and connect it to the OEM pre filter (ONCE AGAIN PLEASE NOTE THE ORIENTATION OF THE CANISTER)



E. REMOVE THE OEM FILLER NECK, CUT THE PIPES, AND INSTALL THE TWIN FILL NECK

1. The filler neck needs to be removed completely so it can be cut to length away from the vehicle and any possible gas fumes. Loosen the hose clamps at the main tank, remove all bolts and gas cap from the filler neck. This step can be simplified by unbolting the evap canister.
2. Locate the bracket that joins the fill pipe and the fast fill vent pipes together. Using the rear edge of this bracket as a reference point, measure and mark 520mm on the fill pipe, this will be the cutting point. Cut at the marked point, make sure there are no sharp edges, and refit the lower main tank fill pipe to the vehicle.





E. **REMOVE THE OEM FILLER NECK, CUT THE PIPES, AND INSTALL THE TWIN FILL NECK *(continued)***

3. Fit the twin fill neck in place. Connect the modified main tank filler pipe to the previously assembled dual filler neck using the main tank filler and 8mm breather hoses and install the assembly. A small amount of lithium grease will aid in installing the hoses.

F. INSTALL AND WIRE THE FUEL TRANSFER PUMP

1. Mount the fuel transfer pump to the inner wheel arch panel using a drill bit and routing pump as pictured (add sleeve to protect hose) .

THE PUMP MUST BE INSTALLED ABOVE THE FUEL LEVEL OF THE NEW TANK, AND WITHIN 12 VERTICAL INCHES OF THE NEW TANK BOTTOM. THE FUEL PUMP SHOULD BE MOUNTED WITH THE OUTLET HORIZONTAL OR ABOVE THE INLET. THIS WILL HELP TO PREVENT LOCATION-RELATED GRAVITY FEED, CHECK ENGINE LIGHTS (CELs), AND VAPOR LOCK ISSUES.

2. Complete pump wiring. **DO NOT** ground the pump to the mounting bracket, instead, drill a hole in the body and clear an area for the body ground terminal to be firmly connected to bare metal. The transfer pump is sensitive to power interruption when on and a good ground is **imperative**.

3. Connect the 8mm fuel line coming from the dual filler neck to the output side of the fuel transfer pump (side without the filter) (note flow direction on pump).



G. FINISH VEHICLE PREPARATION

1. Install the supplied U-bolts over the cross member above the rear axle:



. FINISH VEHICLE PREPARATION *(continued)*

1. Unbolt and remove the factory trailer wiring harness along with the mount.
2. Remove both body tabs with a cut-off wheel, grind flat/smooth and paint all bare metal to prevent corrosion:







A. INSTALL THE AUXILIARY TANK

1. Carefully jack the tank into position and attach the fuel gauge sending unit wires. Secure the U-bolts at the front with M10 Nyloc nuts and washers. At the rear of the tank use the supplied M10 bolts with locking nuts.
2. Check that the spare wheel bump bar is just below and clear from the rear of the tank.
3. Be sure to locate tank as far left as possible to ensure it is spaced correctly

B. INSTALL THE SPARE WHEEL CARRIER

1. Notch the center of the ends of the OE spare wheel carrier to allow access to the center bolt. Bolt the wheel carrier in its new position and secure with original bolts and 2 x M8 x 25mm bolts with straps.









C. CONNECT HOSES BETWEEN AUXILIARY TANK, FILLER NECK AND FUEL TRANSFER PUMP

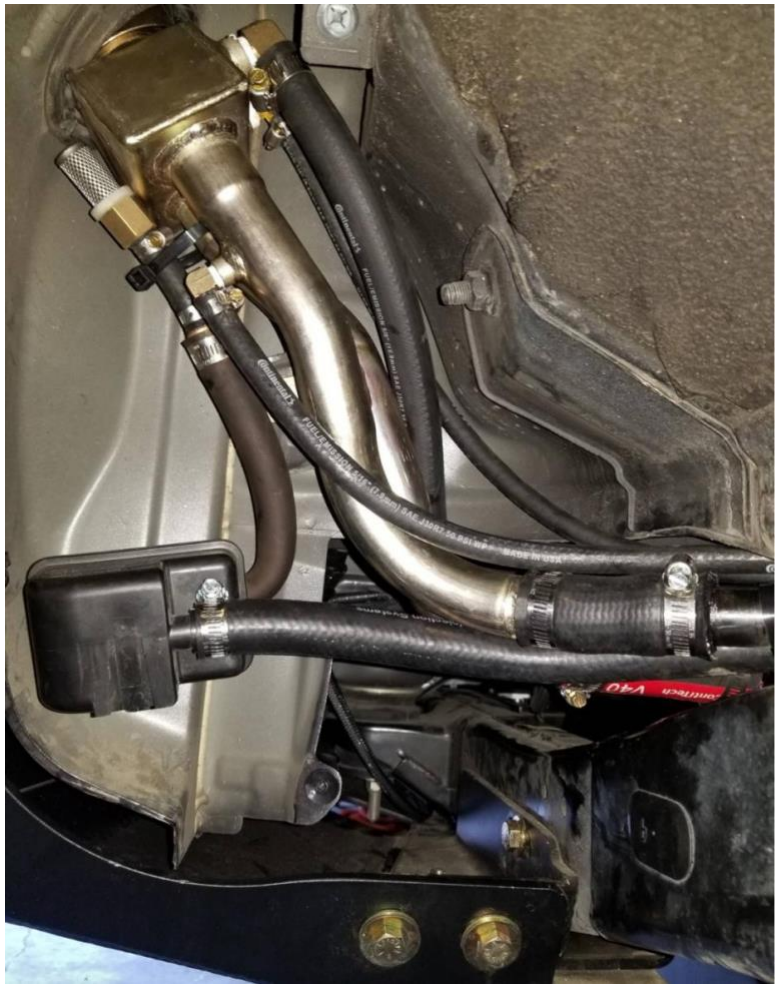
1. Attach the auxiliary tank filler hose to the filler neck and connect the 16mm fast fill vent hose.
2. Connect the 8mm fuel pick up line to the in-line filter, then to the inlet side of the fuel transfer pump.

D. INSTALL/CONNECT THE OEM CHARCOAL CANISTER FILTER

1. Locate the charcoal canister filter (small black plastic box you previously removed from the evap canister). Remove the factory mounting bracket from the charcoal canister filter, flatten factory bracket and reinstall. PLESE NOTE ORIENTATION AS PREVIOUSLY INSTALLED. DO NOT REVERSE FLOW
2. Use the provided adapter, line and clamps to connect the OEM charcoal canister filter to the ADDITIONAL air filter as shown below

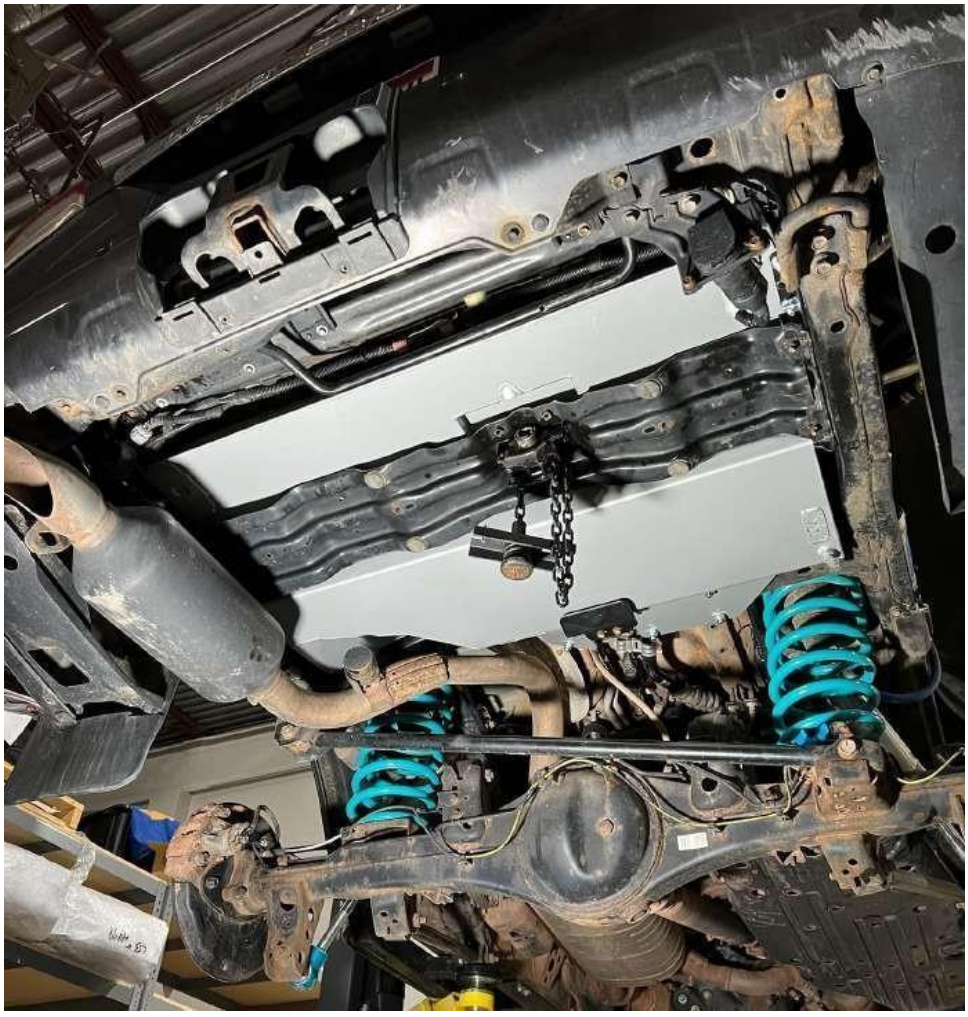
E.* INSTALL/CONNECT THE CHARCOAL CANISTER FILTER *(continued)

3. Using the flat tax, mount the charcoal canister filter to the inner fender as shown and attach the hose coming from the evap canister.



D. FINISH INSTALLATION

1. Reinstall the right-hand rear wheel well inner plastic cover.
2. Reinstall the factory trailer wiring.
3. Check all clearances and neatly cable tie all hoses and wiring. Check over all hoses and connections. Reinstall rear wheels and spare wheel.
4. Reconnect vehicle battery.
5. To test, fill main tank half-full, and the auxiliary tank full. Test transfer pump operation and make sure the gauge is working properly, the level lights are correct and listen for undue noise (a “tic-tock” noise is normal when the pump is running).
6. Check again for leaks.



A. **Are all hose clamps tight and secure?**

B. **Are all nuts and bolts secured?**

C. **Are mounting brackets and straps secure?**

D. **Are Fuel Gauge Sending Unit bolts secured?**

E. **Are all fuel lines secure with no kinks?**

F. **Does tank interfere with, or rub on, other vehicle components?**

G. **Is tank calibration accurate?**

☐ **Congratulations! You have completed the install!**