2007-2021 Toyota Land Cruiser 200 Series 40 Gallon Auxiliary Tank Instructions

Product Information/Install Instructions for

Toyota Land Cruiser 200 Series Main Replacement Tank

Kit P/N TLC200RA-40G





D. INSTALLATION KIT CONTENTS

HARDWARE	HOSES & CLAMPS	MISC PARTS
1 x M8 x 25mm Bolt	1 x 8mm Fuel Hose @ 13.78" Long	1 x Twin Filler #TFTLC200US
3 x M8 x 20mm Washer	1 x 8mm Fuel Hose @ 48" Long	1 x M10 x 30mm Bolt with 5mm x 300mm Strap
10 x M10 x 25mm Washer	1 x 6mm Fuel Hose @ 40" Long	2 x M10 x 30mm Bolt with 5mm x 150mm Strap
2 x M8 Nyloc Nut	1 x 16mm Fuel Hose @ 21.65" Long	2 x 5mm Bar Spacer Plate
10 x M10 Nyloc Nut	1 x 28mm Fuel Hose @ 3.15" Long	1 x TLC200MB Rear Mounting Bar
3 x M10 x 85mm Centre U-Bolt	1 x 35mm Fuel Hose @ 3.94" Long	2 x M8 x 30mmBolt with 5mm x 150mm Strap
2 x 30mm TEK Screw	1 x 3/4" (19mm) Breather Hose @ 36" Long	12 x 7" Cable Ties
1 x 25mm TEK Screw	6 x 1/4" Hose Clamp	3 x 11" Cable Ties
2 x M12 x 30mm Bolt 1 x M8 Spring Washer 2 x M12 Nyloc Nut	4 x 1" Hose Clamp 3 x 5/8" Hose Clamp 2 x 1-1/4" Hose Clamp	1 x Fuel Transfer Pump & Filter 1 x Fuel Transfer Pump Mounting Plate 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)
4 x M12 x 30mm Heavy Duty Washer	1 x 25mm P-Clip	
BRASS	**ELECTRICAL**	
1 x P6 x 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 5 Amp Fuse and Holder	
1 x P3 5/8" x 3/8" 16mm Straight	2 x 3mm Single Core Red @ 12" Long	
1 x P6 5/8" x 3/8" 16mm Elbow	1 x 3mm Two Core @ 236" Long	
1 x P6 1/4" x 1/4" 6mm Elbow	1 x Red Insulated Terminal	
	1 x Red Eye Terminal	
	2 x Blue 6mm Eye Terminal	
	3 x 3mm Shrink Tube @ 1.18" Long	
	1 x 0-90 Ohm Sender Unit (with 28" Ground Attached, 5 x M5 x 10 Pan Heads, 5 x M5 Spring Washers	
	2 x Fuse Holder Terminals	

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

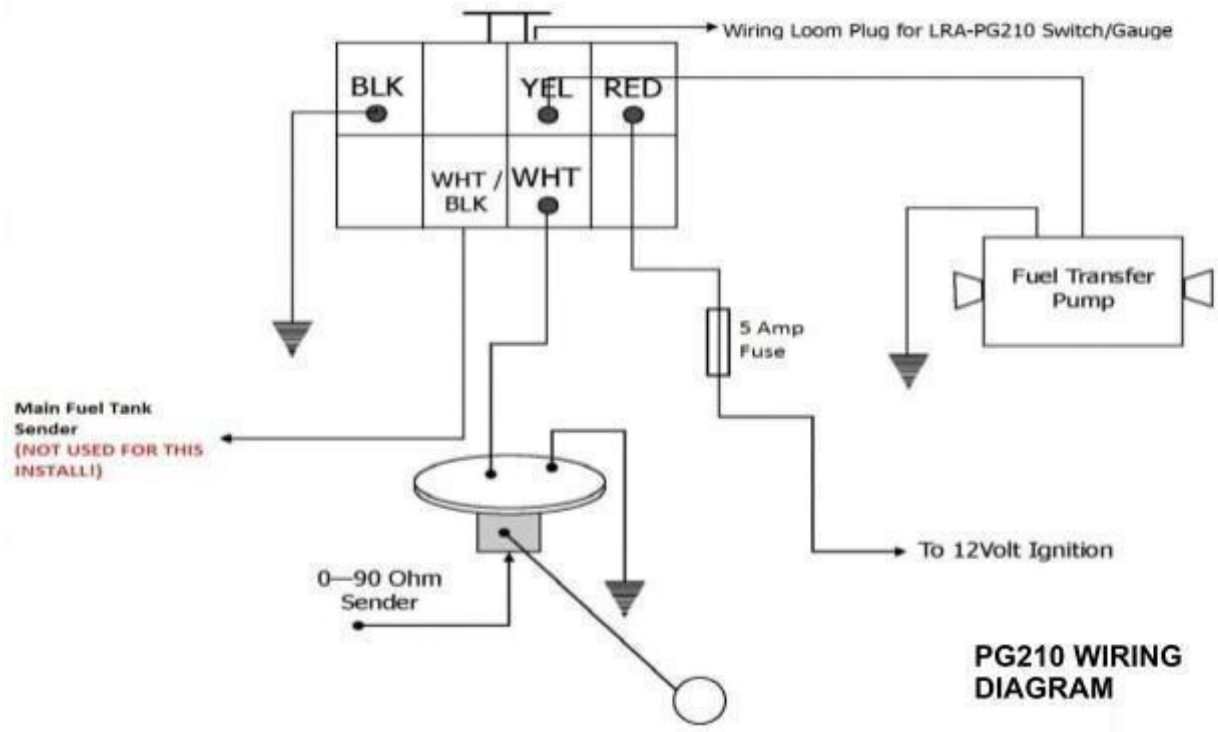


2. Use a step bit (adjustable drill bit) to drill a 20mm (.78”) hole in the switch blank cover. Use a small file to carefully adjust the hole size as needed.
3. The switch is fairly sensitive to installation. The hole diameter needs to be just the right size (20mm, or .78”). If it is too small, and the switch is forced into place, the switch may be damaged or not function properly. You will need to test-fit and file or cut out more material if needed. **DO NOT FORCE SWITCH INTO PLACE WHILE TEST-FITTING, OR AT ANY TIME WHILE INSTALLING THE SWITCH! IF STICKER IS BEING PUSHED OFF 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 right-hand scuff plates and behind the quarter panel trim and out through the grommet in the rear passenger seats.
3. Leave enough wire to reach the fuel gauge sending unit.
4. The white and black striped wire will not be used

Please do not route wiring under vehicle, avoid any rubbing, pinching, and exhaust/ hot components .

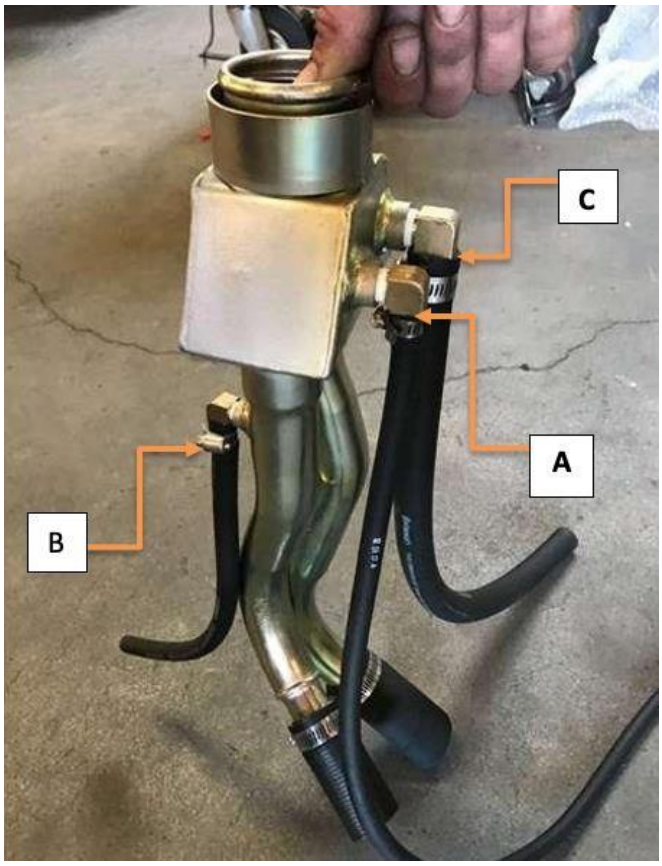


A. GET READY

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.

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. 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)





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

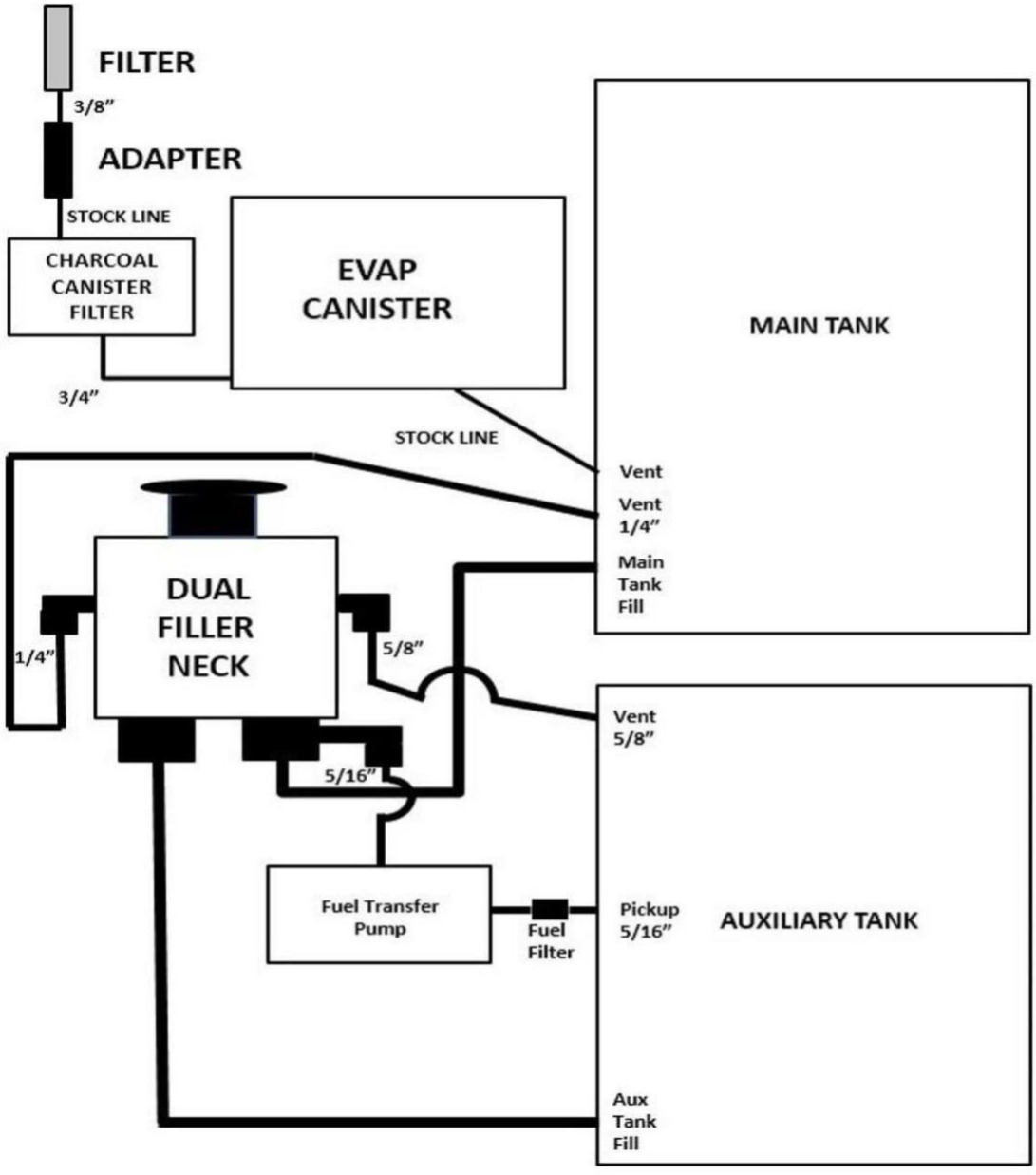
Install the supplied magnet into the tank in the vicinity of the fuel pick up port.

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

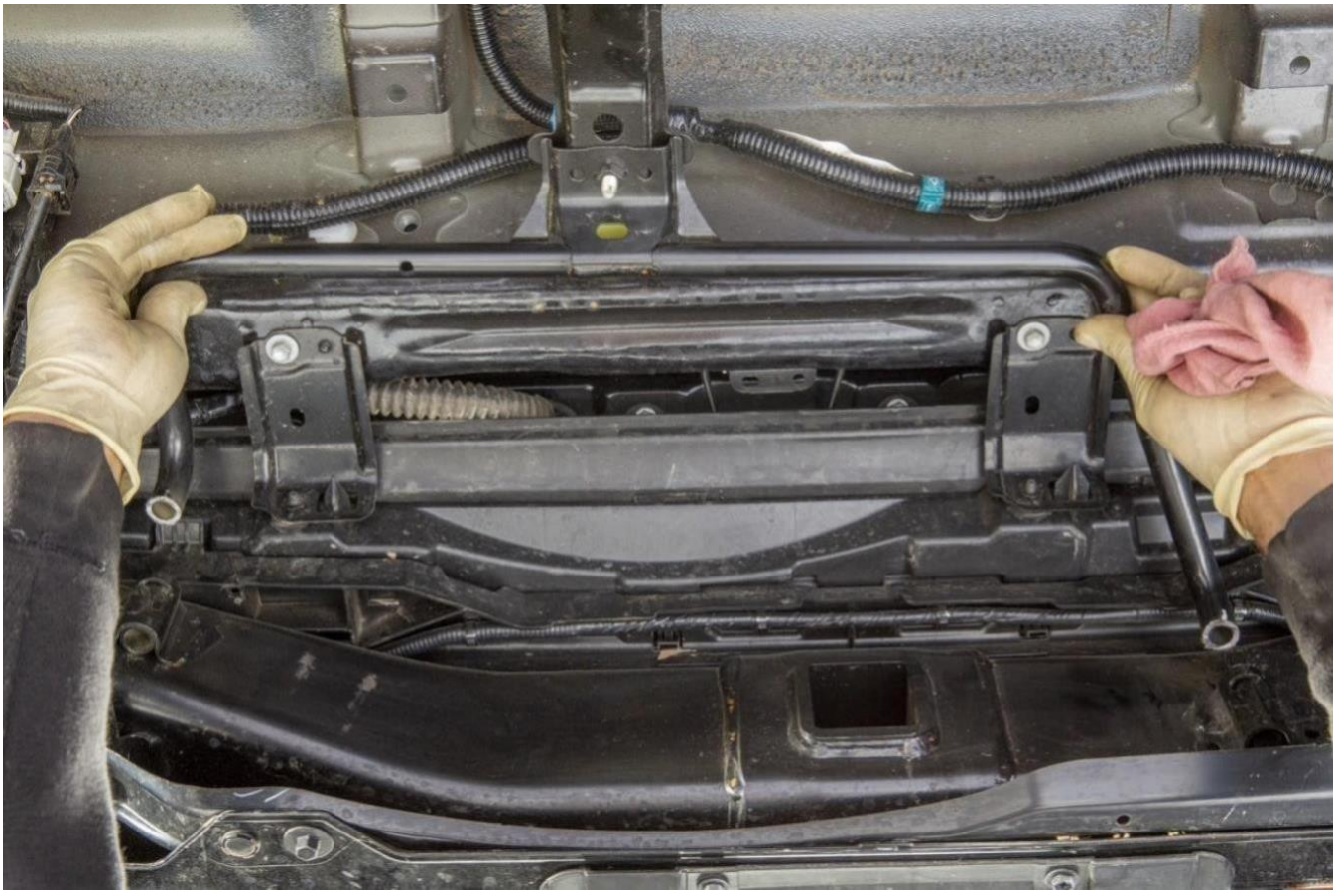


Sample Picture


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 SPARE WHEEL CARRIER

1. Remove rear wheels along with the spare wheel. This tank takes the place of the spare wheel, the wheel will not be reinstalled.
2. Remove the four bolts from the top of the tire carrier, followed by the three bolts on each side attaching the brackets to the frame.
3. Remove both bolts from the forward support for the spare wheel.
4. Cut the bracket off the rear hoop/spare wheel bump bar at the back of the frame, and grind the remaining metal smooth. Paint all exposed metal to prevent corrosion:



A. REMOVE THE REAR WHEELS, SPARE WHEEL AND SPARE WHEEL CARRIER *(continued)*

5. Cut front support off cross member above rear axle. Be sure to paint all exposed metal to prevent corrosion:



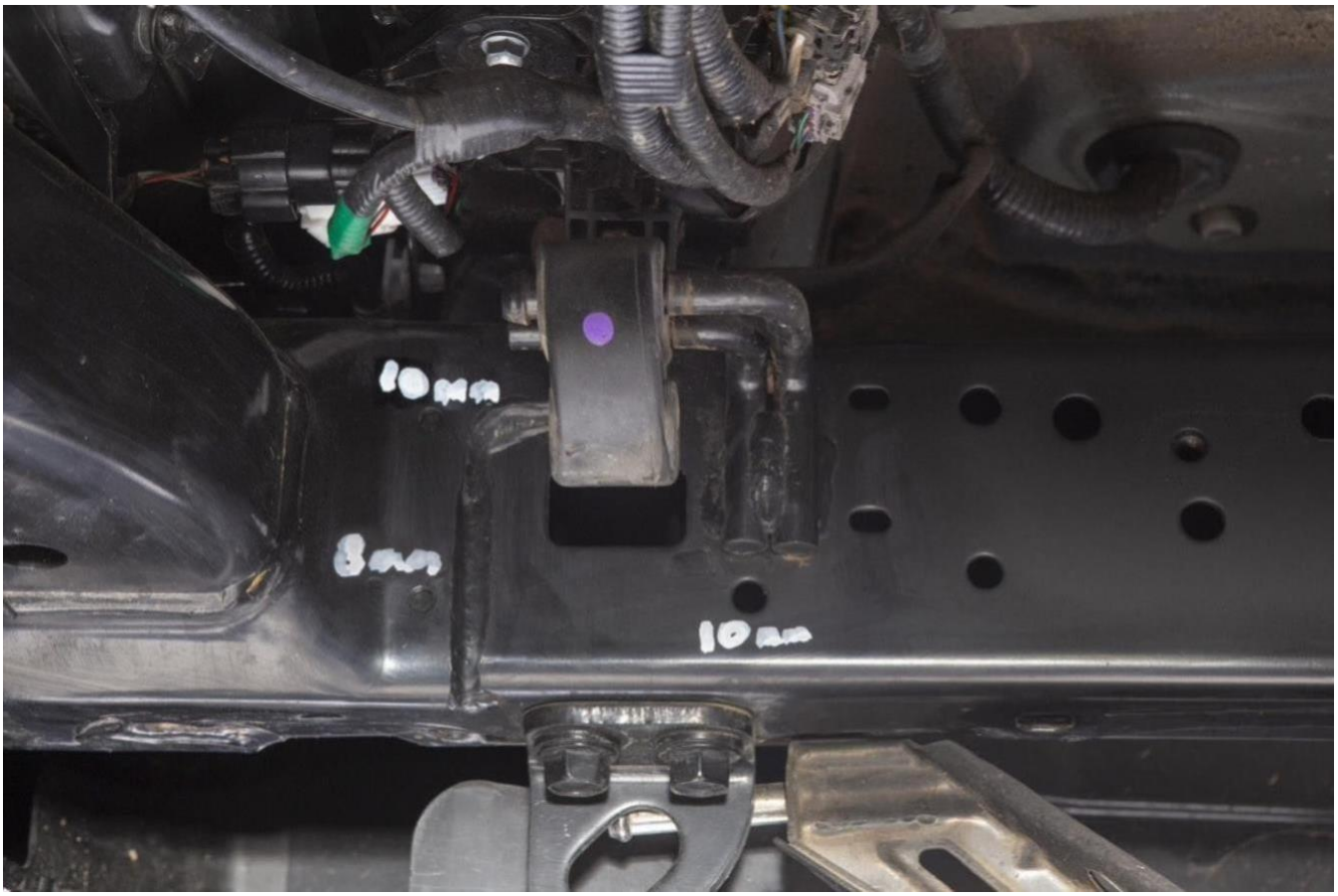
A. MOVE EXHAUST OUT OF THE WAY/DRILL FOR AND INSTALL TANK MOUNTS

1. Disconnect the rear exhaust hanger (slip off rubber donut) and hold exhaust pipe up and out of the way with a ratchet strap.



B. MOVE EXHAUST OUT OF THE WAY/DRILL FOR AND INSTALL TANK MOUNTS *(continued)*

1. With the exhaust out of the way, locate the two indentations in the frame and an existing hole on the driver's side.
2. On the passenger side, you will also notice two indentations, as well as a threaded 8mm hole in the frame rail.
3. Using the mounting bar for reference, drill out the lower holes to 10mm and upper holes to 8mm (see photo, below).

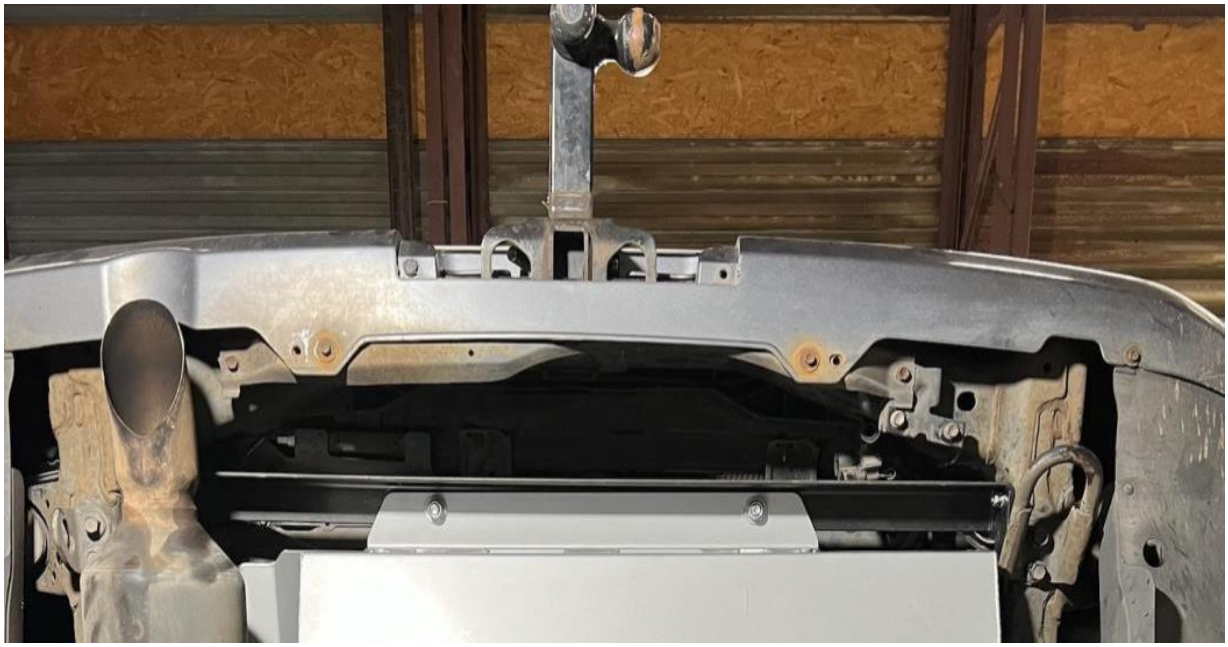


B. **MOVE EXHAUST OUT OF THE WAY/DRILL FOR AND INSTALL TANK MOUNTS *(continued)***

4. Now install (utilizing the holes drilled in V.B.4, page 14) the mounting bar, using the M10 x 30mm and M8 x 30mm bolts with straps, washers and Nyloc nuts. The smaller bar spacer plate is for the left-hand side front hole. Bend the straps on the bolts to allow them to be fished through the frame directly above the rear bracket. Once all the bolts have been installed and tightened, trim the excess strap.







B. REMOVE/MOVE THE OEM 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 removed, and relocated to the passenger fender well near the dual filler neck. NOTE ORIENTATION OF THE FILTER AS ROUTING INCORRECTLY MAY CAUSE DAMAGE TO CANISTER.INSPECT FILTER FOR DUST AND DEBRIS, CLEAR OR REPLACE AS NEEDED.



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 some of the tape will allow enough extra length to reroute the wire loom out of harms way.



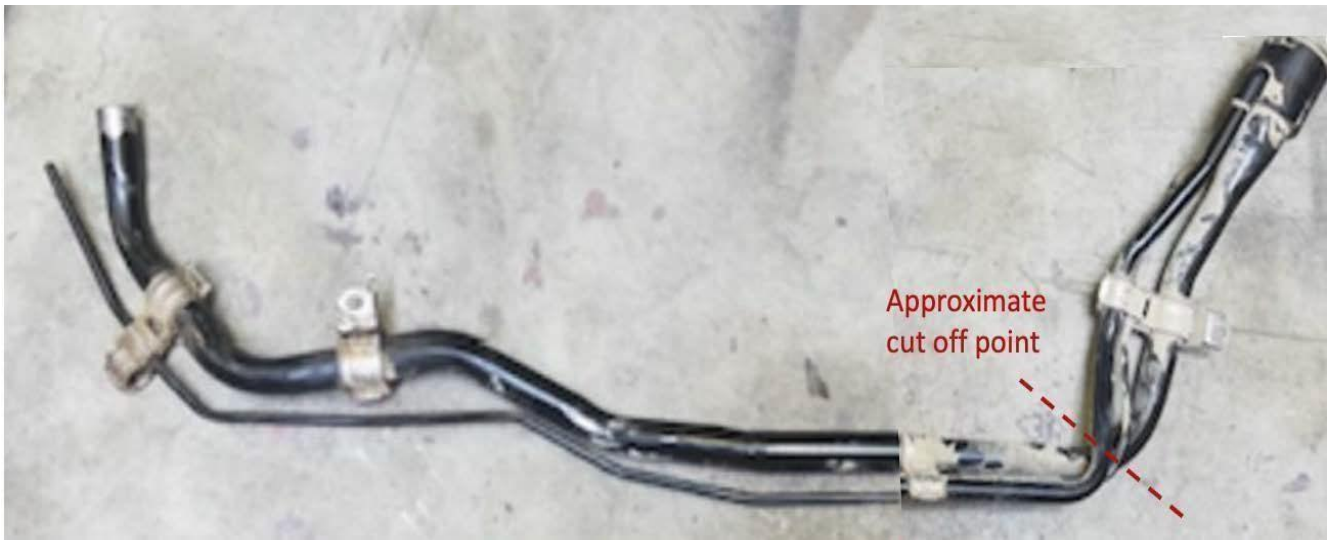


3. Remove the hose from the evap canister and replace it with the 16mm hose provided. This hose needs to be routed over the passenger frame rail. (ONCE AGAIN PLEASE NOTE THE ORIENTATION OF THE CANISTER)



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

1. Remove the passenger rear wheel well inner plastic cover. This will expose the fuel filler neck.
2. 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.
3. Using the new double filler neck as a guide, cut the original large and small fuel pipes. The ¾" pipe can be removed completely. Make sure there are no sharp edges.



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

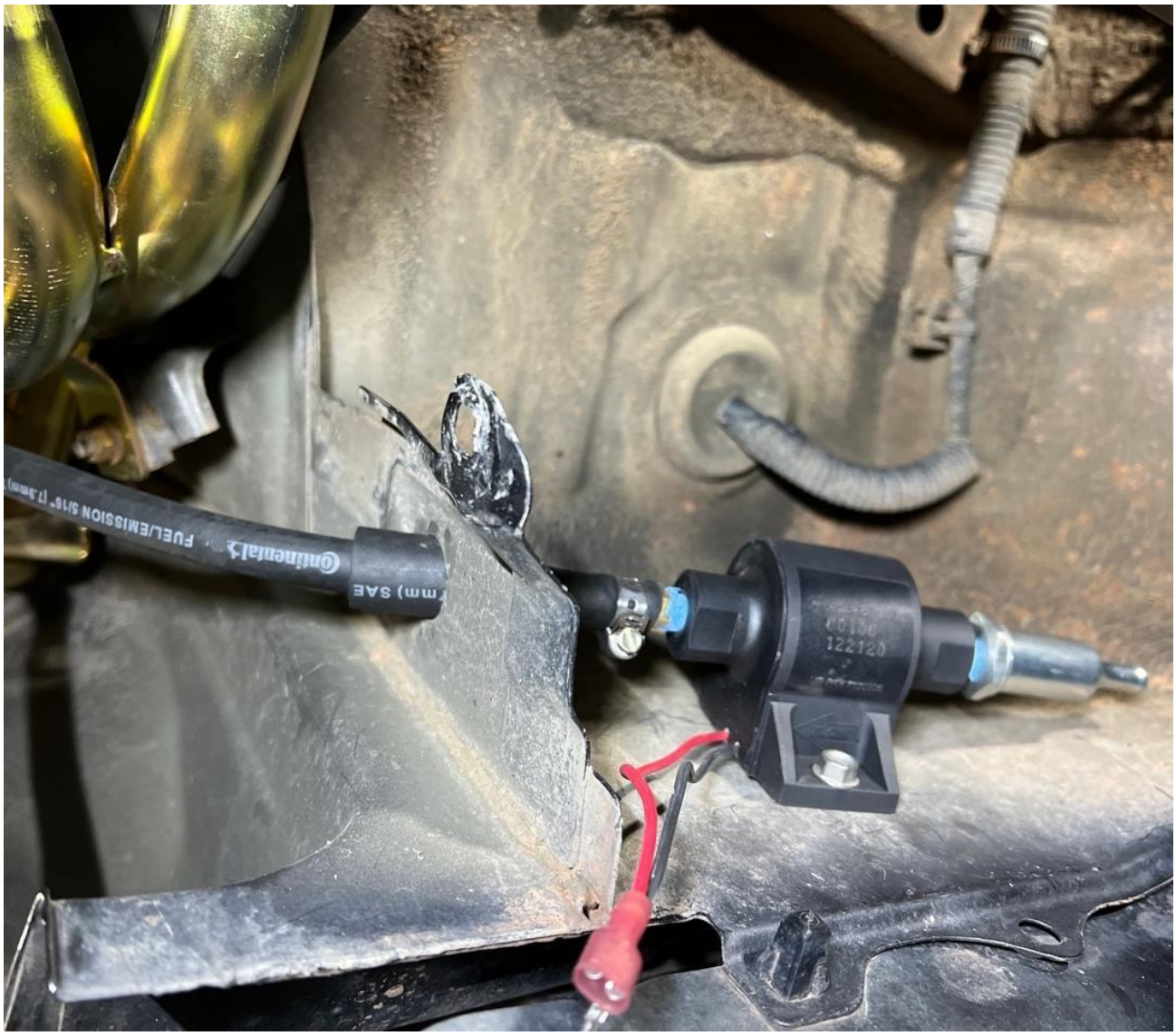
1. Connect the modified filler pipe to the previously assembled dual filler neck using the 3.15-inch length of 28mm fuel hose for the main tank filler and 8mm breather hose and install the assembly. A small amount of grease will aid in installing the hoses.



E. INSTALL AND WIRE THE FUEL TRANSFER PUMP

1. Mount the fuel transfer pump to the wheel arch area (using the included mounting plate). **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)



F. 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.





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. Jack the tank into position, guiding the 5/16” hose over the cross member, 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 12mm bolts with locking nuts.

B. 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 fast fill vent hose.
2. Connect the 8mm feed line to the in-line filter, then to the inlet side of the fuel transfer pump.

C. 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.

   PLEASE NOTE ORIENTATION OF AS PREVIOUSLY INSTALLED. DO NOT REVERSE FLOW.

2. Use the provided adapter and line to connect the charcoal canister filter to the air filter to the additional air filter as shown on the hose routing photo on next page:



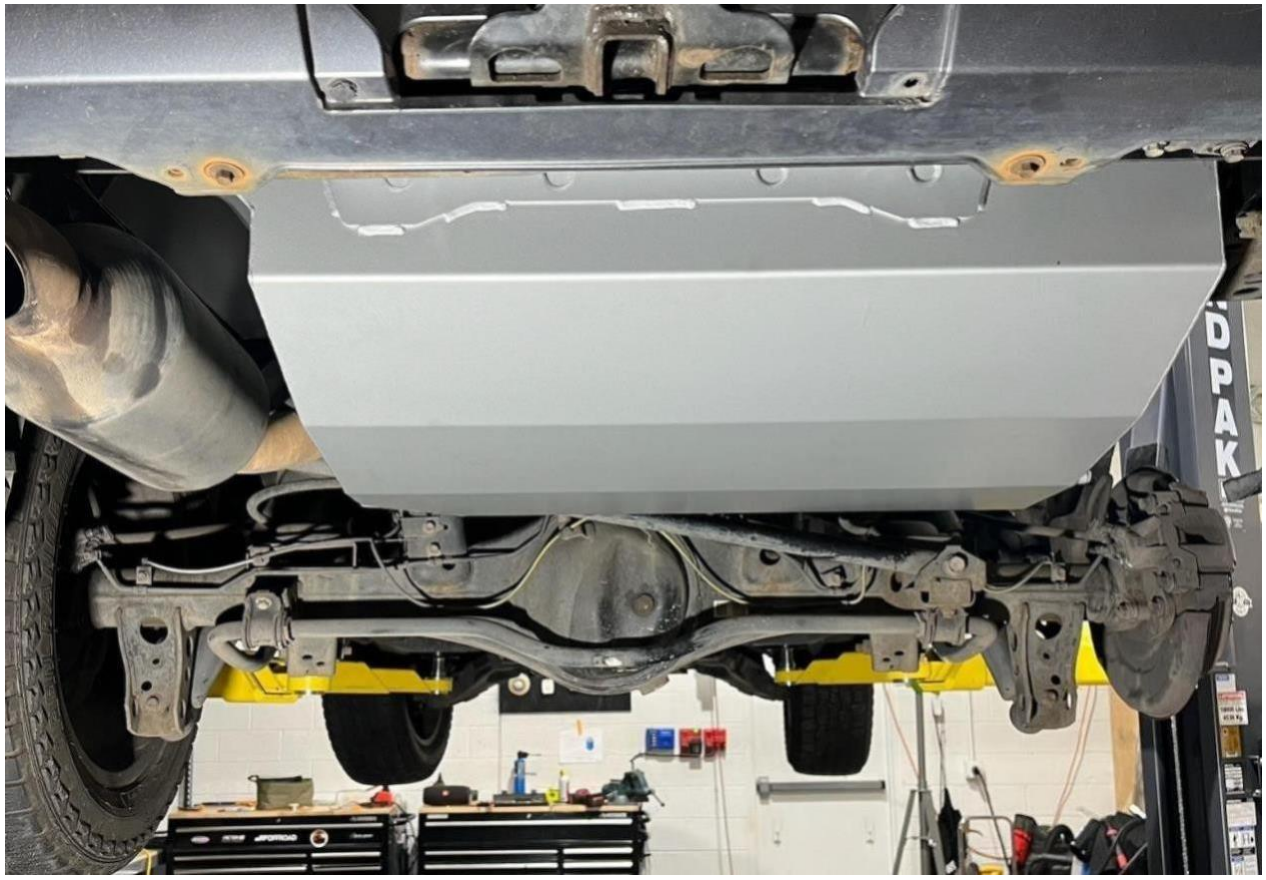
B. **INSTALL/CONNECT THE OEM CHARCOAL CANISTER FILTER *(continued)***

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



A. FINISH INSTALLATION

1. Release the ratchet strap to return exhaust to normal position. Reattach all exhaust supports.
2. Reinstall the passenger rear wheel well inner plastic cover.
3. Reinstall the factory trailer wiring.
4. Check all clearances and neatly cable tie all hoses and wiring. Check over all hoses and connections. Reinstall rear wheels.
5. Reconnect vehicle battery.
6. To test, fill the 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).
7. Check again for leaks. Check for leaks again after the first 50-100 miles.



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!