2007-2014 Toyota FJ Cruiser Auxiliary Tank 30 Gal



Product Information/Install Instructions for

Kit P/N - TLCFJCRUISERA-US

2007 - 2014



A.INSTALLATION KIT CONTENTS

HARDWARE	HOSES & CLAMPS	MISC PARTS
1 x M6 x 20mm Washer	1 x 6mm Hose@ 44" Long	1 x TFFJCRUISER-US Twin Filler
1 x M6 x Nyloc Nut	1 x 8mm Hose @ 40" Long	1 x Rear Mounting Bar
6 x M10 x 25mm Washer	1 x 8mm Hose @ 22" Long	1 x Fuel Transfer Pump Control Bracket
6 x M10 Nyloc Nut	1 x 8mm Hose @ 18" Long	1 x Roll Over Valve
6 x M12 Nyloc Nut	1 x 35mm Hose @ 6" Long	1 x Roll Over Valve Grommet
2 x M12 x 30mm Bolt	1 x 25mm Hose @ 4" Long	4 x M12 x 30mm Bolts with 150mm Straps
8 x M12 Heavy Duty Washers	1 x 12mm NTP Hose @ 25" Long	3 x M10 U Bolts 70mm x 100mm
	10 x 1/4" Hose Clamps 2 x 1/2" Hose Clamps	3 x 7" Cable Ties 5 x 11" Cable Ties
	2 x 1" Hose Clamps	1 x Fuel Transfer Pump & Filter
	2 x 1-1/4" Hose Clamps	1 x Fuel Transfer Pump Mounting Plate
BRASS	**ELECTRICAL**	Magnet (to be used in aux tank)
1 x P6 1/4" x 1/8" Elbow	1 x LRA-PG210 Switch Gauge	
1 x P6 5/16" x 1/4" Elbow	1 x 3mm Two Core @ 197" Long	
2 x P6 5/16" x 1/8" Elbow	1 x 4mm Single Core Blue Wire @ 12"	
1 x P3 1/2" x 3/8" Straight 1 x P6 1/2" x 3/8" Elbow	1 x 5 Amp Fuse 1 x Fuse Holder 2 x Fuse Holder Terminals 1 x Red Insulated Terminal 1 x Red Eye Terminal 2 x Blue 6mm Eye Terminal	
	3 x 3mm Shrink Tube @ 2" Long	
	1 x 0-90 OHM Sender Unit c/w 28" Ground	

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 (refer to photos, below) Create an appropriate hole in your preferred location







2. Use a Uni-Bit stepped drill bit to drill a 20mm (.78”) hole. Be very careful to not over drill the hole, it can be adjusted using a small file to widen the hole as needed. The switch is sensitive

To install, the hole diameter needs to be just the right size (20mm, or .78”). If the hole is too small, and the switch is forced into place, the switch is likely to be damaged or not function properly. You will need to carefully test-fit and remove more material if needed. DO NOT FORCE SWITCH INTO PLACE WHILE TEST-FITTING! If sticker is coming off of switch then the hole needs to be bigger.

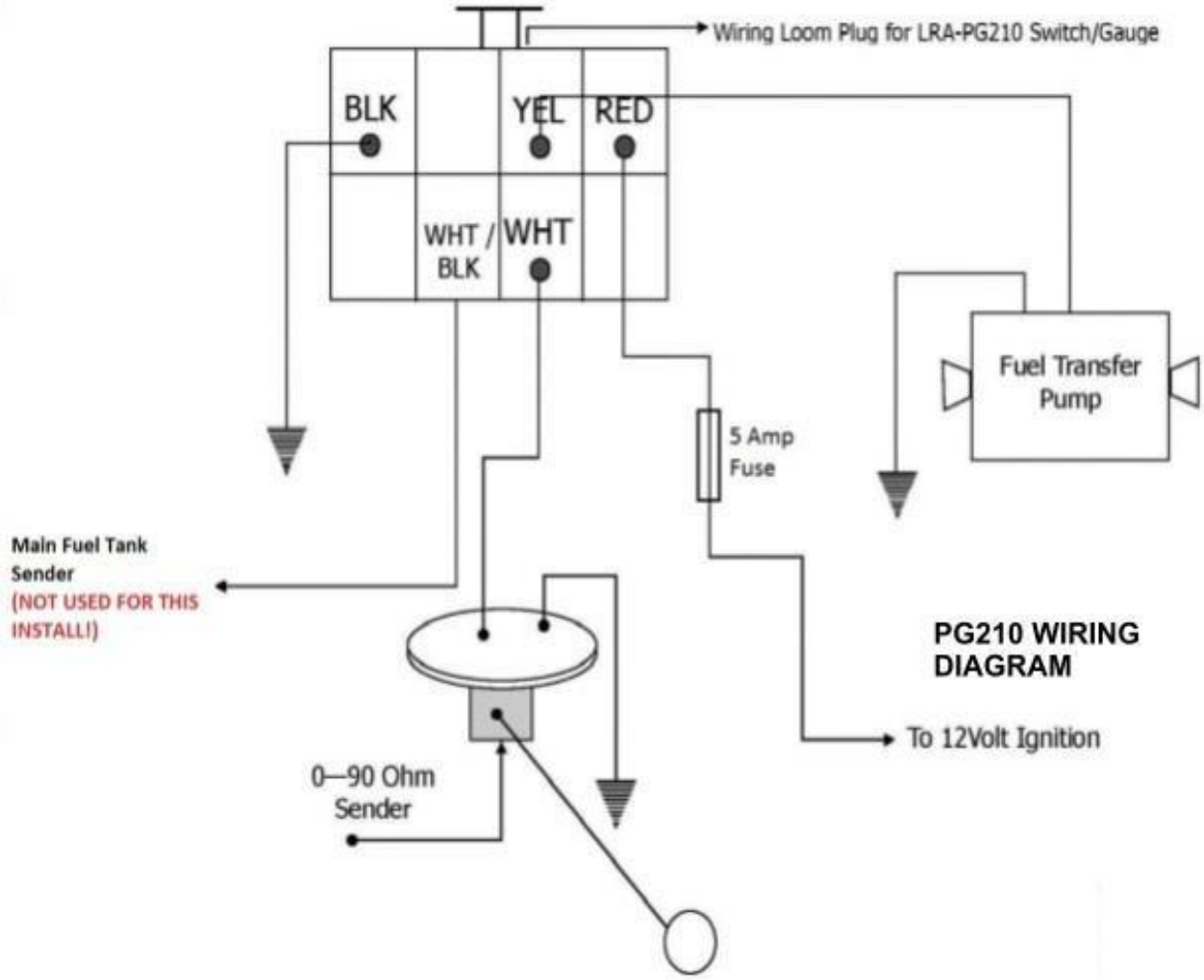
3. Connections should be soldered and heat shrunk, **not just crimped**.
4. Double-check all connections when done.



B. WIRING

1. A 12 volt ignition source can be tapped into with a fuse tap on the fuse panel to the left-hand side of the steering column. Carry out wiring as per the wiring diagram on page 6. The 5 amp fuse and fuse holder are used in the red power wire that is connected to the ignition power source.
2. Run the 3mm twin core cable under the driver side kick panel and under the rear kick panel and out through the grommet in the jack storage area.
3. Leave enough wire to reach the sending unit.



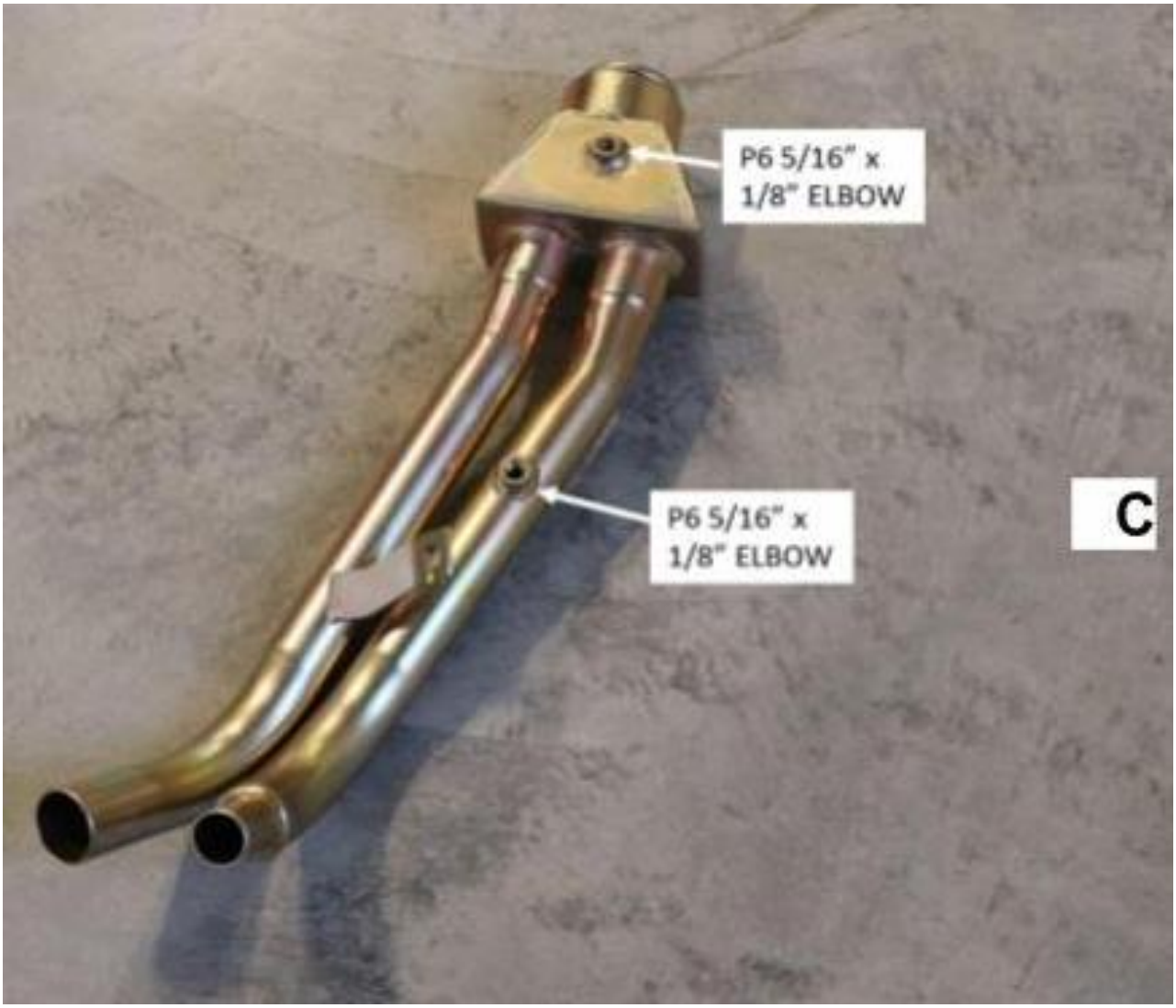

Wiring Loom Plug for LRA-PG210 Switch/Gauge
BLK
YEL
RED
WHT / BLK
WHT
Fuel Transfer Pump
5 Amp Fuse
Main Fuel Tank Sender
(NOT USED FOR THIS INSTALL!)
PG210 WIRING DIAGRAM
To 12Volt Ignition
0—90 Ohm Sender

A. PREPARE AND INSTALL THE FILLER

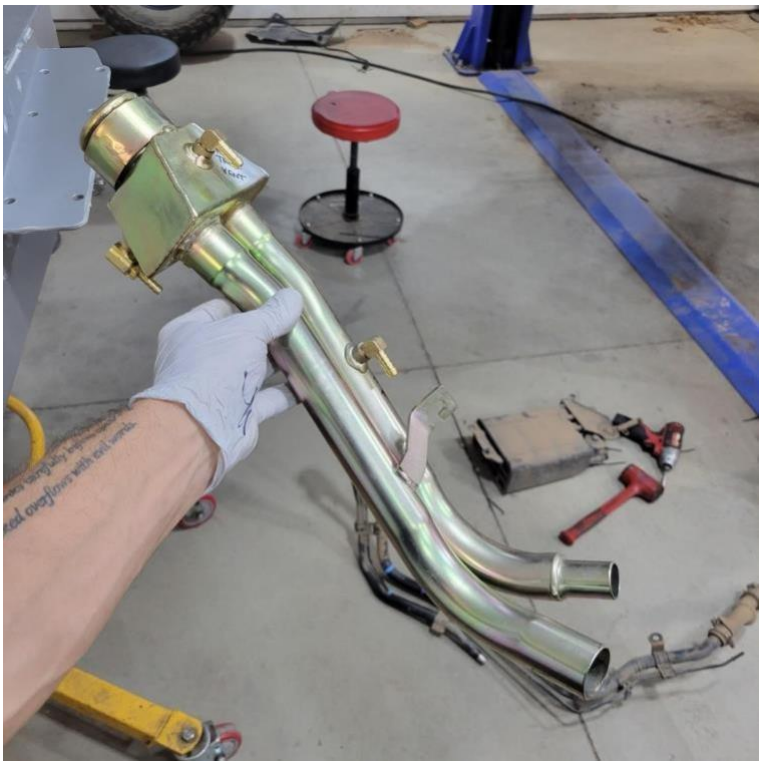
1. Remove the driver's side rear wheel and arch cover, remove the standard fill pipe and cut:
    a) FILLER NECK—Measure 90mm down from the center of the bend and cut.
    b) FAST FILL VENT—Measure 130mm down from the bend and cut.



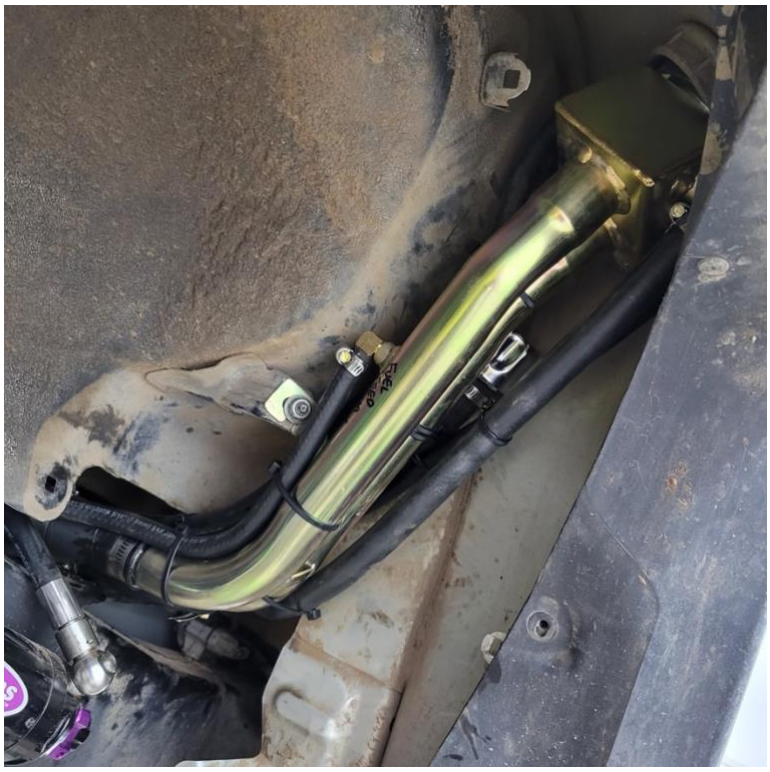
2. Fit the 22-inch length of 8mm hose to the fill vent pipe and refit the fill pipe assembly to the vehicle.
3. Screw brass fittings into the filler neck (photo C below) and refit the vehicle.



A. PREPARE AND INSTALL THE FILLER *(continued)*





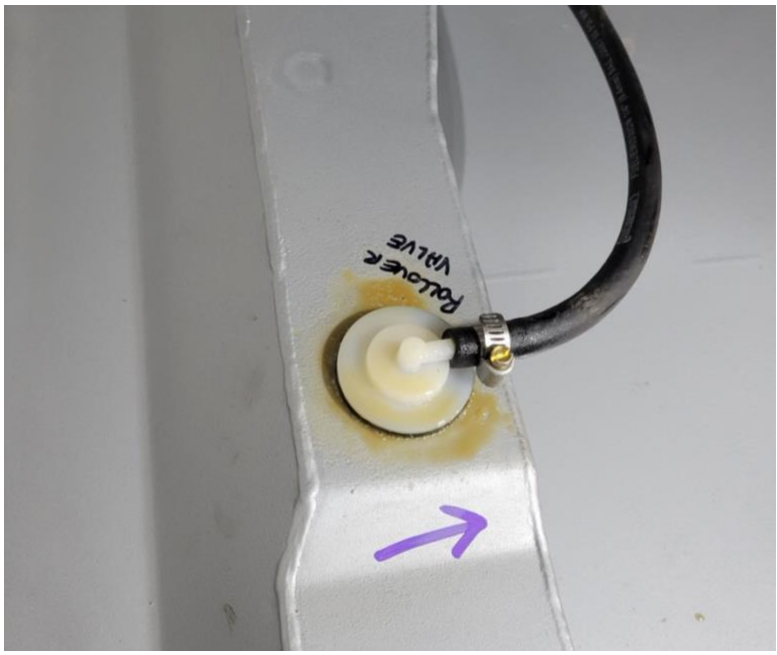




B. PREPARE THE AUXILIARY TANK

1. Screw the brass into the tank. P6 5/16” x 1/4” elbow goes into the top of the tank pointing forward.
2. P3 1/2” x 3/8” straight goes into the fitting next to the filler neck.
3. Fit the roll over valve and grommet pointing forward and fit 44-inch length of 6mm hose to this valve.
4. Drop the supplied magnet into the tank in the vicinity of the fuel inlet





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

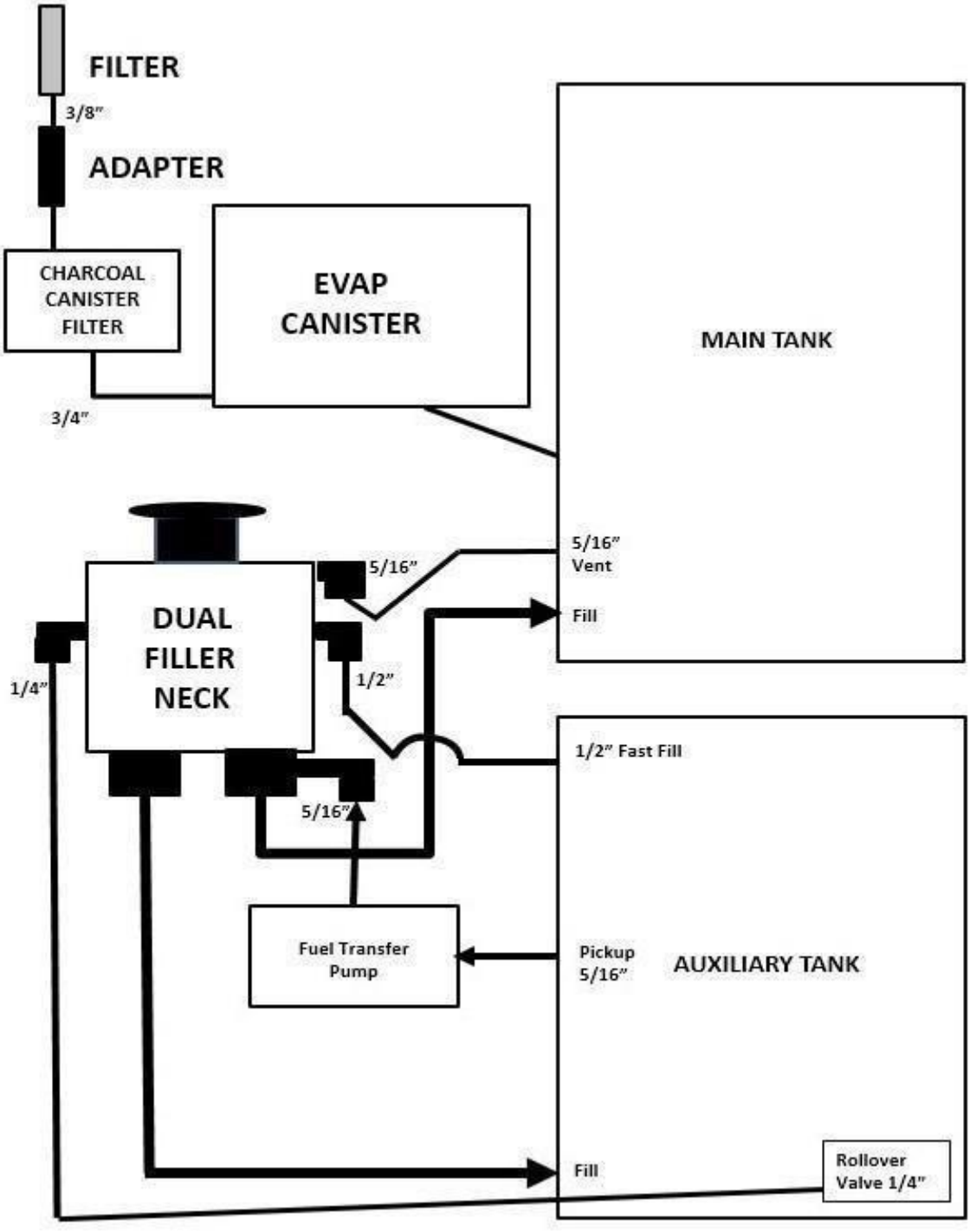
Install the supplied magnet into the tank in the vicinity of the fuel pick up port.

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

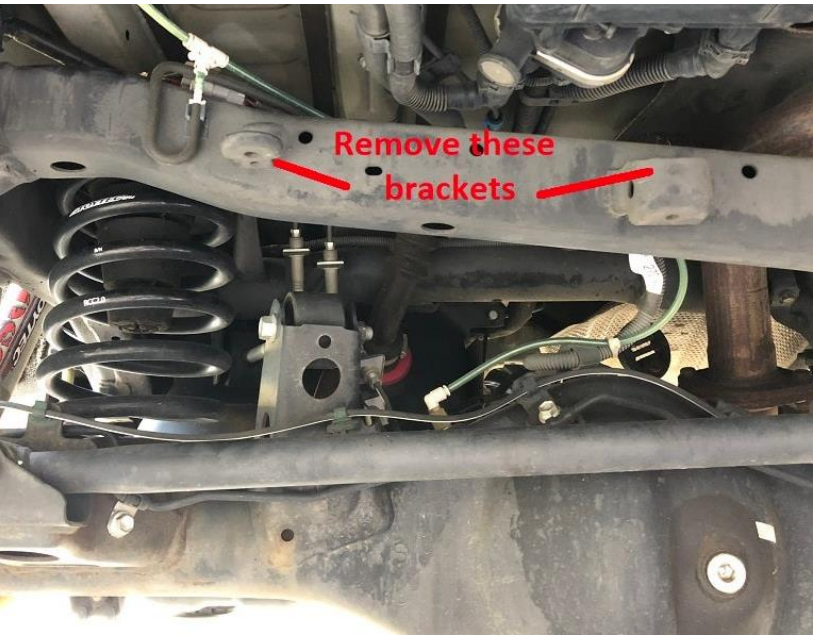


Sample Picture


FILTER
3/8"
ADAPTER
CHARCOAL CANISTER FILTER
EVAP CANISTER
MAIN TANK
3/4"
5/16"
5/16" Vent
Fill
DUAL FILLER NECK
1/4"
1/2"
1/2" Fast Fill
5/16"
Fuel Transfer Pump
Pickup 5/16"
AUXILIARY TANK
Fill
Rollover Valve 1/4"

A. REMOVE CROSS-MEMBER BRACKETS

1. Cut the two brackets off the front cross-member (refer to photo).





B. RELOCATE FUEL PUMP CONTROL MODULE

1. Unbolt the fuel pump control module and replace the mounting bracket with the new bracket from the fitting kit (photo F). Newer model years will appear different, and the kit will not include a relocation bracket for those models. Module will need to be mounted on top of the cross member from which the two brackets were trimmed





C. INSTALL THE REAR TANK MOUNTING BAR

1. Unclip the wiring loom from the left-hand rear of the chassis rail and drill out the slotted holes to 12.5mm on both sides.
2. Bolt the rear mounting bar in place with M12 x 30mm Bolts with straps.

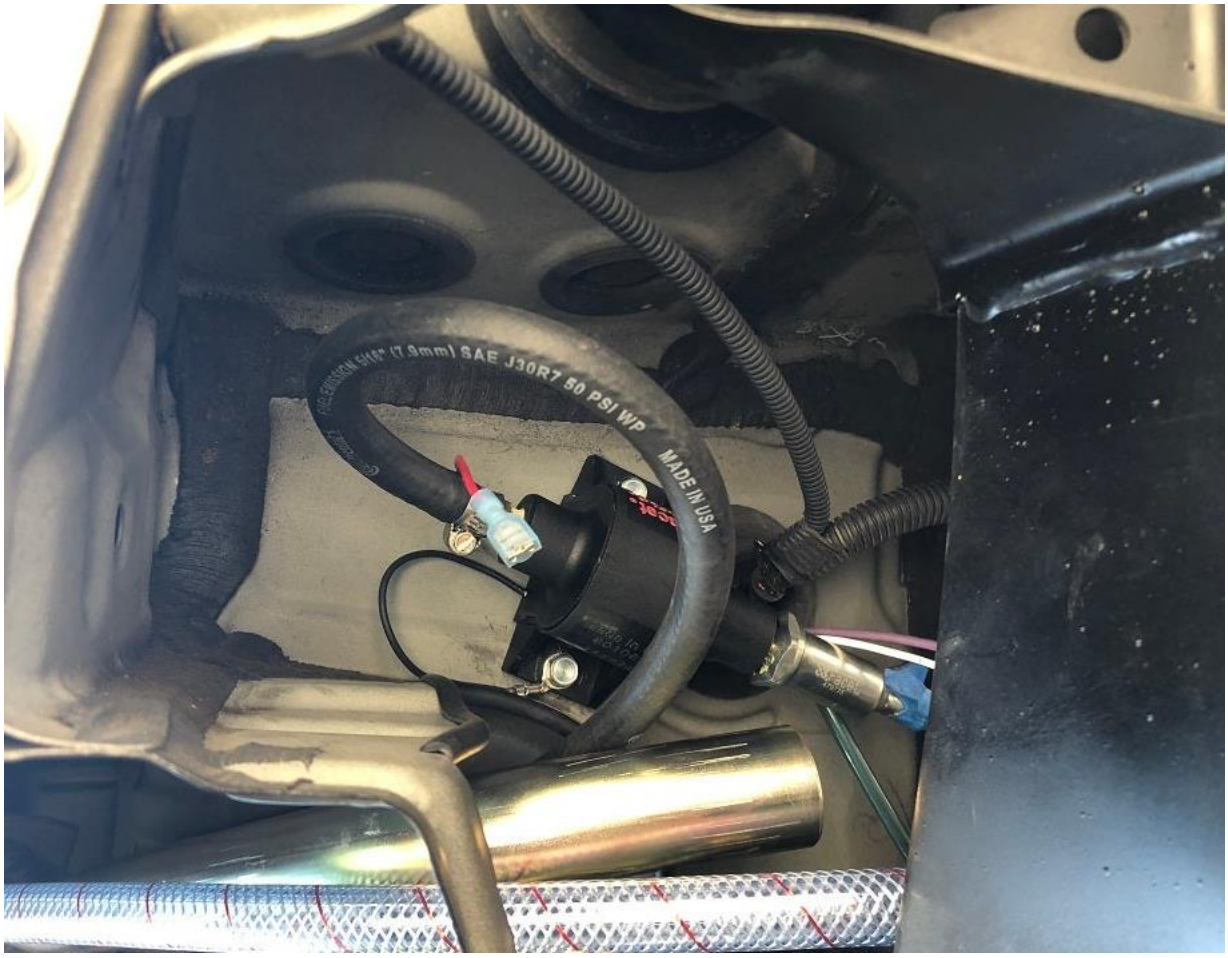






D. INSTALL THE AUXILIARY TANK FUEL TRANSFER PUMP

1. Mount the fuel transfer pump to the wheel arch area. **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 grommet to be firmly connected to bare metal. The transfer pump is sensitive to power interruption when on and a good ground is **imperative**.

A. JACK TANK INTO POSITION/CONNECT HOSES AND SECURE TANK

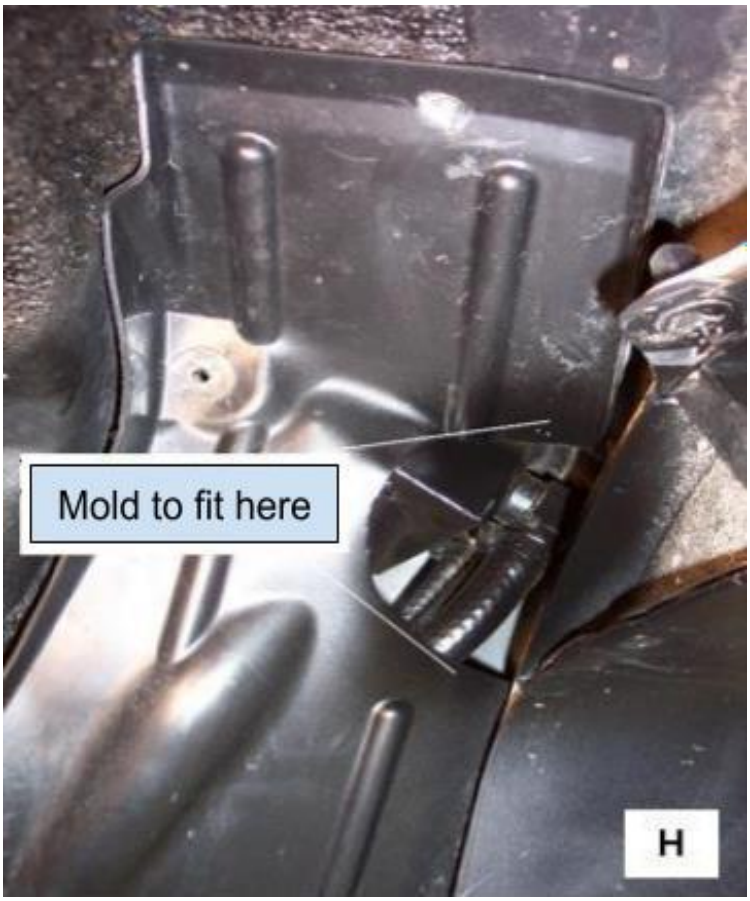
1. Jack the tank into position and fit 6-inch length of 35mm hose to the filler neck and guide onto the fill pipe as the tank goes into position. Secure the front of the tank with U bolts washers and Nyloc nuts. (Be careful not to pinch wiring under the left hand front U-bolt.)



2. Secure the rear of the tank with M12 x 30mm Bolts washers and Nyloc nuts. Make sure all hoses are connected per Hose Routing Schematic (Page 10) and check over all hoses and fittings.

B. FINISH INSTALL

1. Refit fender liner and warm with heat gun, mold to shape DO NOT CUT





2. Check all clearances and neatly cable tie all hoses and wiring. Refit wheel arch cover and wheel.
3. Reconnect vehicle battery.
4. 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).
5. 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 secured?

D. Are fuel gauge sending unit bolts secured?

E. Are all fuel lines secured with no kinks?

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

G. Is the tank calibration accurate?

☐ Congratulations! You have completed the install!