2018-2020 Jeep Wrangler JL 17 Gallon Auxiliary Tank Instructions

Product Information/Install Instructions for

Jeep Wrangler JL Four Door Petrol/Gas

Kit P/N JWJLPA





D. INSTALLATION KIT CONTENTS

HARDWARE	HOSE & CLAMPS	MISC PARTS
4 x M8 x 20mm Bolt	2 x 8mm Hose @ 17" Long	1 x T Filler
2 x M10 x 30mm Bolt	1 x 12mm Hose @ 11.8" Long	1 x Exhaust Resonator Heat Shield
3 x M12 x 30mm 1.5 Fine Thread Bolt	1 x 12mm Hose @ 15.75" Long	1 x Pipe Heat Shield with Nuts & Clamps
15 x M8 x 20mm Washer	1 x 12mm Hose @ 19.7" Long	1 x Front Secondary Bracket (2 pieces)
4 x M10 x 25mm Washer	1 x 35mm Hose @ 3.75" Long	1 x Tank Heat Shield
3 x M12 Spring Washer	1 x 38mm Hose @ 3" Long	2 x C12 Exhaust Clamps
8 x M8 Nyloc Nut	6 x 1/2" Hose Clamp	1 x FLVV with 1/2" Barb
2 x M10 Nyloc Nut	2 x 1-1/4" Hose Clamp	1 x FLVV Hold Down Ring
2 x M12 x 30mm H/D Washer	2 x 1-1/2" Hose Clamp	1 x BS337 O-Ring
1 x M12 Washer 25mm diameter	4 x EFI Hose Clamp	6 x M5 x 12mm Pan Heads
2 x 25mm Tek Screw	1 x 16mm P Clip	6 x M5 Spring Washer
		1 x Fuel Transfer Pump & Filter
		1 x Fuel Pump Mounting Plate
		1 x ICV (fitted in Filler Tee)
		Magnet (for use in auxiliary tank)
		3 x 11" Cable Tie
BRASS	**ELECTRICAL**	
1 x 25C 1/8" M & F Elbow (for pump)	1 x LRA-PG210 Switch/Gauge	
1 x P3 5/16" x 1/8" Straight	1 x 3mm Two Core @ 197" Long	
1 x P6 5/16" x 1/4" Elbow	1 x 4mm Single Core Blue Wire @ 11.8" Long (used between the 12V power source and the fuse holder)	
1 x 12mm Plastic Tee	1 x 5 Amp Fuse	
	1 x Fuse Holder	
	2 x Fuse Holder Terminal	
	2 x Red Insulated Terminal	
	1 x Red Male Terminal	
	1 x 5mm Red Eye Terminal	
	1 x 8mm Blue Eye Terminal	
	1 x 0-90 Ohm Fuel Gauge Sending Unit, with 6" Long Ground (installed using 5 x M5 x 10mm Pan Heads and 5 x M5 Spring Washers, included	
	4 x 3mm Shrink Tube	

E. INSTALLATION PARTS IDENTIFICATION



Front Secondary Bracket Part 1 (page 9)



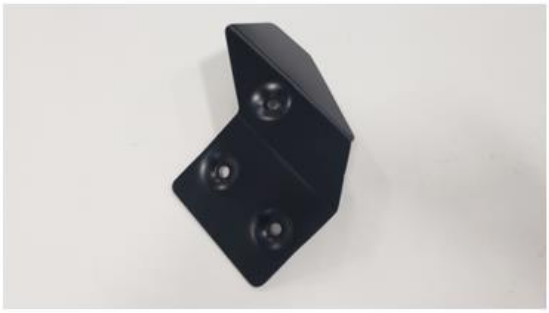
Front Secondary Bracket Part 2 (page 9)



Exhaust Resonator Heat Shield (page 10)



Exhaust Pipe Heat Shield (page 10)



Auxiliary Tank Heat Shield (page 10)



T Filler Tube (page 12)



Fuel Transfer Pump Mounting Bracket (page 15)



Clamps and Hardware



Fuel Transfer Pump, Gauge, Hoses, Wiring

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. INSTALLATION

1. Find a suitable mounting location in the dash or center console. Check for adequate space behind the target panel prior to making any cut or hole. Drill a pilot hole where you will be installing the switch/ gauge.
2. Use a Step Drill Bit to drill a 20mm/0.78" hole, using the pilot hole as a guide. Use a small file to carefully adjust the hole size as needed. The switch is 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 carefully file or cut out more material if needed. **DO NOT FORCE SWITCH INTO PLACE WHILE TEST-FITTING OR AT ANY TIME. (If sticker is coming off of the switch during installation, make hole slightly larger)**
3. Connections should be soldered and heat shrunk, **not just crimped**.
4. Double-check all connections when done.

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.

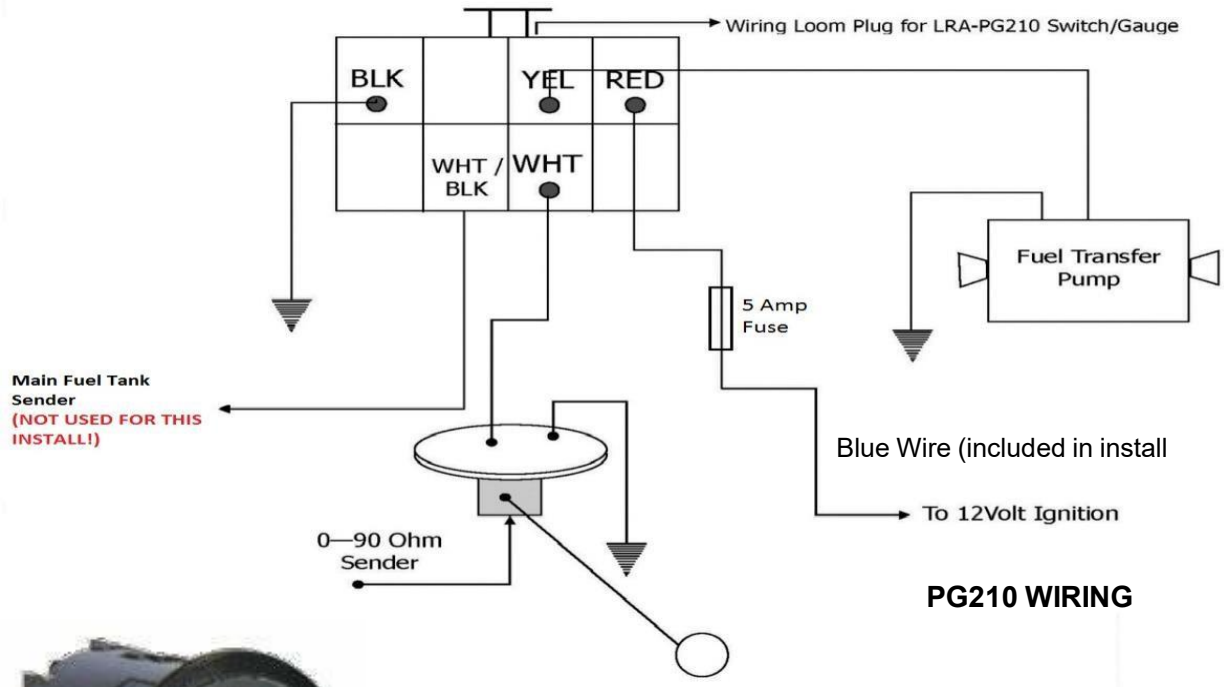
It is recommended that when reinstalling the sending unit to add ring terminals and a length of wire to make connecting wires simpler during tank install



Sample Picture

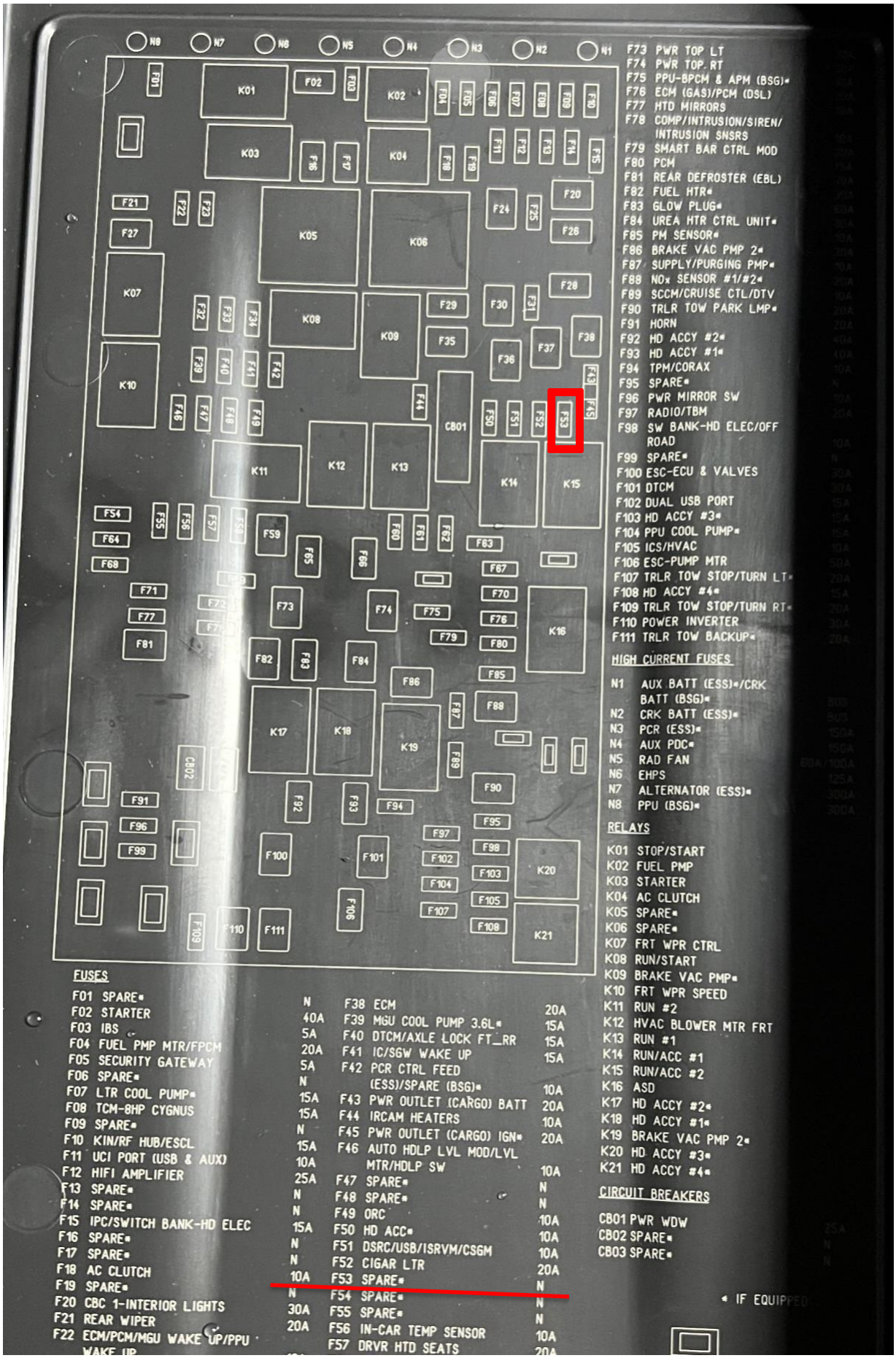
C. WIRING

1. A 12-volt ignition power source can be found at fuse F53 in engine bay fuse box, run wires through engine bay grommet on firewall on drivers side. Making use of a fuse tap we can get power for our switch (check this with test light). Carry out wiring as per the wiring diagram, below. The 5 amp fuse and fuse holder are used in the red power wire that is connected to the ignition power source (the blue wire included runs from the power source to the fuse holder, the red wire is connected to the output side of the fuse holder)



PG210 WIRING




N8 N7 N6 N5 N4 N3 N2 N1
K01 K02 K03 K04 K05 K06 K07 K08 K09 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21
CB01 CB02
F73 PWR TOP LT
F74 PWR TOP RT
F75 PPU-BPCM & APM (BSG)*
F76 ECM (GAS)/PCM (DSL)
F77 HTD MIRRORS
F78 COMP/INTRUSION/SIREN/ INTRUSION SNSRS
F79 SMART BAR CTRL MOD
F80 PCM
F81 REAR DEFROSTER (EBL)
F82 FUEL HTR*
F83 GLOW PLUG*
F84 UREA HTR CTRL UNIT*
F85 PM SENSOR*
F86 BRAKE VAC PMP 2*
F87 SUPPLY/PURGING PMP*
F88 NOx SENSOR #1/#2*
F89 SCCM/CRUISE CTL/DTV
F90 TRLR TOW PARK LMP*
F91 HORN
F92 HD ACCY #2*
F93 HD ACCY #1*
F94 TPM/CORAX
F95 SPARE*
F96 PWR MIRROR SW
F97 RADIO/TBM
F98 SW BANK-HD ELEC/OFF ROAD
F99 SPARE*
F100 ESC-ECU & VALVES
F101 DTCM
F102 DUAL USB PORT
F103 HD ACCY #3*
F104 PPU COOL PUMP*
F105 ICS/HVAC
F106 ESC-PUMP MTR
F107 TRLR TOW STOP/TURN LT*
F108 HD ACCY #4*
F109 TRLR TOW STOP/TURN RT*
F110 POWER INVERTER
F111 TRLR TOW BACKUP*
HIGH CURRENT FUSES
N1 AUX BATT (ESS)*/CRK BATT (BSG)*
N2 CRK BATT (ESS)*
N3 PCR (ESS)*
N4 AUX PDC*
N5 RAD FAN
N6 EHPS
N7 ALTERNATOR (ESS)*
N8 PPU (BSG)*
RELAYS
K01 STOP/START
K02 FUEL PMP
K03 STARTER
K04 AC CLUTCH
K05 SPARE*
K06 SPARE*
K07 FRT WPR CTRL
K08 RUN/START
K09 BRAKE VAC PMP*
K10 FRT WPR SPEED
K11 RUN #2
K12 HVAC BLOWER MTR FRT
K13 RUN #1
K14 RUN/ACC #1
K15 RUN/ACC #2
K16 ASD
K17 HD ACCY #2*
K18 HD ACCY #1*
K19 BRAKE VAC PMP 2*
K20 HD ACCY #3*
K21 HD ACCY #4*
CIRCUIT BREAKERS
CB01 PWR WDW
CB02 SPARE*
CB03 SPARE*
* IF EQUIPPED
FUSES
F01 SPARE* N
F02 STARTER 40A
F03 IBS 5A
F04 FUEL PMP MTR/FPCM 20A
F05 SECURITY GATEWAY 5A
F06 SPARE* N
F07 LTR COOL PUMP* 15A
F08 TCM-8HP CYGNUS 15A
F09 SPARE* N
F10 KIN/RF HUB/ESCL 15A
F11 UCI PORT (USB & AUX) 10A
F12 HIFI AMPLIFIER 25A
F13 SPARE* N
F14 SPARE* N
F15 IPC/SWITCH BANK-HD ELEC 15A
F16 SPARE* N
F17 SPARE* N
F18 AC CLUTCH 10A
F19 SPARE* N
F20 CBC 1-INTERIOR LIGHTS 30A
F21 REAR WIPER 20A
F22 ECM/PCM/MGU WAKE UP/PPU WAKE UP
F38 ECM 20A
F39 MGU COOL PUMP 3.6L* 15A
F40 DTCM/AXLE LOCK FT_RR 15A
F41 IC/SGW WAKE UP 15A
F42 PCR CTRL FEED (ESS)/SPARE (BSG)* 10A
F43 PWR OUTLET (CARGO) BATT 20A
F44 IRCAM HEATERS 10A
F45 PWR OUTLET (CARGO) IGN* 20A
F46 AUTO HDLP LVL MOD/LVL MTR/HDLP SW 10A
F47 SPARE* N
F48 SPARE* N
F49 ORC N
F50 HD ACC* 10A
F51 DSRC/USB/ISRVM/CSGM 10A
F52 CIGAR LTR 10A
F53 SPARE* 20A
F54 SPARE* N
F55 SPARE* N
F56 IN-CAR TEMP SENSOR N
F57 DRVR HTD SEATS 10A

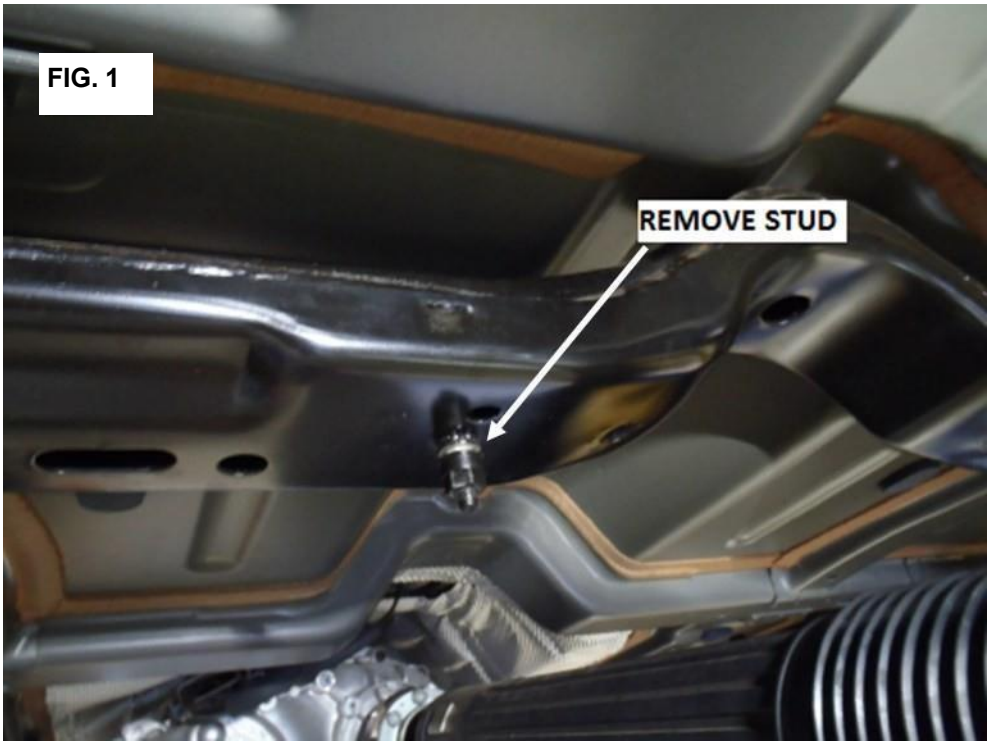


2. Solder and heat shrink wiring connections, then route wire out the passenger side of the console, under the carpet behind the passenger seat. Remove the floor plug and install 3/4” grommet in the floor behindthe passenger seat near the rocker panel. Run the wiring through the grommet and to the rear of the vehicle for later connection of fuel pump and auxiliary tank fuel gauge sending unit.
3. Leave enough wire to reach the sending unit.



A. INSTALL BRACKETS & HEAT SHIELDS

1. Remove stud from underside of the center chassis cross-member (see Figure 1):



2. Disconnect the exhaust at the joint near the transfer case. Partially lower pipe to fit the new front secondary mount.

3. Remove transfer case skid plate to install front secondary bracket. The new bracket fits around the chassisand is secured with 4 x M8 x 20mm bolts. It has a slot in the base of the bracket for the original tank sup- port. Refit the skid plate once the tank is installed (see Figure 2):



A. **INSTALL BRACKETS & HEAT SHIELDS *(continued)***

4. Reconnect the exhaust and fit the exhaust resonator (Figures 3 & 4 below) and pipe (Figure 5 below) heat shields. Also fit the tank heat shield to the rear of the tank:







B. REVISE VENT TUBING

1. Disconnect evap canister tube from pump assembly and unclip at chassis rail near the front of the right-hand rear wheel. Remove the tube from the vehicle.
2. Gently heat the J-shaped plastic pipe (Figure 6) a bit to loosen from the elbow at the top and the end fittingat lower right, then gently rotate and pull these fittings from the tube. Be careful not to damage the barbs on the fittings...if heating does not work, the plastic pipe can be carefully split at the fittings, to release clamping pressure on them, then rotate and pull.
3. Fit straight quick connect fitting to 19.7-inch length of 12mm hose (see Figure 6):

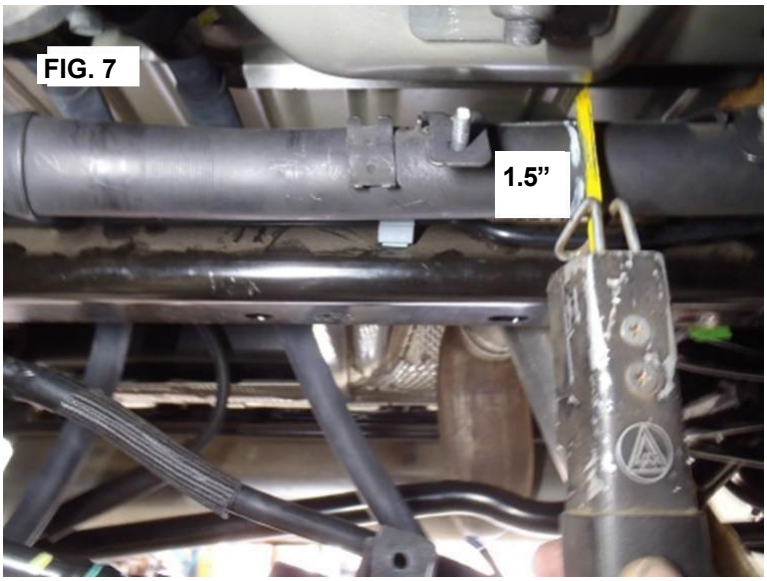


4. Refit to the vehicle in the same location but now run over OEM tank fill hose. Open up securing clamp at chassis to fit larger hose. Fit tee piece to other end. Fit elbow quick connect fitting to 11.8-inch long 12mm hose. Connect to pump assembly and connect other end to tee piece. Fit 3.74-inch long 35mm hose to new T Filler. Where hoses are installed on barbed fittings, install 1/2” hose clamps on the rubberhose ends before fitting to the barbed ends

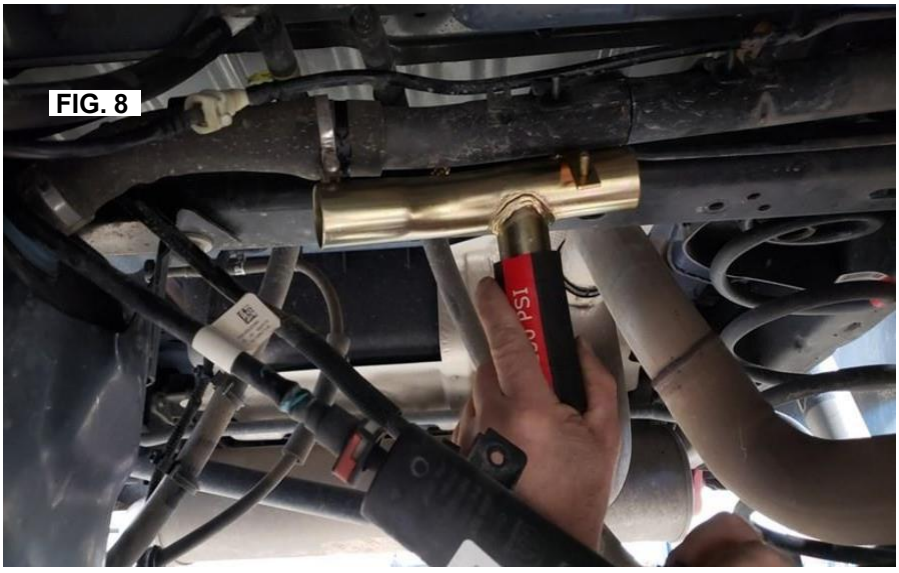
A. INSTALL TEE FILLER

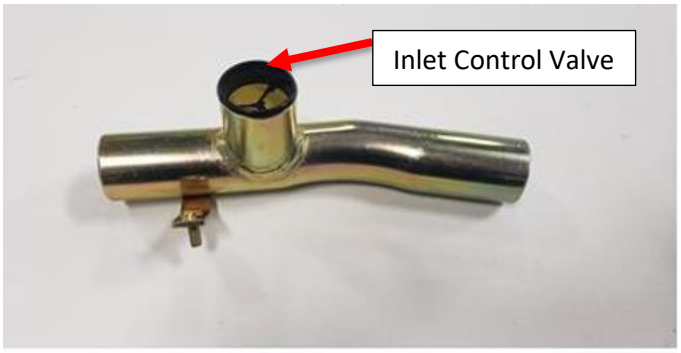
1. Disconnect the filler hose from main tank and filler pipe.
2. Unbolt fuel separator from the fill pipe.
3. You may either remove the fill pipe from the vehicle to cut pipe, or cut pipe in place (**CAUTION: DO NOTUSE A FLAME CUTTER OR CREATE SPARKS IF CUTTING THE PIPE IN PLACE**). Measure 1.5” from the fuel separator bracket, cut the fuel filler pipe and dispose of the cut off portion (see Figure 7)

4. Cut unwanted part of the bracket so rubber joining hose can slip over the fill pipe. If cutting in sections, after cutting bend bracket up and recut as close as possible to the remaining fuel separator tab.



5. Before fitting the T-filler, install the ICV in the “T” off the filler neck. Fit new T Filler section to fill pipe using 2.95-inch long, 38mm diameter hose and clamps. Use fuel separator for location of new T Filler. Make sure “T” is pointing down (see Figure 8, below):





T Filler Tube (page 12)

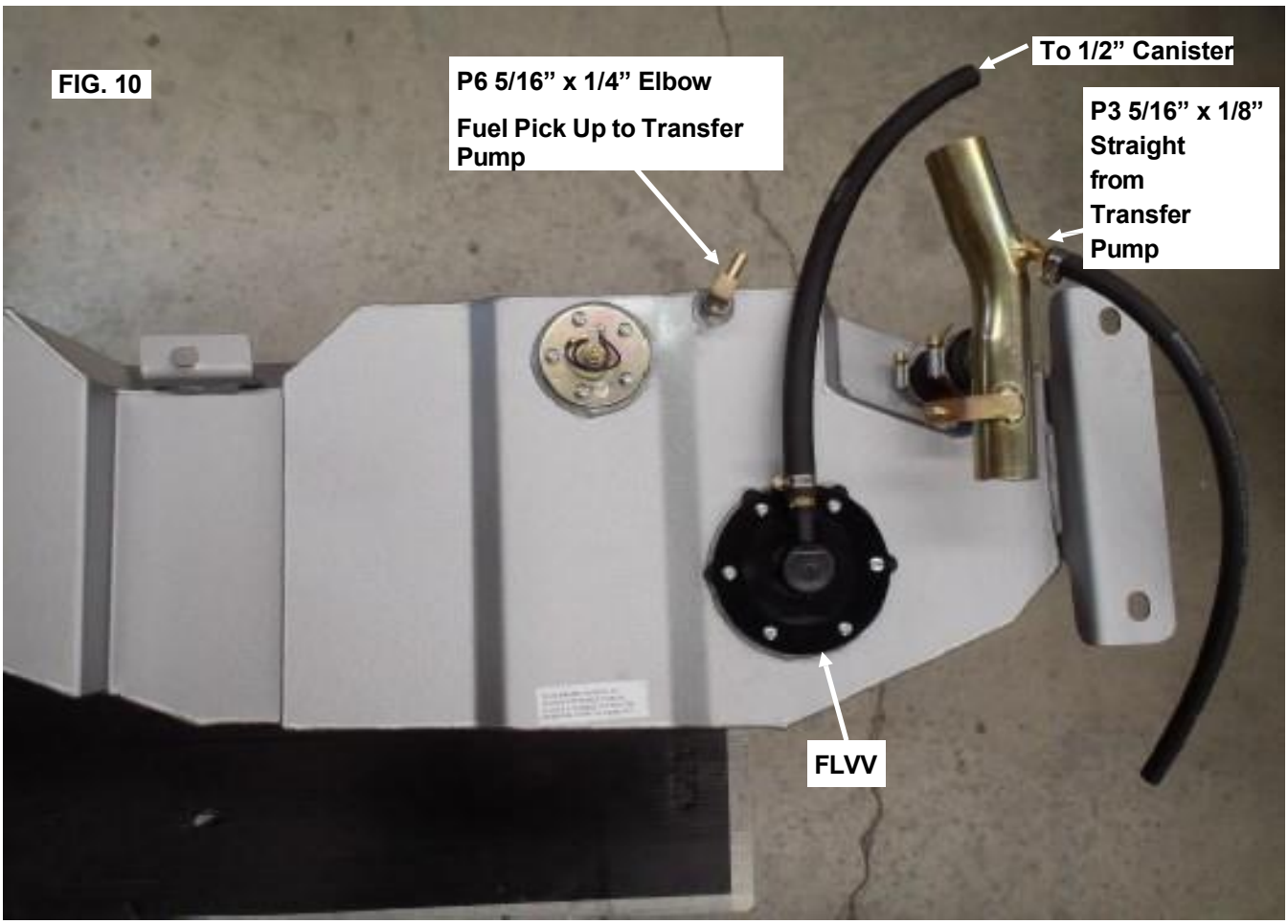
4. Also fit P3 5/16” x 1/8” straight fitting and 17-inch length of 8mm hose at this time.
5. Reconnect T Filler to main tank. Tighten all clamps (see Figure 9):



FIG. 9

B. AUXILIARY TANK PREPARATION

1. Fit 15.75-inch long 12mm hose to FLVV (the Fill Limit Vent Valve, or FLVV, is designed to maximize fuel tankcapacity and facilitate automatic nozzle shutoff) and install brass into tank (see Figure 10):



. AUXILIARY TANK PREPARATION *(continued)*

1. Make sure to place the supplied magnet into the auxiliary tank, as close to the fuel pick up as possible (see Figure 11, below):



A. JACK THE TANK INTO POSITION AND SECURE







1. Carefully lift the tank into position and feed 35mm diameter hose onto filler neck. Secure rear and inboard mount with 3 x M12 x 30mm 1.5 fine thread bolts. Secure front of the tank to new secondary bracket withM10 x 30mm bolts, washers and Nyloc nuts. Connect FLVV 12mm hose to evap canister tee.

B. INSTALL & WIRE THE FUEL TRANSFER PUMP

1. Fit fuel transfer pump to mounting bracket and mount to right-hand stud on cross member above the rear differential. **THE PUMP MUST BE INSTALLED ABOVE THE FUEL LEVEL OF THE NEW TANK, AND WITHIN 12 VERTICALINCHES 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.** Screw M/F 1/8" elbow to intake side of pump and fit fuel filter to this. Connect fuel pick up hose from the auxiliary tank to the filter. Connect previously fitted 8mm hose from filler teeto outlet side of the pump (see Figure 12).

2. Complete electrical wiring by connecting white wire to the aux fuel tank sending unit, yellow wire to thefuel transfer pump, and connect ground wires. **DO NOT** ground the fuel transfer pump to the mountingbracket, 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**.



FIG. 12

C. FINISH INSTALLATION

1. Check all clearances and neatly cable tie all hoses and wiring. Refit tubular cross member tank supportand transfer case skid plate.
2. Reconnect vehicle battery.
3. To test, fill both tanks and drive as normal. When the fuel level in the main tank has run down by one- quarter tank, 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). Check againfor leaks.





Clearance images for reference (Tank pictured has been painted with additional undercoating, not included)

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!