2.0T FSI Auxiliary Low Pressure Fuel System Installation Instructions

Preface:

This product is intended solely to provide additional low pressure fuel to the high pressure rail pump on vehicles producing 350+ horsepower. It is not intended to be a substitute for an upgraded high pressure rail pump or larger fuel injectors. We recommend this system to be used in conjunction with an upgraded in-tank fuel pump such as the APR Motorsports pump. Additionally we recommend the use of APR's high pressure rail pump.

Installation of this product requires extensive electrical work and should only be performed by experienced technicians, since improper installation could lead to fire. In order to properly install the fuel system the vehicles gas tank must be close to or completely empty.

What's included:

- (1) Fuel pump assembled w/pickup and isolator sleeve
- (1) Fuel distribution "Y"
- (3) Fuel lines
- (1) Fuel pump controller
- (1) Fuel level sender extension harness w/6 red butt-connectors
- (6) Crimp style ear clamps
- (1) Stainless steel worm clamp
- (1) Fuel pump plug w/locking clip
- (10) tie wraps
- (8) blue butt-connectors
- (2) blue ring terminal
- (1) Preassembled bulkhead fitting with power/ground leads

Required tools:

Hammer or mallet
Large Flat Head screw driver
Small flat head screw driver or pick
Good quality side cutters or snips
Ear clamp crimpers
Wire strippers
Electrical crimpers
Razor Blade or utility knife
Flashlight
Heat gun
8mm socket
10mm socket
10mm triple square bit
¼" Ratchet
¼" extension
5/8" drill bit
T-20 torx
Skew-Driver or flex head extension
(Not required but very helpful)
Drill Bit Size
Electric Drill
Electrical tape

Recommended tools for draining fuel tank:

Option #1:

- Schrader valve core tool
- 9/16” wrench
- 13mm Wrench
- 3’+ -4an braided hose
- Gas container

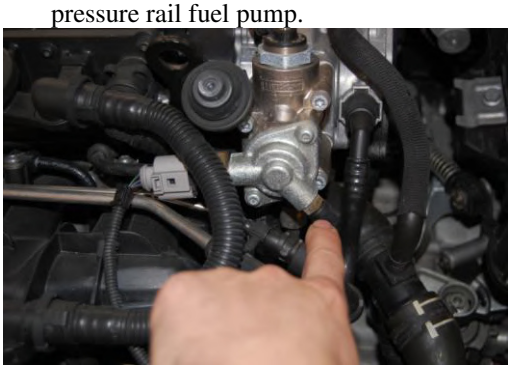
Option #2:

- Power Probe or other means to manually power on the fuel pump
- 5/16” Brass barb fitting
- Pliers
- 3’+ fuel hose
- Gas container

Draining the fuel tank:

Option #1:

1. Unscrew in a counter-clockwise motion the black plastic cap located on the front of the high pressure rail fuel pump.



2. Using your Schrader valve core tool remove the valve core located inside the brass fitting that we just removed the cap from. The core must be turned in a counter-clockwise motion to be removed. If it is too difficult to remove the valve core, simply remove the entire brass fitting from the fuel pump housing using a 13mm wrench. Then remove the valve core and reinstall the fitting on the pump.

3. Once the valve core has been removed attach your -4an hose to the fitting and gentle tighten it using a 9/16” wrench.

4. Run the other end of the -4an hose into your gas container.

5. Start the vehicle; it may take a couple of cranks. If the car will not start have a second person pitch the -4an hose. Once the car begins to idle un-pitch the line. Fuel will begin to flow into the container. Now just watch the container to make sure you do not over fill it. The car will simply shut off when the fuel tank is empty.

6. Remove the -4an hose from the brass fitting located on the front of the rail pump.

7. Reinstall the Schrader valve core into the brass fitting.

8. Reinstall the black plastic cap on the brass fitting.

Option #2:

1. Locate the 3 fuel lines on the passenger side of the engine compartment. They run from the right side of the coolant expansion tank to the top of the intake manifold.

2. Using a set of pliers remove the spring clamp that secures the fuel feed line on top of the passenger side of the intake manifold. The fuel feed line is the middle black hose that has white markings on it.

3. Install your 5/16” brass hose barb onto the fuel feed line that you just removed.

4. Attach your length of fuel line to the other end of the barb and route it into your gas container.

5. Now have a second person manually power on the fuel pump. This is done by using a device such as a power probe and jumping +12volt to the thick red wire that runs into the top of the fuel pump housing.

6. Once the fuel tank is empty remove the brass barb and reinstall the factory fuel feed line.

Removing the factory fuel pump assembly:

1. Disconnect the negative battery terminal

2. Remove the lower back seat.

3. Remove the black plastic cover located on the passenger side.

4. Unplug the fuel pump wire harness and set aside.

5. Unplug the fuel feed line and return line. This is done by pushing the line in and pushing in on the release.

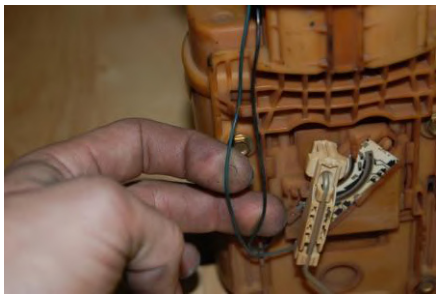
6. Remove the retaining ring that secures the fuel pump assembly. The easiest way to do this is to position a flat head screw driver and gentle tap it using a hammer or mallet in a counter-clockwise direction. Once the ring is removed set it aside along with the orange sealing grommet.

7. Remove the fuel pump assembly from the fuel tank by pulling it up and turning it to its side. Be careful of the level sender float.

Installing fuel components:

1. Cut the 2 ear style crimp clamps that connect the fuel feed line from the tank to the pump assembly top. Remove the clear fuel line and discard. It may be necessary to cut the ends of the hose slightly using a razor blade to ease the removal.

2. Locate the 3 wires that run from the pump assembly top to the level sender. Cut the wires and install the extension harness by stripping and crimping each connection. Be sure that you install the harness so that the wires do not get mixed up, and the proper wires correspond to one another.(note only 2 wires pictured)



3. Once you have confirmed that the connections have been made correctly you can begin to heat shrink them. The butt connectors have heat shrink ends, simply heat the ends slightly with a heat gun until they seal completely around the wire.

4. Gather up the "Y" connector, 3 fuel line assemblies and the 3 ear style crimp clamps.

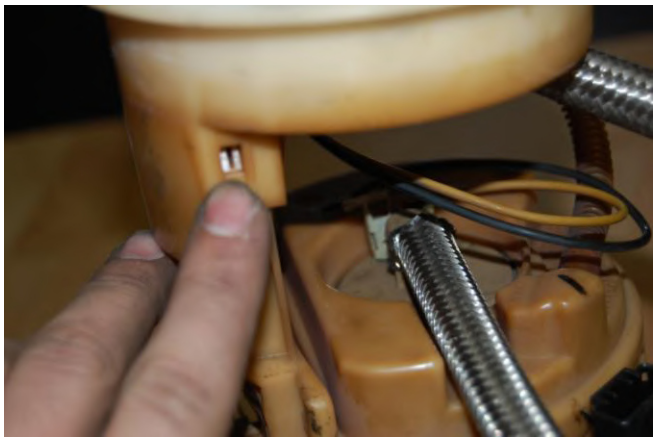
5. Install 1 of the hose assemblies to the fuel pump assembly top using an ear clamp. Crimp the clamp using a set of ear clamp pliers.

6. Install the other hose assembly to the factory fuel pump using another ear clamp. Crimp the clamp using your ear clamp pliers.

7. Install the last hose assembly with to the fuel pump using the last ear clamp. Crimp the clamp using your ear clamp pliers.

8. Install the supplied "Y" fitting so that the 2 pumps feed into each other and out to the line that goes to the top of the fuel tank.

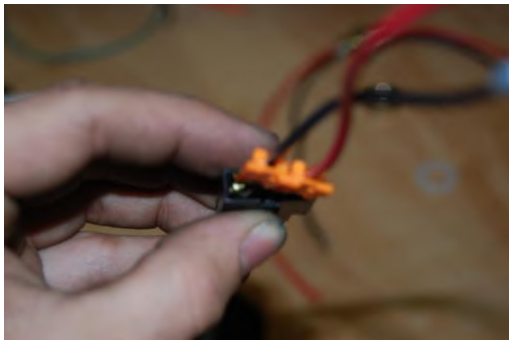
9. Disconnect the pump assembly top from the fuel pump basket. To do this, locate the tabs on both sides of the slide track and press them in slightly using a small flat head screw driver or pick. While pressing on the tabs pull the assembly apart until it separates. Set the spring aside.



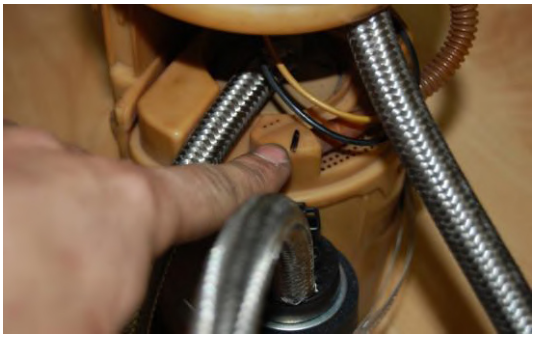
10. Take the fuel pump assembly top and drill a hole approx 5/8".

11. Install the provided bulkhead fitting from the top. Be sure the provided o-ring is placed between the fitting and the fuel tank top and the provided plastic nut is placed on the bottom.

12. Take the electrical connectors which are on the wires that you just passed through the pump assembly top and install them into the pump plug. Position the plug so that you are looking at it from the back, with the locking tab face up. Install the red wire on the right side and the black wire on the left side. Push the wires into the plug until it clips. Then install the orange locking tab.



13. Locate the fuel pick up on the bottom of the fuel pump basket. Using a marker, place a mark inline with the pick up on the bottom of the pump basket. This will be used in the later steps to align the pump.

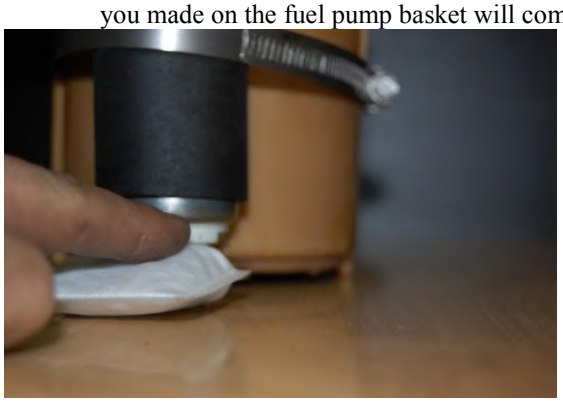


14. Take the fuel pump basket and lay it on its side inside the fuel tank. The pump assembly top will remain outside of the fuel tank.

15. Place the fuel pump preassembled with the line assembly into the fuel tank.

16. Take the supplied worm clamp and run it between the pump basket assembly and the fuel level sender.

17. Place the fuel pump next to the factory pump basket and secure it loosely using the worm clamp. Be sure to aim the pump pick up towards the back of the car. This is where the mark you made on the fuel pump basket will come in handy.



18. Once the fuel pump is orientated toward the back of the car and in line with the factory fuel pickup tighten the worm clamp. This is best done using a skew driver or 90 degree bit attachment. Although, it can be done with a ¼" ratchet.

19. Install the "Y" fitting according to the picture below:

Please note: The fuel pump kits now ship with a stainless steel barb "Y" fitting with crimp clamps. This reduces clutter.

20. Rotate the whole fuel pump assemble vertically. This may take a few tries. Simply reposition the fuel lines if they are in the way.

21. Take the electrical connector that was passed through the pump assembly top in step 10 and plug it into the fuel pump.

22. Take the fuel pump assembly top that you previously installed the hose assembly to and connect the AN fitting to the outlet of the "Y" fitting as pictured in step 15.

23. Make sure all fittings are tight and then reinstall the fuel pump sealing grommet and fuel pump top.

24. Lock fuel pump top back in place using the factory retaining ring, rotating it in a clock-wise motion using your screw driver and mallet.

25. Make a small slit in the black fuel pump cover and run the black ground wire and long red power wire through.

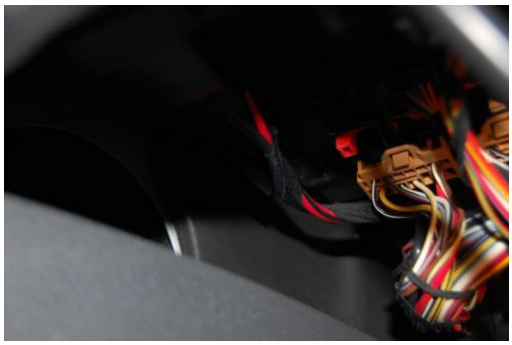
26. Connect the red power wire from the fuel pump and bulkhead assembly to the WHITE wire from the control box and the black ground wire from the fuel pump and bulk head assembly to a good chassis ground.

27. We recommend cleaning off the paint from the chassis then grounding the BROWN wire under the seat belt bracket. Use the supplied blue ring terminal to complete this connection.

28. Route the provided red power wire around the driver side of the interior panels ending in the drivers kick panel next to the hood release.

29. Connect the BROWN wire from the control box to a good chassis ground using the provided blue ring terminal. There is a good factory grounding point behind the hood release lever.

30. Connect the RED wire from the control box to the red/black wire pictured below. Note: be sure to secure wires and connectors with provided tie wraps



31. Connect the vacuum line and tee to a boost source within the car. Most likely your boost gauge. Secure with provided tie wraps.

32. Secure the control box inside the driver side kick panel.

33. Start the vehicle and your ready to go.