



advanced FLOW engineering

DFS780 PRO Fuel System – Full-time Operation

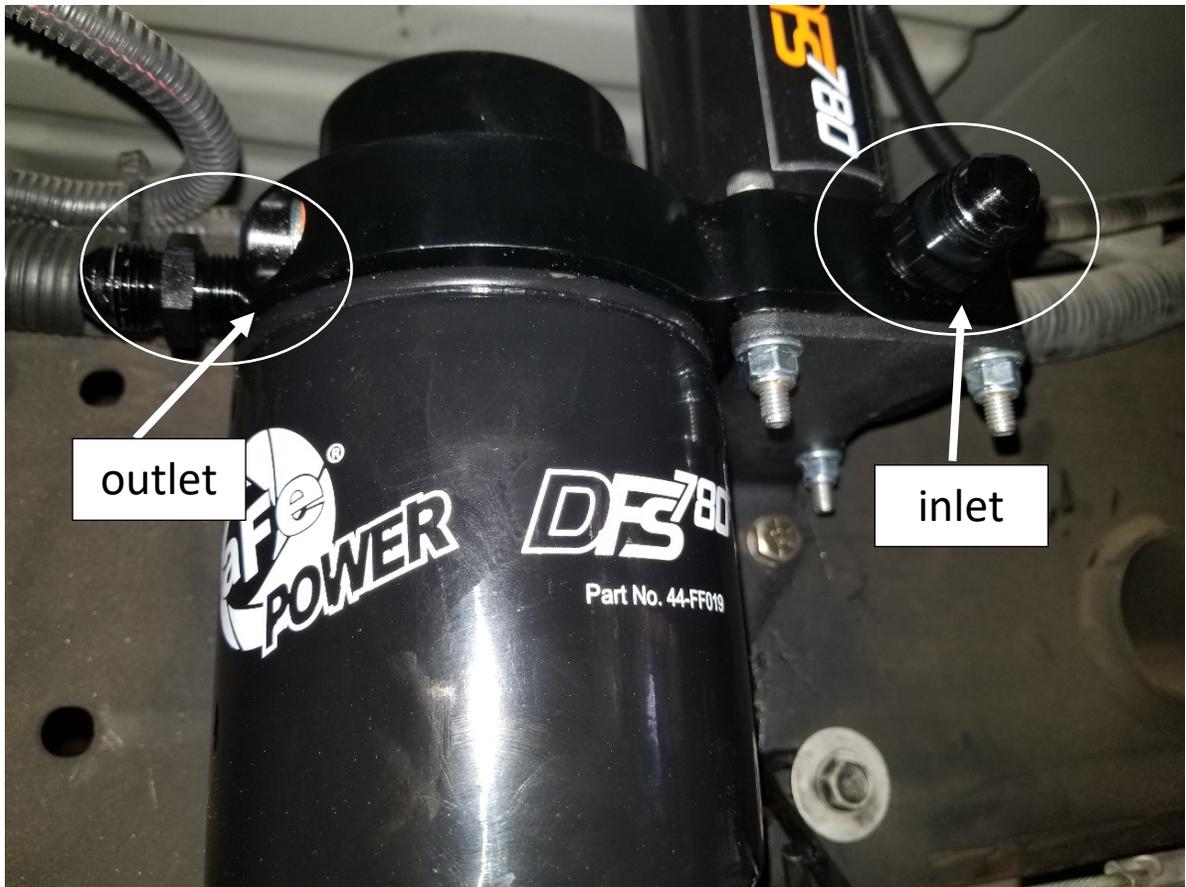
Instruction Manual P/N: 42-23041

Make: Ford Model: F-250/F-350 Year: 2017-2019 Engine: V-8 6.7L (td)

Label	Qty.	Description	Part Number
A	1	Fuel Manifold Assembly	05-60584
B	1	Filter, Fuel	44-FF018
C	1	Bracket, Frame; Carbon Steel	05-60795
D	4	Washer, M6 (Fiber)	03-50457
E	4	Washer, M6	03-50444
F	4	Locknut, Flanged; M6	03-50445
G	4	Bolt, M6 x 1.0 x 50mm	03-50443
H	3	Rivet Nuts	03-50569
I	1	Screw, Hex Hd Cap: 3/8"-16 x 1-1/2"	03-50046
J	3	Nut, 3/8" -16 Flange	05-40103
K	3	Washer, 3/8" AN	03-50230
L	12	Ties, Nylon Cable, 12", 50 lb., Black	05-60167
M	1	Connector, Add-A-Harness & Fuse (ATM)	05-60583
N	3	Bolt, 3/8"-16 x 1"	03-50124
O	1	Fitting; 1/2" Push-On to -8 AN (Straight)	03-50549B
P	1	Clamp, Spring	05-60578
Q	1	Fitting; 1/2" Push-On to -8 AN (90°)	05-60683B
R	1	Harness, Power	05-60632
S	1	Harness Relay	05-60551
T	1	Hose, Fuel Inlet/Outlet; Ford 6.7L (td)	05-60880
U	1	Hose, Fuel Return; Ford 6.7L (td)	05-60865
V	1	Nut, 3/8"-16	03-50568
W	1	Washer, Flat: 3/8"- 1 ¼" OD	03-50488
X	2	Fitting; 3/8" NPT to -8 AN (Straight)	05-60685

- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- If you are missing any of the components, call customer support at 951-493-7100.
- Ensure you have all necessary tools before proceeding.
- Do not attempt to work on your vehicle when the engine is hot.
- Disconnect the negative battery terminal before proceeding.
- Retain factory parts for future use





1. Mount the supplied fuel manifold assembly to the supplied carbon steel frame bracket using the supplied hardware and tighten:
 - (4) M6 x1.0 x 50mm bolts
 - (4) M6 washers
 - (4) M6 fiber washers
 - (4) M6 flanged locknuts

Note: The fiber washers go between the fuel manifold assembly and the carbon steel bracket.

2. Install the two (2) supplied 3/8" NPT to -8 AN fittings to the fuel manifold assembly using thread sealant.

Note: Installing the fuel filter loosely will give you an idea of the overall assembly size when looking for a mounting location.

Note: Mounting location shown in photos is on the outside of the frame, under the driver's door.

3. When looking for a location to mount the assembly, please make sure you take into account the length of hose that was supplied as well as the orientation of the inlet and outlet ports.

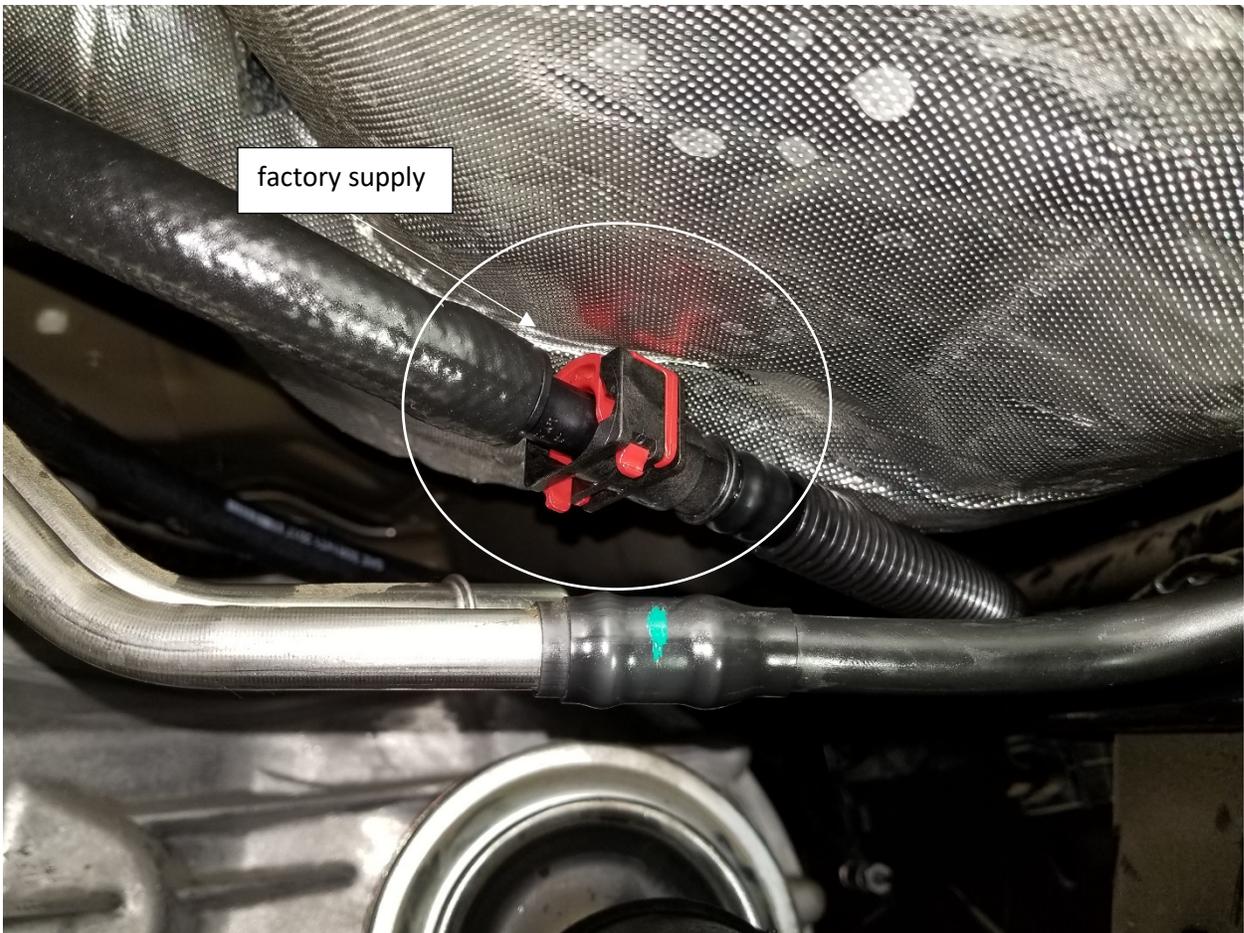


4. Place the fuel manifold assembly on to the truck and mark the three holes using the carbon steel frame bracket.

Note: Be careful when drilling. Check behind where you are drilling for anything that might get damaged and move it before drilling.

5. If you are using the supplied rivet nuts, you will need to drill three (3) $17/32$ " holes into sheet metal with a minimum thickness of $5/32$ " (0.156"). Otherwise, you will need to drill three (3) $3/8$ " holes into sheet metal with a minimum thickness of $3/16$ " (0.188").
6. If installing the rivet nuts, use the supplied $3/8$ "-16 x $1-1/2$ " bolt, $3/8$ "-16 nut and $3/8$ "- $1/4$ " flat washer to make the installation tool (as shown below).





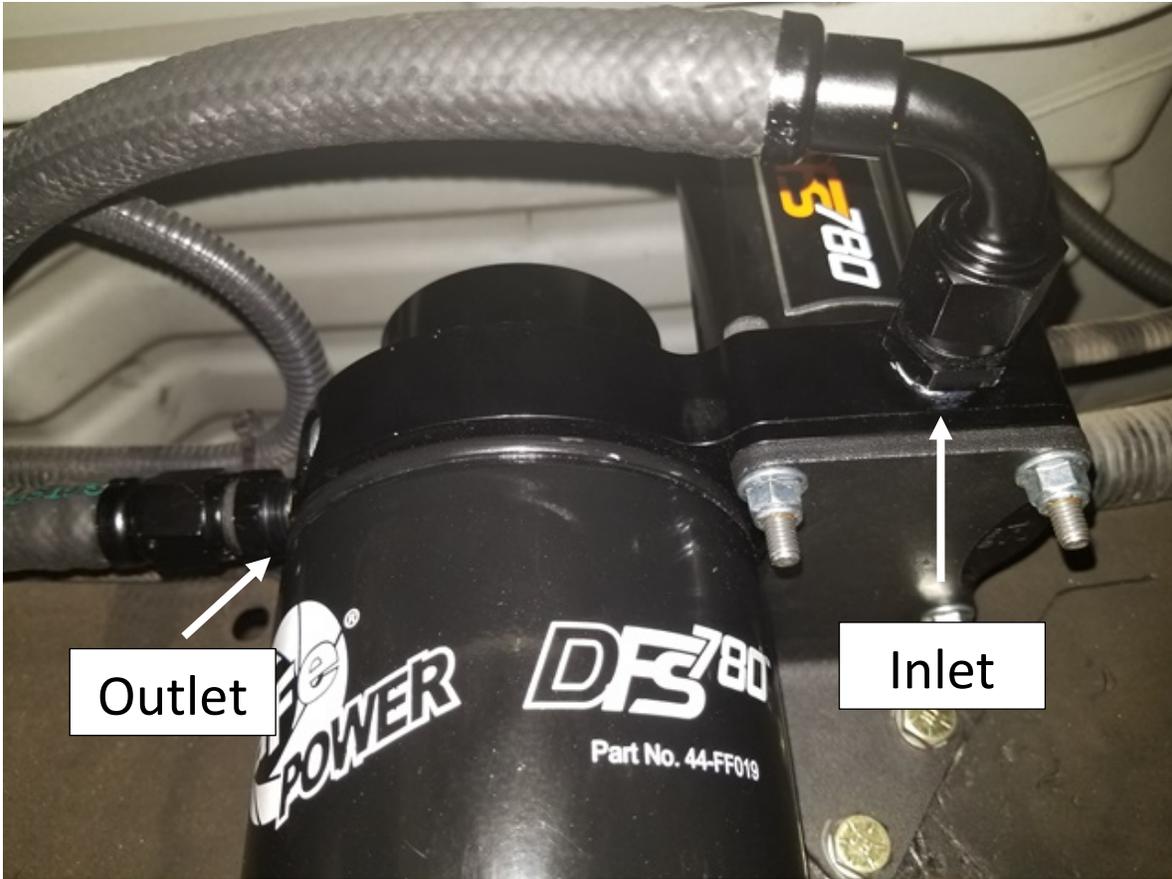
Fuel Supply line shown in Photo above.

7. Using the tool assembled in Step #6, attach the rivet nut to the drilled material by holding the bolt steady and turning the nut clockwise. This will force the rivet nut to collapse and tighten onto the drilled material
8. Install the fuel manifold assembly and the carbon steel frame bracket to the frame using the supplied hardware:
 - (3) 3/8" - 16 x 1" bolts
 - (3) 3/8" AN washers
 - (3) 3/8"- 16 flanged nuts **(if not using the rivet nuts)**
9. Install the supplied fuel filter and tighten.
10. Find the factory fuel supply line. It is located near the transmission

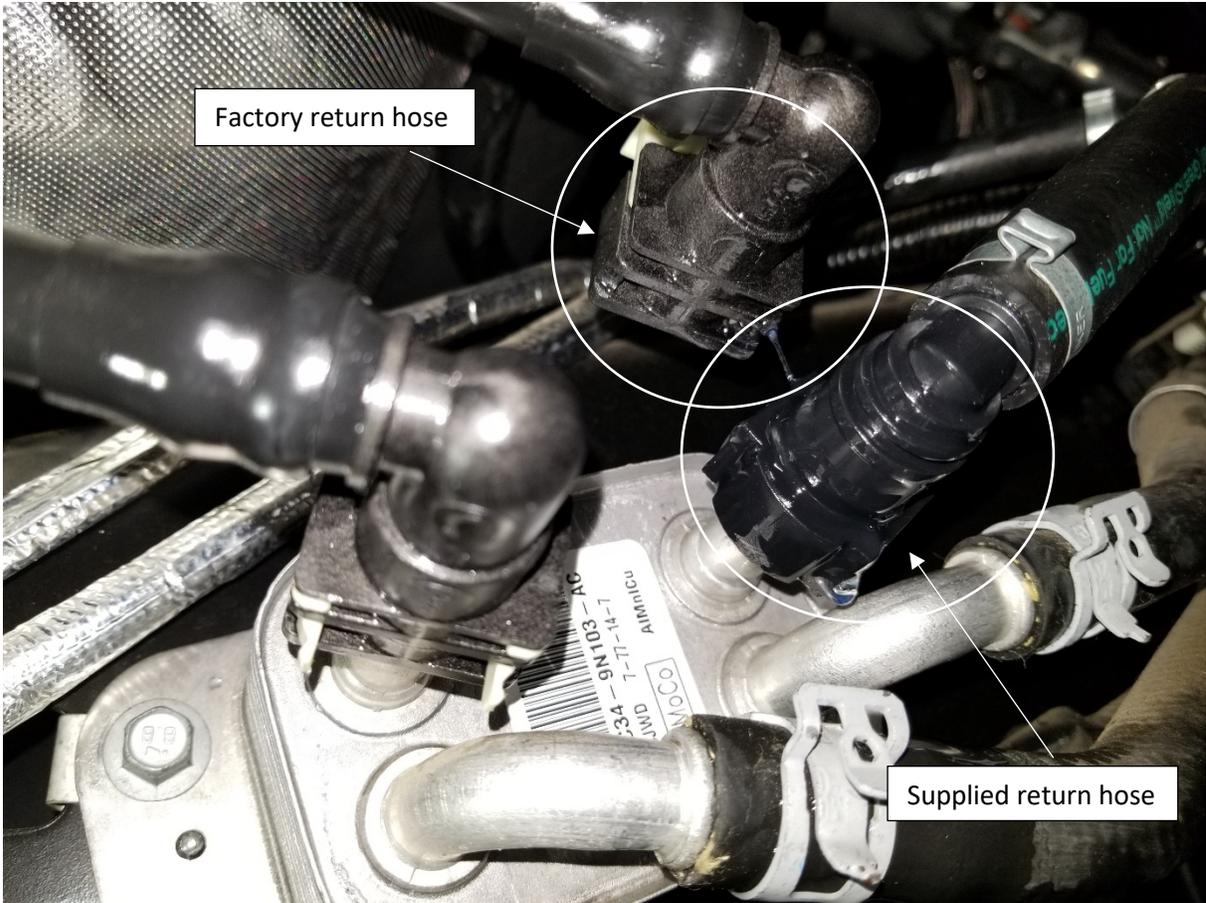


11. Disconnect the factory fuel supply line. Attach the male quick disconnect fitting on the supplied inlet/outlet hose to the factory female quick disconnect fitting on the factory fuel supply line. Route the hose to the inlet port on the fuel manifold assembly, making sure not to kink the hose or allow it near moving or hot parts. Carefully mark and then cut the hose to the correct length.
12. Using the other end of the hose you just cut, attach the female quick disconnect fitting to the factory male quick disconnect fitting on the factory fuel supply line. Carefully route this hose to the outlet port on the fuel manifold assembly, making sure not to kink the hose or allow it near moving parts. Carefully mark the hose and then cut and remove any excess.
13. Using a small amount of lightweight oil on the barbed ends, install the supplied 3/8" push-on to -8 AN fittings (straight & 90°) onto the cut ends of the hoses (determine which fitting works best for both the inlet and outlet port). Make sure both fittings fully seat into the hoses.

Note that these fitting are “self-locking” and do not require a clamp.



14. Attach the fittings to the inlet & outlet ports of the fuel manifold assembly. Make sure all connections are tight.



15. Locate the factory fuel cooler on the driver's side frame rail.

16. Disconnect the factory fuel return line. Attach the supplied fuel return hose between the male and female factory fuel fittings. Push all connections together.



17. Carefully route the $\frac{1}{4}$ " hose to the top of the air chamber on the fuel manifold assembly, making sure not to kink the hose or allow it near moving parts. Carefully mark and then cut the hose to the correct length. Using the supplied spring clamp, attach the hose to the nipple on the top of the air chamber on the fuel manifold assembly.



18. Plug the weatherproof connector on the end of the supplied power harness into the mating connector on the fuel manifold assembly motor. Route the power harness along the inside of the frame and into the engine compartment.
 19. Organize the power harness and secure with the supplied nylon cable ties.
 20. Run the power harness to the passenger side battery in the engine compartment using the supplied nylon cable ties to secure the wire.
 21. Connect the red wire ring terminal on the power harness to the positive side of the battery.
- Note: Check the fuse to make sure it is already installed in the fuse holder.**
22. Connect the black wire ring terminal on the power harness to the ground strap bolt located on the fender wall near the passenger side battery.
 23. Plug the supplied relay harness into the weatherproof connector on the power harness.
 24. Secure the relay harness using a cable tie.
 25. Run the power wire down the fender well to the bottom of the body. Locate the rubber isolator in the floor pan on the passenger side. This is where the wire will enter the cab.



26. Remove the passenger side door sill cover by pulling it up.
27. Remove the passenger side kick panel cover by pulling straight back which will expose the fuses.
28. Pull the carpet up and locate the rubber isolator plug.

Note: You may need to cut a small hole in the isolator to allow for the wire to come through.

29. Locate a 12-volt source inside the fuse box that only comes on with the key in the “run” position. Once a 12-volt source is located, remove the fuse from the fuse box.

Locations for 12-volt fuse (under the dash fuse block):

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30. Attach the power wire from the relay harness to the add-a-harness fuse connector.



31. Insert the fuse removed in Step #29 into the open location on the add a harness fuse connector (not in line with the wire).
32. Insert the add a harness fuse connector (with installed fuses) into the 12-volt source location from Step #29.
33. Carefully route the power wire outside the fuse box and reinstall the cover (making sure not to pinch the wire).
34. Organize the wire harnesses and secure with the remaining nylon cable ties.
35. Lay the carpet back down.
36. Reinstall the kick panel.
37. Reinstall the door sill.
38. Organize the wire harnesses and secure with the remaining nylon cable ties.
39. Turn the key to the "Run" position and wait for 30 seconds. Start the engine.
40. Installation is now complete. Make sure that all fittings are tight and that fuel is not leaking from any of the connections made during installation.
NOTE: Place enclosed CARB EO sticker on or near the device on a smooth, clean surface.
EO identification label is required to pass the smog test inspection.



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