



**advanced FLOW engineering**

**Instruction Manual** P/N: 42-22041

DFS780 PRO

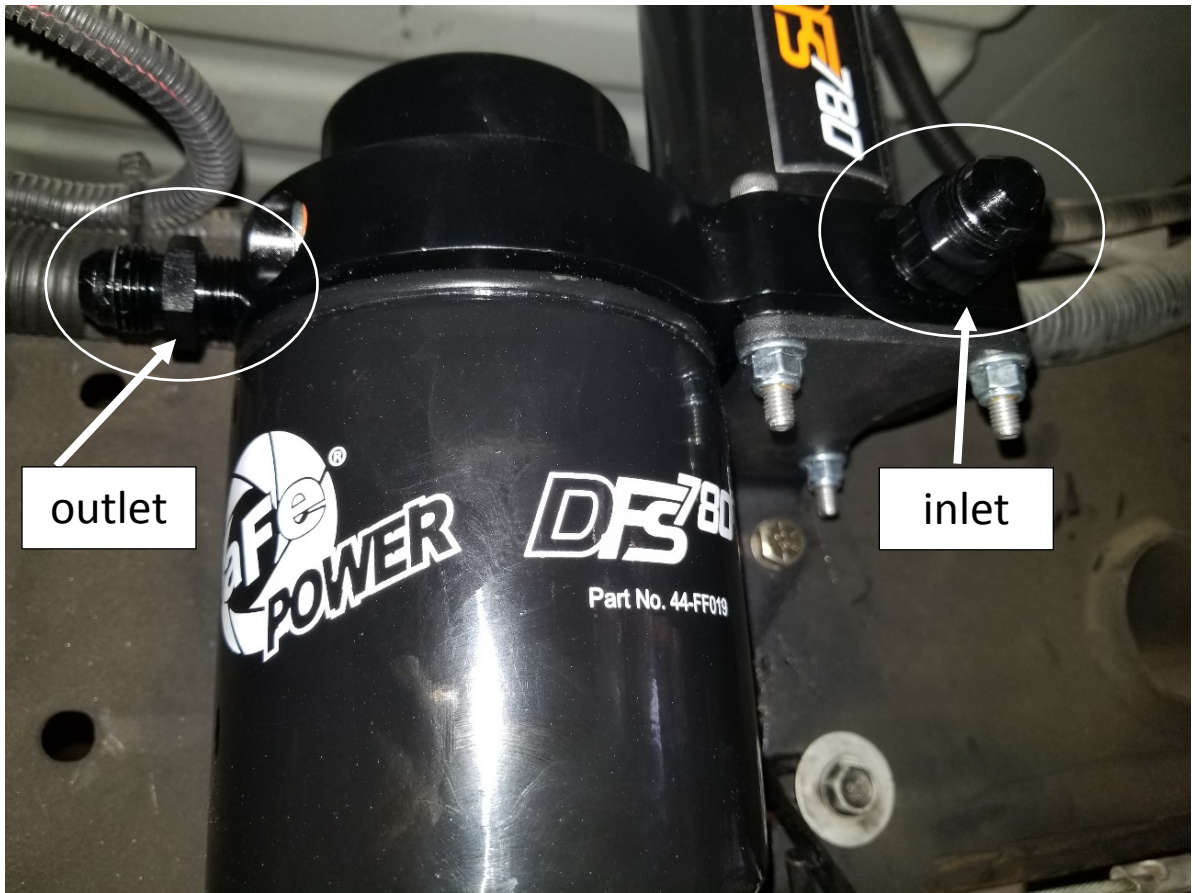
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Make: RAM Model: 1500 EcoDiesel Year: 2014-2016 Engine: V-6 3.0L (td)

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)	05-60691
N	3	Bolt, 3/8"-16 x 1"	03-50124
O	1	Fitting; 3/8" Push-On to -6 AN (Straight)	05-60510B
P	1	Clamp, Spring	05-60578
Q	1	Fitting; 3/8" Push-On to -6 AN (90°)	05-60635B
R	1	Harness, Power	05-60523
S	1	Harness Relay	05-60551
T	1	Hose, Fuel Inlet/Outlet; Ram 1500 EcoDiesel	05-60884
U	1	Hose, Fuel Return; Ram 1500 EcoDiesel	05-60885
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 -6 AN (Straight)	05-60634B

- **Note:** Legal in California for use on race vehicles only. The use of this device on vehicles used on public streets or highways is strictly prohibited in California and others states that have adopted California emission regulations.
- 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 -6 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.**

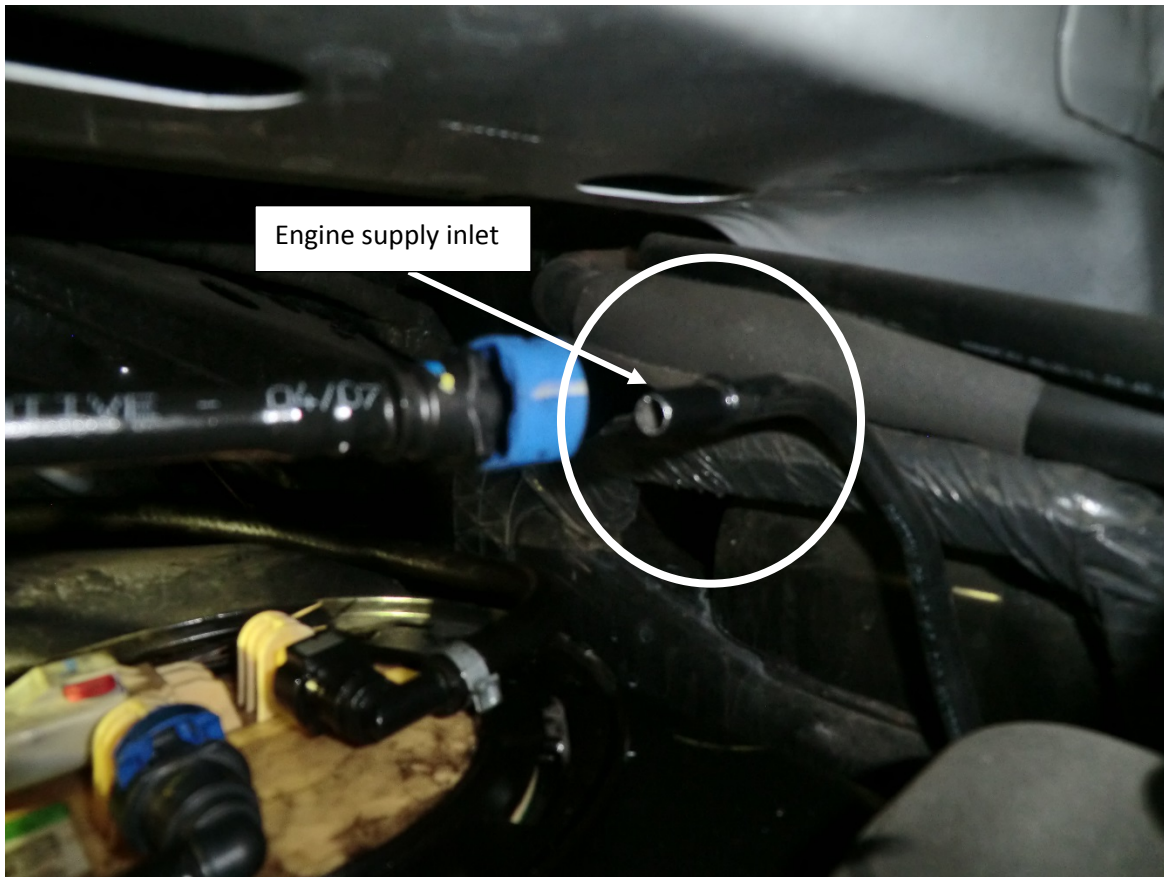
5. If you are using the supplied rivet nuts, you will need to drill three (3)  $17/32$ " holes into sheet metal with a minimum thickness of  $5/32$ " (0.156"). Otherwise, you will need to drill three (3)  $3/8$ " holes into sheet metal with a minimum thickness of  $3/16$ " (0.188").
6. If installing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





**Engine 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. Lower the fuel tank and locate the factory supply and return lines. Also locate the factory fuel filter. Clean both areas thoroughly so dirt and debris doesn't contaminate the fuel system.



11. There is a factory fuel line between the factory fuel filter outlet and the engine supply inlet. This line needs to be removed.
12. Attach the 90° female quick disconnect fitting on the supplied inlet/outlet hose onto the factory male quick disconnect fitting on the factory fuel filter outlet. 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.
13. 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 engine supply inlet. 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.
14. Using a small amount of lightweight oil on the barbed ends, install the supplied 3/8" push-on to -6 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.**



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





16. Disconnect the factory fuel return line on the top of the fuel tank. 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.
19. Route the power harness along the inside of the frame and into the engine compartment.
20. Organize the power harness and secure with the supplied nylon cable ties.
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 negative side of the battery.
23. Plug the supplied relay harness into the weatherproof connector on the power harness.
24. Secure the relay harness using a nylon cable tie.
25. Remove the battery junction box cover (fuse box) in front of the battery. 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 (Engine Compartment):**

2014-2016	F70	Fuel Pump
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26. Attach the power wire from the relay harness to the add-a-harness fuse connector.
27. Insert the fuse removed in Step #25 into the open location on the add a harness fuse connector (not in line with the wire).
28. Insert the add a harness fuse connector (with installed fuses) into the 12-volt source location from Step #25.
29. Carefully route the power wire outside the fuse box and reinstall the cover (making sure not to pinch the wire).
30. Organize the wire harnesses and secure with the remaining nylon cable ties.
31. Turn the key to the "Run" position and wait for 30 seconds. Start the engine.
32. 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.

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# DFS FUEL SYSTEM

## “WORRY FREE” WARRANTY POLICY

Please read this warranty policy before proceeding with the installation of this advanced FLOW engineering, Inc. (aFe) product. aFe’s obligation under the “Worry Free” Warranty is covered for two years from date of purchase. The “Worry Free” Warranty is limited to replacement of the defective or worn-out product with the same (or comparable) product in accordance with this warranty. Under no circumstances will the obligation or liability of aFe exceed the purchase price of the product as indicated on the original bill of sale. Warranties are non-transferable, contain no cash value and are only extended to the owner of the vehicle provided that the ownership has not changed since the installation of the product. This warranty does not apply to products which have been altered, modified, damaged from neglect, abuse or from an accident, misused, improperly installed, contaminated with dirt or other contaminants, or used in applications other than recommended in our printed or digital media. aFe does not provide reimbursements for delay, shipping fees, labor, mileage, or any other costs involved in installation or re-installation of the products in question. Registration Process:

Simply register your DFS Fuel System product online at <http://www.aFepower.com/reg>

### Claim Process:

To file a warranty claim, customers are required to submit their information using the warranty claim form online at <http://afepower.com/inquiries/tech-warranty.php>

All Warranty Claims require: 1) Online registration of the product. 2) If item has not been registered online, then a copy of your original purchase receipt is required. 3) An image of the warranted part. 4) An image showing the serial number on the warranty card or the barcode label on the box. You may be required to return the part for inspection and you may be required to purchase a new replacement part while the warranty claim is being processed. Once the warranty claim has been reviewed and approved, aFe will provide you with a refund of the replacement purchase price.

aFe’s obligation under the “Worry Free” Warranty is limited to replacement of the defective or worn-out product (excluding finish) with the same (or comparable) product in accordance with this warranty. In addition this warranty does not cover fuel filters, which need to be replaced when worn. Warranty is valid provided aFe instructions for installation were properly followed.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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