



advanced FLOW engineering

Instruction Manual P/N: 42-22011

DFS780 PRO

Make: Dodge Model: 2500 / 3500 Year: 1998.5 - 2002 Engine: I-6 5.9L (td)

Label	Qty.	Description	Part Number
A	1	Fuel Manifold Assembly	05-60584
B	1	Filter, Fuel	44-FF019
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	Harness, Factory Lift Pump to DFS	05-70030
N	3	Bolt, 3/8"-16 x 1"	03-50124
O	1	Harness, Power	05-60523
P	1	Harness Relay	05-60551
Q	1	Fitting, AN -8 to M12x1.5mm and washer	05-60686
R	1	Fitting; 3/8" NPT to -6 AN (Straight)	05-60634B
S	1	Fitting, 3/8" NPT to -8 AN (Straight)	05-60685
T	1	Fitting, 3/8" Push-On to -6 AN (90°)	05-60635B
U	1	Fitting, 1/2" Push-On to -8 AN(90°)	05-60683B
V	1	Nut, 3/8"-16	03-50568
W	1	Washer, Flat: 3/8"- 1 1/4" OD	03-50488
X	1	Hose, Fuel Inlet; 98.5-02 Dodge 2500	05-60896
Y	1	Hose, Fuel Outlet; 98.5-02 Dodge 2500	05-60895
Z	1	Hose, Fuel Return; 98.5-02 Dodge 2500	05-60897
AA	2	Washer, Aluminum Crush	03-50384
BB	2	Bolt, Hex Head M12mm x 1.5mm x 16mm	03-50611
CC	1	Clamp, Spring	05-60578
DD	1	Jumper, Priming	05-70004

- **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 supplied 3/8" NPT to -6 AN fitting into the inlet port and install the supplied 3/8" NPT to -8 AN fitting into the outlet port of the fuel manifold assembly using thread sealant (shown in picture above).

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 inside 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).





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.

Note: You will need a special tool to release the fuel line from the connectors. You can get this tool at your local parts store.

10. Locate the factory fuel supply line (attached to factory lift pump). Disconnect the female quick disconnect from the factory fuel supply line and remove the blue locking tab from the male fitting. It will need to be reinstalled into the female quick disconnect fitting.



11. Attach the male quick disconnect fitting on the supplied 3/8 inlet hose onto the factory female quick disconnect fitting on the factory fuel supply. 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. Install the 3/8" push-on to -6 AN 90° fitting into the cut end of the hose, making sure the fitting fully seats into the hose.

Note: The fittings are “self-locking” and do not require a clamp.

12. Remove the hard fuel line from the factory lift pump to the fuel filter housing.

13. Remove the factory lift pump.

14. Decide if you are going to connect the fuel outlet hose to the factory fuel filter or to the high-pressure pump. If you are connecting the fuel outlet hose to the factory fuel filter, proceed to Step 15. If you are connecting the fuel outlet hose to the high-pressure pump, proceed to Step 17.



15. Attach the supplied M12 x 1.50mm to -8 AN fitting and washer to the inlet port on top of the factory fuel filter housing. Attach the -8 AN 90° fitting on the supplied ½” hose to the -8 AN fitting installed on the factory fuel filter. Route the hose to the outlet 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. Install the ½” push-on to -8 AN 90° fitting into the cut end of the hose making sure the fitting fully seats into the hose.

Note: The fittings are “self-locking” and do not require a clamp.

16. Proceed to Step 20.



17. Locate the factory high-pressure pump. Remove the factory fuel line between the fuel filter housing and the factory high-pressure pump.

Note: Removing the factory fuel filter housing may cause a check engine light to come on.

18. If you are leaving the factory fuel filter housing in place, install the two (2) supplied M12 x 1.50 x 16mm bolts and aluminum crush washers into the open ports on the top of the factory fuel filter housing. This will allow you to leave all the sensors attached to the factory fuel filter housing which will keep the check engine light off.

19. Attach the supplied M12 x 1.50mm to -8 AN fitting and the washer to the inlet port on the factory high-pressure pump. Attach the -8 AN 90° fitting on the supplied ½” hose to the -8 AN fitting installed on the factory high-pressure pump. Route the hose to the outlet 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. Install the ½” push-on to -8 AN 90° fitting into the cut end of the hose making sure the fitting fully seats into the hose.

Note: The fittings are “self-locking” and do not require a clamp.



20. Attach the -6 AN 90° fitting to the inlet port and the -8 AN 90° fitting to the outlet port of the fuel manifold assembly. Make sure all connections are tight.



21. Disconnect the factory fuel return line and remove the gray locking tab from the male fitting. It will need to be reinstalled into the female quick disconnect fitting. Attach the supplied fuel return hose between the male and female factory fuel fittings. Push all connections together.



22. 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 hot or 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.



23. Plug the weatherproof connector on the end of the supplied power harness into the mating connector on the fuel manifold assembly motor.
24. Route the power harness along the inside of the frame and into the engine compartment.
25. Organize the power harness and secure with the supplied nylon cable ties.
26. 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.

27. Connect the black wire ring terminal on the power harness to the negative side of the battery.
28. Secure the relay harness using a cable tie.



29. Attach the red power wire from the relay harness to the supplied factory lift pump to DFS harness. Plug the weatherproof connector into the factory lift pump connector.
30. Organize the wire harnesses and secure with the remaining nylon cable ties.
31. Plug the supplied priming jumper into the weatherproof connector on the power harness. The DFS780 pump motor will turn on. You will hear the DFS780 pump change sound when it has primed.
32. Once the system is primed, remove the priming jumper from the power harness.

NOTE: Failure to remove the priming jumper will result in the DFS780 continuing to run, even with the vehicle shut off. This could result in a dead battery.



33. Plug the relay harness into the weatherproof connector on the power harness.
34. Turn the key to the “Run” position and wait for the “wait to start” light to go out. Start the truck and let the truck idle while checking for any leaks.
35. 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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