advanced FLOW engineering

DFS780 Fuel System - Part-time Operation

Instruction Manual P/N: 42-13021

Make: **Ford** Model: **F-250/F-350** Year: **2003-2007** Engine: **V8 6.0L (td)**
Fuel Pressure: **8-10 psi (boost controlled - supplements factory fuel pump)**
Make: **Ford** Model: **Excursion** Year: **2003-2005** Engine: **V8 6.0L (td)**

- 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.
- Ensure that your vehicle is cooled off before proceeding.
- Retain factory parts for future use.

Label	Qty	Description	Part Number
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A	1	Fuel Manifold Assembly	05-60748
B	1	Filter, Fuel	44-FF019
C	1	Bowl, Water Separator	05-60487
D	1	Bracket, Frame; Carbon Steel	05-60554
E	1	Bolt, ½”-13 x 1.50”	03-50464
F	2	Washer, ½”	03-50494
G	1	Nut, Hex Nylon Lock: ½”	03-50495
H	4	Screw, Socket Head Cap M6x1.0x50mm	03-50443
I	4	Washer, M6 (Fiber)	03-50457
J	4	Washer, M6	03-50444
K	4	Nut, Flanged Nyloc: M6	03-50445
L	2	Fitting; 3/8" NPT to AN -6 (Black, Straight)	05-60634B
M	1	Harness Relay	05-60551
N	1	Connector, Add-A-Harness	05-60583
O	1	Hose, Fuel Return	05-60696
P	18	Ties, Nylon Cable, 12"	05-60167
Q	1	Harness, Power	05-60632
R	1	Hose, Fuel Inlet	05-60697
S	1	Hose, Fuel Outlet	05-60698

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.


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Picture #2

1. You will need to loosen the bed or drop the fuel tank to begin installation of the DFS780 Fuel pump.

2. On the driver's side of the truck, under the rear door, you will see an oval hole. Use this hole to mount the bracket to the frame (as shown above).

Picture #3

3. Mount the supplied bracket to the outside of the frame using the supplied ½”-13 x 1.50” bolt, two (2) ½” washers & ½”-13 locknut.

Picture #4

4. Connect the manifold to the bracket using the four (4) supplied M6x1.0 x
50mm bolts, M6 washers, fiber washers and M6 flange nuts. The fiber washers go between the manifold and the bracket.

5. Tighten the manifold to the bracket.

Picture #5

6. Turn the sight glass to the desired angle and using a 1-1/4" wrench, tighten the center nut under the DFS780 manifold.

Note: The pump should look like the picture above.

Picture #6

7. Using a light oil, lube the gasket on the fuel filter and install on the manifold. Thread the supplied water separator bowl onto the supplied fuel filter.

Picture #7

8. Apply Teflon tape with PTFE or Teflon paste with PTFE to the 2 x 3/8” NPT to -6 AN fittings.

Note: Only apply Teflon to the NPT side of the fitting.

Picture #8

9. Install the 2 x 3/8” NPT to -6 AN fittings into the DFS 780 (as shown above).

Picture #9

10. Clean the area around the fuel lines to prevent dirt and debris from going into the lines.

Note: Picture taken from outside of frame looking towards passenger's side.

Picture #10

11. Disconnect the fuel supply and the fuel return line.

<u>Note: Picture taken from outside of frame looking towards passenger's side.</u>

Picture #11

12. Install the supplied fuel inlet hose (shown below with silver 90° “AN” fitting) onto the male side of the stock fuel tank connection.

Picture 13-1

<u>Note: Picture taken from the passenger side looking at the driver’s side.</u>

Picture #12

13. Install the supplied fuel outlet hose (shown below with black 90° “AN” fitting) onto the female side of the stock feed line.

Picture 12-1

Note: Picture taken from the passenger side looking at the driver’s side.

Picture #13

14. Install the supplied fuel return line to the male side of the stock return fuel line on the tank and lock the fitting.


Picture 13-1

<u>Note: Picture taken from outside of frame looking towards passenger's side.</u>

Picture #14

15. Connect the factory fuel return line to the male connection on the “T” quick connect fitting.


Picture 14-1

<u>Note: Picture taken from outside of frame looking towards passenger’s side.</u>

Picture #15

16. Install the supply fuel line (90° silver “AN” fitting) onto the fuel inlet port of the DFS780.


Picture #16

17. Install the feed fuel line (90° black “AN” fitting) onto the fuel outlet port of the DFS780.

Picture #17

18. Install the supplied return line (-4 AN fitting) onto the top of the DFS780.


Picture #18

19. Using the supplied nylon cable ties, secure the new hoses (as shown above).

Picture #19

20. Using the supplied nylon cable ties, secure the new hoses (as shown above).

Picture #20

21. From the inside of the frame, plug the Deutsch connector on the supplied power harness into the mating connector on the DFS780.

22. Route the power harness along the frame towards the front of the vehicle.

23. Organize the wire harness and fuel lines and secure with the supplied nylon cable ties.

Picture #21

24. Run the other end of the supplied wiring harness along the frame into the engine compartment.

Picture #22

25. Connect the red wire ring terminal to the positive side of the battery.

NOTE: Check the fuse to make sure it is already installed in the connector.

Picture #23

26. Connect the black wire ring terminal to the negative side on the battery.

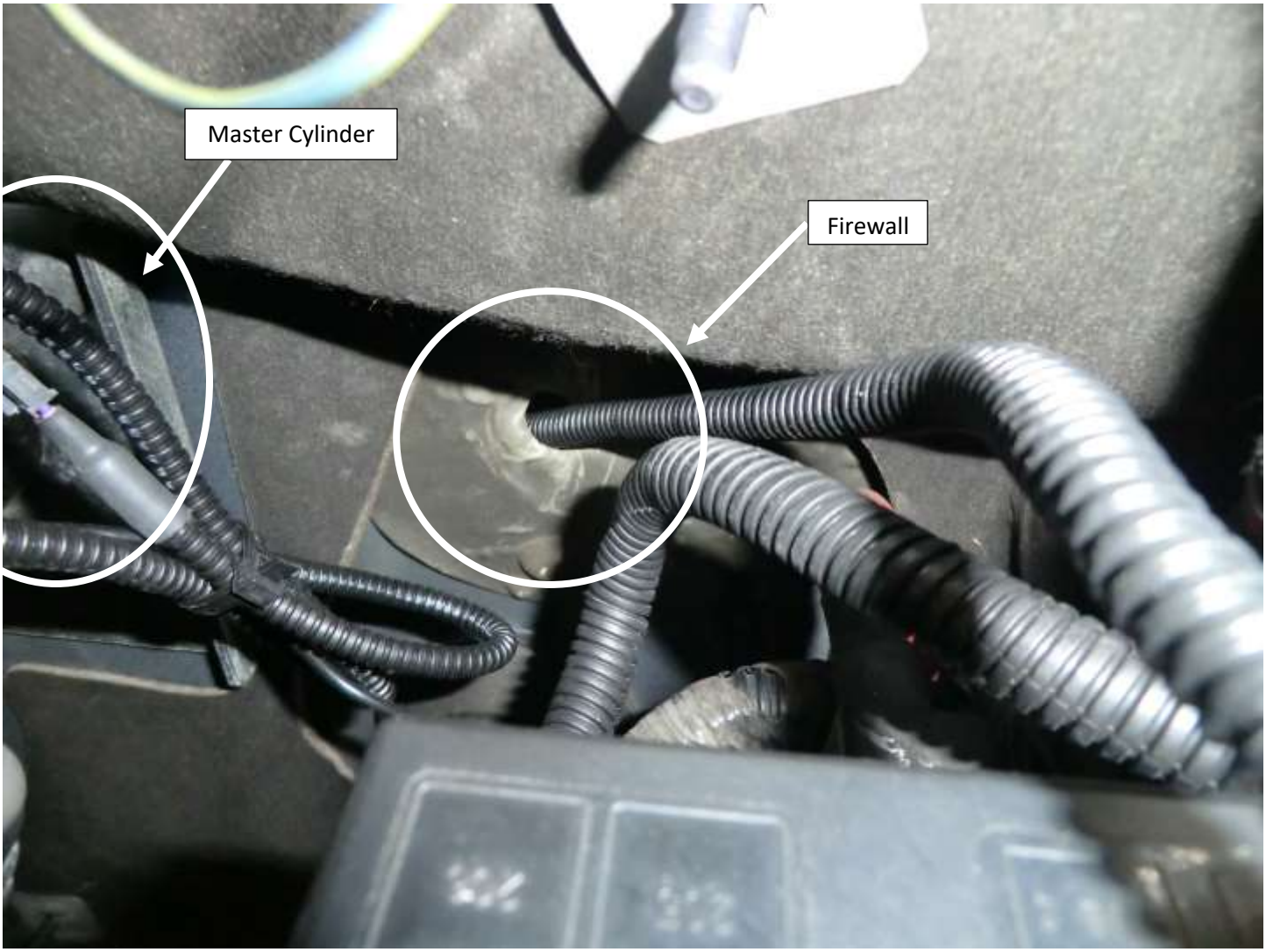

Picture #24

27. Plug the supplied relay harness into the Deutsch connector on the power harness.

28. Organize any of the loose wire harness and secure with the remaining nylon cable ties.

Picture #25

29. Secure the supplied relay using a supplied nylon cable tie.



Picture #26

30. Run the relay power wire into the cab of the truck through the existing upfitter hole near the master cylinder.

Note: The hole may have a cover over it.

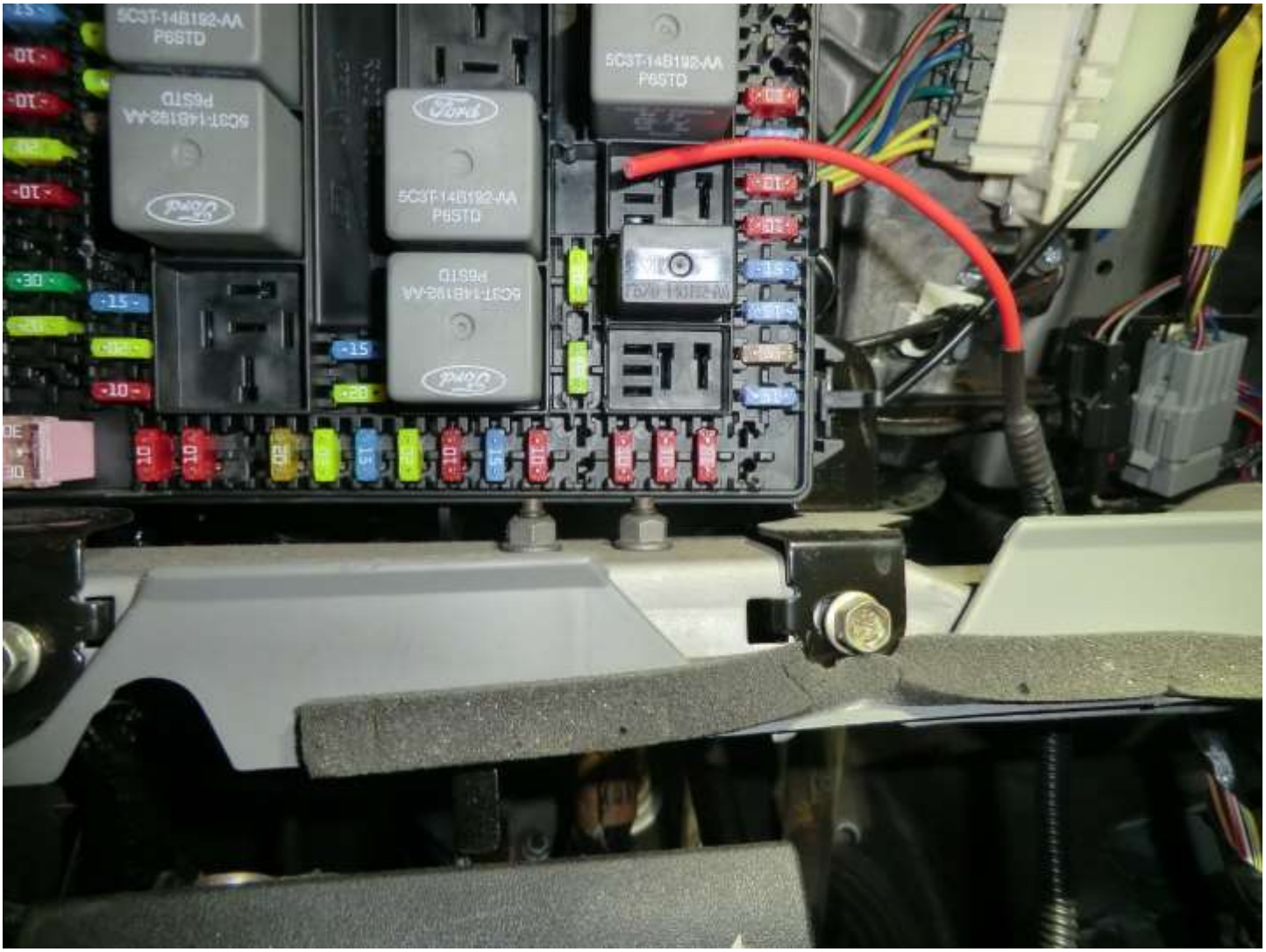
Picture #27

31. Locate the panel under the steering wheel.

32. Remove the panel by firmly pulling using the handles.

Picture #28

33. Locate the under dash fuse box



Picture #29

34. Open the battery junction box and locate the fuses.

Picture #30

35. Locate a 12-volt ignition source inside the fuse box that only comes on with the key in the “run” position (see suggestion below). Once a 12-volt source is located, pull fuse from the fuse box.

Locations for inline fuse adapter plug in (under dash fuse block):

2003 - 2007	#45	Ignition Run/START feed

Picture #31

36. Install the fuse removed in Step 34 and insert it into the open location on the fuse adapter B (not in line with the wire).

Picture #32

37. Install the inline fuse adapter (with installed fuses) into the 12-volt ignition source inside the fuse box.

Picture #33

38. Attach the power wire from the relay to the add a harness fuse adapter.

Picture #34

39. Reinstall the panel.

Picture #35

40. Turn the key to the “Run” position and watch to see if the DFS780 sight glass fills with fuel. If the DFS780 sight glass does not fill with fuel, use the Schrader valve (on the top of the DFS780) to release trapped air which will allow DFS780 to fill. If DFS780 still does not fill, try starting the engine.

41. Installation is now complete. Make sure that all fittings are tight, and that fuel is not leaking from any of the connections made while installing.

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