



advanced FLOW engineering

Diesel Fuel System

Instruction Manual P/N: 42-12021

Make: Ford Model: Diesel Trucks Year: 2003-2004.5 Engine: L6-5.9L (td)

Fuel Pressure: 12-18psi (replaces factory fuel pump)



- 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 951-493-7185.
- 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.

A	1	Fuel Manifold Assembly	05-60565
B	1	Filter, Fuel	44-FF019
C	1	Bowl, Water Separator	05-60487
D	1	Bracket, Frame; Carbon Steel	05-60504
E	1	Spacer, Bracket	05-60577
F	2	Washer, 5/8"	03-50458
G	1	Nut, Hex: 5/8"-11	03-50450
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 (Installed)	05-60509
M	1	Harness Relay	05-60551
N	1	Connector, Add a harness	05-60583
O	1	Hose, Fuel Return	05-60570
P	1	Screw, Cap 5/8"-11 x 8"	03-50449
Q	12	Ties, Nylon Cable, 12"	05-60167
R	1	Adaptor O-Ring	05-60622
S	1	Harness, Power	05-60523
T	1	Hose, Fuel Inlet	05-60568
U	1	Hose, Fuel Outlet	05-60569

Warranty Information available at <https://afepower.com/contact#warranty>

Emissions Disclaimer: This product is not currently CARB exempt and is not available for purchase in California or for use on any vehicle registered with the California Department of Motor Vehicles.





1. You will need to loosen the bed or drop the fuel tank to begin installation of the DFS780 Fuel System.
2. Mount the supplied fuel manifold assembly to the supplied carbon steel frame bracket using the supplied hardware and tighten.
 - (x4) M6x1.0 x 50mm bolts
 - (x4) M6 washers
 - (x4) M6 fiber washers
 - (x4) M6 flanged locknuts

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



3. Remove the rear differential vent hose from the shock tower.



4. Remove the factory wire harness from the two mounting holes (as circled above).



5. Install the carbon steel frame bracket onto the frame.

Note: If you do NOT have a fifth wheel receiver mount, install the supplied bracket spacer between the top of the frame and the carbon steel frame bracket.



6. Secure the carbon steel frame bracket to the frame using the supplied hardware and tighten.

- (x1) 5/8"-11 x 8" bolt
- (x2) 5/8" washers
- (x1) 5/8" locknut

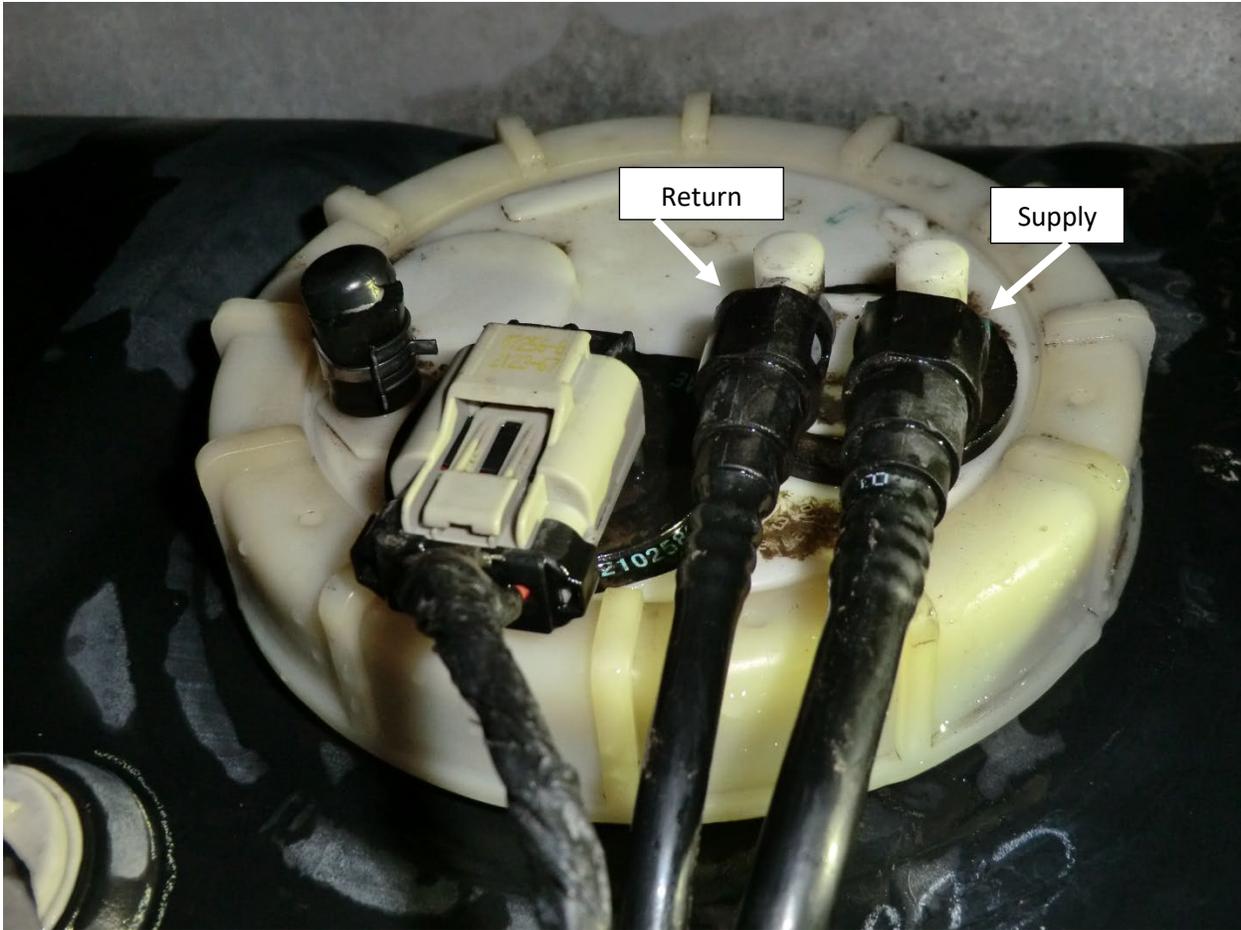
Note: Install the bolt from the underside of the carbon steel frame bracket (otherwise the bolt can't be removed with the bed installed).



7. Remove (cut off) the lower plastic mounting tab on the stock wire harness (shown above).



8. Reattach the differential vent tube back onto the shock tower.
9. Reinsert the upper plastic mounting tab on the stock wire harness back into the stock mounting location.



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

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



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





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





14. Install the female side of the supplied return line to the male connection on the stock fuel tank connection (as shown below).





15. Install the supplied fuel return line to the female side of the stock return fuel line (as shown below).





16. Install the fuel inlet hose (silver "AN" fitting) onto the fuel inlet port of the DFS780.



17. Install the fuel outlet hose (black "AN" fitting) onto the fuel outlet port of the DFS780.



18. Run the supplied fuel return line (-4 AN fitting) down the frame toward the DFS780.

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



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



21. 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.



22. Plug the Deutsch connector into the mating connector on the DFS780.

23. Route the supplied wiring harness along the frame towards the front of the vehicle.



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



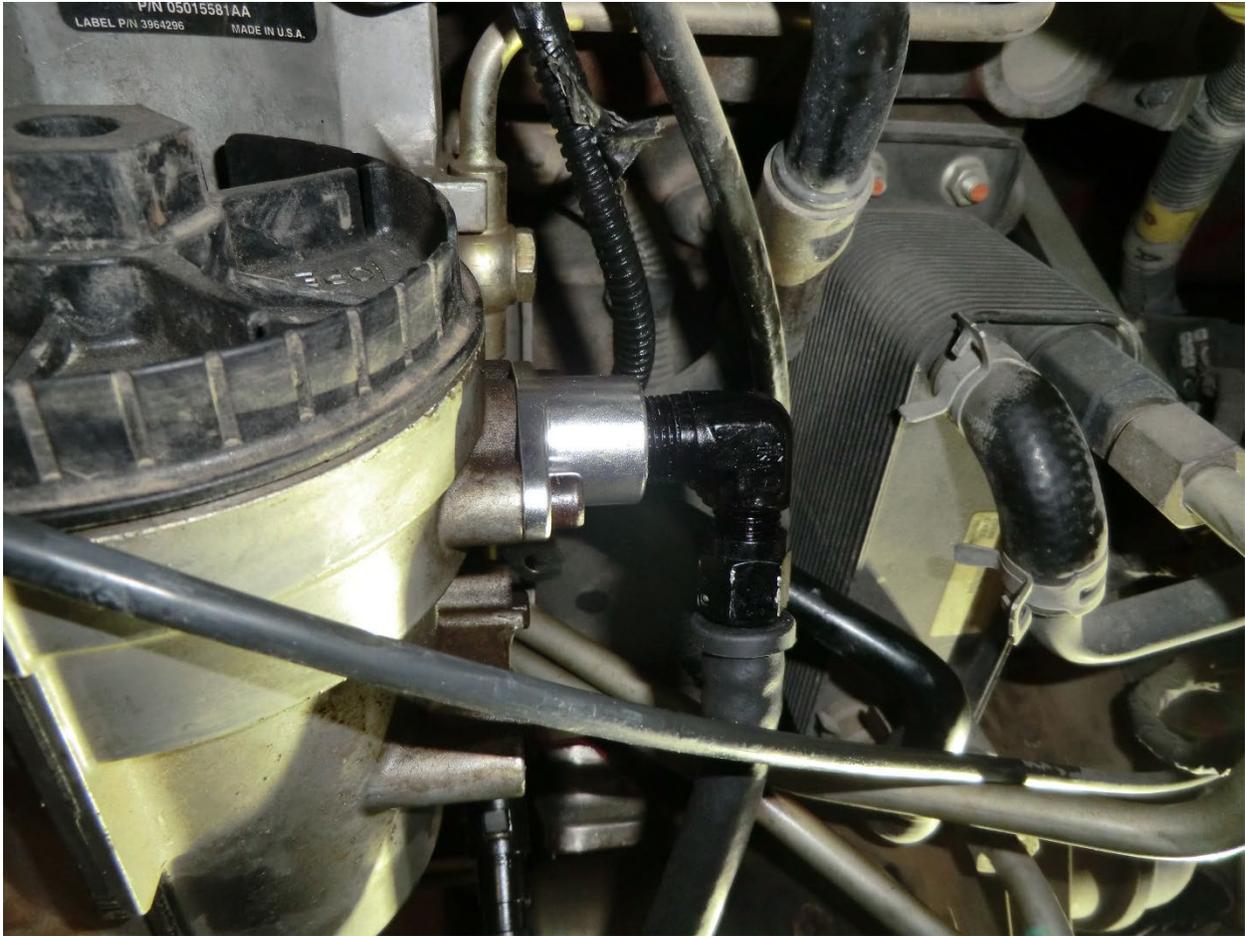
25. Disconnect the stock fuel pump feed hose located on the inside of driver's side frame rail under the driver's door.



26. Disconnect the electrical connector (A) from the stock fuel pump.

27. Remove the stock fuel pump from the stock fuel filter housing by removing 4 bolts as shown. Retain the bolts removed in this step.

Note: Remove the stock inner fender liner to make the removal of the stock fuel pump easier.



28. Install the aFe Fuel Pump Adapter (shown below) onto the stock fuel filter housing using 2 of the bolts removed in Step 27.

Note: If the inner fender liner was removed, please reinstall.





29. Attach the new aFe fuel supply hose to the factory fuel line (shown below).





30. Run the remaining wire harness along the frame to the engine compartment.



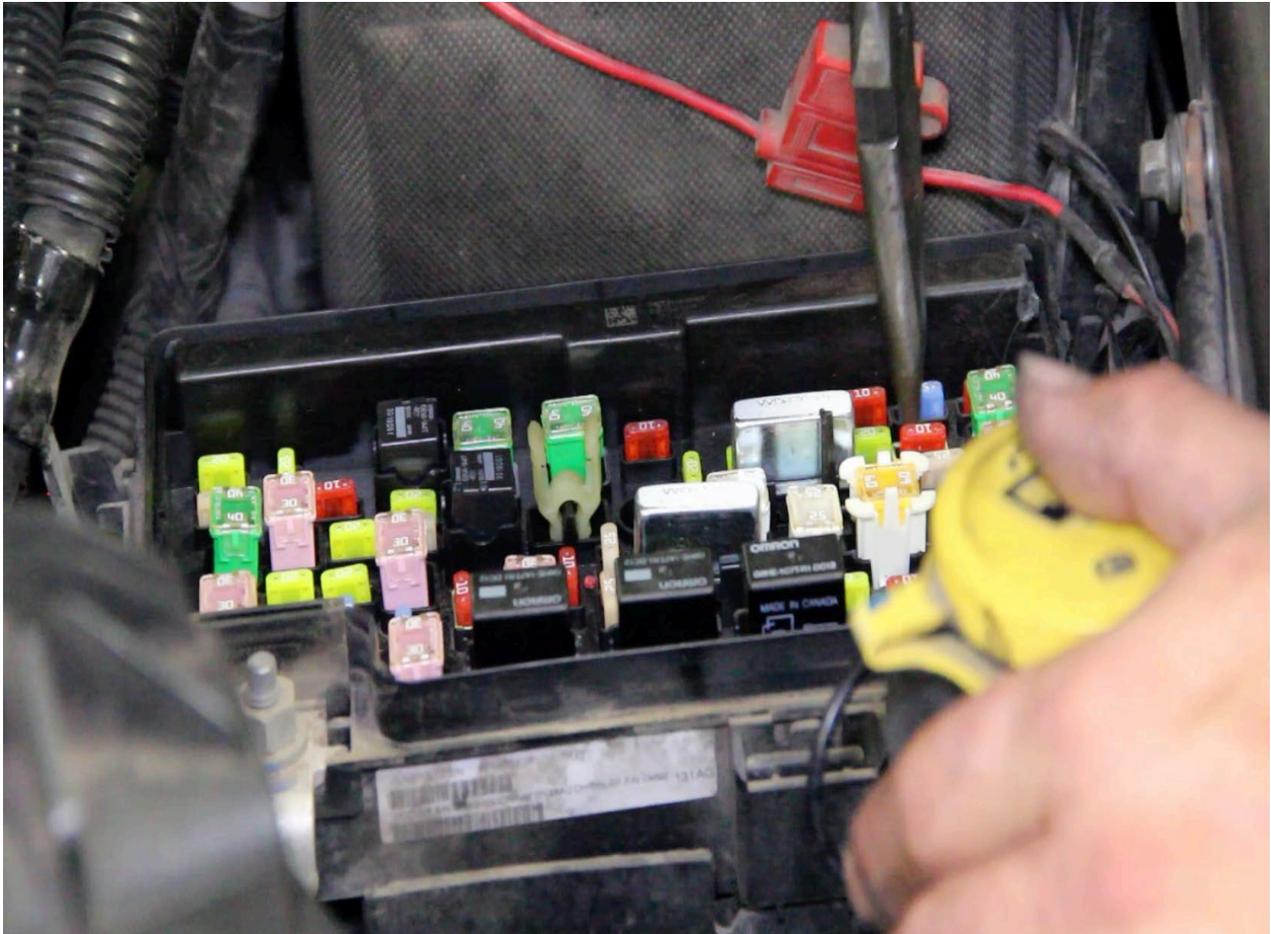
31. Plug the supplied relay harness into the Deutsch connector on the power harness.



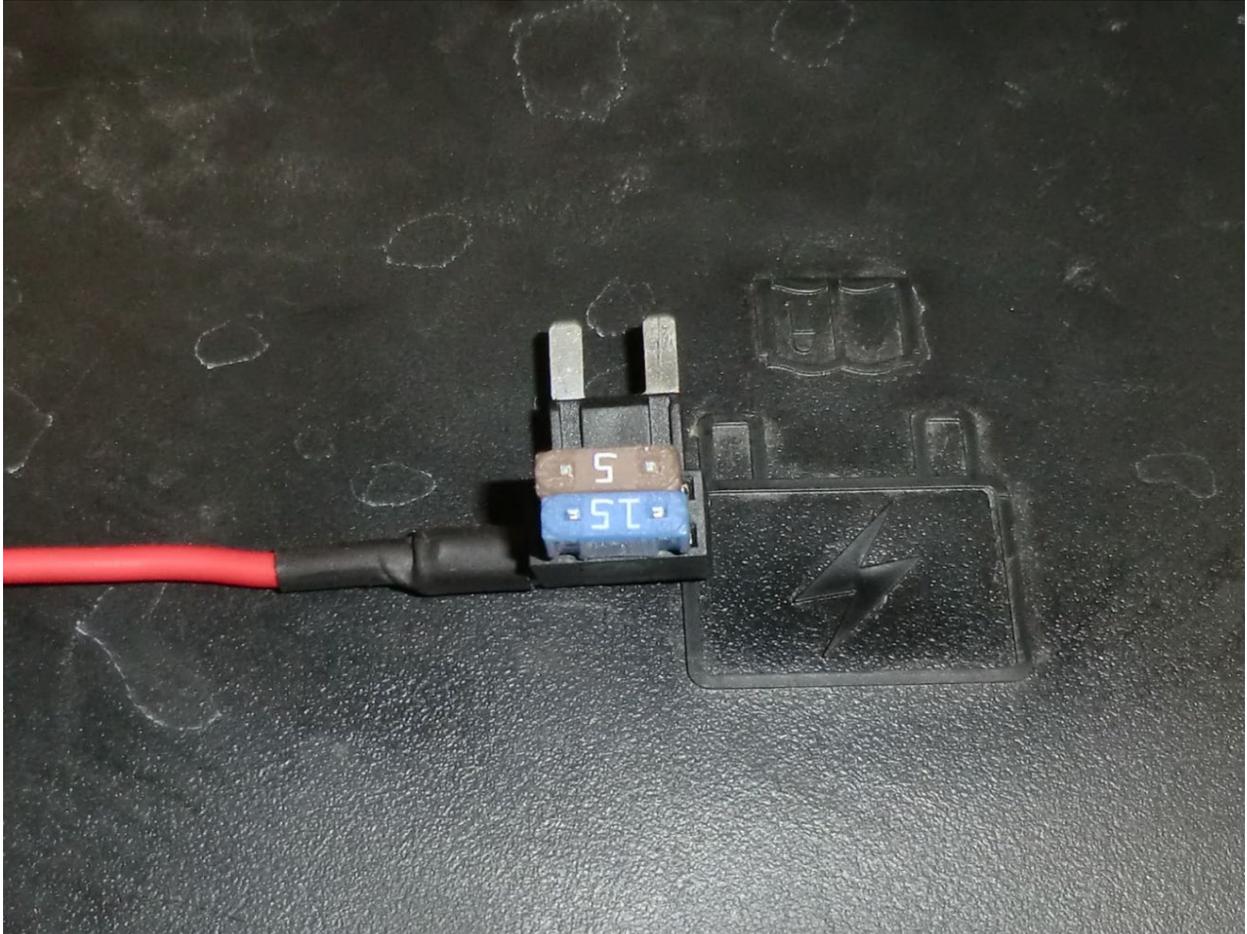
32. Secure the supplied relay using a supplied nylon cable tie.



33. Attach the power wire from the relay to the inline fuse adapter.



34. Locate a 12-volt ignition source inside the fuse box that only comes on with the key in the "run" position. Once a 12-volt source is located, pull fuse from the fuse box.



35. Install the fuse removed in Step 34 and insert it into the open location on the supplied add-a-harness fuse adapter (not in line with the wire).



36. Install the add-a-harness fuse adapter (with installed fuses) into the 12-volt ignition source inside the fuse box.



37. Reinstall the fuse cover.

38. Organize the wire harness and secure with the supplied nylon cable ties.



39. 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.
40. 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.



advanced FLOW engineering, inc.

252 Granite Street Corona, CA 92879

<https://afepower.com/contact>