



**advanced FLOW engineering**

**Instruction Manual** P/N: 42-24021

**DFS780 PRO**

Make: **GM** Model: **2500/3500** Year: **2017-2019** Engine: **V8-6.6L (td) Duramax**



- 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.

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 Flange	03-50046
J	3	Nut: 3/8"-16 Flange	05-40103
K	3	Washer, Flat: 3/8" AN	03-50230
L	12	Ties, Nylon Cable, 12"	05-60167
M	1	Connector, Add a harness & Fuse (Micro 2)	05-60691
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; 7/16"	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	05-60861
U	1	Hose, Fuel Return	05-60860
V	1	Nut, 3/8"-16	05-50568
W	1	Washer, Flat: 3/8" ID, 1.25 OD.	03-50488
X	2	Fitting: 3/8" NPT to -8 AN (Straight)	05-60685



**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.



**Step 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.

**Step 2:** Install the two (2) supplied 3/8" NPT to -8 AN fittings to the fuel manifold 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.

**Step 3:** Mount the fuel manifold assembly to the truck. 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.



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

**Step 4:** 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").

**Step 5:** If installing the rivet nuts, use the supplied  $3/8$ "-16 x  $1-1/2$ " bolt,  $3/8$ "-16 nut and  $3/8$ " flat washer to make the installation tool (as shown below).





**Step 6:** Using the tool assembled in Step 5, 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.

**Step 7:** Install the fuel manifold assembly and the carbon steel frame bracket to the frame using the supplied hardware and tighten:

- (3) 3/8" - 16 x 1" bolts
- (3) 3/8" AN washers
- (3) 3/8"- 16 flanged nuts (if not using the rivet nuts)

**Step 8:** Install the supplied fuel filter and tighten.

**Step 9:** Find the factory fuel supply lines. They are located on top of the factory fuel tank.



- Step 10:** Disconnect the factory fuel supply line. Attach the male quick disconnect fitting (straight 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 parts. Carefully mark and then cut the hose to the correct length.
- Step 11:** Using the other end of the hose you just cut, attach the female quick disconnect fitting (90° 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.
- Step 12:** Using a small amount of lightweight oil on the barbed ends, install the supplied 1/2" push-on to -8 AN fittings (straight & 90° fitting) to 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.**



**Step 13:** Attach the fittings to the inlet & outlet ports of the fuel manifold assembly. Make sure all connections are tight.





**RETURN LINE**

**Step 14:** Disconnect the factory fuel return line. Attach the supplied fuel return hose between the male and female factory fuel fittings. Push all connections together.



**Step 15:** Carefully route the ¼" hose to the fitting on the top of 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.



- Step 16:** Plug the Deutsch connector on the end of the supplied power harness into the mating connector on the fuel manifold assembly motor.
- Step 17:** Route the power harness along the inside of the frame and into the engine compartment.
- Step 18:** Organize the power harness and secure with the supplied nylon cable ties.
- Step 19:** 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 connector.

- Step 20:** Connect the black wire ring terminal on the power harness to the negative side of the battery.
- Step 21:** Plug the supplied relay harness into the Deutsch connector on the power harness.
- Step 22:** Secure the relay harness using a supplied cable tie.
- Step 23:** Remove the fuse box cover. 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):**

2017:

Location: #41



- Step 24:** Attach the power wire from the relay harness to the add-a-harness fuse connector.
- Step 25:** Insert the fuse removed in Step 23 into the open location on the add a harness fuse connector (not in line with the wire).
- Step 26:** Insert the add a harness fuse connector (with installed fuses) into the 12-volt source location from Step 23.
- Step 27:** Carefully route the power wire outside the fuse box and reinstall the cover (making sure, not to pinch the wire).
- Step 28:** Organize the wire harnesses and secure with the remaining nylon cable ties.
- Step 30:** Turn the key to the “Run” position and wait for 30 seconds. Start the engine.
- Step 31:** 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.

Page left blank intentionally

**OE Replacement Filter**



P/N: 30-10275 (P5R)  
31-10275 (PDS)

**Rear Differential Cover**



P/N: 46-70012-WL (w/ Oil)  
46-70012 (Black)  
46-70010 (RAW)

**4" DPF-Back Exhaust**



P/N: 49-04086-B (Blk. Tips)  
49-04086-P (Pol. Tips)

**Momentum Intake System**



P/N: 50-74008 (P10R)  
51-74008 (PDS)  
75-74008 (PG7)

**Cold Air Intake System**



P/N: 51-12902 (PDS)  
54-12902 (P5R)  
75-12902 (PG7)

**Sprint Booster V3**



P/N: 77-14003

**SCORCHER HD Module**



P/N: 77-44010

**5" DPF-Back Exhaust**



P/N: 49-04085-B (Blk. Tip)  
49-04085-P (Pol. Tip)

**4" DPF-Back Exhaust**



P/N: 49-44089-B (Blk. Tips)  
49-44089-P (Pol. Tips)

**4" Down-Pipe Back Exhaust**



P/N: 49-44091-B (Blk. Tips)  
49-44091-P (Pol. Tips)

**5" Down-Pipe Back Exhaust**



P/N: 49-44087-B (Blk. Tip)  
49-44087-P (Pol. Tip)

**Oil Filter**



P/N: 44-LF001

To purchase any of the items above, view airflow charts, dyno graphs, photos, and video; please go to [aFepower.com](http://aFepower.com).

# 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.



**advanced FLOW engineering, inc.**  
252 Granite Street Corona, CA 92879  
TEL: 951.493.7100 • TECH: 951.493.7100 x23  
E-Mail: [Tech@aFepower.com](mailto:Tech@aFepower.com)