advanced FLOW engineering DFS 780

Instruction Manual P/N: 42-13021

Fuel Pressure: 8-10 psi (relay controlled - supplements factory fuel pump)
<table>
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<tr>
<th>Label</th>
<th>Qty.</th>
<th>Description</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>Fuel Manifold Assembly</td>
<td>05-60565</td>
</tr>
<tr>
<td>B</td>
<td>1</td>
<td>Filter, Fuel</td>
<td>44-FF019</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>Bowl, Water Separator</td>
<td>05-60487</td>
</tr>
<tr>
<td>D</td>
<td>1</td>
<td>Bracket, Frame; Carbon Steel</td>
<td>05-60554</td>
</tr>
<tr>
<td>E</td>
<td>1</td>
<td>Bolt, ½”-13 x 1.50”</td>
<td>03-50464</td>
</tr>
<tr>
<td>F</td>
<td>2</td>
<td>Washer, ½”</td>
<td>03-50494</td>
</tr>
<tr>
<td>G</td>
<td>1</td>
<td>Locknut, ½”</td>
<td>03-50495</td>
</tr>
<tr>
<td>H</td>
<td>4</td>
<td>Bolt, M6 x 1.0 x 50mm</td>
<td>03-50443</td>
</tr>
<tr>
<td>I</td>
<td>4</td>
<td>Washer, M6 (Fiber)</td>
<td>03-50457</td>
</tr>
<tr>
<td>J</td>
<td>4</td>
<td>Washer, M6</td>
<td>03-50444</td>
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<tr>
<td>K</td>
<td>4</td>
<td>Locknut, Flanged; M6</td>
<td>03-50445</td>
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<tr>
<td>L</td>
<td>2</td>
<td>Fitting; 3/8” NPT to AN -6 (Black, Straight)</td>
<td>05-60634B</td>
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<tr>
<td>M</td>
<td>1</td>
<td>Harness Relay</td>
<td>05-60551</td>
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<tr>
<td>N</td>
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<td>Adapter, Fuse; Add a harness</td>
<td>05-60583</td>
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<tr>
<td>O</td>
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<td>Hose, Fuel Return</td>
<td>05-60696</td>
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<tr>
<td>P</td>
<td>12</td>
<td>Tie, Nylon Cable, 12”</td>
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<td>Q</td>
<td>1</td>
<td>Harness, Power</td>
<td>05-60523</td>
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<td>R</td>
<td>1</td>
<td>Hose, Fuel Inlet</td>
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<tr>
<td>S</td>
<td>1</td>
<td>Hose, Fuel Outlet</td>
<td>05-60698</td>
</tr>
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</table>

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

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 supplied carbon steel frame bracket to the frame.
3. Mount the carbon steel frame bracket to the frame with the supplied hardware and tighten.

- (1) ½"-13 x 1.50" bolt
- (2) ½" washers
- (1) ½" locknut
4. Mount the supplied fuel manifold assembly to the carbon steel frame bracket using the supplied hardware and tighten.

- (4) M6x1.0 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.
5. Turn the sight glass to the desired angle and using a 1-1/4” wrench, tighten the center nut under the fuel manifold assembly.

**Note:** The pump should look like the picture above.
6. Using a light oil, lube the gasket on the supplied fuel filter and install on the fuel manifold assembly. Thread the supplied water separator bowl onto the fuel filter.
7. 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.
8. Install the $2 \times 3/8''$ NPT to -6 AN fittings into the fuel manifold assembly (as shown above).
9. 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.
10. Disconnect the fuel supply and the fuel return line.

Note: Picture taken from outside of frame looking towards passenger’s side.
11. Install the 90° female quick disconnect fitting on the supplied fuel inlet hose (silver 90° - 6 AN fitting - shown below) onto the male side of the stock fuel tank connection.

Note: Picture taken from the passenger side looking at the driver’s side.
12. Install the straight male quick disconnect fitting on the supplied fuel outlet hose (black 90° -6 AN fitting - shown below) into the female side of the stock fuel feed line.

Note: Picture taken from the passenger side looking at the driver's side.
13. Install the female side of the "T" quick disconnect fitting on the supplied fuel return hose (shown below) onto the male side of the stock fuel return tank connection.
14. Lock the fitting.

Note: Picture taken from outside of frame looking towards passenger’s side.
15. Install the factory female fuel return line onto the male side of the "T" quick disconnect fitting on the fuel return hose (shown below).

Note: Picture taken from outside of frame looking towards passenger's side.
16. Install the fuel inlet hose (90° silver -6 AN fitting) onto the male -6 AN fitting on the fuel inlet port of the fuel manifold assembly.
17. Install the fuel outlet hose (black 90° -6 AN fitting) onto the male -6 AN fitting on the fuel outlet port of the fuel manifold assembly.
18. Install the fuel return hose (-4 AN fitting) onto male -4 AN fitting on the top of the sight glass cover.
19. Using the supplied nylon cable ties, secure the new hoses (as shown above).
20. Using the supplied nylon cable ties, secure the new hoses (as shown above).
21. From the inside of the frame, plug the Deutsch connector on the supplied power harness into the mating connector on the fuel pump motor.

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

23. Organize the power harness and secure with the supplied nylon cable ties.
24. Run the other end of the power harness along the frame into the engine compartment.
25. 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.
26. Connect the black wire ring terminal on the power harness to the negative side of the battery.
27. Plug the supplied relay harness into the Deutsch connector on the power harness.
28. Secure the supplied relay using a supplied nylon cable tie.
29. 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.
30. Locate the panel under the steering wheel.

31. Remove the panel by firmly pulling using the handles.
32. Locate the under dash fuse box.
33. Remove the cover from the battery junction box.
34. Locate a 12-volt 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 the fuse from the fuse box.

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

- **2003 - 2007**
  - #45
  - Ignition Run/START feed
35. Install the fuse removed in Step 34 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 source location chosen in Step 34.
37. Attach the power wire from the relay harness to the add a harness fuse adapter.
38. Carefully route the power wire outside the fuse box and reinstall the battery junction box cover (making sure not to pinch the wire).

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

40. Reinstall panel.
41. Turn the key to the “Run” position and watch to see if the sight glass fills with fuel. If the sight glass does not fill with fuel, use the tank valve (on the top of the sight glass cover) to release any trapped air. If the sight glass still does not fill, try starting the engine.

42. 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.

NOTE: Place enclosed CARB EO sticker on or near the device on a smooth/clean surface. EO identification label is required to pass the smog test inspection.