

advanced FLOW engineering

Instruction Manual P/N: 42-14012

Make: **GM** Model: **Diesel Trucks** Year: **2001-2010** Engine: **V8-6.6L (td) Duramax**
Fuel Pressure: **8-10 PSI (Boost Operated)** Supported Horsepower: **2000+**



- Please read the entire instruction manual before proceeding.
- Ensure all components listed are present.
- 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	05-60565
B	1	Filter, Fuel	44-FF019
C	1	Bowl, Water Separator	05-60487
D	1	Bracket, Frame, Carbon Steel	05-60655
E	1	Bolt, M8 x 1.25 x 25mm	03-50442
F	1	Washer, Flat: 24mm ODxM8 ID	03-50065
G	1	Nut, Hex Nylon Lock: M8 x 1.25	03-50244
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 -8 (Black)	05-60685
M	1	Harness, Stand Alone Relay	05-60551
N	1	Connector, Add-A-Harness	05-60583
O	1	Hose, Fuel Return	05-60689
P	12	Ties, Nylon Cable, 12"	05-60167
Q	1	Harness, Power	05-60523
R	1	Hose, Fuel Inlet	05-60673
S	1	Hose, Fuel Outlet	05-60681
T	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.

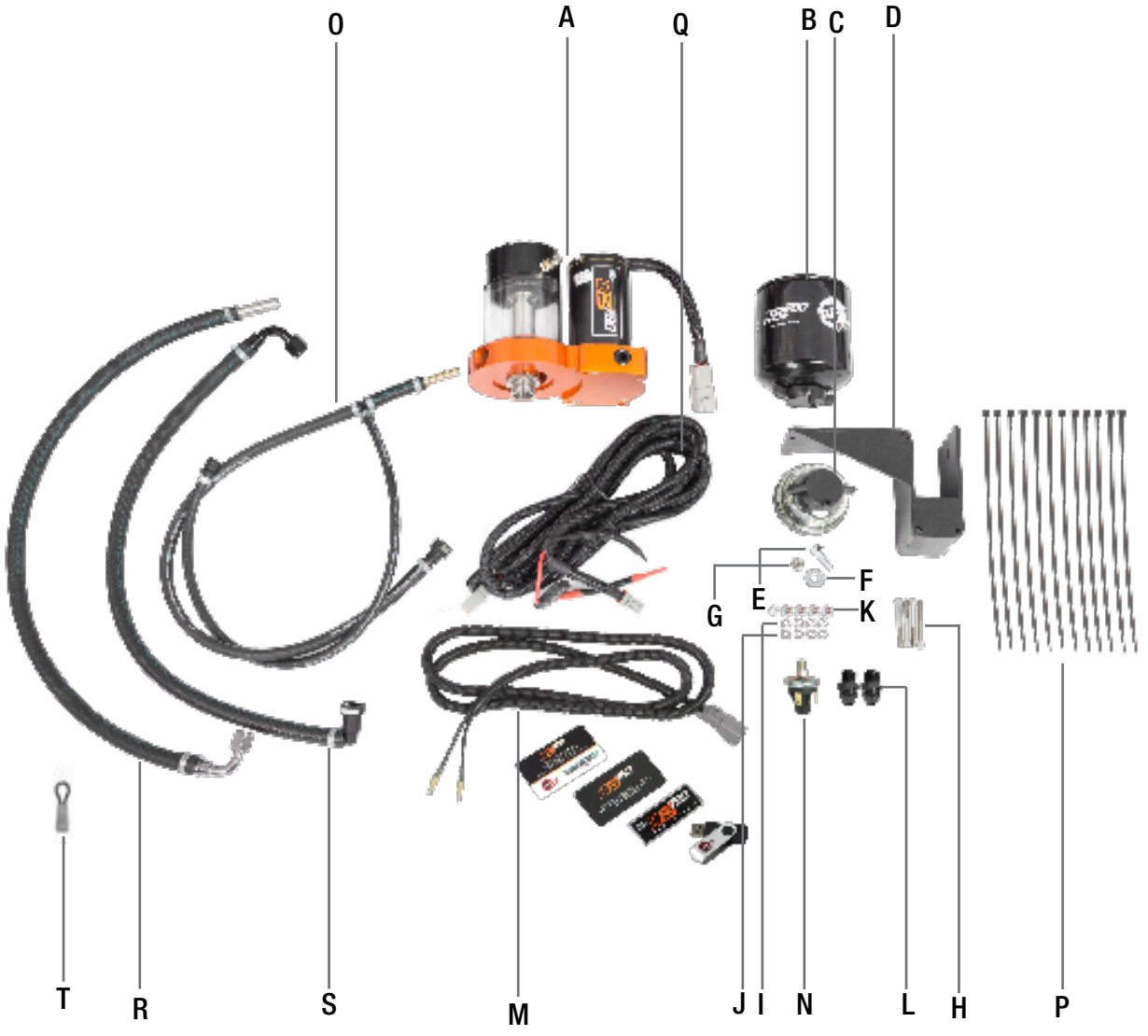




Figure 1

Refer to Figure 1 for Steps 1-3

- Step 1: Looking at the driver's side of the truck, on the inside of the frame rail, you will see two hard lines. These are the fuel supply and return lines for the engine. They are held in place by plastic retainers that are bolted to the frame (shown above).
- Step 2: Locate the retainer that is below the driver's side door and is two retainers away from the fuel cooler.
- Step 3: Loosen all the stock fuel line retainers from the frame using a 13mm socket/wrench while leaving the fuel lines in their retainers.

**Figure 2****Refer to Figure 2 for Steps 4-7**

Step 4: Gently pull the fuel lines off of the frame rail. Please be careful not to bend or kink the fuel lines.

Step 5: Place the supplied bracket between the frame and the stock fuel line retainer located in Step 2.

Step 6: While making sure the bracket is sitting on the bottom of the frame, tighten the stock fuel line retainer.

Step 7: Tighten all the fuel line retainers.

NOTE: If the fuel line retainers are not there please use the supplied hardware to attach the bracket to the frame.

INSTALL

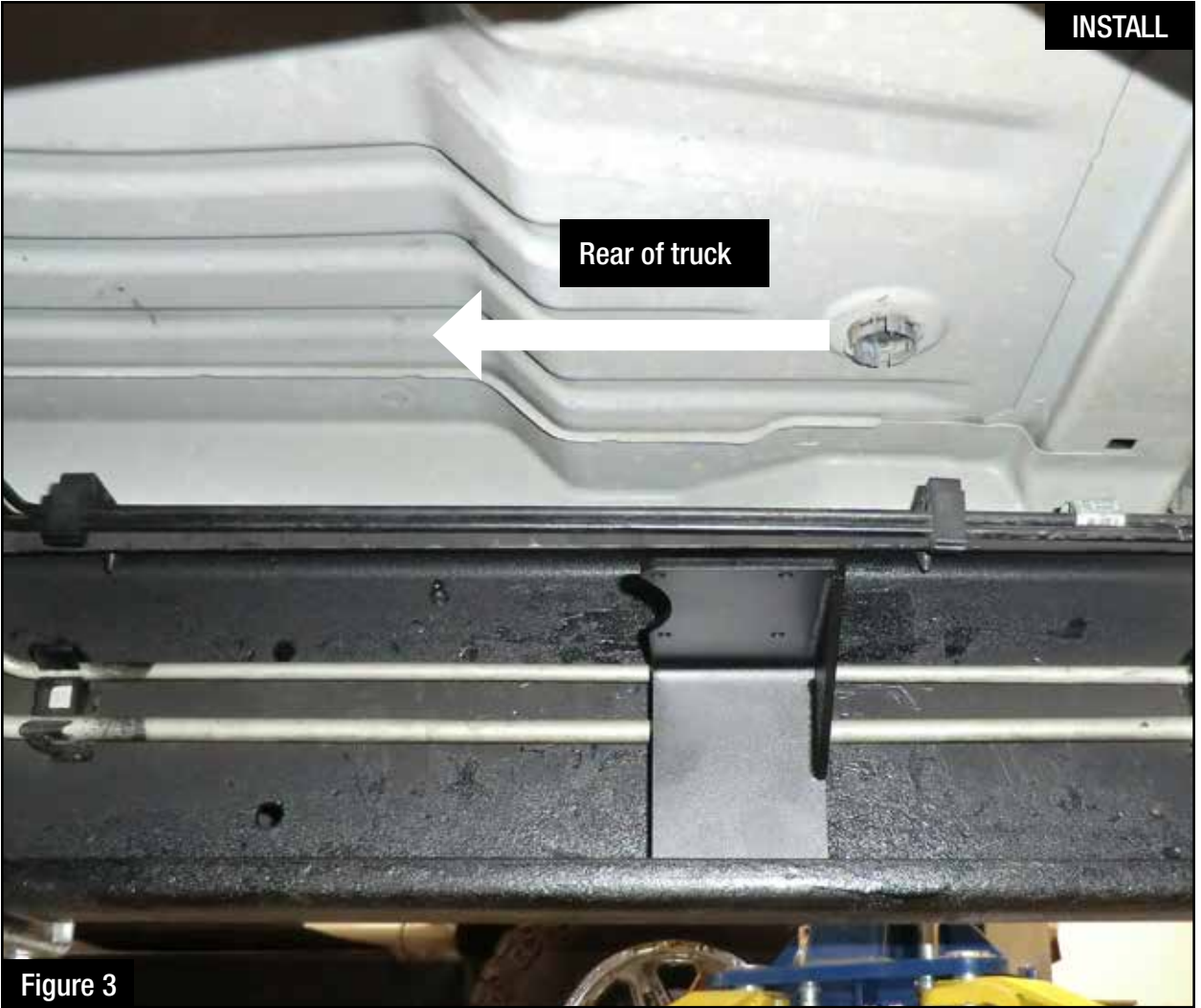


Figure 3

NOTE: This is what the bracket looks like when installed correctly.



Figure 4

Refer to Figure 4 for Steps 8-9

Step 8: Connect the bracket to the manifold using the four (4) supplied M6x1.0 x 50mm bolts, M6 washers, felt washers and M6 flange nuts. The felt washers go between the pump and the bracket.

Step 9: Tighten the manifold to the bracket.



Figure 5

Refer to Figure 5 for Step 10

Step 10: Turn sight glass to the desired angle and using a 1-1/4" wrench, tighten the center nut under the DFS780 manifold.

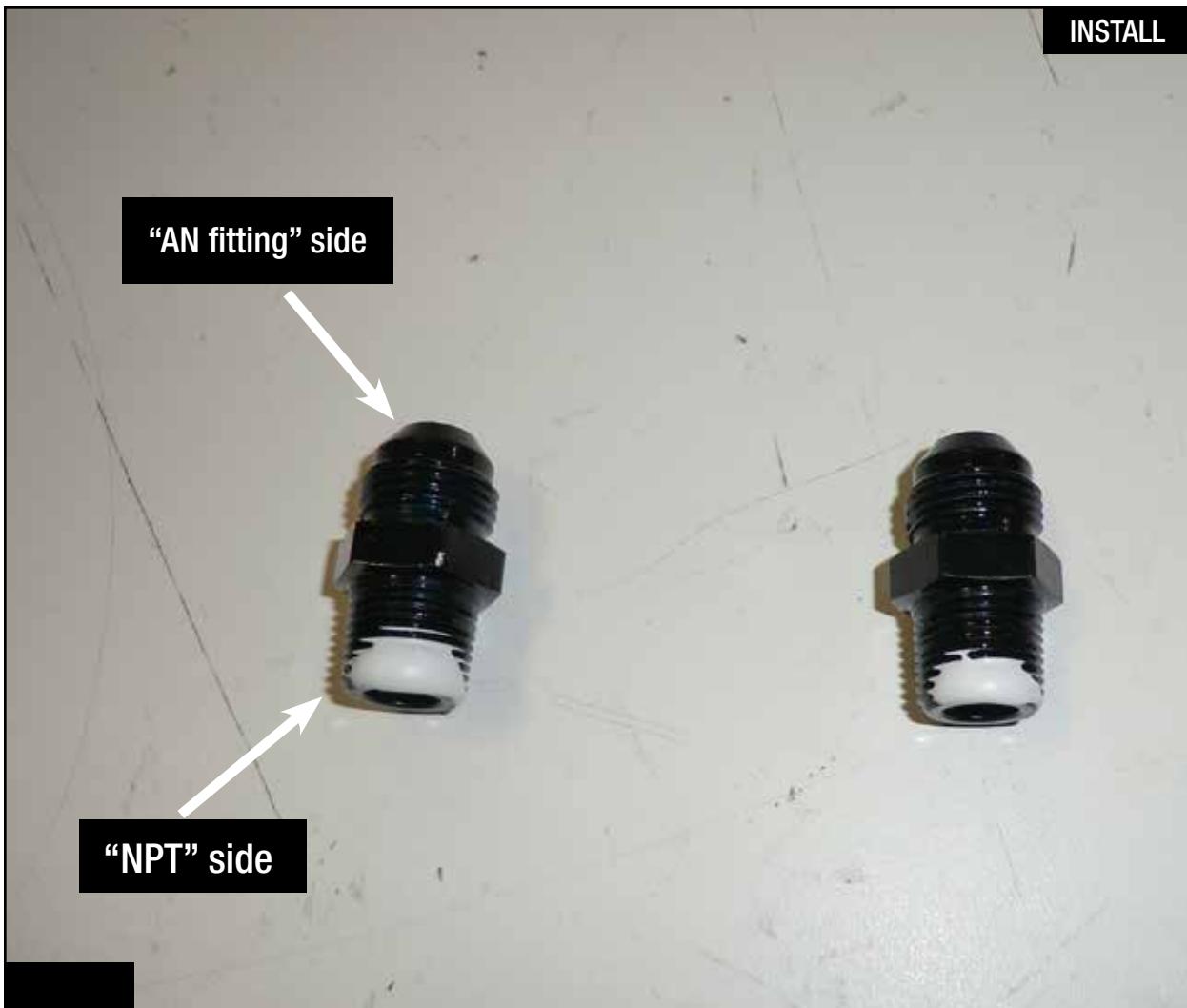
NOTE: The pump should look like the picture above.



Figure 6

Refer to Figure 6 for Step 11

Step 11: Using a light oil, lube the gasket on the fuel filter before installation. Attach the supplied water separator bowl onto the supplied fuel filter.



“AN fitting” side

“NPT” side

Refer to Figure 7 for Step 12

Step 12: Apply Teflon tape with (PTFE) or Teflon paste with (PTFE) to the 2 x 3/8" NPT to -8 AN fittings.

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



Figure 8

Refer to Figure 8 for Step 13

Step 13: Install the 2 x 3/8" NPT to -8 AN fittings into the DFS780 manifold (as shown above).

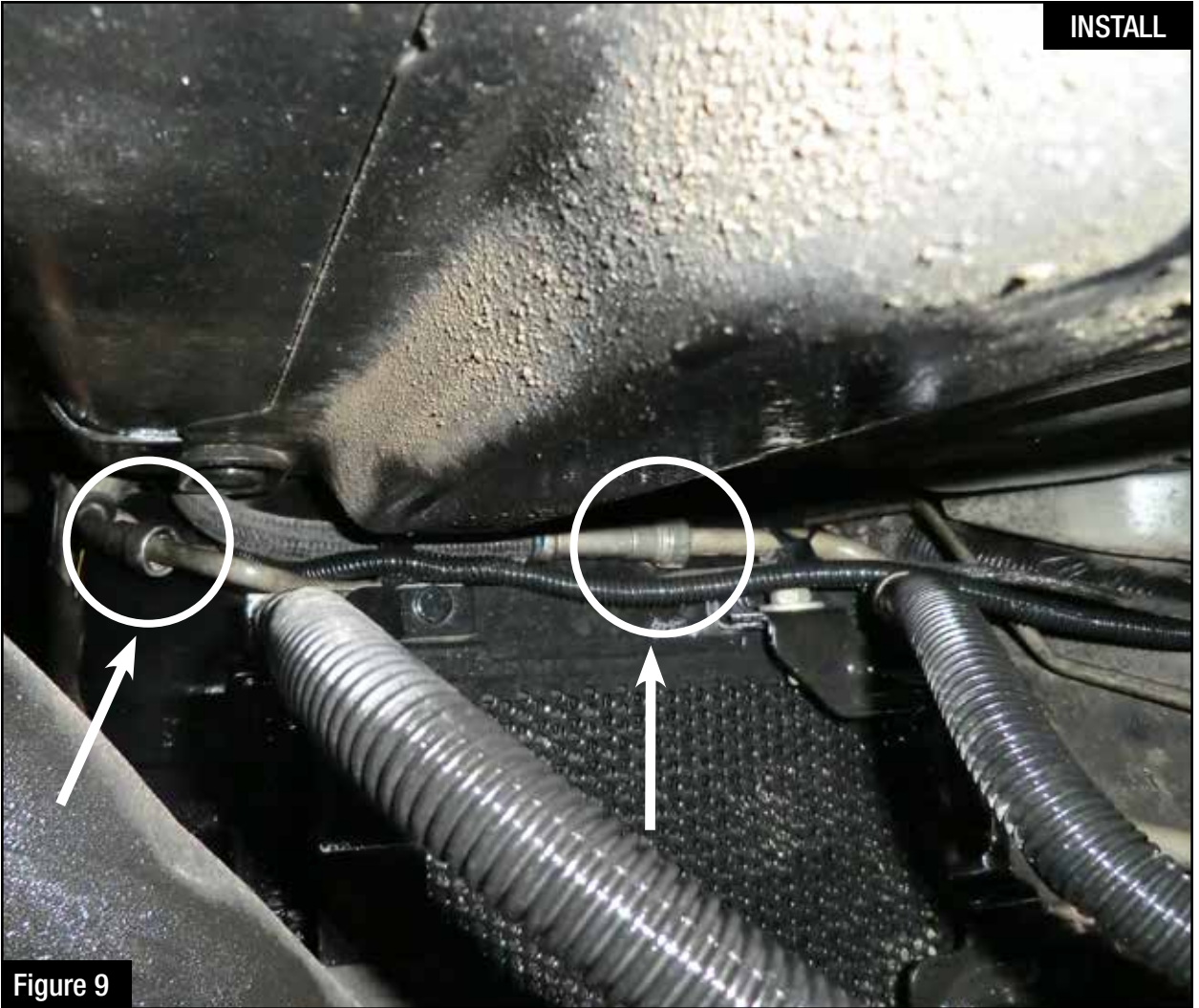


Figure 9

NOTE: If you have a 2001 - 2008 truck and the fittings look like the above picture, you will need a special tool to release the fuel line from the connectors.

You can get this tool at your local parts store.

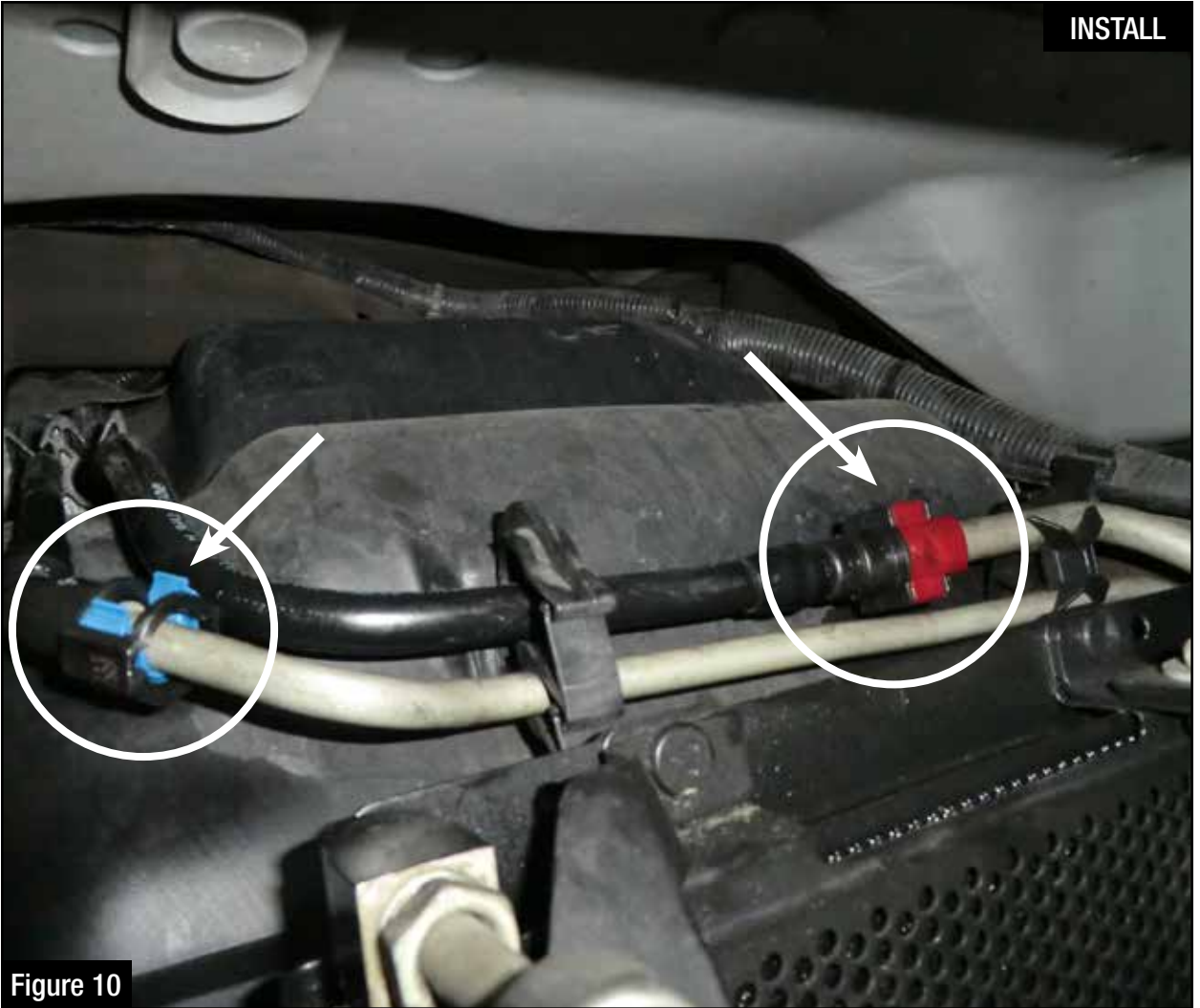


Figure 10

NOTE: This is what the connections look like on the 2009 – 2010 truck.



Figure 11

Refer to Figure 11 for Step 14

Step 14: Clean the area around the fuel lines to prevent dirt and debris from going into the lines.

NOTE: 2009-2010 model shown in the pictures.



Figure 12

Refer to Figure 12 for Step 15

Step 15: Disconnect the 1/2" fuel supply line.

NOTE: 2009-2010 model shown in the pictures.



Figure 13

Refer to Figure 13 for Step 16

Step 16: Install the male quick disconnect fitting on the supplied fuel inlet hose (silver 90° “AN” fitting- shown below) onto the female side of the stock fuel feed line.



NOTE: 2009-2010 model shown in the pictures.

A close-up photograph of a vehicle's engine compartment showing a fuel line assembly. A black braided hose is connected to a metal fitting. A white circle highlights the fitting, with a white arrow pointing to it from a black text box. The text box contains the text "90° Female quick disconnect".

90° Female quick disconnect

Figure 14

Refer to Figure 14 for Step 17

Step 17: Install the female quick disconnect fitting on the supplied fuel outlet hose (black 90° “AN” fitting - shown below) onto the male side of the stock fuel feed line.



NOTE: 2009-2010 model shown in the pictures.



Figure 15

Refer to Figure 15 for Step 18

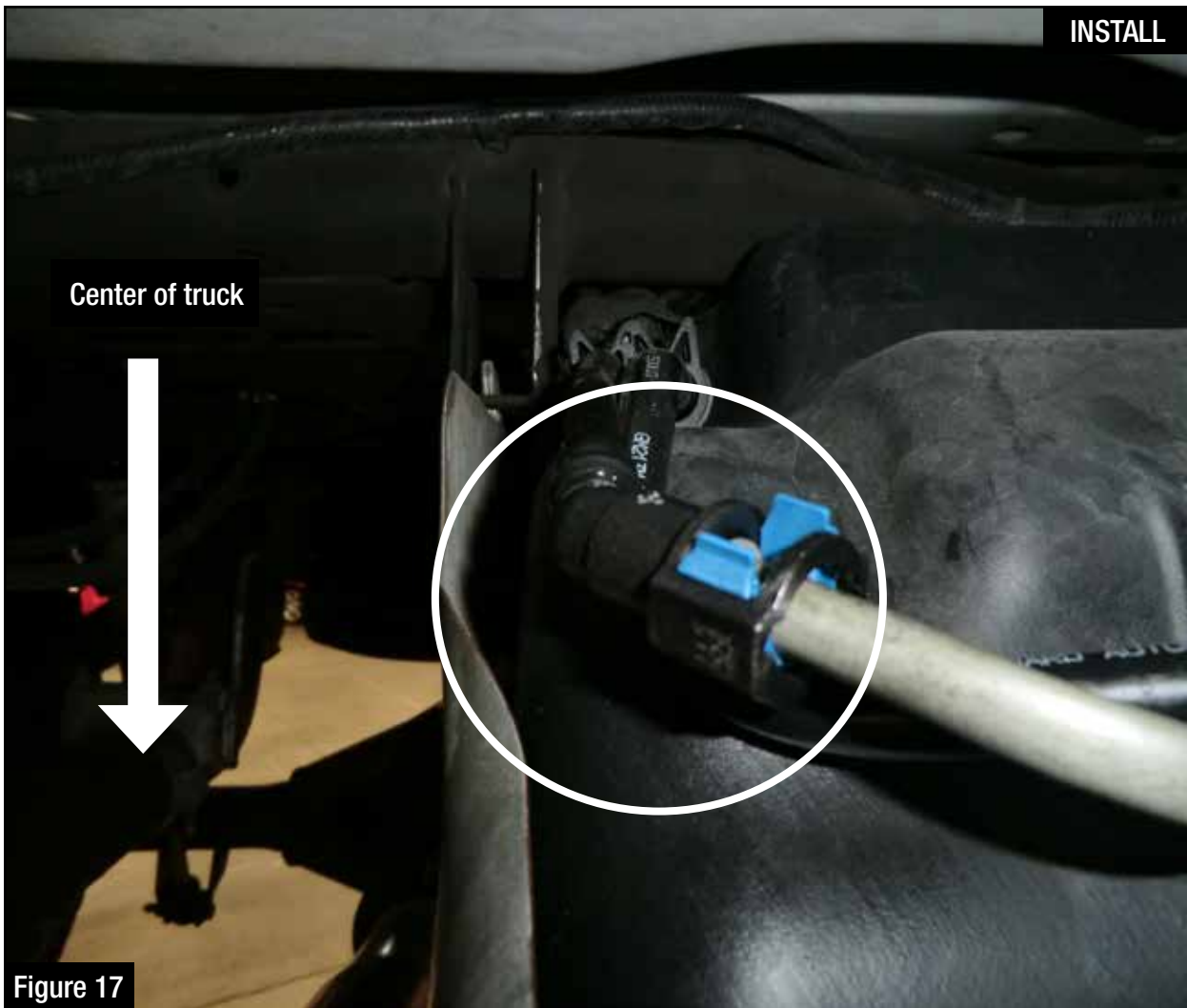
Step 18: Install the supplied inlet fuel line (90° silver “AN” fitting) onto the fuel inlet port of the DFS780.



Figure 16

Refer to Figure 16 for Step 19

Step 19: Install the supplied outlet fuel line (90° black “AN” fitting) onto the fuel outlet port of the DFS780.



Refer to Figure 17 for Step 20

Step 20: Locate the factory return line. It is located at the front of the fuel tank near the center of the vehicle.

NOTE: 2009-2010 model shown in the pictures.



Figure 18

Refer to Figure 18 for Step 21

Step 21: Disconnect the factory return fuel line.

NOTE: 2009-2010 model shown in the pictures.



Figure 19

Refer to Figure 19 for Step 22

Step 22: Install the new return line onto the female side by pushing the new male quick disconnect fitting into the factory return line.

NOTE: 2009-2010 model shown in the pictures.





Figure 20

Refer to Figure 20 for Step 23

Step 23: Install the other side of the new return line (female connection) onto the factory return line (male connection) (as shown above).

NOTE 1: Make sure that the line does not kink while making connections.



NOTE 2: 2009-2010 model shown in the pictures.



Figure 21

Refer to Figure 21 for Step 24

Step 24: Install the supplied return line (-4 AN fitting) onto the top of the DFS780.



Figure 22

Refer to Figure 22 for Step 25

Step 24: Using the supplied nylon cable ties, secure the new hoses (as shown above).

NOTE: 2009-2010 model shown in the pictures.



Figure 23

Refer to Figure 23 for Step 26

Step 26: Using the supplied nylon cable ties, secure the new hoses (as shown above).

INSTALL



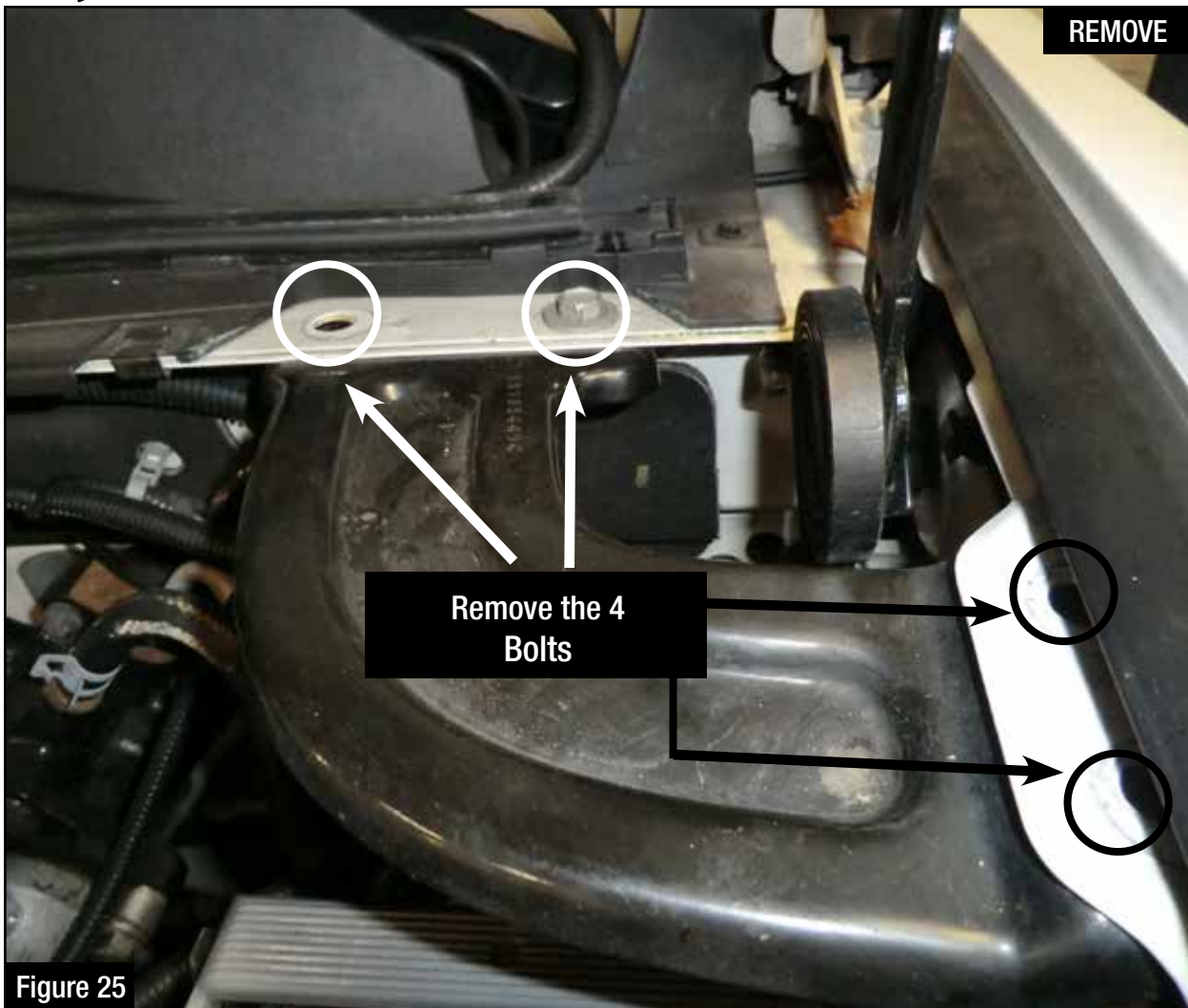
Figure 24

Refer to Figure 24 for Step 27-29

Step 27: From the inside of the frame, plug the Deutsch connector of the supplied wiring harness into the mating connector on the DFS780.

Step 28: Route the supplied wiring harness along the frame towards the front of the vehicle.

Step 29: Organize the wire harness and fuel lines and secure with the supplied nylon cable ties.



Refer to Figure 25 for Step 30

Step 30: Remove the corner brace in the engine compartment using a 13mm socket and socket driver. Retain the brace and the hardware for re-installation.



Figure 26

Refer to Figure 26 for Step 31

Step 31: Run the remaining wiring harness along the frame to the engine compartment.



Figure 27

Refer to Figure 27 for Step 32

Step 31: 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.



Figure 28

Refer to Figure 28 for Step 33

Step 33: Connect the black wire ring terminal to the negative side on the battery.



Figure 29

Refer to Figure 29 for Step 34

Step 34: Install the supplied pressure sensor into the intake manifold (1/8" NPT).

NOTE: This step may require you to drill and tap a 1/8" NPT hole.

Use Caution: DO NOT! allow any metal chips to enter the engine.



Figure 30

Refer to Figure 30 for Step 35

Step 35: Plug the supplied pressure switch harness into the pressure sensor.

**Figure 31****Refer to Figure 31 for Step 36-37**

Step 36: Make sure that all fittings are tight. Install the priming jumper onto the Deutsch connector on the power harness. The DFS780 will turn on. Use the Schrader valve (on top of the DFS780) to release trapped air. The DFS780 should fill the sight glass with fuel and prime the fuel system. If the DFS780 does not prime, start the engine. Check for any leaks

Step 37: Once the system is primed and the truck is running, remove the priming jumper from the power harness and shut the truck off.

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



Figure 32

Refer to Figure 32 for Steps 38-39

Step 38: Plug the supplied pressure switch harness into the Deutsch connector on the power harness.

Step 39: Organize wire harness and secure with the remaining nylon cable ties.



Figure 33

Refer to Figure 33 for Step 40

Step 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.