advanced FLOW engineering

Diesel Fuel System

Instruction Manual P/N: 42-12036

Make: RAM **Model:** 2500/3500 **Year:** 2013-2018 **Engine:** L6-6.7L (td)

Fuel Pressure: 20-22 psi (Boost Activated)

- 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.

Label	Qty.	Description	Part Number
A	1	Fuel Manifold Assembly	05-60747
B	1	Filter, Fuel	44-FF019
C	1	Bowl, Water Separator	05-60487
D	1	Bracket, Frame; Carbon Steel	05-60677
E	1	Bolt, Flange Hd Cap: 3/8" - 16 x 3-1/2"	03-50487
F	1	Washer, Flat; 3/8"ID, 1.25"OD	03-50065
G	1	Spacer, Aluminum	05-60690
H	4	Screw, Socket Hd 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 (Blk, Straight)	05-60685
M	1	Harness, Pressure Switch	05-60540
N	1	Switch, Pressure	05-60542
O	1	Hose, Fuel Return	05-60689
P	1	Nut, Nyloc: 3/8”-16	03-50047
Q	18	Ties, Nylon Cable, 12"	05-60167
R	1	Harness, Power	05-60523
S	1	Hose, Fuel Inlet	05-60673
T	1	Hose, Fuel Outlet	05-60681

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.

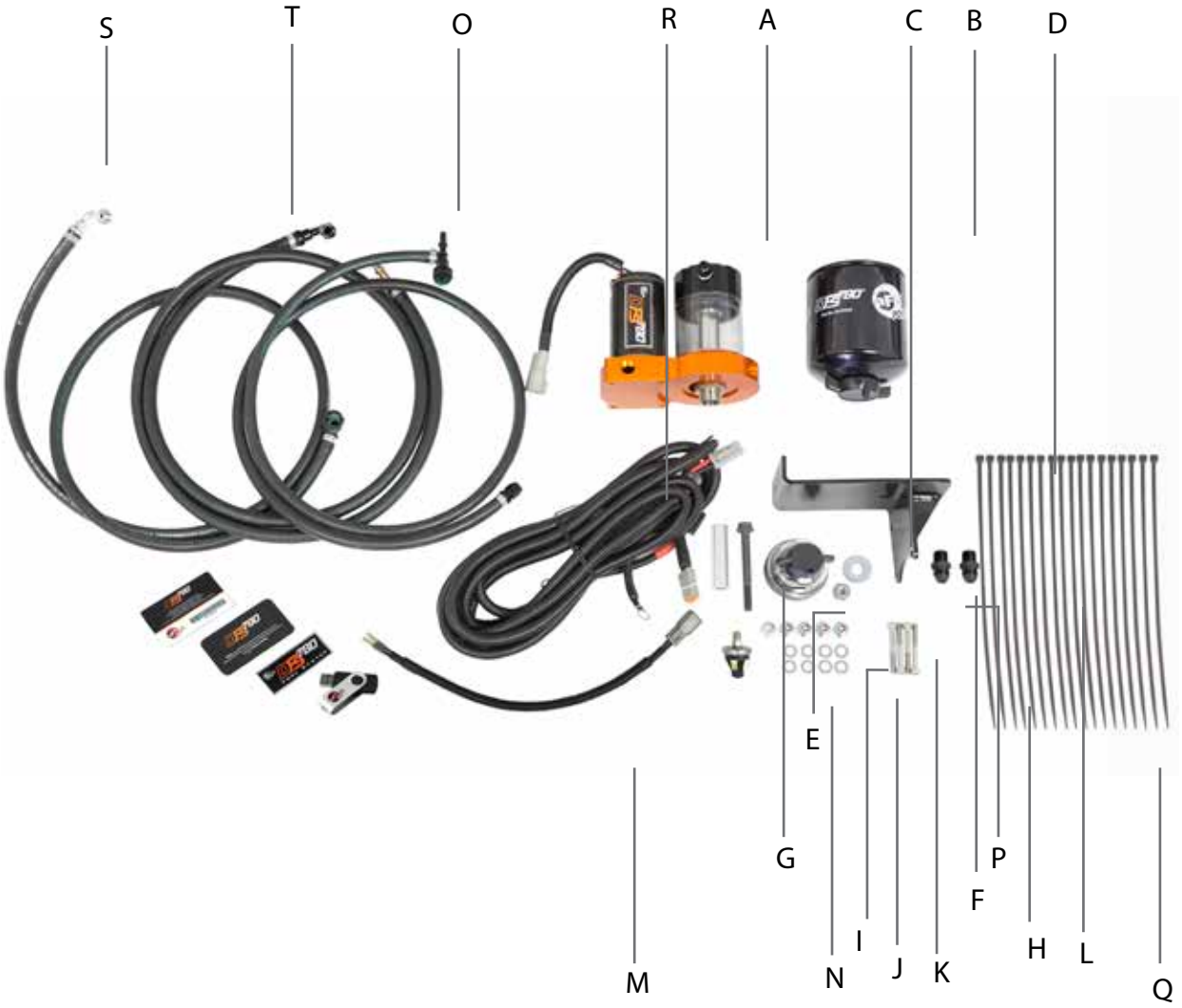
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Figure1

Step 1: Locate the hole in the driver's side frame rail behind the DEF tank and in front of the fuel tank.

Figure2

Step 2: Gently pull the hard lines off of the frame rail. Be careful not to bend or kink the hard lines.

Figure 3

Step 3: Place the supplied bracket between the frame and the hard lines.

Step 4: Line up the bracket with the hole located in Step 1.

Figure 4

Step 5: Install the supplied 3/8" bolt into the bracket and through the frame rail.

Figure5

Step 6: Install the supplied aluminum spacer onto the 3/8" bolt.

Figure6

Step 7: Using the supplied 3/8" nut and washer, tighten the bracket on to the frame rail.

Figure 7

Step 8: Re-install the hard lines onto the frame rail.

Figure 8

Step 9: Install the four (4) supplied M6x1.0 x 50mm bolts, M6 washers, and fiber washer. The fiber washers go between the DFS780 manifold and the bracket.

Figure 9

Step 10: Connect the DFS780 manifold to the bracket using the four (4) supplied M6 flange nuts (make sure the fiber washers isolate the pump body from the bracket).

Figure 10

Step 11: Turn sight glass to the desired angle. Using a 1-1/4" wrench, tighten the center nut under the DFS780 manifold.

NOTE: The pump should look like the picture above.

Figure 11

Step 12: Using a light oil, lube the gasket on the fuel filter before installation. Thread supplied water separator bowl onto the supplied fuel filter.

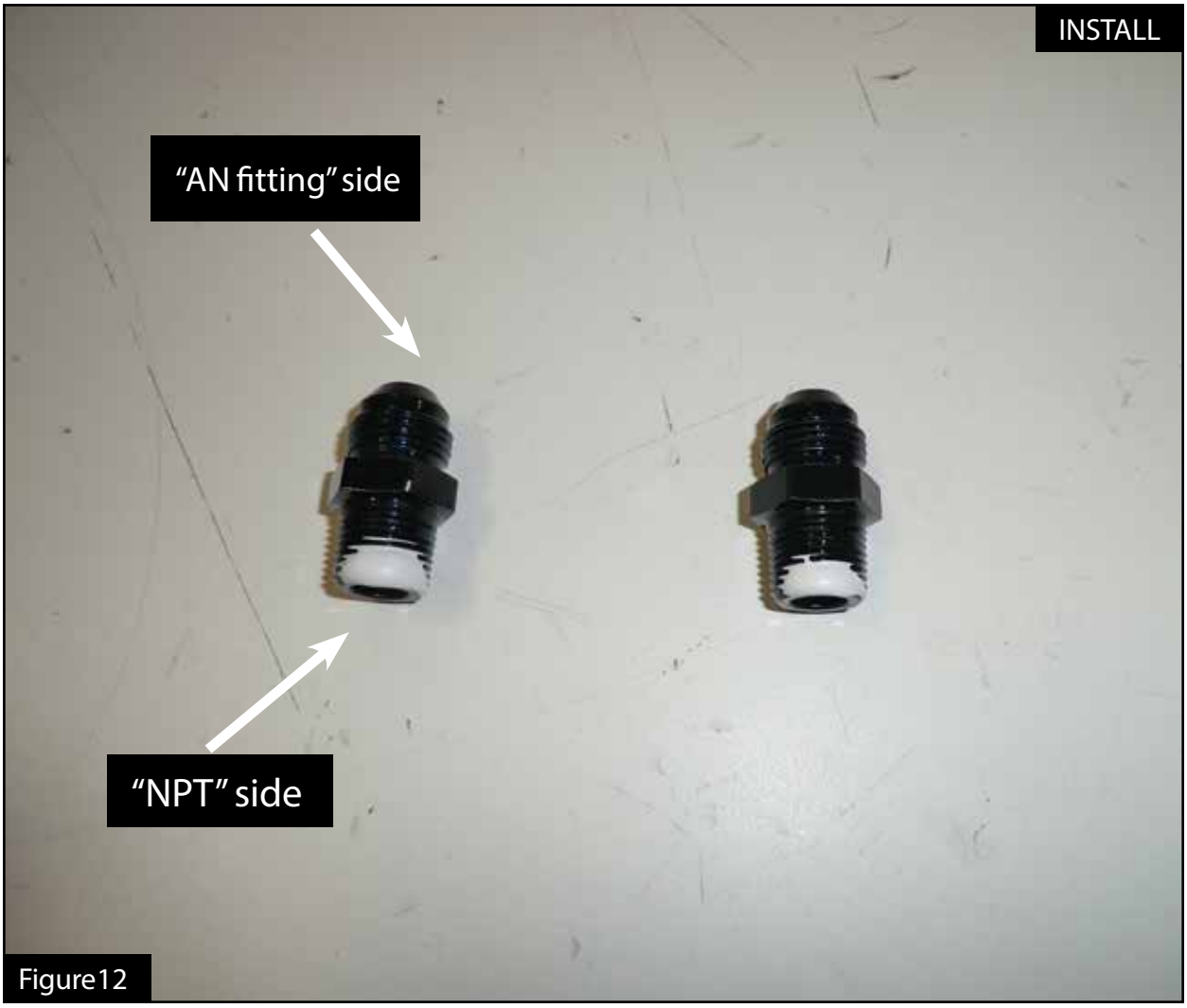

Figure12

Step 13: Apply Teflon tape (PTFE) or Teflon paste (PTFE) to the 2 x 3/8" NPT to -6 AN fittings.

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

Figure 13

Step 14: Install the 2 x 3/8" NPT to -6 AN fittings into the DFS780 manifold (DO NOT overtighten).

Figure 14

Step 15: Locate the factory fuel feed and return lines. They are located at the top of the fuel tank near the center of the tank.

Step 16: Clean the area around the fuel lines to prevent dirt and debris from going into the lines.

Step 17: Disconnect the fuel feed and return lines.

NOTE: It may be necessary to remove the driveshaft in order to access the top of the fuel tank.

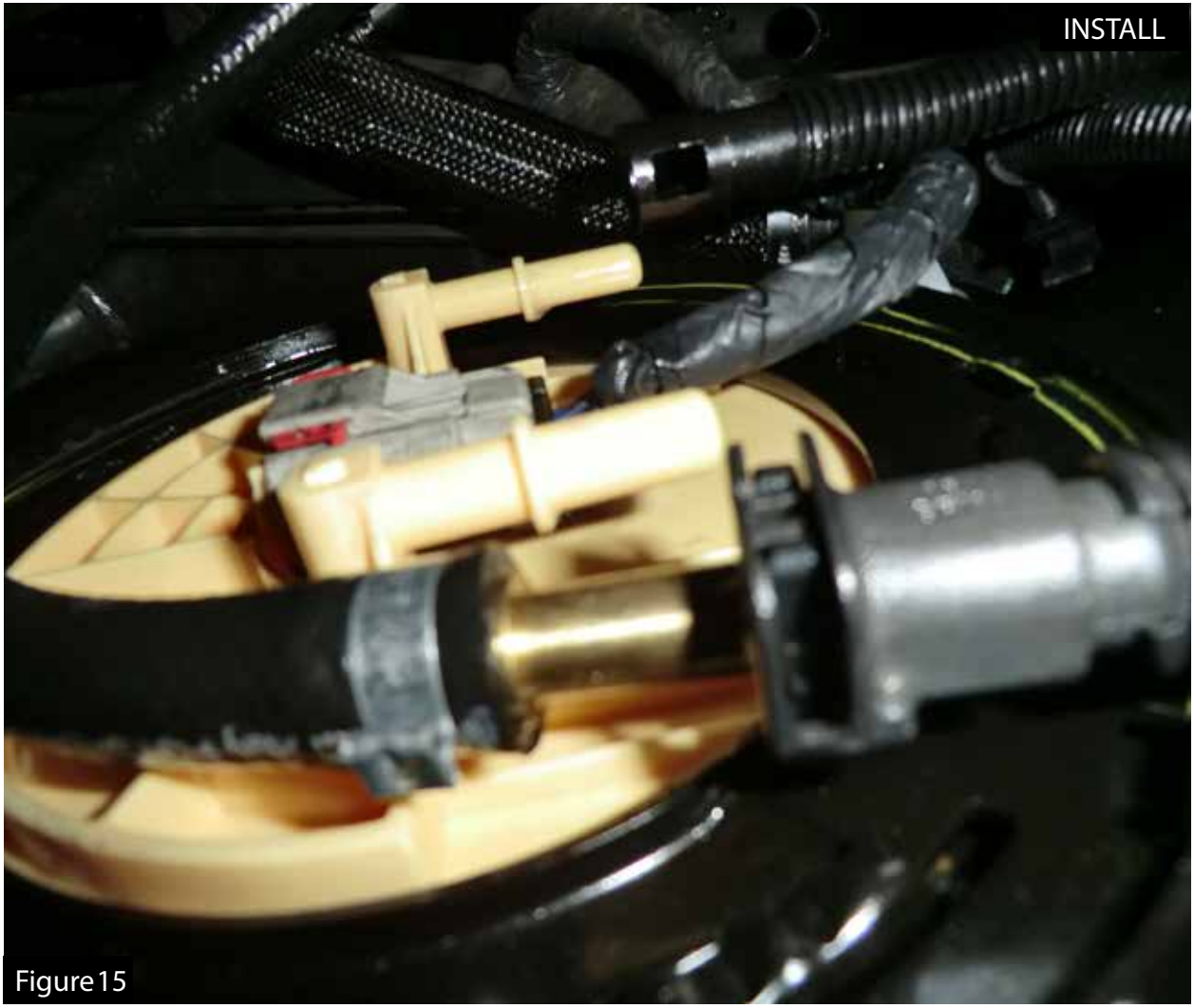

Figure 15

Step 18: Install the 3/8" quick disconnect fitting (male connection) on the supplied fuel outlet hose into the quick disconnect fitting (female connection) on the stock fuel feed line.

Figure 16

Step 19: Install the supplied fuel return line (female connection) onto the fuel pump sender assembly (male connection).

Step 20: The fuel line should point towards the center of the vehicle.

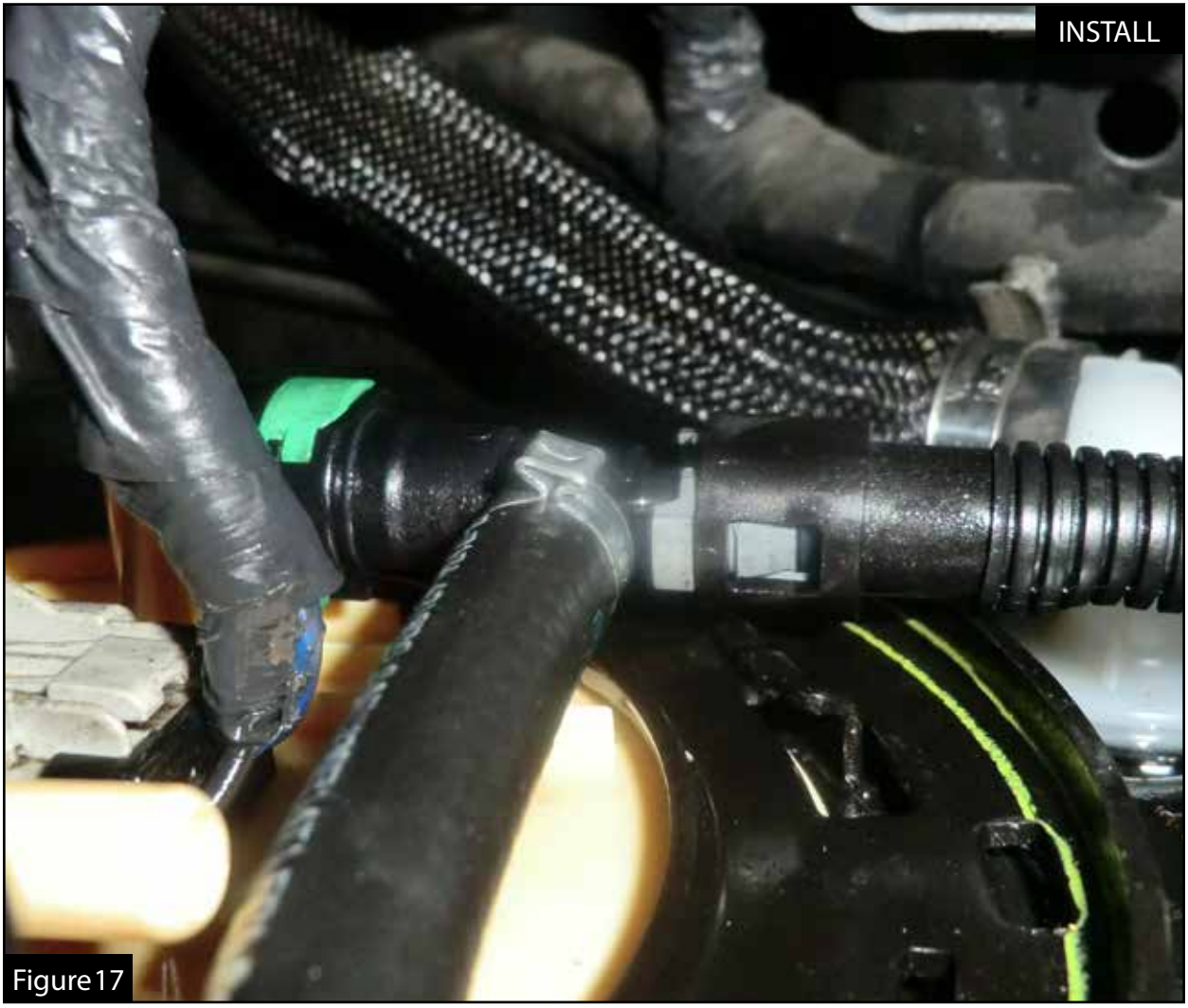

Figure 17

Step 21: Connect the factory fuel return line (female connection) onto the tee fitting at the end of the supplied fuel return line (male connection).

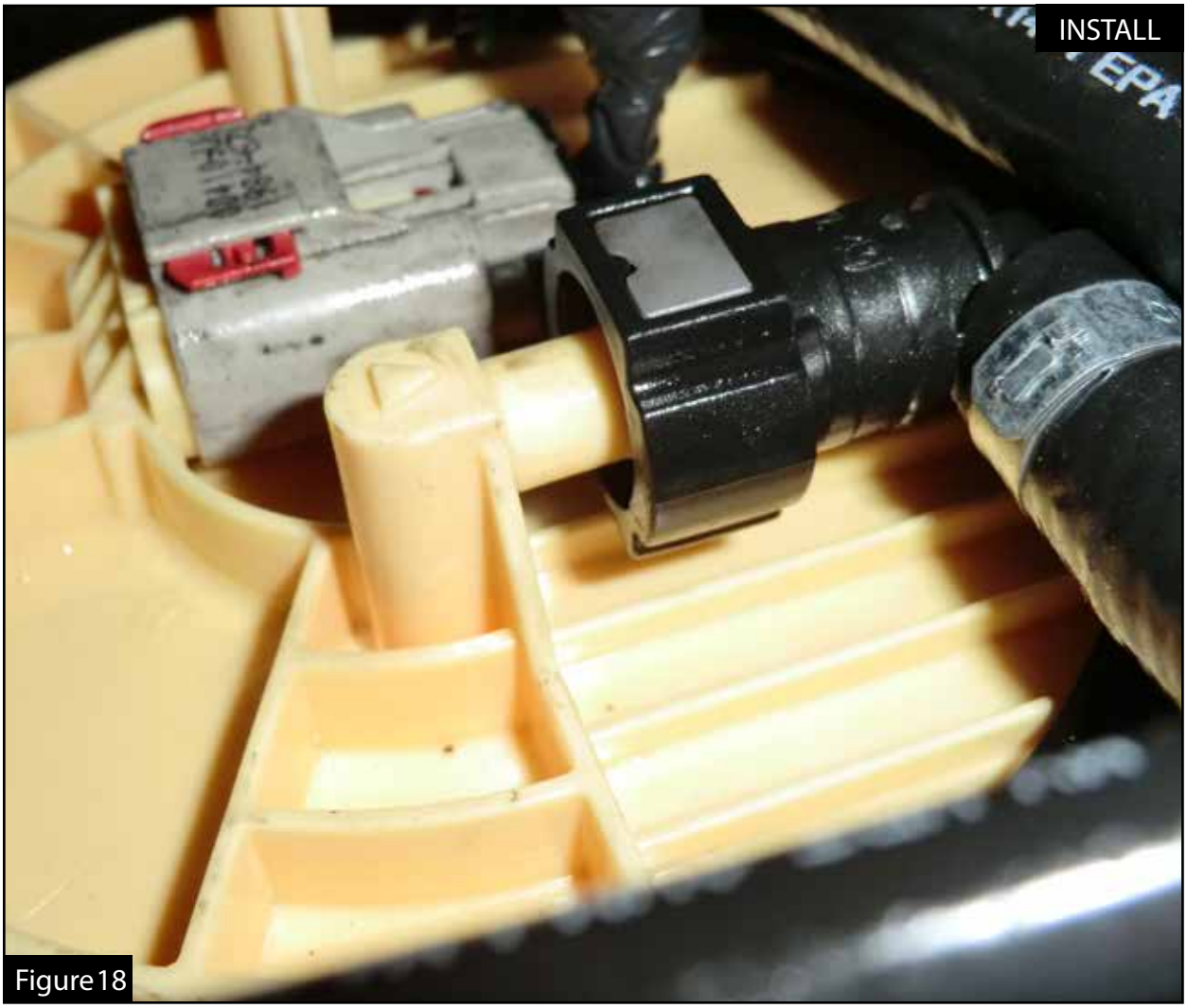

Figure 18

Step 22: Install the 90 degree 3/8" quick disconnect fitting (female connection) on the supplied fuel inlet hose onto the quick disconnect fitting (male connection) on the fuel pump sender assembly.

Step 23: The fuel line should point towards the center of the vehicle.

Figure 19

Step 24: Route the hoses as shown and secure with the supplied nylon cable ties.

Figure 20

Step 25: Route the hoses as shown and secure with the supplied nylon cable ties.

Figure21

Step 26: Install the supplied inlet fuel line (90° silver "AN" fitting) onto the fuel inlet port of the DFS780 manifold.

Step 27: Install the supplied outlet fuel line (90° black "AN" fitting) onto the fuel outlet port of the DFS780 manifold.

Step 28: Install the supplied return line (-4 AN fitting) onto the top of the DFS780 sight glass.

Figure22

Step 29: Route the hoses as shown and secure with the supplied nylon cable ties.

Step 30: Plug the Deutsch connector of the supplied wire harness into the mating connector on the DFS780 pump and route the harness along the frame.

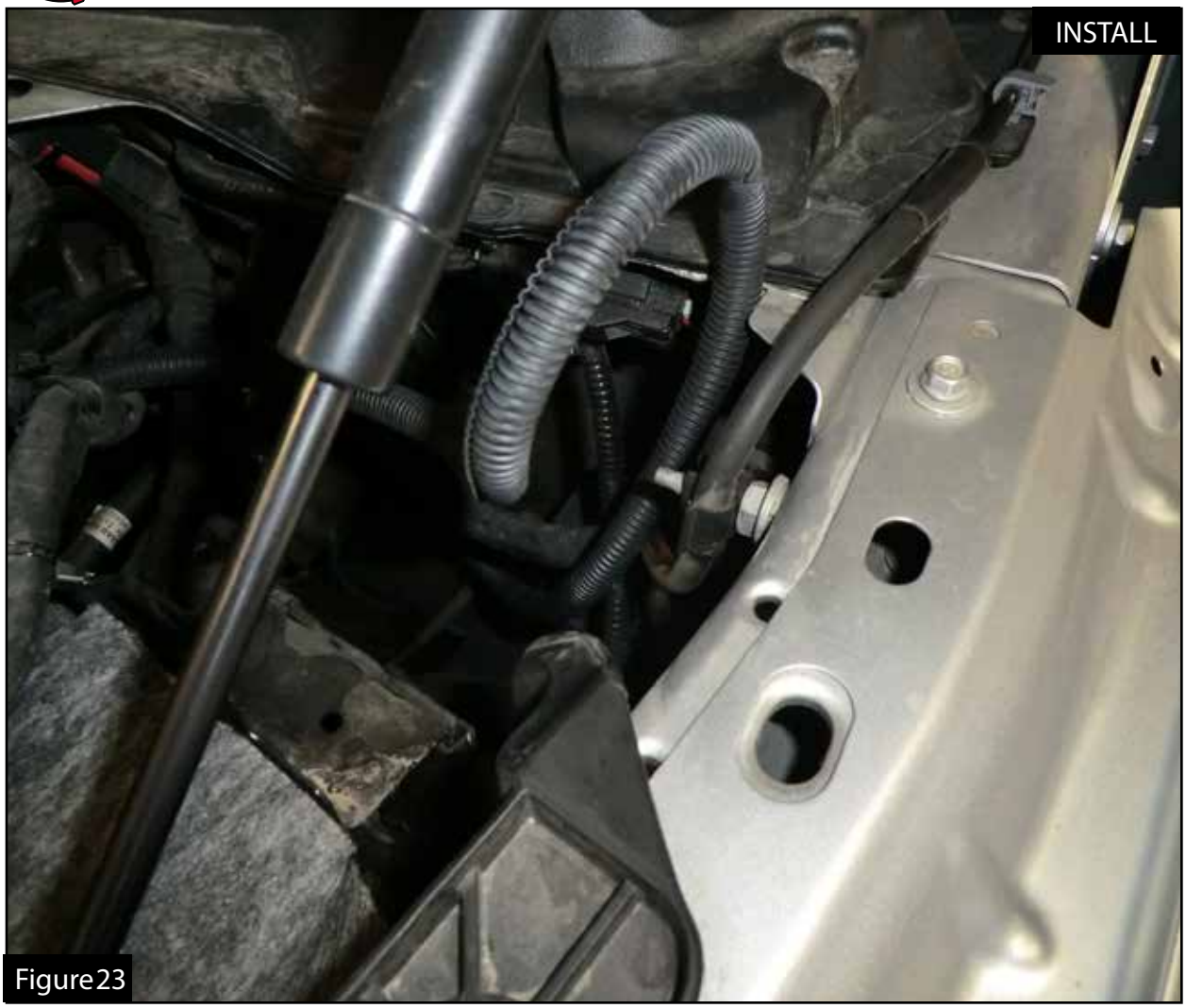

Figure 23

Step 31: Run the remaining wire harness along the frame to the engine compartment. Secure using supplied nylon cable ties.

Figure 24

Step 32: 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 25

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

Figure 26

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.

Figure 27

Step 35: Plug the supplied wire loom into the pressure sensor.

Step 36: Organize wire harness and secure with the remaining nylon cable ties.

Step 37: 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 sight glass) to release trapped air which will allow the DFS780 sight glass to fill. If the DFS780 sight glass still does not fill, try starting the engine.

Step 38: 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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