

## INSTALLATION INSTRUCTIONS

### PRODUCT: EARLY DODGE FUEL SYSTEM UPGRADE KIT WITH POWERFLO LIFT PUMP

FPE-2019-34  
October, 2019  
Page 1 of 11

**FITMENT:** 2003 – 2004 Dodge Cummins

**KIT P/N:** FPE-34755

**ESTIMATED INSTALLATION TIME:** 3 Hours – Installation completed with the use of a vehicle hoist

**TOOLS REQUIRED:** 1/4" drive ratchet, 1/4" drive 7mm socket, 1/2" drive impact or ratchet, 1/2" drive 10, 13 and 15mm sockets, 11/16" wrench, large hammer, and punch or chisel, strap wrench, needle nose pliers

#### KIT CONTENTS:

Item	Description	Qty
1	PowerFlo lift pump assembly with float arm	1
2	Donaldson 3 Micron Fuel Filter	1
3	Single filter base mount	1
4	Distribution filter block to filter coupler	1
5	-8 to 3/4"-16 straight fitting	2
6	3/4"-16 hex plug socket	1
7	M12 to -8AN fitting	1
8	-8, 45deg to hose barb fitting	3
9	-8, 90deg to hose barb fitting	1
10	1/8" NPT socket plugs	2
11	1/2" push lock hose	16 ft
12	12mm sealing washer	1
13	Fuel line retaining clip	1
14	Zip ties	10
15	Fuel Filter Delete Kit	1
16	Mounting bracket and fasteners	1



#### WARNINGS:

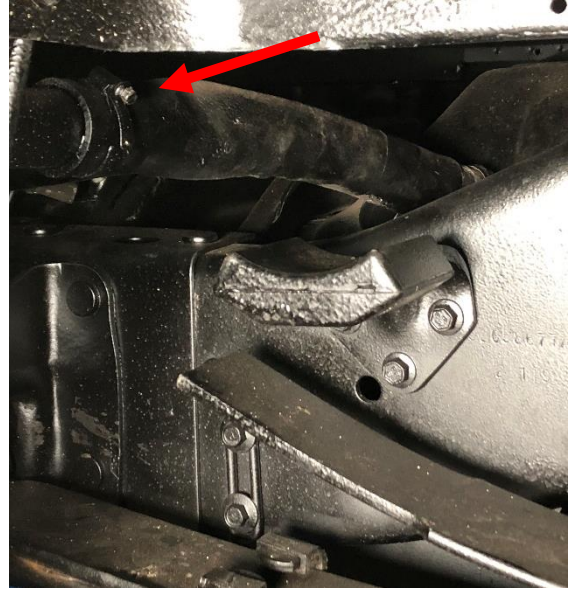
- Fuel lines must be clean before installation.
- The purchaser and end user releases, indemnifies, discharges, and holds harmless Fleece Performance Engineering, Inc. from any and all claims, damages, causes of action, injuries, or expenses resulting from or relating to the use or installation of this product that is in violation of the terms and conditions on this page, the product disclaimer, and/or the product installation instructions. Fleece Performance Engineering, Inc. will not be liable for any direct, indirect, consequential, exemplary, punitive, statutory, or incidental damages or fines cause by the use or installation of this product.

# INSTALLATION INSTRUCTIONS

## PUMP INSTALLATION PROCEDURE:

FPE-2019-34  
October, 2019  
Page 2 of 11

STEP 1: With the truck on a hoist, disconnect the fuel filler hose and vent with a 7 mm socket.



STEP 2: Reaching over the top side of the tank, disconnect the fuel lines and electrical connection for the OEM sending unit.



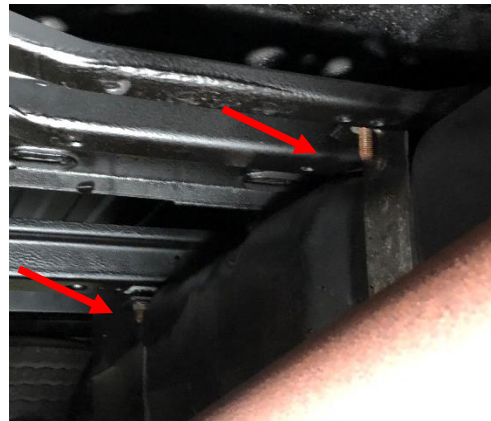
STEP 3: Remove the cross-member located at the front of the fuel tank. There will be 4, 15mm bolts to remove.



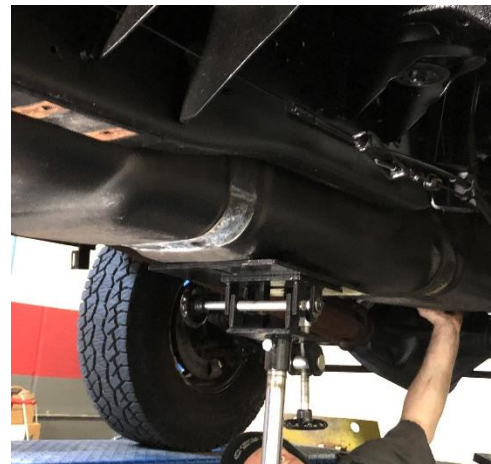
STEP 4: Secure the tank with a lift or jack to lower the tank down to the ground on.



STEP 5: Remove 15 mm nuts that retain the fuel tank hanger brackets at the front and rear of the tank. Remove the hangers.



STEP 6: Slowly lower the tank.





# INSTALLATION INSTRUCTIONS

FPE-2019-34  
October, 2019  
Page 4 of 11

## STEP 7: SENDING UNIT REMOVAL

With the tank on the ground, make note of the orientation of the OEM sending unit in the tank. The PowerFlo pump will be oriented in the same manner during installation.

Using a strap wrench, or hammer along with a chisel or drift, rotate the sending unit's retaining ring counter clockwise.

Remove the retaining ring and remove the sending unit assembly from the tank. Have a bucket nearby to catch fuel from the OE unit when removed.



# INSTALLATION INSTRUCTIONS

FPE-2019-34  
October, 2019  
Page 5 of 11

STEP 8: With the sending unit removed from the tank, carefully remove the fuel line retaining clips from the top of the OEM sending unit for re-use on the new pump.

NOTE: A new fuel line retaining clip for the return line is included in the kit.



STEP 9: Remove the gasket from the tank.



STEP 10: Install the new gasket included in the kit onto the PowerFlo pump, installing it onto the top of the sending unit by sliding it up from the bottom. Clean the retaining ring of debris and prepare it for re-use onto the new PowerFlo pump.





STEP 11: Install the fuel level float arm onto the PowerFlo lift pump by gently clipping the arm into the fuel level sensor. With the pump resting on a flat surface, press down on the cap to simulate the installed position of the cap - move the float arm up and down and ensure that the arm does not contact the pump wires or fuel tubes in the full up or full down position. If the tubes or wires contact the float arm, this will affect the fuel gauge reading. Check and confirm clearance before installing.



STEP 12: Install the PowerFlo pump assembly into the tank. Check the gasket for proper seating. Gently work the seal around the ID of the bore to fully seat the seal.



STEP 13: Reinstall the retaining ring using your hammer and punch or a strap wrench by rotating it clockwise to the fully engaged position. Ensure proper orientation of the pump and fitting by matching the orientation of the original sending unit.

*NOTE: Use caution when installing the pump to not damage the float arm. DO NOT rotate the pump once installed in the tank, you may damage the float arm or sending unit – align the pump before you place it into the tank.*



# INSTALLATION INSTRUCTIONS

FPE-2019-34  
October, 2019  
Page 7 of 11

STEP 14: Transfer the fuel line locking tabs to the fuel lines or transfer them to the PowerFlo lift pump fuel line connections. A replacement locking tab is included in your kit.



STEP 15: Lift the fuel tank into place. Re-install the two strap hangers that secure the tank with the two 15mm nuts. Install the center support with the 4, 15mm bolts that were removed.



**STEP 16:** With the tank mounted in place, access the top side of the tank from the rear wheel-well and make the fuel line connections at the sending unit.



**STEP 17: ROUTE FLEECE HARNESS TO THE ENGINE BAY**

Route the Fleece harness along the frame rails to the engine bay and battery. Route the harness in a manner that it will not interfere with any moving parts and retain it with zip ties. Mount or secure the relay in the engine bay.



**STEP 18: BATTERY CONNECTIONS**

Run the orange fused line to the positive (+) terminal of the battery. Run the black line to the negative (-) terminal of the battery.





## STEP 19: SWITCHED POWER

Connect the switched power lead for the PowerFlo pump to the OE pump signal line, located near the starter.



STEP 20: From the driver's side rear wheel-well, connect the electrical wiring harness to the PowerFlo lift pump connector.



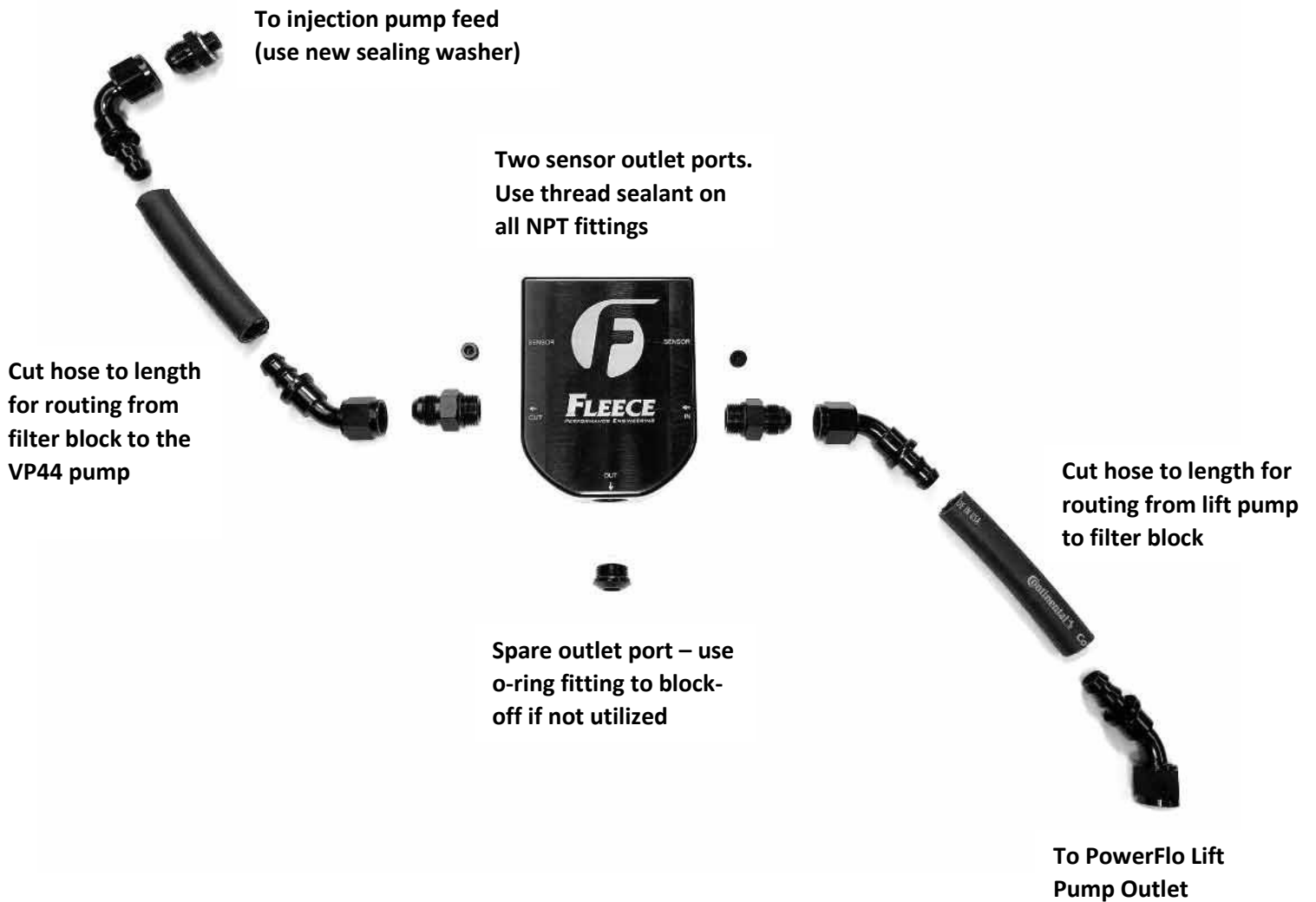
STEP 21: Add sufficient fuel back into the tank to submerge the pump bucket.

**CAUTION:** *Never run the pump dry or without fuel in the tank, damage will occur to the pump.*

# INSTALLATION INSTRUCTIONS

## FILTER BLOCK AND PLUMBING:

FPE-2019-34  
October, 2019  
Page 10 of 11



## FILTER BLOCK AND PLUMBING INSTRUCTIONS:

STEP 1: If equipped, remove the stock fuel bowl from the engine bay. Disconnect electrical connectors for the Water in Fuel Sensor and Heater.

STEP 2: Disconnect fuel lines

STEP 3: Remove the fuel bowl that is retained with two 10 mm bolts.

STEP 4: Install all fittings and new filter onto the Fleece filter block. Mount the filter block in the same location as the OE fuel bowl using the two cap head bolts provided (see images below).

STEP 5: Route the fuel line from the fuel tank to the filter block housing. Retain the fuel line to the chassis using zip ties. Avoid routing the line near moving components. Install a 45 degree pushlock fitting at either end of the hose.

STEP 6: Install the new 12mm sealing washer and 12mm to -8AN fitting onto the high pressure pump. Ensure that the original sealing washer has been removed from the pump surface.

STEP 7: Route the fuel hose from the filter block to the high pressure pump. Use the 90 deg pushlock fitting on pump end and a 45 deg pushlock fitting on the filter block end.

STEP 8: Bleed the fuel system all the way to the injectors.

STEP 9: Start the engine and check for leaks.

