

INSTALLATION INSTRUCTIONS

SUBJECT: PowerFlo® Lift Pump for 2011 – 2016 Ford Powerstroke

FPE-2023-109
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FITMENT: 2011–2016 6.7L Ford Powerstroke Equipped F-250/350 Pickups

KIT P/N: FPE-PF-FMC-1116-SB, FPE-PF-FMC-1116-LB

EST. INST. TIME: 2 hours

TOOLS REQ'D: 10mm socket or wrench, 13mm socket or wrench 15mm socket or wrench, hammer, chisel or punch, drain pan.

SPECIFICATIONS:

Operating pressure: 65-70 psi at idle

Part Cross Reference

	FPE P/N	Ford OE P/N
Short Bed	FPE-PF-FMC-1116-SB	BC3Z-9A299-A
Long Bed	FPE-PF-FMC-1116-LB	BC3Z-9A299-G

KIT CONTENTS:

Item	Description	Qty
1	PowerFlo lift pump	1
2	Float arm	1
3	Filter base assembly	1
4	Donaldson 553203 fuel filter	1
5	Water in fuel sensor	1
6	WIF sensor extension harness	1
7	Filter base mounting bolts	2
8	Tank seal o-ring	1
9	Fuel system electrical harness	1
10	Zip ties	5



WARNINGS:

- Fuel system, including fuel tank, fuel supply, and fuel return lines must be clean before installation.
- Use of this product may void or nullify the vehicle’s factory warranty.
- 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.

PROCEDURE:

STEP 1: Ensure that the fuel tank is at least $\frac{1}{4}$ full. If necessary, drain the tank to $\frac{1}{4}$ full and then proceed.

STEP 2: Park the vehicle on a flat and level surface. Disconnect the battery terminals.

STEP 3: Loosen the clamp on the fuel filler tube using a 10mm socket. Disconnect the fuel filler tube.

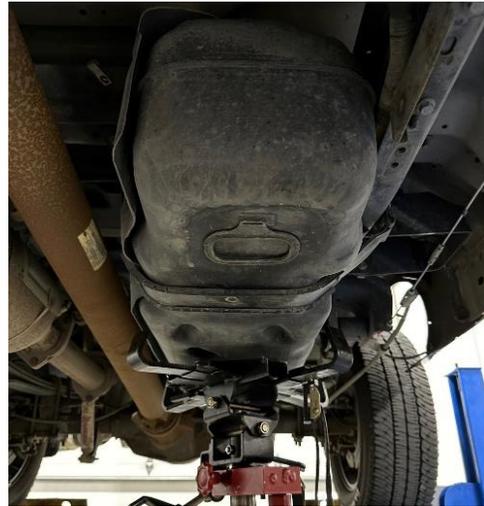


STEP 4: Remove the skid plate below the fuel tank using a 13mm socket or wrench. There are four bolts total. See the image to the right for bolt locations.



STEP 5: Place a transmission jack or floor jack under the fuel tank to lightly support it. Remove the bolts on the tank straps using a 13mm socket or wrench.

Note: Short bed vehicles will have two tank straps. Long bed vehicles will have three tank straps.



STEP 6: Lower the tank five to six inches and remove the electrical harness connector and the two fuel quick disconnects on the OE sending unit.



STEP 7: Fully lower the tank. You may have to adjust the fuel filler tube and breather to help clear the frame.

STEP 8: Thoroughly clean off the top side of the tank around the sending unit to avoid getting any debris inside the fuel tank when the sending unit is removed.



STEP 9: Using a hammer and a chisel or punch, remove the locking ring by tapping the ring counterclockwise.

STEP 10: Clean any remaining debris away from the sending unit with a vacuum and rag to avoid debris entering the fuel tank. Remove the OE sending unit.



STEP 11: Remove the existing o-ring from the tank and replace it with the o-ring included in the kit.



STEP 12: Install the included fuel level float arm onto the new Fleece Performance 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. Move the float arm up and down and ensure that the arm does not contact the pump wires or fuel tubes in both the full up and full down position. Contact with wires or fuel tubes will affect the fuel gauge reading. Check and confirm clearance before proceeding with the installation.



STEP 12: Install the new lift pump into the tank in the same orientation as the OE sending unit. Align the pump in its proper orientation before inserting into the tank. Once installed into the tank, **DO NOT** rotate the pump in such a manner that may cause the float arms to hit the sides of the tank. This will cause damage to the float arm. Reinstall the locking ring.



STEP 11: Drain the fuel filter and pump assembly by turning the yellow knob counterclockwise on the bottom of the housing. Use a catch pan to collect the drained fuel.

STEP 12: Disconnect the water in fuel sensor harness connector.

STEP 13: Disconnect the electrical harness connector and the two quick disconnect fuel lines on the rear facing side of the pump and filter assembly.



STEP 14: Disconnect the two quick disconnect fuel lines on the front facing side of the filter and pump assembly.

STEP 15: Remove the four bolts connecting the filter and pump assembly to the frame using a 13mm socket or wrench. Remove the assembly.



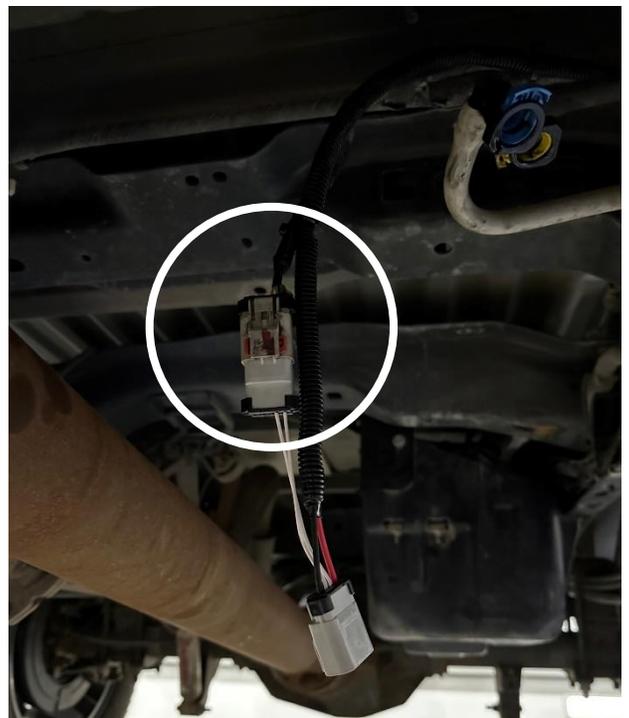
STEP 16: Connect the new Powerflo lift pump harness to the OE pump harness that was disconnected from the OE pump assembly. Use zip ties to secure the harness in place.



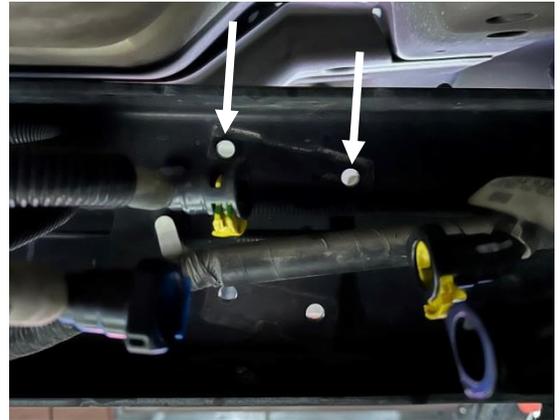
STEP 17: Route the new harness along the existing chassis harness on the inside of the frame rail using zip ties in the locations shown at right.



STEP 18: Connect the OE sending unit harness to the new PowerFlo harness as shown at right.



STEP 19: Install the new filter onto the filter base housing. The filter
Install the new Fleece Performance filter assembly. The two upper mounting holes for the OE pump assembly will be used for the mounting of the new filter base. The holes are identified at right. Use the two included mounting bolts and 15mm socket or wrench to mount the filter base.



STEP 20: Reconnect the quick disconnect fittings to the new filter assembly in the same orientation as the OE pump.



STEP 21: Using the included adapter, connect the water in fuel sensor to the electrical harness.



STEP 22: Place the tank back on the transmission jack or floor jack and lift the tank. Connect the electrical harness connector and fuel quick disconnects.

STEP 23: Reinstall the tank straps using a 13mm socket or wrench and torque the bolts to 30 ft-lbs.

STEP 24: Reinstall the skid plate (if equipped) using a 13mm socket or wrench.

STEP 25: Reconnect the fuel filler and breather tubes.

STEP 26 Reconnect the battery terminals. Before starting the vehicle, ensure that the tank is at least $\frac{1}{4}$ filled. Start the vehicle and check for normal operation.

WARRANTY REGISTRATION

Buyer MUST complete Warranty Registration Form within 30 days of purchase or warranty will be VOID. To complete the registration, follow the QR code to the Fleece Performance Engineering website or go to: www.fleeceperformance.com/resources/reg.html. Buyer must accept the terms of the Limited Warranty including coverages and exclusions provided by Fleece Performance Engineering.



PowerFlo
Warranty
Registration