

INSTALLATION INSTRUCTIONS

SUBJECT: PowerFlo® Lift Pump for 2017-2024 Ford Powerstroke

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July 2026
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FITMENT: 2017-2024 6.7L Ford Powerstroke Equipped F-250/350 Pickups

KIT P/N: FPE-PF-FMC-1724-SB, FPE-PF-FMC-1724-LB

EST INSTALL TIME: 2 hours

TOOLS REQUIRED: 8MM socket or wrench, 13MM socket or wrench, drain pan.

KIT CONTENTS:

Item	Description	Qty
1	PowerFlo® Lift Pump	1
2	Float Arm	1
3	Tank Seal O-ring	1
4	Fuel System Extension harness	1

PART CROSS REFERENCE:

	FPE P/N	FORD OE P/N
Short Bed	FPE-PF-FMC-1724-SB	HC3Z-9H307AQ
Long Bed	FPE-PF-FMC-1724-LB	HC3Z-9H307AR



IMPORTANT: The PowerFlo must be used in combination with our under bed fuel filter kit. ([FPE-FMC-UBFA-1724](#))
DO NOT use this product with the **OE underbed Fuel Filter housing**.

WARNINGS:

- Use of this product may void or nullify the vehicle's factory warranty.
- User assumes sole responsibility for the safe & proper use of the vehicle at all times.
- 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 caused by the use or installation of this product.

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PROCEDURE:

NOTE: To ensure proper function of the PowerFlo Lift Pump after installation, verify the fuel level is at least ¼ tank full prior to the start of service. If the tank is not full enough upon start up, this can run the pumps in the PowerFlo lift pump dry, subsequently damaging them.

STEP 1: Park the vehicle on a flat and level surface. Using a 10MM socket, disconnect the negative terminal from each battery and isolate each terminal (*Figure 1*).

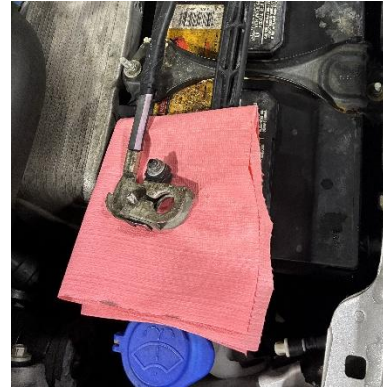


Figure 1: Negative battery terminal disconnected, isolated with a shop rag.

STEP 2: If equipped, remove the skid plate attached to underside of the fuel tank.

Using a 13MM socket, remove each of the eight retaining bolts located in each corner (*Figure 2*). Set each bolt and the skid plate aside.



Figure 2: Skid plate attached to underside of the fuel tank.

STEP 3: Using an 8MM socket or wrench, loosen the clamps on the fuel filler tube and the fuel tank vent hose (*Figure 3*), then disconnect each of the hoses.



Figure 3: Hose clamps retaining the fuel filler tube (left) and fuel tank vent (right).

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STEP 4: Disconnect the WIF sensor connector and each fuel line at the front of the fuel tank.

For the line directly attached at the fuel filter housing, remove the line by pressing the push tab down on the quick connect fitting and pull the fitting away from the base (*Figure 4*). To remove the other line, slide the yellow locking tab away from the quick connect fitting. Once the locking tab is released, press the push tabs on the quick connect fitting down and separate the two ends of the line (*Figure 5*).

Once both fuel lines have been disconnected, disconnect the WIF sensor connector at the bottom of the fuel filter. Disconnect the WIF sensor connector by pressing the push tab on the connector while pulling away from the filter (*Figure 6*).

For additional help with removal of the ford quick connect fittings, please refer to page [four](#) of our [Underbed Fuel Filter Assembly Instruction](#). These will provide step by step removal instructions for each fitting type.

STEP 5: Place a jack under the fuel tank for support, then remove the fuel tank.

This can be either a floor jack or a transmission jack. Using a 13MM socket remove the bolts on the fuel tank straps. Each strap will have one 13MM bolt on each side (*Figure 7*).

Once all fasteners have been removed, allow the fuel tank to rest on top of the jack, then lower the jack about six inches to provide access to the top of the tank. Use caution as the tank is lowered, fuel will move front to back in the fuel tank and can cause the tank to become unstable.

STEP 6: After the fuel tank has been lowered, allowing access to the electrical connection, disconnect the electrical harness on the top of the stock lift pump. Disconnect the harness by pressing the push tab on the connector down and pulling the connector away from the lift pump (*Figure 8*).



Figure 4: Removal of fuel feed line.



Figure 5: Removal of fuel return line.



Figure 6: WIF sensor connector disconnected.



*Figure 7: Transmission jack positioned underneath fuel tank.
Removal of tank strap retaining bolts at right.*



Figure 8: Stock lift pump electrical harness disconnected.

STEP 7: After the electrical connector has been disconnected, **fully lower the fuel tank**. Be mindful of the filler neck and breather tube during this process, they may need to be adjusted to clear the frame.

STEP 8: Once the tank has been fully lowered, remove the four fuel lines from the top of the stock lift pump. Pull each locking tab away from the quick connect fitting. Press the push tabs on each fitting, then pull the fitting up and off the stock lift pump. **Repeat this process for all four lines.**

Please refer to page [four](#) of our [Underbed Fuel Filter Assembly Instruction](#) for further assistance if necessary.

STEP 9: Following the removal of the fuel lines, **thoroughly clean off the top side of the fuel tank around the lift pump** to avoid contamination when removing the stock lift pump.

STEP 9: Remove the stock lift pump.

NOTE: Before proceeding note the orientation of the stock lift pump.

Remove the locking ring that holds the stock lift pump in place. Rotate the locking ring counterclockwise. For ease of service, locking ring tools, such as MATCO tool [#FTR730](#), can be used at this step.

With the ring removed, clean any remaining debris away from the top of the fuel tank with a vacuum and a rag. Once the top of the lift pump is clean, remove it from the tank.

STEP 11: Remove the existing O-ring at the top of the tank. Thoroughly clean the O-ring groove.



Figure 9: Fuel tank removed, top of stock lift pump.

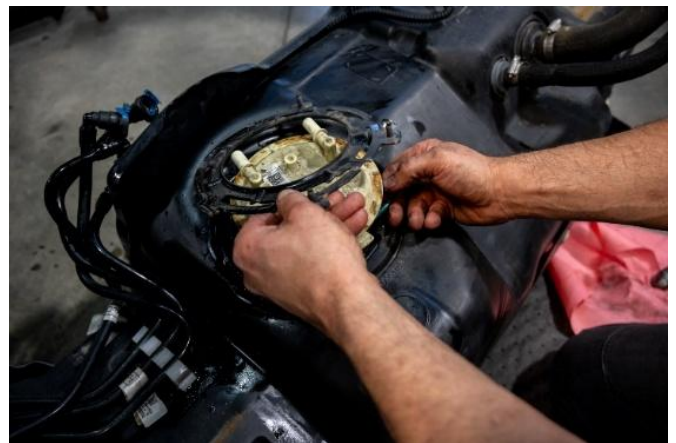


Figure 10: Removal of stock lift pump.



Figure 11: Removal of stock lift pump, removal of old sealing O-ring on top of the fuel tank.

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STEP 12: Inspect and clean the fuel tank. Remove any debris present.

STEP 13: Install the supplied O-ring at the top of the tank.

STEP 14: Assemble the PowerFlo lift pump.

From the included installation kit, install the fuel level float arm. Gently clip the arm into the fuel level sensor (Circled in Figure 14).

With the pump standing up right on a flat surface, press down on the cap to simulate the installed position. Move the float arm up and down to ensure the arm does not contact the wires or fuel tubes on the PowerFlo. If the arm contacts either of these components, carefully adjust how each of these items are sitting until contact has been eliminated (Figure 14).

If the float arm contacts these components while the PowerFlo is in the tank, it can lead to inaccurate display of fuel level.

STEP 15: Install the new PowerFlo into the tank.

Align the pump in its proper orientation before inserting into the tank (Figure 15). Once the pump is inserted into the tank, do not rotate the pump. Damage to the resistor card will occur if the float arm makes contact with the side of the tank.

Compress the unit then place the retaining ring over top. Turn the ring clockwise by hand to hold unit in place, then tighten the rest of the way.

For ease of service, locking ring tools, such as MATCO tool [#FTR730](#), can be used at this step.

NOTE: For those with a using an S&B fuel tank, the fuel feed and return lines from the fuel filter housing to the lift pump will need to be installed prior to pushing the PowerFlo into place (see next page).



Figure 12: Cleaned and inspected fuel tank, new sealing O-ring installed.

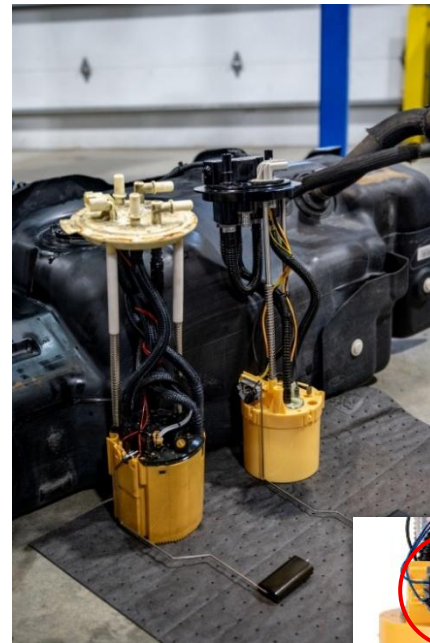


Figure 13: Stock lift pump and PowerFlo side by side, float arm installed.

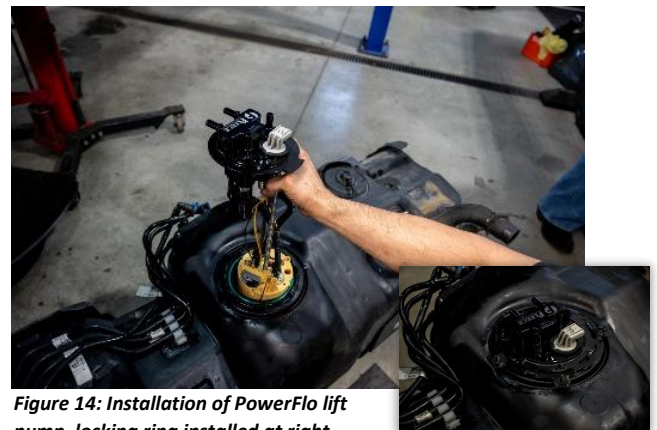


Figure 14: Installation of PowerFlo lift pump, locking ring installed at right.

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STEP 16: Reinstall all fuel lines and install the included extension harness.

Reinstall each of the fuel lines in the same order they were removed. Lubricate each fitting with clean fuel (*Figure 15*).



Figure 15: Fuel lines installed in same configuration as stock unit.

For those using an S&B fuel tank:

Due to a difference in the S&B tank height the fuel feed and return lines from the fuel filter housing to the lift pump will need to be installed prior to pushing the PowerFlo into place.

Once the feed and return lines are installed, compress the PowerFlo and reinstall the locking ring. A locking ring tool can still be utilized at this step.

Once the locking ring is in place, proceed with the installation of the other two fuel lines.

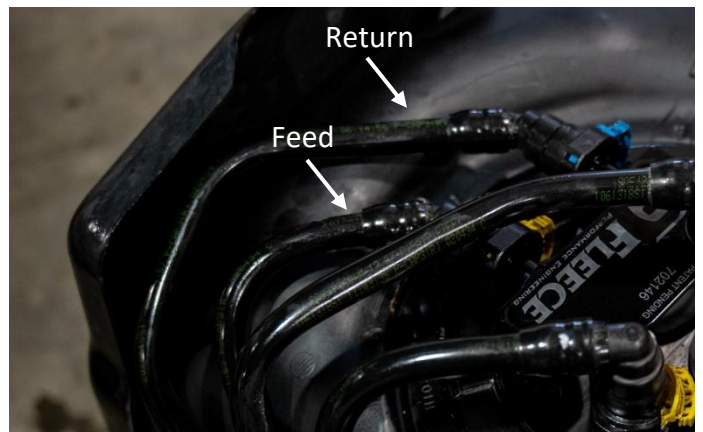


Figure 16: Fuel feed and return lines to lift pump labeled.

Plug the included extension harness into the electrical connection at the top of the PowerFlo (*Figure 17*).



Figure 17: Fuel lines installed and extension harness plugged in at top of PowerFlo.

STEP 17: Place the tank back on the transmission jack or floor jack and raise the tank back up.

When the tank is about six inches from its original installed position, plug the truck side connector into the extension harness at the top of the PowerFlo.

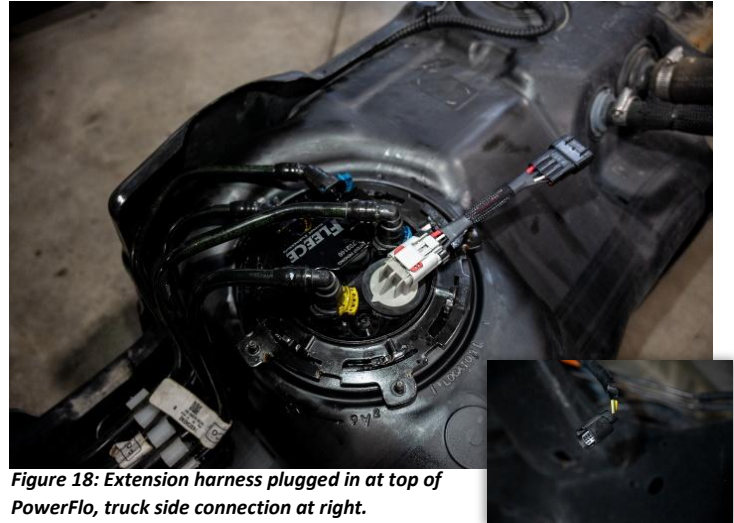


Figure 18: Extension harness plugged in at top of PowerFlo, truck side connection at right.

STEP 18: Raise the tank back into position, be cautious of the breather tube and fuel filler tube during this step. Adjust the tubes as needed to clear the frame rail (*Figure 18*).

STEP 19: Begin reinstallation of the fuel tank straps.

Using a 13MM socket, reinstall each retaining bolt for each strap, then torque the bolts to 30 FTLBS.



Figure 19: Fuel tank sitting on top of transmission jack, tank straps reinstalled.

STEP 20: Reinstall the fuel feed and return lines.

Starting with the line that connects directly at the fuel filter housing, reinstall the quick connect fitting on the return fitting on the fuel filter housing (*Figure 20*).

Reattach the fuel feed line. Push both ends together, then slide the yellow locking tabs back in place (*Figure 21*).



Figure 20: Reinstallation of fuel return line.



Figure 21: Reinstallation of fuel feed line.

STEP 21: Reinstall the WIF sensor connector.

Plug the WIF sensor connector back in on the bottom of the fuel filter.



Figure 22: WIF Sensor connector

STEP 22: Reinstall the fuel filler tube and breather tube.

Push each tube back into place, then using an 8MM socket tighten each retaining clamp.



Figure 23: Fuel filler tube and fuel breather tube reinstalled.

STEP 23: Verify function of the new PowerFlo lift pump and check for fuel leaks.

Using a 10MM socket, reconnect the negative battery terminals. Ensure that the tank is at least $\frac{1}{4}$ full and check for normal operation of the PowerFlo lift pump.

Turn the ignition to the run position by turning the vehicle key two clicks forward or pressing the vehicle start button twice without depressing the brake pedal. The dashboard lights will illuminate, but the engine will not run. Allow the ignition to sit in the run position. Verify the PowerFlo has turned on and is heard running in the fuel tank. Allow the pumps to run until they stop, then switch the ignition off. Repeat this process a total of three times. This process primes the fuel system and allows any potential leaks to be identified before starting the vehicle. Once this process is complete, start the vehicle.



Figure 24: Ignition in "run" position. Lights on dashboard illuminated, engine off.

STEP 24: Reinstall the fuel tank skid plate if equipped.

Using a 13MM socket, reinstall all eight 13MM retaining bolts.



Figure 25: PowerFlo installed, skid plate reinstalled.