

# INSTALLATION INSTRUCTIONS

## PRODUCT: POWERFLO® LIFT PUMP FOR 2005-2024 RAM 2500/3500 PICKUPS

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November, 2023  
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**FITMENT:** 2005–2024 Dodge/Ram pickup models with Cummins 5.9/6.7  
**KIT P/N:** FPE-34560 (MY2005-2009), FPE-34561 (MY2010 only),  
 FPE-34562 (MY2011-2024) \*For MY 2020 and up; this pump will not work with the  
 factory installed 50-Gallon Fuel Tank Option – USE FPE-PF-CUMM-2024-50

**TOOLS REQUIRED:** 1/4" drive ratchet, 1/4" drive 8mm socket, 1/4" drive 9/32 socket, 1/4" drive 10mm socket, 1/2" drive impact or ratchet, 15mm 1/2" drive swivel or box end wrench, 1/2" drive 16mm deep socket, large hammer, large pry bar, punch and/or chisel.

### KIT CONTENTS:

Item	Description
1	PowerFlo lift pump with float arm
2	Wiring harness with zip-ties
3	O-ring



### 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.
- All fuel lines must be clean before installation including return fuel lines to the tank.
- Ensure fuel tank is clean. If any debris is observed during installation the tank must be drained and cleaned prior to operation.
- Never run the pump dry or outside of fuel tank or submerged in fuel bucket. Operation of the pump without fluid to lubricate the pump gears will result in a pump failure.
- California residents: Affix the CARB EO decal included with the kit in a clearly visible location in the engine bay.

# INSTALLATION INSTRUCTIONS

THE FOLLOWING INSTRUCTION STEPS OUTLINE REPLACEMENT OF THE FUEL PUMP BY REMOVING THE FUEL TANK. FOR INSTRUCTIONS ON INSTALLING BY REMOVING THE BED, SEE INSTALLATION INSTRUCTION FPE-2018-2.

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## INSTALLATION PROCEDURE:

**STEP 1:** Disconnect batteries and block the tires.

**STEP 2:** Remove the rear drivers side inner fender retained with a quantity of 11 - 8mm screws. One fastener in the front of the wheel well is hidden behind the fender flare, if equipped. Pull back the fender flare to expose the fastener.



**STEP 3:** Remove the rear driveshaft. On short wheelbase trucks the only remove the 4 - 15mm bolts on the yoke of the rear end. On long wheel base trucks, the carrier bearing mount must be removed as well.



**STEP 4:** Support the fuel tank with a lift jack. Loosen the front and rear fuel tank straps using a 16mm deep socket. Remove the front strap first, and leave the rear strap loose and attached at this time. Lowering the front of the fuel tank downward will allow access to unplug the sending unit and remove the fuel line quick disconnects.

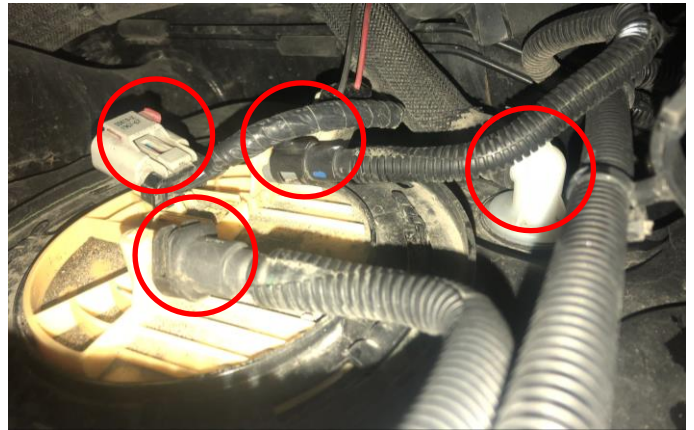
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**STEP 5:** Release the retaining clip securing the DEF lines located at the front of the fuel tank if so equipped (2013 MY+)



**STEP 6:** Remove the fuel line quick disconnects. Disconnect the sending unit electrical connector.



**STEP 7:** Remove the tank vent located toward the rear of the fuel tank. The vent line is attached to a 3/8" barb fitting.



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**STEP 8:** Remove the filler neck hose at the tank with a 9/32" socket to loosen the clamp. Access the clamp through the fender well. Remove the filler neck hose from the fuel tank. Remove the rear fuel tank strap and lower the complete fuel tank to the ground. Move the tank into an area where you have clear access to the tank.



**STEP 9:** Clean the area around the sending unit with pressurized air or a vacuum to remove debris. Wipe the area around the pump with a clean rag.  
*NOTE: Mark the orientation of the sending unit relative to the tank to ensure proper orientation of the PowerFlo pump during installation.*

Using a hammer and punch, rotate the retaining ring counter clockwise. Remove the retaining ring that holds the OEM pump into the tank and remove the sending unit from the tank by lifting it upward. Remove the sealing O-ring from the tank and discard it.



**STEP 10:** Clean the tank sealing surface and place your new O-ring supplied in the kit for the PowerFlo lift pump onto the top of the tank.

**STEP 11:** Install the new fuel level float arm onto the PowerFlo lift pump by gently clipping the arm into the fuel level sensor. Slightly compress the sending unit assembly downward to simulate it's installed position in the fuel tank. With the top slightly depressed, move the float arm up and down, ensure that the arm does not contact the pump wires in the full up or full down position.



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**STEP 12:** Ensure proper orientation of the pump by aligning the alignment tab on the PowerFlo with its final position in the tank. Align it prior to installation to avoid need to rotate the pump after installation. Install the PowerFlo lift pump assembly into the tank and depress it by hand to allow for reinstallation of the retaining ring. Using your hammer and punch or chisel, rotate the retaining ring clockwise to the fully engaged position.

*NOTE: Use caution when installing the pump to not damage the float arm.*



**STEP 13:** With the fuel tank out of the truck, neatly route the wiring harness from the driver side battery compartment to the OEM pump connection. Route the harness in a manner that it will not interfere with any moving parts and retain it with zip ties along the main electrical harness of the truck routed to the rear of the truck.

*NOTE: The Fleece supplied wiring harness is required to power the secondary pump and handle the additional current draw. Do not attempt to power the pump with the stock harness.*

*IMPORTANT: Never use a higher rated fuse than provided with the harness. If you experience a blown fuse always troubleshoot the problem before replacing the fuse. A blown fuse can be an indication of a short to ground in the harness, the relay, or inside the pump assembly.*

**STEP 13:** Reinstall the fuel tank, leaving the front hanger off and loosely installing the rear hanger first to provide better access to the electrical and fuel connections on the top of the fuel tank. Make the proper connections for the fuel lines, vent, fill tube, and electrical connection. Make sure the quick disconnect fuel lines are fully seated with retaining clips in place. When the quick disconnect fitting is fully seated you will not be able to pull it back off the pump fitting without releasing the retaining clip.



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**STEP 14:** Connect the supplied electrical wiring harness to the OEM harness and PowerFlo lift pump. The fused lead from the supplied harness should be connected to the positive (+) battery terminal and the black lead will should be connected to the negative (-) battery terminal. Securely mount the relay.

**STEP 15:** Reinstall your front fuel tank strap. Retain the DEF lines back into the original retention clip and tighten both tank straps to fully retain the tank.

**STEP 16:** Reinstall the rear driveshaft and carrier bearing mount if removed.

*NOTE: Use a red locktite on the bolts and properly torque to factory specifications.*

**STEP 17:** Reinstall the inner fender well, install the hidden screw in the front, located behind the fender flare first, then reinstall the remaining fasteners.

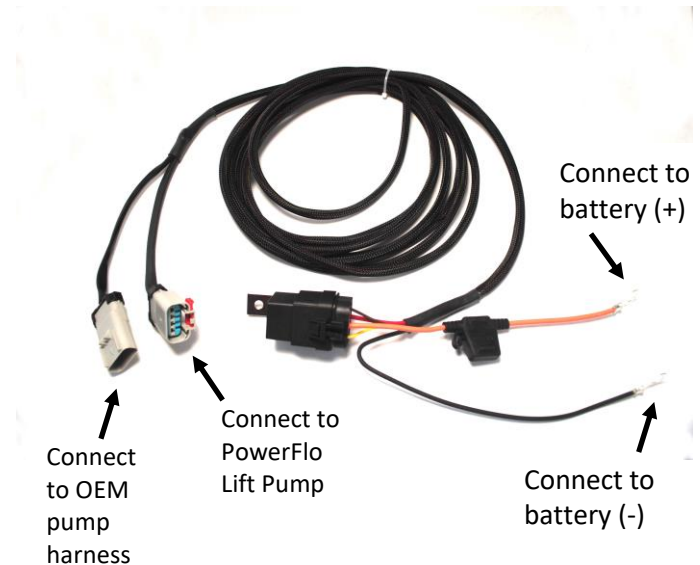
**STEP 18:** Reinstall the battery connections.

**STEP 19:** Add sufficient fuel back into the tank to submerge the pump bucket. Prime the fuel system by turning the key (or cycling the start button to "RUN" without your foot on the brake) to "RUN" (not "START"). This will turn the lift pump on. Let the lift pump run for 10-15 seconds or until it turns off. Repeat this process 3-4 times to prime the system. Start the truck (it may crank a little longer than usual before starting). Check for leaks.

Operating pressure at idle will be 18-20 psi when measured at the CP3.

**CAUTION:** *Never run the pump dry or without fuel in the tank.*

**STEP 20:** Affix the CARB EO decal included with the kit in a clearly visible location in the engine bay.



## WARRANTY REGISTRATION

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