

INSTALLATION INSTRUCTIONS

PRODUCT: POWERFLO LIFT PUMP FOR RAM WITH 50 GALLON FUEL TANK

FPE-2023-99
June, 2025

FITMENT: 2020–2024 Dodge Ram with 6.7L Cummins and 50-gallon factory installed fuel tank.
Replaces OE pump part number 68490266AA used in 50-gallon tank 68534612AB
Not for use with cab & chassis applications.

KIT P/N: FPE-PF-CUMM-2024-50

ESTIMATED INSTALLATION TIME: 2-3 Hours

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	Adapter harness
3	O-ring

IMPORTANT: This instruction applies to unit serial numbers 505203 and higher for part number FPE-PF-CUMM-2024-50. The updated kits utilize the adapter harness in place of the previously utilized standalone harness.



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 cause 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.

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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.



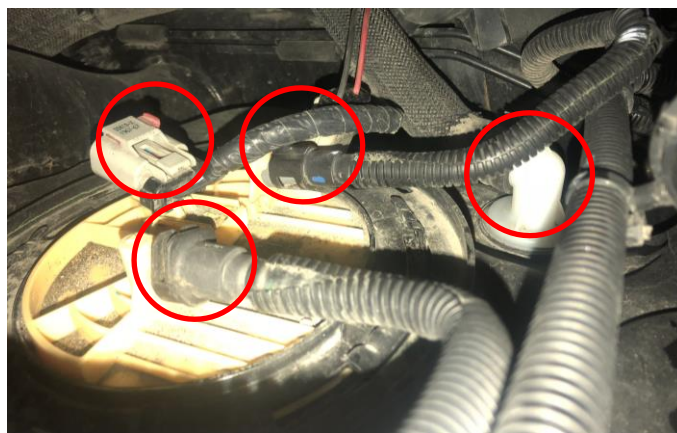
STEP 4: Support the fuel tank with a lift jack. Loosen the front and rear fuel tank straps using a 16mm deep socket. Remove the front strap first, and leave the rear strap loose and attached at this time. Lowering the front of the fuel tank downward will allow access to unplug the sending unit and remove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



STEP 9: Clean the area around the sending unit with pressurized air 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.



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 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: Install the PowerFlo pump assembly into the tank and reinstall the retaining ring using your hammer and punch or chisel by rotating it clockwise to the fully engaged position. Ensure proper orientation of the pump and fittings matches the orientation of the original pump.

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



STEP 13: Connect the new electrical adapter harness to the OEM chassis harness for the lift pump.

STEP 14: 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:

- fuel supply and return lines,
- fuel vent,
- fuel fill tube,
- and the PowerFlo electrical connector (adapter harness mates directly to the OE fuel pump harness)

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 15: Reinstall your front fuel tank strap. Retain the DEF lines back into the original retention clip. Tighten both tank straps back down.

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

NOTE: Use a red Loctite 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.

STEP 21: Complete the warranty registration.

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. Buyer must accept the terms of the Limited Warranty including coverages and exclusions provided by Fleece Performance Engineering.