

INSTALLATION MANUAL

TITANIUM SERIES

**ALL 1/2" FUEL PORTS
AND FUEL LINE!**

APPLICATION:

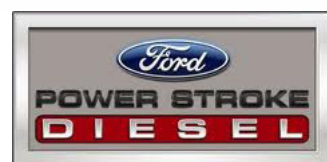
T F17 220G (220 GPH @ 55psi)

Powerstroke 6.7L

*Bypassing the factory lift pump

2011-2012

****Note: Cab and Chassis
may require modifications****



PICKUP



ENGINEERED EXCELLENCE

Dear Valued Customer,

“Made in the USA” is not just a slogan at FASS; it’s what we live by! FASS is not only assembled in the USA but 98%+ of the FASS product is manufactured in the USA, helping to employ Americans and strengthen America. At FASS, we scrutinize our suppliers and demand the highest quality American-made components. However, this does come at a price, which is one of the main reasons FASS products are more expensive than the competition. Remember price does not dictate quality but quality does dictate price! Here at FASS, we believe it’s worth the commitment and will continue this practice to support America! Our competition is doing exactly the opposite by using foreign-made components.

Building extremely “High-Quality” fuel products is our business. We concentrate all of our efforts in this arena. No one else is as specialized as FASS in what we do! This is one of the ingredients to insure you are running with the “Highest-Quality” fuel system in the world! We have implemented very rigorous testing procedures to provide the “Highest Quality” we have become known for. Not only is our product superior, but customer satisfaction is #1 at FASS. It is our goal to provide the best service possible. Our confidence is evident in the products we make as each product is backed by an industry leading warranty!

Our R & D department, in conjunction with our Dealer Support department, is continually searching for ways to improve quality, expand our product line, and provide superb support to our network of dealers so our customers’ needs and expectations will be exceeded.

To help insure you receive the proper system and customer support at the local level, FASS has a VIP and Authorized Dealer network representing FASS products. This is one reason you must purchase through a dealer to comply with our warranty policies. **If you do not, there is no warranty!** We recommend you go to www.FASSride.com, click “Find A Dealer”, put in their ZIP code, select the type of dealer, and see if the company you purchased from is listed. If they are not, put their phone number in the field below the ZIP code field to see if they are listed. Below these two fields is a list of “Terminated/Unauthorized” dealers. You may want to review this list. If the company is not listed or is on the “Terminated/Unauthorized” list, we suggest you return the product immediately to that dealer and call FASS. We’ll recommend you to the nearest dealer.

VERY IMPORTANT: Make sure to fill out your product registration form and return the original form to FASS Fuel Systems within 30 days of purchase accompanied with a copy of the purchase receipt. Complying with these guidelines will qualify you for the Extended Warranty!

See the Owner’s Manual online at www.FASSride.com for full Limitation of Warranty. In the event that the buyer does not agree with this agreement: the buyer may promptly return this product, in a new and unused condition, with a dated receipt, to the place of purchase within thirty (30) days from date of purchase for a full refund less shipping.

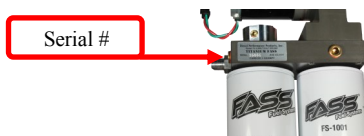
The installation of this product indicates that the buyer has read and understands the Limitation of Warranty agreement and accepts its terms and conditions.

!WARNINGS!

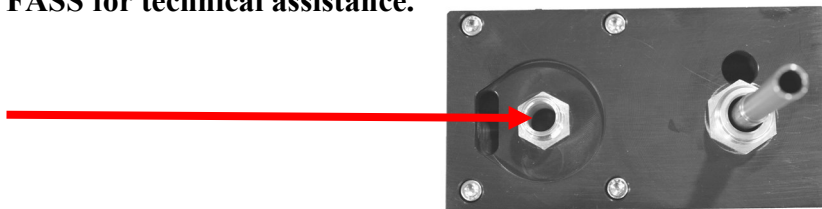
- Read all instructions before starting installation of this product!
- Installing the improper FASS Pump can cause *severe* engine damage.

FASS	Recommended Application
T F17 220G	Powerstroke (6.7L) 2011-2012 with extreme horsepower modifications

- Secure vehicle from ROLLING!
- Cab and Chassis may require modifications
- Consult vehicle's manufacturers' instructions concerning the electrical system before attempting any electrical connections.
- Be sure that the serial # on this installation manual matches that of the outside of the box.



- Flush and clean all brass fittings and fuel line from debris
- Keep debris from entering the internals of the system during installation. Getting debris in the water separator nipple can lock up the motor. If the motor does lock up from debris call FASS for technical assistance.



- Wear safety glasses when operating power tools such as drills and grinders or when using a punch or chisel.
- Properly secure lines to prevent chaffing.

INSTALLATION MANUAL

Follow these steps to ensure a simple installation of your new FASS TITANIUM FUEL SYSTEM

1. *Read the installation manual completely before attempting installation. The installation of this product indicates that the buyer has read and understands the limitations of the FASS manufacturers warranty agreement and accepts the responsibility of its terms and conditions.*
2. Inventory the package components. Notify the place of purchase immediately of any parts missing or damaged.
3. The installation recommendations contained herein are guidelines. Its important to understand your vehicles accessories and limitations. Use good judgment and take in to consideration your vehicles' accessories.
4. For best results in accuracy and efficiency (due to training, communication, and our relationship with our dealer network), we recommend a ViP FASS dealer for the installation. They are prepared to install the FASS fuel pumps with the most efficiency. If a situation/problem arises during the installation, they are the most prepared for that situation/problem. We are not responsible for any installation mistakes.
5. Normally, technical issues can be resolved by your dealer's service department, as they can usually inspect the situation physically. If you have any questions or concerns email or call FASS.
6. If any installation procedure is uncertain, contact FASS technical support.

Email techsupport@FASSride.com with the following information:

- Your Name, address and daytime phone number
- Model **(T F17 220G)**
- Serial Number
- Last 6 of vehicles' VIN
- Date of purchase
- Nature of Your Concern

Serial # Found Here....



Call customer service; [636-433-5410](tel:636-433-5410) with the following information:

- Model **(T F17 220G)**
- Serial Number
- Last 6 of vehicles' VIN
- Date of purchase

TITANIUM SERIES

220 GPH

55 PSI (APPROXIMATELY)

A fuel pressure gauge is highly recommended to identify fuel filter life and to prevent engine damage!



INSTALLATION

- Step 1: Install Electrical Harness
- Step 2: Prepare Suction and Return Lines
- Step 3: Mount Fuel System
- Step 4: Install Fuel Line
- Step 5: Check Installation

CONTENTS

Owners Manual Available
for Download at
www.FASSride.com



MP-9074

FL-1058 x3'

FL-1002 x9'

PBR-2001

PFB-2002

PFB-2001C

WH-1005

MOUNTING PACKAGE CONTENTS



BHF-1002



PL-1005



PL-1004



DB-4646



PLB-1212



Ring Termi-



10-302



10-300



OR-223



LW-1001



BHN-1001



1 1/2" Washers 1 Hex Bolt 1/2" -20 x 1 1/2"



RVC-12



ST-1005Px16"



RVC-38



4 Hex Bolt 3/8" -16x 1 1/2"



3 Hex Bolt 1/4"-20x1 3/4"



4 Locking Nut 3/8"



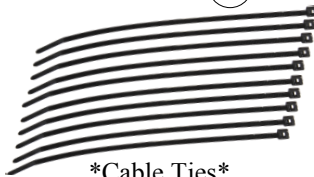
46260



3 WA-1001D



4 3/8" Washers



Cable Ties



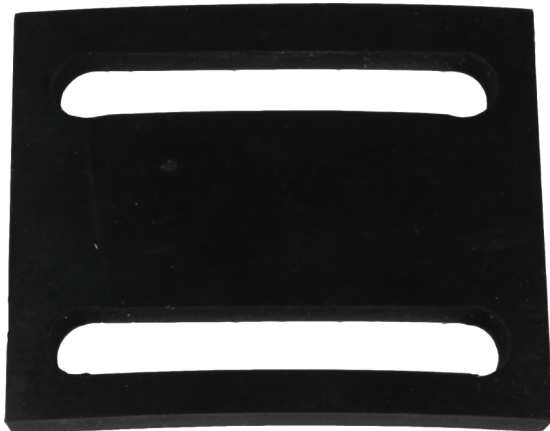
46044



PL-1058



PL-1010



RS-2002



RS-2001

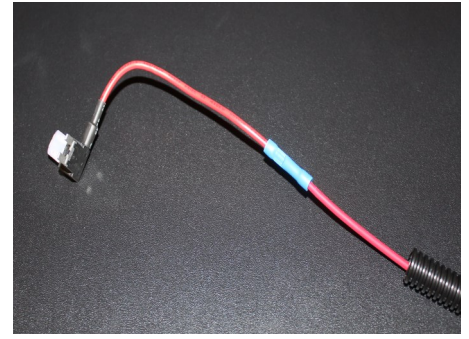
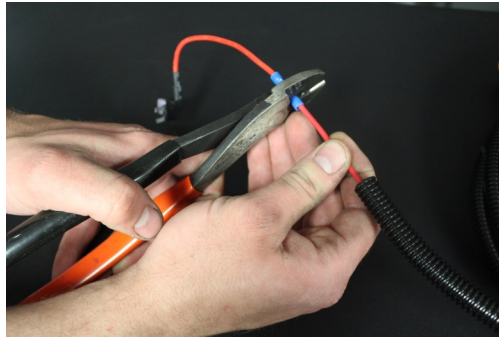
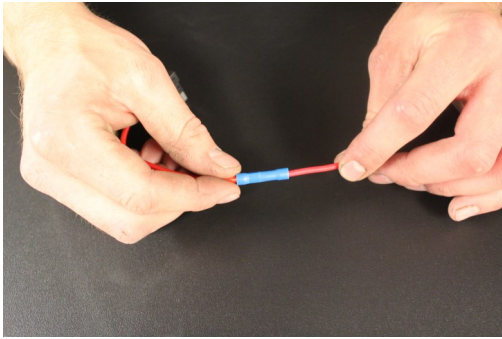
STEP 1: INSTALL ELECTRICAL HARNESS

The installation of the electrical harness is done first, allowing power to be applied to the pump for lubrication purposes later in the installation.

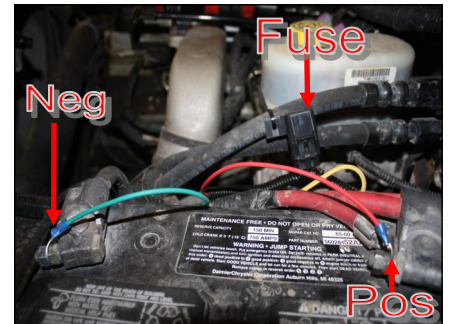
- A. Using wire stripping tool remove excess insulation off the 46044 and the WE-1001.



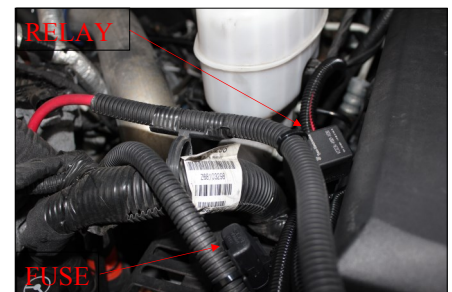
- B. Place wire from 46044 and WE-1001 into butt connector. Using crimping tool connect 46044 and WE-1001 with butt connector. Install 46260 to 46044 bottom slot (opening that is near the spade). Route 46044 lead through the fire wall using existing grommet.



- C. Crimp the ring terminals to the red and green wires of the WH-1005 Wire Harness. Attach red wire to the positive terminal of the battery and the green terminal to the negative terminal. **The use of a corrosion preventative on electrical connections is recommended.**



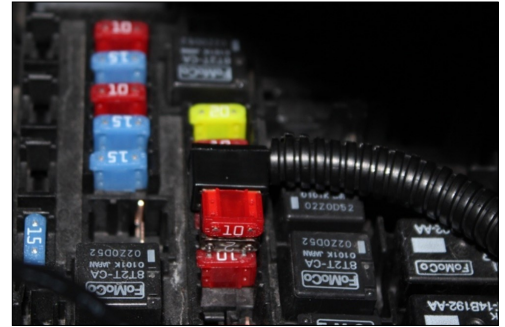
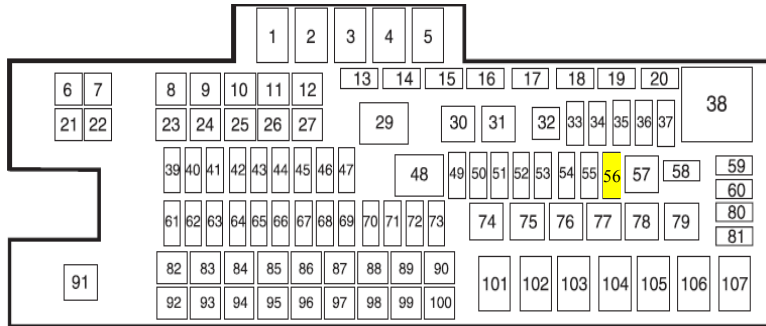
- D. Secure relay and fuse in an upright position, as shown, to prevent moisture from entering. Di-electric grease may be applied to prevent corrosion.



STEP 1: INSTALL ELECTRICAL HARNESS

The installation of the electrical harness is done first, allowing power to be applied to the pump for lubrication purposes.

- E. Connect the WE-1001 Extension to the WH-1005's shorter relay branch. Route the extension to the engine bay fuse panel. Remove a fuse (maximum of 10A) that is "hot" when the key is on. Example: #54 or #55. **Use a test probe to locate the "hot side" of the circuit in the fuse block.** Install the fuse tap into the open location. Install the pulled fuse into the open space on the fuse tap. Disconnect the vehicles' battery and continue installation.



- F. Route WH-1005 wire harness along frame rail to mounting location of pump. **Completion of this step will be addressed in the mounting step.**

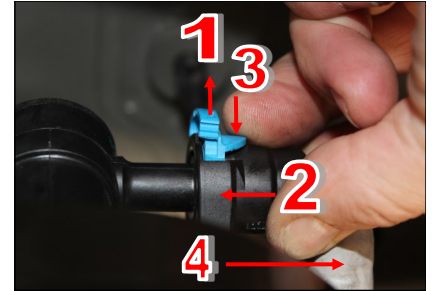
STEP 2: PREPARE SUCTION & RETURN LINES

Some of the photo's are of a different application, procedures are the same.

NOTE: Before installing fittings make sure to inspect for burrs or flare imperfections. When cutting fuel line make sure to blow out line to keep debris from moving forward.

Helpful Hint: Directions for removing factory lines.

1. Pull up on the locking tab (either blue or yellow),
2. Push in slightly on the connector,
3. Press down on the release tab,
4. Pull the connector straight off,



- A. Before tank is removed or moved, identify ALL areas of clearance between the tank and the truck's bed for the best location to install the BHF assembly. With proper clearance, you want to install it as close to the Fuel sending unit as possible.



- B. Remove the filler neck and overflow tubes from the truck by loosening the clamps at both ends.



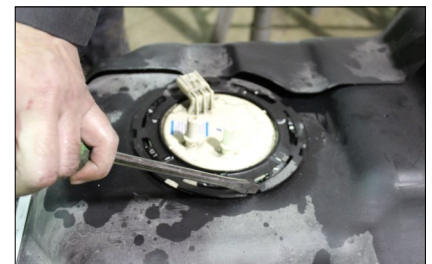
- C. Disconnect factory suction and return lines (refer to diagram at the beginning of step 2).



- D. With the fuel tank empty of fuel, unbolt the tank straps and remove it from the vehicle.



- E. Clean the fuel module area then remove the lock ring on the top of the fuel tank. **This is spring loaded, so, holding it down while removing the ring will prevent the sending unit from popping up and possibly causing damage.**

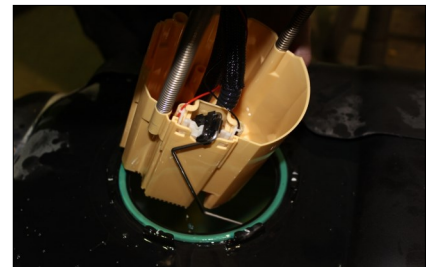


STEP 2: PREPARE SUCTION & RETURN LINES

- F. Note the location of the tab and arrow. Re-install the sending unit in the same location to prevent the fuel level arm from binding.



- G. Once the lock ring is removed, carefully remove pick up module from fuel tank without bending fuel level arm.



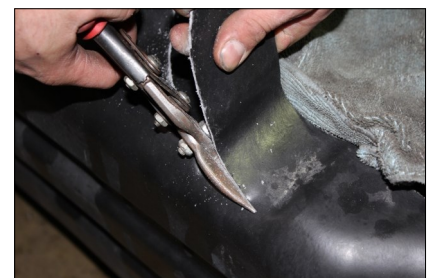
- H. **VERY IMPORTANT:** Support fuel tank on both ends allowing the natural formation of the tank to take place. Failure to perform this step can and will create an issue with less usable fuel!



- I. Assemble the BHF-1002 with the PL-1010 in port “S” & the PL-1004 in the “R” port using thread tape. Torque to 40 ft./lbs. Push the ST-1005P onto the barb portion of the BHF-1002. Insert O-ring into groove.



- J. Place the lock ring back on the tank and locate the BHF-1002 bulkhead fitting on the tank with enough clearance for the fuel line and fittings. **Keep in mind the bulkhead must also clear the bottom of the bed support structure.** The fiberglass protective shell will have to be trimmed as necessary for clearance .



STEP 2: PREPARE SUCTION & RETURN LINES

- K. Once location has been established, **double check! Make sure the fuel line and fittings will clear the trimmed protective shell.** Mark location and drill 1 3/8" hole with hole saw. Hold a cup or catch can inside the tank while drilling to catch any debris. Place a rag over the opening to prevent tank contamination. Double check for debris around the ring and inside tank.



- L. De-burr hole and check for fit.

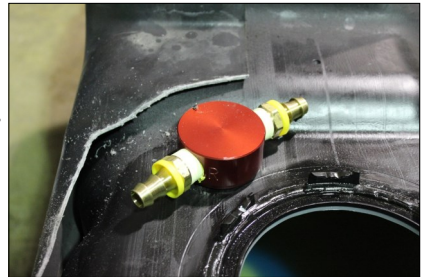


- M. Place the bulk head assembly into the drilled hole, take measurements so the bottom of the suction tube is only 1/8" (no more than 2 quarters stacked) from the bottom of the fuel tank. Using a razor knife, make multiple cuts to insure proper length, it is easy to shave the suction tube with the razor. **It is more efficient to cut the tube too long and then correct to proper length than it would be to cut too short.**

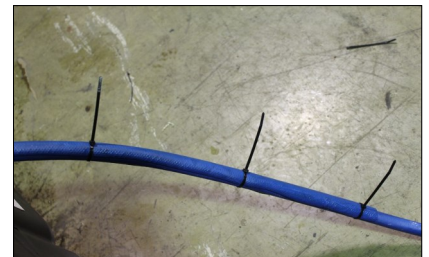


- N. Install Bulkhead with lock washer and nut. Tighten nut securely with a 1-7/8" socket or wrench. Make sure the fittings are unobstructed.

NOTE: Hose clamps are not recommended for push lock fittings. They will hold up to 300psi! Use oil on fittings and inside fuel line when installing Push-Lok fittings.

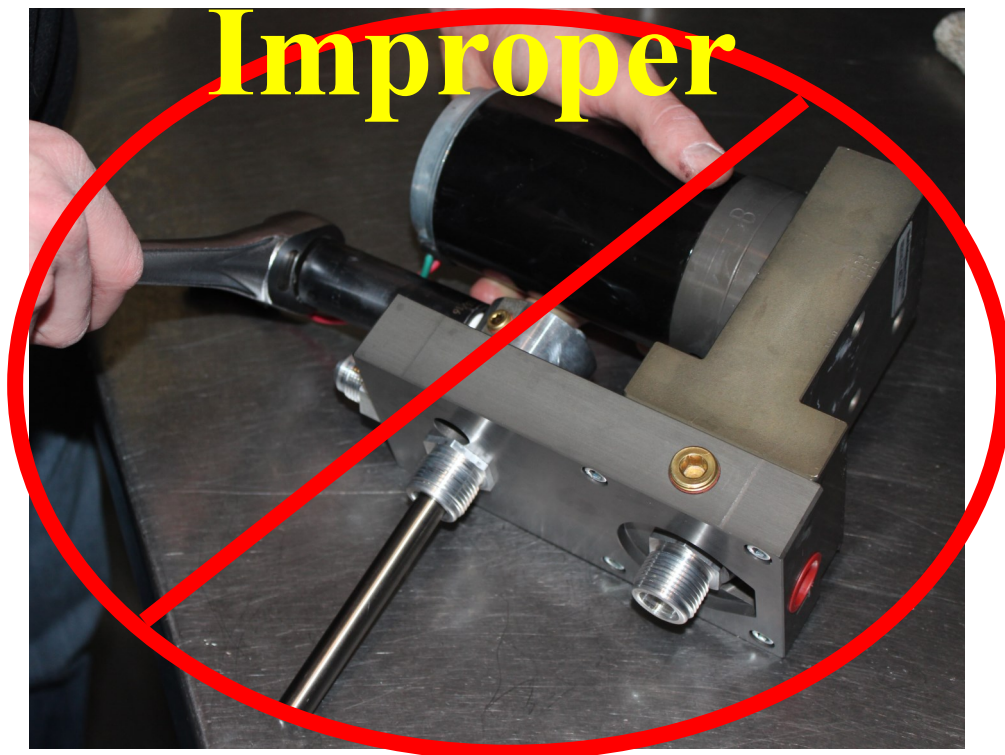
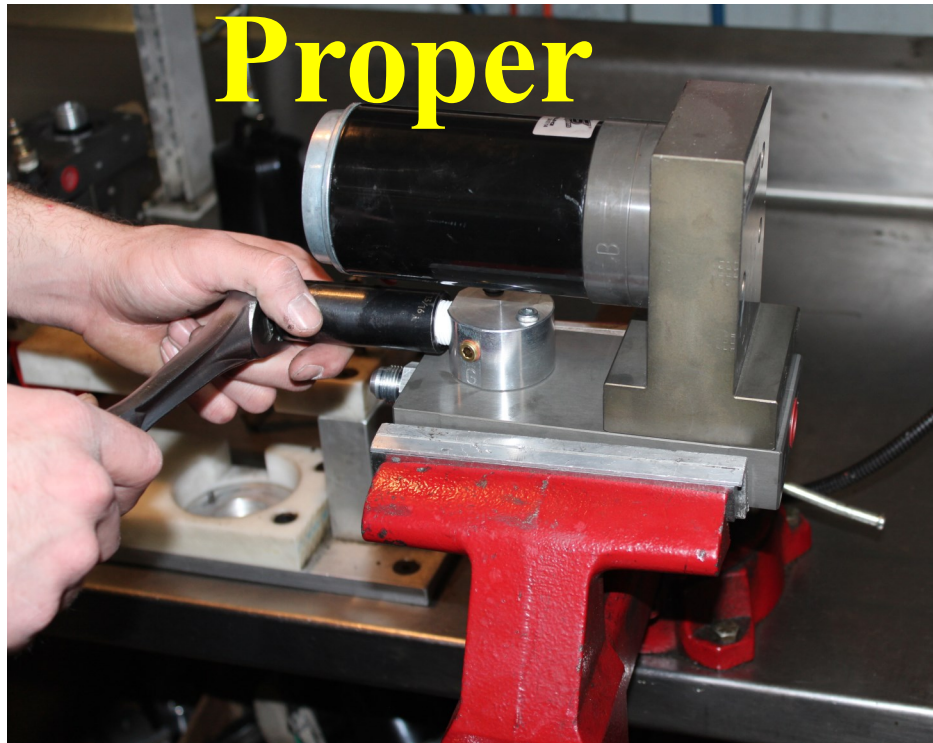


- O. Carefully reinstall install pick up module making sure the leveling arm is not obstructed by the suction tube. Reinstall factory lock ring. Push one end of the 1/2" fuel line onto 'R' port of suction tube assy. & one end of the 5/8" fuel line onto the 'S' port. Do not cut at this time. Cover the return line with spare tubing or similar to protect fuel line from the trimmed fiberglass shell. Reinstall fuel tank making sure to reconnect factory suction line, factory return line, and electrical connections. Route FASS fuel line to prevent pinching. Torque hanger bolts to factory specifications.



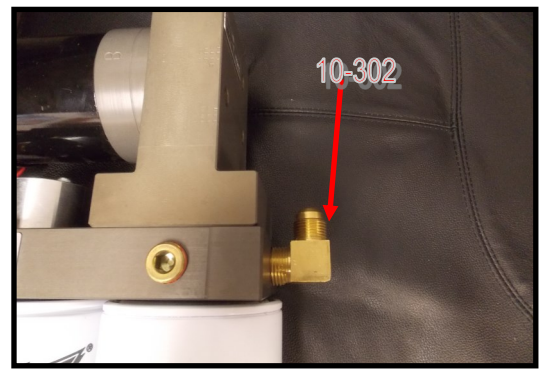
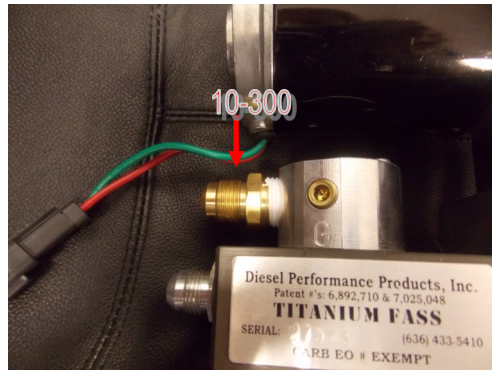
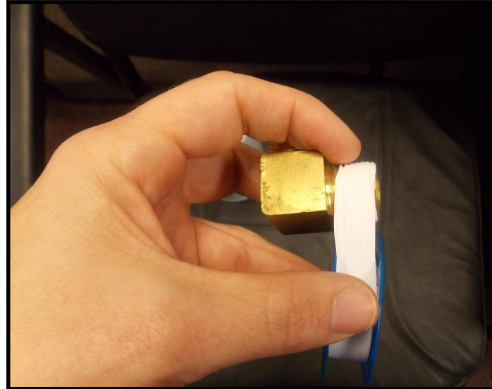
NOTE

ATTENTION: While installing fittings into Titanium pump
DO NOT Apply side pressure to draw
tube of pump

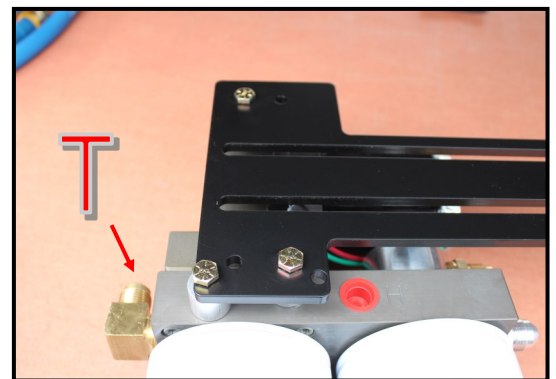
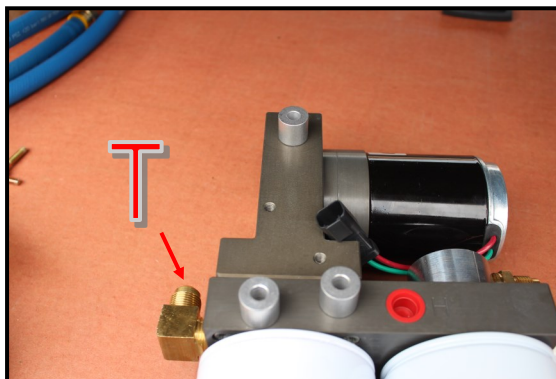


STEP 3: MOUNT FUEL SYSTEM

- A. Using thread tape, install the 10-300 into “E” and the 10-302 into the “T” port (on opposite end). Torque to 40 lb./ft.² **Note: Do Not Put Thread Tape on Flare of Fitting ***The use of thread sealant is not recommended*****

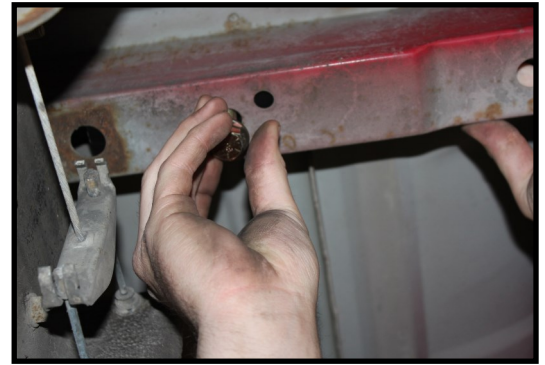


- B. For fitting purposes. Secure PBR-2001 to pump assembly lightly with (3) 1/4"-20x1 3/4 bolts and (3) WA-1001D. Assembly will be used in future steps for correct fitting of brackets. (**Note: Bracket may be flipped to accommodate your application.**)



STEP 3: MOUNT FUEL SYSTEM

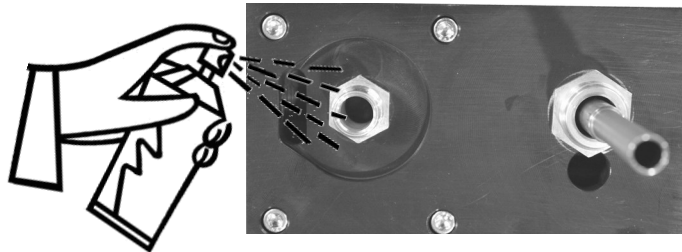
- C. Insert PFB-2002C in to bed channel align the nut with the opening on the channel.



- D. Secure PFB-2002 and RS-2001 with (1) hex bolt 1/2" -20 x 1 1/2" and (1) 1/2" washer to PFB-2002C



- E. Disconnect the factory power plug to the factory lift pump. Plug female plug of the WH-1005 harness into the FASS pump. Reconnect the vehicles battery. Turn key on. With pump operating, liberally spray WD-40 (or equivalent) into Water Separator nipple. This process helps lubricate the gear for easier initial priming.

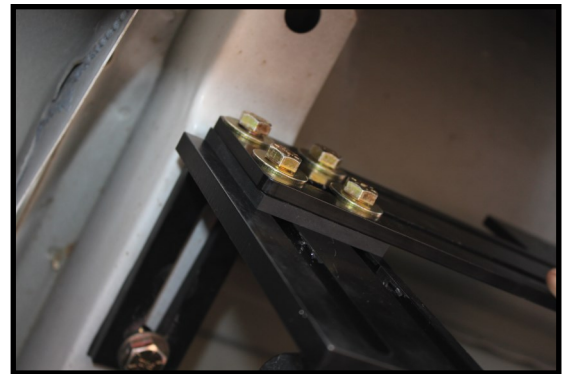
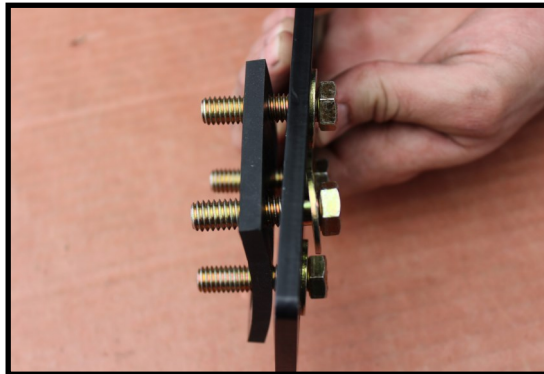


STEP 3: MOUNT FUEL SYSTEM

- F. Position the PBR-2001 to the PFB-2002 pump assembly at the mounting location and check for fit. Once location is established mark location for mounting in next step.



- G. Assemble the FASS pump bracket PBR-2001 using the RS-2002 spacer between PFB-2002 and PBR-2001 bracket with 4-3/8 bolts, nuts, and washers. **Note: Torque bolts not flange nut.**



STEP 3: MOUNT FUEL SYSTEM

- H. Once secure use 3-1 3/4 bolts and 3-WA-1001D spacers to mount the pump to the bracket.



- I. Apply motor oil to gasket located on filters. Attach to system and hand tighten.



Fuel Filter –Install FWS-3003 on side of pump with draw tube in the middle of the filter nipple.



Water Separator Filter –Install FS-1001 on water separator nipple without the draw tube. Make sure to insert O-Ring provided on nipple.

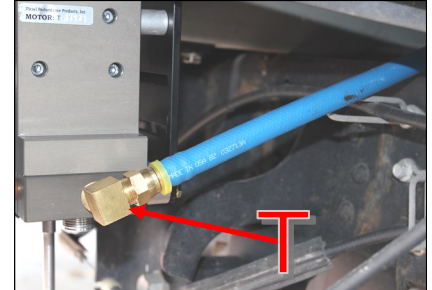
STEP 4: INSTALL FUEL LINE

Do Not use sealant on AN (male flare) fittings. Only use sealant on threads installed into pump assembly.

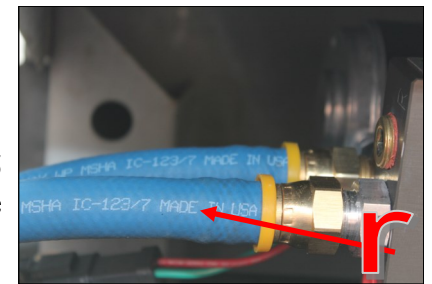
NOTE: After cutting fuel line make sure to blow out lines to keep any debris out of lines

- A. Route suction line from the suction tube assy. to port 'T' on the FASS system. Cut FL-1058 to needed length. Insert PL-1058 using oil. Connect to 10-302 in port 'T'. Torque to 18 ft./lbs.

NOTE: Hose clamps are not recommended for push lock fittings. They will hold up to 300psi! Use oil on fittings and inside fuel line when installing Push-Lok fittings



- B. Route fuel line from the 'R' port of the suction tube assy. to the 'R' port on the FASS system with a gentle bend. Cut and insert PL-1005 using oil. Attach fitting to the 'R' port. Do not use any sealant. Torque to 18 ft./lbs.



- C. Insert PL-1005 into remaining fuel line using oil. Attach fuel line to the 'E' port of the FASS system. Torque to 18 ft./lbs. Route this line to the engine side of the factory lift pump. Do not cut at this time.



- D. Bypass factory fuel pump.



- E. Disconnect factory power to the lift pump. Drain fuel from factory lift pump.

- F. Disconnect the yellow-clipped factory feed at the factory lift pump (refer to diagram at the beginning of step 2).

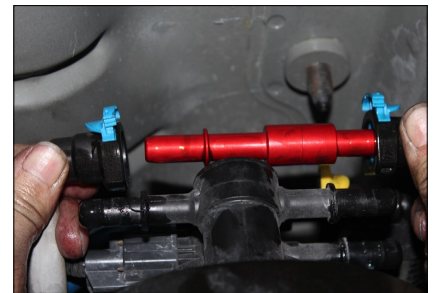


STEP 4: INSTALL FUEL LINE

- G. Measure fuel line from the FASS to the factory **feed** fitting. Cut and insert a PLB-1212 using oil. Oil the PLB and slide into the yellow-clipped factory **feed** fitting until you hear a click. Push down the locking tab.



- H. Disconnect both factory return lines from the factory lift pump (refer to diagram at the beginning of step 2). Insert DB-4646 into each return line fitting until you hear a click and tabs lock.



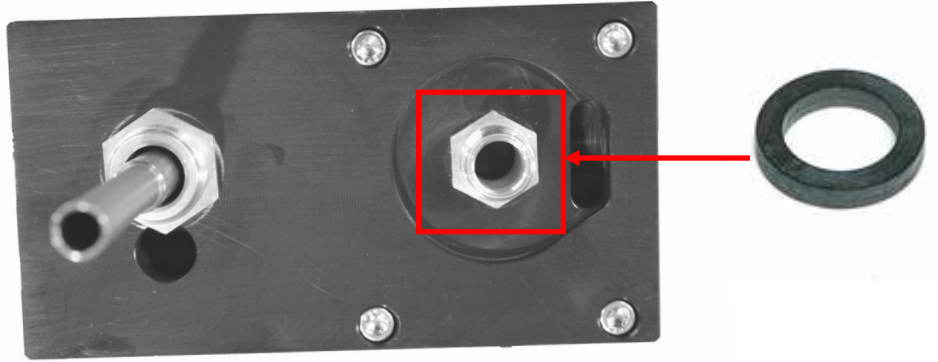
- I. Clean and cap off the factory return ports with the two RVC-38 caps. Clean and cap off the factory feed port with the RVC-12 cap. Seal factory electrical connection with di-electric grease or similar to prevent corrosion.

Note: Secure all fuel lines with cable ties. Cable ties are an economical way to prevent the possibility of problems occurring! The factory suction line can be capped off or removed from the truck. The openings on the filter and tank will need to be capped off to keep debris from getting into lines or canister.

STEP 5: REVIEW INSTALLATION

- Blow out any open lines/cover any open ports
- Bolts and fasteners properly tightened?
- Electrical harness and fuel lines secured and properly tightened? Reconnect the battery.
- Has the system been primed?
 1. Turn key to the ignition position, turning on the FASS pump for 15 sec..
 2. Crank engine and allow to run for at least 1 minute.
- Check for leaks.
- Start the engine
- Recheck all fluid and filter connections for leaks
- This pump comes with a 1 Year Manufacturer's Warranty based on the date it has been manufactured. To receive your extended Lifetime Warranty, you have 30 days from date of purchase to send the completed warranty information along with a copy of the purchase receipt in to Diesel Performance Products, Inc. Att: Warranty 16240 Hwy O Suite B Marthasville, MO 63357

STEP 5: REVIEW INSTALLATION



Note: O-Ring must be put back on suction side of pump. Failure to do so can result in priming issues, cavitation, or pressure losses.

To assist with priming your FASS pump crack the FWS-3003. Put power to the FASS pump to activate the pump. When the tone of the pump changes you can tighten up the fuel filter. If you need a video of the priming process go to www.FASSride.com.



Note: The Red Plastic Plugs located in the “H” ports can stay in place fuel will not flow through these ports. Coolant can be plumbed into these ports to heat the fuel in the Winter months.

LIMITATION OF LIFETIME WARRANTY

Disclaimer: To help insure you receive the proper system and customer support at the local level, FASS has a VIP and Authorized Dealer network representing FASS products. This is one reason you must purchase through a dealer to comply with our warranty policies. If you do not, there is no warranty! We recommend you go to www.FASSride.com, click "Find a Dealer", put in their ZIP code, select the type of dealer, and see if the company you purchased from is listed. If they are not, put their phone number in the field below the ZIP code field to see if they are listed. Below these two fields is a list of "Terminated/Unauthorized" dealers. You may want to review this list. If the company is not listed or is on the "Terminated/Unauthorized" list, we suggest you return the product immediately to that dealer and call FASS. We'll recommend you to the nearest dealer.

Diesel Performance Products, Inc. (hereafter "SELLER") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of SELLER'S product sold herewith. The SELLER shall be in no way responsible for the product's open use and service and the BUYER hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by a written instrument signed by SELLER and BUYER.

When MANUFACTURER receives the "ORIGINAL" PRODUCT REGISTRATION form with a copy of the "BILL OF SALE/SALES RECEIPT" within 30 days of the sale, then the following applies! The Warranty will then and only then be validated to that of which typically accompanies your unit for your specific application from the date of sale or for recommended service life and limited solely to the original purchaser and/or vehicle and parts contained within the product's kit. This warranty does not cover normal wear on consumable items such as but not limited to filters, fuel line, wire harness & etc. The warranty does not cover seized gears due to lack of filtration. Warranty is voided if used with other than diesel fuel. Returned items will arrive prepaid to the place of purchase. Diesel Performance Products, Inc. will repair, without cost, any product found to be defective during the warranty period; parts only, or at its option, will replace such products in exchange for the product. Repair or replacements are warranted for the remainder of the original warranty period. All Warranty claims are subject to approval by Diesel Performance Products, Inc.

A Return Material Authorization (RMA) number must be obtained before any product is to be returned to Diesel Performance Products, Inc. for warranty consideration, repair or product return. Requests for product returns must be offset by an equal value order. Return parts must be completed and in resalable condition. No returns after 30 days.

The following information is required to obtain a RMA number before returning product:

Your Name, Address, and Phone Number's
Model and Serial Number (Not Motor Number) Example: Model HD Series, Serial: 00125966
VIN Number of Vehicle
Date of Purchase
Nature of Problem

RMA and Product Serial Number must be on all paperwork and correspondence. Failure to obtain the required information or paperwork will result in \$25.00/item penalty and delay or denial of any warranty claim.

Under no circumstances shall the SELLER and/or MANUFACTURER be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expenses.

Under no circumstances shall the SELLER and/or MANUFACTURER be liable for any damage or expenses insured by reason of the use or sale of any such equipment. This warranty does not apply to products which Diesel Performance Products, Inc. has determined to have been misused or abused, improperly maintained by the user, or where the malfunction or defect can be attributed to the use of non-genuine Diesel Performance Products, Inc. parts.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT: THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN THIRTY (30) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND LESS SHIPPING.

THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.

Technical Support:

Diesel Performance Products, Inc.
16240 State Hwy O Suite B
Marthasville, MO 63357
636-433-5410

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