FASS Diesel Fuel Systems

TITANIUM SIGNATURE SERIES

INSTALLATION MANUAL

ALL 1/2" FUEL PORTS



APPLICATION:

TS-C10-250G
(250GPH @ 8-10PSI)
TS-C10-290G
(290GPH @ 8-10PSI)

DESIGNED, MACHINED & ASSEMBLED IN THE USA

DURAMAX 2500 & 3500
2001-2016

NOTE: Cab and Chassis may require modifications

LIFETIME WARRANTY AVAILABLE

FASS DIESEL FUEL SYSTEMS® / ENGINEERED EXCELLENCE

Thank you for choosing FASS, from Diesel Performance Products, Inc.

FASS specializes in building extremely high-quality fuel products. We have earned an unsurpassed reputation for excellence in our industry by using only the highest-quality American-made components. In order to support our American workers and our American economy, more than 98+ percent of our products are manufactured completely in the United States.

Of course, that dedication to excellence comes at a price, but it is important to remember that price does not dictate quality-quality dictates price! We will never compromise by using cheaper, foreign-made components, like so many of our competitors do.

Customer satisfaction is our top priority and we strive always to provide outstanding customer service. Our Research and Development department, in conjunction with our Dealer Support Department, continually searches for ways to improve quality, expand our product line, and provide superb support. Our exclusive ViP Network ensures that customers receive the proper products and support at the local level. The extended lifetime warranty is only available on products purchased from the network. There is no warranty on products not purchased outside the network.

IMPORTANT:

In order to qualify for the lifetime warranty, your product registration form and proof of purchase from an authorized dealer must be submitted to FASS Fuel Systems within 30 days of purchase. Failure to comply will void the warranty. We have the right to deny any warranty believed to be false, altered or purchased through an unauthorized or terminated dealer. A current list of authorized dealers can be found on our website, FASSRide.com.

The complete conditions of the Limitation of Warranty can be found in the back of this manual, and FASSRide.com.

**For more information,
contact Technical Support:
Diesel Performance Products, Inc.
16240 State Hwy O. Suite B
Marthasville, MO 63357
636-433-5410**

www.fassride.com
(866) 769.3747



WARNING!

This product has NO WARRANTY unless:

1. It has been purchased from an Authorized or ViP FASS Dealer. If in doubt, check www.FASSRide.com.

2. It is registered within thirty (30) days of purchase.

Other conditions may apply. Please see full warranty information.

NOTE: **Warranty is void if product was purchased below FASS website advertised pricing.**

ATTENTION!

Before you begin installation

Register for your Warranty ONLINE at

https://www.fassride.com/register-a-warranty/

No online access, call our TECH Support at

1-866-769-3747

www.fassride.com
(866) 769.3747

FOLLOW THESE STEPS TO ENSURE A SIMPLE, CORRECT INSTALLATION OF YOUR NEW TITANIUM FUEL SYSTEM

ATTENTION:
Be sure to identify the proper FASS System and fuel line configuration. For help, our product finder can be found at www.FASSride.com. Follow the instructions to see fuel line detail.

1. Be sure the serial number on this installation manual matches that on the outside of the box.
2. Pay close attention to ALL WARNINGS
3. Read all instructions before starting installation of this product.
4. Inventory the package components. Notify the place of purchase immediately of any parts missing or damaged.
5. The installation recommendations contained herein are guidelines. Use good judgment and take into consideration your vehicles' accessories.
6. 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 or problem arises during the installation, the dealer is prepared to handle it. Diesel Performance Products, Inc. is not responsible for any installation mistakes.
7. If you have any questions or concerns that cannot be addressed with your dealer, email or call FASS.

If any installation procedure is uncertain, contact FASS technical support. Call customer service at 636-433-5410, or send us an e-mail: techsupport@FASSride.com with the following information:

Your name, address and daytime phone number
Model (TS-C10-250G) or (TS-C10-290G)
Serial Number
Last 6 digits of vehicles' VIN

Date of purchase
Nature of Your Concern
Serial number



www.fassride.com
(866) 769.3747

INSTALLATION MANUAL

TS-C10-250G or TS-C10-290G

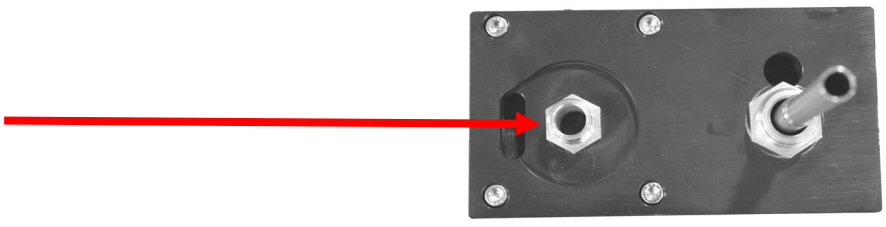
(Installation Videos are available at www.fassride.com)

Recommended Application

TS-C10-250G: *Duramax 2001-2016 with extreme horsepower modifications*

TS-C10-290G: *Duramax 2001-2016 with extreme horsepower modifications*

1. ***Read all instructions before starting installation of this product!***
2. ***Installing the improper FASS Pump can cause severe engine damage.***
3. ***Secure vehicle from ROLLING!***
4. ***Cab and Chassis may require modifications***
5. ***Consult vehicle's manufacturers' instructions concerning the electrical system before attempting any electrical connections.***
6. ***Be sure that the serial # on this installation manual matches that of the outside of the box.***
7. ***Flush and clean all brass fittings and fuel line from debris.***
8. ***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.***



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

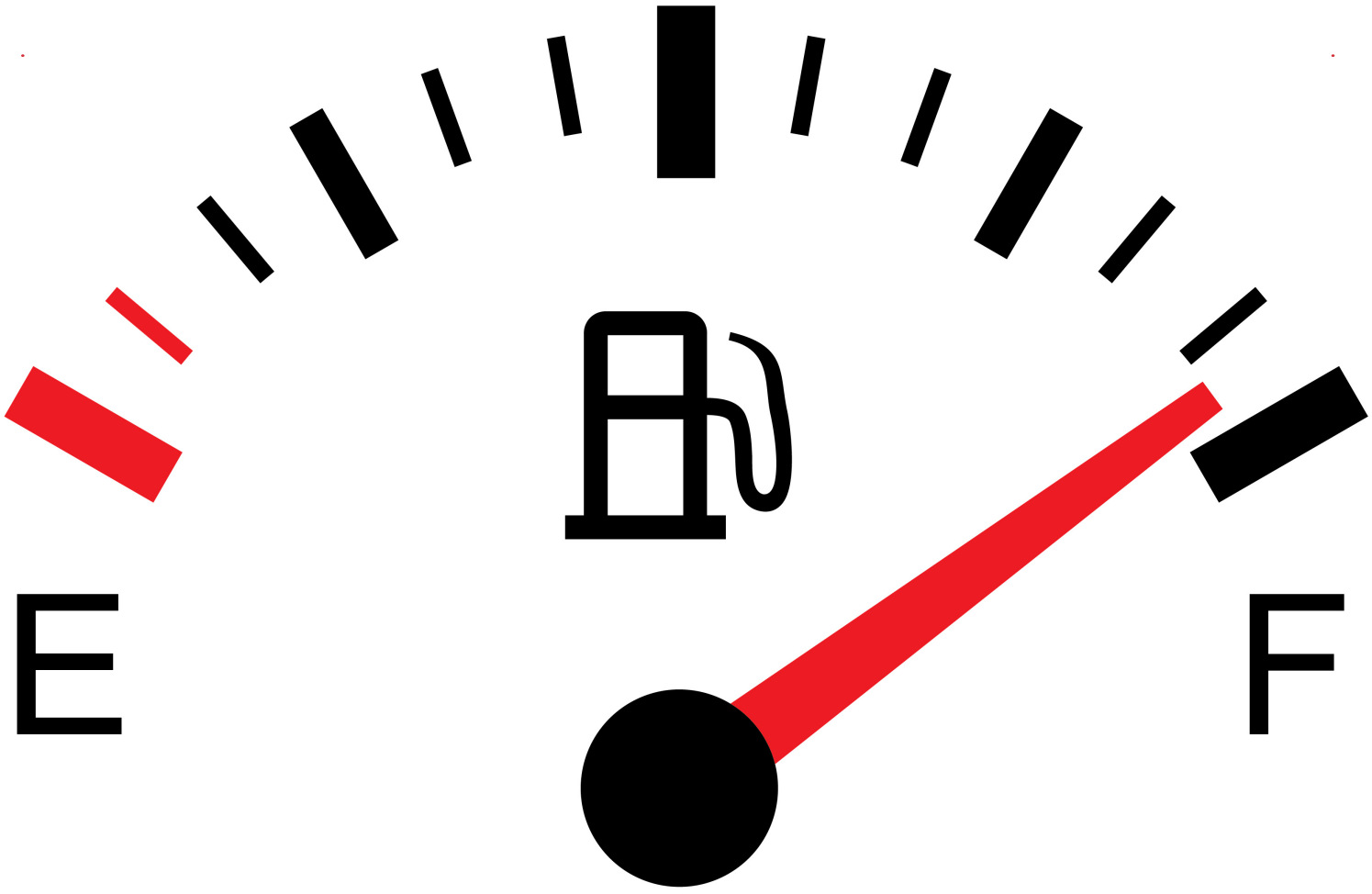
BEFORE STARTING THE INSTALLATION PROCESS LUBRICATE THE BED BOLT WITH WD-40 TO HELP WITH INSTALLATION

www.fassride.com
(866) 769.3747



WARNING!

Always be sure to fill the fuel tank to full after a new FASS installation. Failure to do so can result in excessive sound output, or priming issues!



TITANIUM
Signature SERIES
250GPH or 290GPH

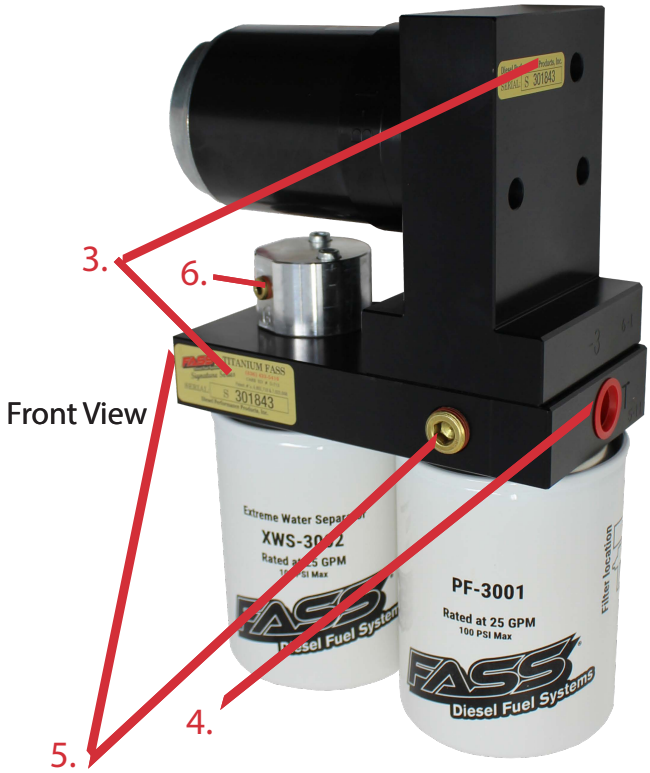
8-10 psi (Approximately)

www.fassride.com
(866) 769.3747

Rear View



Front View



PUMP GUIDE:

1. "E" To Engine
2. "R" Return to Tank
3. Serial Number
4. "T" Fuel Inlet
5. Electric Heater Ports
6. "G" Gauge Port

INSTALLATION GUIDE:

Step 1. Install Electrical Harness
Step 2. Prep the FASS
Step 3. Mount the FASS
Step 4. Fuel Line Supply
Step 5. Review Installation

FASS Diesel Fuel Systems

www.fassride.com
(866) 769.3747

TITANIUM SIGNATURE SERIES 250 GPH or 290 GPH

8-10 PSI (Approximately)

Note: Going over 80 PSI WILL void warranty.

NOTE: WARRANTY MAY BE VOID IF SILICONE BAND IS REMOVED FROM MOTOR!!

The silicone band is in place to retain motor wires, preventing damage to the electric motor.



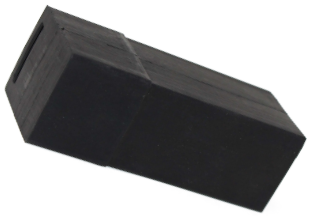


www.fassride.com
(866) 769.3747

CONTENTS

NOTE: ***Owner's Manual available for download on our website,***
www.FASSride.com





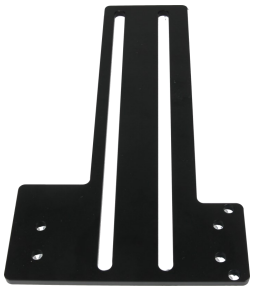
RELAY COVER



MP-9046



FL-1058 x 3'



PBR-2001



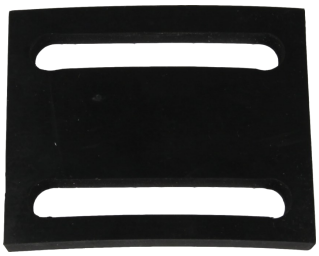
PFB-2002



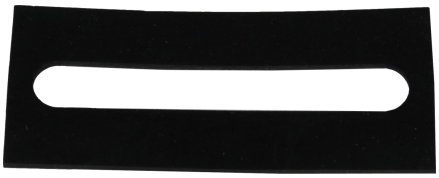
WH-1006-3



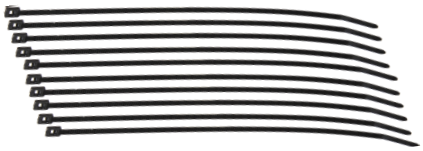
FL-1002 x9'



RS-2002



RS-2001



Cable Ties



ST-1005Px16"

www.fassride.com
(866) 769.3747

MOUNTING PACKAGE CONTENTS



BHF-1002



A614C56-55-05



TWO (2) PL-10055



PL-1010



BHN-1001



LW-1001



PL-1058



46116



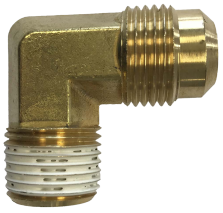
46260



46117



PL-1004



10-302



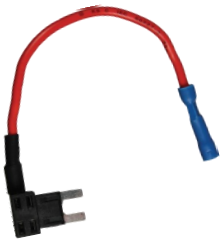
10-300



TWO (2) RING TERMINAL



OR-223



46044



FOUR (4) HEX BOLT 3/8" -16x 1 1/2"



THREE (3) HEX BOLT 1/4" -20x1 3/4"



FOUR (4) LOCKING NUT 3/8"



HC-1001



THREE (3) WA-1001D



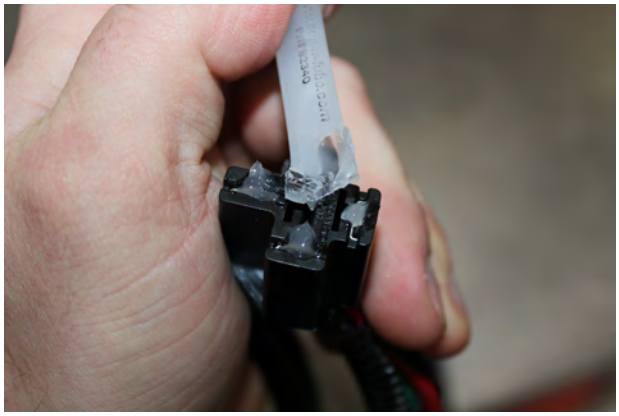
FOUR (4) 3/8" WASHERS

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.

NOTE: USE SUPPLIED DIELECTRIC GREASE SPARINGLY ON ALL ELECTRICAL CONNECTIONS! BE SURE TO GREASE RELAY PIGTAIL!



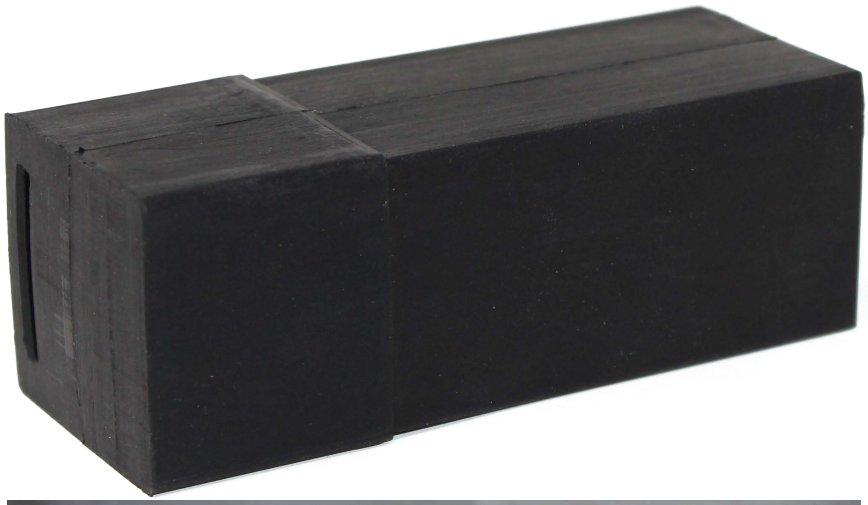


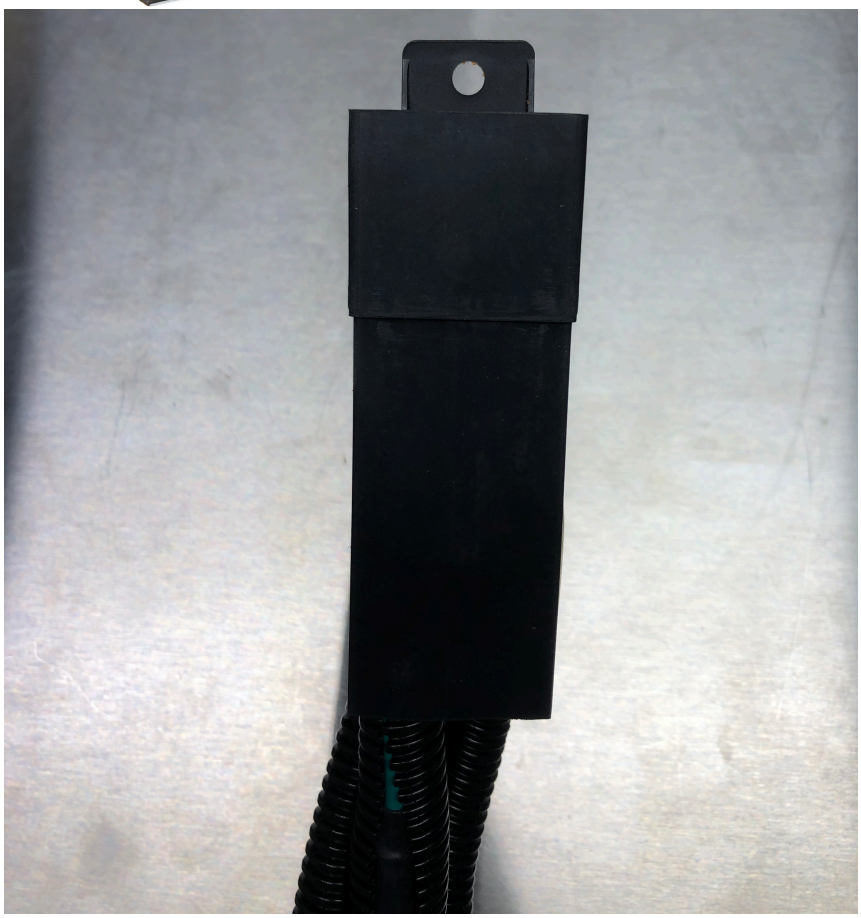


STEP 1:
INSTALL ELECTRICAL HARNESS

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

Install the Relay Cover onto the relay on the FASS harness.



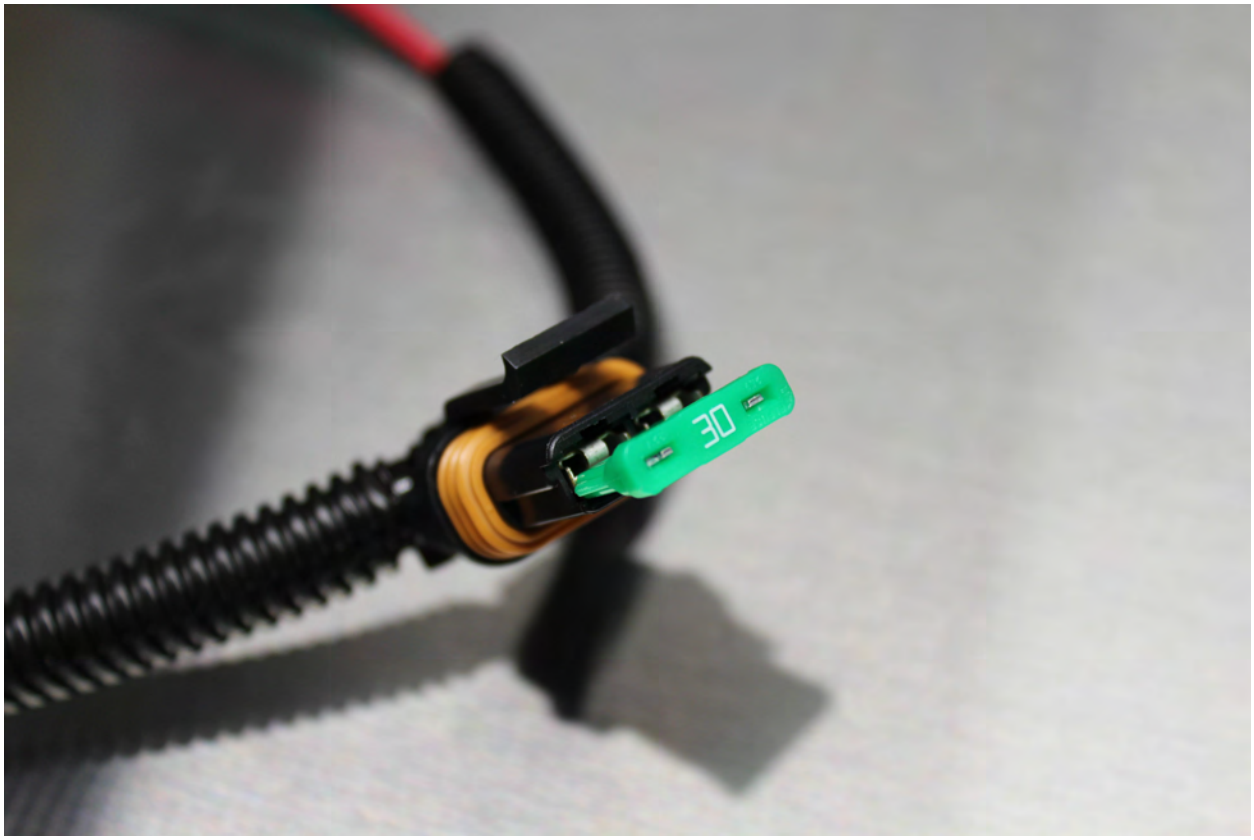


STEP 1:
INSTALL ELECTRICAL HARNESS

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

NOTE: BE SURE TO INSTALL THE SUPPLIED 30 AMP FUSE INTO THE FASS WIRING HARNESS!!





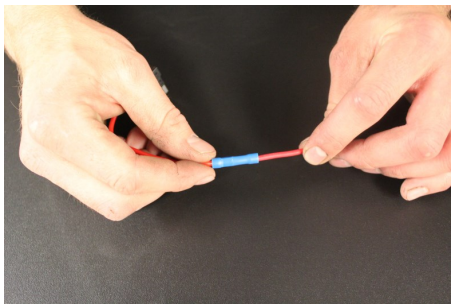
STEP 1:
INSTALL ELECTRICAL HARNESS

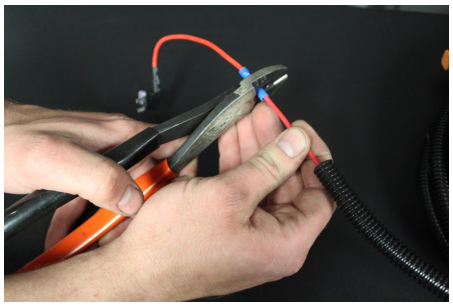
The installation of the electrical harness should be completed first. This will allow power to be applied to the pump during installation.

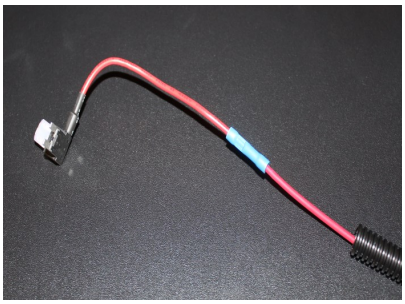
A. Using wire stripping tool remove excess insulation off of the add-a-fuse (for 2001-2014 use 46044, for 2015-2016 use 46177) and the WH-1006-3.



B. Place wire from add-a-fuse and WH-1006-3 into butt connector. Using crimping tool connect add-a-circuit and WH-1006-3 with butt connector. Install appropriate fuse into top slot (opening that is near the spade).





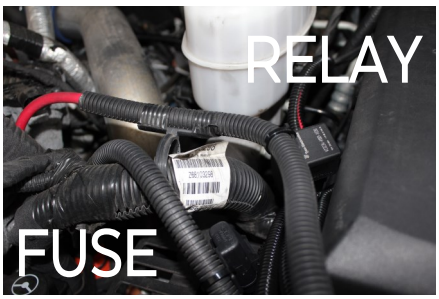


C. Crimp the ring terminals to the red and green wires of the WH-1006-3 Wire Harness. Attach red wire to the positive terminal of the battery and the green terminal to the negative terminal. The use of a corrosion preventative on electrical connections is recommended.



STEP 1:
INSTALL ELECTRICAL HARNESS

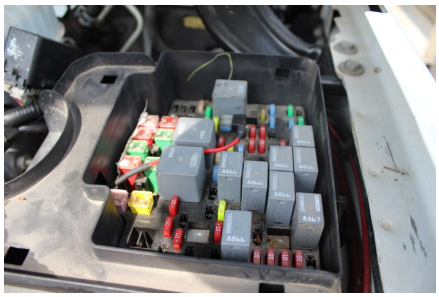
D. Secure relay and fuse in an upright position, as shown, to prevent moisture from entering. Apply dielectric grease to relay pigtail.

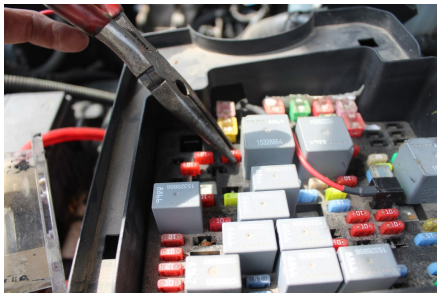


E. If fuse panel is located in the cab it will be necessary to guide the single red wire from the relay through the fire wall grommet to access the fuse panel.



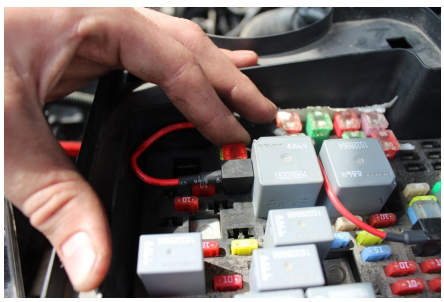
F. Locate fuse box under hood and select ignition hot fuse. Remove fuse and put Add-A-Fuse in place. Install fuse previously removed. The use of a corrosion preventative on electrical connections is recommended.







G. Route WH-1006-3 wire harness along frame rail to mounting location of pump. Completion of this step will be addressed in the Mounting Step 3.



STEP 2:
PREPARE SUCTION & RETURN LINES

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

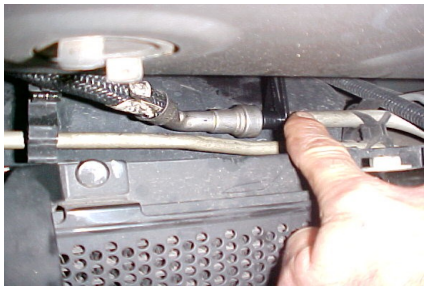
A. Before tank is removed or moved, identify ALL areas of clearance between the tank and the truck's bed for the best location to install the BHF assembly. With proper clearance, you want to install it as close to the Fuel sending unit as possible.



B. Remove the 3 bolts holding the fuel cooler to the mounting bracket. The fuel cooler is located in front of the fuel tank.



C. Using a fuel line disconnect tool, disconnect the factory suction line located above the fuel cooler. Place the disconnect tool around the fuel tube and slide the tool under the fuel line connection to release the fuel line. Pinch in tabs on 2011-2016.



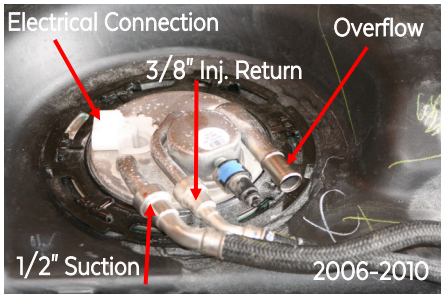


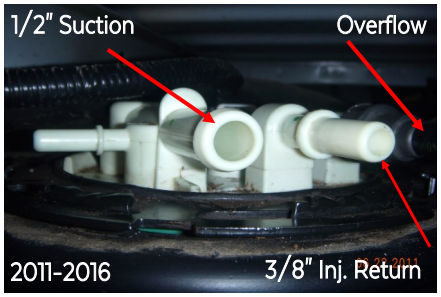
STEP 2:
PREPARE SUCTION & RETURN LINES

D. Remove filler neck tube and over-flow tube from the top of the fuel tank by loosening clamp. Some models have an integrated filler neck. If your over-flow is integrated, be careful not to hang up the internal flow tube when lowering the tank.



E. Disconnect electrical harness. Using disconnect tools, remove factory suction & return lines from fuel module. Pinch in tabs on 2011-2016. Disconnect overflow tube. You can now remove the fuel tank. To gain access to the top of the fuel tank, if necessary, carefully bend the sheet metal down that is covering the side.





F. Remove the lock ring on top. Remove Fuel Module. Be careful not to bend the Fuel Level float. Now is a good time to find a cap to cover the 1/2" suction port on the Fuel Module. Choose location of BHF assembly





G. Using a cup, reach inside the tank under the hole location to catch debris. Drill a 1 3/8" hole. Remove debris from top of tank.



STEP 2:
PREPARE SUCTION & RETURN FUEL LINES

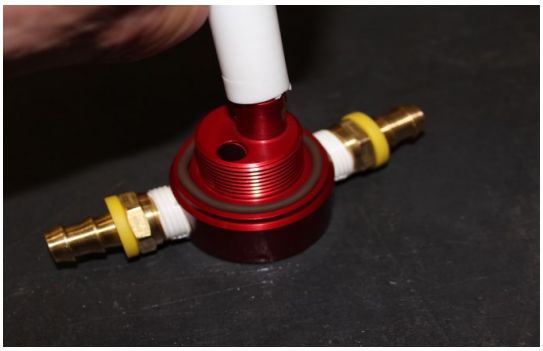
H. Use blocks or similar to support tank during measurement, simulating tank "hanging" by the straps. Failure to do so may result in a short draw tube.



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

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

PL-1004 DOES NOT REQUIRE THREAD TAPE



J. Place the suction tube assembly into 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. Before cutting the suction tube, triple check the measurements. It is more efficient to cut the tube too long and then correct to proper length than it would be to cut too short.



STEP 2:
PREPARE SUCTION & RETURN FUEL LINES

K. With proper length being obtained with the suction tube, de-bur and flush assembly. Slide tube through hole, lock washer, and nut. Make sure O-ring on bottom of bulkhead fitting remains in it's groove. With BHF-1002 properly seated against tank, tighten nut.



L. Carefully re-install pick up module. Do not bend Fuel Level float.



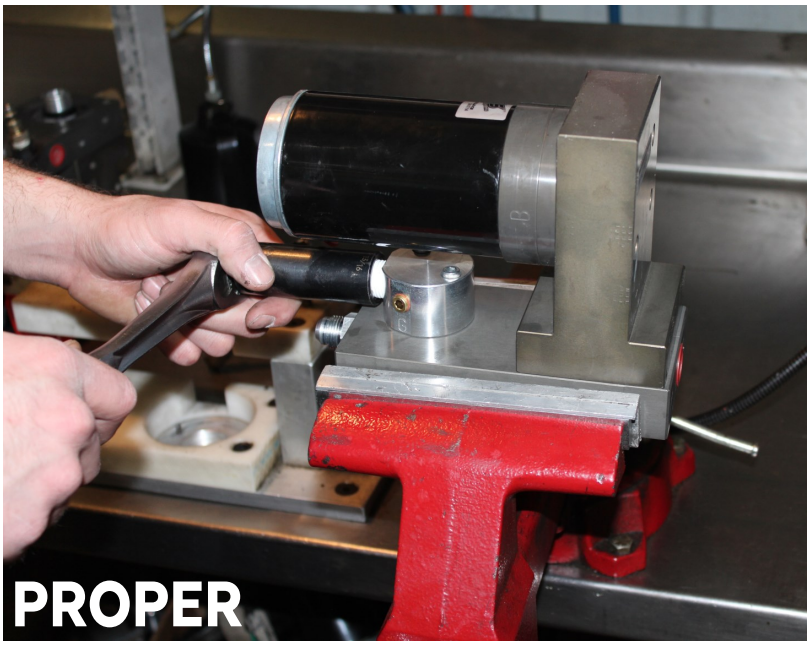
M. Attach 5/8" fuel line to PL-1010 and the 1/2" fuel line to the PL-1004. Remember to oil the fitting and fuel line. Loop fuel line over frame rail when reinstalling fuel tank. Do not cut at this time.

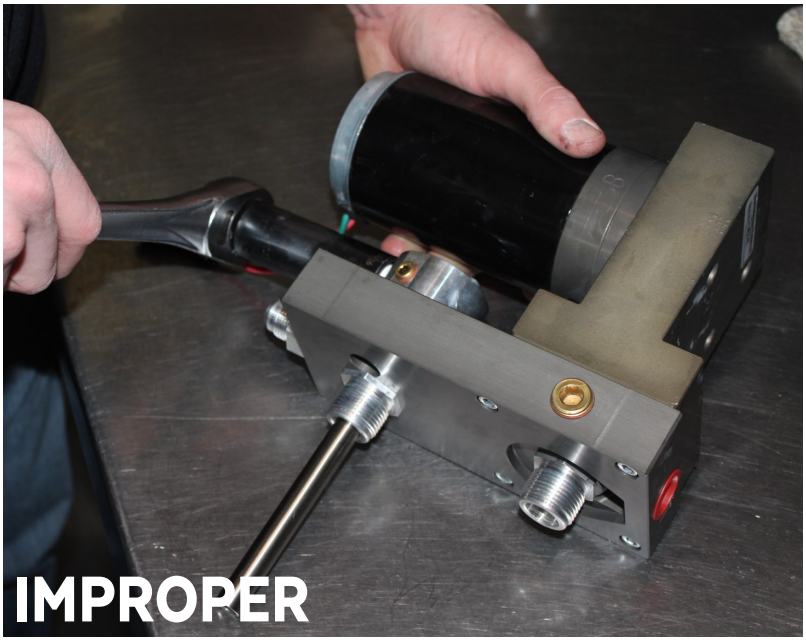


N. Reinstall fuel tank. Remember to reconnect factory suction, factory return line, and electrical harness. Torque tank hanger bolts to proper specifications. Reattach filler neck and clamps.

NOTE:

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





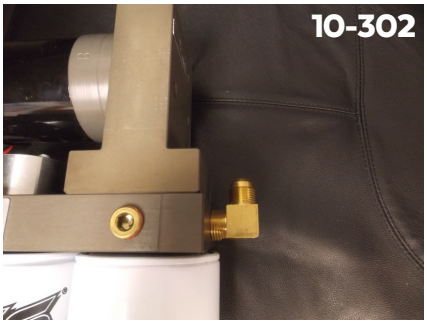
STEP 3:
MOUNTING THE FASS

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

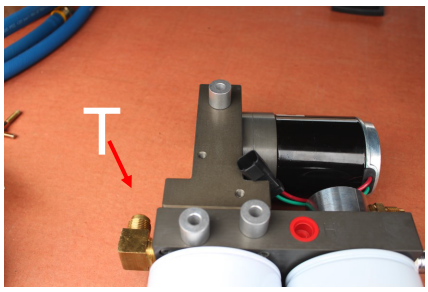
A. Install the 10-300 into "E" and the 10-302 into the "T" port of the FASS, torque to 18 ft./lbs. ***FITTINGS THAT ARE PRE-EQUIPPED WITH THREAD SEALANT DO NOT REQUIRE THE ADDITION OF THREAD TAPE***

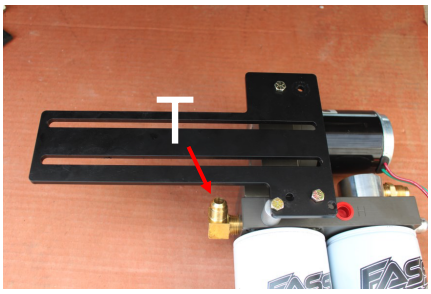




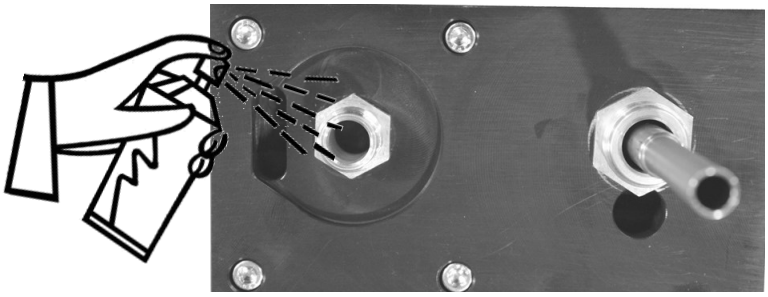


B. For fitting purposes. Secure PBR-2001 to pump assembly lightly with (3) 1/4"-20x1 3/4 bolts and (3)WA-1001D. This will assembly will be used in future steps for correct fitting of brackets. (Note:Bracket maybe flipped to accommodate your application.)





C. Connect female plug of the FASS harness into pump. Turn key to "on". With pump operating (you may have to bump the starter), turn pump over, liberally spray WD-40 (or equivalent) into water separator nipple lubricating Gerotor.



STEP 3:
MOUNTING THE FASS

D. Unbolt driver side front bed bolt from bed retain bolt for future use. Align RS-2001 with PFB-2002.





E. Secure PFB-2002 and RS-2001 with bed bolt in previous step.





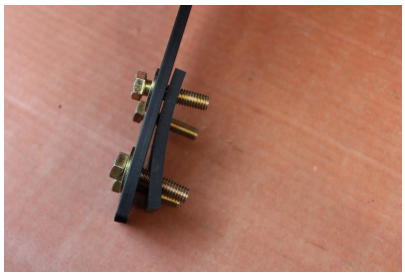
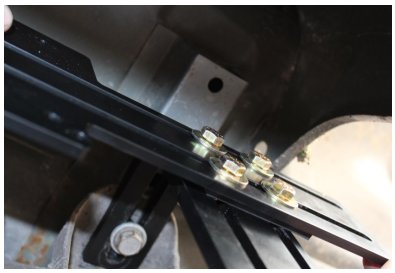
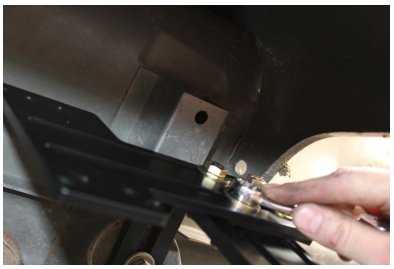
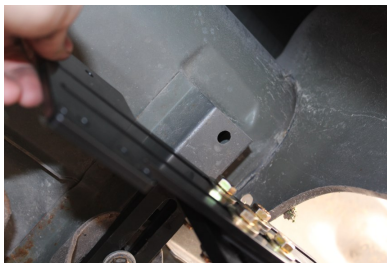
F. Position the PBR-2001 to the PFB-2002 pump assembly at the mounting location and check for fit. Once location is established mark location for mounting in next step.



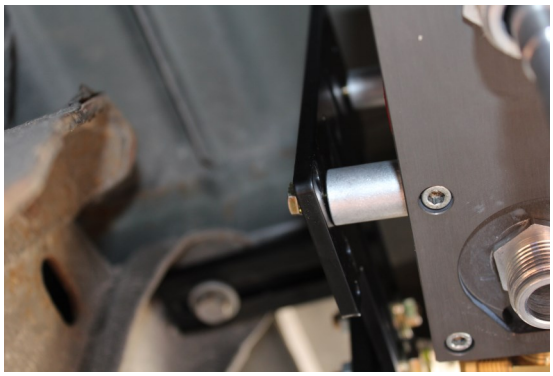
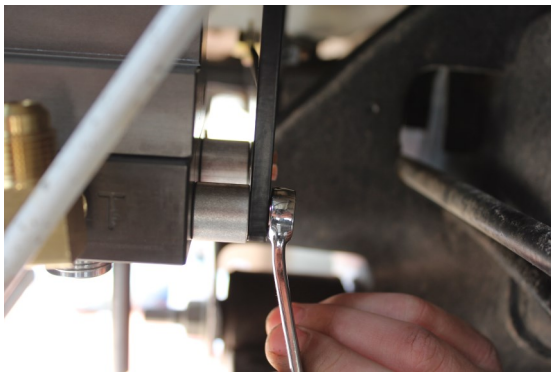


STEP 3:
MOUNTING THE FASS

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.

H. Once secure use (3)1 1/2 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.



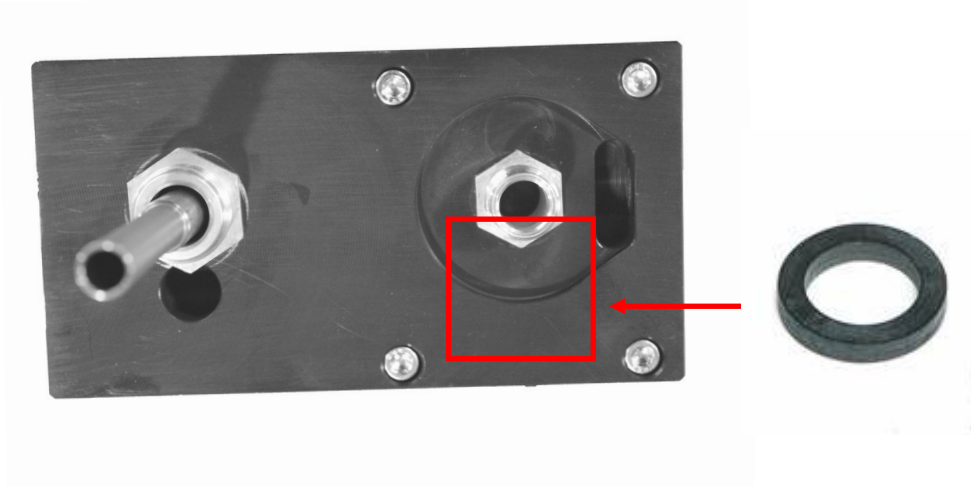
www.fassride.com
(866) 769.3747

STEP 3:
MOUTING THE FASS

Extreme Water Separator - Install XWS-3002 on side of pump with draw tube in the middle of the filter nipple.



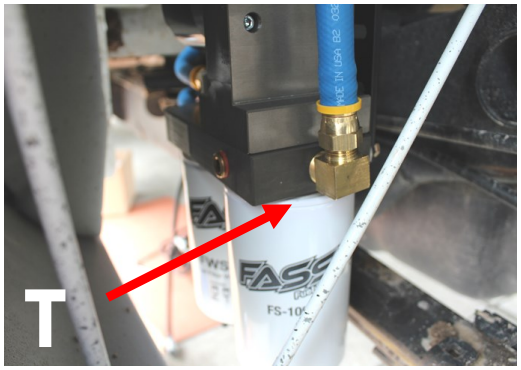
Particulate Filter -Install PF-3001 on filter nipple without the draw tube. Make sure to insert O-Ring provided on nipple.



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

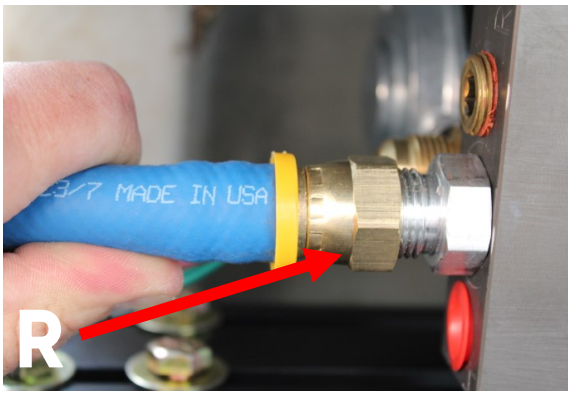
STEP 4:
INSTALL FUEL LINES

A. Route suction line from the suction tube to the 'T' port of the FASS pump. Cut FL-1058 to length. (measure twice cut once) Insert PL-1058 using oil. Attach to 10-302. Torque to 18 ft./lbs.

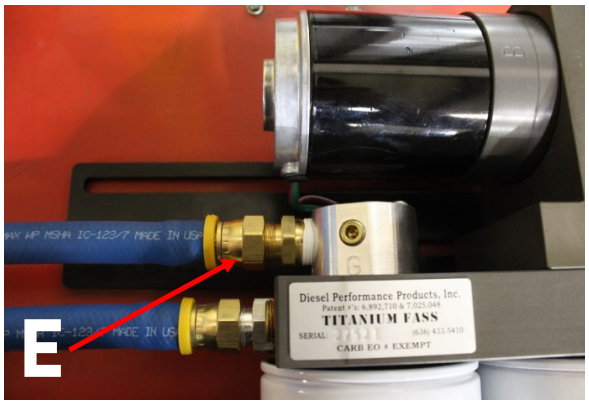


NOTE: Hose clamps are not recommended for push lock fittings. They will hold up to 300psi! Use oil on fittings and inside fuel line when installing Push-Lok fittings

B. Route fuel line from the 'R' port of the suction tube to the 'R' port on the FASS system with a gentle bend. Cut and insert the PL-1005 fitting in the hose using oil. Attach fitting to the 'R' port. Torque to 18 ft./lbs.

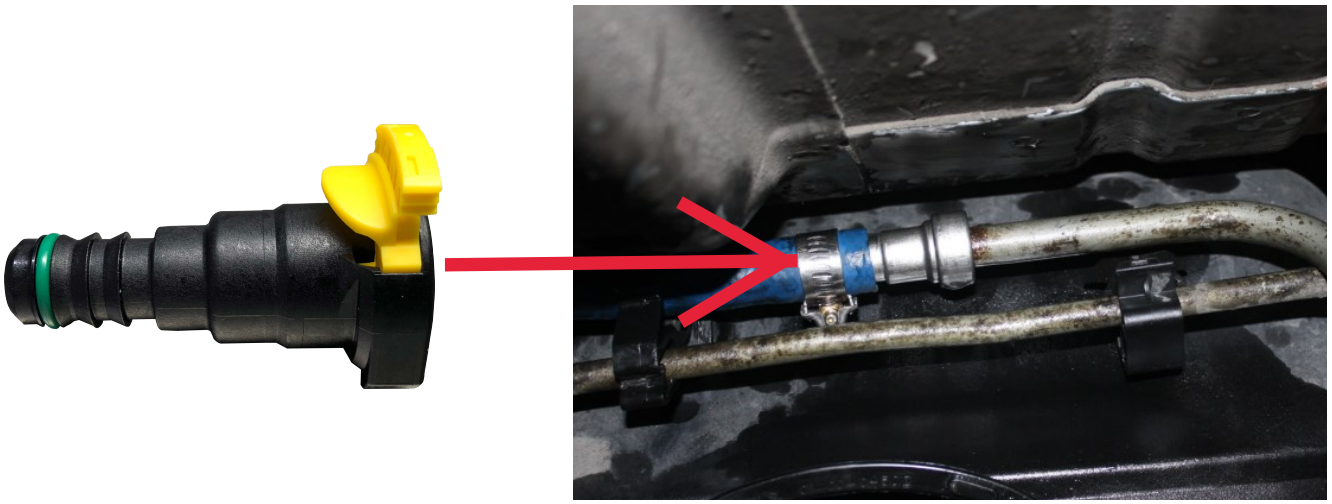


C. Insert PL-1005 in remaining fuel line using oil. Connect to the 'E'' port of the FASS system. Torque to 18 ft./lbs. Route this fuel line to the factory fuel line feeding the engine. This fuel line is located be-hind the fuel cooler, discussed in Step 2c.



STEP 4:
INSTALL FUEL LINES

D. Cut FL-1002 fuel line to length and install A614C56-55-05 using a HC-1001. Oil O-rings inside A614C56-55-05 and slide onto steel line until you hear a click. Press the locking tab of A614C56-55-05. Cap or plug factory suction line.



E. Reattach the 3 bolts holding the fuel cooler to the mounting bracket. If necessary, rebend sheet metal that allowed access to the top of the fuel tank.



Note: Secure all fuel lines with cable ties. Cable ties are an economical way to prevent the possibility of problems occurring!

www.fassride.com
(866) 769.3747



Fuel System Must Be Flushed!

To ensure no foreign debris has entered the fuel system, you must remove the engine feed line at the engine connection, power the FASS on and allow fuel to flush all fuel lines into a bucket.

FAILURE TO PERFORM THIS FLUSH CAN RESULT IN DAMAGED FUEL INJECTION SYSTEM COMPONENTS!

STEP 5:
REVIEW INSTALLATION

*****The factory suction line can be capped off or removed from the truck.*****

To assist with priming your FASS pump crack the FF-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.

STEP 5:
REVIEW INSTALLATION

1. Blow out any open lines/cover any open ports
2. Electrical harness and fuel lines secured and properly tightened? Reconnect the battery.
3. Has the system been primed?
    a. Turn key to the ignition position, turning on the FASS pump for 15 sec..
    b. Crank engine and allow to run for at least 1 minute.
4. Check for leaks.
5. Start the engine
6. Recheck all fluid and filter connections for leaks
7. 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 register online at https://www.fassride.com/register-a-warranty/

www.fassride.com
(866) 769.3747

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.

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 PROMPLY 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.

®FASS Diesel Fuel Systems is a Registered Trademark of Diesel Performance Products, Inc. © Copyright 2016, Diesel Performance Products, Inc.

NOTES:

NOTES: