FASS Diesel Fuel Systems

TITANIUM SIGNATURE SERIES

INSTALLATION MANUAL

ALL 1/2" FUEL PORTS



APPLICATION:

2016-2020 Chevy Colorado 2.8L Duramax
&
2016-2020 GMC Canyon 2.8L Duramax

TSC14140F110G
(110GPH @ 70-75PSI)

DESIGNED, MACHINED & ASSEMBLED IN THE USA

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 extended 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 (TSC14140F110G)
Serial Number
Last 6 digits of vehicles' VIN

Date of purchase
Nature of Your Concern
Serial number



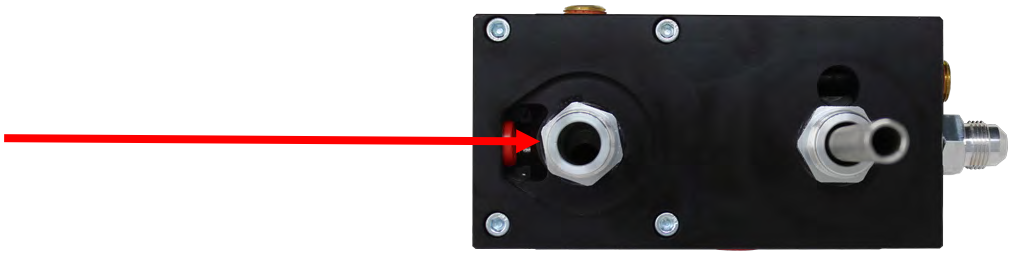
www.fassride.com
(866) 769.3747

INSTALLATION MANUAL
TSC14140F110G

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

Recommended Application
TSC14140F110G: *2016-2020 Colorado/Canyon 2.8L Duramax with up to 700 horsepower*

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 at-tempting 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.**



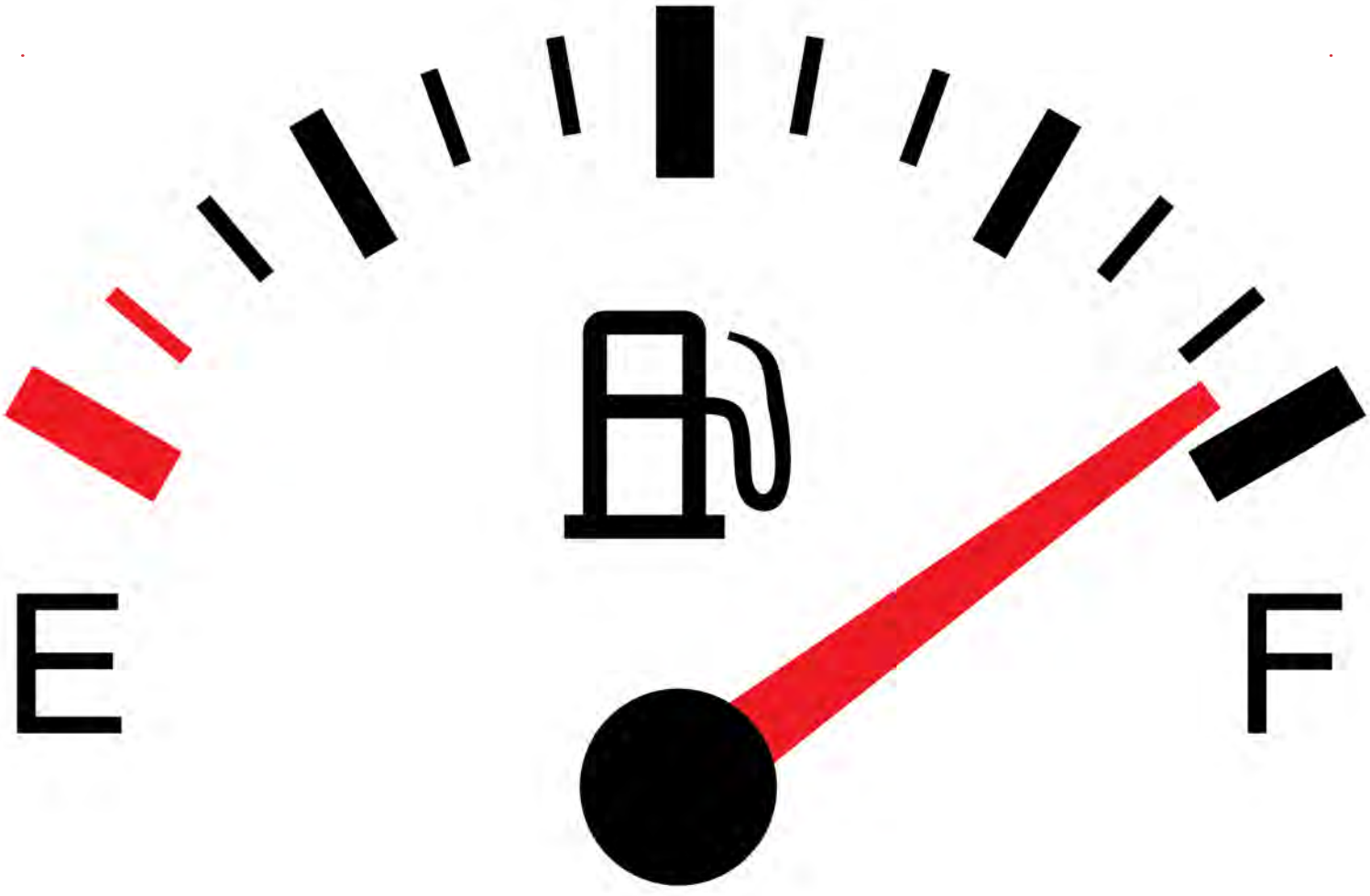
9. **Wear safety glasses when operating power tools such as drills and grinders or when using a punch or chisel.**
10. **Properly secure lines to prevent chaffing.**

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 110 GPH

www.fassride.com
(866) 769.3747

70-75 psi (Approximately)

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

FASS Diesel Fuel Systems

www.fassride.com
(866) 769.3747

TITANIUM SIGNATURE SERIES 110 GPH

70-75 PSI (Approximately)

Note: Going over 100 PSI WILL void warranty.

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



www.fassride.com
(866) 769.3747

CONTENTS

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





DIELECTRIC GREASE



TWO (2) OR-017



OR-030

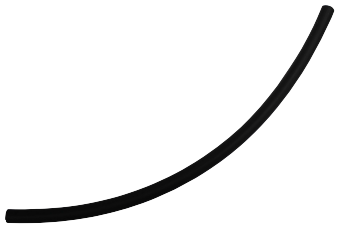
NOTE: THESE SPARE BASE O-RINGS ARE INCLUDED WITH THE KIT IN THE EVENT OF A PINCHED O-RING DURING ASSEMBLY



MP-9084



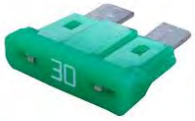
FL-1002 x17'



FL-1058x3'



WH-1006-3



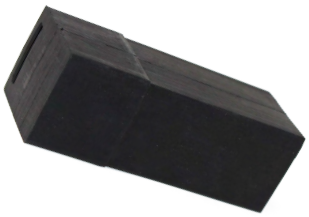
30 AMP FUSE



RS-2002



PBR-2002



RELAY COVER



TCB-1001

FASS Diesel Fuel Systems

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MOUNTING PACKAGE CONTENTS



BHF-1005



OR-212



BHN-1005



TWO (2) PL-2003



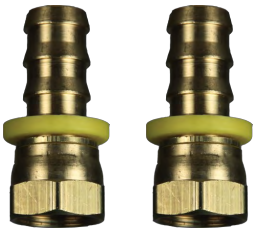
46044



46251



10-302



TWO (2) PL-1058



10-300



TWO (2) PLB-1238



10-307



HC-1001



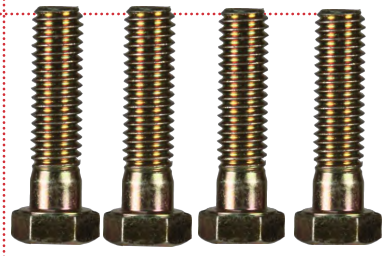
TWO (2) 800-337



THREE (3) WA-1001D



FOUR (4) 3/8" WASHERS



FOUR (4) Hex Bolt 3/8" -16x11/2"



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



FOUR (4) LOCKING NUT 3/8""



CABLE TIES



TWO (2) 2123207

www.fassride.com
(866) 769.3747

MOUNTING PACKAGE CONTENTS



TWO (2) HC-4001



TWO (2) RING TERMINAL



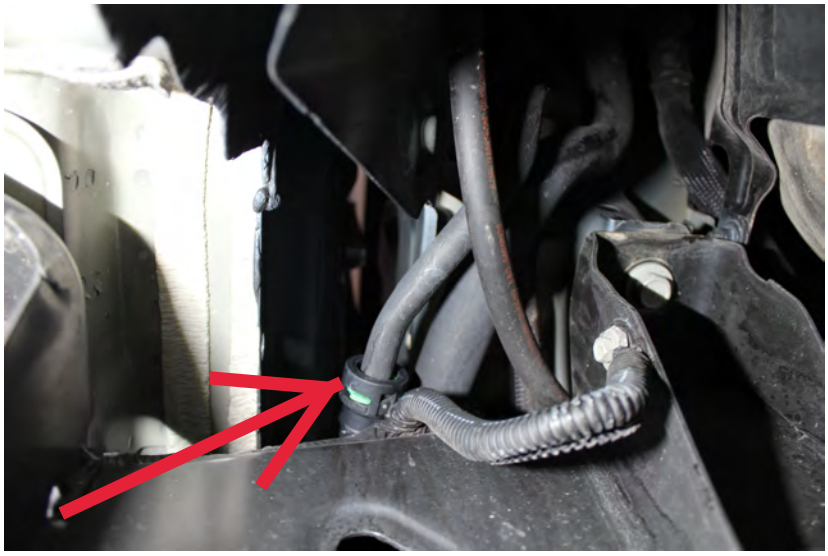
ST-1005P



TWO (2) 5/16"
VITON HOSE
FL-1006

STEP 1:
REMOVE THE FUEL TANK

A. Release the locking clip and disconnect the fuel vent tube.

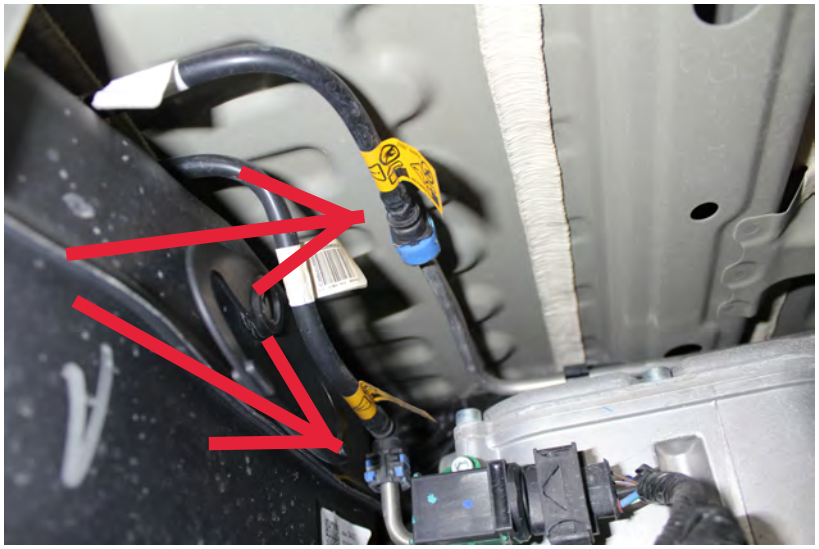


B. Loosen the hose clamp for the fuel fill tube and disconnect it from the fuel tank.



STEP 1:
REMOVE THE FUEL TANK

C. Disconnect the fuel feed and fuel return lines that are located in front of the fuel tank by releasing the locking tabs.

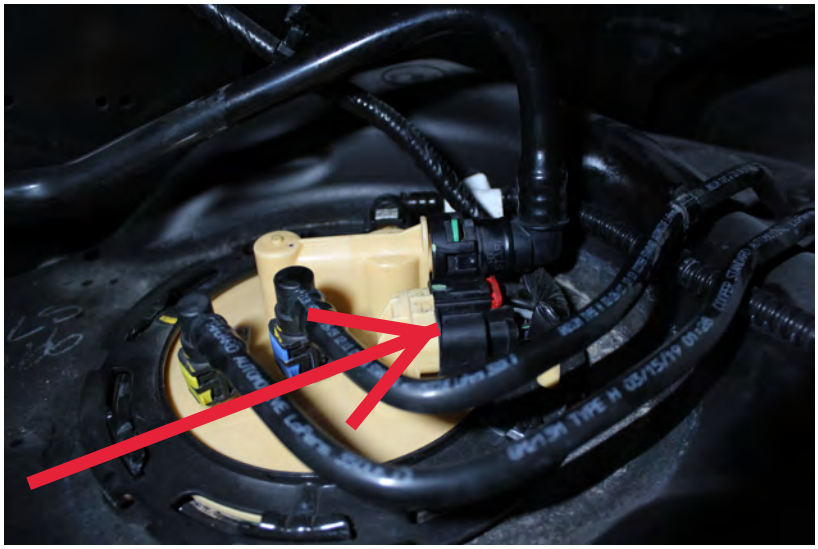


D. Support the fuel tank, the remove the front and rear fuel tank support straps.



STEP 1:
REMOVE THE FUEL TANK

E. Slightly lower the fuel tank then disconnect the electrical connector from the top of the fuel tank module by releasing the red safety clip then pressing the release button.



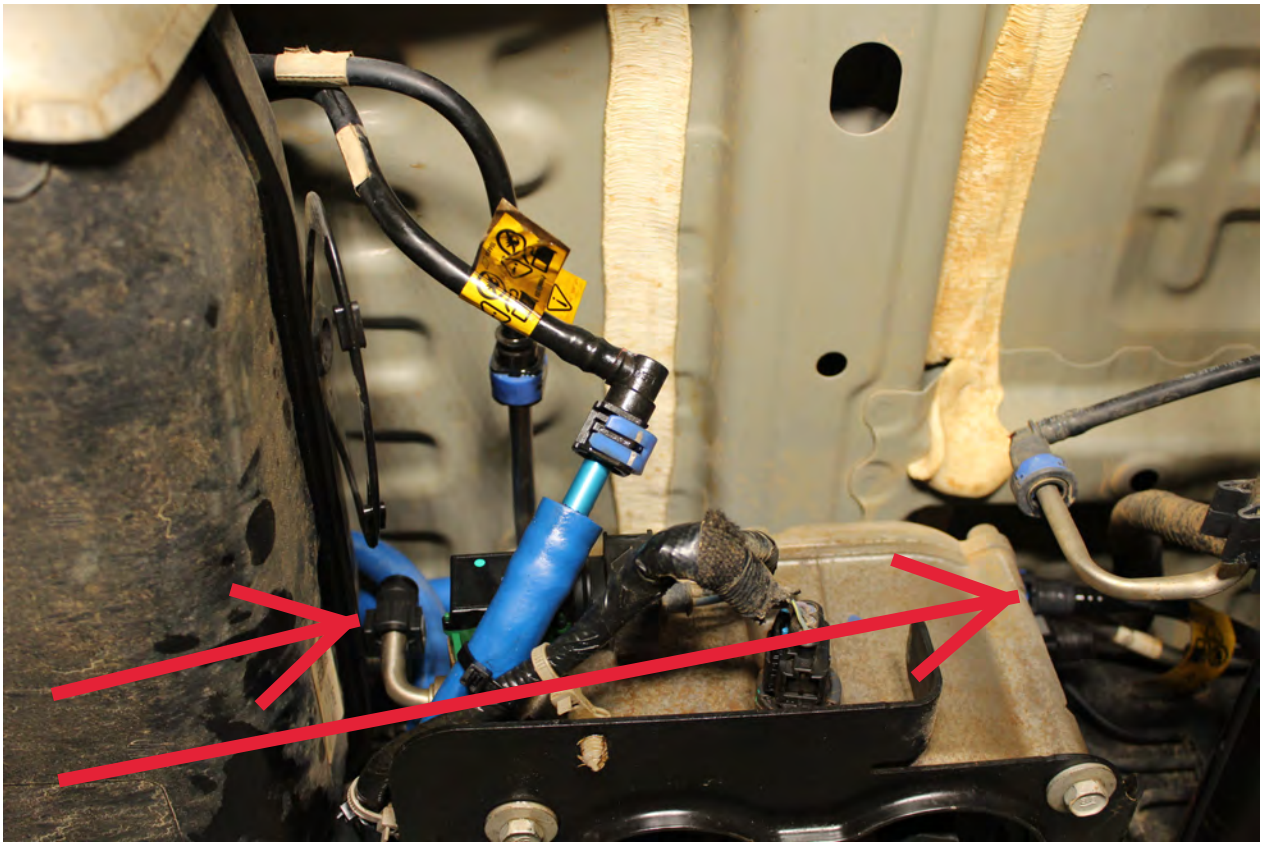
F. Remove the fuel tank from the truck.



STEP 1:
REMOVE THE FUEL TANK

G. Install the two supplied plastic 3/8" quick connect caps onto the inlet and outlet fittings of the fuel filter module as shown. *Ignore the blue fuel line in this picture, this will be discussed later in the installation manual.*

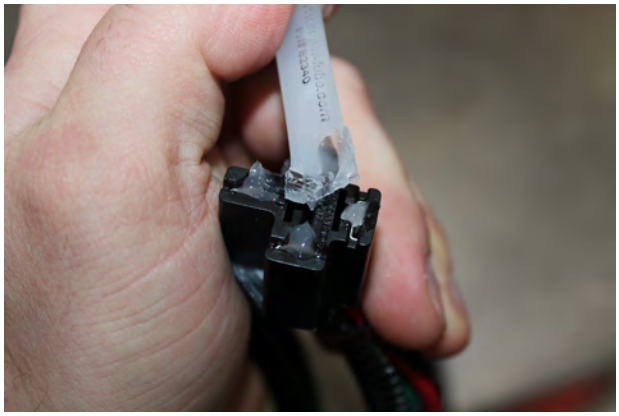
DO NOT DRAIN THE FUEL FROM THE FUEL FILTER MODULE. LEAVING THE FUEL IN THE FUEL FILTER MODULE WILL "TRICK" THE ECM INTO BELIEVING THE FUEL FILTER MODULE IS STILL FUNCTIONAL AND WILL PREVENT A MIL!



STEP 2:
INSTALL ELECTRICAL HARNESS

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

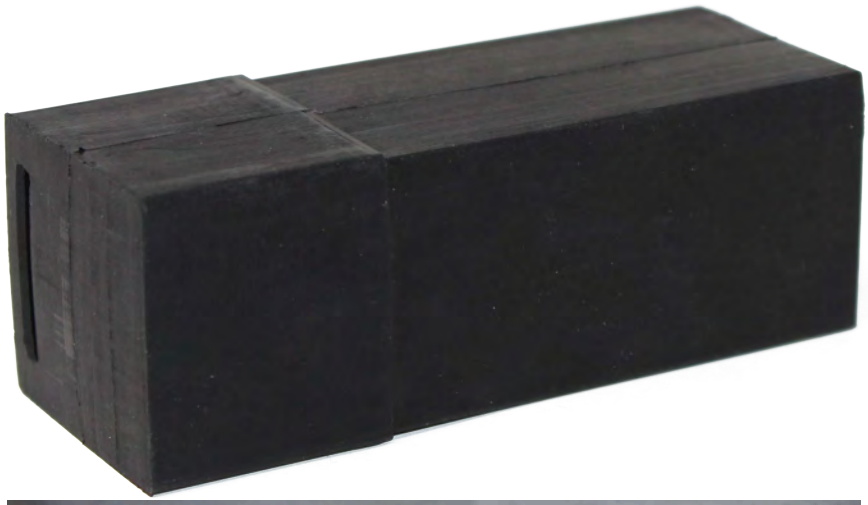


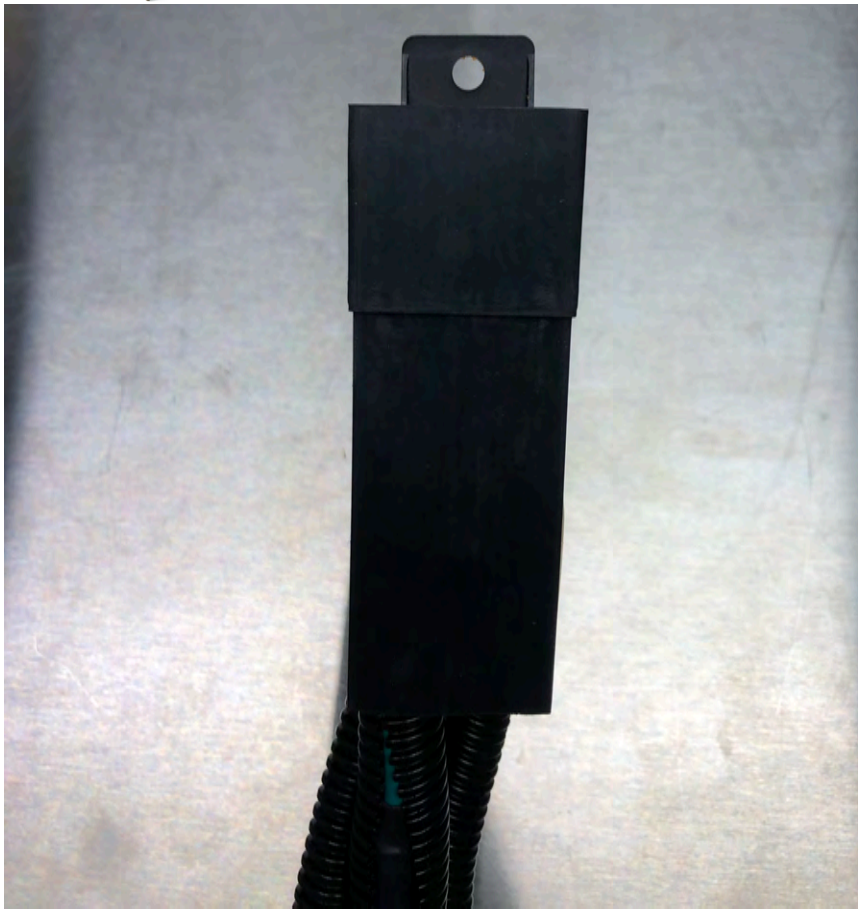




STEP 2:
INSTALL ELECTRICAL HARNESS

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

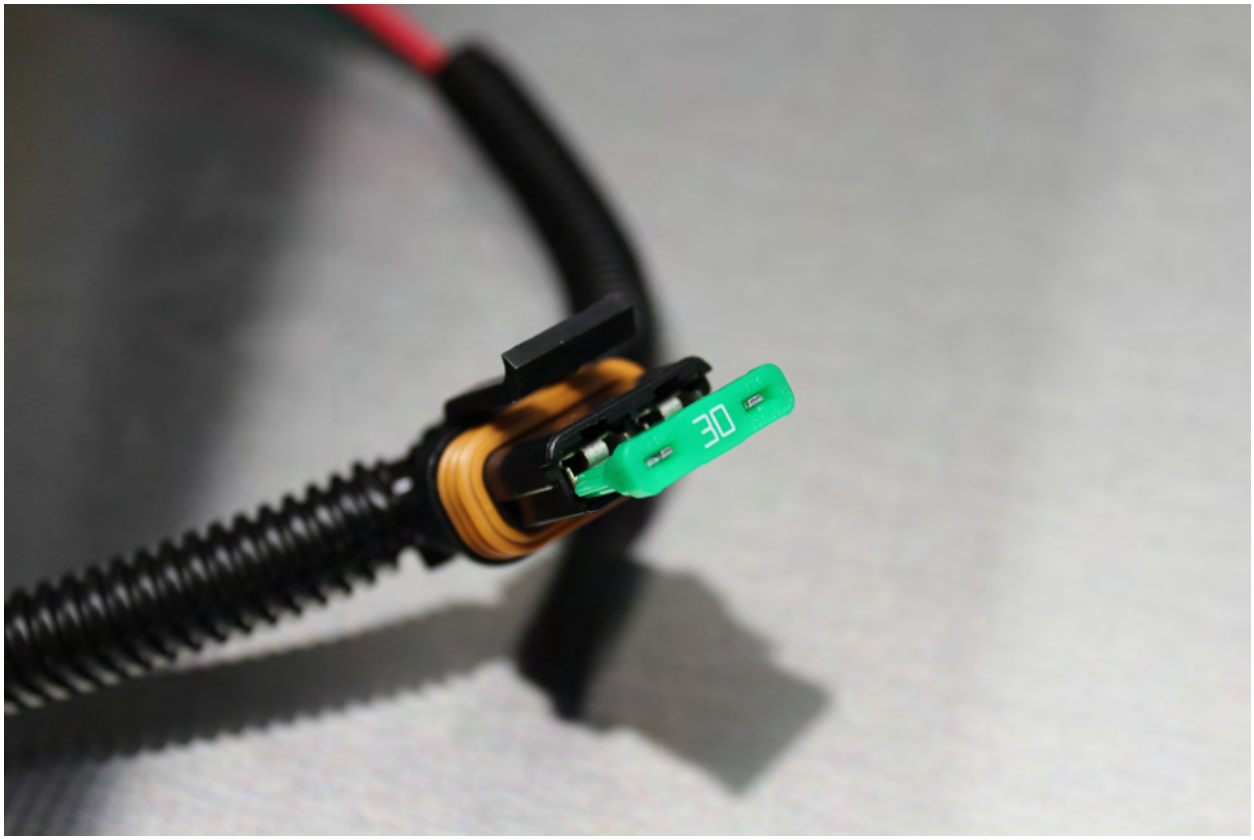




STEP 2:
INSTALL ELECTRICAL HARNESS

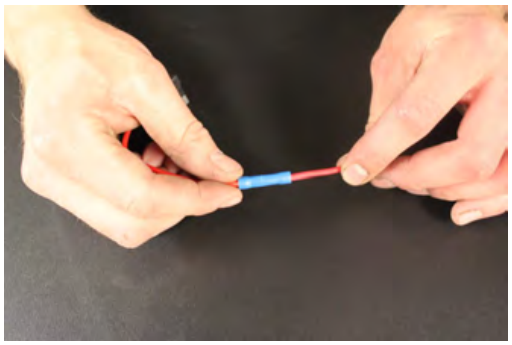
NOTE: BE SURE TO INSTALL THE SUPPLIED 30 AMP FUSE INTO THE FASS WIRING HARNESS!!

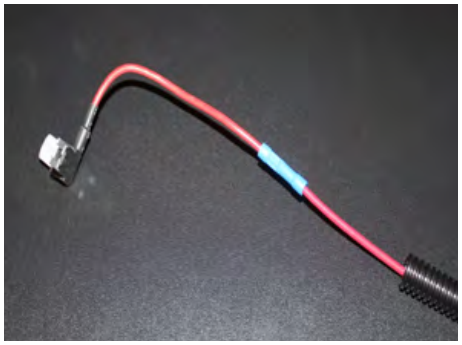




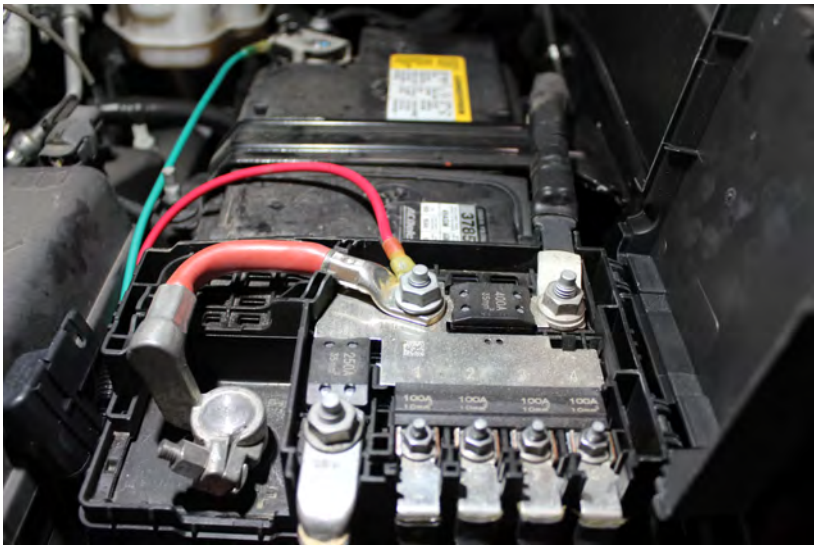
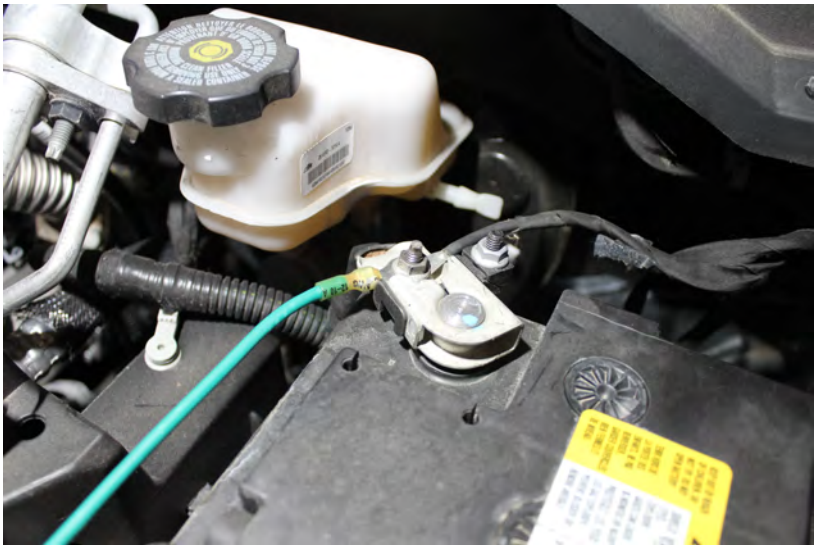
STEP 2:
INSTALL ELECTRICAL HARNESS

A. Place wire from 46044 and the single red sire of WH-1006-3 into butt connector. Using crimping tool connect 46044 and WH-1006-3 with butt connector. Install 46251 to 46044 top slot (opening that is near the spade).



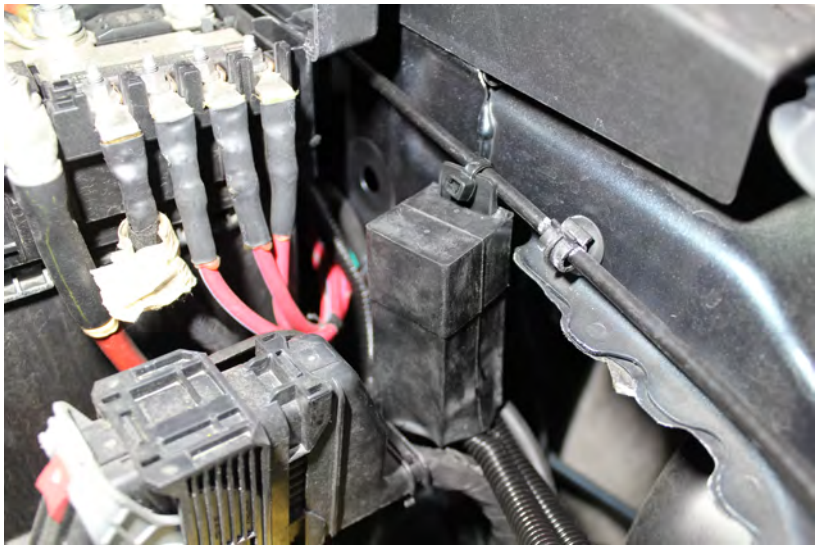


B. Crimp the ring terminals to the red and green wires of the WH-1006-3 Wire Harness.Attach red wire to the positive terminal of the battery and the green terminal to thenegative terminal.The use of a corrosion preventative on electrical connections isrecommended.

STEP 2:
INSTALL ELECTRICAL HARNESS

C. Secure relay and fuse in an upright position near the firewall as shown, to prevent moisture from entering. Use supplied dielectric grease on all electrical connections.



D. Locate a key-on 12v + fuse. Remove that fuse and install it in the BOTTOM terminal of the Add-A-Circuit. Place the Add-A-Circuit in place of the previously removed fuse.

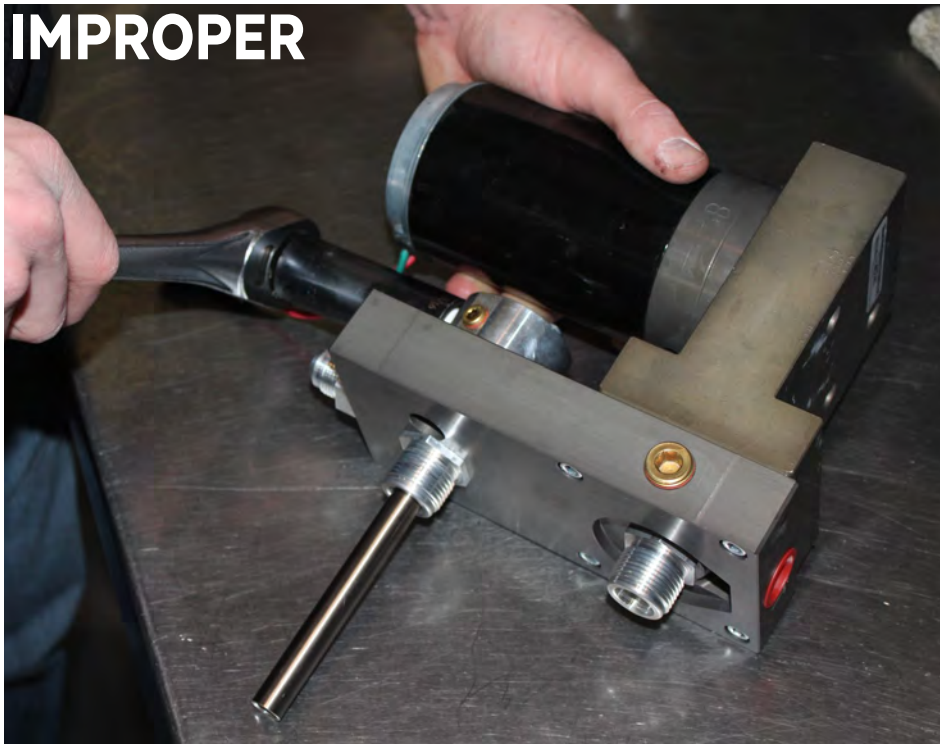


E. Route WH-1006-3 wire harness along frame rail to mounting location of pump (DIRECTLY ABOVE THE REAR AXLE TOWARD THE DRIVER'S SIDE).
Completion of this step will be addressed in the Mounting Step 3.

NOTE:

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





STEP 3:
MOUNT FUEL SYSTEM

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.

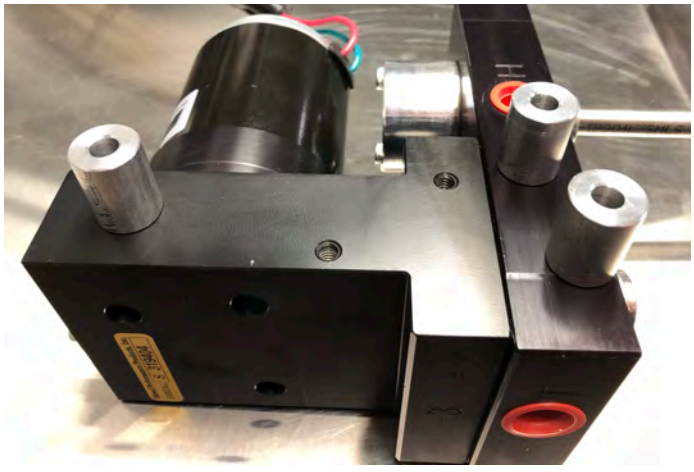
NOTE: Always use our dimension O-Ring for water separator, not doing this could lead to priming issues.

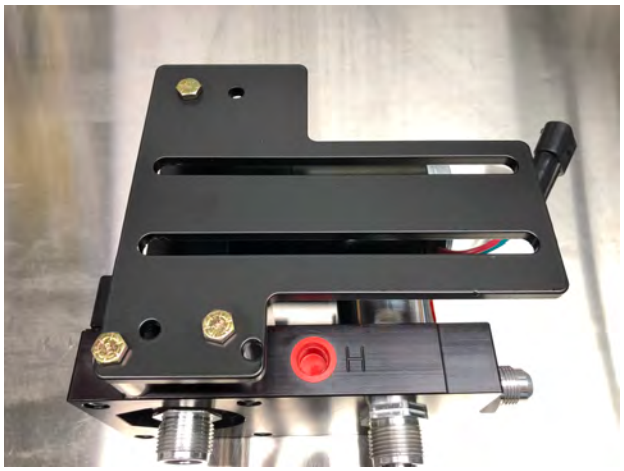
A. Install 10-300 into the "E" port and 10-302 into the "T" port of the FASS, torque to 20 ft./lbs.
FITTINGS COME EQUIPPED WITH THREAD SEALANT, DO NOT USE THREAD TAPE





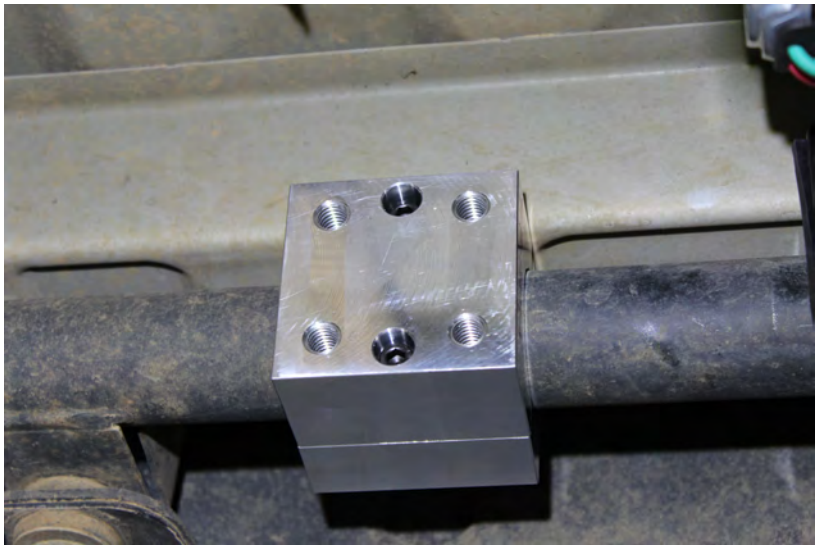
B. For fitting purposes, secure PBR-2002 to pump assembly lightly with (3) 1/4"-20x1 3/4 bolts and (3) WA-1001D. Assembly will be used in future steps for correct fitting of brackets. (Note: Bracket may be flipped to accommodate your application.)





STEP 3:
MOUNT THE FASS SYSTEM

C. Install the TCB-1001 onto the tubular frame directly above the rear axle with bolts #2123207 as shown.



D. Secure PBR-2002 onto TCB-1001 with the four supplied 3/8" bolts, flat washers, and rubber isolator RS-2002. FAILURE TO INSTALL THE ISOLATOR CAN RESULT IN EXCESSIVE FASS SOUND OUTPUT.



STEP 3:
MOUNT THE FASS SYSTEM

E. Check for proper clearance between the FASS filters and the axle by following these instructions:

1.) Install the FASS filters onto the FASS and place the truck back on it's wheels.
2.) Measure the distance between the FASS filters and the top of the rear axle.
3.) Measure the distance between the axle bump stop and the frame.

THE FASS FILTERS SHOULD HAVE AT LEAST AN EXTRA INCH OF CLEARANCE ONCE THE BUMP STOPS TOUCH THE FRAME! If there is inadequate clearance, this can cause the FASS filters to be crushed or damaged which can result in a fuel leak.

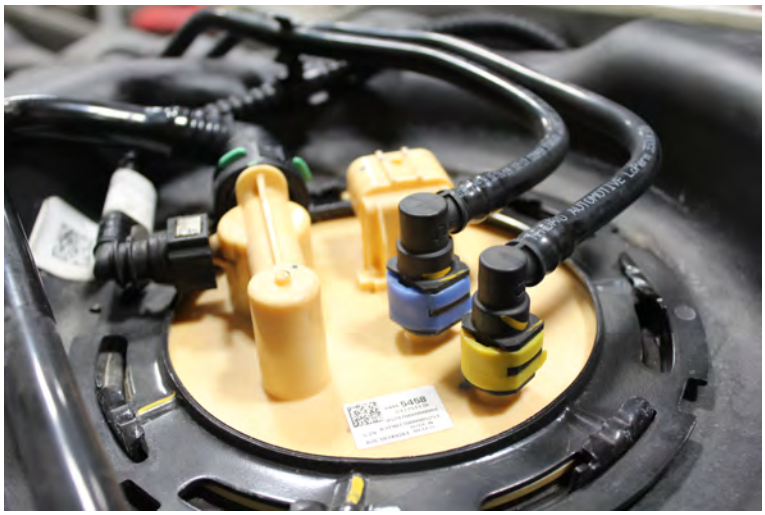




STEP 4:
PREPARE SUCTION & RETURN LINES

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

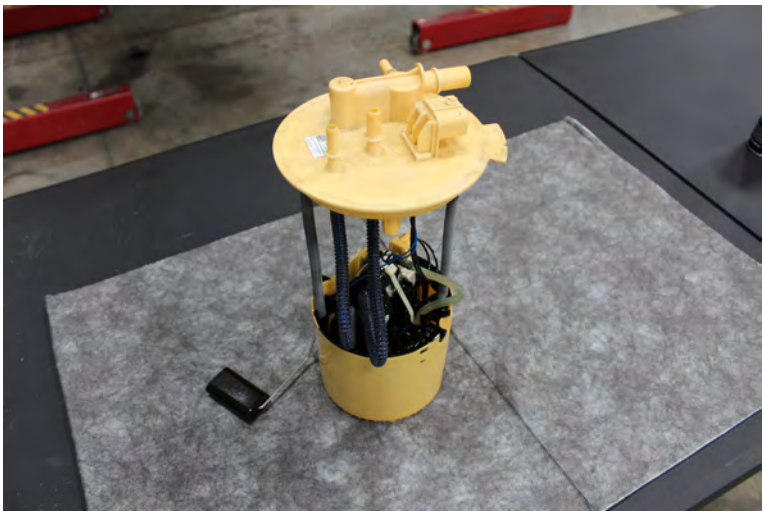
A. Remove all fuel lines and vent tubes from the top of the fuel tank module by releasing the locking tabs.





B. Remove the fuel tank module locking ring, and remove the fuel tank module from the fuel tank. Place the fuel tank module on a clean work area.

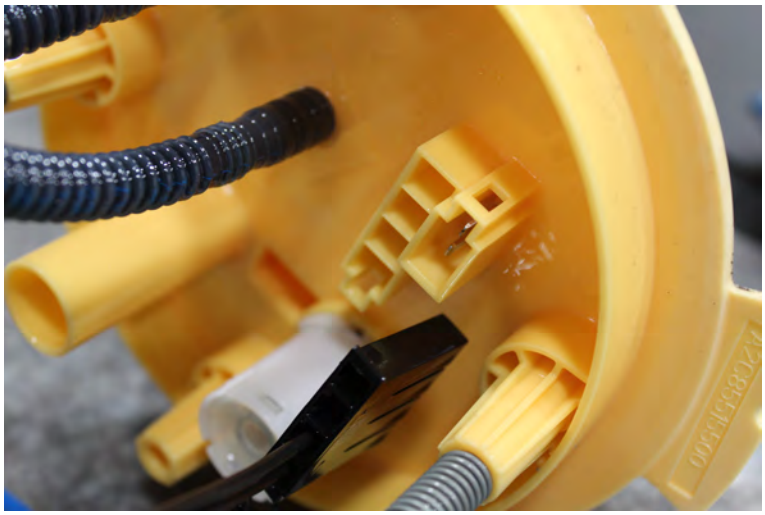


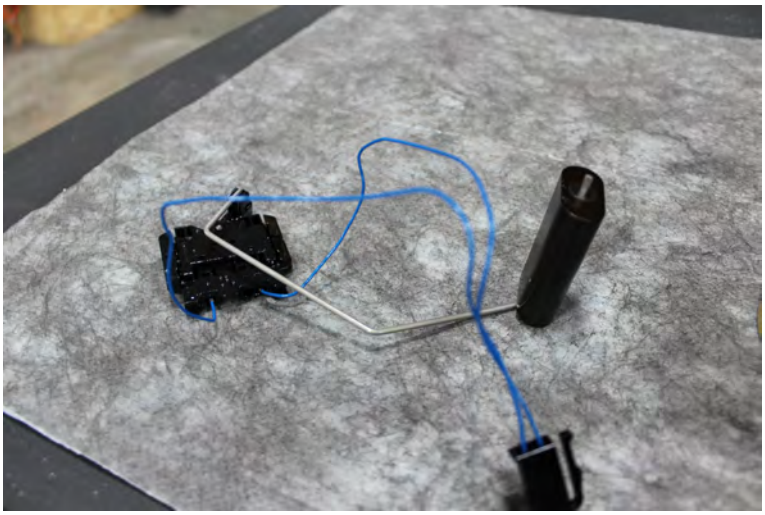


STEP 4:
PREPARE SUCTION & RETURN LINES

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

C. Disconnect the two electrical connectors from the fuel tank module. carefully remove the fuel level sending from the fuel tank module. This will be reinstalled at a later time.





D. Carefully slice both sections of convoluted tubing and disconnect them from the fuel tank module.

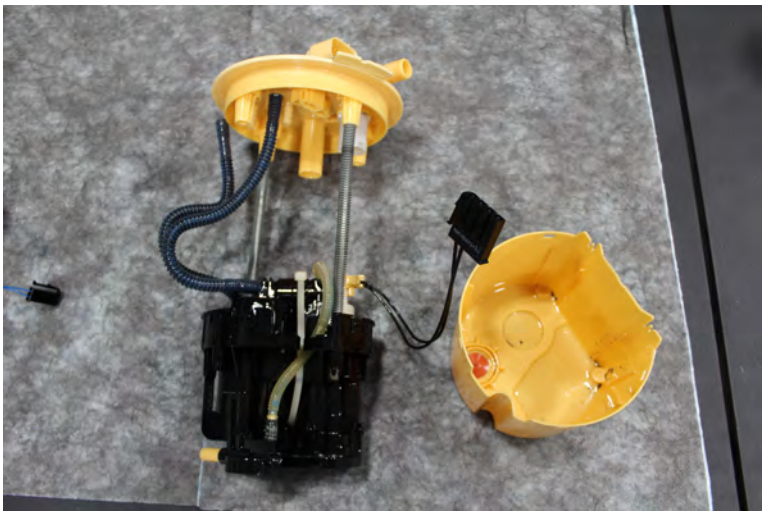


STEP 4:
PREPARE SUCTION & RETURN LINES

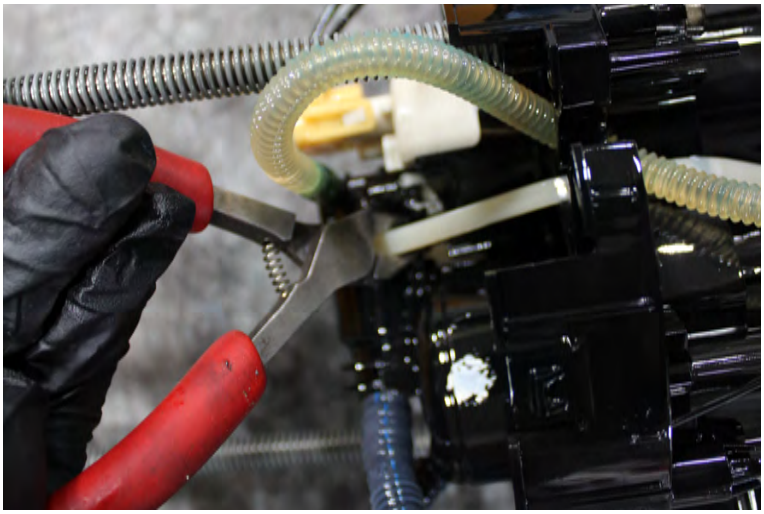
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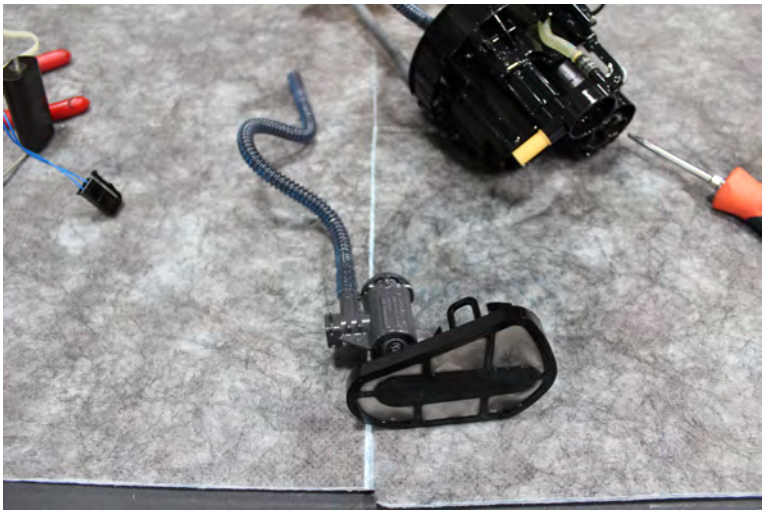
E. Release the four locking tabs and separate the reservoir section of the fuel tank module.





F. Cut and discard the zip tie shown. Release the locking tab and remove the fuel pump suction screen.



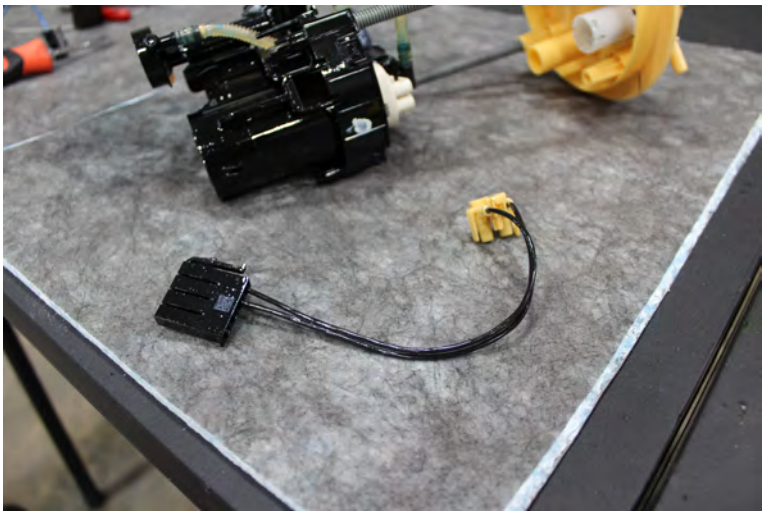


STEP 4:
PREPARE SUCTION & RETURN LINES

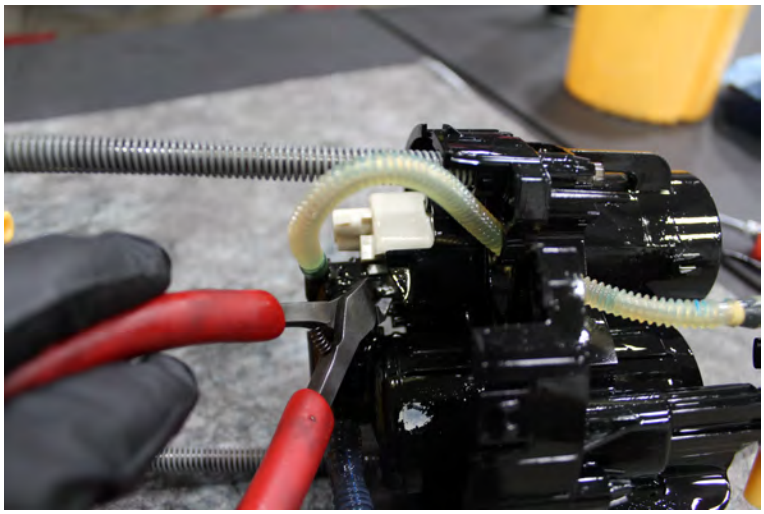
Some of the photo's are of a different application, procedures are the same..

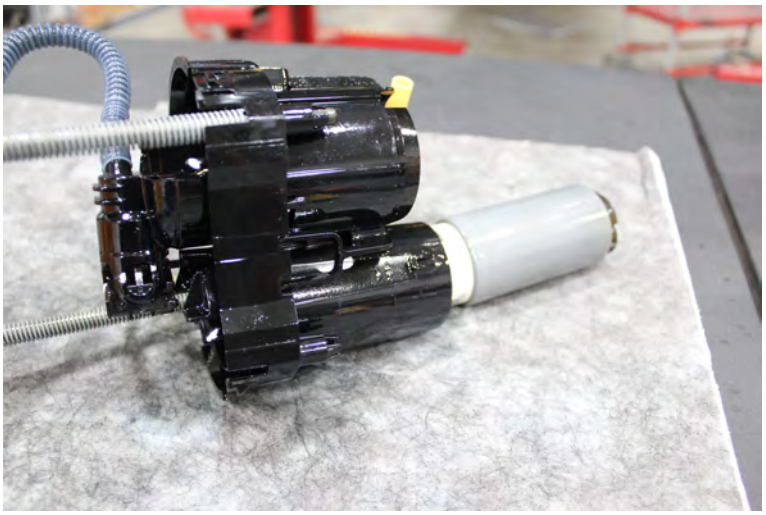
G. Release the locking tabs and remove the fuel pump wire harness.





H. Cut or release the fuel pump locking tabs and remove the fuel pump.





STEP 4:
PREPARE SUCTION & RETURN LINES

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

I. Cut the clear plastic hose and remove from the fuel tank module.





J. Remove the remaining section from the fuel tank module as shown.



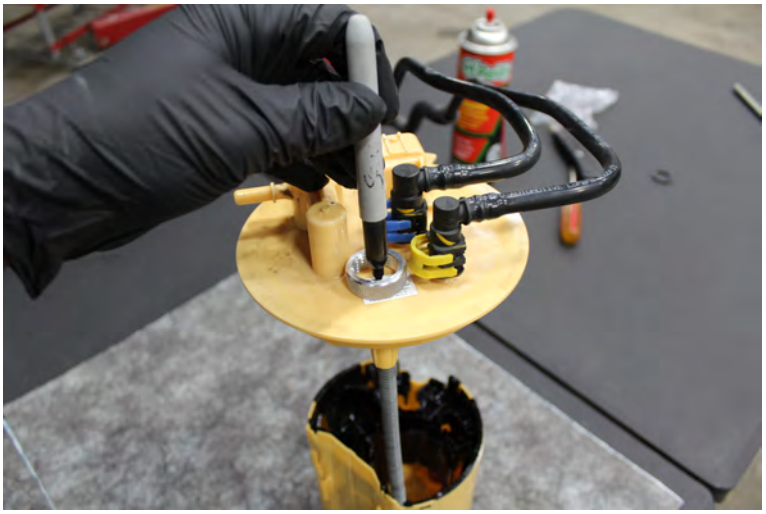


STEP 4:
PREPARE SUCTION & RETURN LINES

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

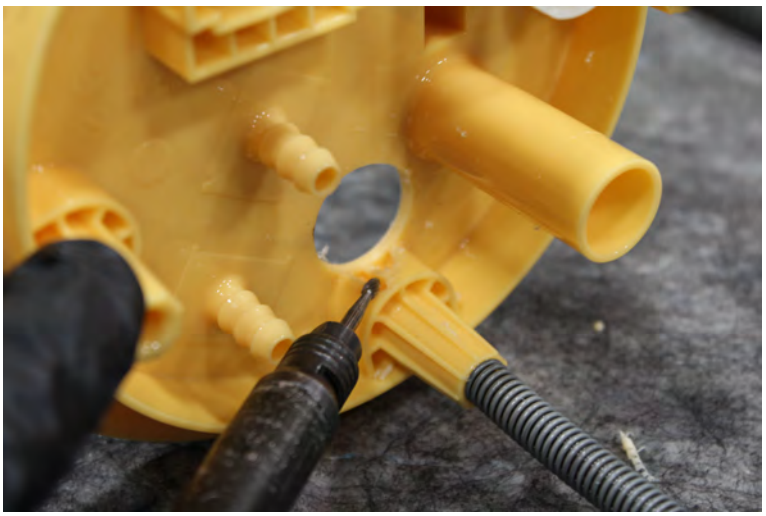
K. Reassemble the upper and lower section of the fuel tank module. Place the fuel lines back onto the fuel tank module for measuring purposes. Place BHN-1005 onto the shown location and mark the center.





L. Using a 7/8" hole saw or step drill bit, drill the previously marked location. Using an appropriate plastic grinder, carefully make enough clearance for BHN-1005.





STEP 4:
PREPARE SUCTION & RETURN LINES

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

M. Install 10-307 into BHF-1005, install OR-212 onto BHF-1005.





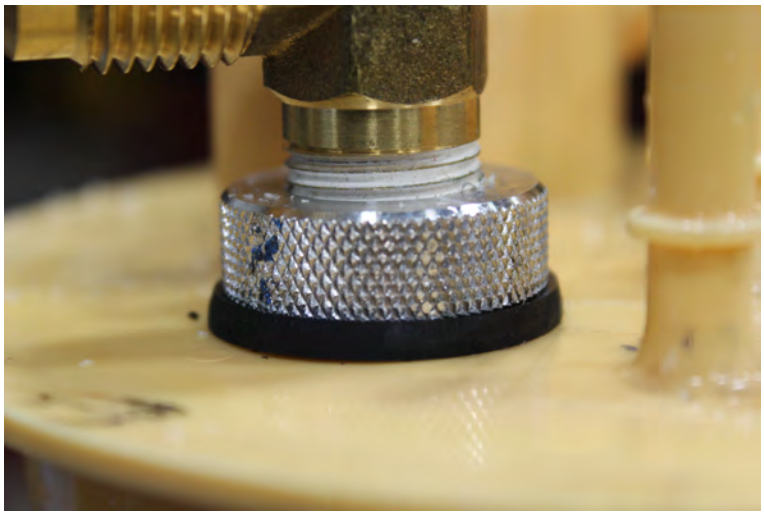
N. Install BHF-1005 into the fuel tank module as shown. Place red Loc-Tite onto the threads and tighten with a pair of pliers. Be sure to tighten enough for proper OR-212 compression, but do not over tighten.





STEP 4:
PREPARE SUCTION & RETURN LINES

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





VERY IMPORTANT: Support fuel tank on both ends allowing the natural formation of the tank to take place. Failure to perform this step will hinder precision installation.



FUEL TANK SUPPORTS

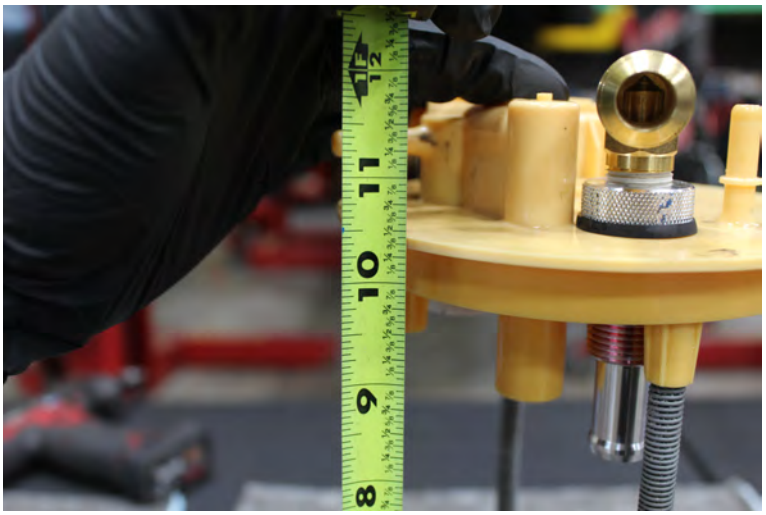
STEP 4:
PREPARE SUCTION & RETURN LINES

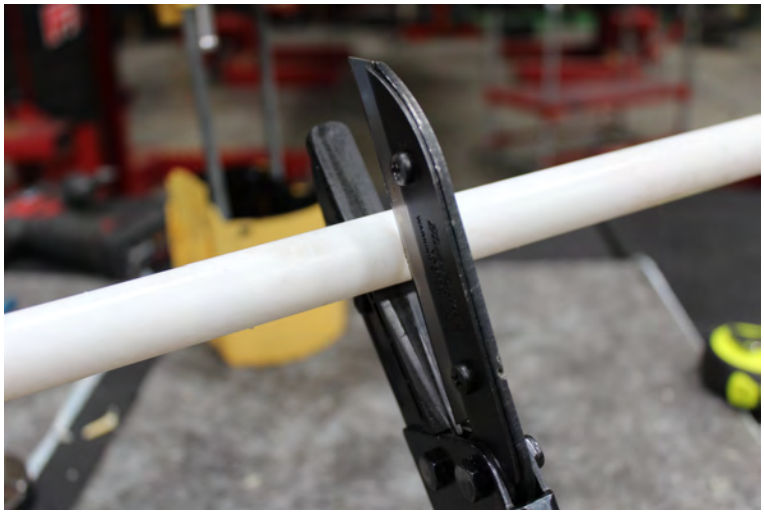
Some of the photo's are of a different application, procedures are the same..

O. Measure from the bottom of the fuel tank to the O-ring sealing surface, record your measurement. Compress the fuel tank module to the recorded measurement and measure the proper length to cut ST-1005P. Install ST-1005P onto BHF-1005 with HC-1001.

ST-1005P MUST BE 1/4" TO A 1/2" FROM THE BOTTOM OF THE FUEL TANK MODULE WHEN COMPRESSED TO THE RECORDED MEASUREMENT!!





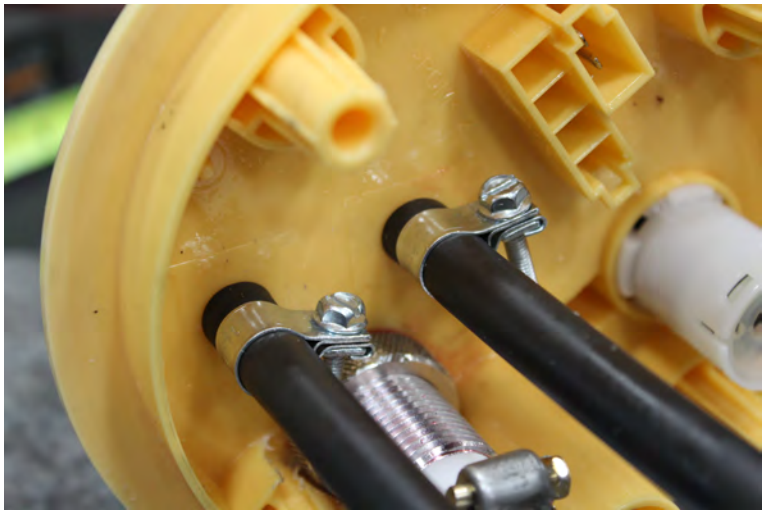


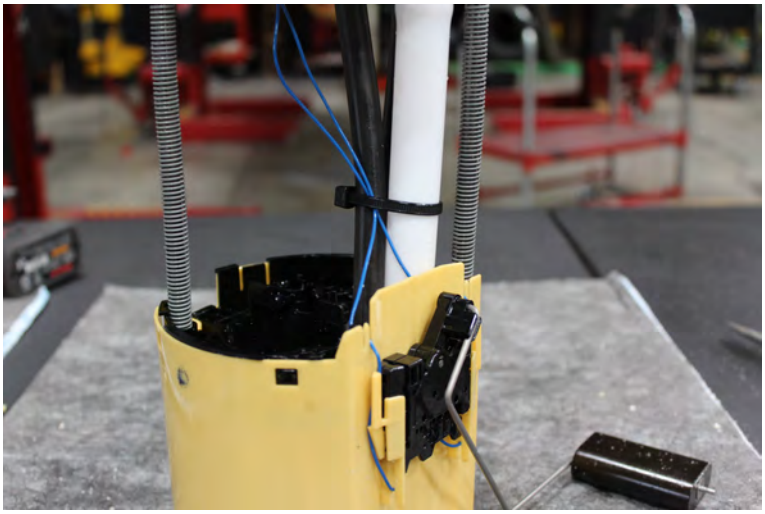


STEP 4:
PREPARE SUCTION & RETURN LINES

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

P. Install both sections of FL-1006 onto each plastic barb fitting with both HC-4001s. Trim each FL-1006 to the same length as ST-1005P. Reinstall the fuel level sending unit, and gently secure all wires/fuel lines together with a supplied cable tie.





Q. Carefully reinstall the fuel tank module into the fuel tank, reinstall the fuel tank module locking ring. Reconnect all of the factory fuel lines and vent tubes.





STEP 4:
PREPARE SUCTION & RETURN LINES

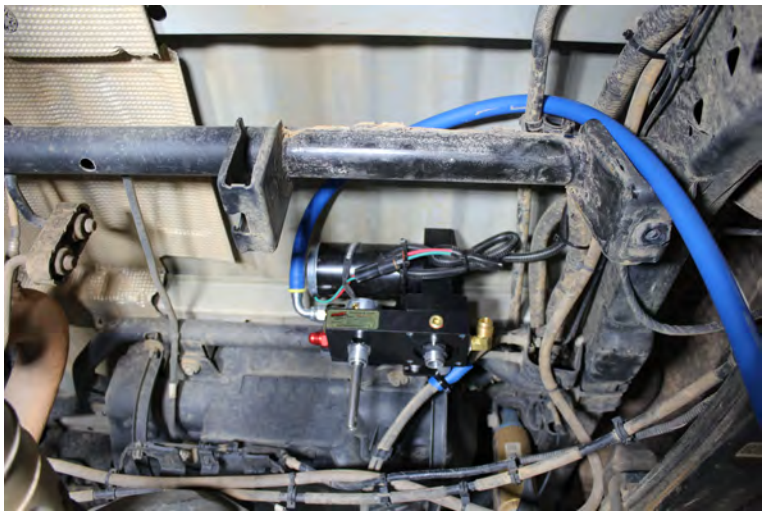
Some of the photo's are of a different application, procedures are the same..

R. Using grease, install a PL-1058 into FL-1058. Install PL-1058 onto 10-307 and carefully tighen. Be sure to support both fittings to prevent damage to the fuel tank module.





S. Install a PL-2003 into FL-1002 using grease, connect PL-2003 to the "E" port of the FASS. Route FL-1002 to the factory engine feed near the fuel filter module. Trim FL-1002 to length and install PLB-1238 into FL-1002. Connect PLB-1238 to the engine feed connection.

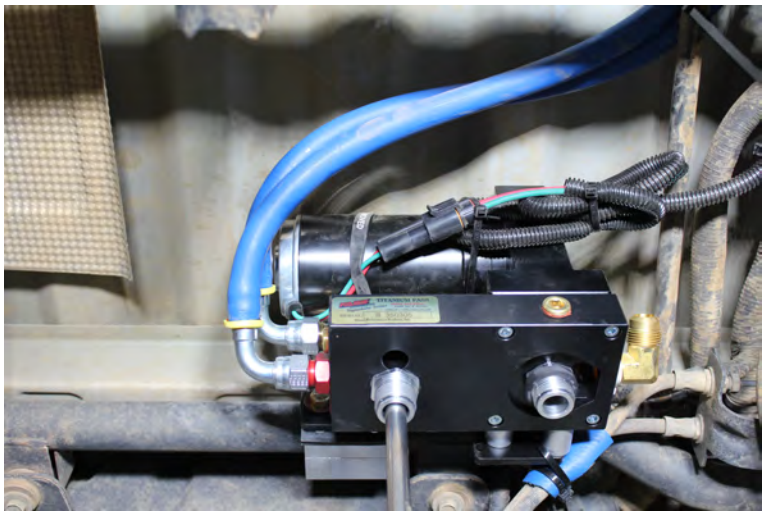




STEP 4:
PREPARE SUCTION & RETURN LINES

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

T. Install the remaining PL-2003 into the remaining section of FL-1002. Connect PL-2003 to the "R" port of the FASS and route FL-1002 toward the fuel filter module.



U. Neatly secure all fuel lines and the wire harness along the top of the frame with the supplied cable ties as shown. Connect the FASS harness to the FASS System.





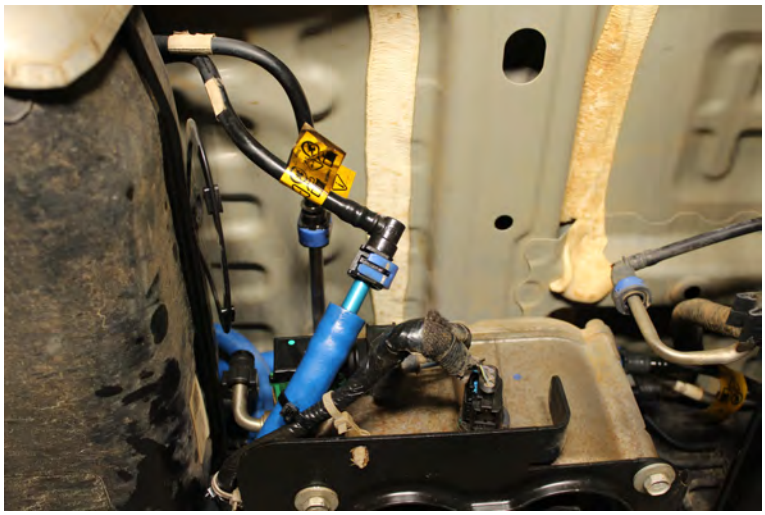
STEP 5:
REINSTALL FUEL TANK & CONNECT FUEL LINES

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

A. Lift the fuel tank back into the truck while routing FL-1058 over the tubular crossmember, reconnect electrical connector, reinstall fuel tank support straps, reinstall fuel fill tube, and reconnect fuel vent tube.



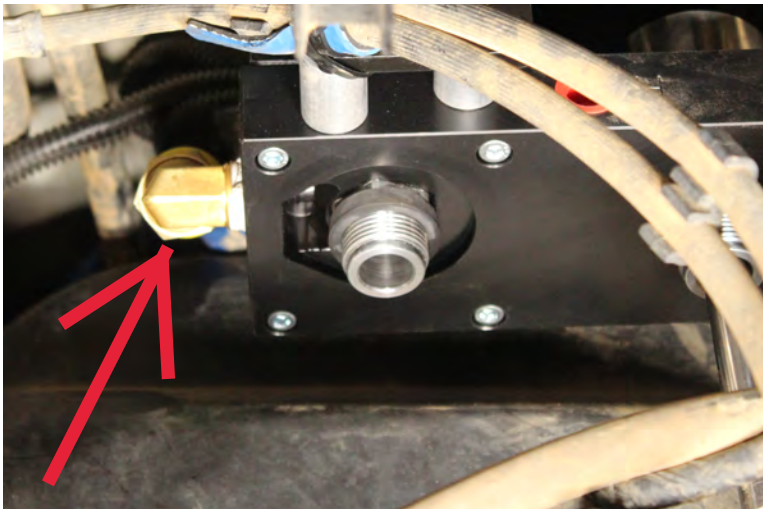
B. Connect the FL-1002 to the OEM fuel suction line with PLB-1238. Be sure to use grease when pressing PLB-1238 into FL-1002.



STEP 5:
REINSTALL FUEL TANK & CONNECT FUEL LINES

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

C. Install PL-1058 onto 10-302 and tighten accordingly. Trim FL-1058 to length as necessary and install onto PL-1058 using grease.



D. Turn the key to the "Run" position to power the FASS on and spray WD-40 into the suction port as shown. This will assist the FASS System priming process.





STEP 5:
REINSTALL FUEL TANK & CONNECT FUEL LINES

NOTE: If fuel pressure gauge is pulsating after FASS installation, use snubber valve (Cat Part # 7S-3795)

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



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 losses.

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. The openings on the filter and tank will need to be capped off to keep debris from getting into lines or canister.*****

To assist with priming your FASS pump crack the XWS-3002. 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.

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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.

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