

*“HIGH PERFORMANCE FUEL DELIVERY SYSTEM”*



FROM: Diesel Performance Products, Inc.

SUBJECT: Welcome/Thank You

TO: Valued Customer

We at Diesel Performance Products, Inc. (DPP) would like to thank you for your confidence in purchasing one of the FASS Products. Building a quality product and providing excellent customer service is # 1 at DPP. Behind each fuel system/fuel pump are many years of design experience. We have implemented very rigorous testing procedures before bringing any item to the market along with very strict manufacturing procedures to provide a superb product. Our confidence is evident in the products we make as each product is backed by an industry leading warranty.

*We, Diesel Performance Products, promote “ALL” retail business through our dealer network to provide better customer service! We are confident that everyone involved is best serviced in this manner. We have given our dealer network proper knowledge and support to promote and service our line of products.*

Dealers receive appropriate troubleshooting guides to refer to. These have proven to be excellent references for those who choose to use them. We provide excellent assistance to our dealers so they in turn can assist their customers. DPP has decided to place this information on our website to accommodate all of our customers needs.

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 they can support their customers.

**Please make sure to fill out your product registration form and return the original form to Diesel Performance Products, Inc. within 30 days of purchase accompanied with a copy of the purchase receipt. Doing so will qualify you for the Limited Lifetime Warranty!**

Steps to customer satisfaction can be found on the next page.

## STEPS TO CUSTOMER SATISFACTION

We want you to be happy with your FASS Fuel System. Customer satisfaction, your satisfaction, is the all-important ingredient for success in our business, as it is in any other.

Normally, warranty problems can be resolved by your Dealer's sales or service departments. That's why you should always talk to your Dealer's Service department first. If you're not satisfied with the dealership's response at this level, Diesel Performance Products, Inc. (DPP) recommends that you follow these steps, in order:

- STEP 1:** Discuss the problem with the owner or General Manager of the dealership.
- STEP 2:** If your dealership is unable to resolve the problem, contact Diesel Performance Products, Inc. Customer Care Center in writing; the address is located on page 14 of this manual or fax it to 636-433-5913. Be prepared to provide the Customer Center with the following information:
- Your Name, address and daytime phone number
  - Model and Serial Number (Not Model Number)
  - Dealer, contact name and phone number
  - Date of purchase
  - Nature of Problem

Once you have followed the two steps described, a DPP representative will review your situation. DPP will then follow up by contacting the dealer for more information. Depending on the situation a representative from the selling dealer or a representative of DPP may elect to contact you.

Thank you for your business, from the men and women of Diesel Performance Products, Inc.

# **FILTER CROSS REFERENCE SHEET**

## **Cross Reference List for the FASS 95 Series Fuel Filter**

Recommended Fuel Filter Media: Stratapore™ or Microglass

<b><u>BRAND</u></b>	<b><u>Part #</u></b>	<b><u>Micron Rating</u></b>	<b><u>Material</u></b>
FASS	FF-2003	3	Stratapore™
Fleetguard	FF5712	3	Stratapore™

## **Cross Reference List for the FASS 95 Series Water Separator**

Recommended Water Filter Media: Stainless Steel/Water Separator

<b><u>BRAND</u></b>	<b><u>Part #</u></b>	<b><u>Micron Rating</u></b>	<b><u>Material</u></b>
FASS	WS-2001	144	Stainless Steel/Water Separator
Fleetguard	FS19768	144	Stainless Steel/Water Separator

**NOTE:** The use of a hydraulic fuel filter is because the canister is much thicker and provides more durability than a fuel filter canister.

# **WARNING!!**

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Installing the improper FASS Fuel System or installation kit can cause severe engine damage.

This installation manual applies to the FASS 95/180-2014@55psi contained in the same package. The serial number on the installation/owners manual package should match the serial number on the outside of the box. If it doesn't, call your dealer.

***This FASS 95/180-2014@55psi (180gph) applies to this application:***

Recommendation: FASS 95/180-2014@55psi- the Ford Powerstroke Truck 1999-2004, with extreme horsepower modifications.

## **SAFETY GUIDELINES AND WARNINGS!**

- TIP!** Flush and clean all brass fittings and fuel line free from debris.
- WARNING!** ***SECURE VEHICLE FROM ROLLING!***
- WARNING!** Use care not to drill into any electrical wires, air lines or other damageable components when drilling.
- WARNING!** Consult vehicle manufacturer's instructions concerning the electrical system before attempting any electrical connections.
- CAUTION:** Wear safety glasses when operating power tools such as drills and grinders or when using a punch or chisel.
- CAUTION:** Properly secure lines to prevent chaffing.

***VERY IMPORTANT: THE RETURN FUEL FITTING LOCATED IN THE BASE OF THE FASS FUEL SYSTEM SHOULD NOT BE REMOVED. THERE IS A SPECIAL CUT IN THIS FITTING THAT ASSISTS IN REGULATING PRESSURE. ALSO, DO NOT REMOVE ANY STEEL ALLEN HEAD FITTINGS. THESE PORTS WERE USED IN THE MACHINING PROCESS.***

## INSTALLATION MANUAL

Welcome to the **FASS Fuel/Air Separation System**.

The installation of the **FASS FUEL SYSTEM** can be relatively simple when the following steps are followed.

1. Inventory the package components completely. Notify place of purchase immediately of any parts missing or damaged.
2. *We have invested many hours into the development of the installation and owner's manual's to simplify the installation and operation of the **FASS Fuel System**. Please read the owner's manual and the installation manual completely before attempting installation. Understand how the system operates and installation recommendations before beginning installation. Most of the questions that you will have will be answered in one of these manuals. If you have a question please review the installation or owner's manual.*
3. The installation recommendations contained herein are suggested installation guidelines only. Each installation can and may vary considerably because of the many options and accessories available to the truck market.

**Installation personnel should use good judgment and common sense when installing the FASS Fuel System.**

If any installation procedure is uncertain, contact place of purchase.




















Due to training, communication and our relationship we have with our authorized dealers we recommend an authorized FASS Fuel Systems dealer for the installation of the FASS System. They are prepared to install the FASS System with the most efficiency. If a situation/problem arises during the installation they are most prepared for that situation/problem. It may take more time for an unauthorized shop to address the situation/problem. We will not be responsible.

**NOTE:** The use of a hydraulic fuel filter is because the canister is much thicker and provides more durability than a fuel filter canister. The element inside a hydraulic filter filters fuel exceptionally well!







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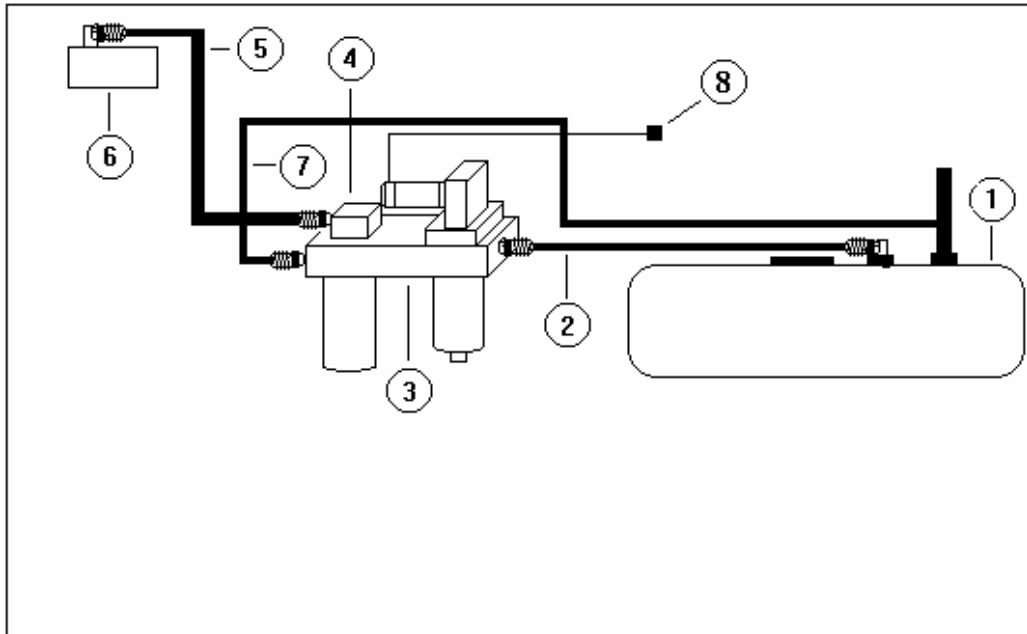
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Contents Include:

	Description					Quantity		Part #	
1.	Pump/Filtration Unit	--	--	--	--	1	--	FASS-95	
2.	Fuel Pump Bracket	--	--	--	--	1	--	BR-2001	
3.	Owners Manual	--	--	--	--	1	--	OM-1003	
4.	Electrical Harness	--	--	--	--	1	--	WH-1002	
5.	3/8" Fuel Line	--	--	--	--	15'	--	FL-1001	
6.	1/4" mounting bolts	--	--	--	--	5	--	--	
7.	3/8" mounting bolt and flanged nut	--	--	--	--	10 ea.	--	--	
8.	1 1/2" Return Manifold	--	--	--	--	1	--	RM-1002	
9.	3/8" x 3/8" (Push Lock x M PT)	--	--	--	--	2	--	PL-1006	
10.	3/8" x 1/2" (Push Lock x Female Flare)	--	--	--	--	2	--	PL-1002	
11.	3/8" Line Hose Clamp	--	--	--	--	1	--	HC-1001	
12.	1 3/4" Line Hose Clamp	--	--	--	--	2	--	HC-1004	
13.	Frame Bracket	--	--	--	--	1	--	FB-2001	
14.	Fuse Tap	--	--	--	--	1	--	MBFT	
15.	Flag Terminal Female	--	--	--	--	1	--	187F1AG	
16.	Ring Terminal	--	--	--	--	2	--	NRB516-K	
17.	Washer (Thickness 3/8")	--	--	--	--	5	--	WA-2001	
18.	3/8" x 3/8" (Push Lock x FPT)	--	--	--	--	3	--	PL-1008	
19.	5/16" x 3/8" (Compression x MPT)	--	--	--	--	3	--	CP-1001	

Contents Include: Continued

	Description				Quantity		Part #	
20.	3/8" x 1/2" (mpt x flared 90°)	--	--	--	1	--	--	
21.	Bulkhead (3/8 x 3/8)	--	--	--	1	--	BHF-1001	
22.	Bulkhead O'ring	--	--	--	1	--	RS2770	
23.	3/8 mpt Suction Tube (12 ¼ length)	--	--	--	1	--	ST-1001	
24.	Washer 3/8" ID	--	--	--	4	--	WA-1001C	
25.	Wire Extension	--	--	--	1	--	WE-1001	



1. FUEL TANK
2. FUEL SUPPLY LINE TO PUMP UNIT
3. PUMP/FILTRATION UNIT
4. FUEL TO ENGINE MANIFOLD
5. FUEL SUPPLY LINE TO ENGINE FUEL PUMP
6. ENGINE FUEL PUMP
7. RETURN LINE
8. IGNITION
9. FIREWALL
10. DASHBOARD
11. STAND PIPE/DRAW TUBE

**INLET/OUTLET PORTS USED FOR PLUMBING ARE MARKED AS FOLLOWED:**

“T” – the fuel line from the fuel tank enters this port.

“R” – this is the return port back to the fuel tank.

“H” – these are the heater ports for coolant, unidirectional. These ports do not have to be hooked up.

“G” – this port is for a pressure (0 – 100psi) gauge reading.

Block Labeled #4 – this 3/8” port is leading to the engine’s lift pump.

**Please Note: The 2 – 3/8” allen head plugs located in the main base of the unit have no function except to close off passages that were needed for machining purposes.**

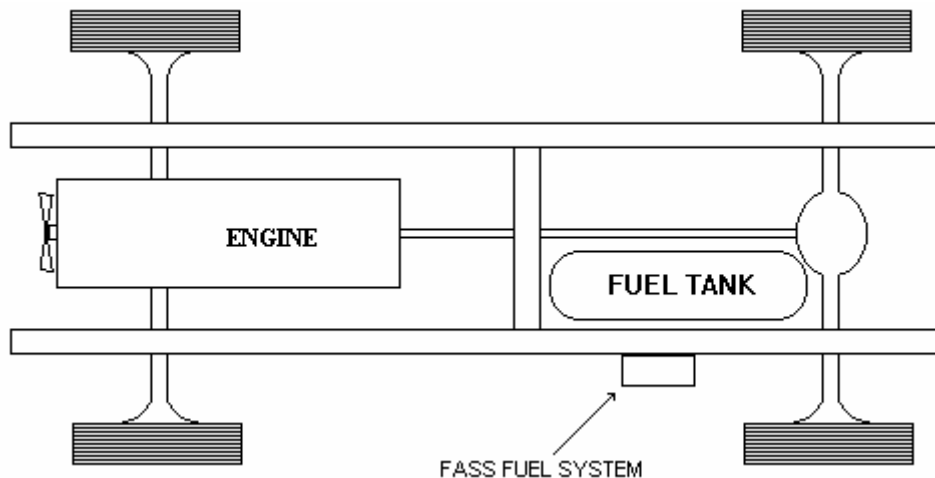
## Location of the FASS FUEL SYSTEM PUMP/FILTRATION UNIT

The proper location of the **FASS Fuel System** on the vehicle is most important.

- Best performance
- Protection from the elements and road debris
- Ease of service

### Suggested location:

(Hint: The best place we have found on the Ford  $\frac{3}{4}$  and 1 ton trucks is on the driver's side frame rail up underneath the bed of the truck and in front of the rear tire.)



**NOTE:** Throughout this manual there are photos of the FASS 150, (the FASS 150 is slightly larger than the FASS 95). Mounting, fuel line & wire harness connections are the same except for the mounting of the BR-2001 to the FASS 95.

**STEP 1: Removing & Preparing Fuel Tank:** Use the following photo's to complete this step.

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



**Photo 1A**



**Photo 1B**



**Photo 1C**



**Photo 1D**



**Photo 1E**



**Photo 1F**



**Photo 1G**



**Photo 1H**



**Photo I**

**Very Important:** Before removing the fuel tank identify "ALL" areas of clearance between the tank and bed to install the draw tube assembly.

1. Remove the filler neck tube from the top of the fuel tank by loosening the clamp.
2. Disconnect overflow tube from the fuel tank.
3. Using a fuel line disconnect tool disconnect the factory suction & return lines. Place the disconnect tool around the fuel tube and slide the tool under the fuel line connection to release the fuel line. Example: Photo 1A.
4. Disconnect the factory electrical harness located on top of the fuel tank.

**STEP 1: Removing & Preparing Fuel Tank: Continued**

5. Before completing the next step review photos 1D & 1E, the closer the suction tube is placed to the center of the fuel tank, front to back and left to right, the more usable fuel there will be!
6. With the fuel tank empty of fuel now remove it from the vehicle.
7. As seen in photo 1B remove the lock ring on the top of the fuel tank.
8. Once the lock ring is removed, remove pick up module from fuel tank. As seen in photo 1C.
9. Reviewing photo's 1D and 1E, place the lock ring back into place for measurement reasons. Lay the grommet into proper location and use a punch to mark the center. Drill a 1 ¼" hole, catch all debris, example cup. Note: You may have to cut a piece of the protective cover away.
10. Using photo 1F assembly the pick up assembly. Use pipe tape on the pipe threads.
11. Insert the grommet into the 1 ¼" hole. Place the pick up assembly into grommet, 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.
12. Before cutting the suction tube triple check the measurements, it is much more efficient to cut the tube to long and then correct to proper length than it would be to cut to short.
13. With proper length being obtained with the suction tube kit, debur and flush assembly. Place the assembly into the grommet as seen in photo 1E.
14. Reinstall install pick up module.
15. Cap factory suction line.
16. Insert the 3/8" x 1/2" (push lock x female flare) fitting into the fuel line. Remember to oil the fitting and fuel line.
17. As seen in photo 1H attach the fitting discussed in the previous step. Torque to proper specifications.
18. Reinstall fuel tank. Remember to connect, wire harness and torque tank hanger bolts to proper specifications.

**STEP 1:     Removing & Preparing Fuel Tank: Continued**

19.    Reconnect filler neck to the fuel tank and torque the clamp to proper specifications.
  
20.    Using photo 11 cut the filler neck tube in the proper location and install the two 2" clamps and return manifold. Torque clamps to proper specifications.
  
21.    Connect the opposite end of the fuel line addressed in step 21 junction pipe of the return manifold, seen in photo 11, using a 1/2" hose clamp. Torque to proper specifications.

**YES THE FUEL LINE MAKES A LOOP FROM THE TANK TO THE FILLER TUBE. THIS WILL BE ADDRESSED LATER.**

**STEP 2: Mounting FASS System:**

Use the following photo's to complete this step:



**Photo 2A**



**Photo 2B**



**Photo 2C**

1. Assemble the fuel pump bracket to the FASS System, with the 3/8" thick washers between the bracket and fuel system, using the 5 - 1/4" x 1 1/4" bolts. Refer to photo 2A. Torque to proper specifications.
2. Assemble 3/8" x 3/8" (push lock x mpt) fittings into ports label with the letters "T" and "E" **using tread tape**. Refer to photo 2A. Torque to proper specifications.
3. Hold the frame bracket of the FASS System up to the emergency brake cable bracket and center punch the 2 - 3/8" bolt holes as seen in photo 2B.
4. Using a 3/8" drill bit drill the 2 holes just previously marked in the emergency brake cable bracket as seen in photo 2C.
5. Attach the frame bracket of the FASS System to the emergency brake cable bracket using the 3/8" bolts. Torque to proper specifications.
6. Using the 4 WA-1001C as spacers between the two brackets assemble the FASS System to the mounting bracket using 4 - 3/8" bolts and flanged nuts. Torque to proper specifications.
7. Located on the filters, apply motor oil to the o-rings. Attach fuel filter and water separator. Torque to proper specifications.

**STEP 3: Installing Fuel Line:** Use the following photo to complete this step:

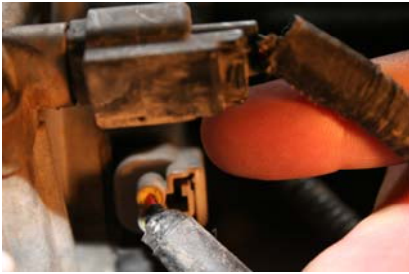


Photo 3A 6.0L



Photo 3B 6.0L



Photo 3B 7.3L



Photo 3C



Photo 3D



Photo 3E

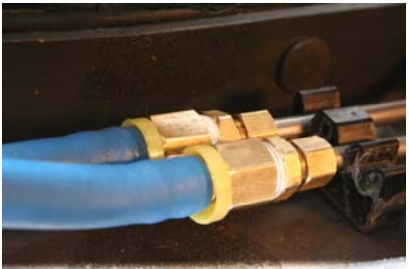


Photo 3F 6.0L

1. Route fuel line from the suction port of the fuel tank to the port of the FASS System labeled with the letter "T". Cut and attach to the push lock fitting. Remember to oil the fitting and fuel line before connecting.
2. Route the fuel line from the return manifold to the port on the FASS System labeled with the letter "R". Cut fuel line and insert the 3/8" x 1/2" (push lock x female flare) fitting. Remember to oil the fitting and fuel line.
3. Connect the female flare to the male flared fitting marked with the letter "R". Torque to proper specifications.
4. As seen in photo 3A, disconnect the two electrical connections from the factory fuel pump. For the 7.3L remove the two wires by removing the two nuts.
5. For the 6.0L Powerstroke review step 7 of this section. Disconnect the factory fuel lines from the factory fuel pump. Review photos 3B. To disconnect the fuel lines to the rear of the truck on the fuel pump, simply press in on the tabs located on the side of the quick disconnect.

**STEP 3:     Installing Fuel Line:**     Continued

6.     Remove factory fuel pump.
7.     As seen in photo 3C, using a pipe cutting tool, cut the factory fuel line just beyond the flexible tubing which was connected to the fuel pump. Only the top two lines and the bottom forward fuel line will need this procedure performed.
8.     Using pipe tape, assemble the PL-1008 and CP-1001 as seen in photo 3D. Only on set will be need for the 7.3L. Torque to proper specifications.
9.     For the 6.0L this step is to be performed on the three fuel lines cut in step 7. Using photo 3E slide the nut, the farrell and then the compression fitting onto the steel fuel line, make sure there are no burrs. Be sure to bottom out the fuel line into the compression fitting while tightening the nut to the compression fitting. Torque to proper specifications.
10.    For the 6.0L, using a piece of fuel line, connect the top two push lock fittings. Remember to use oil.
11.    Connect the remaining fuel line to the push lock fitting located in the port on the FASS System labeled "E". Remember to use oil.
12.    Measure and cut to length the fuel line from the port labeled "E" of the FASS System to push lock fitting now connected to the steel fuel feed line to the engine addressed in step 9. Remember to oil the fitting and fuel line. Photo 3F

**STEP 4:**     **Installing Electrical Harness:**     Use the following photo to complete this step.



1. Connect the male end of the wire harness to the female electrical connector on the FASS System.
2. Route the wire harness along the frame rail and into the engine compartment and connect the wire extension (part #WE-1001) to the female end of the WH-1002.cab.
3. In the fire wall is a plastic plate which is a good location for to drill a 7/16 hole.
4. Using the fuse tap & flag terminal connect the “Red” lead from the wire extension to a terminal on the circuit breaker board that is “hot” when the key is on. **Note: Connect the fuse tap to the hot side of the fuse.**
5. Using the ring terminals connect the green wire, of the WH-1002 wire harness, to the negative post and the red wire to the positive post of the battery.
6. Secure the relay in an upright position.
7. Install grommet or use silicone around wiring harness at the point of passing through the firewall.
8. Properly secure the wire harness and fuel lines with wire ties.

**STEP 5: FINAL CHECK:**

1. Bolts and fasteners properly tightened?
2. Electrical Harness and Fuel Lines secured or properly tightened?
3. Prime the fuel system! (Refer to owner's manual)!
4. Check for leaks.
5. Start the engine!
6. Recheck all fluid connections and filters for leaks.

**NOTE:** The electric fuel pump runs continuously while the engine is running. The fuel pump on the FASS System will feel warm or hot to the touch.

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