

*“HIGH PERFORMANCE FUEL DELIVERY SYSTEM”*



***FASS FUEL SYSTEMS***



## **A MUST READ**

FROM: Diesel Performance Products, Inc.

SUBJECT: Welcome/Thank You

TO: Valued Customer

We at Diesel Performance Products, Inc. (DPP) would like to thank you very much for your confidence in purchasing the FASS Fuel System or the FASS Fuel Pump. 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. DPP feels as though we have given our dealer’s proper knowledge and support to promote and service our line of fuel pumps.**

Dealers receive appropriate troubleshooting guides to refer to. These have proven to be excellent references for those who choose to use them. We offer 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.

We believe that our dealers are more than well educated to problem-solve. It is our position that this is the most logical way to provide good customer service. We are always trying to improve quality, expand our product line, and provide support to our network of dealers so they can support their customers in a satisfactory way for all involved.

**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 warranty!**

Again, thank you very much for your business and have a great day!

Diesel Performance Products, Inc.

# **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 95/95-2011 or FASS 95/150-2011 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 95/95-2011 (95gph) or FASS 95/150-2011 (150gph) applies to this application:***

Recommendation: FASS 95/95-2011 - the Ford Powerstroke Truck 2005 - 2006, with stock to moderate horsepower modifications.

Recommendation: FASS -2011 - the Ford Powerstroke Truck 2005 - 2006, with extreme horsepower modifications. Note: in most cases this model works very well with the stock pick up module.

Because of the higher fuel flow these systems have to offer, you may encounter stock fuel module problems. The STK-1001 will solve these problems.

## **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.**















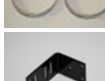
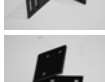



If any installation procedure is uncertain, contact place of purchase.

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.

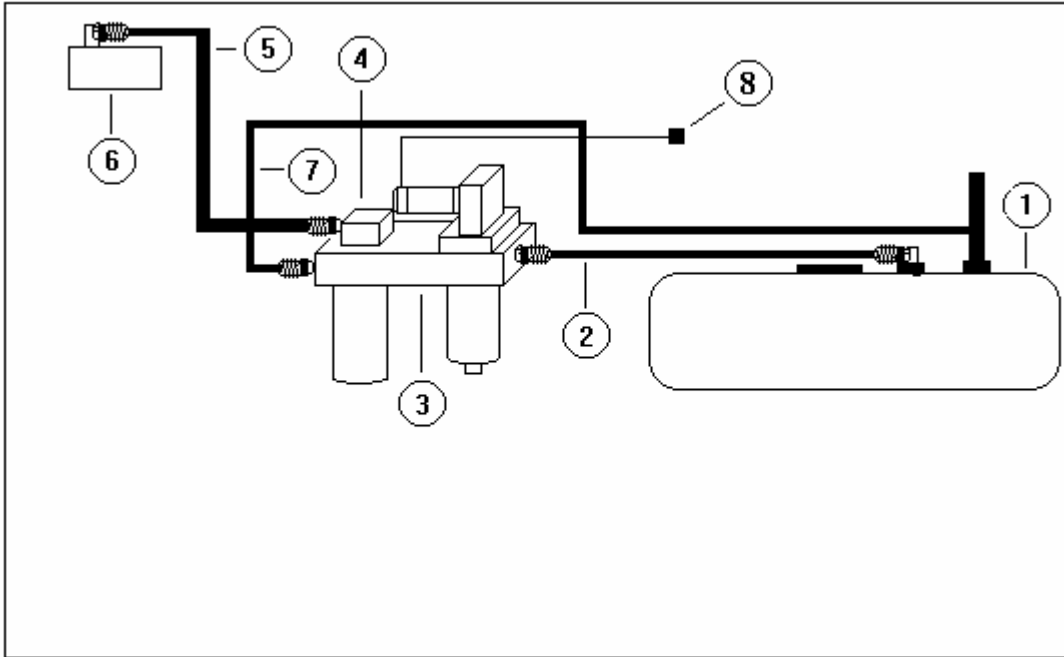
**NOTE:** The use of a hydraulic fuel filter is because the canister is much thicker and provides more durability than a fuel filter canister. The element inside a hydraulic filter filters fuel exceptionally well!

***For the 6 year warranty please fill out the "PRODUCT REGISTRATION FORM" and attach a copy of the sales receipt. We must receive the original product registration form and sales receipt within 30 days of the purchase or the 6 year warranty will not be valid.***

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-1001	
5.	3/8" Fuel Line	--	--	--	--	15'	--	FL-1001	
6.	1/4 "mounting bolt	--	--	--	--	5	--	--	
7.	3/8" Thick Washer	--	--	--	--	5	--	WA-2001	
8.	3/8" mounting bolt and flanged nut	--	--	--	--	10 ea.	--	--	
9.	1 1/2" Return Manifold	--	--	--	--	1	--	RM-1002	
10.	3/8" x 3/8" (Push Lock x M PT)	--	--	--	--	2	--	PL-1006	
11.	3/8" x 1/2" (Push Lock x Female Flare)	--	--	--	--	1	--	PL-1002	
12.	3/8" Quick Disconnect	--	--	--	--	2	--	QD-1001	
13.	3/8" Line Hose Clamp	--	--	--	--	3	--	HC-1001	
14.	1 3/4" Line Hose Clamp	--	--	--	--	2	--	HC-1004	
15.	Frame Bracket	--	--	--	--	1	--	FB-1005	
16.	Frame Bracket	--	--	--	--	1	--	FB-1004	
17.	Fuse Tap	--	--	--	--	1	--	MBFT	
18.	Flag Terminal Female	--	--	--	--	1	--	187F1AG	
19.	Ring Terminal	--	--	--	--	1	--	NRB516-K	

## SYSTEM DIAGRAM



1. FUEL TANK
2. FUEL SUPPLY LINE TO PUMP UNIT
3. PUMP/FILTRATION UNIT
4. FUEL TO ENGINE MANIFOLD
5. FUEL SUPPLY LINE TO INJECTION PUMP
6. INJECTION PUMP
7. RETURN LINE (NOTE: LINE WILL “T” INTO OVER FLOW TUBE NEXT TO FILLER NECK.)
8. WIRE HARNESS FROM FASS FUEL PUMP TO POWER SOURCE

**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.  
“E” – this is the port leading to the engine’s lift pump.  
“H” – these are the heater ports for coolant, unidirectional. The heater DOES NOT HAVE TO BE USED and the read plugs can be left in place.

**The 2 – 3/8” allen head plugs have no function.**

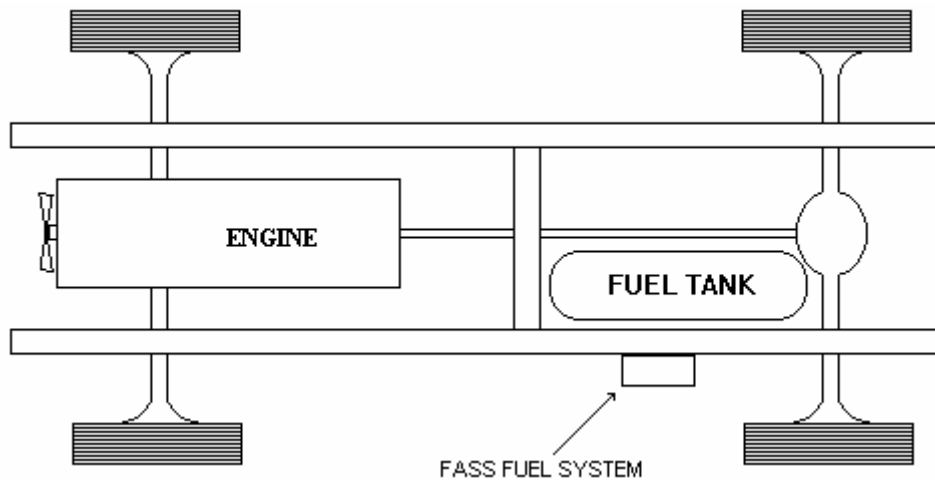
## Location of the FASS FUEL SYSTEM PUMP/FILTRATION UNIT

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.

## **BEGIN INSTALLATION**

**STEP 1:**     **Preparing Suction Line and Return Line:**     Use the following photo's to complete this step.



Photo 1A



Photo 1B



Photo 1C



Photo 1D

1. Remove the filler neck tube from the truck by loosening the clamps at both ends.
2. Disconnect the factory suction line from the fuel tank. This requires a quick disconnect tool (available at most automotive stores) as seen in photo 1B. This is the fuel line closest to the rear of the truck.
3. Attach fuel line to quick disconnect fitting using a 3/8" hose clamp as seen in photo 1A. Torque to proper specifications.
4. Connect the quick disconnect fitting to the suction port on the fuel tank. As seen in photo 1C. Pull back on the black plastic in the quick disconnect as you slide it onto the fuel supply line. It will lock into place.
5. Review photo 1D and the location of the return manifold before completing this step. Cut the rubber tube to allow the return manifold to junction with the filler tube. When assembling the return manifold into the filler tube position it to where the 3/8" junction pipe aims to the outside of the bed. It may be necessary to remove approximately 1/2" – 3/4" of the rubber where the 3/8" junction tube exits the manifold. **Note: Photo 1D is a picture of a filler tube from a different application.**

**STEP 1:     Preparing Suction Line and Return Line:     Continued**

6.     Assemble the return manifold using the 2 – 1 3/4” hose clamps. Do not tighten at this time.
7.     Reinstall the filler tube.
8.     Connect the opposite end of the 11’ fuel line addressed in step 4 of this section to the 3/8” junction pipe of the return manifold using a 3/8” hose clamp.
9.     Now torque all hose clamps to proper specifications.

**NOTE:**     **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



Photo 2D



Photo 2E



Photo 2F

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 1/2" x 3/8" (push lock x mpt) fittings into port label with the letter "T" and the fuel to engine manifold port, **using tread tape**. Torque to proper specifications.
3. Place the FB-1004 in the pocket of the leaf spring hanger as seen in photo 2B.
4. Using a 3/8" drill bit drill 3 holes to mount the FB-1004 as seen in photo 2C.
5. Now attach the FB-1004 to the leaf spring hanger using 3 - 3/8" bolts and flanged nut, as seen in photo 2E. Torque to proper specifications.
6. Attach the FB-1005 to the FB-1004 as seen in photo 2D. This can be performed on the truck (out of truck for photo). Torque to proper specifications.
7. Assemble the FASS System to the mounting bracket using 4 - 3/8" bolts and flanged nut as seen in photos 2E and 2F. Torque to proper specifications.
8. 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:



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 the above photo disconnect the factory fuel line from the suction side of the electric lift pump. To disconnect the fuel line lift up on the plastic tab and remove, once the tab is removed the line will easily slide off.
5. Connect the remaining fuel line to the push lock fitting located in the fuel to engine manifold port on the FASS System. Remember to use oil.
6. Measure and cut to length the fuel line from the fuel to engine manifold port of the FASS System to the suction port of the electric lift pump. Connect this fuel line using a QD-1001 and 3/8 hose clamp, this is the same procedure as connecting to the fuel tank. Torque to proper specifications.

**STEP 3:**     **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 cab. In the fire wall is a plastic plate which is a good location for to drill a 7/16 hole.
3. Using the fuse tap & flag terminal connect the “Red” lead from the wiring harness (Part # WH-1001) to a terminal on the circuit breaker board that is “hot” when the key is on. (NOTE: The fuel pump of the FASS System usually draws about 5 – 8 amps and can possibly surge to 12 amps when turned on.) **Note:** **Connect the fuse tap to the hot side of the fuse.**
4. Green wire must be connected to a clean ground without being exposed to any corrosion.
5. Install grommet or use silicone around wiring harness at the point of passing through the firewall.
6. 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.

**Our part number, IL-1001, is an in-cab indicator light. This kit monitors the fuel system pressures and will indicate when the fuel pressure of the FASS falls below 7psi.**

**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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