

“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!!

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

This installation manual applies to the FASS 95/95-1007 & FASS 95/150-1007 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 95/95-1007 or FASS 95/150-1007 applies to this application:

- Recommendation: FASS 95/95-1007 for the 2005 - 2006 Dodge Cummins 4x4 Truck, with stock to moderate horsepower modifications.
- Recommendation: FASS 95/150-1006 for the 2005 - 2006 Dodge Cummins 4x4 Truck, 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!

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:

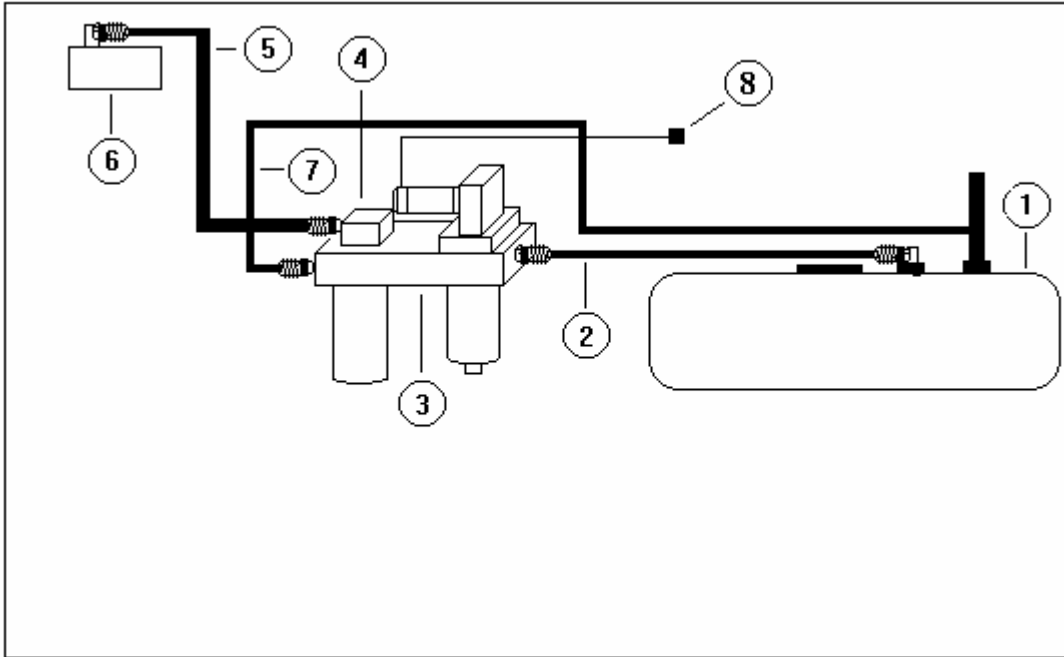
	Description					Quantity		Part #	
1.	Pump/Filtration Unit	--	--	--	--	1	--	FASS-95	
2.	Fuel Pump Bracket	--	--	--	--	1	--	BR-2001	
3.	Owners Manual	--	--	--	--	1	--	OM-1003	
4.	Electrical Harness	--	--	--	--	1	--	WH-1001	
5.	3/8" Fuel Line	--	--	--	--	17'	--	FL-1001	
6.	1/4 "mounting bolt	--	--	--	--	5	--	--	
7.	3/8" Thick Washer	--	--	--	--	5	--	WA-2001	
8.	3/8" mounting bolt and flanged nut	--	--	--	--	6 ea.	--	--	
9.	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)	--	--	--	--	2	--	PL-1002	
12.	3/8" x 3/8" (Push Lock x 90° Female Flare)	--	--	--	--	1	--	PL-1003	
13.	Injection Pump Fuel Line Fitting (O'ring)	--	--	--	--	1	--	DIPF-1001	
14.	3/8" Line Hose Clamp	--	--	--	--	1	--	HC-1001	
15.	1 3/4" Line Hose Clamp	--	--	--	--	2	--	HC-1004	
16.	Frame Bracket ("L" Shaped)	--	--	--	--	1	--	FB-1001	
17.	Fuse Tap	--	--	--	--	1	--	MBFT	
18.	Flag Terminal Female	--	--	--	--	1	--	187F1AG	
19.	Ring Terminal	--	--	--	--	1	--	NRB516-K	

Contents Include: Continued

	Description				Quantity		Part #
20.	3/8" x 1/2" (mpt x flared 90°)	--	--	--	1	--	10-299
21.	Bulkhead (3/8 x 3/8)	--	--	--	1	--	BHF-1001
22.	Grommet	--	--	--	1	--	RS2770
23.	3/8 mpt Suction Tube (12 ¼ length)	--	--	--	1	--	ST-1001
24.	3/8" x 3/8" (mpt x fpt) 90 degree elbow (qty 1)	--	--	--	1	--	28-158



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.

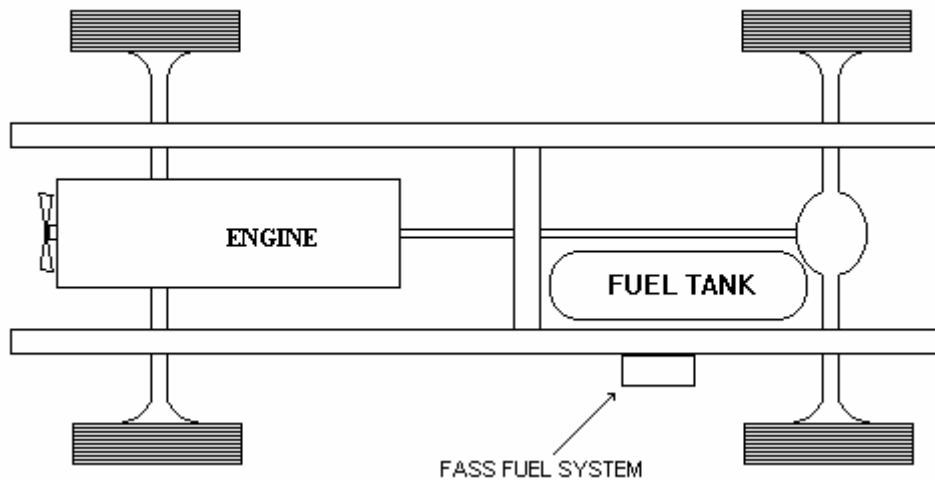
Location of the FASS FUEL SYSTEM PUMP/FILTRATION UNIT

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 Dodge $\frac{3}{4}$ 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: **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

1. Remove the filler neck tube from the truck by loosening the clamps at both ends.
2. Disconnect overflow tube from the fuel tank.
3. Disconnect the factory suction and return line. The factory lines are removed by pressing in on the two tabs located in the connecting harness. These tabs are opposite of each other.

STEP 1: Removing & Preparing Fuel Tank: Continued

4. Disconnect the factory electrical harness located between the suction and return lines on top of the fuel tank.
5. With the fuel tank empty of fuel now remove it from the vehicle.
6. As seen in photo 1A remove the lock ring on the top of the fuel tank.
7. Once the lock ring is removed, remove pick up module from fuel tank.
8. Reviewing photo's 1B and 1C, 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.
9. Using photo 1D assembly the pick up assembly. Use pipe tape on the pipe threads.
10. 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.
11. 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.
12. 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.
13. Reinstall install pick up module.
14. Reinstall fuel tank. Remember to connect both factory fuel lines, wire harness and torque tank hanger bolts to proper specifications.
15. Review photo 1F 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 ½" – ¾" of the rubber where the 3/8" junction tube exits the manifold.
16. Assemble the return manifold using the 2 – 1 3/4" hose clamps. Do not tighten at this time.

STEP 2: **Preparing Suction Line and Return Line:** Use the following photo's to complete this step.



Photo 2A



Photo 2B

1. 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.
2. As seen in photo 2A attach the fitting discussed in the previous step. Torque to proper specifications.
3. Connect the opposite end of the 17' fuel line addressed in step 2 of this section to the 3/8" junction pipe of the return manifold using a 3/8" hose clamp. As seen in photo 2B
2. 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 3: **Mounting FASS System:** Use the following photo's to complete this step:



Photo 3A



Photo 3B



Photo 3C



Photo 3D



Photo 3E

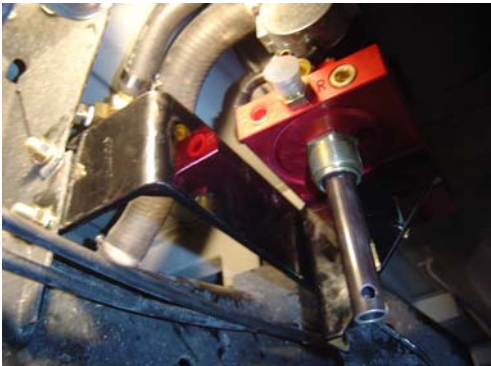


Photo 3F



Photo 3G



Photo 3H

STEP 3: Mounting FASS System: Continued

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 3A. 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.

Note: The FB-1001 (frame bracket) now has multiple slots, use the slots at the end of the bracket for long beds and the middle set of slots for shorts beds.

3. Assemble the FASS System with bracket to the frame bracket as seen in photo 3B using the 4 – 3/8" bolts and flanged nuts.

NOTE: **The "L" shaped bracket attaches to the cab support on the short beds and to the bed support on the long beds. Notice vise grips in photo 3E! Refer to photo 3G if installing on a 2005 4 x 4 shortbed.**

4. Using the above photo's as a guide hold the FASS System (as high as possible) with both brackets attached into the mounting location. (Photo 3C & 3D is of a 2003 short bed 4 x 2 and photo 3E & 3F is of a 2005 long bed.)
5. While holding to the mounting location mark the mounting points.
6. Using a center punch, mark the center of each bolt location.
7. Drill 2 – 13/32 holes as seen in photo 3C to mount the frame bracket.
8. Using the 2 – 3/8" bolts and flanged nuts mount the frame bracket to the proper support. Torque to proper specifications.
9. Torque the 3/8" bolts attaching the frame bracket to the fuel pump bracket to proper specifications.
10. Located on the filters, apply motor oil to the o'rings. Attach fuel filter and water separator. Torque to proper specifications.

STEP 4: **Installing Fuel Line:** Use the following photo's to complete this step:



Photo 4A



Photo 4B

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. Disconnect factory fuel line from inlet side of the factory injection pump and install the injection pump o'ring fuel fitting into this inlet port. (Note: This is where the suction fuel line from the fuel filter enters the injection pump.) As seen in photo 4A & 4B. Torque to 18ft lbs.
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. Route this fuel line to the inlet side of the injection pump and insert the 3/8" x 3/8" (push lock x 90° female flare) fitting into the fuel line. Remember to use oil.
7. Attach 3/8" x 3/8" (push lock x 90° female flare) fitting to the injection pump fitting. Torque to 18ft lbs.

STEP 5: **Installing Electrical Harness:** Use the following photo to complete this step.



Photo 5A



Photo 5B



Photo 5C

Note: 2006 Trucks there is no relay to remove. At the fuel tank there is an electrical connector connecting to the top of the fuel tank. Disconnect this connector; gently pull this wire harness and connector below the frame rail (this will allow space to work with this harness). Simply cut the black outside wire, this is the wire at one end of the harness going into the connector. **FOR AVAILABILITY OF THE STOCK FUEL PUMP AT A LATER DATE CUT THIS GROUND WIRE AWAY FROM THE CONNECTOR, THIS WILL ALLOW FOR EASIER RECONNECTION!**

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 up to the fuse panel in the engine compartment.
3. Using the fuse tap & flag terminal connect the “Red” lead from the wiring harness (Part # WH-1001) to the fuse labeled, cigarette lighter. **Note: Connect the fuse tap to the hot side of the fuse.**
4. Remove the fuel pump relay as seen in photo 5C.
5. Using the ring terminal connect the green wire of located in the WH-1001 to the negative post of the battery.
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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