

“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 150/200-3010 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 150/200-3009 (200gph) applies to this application:

Recommendation: FASS 150/200-3010 - the Chevy Duramax Truck 2001-2006, 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:

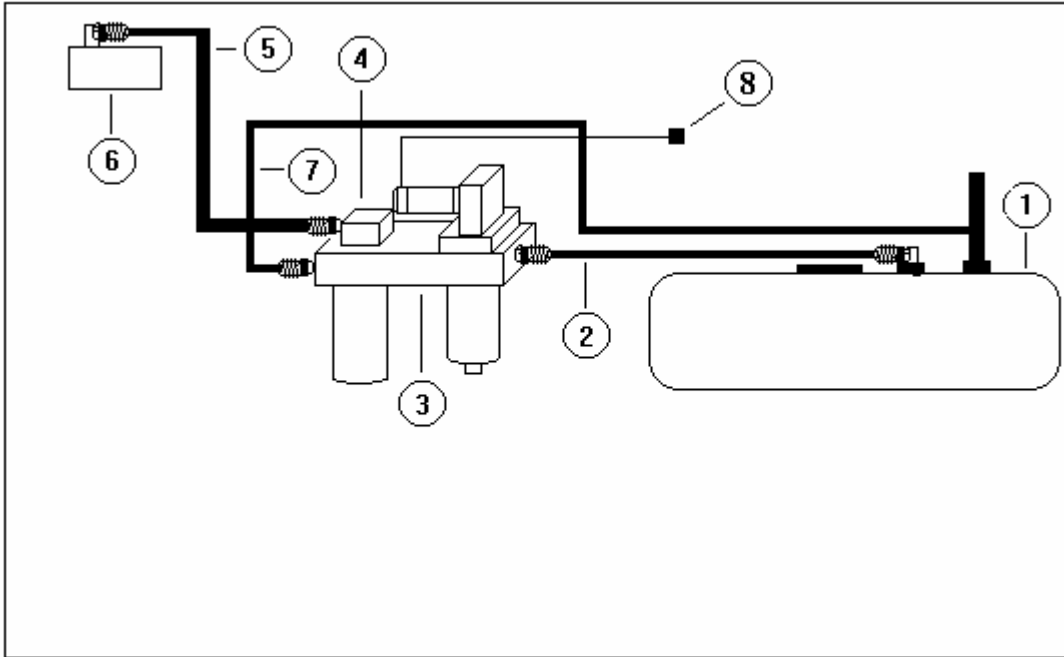
	Description				Quantity		Part #	
1.	Pump/Filtration Unit	--	--	--	1	--	FASS-150	
2.	Fuel Pump Bracket	--	--	--	1	--	BR-2001	
3.	Owners Manual	--	--	--	1	--	OM-1003	
4.	Electrical Harness	--	--	--	1	--	WH-1001	
5.	½" Fuel Line	--	--	--	11'	--	FL-1002	
6.	¼ "mounting bolts	--	--	--	5	--	--	
7.	3/8" mounting bolt and flanged nut	--	--	--	6 ea.	--	--	
8.	2" Return Manifold	--	--	--	1	--	RM-1001	
9.	½" x ½" (Push Lock x MPT)	--	--	--	2	--	PL-1007	
10.	½" x ½" (Push Lock x Female Flare)	--	--	--	2	--	PL-1005	
14.	½" Line Hose Clamp	--	--	--	3	--	HC-1001	
15.	2" Line Hose Clamp	--	--	--	2	--	HC-1003	
16.	Frame Bracket (2001 – 2005)	--	--	--	1	--	FB-1001	
17.	Frame Bracket ("L" Shaped)(2006 Short bed)	--	--	--	1	--	FB-1006	
18.	Frame Bracket ("L" Shaped)(2006 Long bed)	--	--	--	1	--	FB-1007	
19.	Fuse Tap	--	--	--	1	--	MBFT	
20.	Flag Terminal Female	--	--	--	1	--	187F1AG	
21.	Ring Terminal	--	--	--	1	--	NRB516-K	
22.	3/8" Thick Washer	--	--	--	5	--	WA-2001	

Contents Include: Continued

	Description	Contents Include:				Quantity	Continued		Part #
23.	3/8" x 1/2" (mpt x flared 90°)	--	--	--	--	1	--	10-299	
24.	Bulkhead (3/8 x 3/8)	--	--	--	--	1	--	BHF-1001	
25.	Grommet	--	--	--	--	1	--	RS2770	
26.	3/8 mpt Suction Tube (12 ¼ length)	--	--	--	--	1	--	ST-1001	



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 THE 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.
“G” – this is the gauge port. A 0 – 30psi gauge is recommended if any gauge is being used.

The 2 – 1/2” allen head plugs have no function.

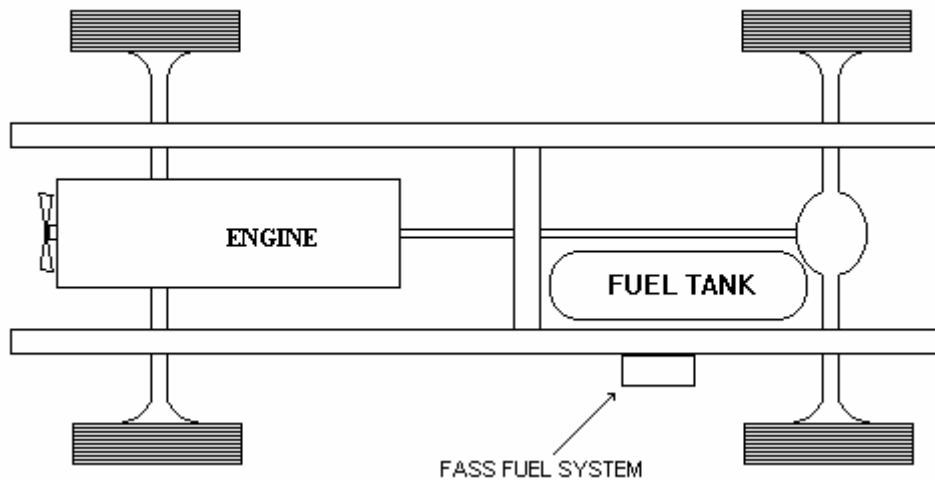
Location of the FASS FUEL SYSTEM PUMP/FILTRATION UNIT

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 Chevy 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.

Hint: This step should be performed with the fuel tank empty!



Photo 1A



Photo 1B



Photo 1C



Photo 1D



Photo 1E



Photo 1F



Photo 1G



Photo H

1. Secure vehicle from rolling.
2. Remove the drive shaft to gain access to the top of the fuel tank.
3. Remove the filler neck tube from the top of the fuel tank by loosening the clamp.
4. Disconnect overflow tube from the fuel tank.
5. Remove the 3 bolts holding the fuel cooler to the mounting bracket. The fuel cooler is located in front of the fuel tank.

STEP 1: Removing & Preparing Fuel Tank: Continued

6. Using a fuel line disconnect tool disconnect the factory suction & return located above the fuel cooler and connecting to 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. Example: Photo 1A.
7. Disconnect the factory electrical harness located on top of the fuel tank.
8. With the fuel tank empty of fuel now remove it from the vehicle.
9. As seen in photo 1B remove the lock ring on the top of the fuel tank.
10. Once the lock ring is removed, remove pick up module from fuel tank. As seen in photo 1C.
11. As seen in photo 1D 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.
12. Now drill a 1 ¼" hole using the mark made in step 11, remove all debris. As seen in photo 1E.
13. Using photo 1F assembly the pick up assembly. Use pipe tape on the pipe threads.
14. 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.
15. 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.
16. With proper length being obtained with the suction tube kit, debur and flush assembly. Place the assembly into the grommet as seen in photo 1G.
17. Reinstall install pick up module.
18. Remove factory suction line from the fuel tank using a quick disconnect tool and cap this open port.
19. Insert the 1/2" x 1/2" (push lock x female flare) fitting into the fuel line. Remember to oil the fitting and fuel line.

STEP 1: Removing & Preparing Fuel Tank: Continued

20. As seen in photo 1H attach the fitting discussed in the previous step. Torque to proper specifications.
21. Reinstall fuel tank. Remember to connect, wire harness and torque tank hanger bolts to proper specifications.

Note: Fuel line attached in Step 20 will be addressed later.

STEP 2: Preparing the Filler Neck:

Use the following photo's to complete this step. Use photo's 2A – 2C if the filler neck and overflow tube are an assembly and use photo 2D if the filler neck and overflow tube are separated.



Photo 2A



Photo 2B



Photo 2C



Photo 2D

1. Installing Return Manifold. First identify the type of filler neck/overflow tube assembly.

Separate filler neck and overflow tube –

- a. Review photo 2D and the location of the return manifold before completing this step. Cut the 2" rubber tube to allow the return manifold to junction with the rubber tube. When assembling the return manifold into the 2" rubber tube position it to where the ½" junction pipe aims to the outside of the bed.
- b. Assemble the return manifold using the 2 – 2 ¾" hose clamps into the 2" rubber tube. Torque to proper specifications.

One piece filler neck and overflow tube assembly - Remove filler neck assembly from the truck. (Photo 2A)

- a. Remove screws that attach the filler neck assembly to the bed of the truck. Located behind filler neck door.

STEP 1: Preparing the Filler Neck: continued

- c. At the fuel tank loosen the hose clamp that attaches the filler neck assembly tube to the fuel tank.
- d. Remove filler neck assembly.
- e. Now disconnect the 2" rubber tube from the filler neck assembly. Loosen the hose clamp to remove 2" rubber tube.
- f. Review photo 1B and the location of the return manifold before completing this step. Cut the 2" rubber tube to allow the return manifold to junction with the rubber tube. When assembling the return manifold into the 2" rubber tube position it to where the 1/2" junction pipe aims to the outside of the bed. (Photo 2C)
- g. Assemble the return manifold using the 2 – 2 3/4" hose clamps into the 2" rubber tube. Do not tighten at this time.
- h. Reassembly filler neck assembly.
- i. Reinstall filler neck assembly into truck. Do not tighten hose clamps at this time.

Refer to Pages 14 & 15 for a 2006 Truck and pages 16 & 17 for 2001 – 2005.

STEP 3: **Mounting FASS System:** Use the following photo's to complete this step:



Photo 3A



Photo 3B



Photo 3C



Photo 3D



Photo 3E

These pictures are of a long bed, the short bed installation is similar. Short bed bracket is included along with the long bed bracket.

1. Assemble the fuel pump bracket to the FASS System using the 5 washers & bolts. The 2 - 3/16 washers & 1/4" x 1" bolts will be used to space the bracket away from the main base of the FASS. The 3 - 11/16" washers & 1/4" x 1 1/2" bolts will be used to space the bracket away from the pump assembly of the FASS. Refer to photo 1A. 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. Assemble the FASS System with bracket to the frame bracket as seen in photo 3C using the 4 - 3/8" bolts and flanged nuts.
4. While holding to the mounting location mark the mounting points to the frame.
5. Using a center punch, mark the center of each bolt location.
6. Drill 2 - 13/32 holes as seen in photo 3B & 3D to mount the frame bracket to the leaf spring or bed support bracket.

STEP 2: Mounting FASS System: Continued

7. Using the 2 – 3/8” bolts and flanged nuts mount the frame bracket to the leaf spring support. Torque to proper specifications.
8. Torque the 3/8” bolts attaching the frame bracket to the fuel pump bracket to proper specifications.
9. Located on the filters, apply motor oil to the o-rings. Attach fuel filter and water separator. Torque to proper specifications.

STEP 3: **Mounting FASS System:** Use the following photo's to complete this step:



Photo 3A



Photo 3B



Photo 3C



Photo 3D



Photo 3E

Note: The FB-1001 (frame bracket) now has multiple slots, use the slots at the end of the bracket.

1. Assemble the fuel pump bracket to the FASS System using the 5 washers & bolts. The 2 - 3/16 washers & 1/4" x 1" bolts will be used to space the bracket away from the main base of the FASS. The 3 - 11/16" washers & 1/4" x 1 1/2" bolts will be used to space the bracket away from the pump assembly of the FASS. Refer to photo 1A. 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. Assemble the FASS System with bracket to the frame bracket as seen in photo 3C using the 4 - 3/8" bolts and flanged nuts.

NOTE: **The "L" shaped bracket can attach to either side of the plate of steel as seen in photo 3B. Some models the "L" shaped bracket will attach to the bed support. Photo's 3B, 3D and 3E are different locations to attach the FB-1001, use the best location for your application.**

4. Using photo's 3B and 3C as a guide hold the FASS System (as high as possible)(photo 3D is of a 2002 Chevy Duramax) with both brackets attached into the mounting location.

STEP 3: **Mounting FASS System: Continued**

5. While holding to the mounting location mark the mounting points to the frame.

6. Using a center punch, mark the center of each bolt location.

7. Drill 2 – 13/32 holes as seen in photo 3B & 3D to mount the frame bracket to the leaf spring or bed support bracket.

8. Using the 2 – 3/8” bolts and flanged nuts mount the frame bracket to the leaf spring 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.

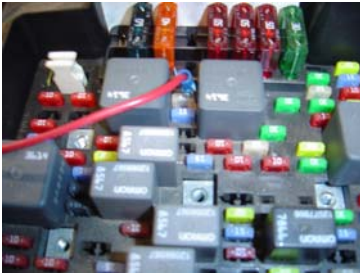
STEP 4: **Installing Fuel Line:** Use the following photo's to complete this step:



Photo 4

1. Loop the fuel line left disconnected in step 1 towards the rear of the truck around to the suction port on the FASS System. This port is labeled "T". Cut the fuel line. Before connecting fuel line to push lock fitting lubricate the brass fitting and the inside of the fuel line with oil. Push the fuel line all the way on.
2. Connect fuel line to the brass fitting located in the fuel to engine manifold port. Oil and connect fuel line and fitting in the same method as performed in the previous step.
3. Route this fuel line to the factory fuel line supplying the engine. This fuel line is locate behind the fuel cooler. Seen in photo 4.
11. Cut and connect fuel line using the ½" hose clamp. Torque to proper specification.
12. Using the same method as in the 7th step in this section install the ½" x ½" (Push Lock x Female Flare) into the remaining fuel line.
13. Connect the ½" x ½" (Push Lock x Female Flare) fitting to the port on the FASS System labeled with the letter "R".
14. Run and cut the opposite end of the fuel line to the return manifold.
15. Attach the fuel line to the return manifold using a ½" hose clamp. Torque to proper specification.
16. Torque all hose clamps on the filler neck assembly to proper specifications.
17. Secure all fuel lines with wire ties. Please remember wire ties are inexpensive and can prevent major problems!
18. Reassemble fuel cooler.
19. Carefully re-bend sheet metal back to original shape to protect fuel tank.
20. Re-install driveshaft.

STEP 5: **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. The wire harness will travel thru the rubber grommet as seen in the above photo or into 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 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 15 amps and can possibly surge to 25 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. Secure the electrical wire with wire ties. Please remember wire ties are inexpensive and can prevent major problems!

STEP 6: 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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