

INSTALLATION MANUAL

TITANIUM SERIES



APPLICATION:

T 095G (95gph @ 16psi)
T 150G (150gph @ 16psi)

CLASS 1-CLASS 8
Requires a Fuel Line Kit

**VERSATILE
"SEMI"**



CLASS 8 "SEMI"



Dear Valued Customer,

“Made in the USA” is not just a slogan at FASS; it’s what we live by! FASS is not only assembled in the USA but 98%+ of the FASS product is manufactured in the USA, helping to employ Americans and strengthen America. At FASS, we scrutinize our suppliers and demand the highest quality American-made components. However, this does come at a price, which is one of the main reasons FASS products are more expensive than the competition. Remember price does not dictate quality but quality does dictate price! Here at FASS, we believe it’s worth the commitment and will continue this practice to support America! Our competition is doing exactly the opposite by using foreign-made components.

Building extremely “High-Quality” fuel products is our business. We concentrate all of our efforts in this arena. No one else is as specialized as FASS in what we do! This is one of the ingredients to insure you are running with the “Highest-Quality” fuel system in the world! We have implemented very rigorous testing procedures to provide the “Highest Quality” we have become known for. Not only is our product superior, but customer satisfaction is #1 at FASS. It is our goal to provide the best service possible. Our confidence is evident in the products we make as each product is backed by an industry leading warranty!

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 our customers’ needs and expectations will be exceeded.

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.

VERY IMPORTANT: Make sure to fill out your product registration form and return the original form to FASS Fuel Systems within 30 days of purchase accompanied with a copy of the purchase receipt. Complying with these guidelines will qualify you for the Extended Warranty!

See the Owner’s Manual for full Limitation of Warranty. In the event that the buyer does not agree with this agreement: the buyer may promptly return this product, in a new and unused condition, with a dated receipt, to the place of purchase within thirty (30) days from date of purchase for a full refund less shipping.

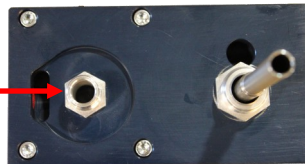
The installation of this product indicates that the buyer has read and understands the Limitation of Warranty agreement and accepts its terms and conditions.

!WARNINGS!

- **Read all instructions before starting installation of this product!**
- **Installing the improper FASS Pump can cause *severe* engine damage. This unit was not designed to be used on Unit Injected Mechanical Engines. Refer to the FASS kits with UIME in the model number.**

FASS	Recommended Application
T 095G	Class 1– Class 7, Agriculture, Industrial, Recreational, Hwy and off-road. Applications requiring fuel flow demands of 16psi and less than 95gph
T 150G	Class 1– Class 8, Agriculture, Industrial, Recreational, Hwy and off-road. Applications requiring fuel flow demands of 16psi and less than 150gph

- **Do Not Remove any factory installed secondary fuel filter! Removal of a factory installed secondary fuel filter may void the engine manufacturer’s warranty. This is the fuel filter between the engines fuel pump and the injectors.**
- **Be sure that the serial # on this installation manual matches that of the outside of the box.**
- **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.**



- **Properly secure lines to prevent chaffing.**
- **Use caution when drilling. Steer clear of any electrical wires , air lines or other damageable components.**
- **Below is a chart of available fuel line kits FASS has to offer. Using one of these kits will make the installation cost effective and easier. This manual will refer to these FLK #'s**

Application	Accessory
#10 Feed Line Kit	FLK-S01
Single pick up/ Single Return	FLK-S02
Double pick up/Double Return	FLK-S03
Mercedes 4000 Series	FLK-S04
Volvo D12-D15	FLK-S05

INSTALLATION MANUAL

Follow these steps to ensure a simple installation of your new FASS TITANIUM FUEL SYSTEM

1. *Read the installation manual completely before attempting installation. The installation of this product indicates that the buyer has read and understands the limitations of the FASS manufacturers warranty agreement and accepts the responsibility of its terms and conditions.*
2. Inventory the package components. Notify the place of purchase immediately of any parts missing or damaged.
3. The installation recommendations contained herein are guidelines. Use good judgment and take into consideration your vehicles' accessories.
4. For best results in accuracy and efficiency (due to training, communication, and our relationship with our dealer network), we recommend an Authorized or ViP FASS Fuel Systems dealer for the installation. They are prepared to install the FASS fuel pumps with the most efficiency. If a situation/problem arises during the installation, they are the most prepared for that situation/problem. DPPI is not responsible for any installation mistakes.
5. If you have any questions or concerns that can not be addressed with your dealer, email or call FASS.
6. If any installation procedure is uncertain, contact FASS technical support.

Email techsupport@FASSride.com with the following information:

- Your Name, address and daytime phone number
- Model **(T 095 or T 150G)**
- Serial Number
- Last 6 of vehicles' VIN
- Date of purchase
- Nature of Your Concern

Serial # Found



Call customer service; [636-433-5410](tel:636-433-5410) with the following information:

- Model **(T 095G or T 150G)**
- Serial Number
- Last 6 of vehicles' VIN
- Date of purchase

TITANIUM SERIES

**95 OR 150 GPH
16 PSI (APPROXIMATELY)**

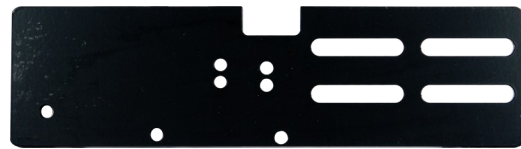
A fuel pressure gauge is highly recommended to identify fuel filter life and to prevent engine damage!



INSTALLATION

- Step 1: Install Electrical Harness
- Step 2: Prepare Suction and Return Lines
- Step 3: Mount Fuel System
- Step 4: Install Fuel Line
- Step 5: Check Installation

CONTENTS



BR-2001



WH-1001

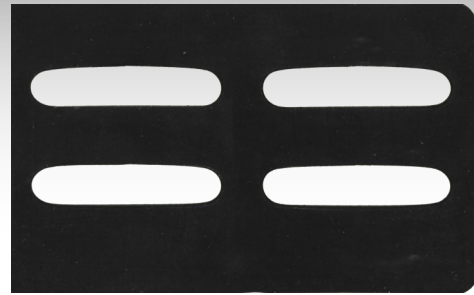
MOUNTING PACKAGE CONTENTS



10-272



RS-2684



RS-1001



Spade Terminal



④ Hex Bolt 3/8" -16x 1 1/4"



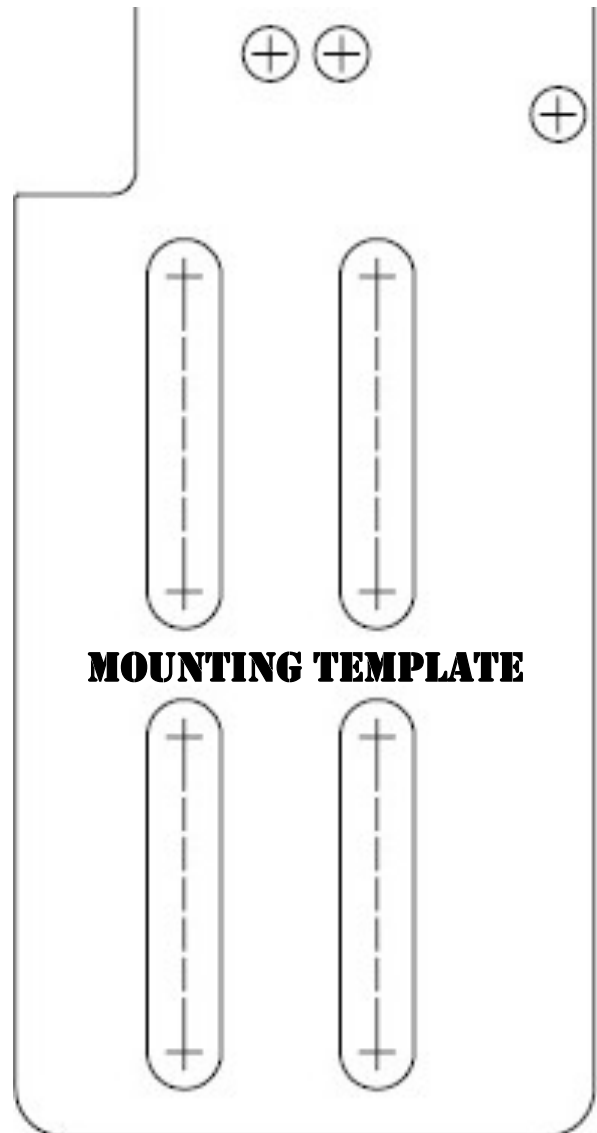
④ Locking Nut 3/8"



⑤ Hex Bolt 1/4"-20x1.25"



⑤ WA-2001



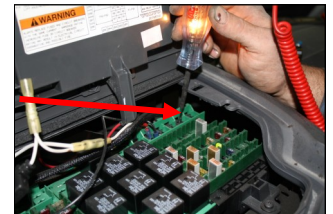
STEP 1: INSTALLING ELECTRICAL HARNESS

Note: The installation of the electrical harness is done first, allowing power to be applied to the pump for lubrication purposes.

Note: Use of corrosion preventative spray and dielectric grease is recommended where electrical connections are made..

- a. Select best location in firewall for passage of wiring harness from cab to engine compartment.
- b. Find or drill a 7/8" hole in firewall. Install RS-2684 grommet for ease of installation and protection of wire harness.
- c. Route red wire/ loom of the wire harness through the grommet in the firewall to the ignition or fuse panel.

- d. Using a spade terminal, connect the "Red" lead to the "ON" terminal of the ignition switch or a terminal on the circuit breaker board that is "hot" when the key is on.



- f. Using a spade terminal, connect the green wire of the wire harness to the negative post of the battery or clean ground.



- g. Secure fuse out of the weather.
- h. Properly secure all electrical leads and harness.

STEP 2: MOUNTING THE FASS

Note: The photo's in this manual are from a sample of applications and are to be used for a guideline as your application may be different. The text is accurate and the photo again is to "ONLY" be used for a guideline.

Note: Use thread tape or pipe sealant on "ALL" male pipe threads, do not use on male flared AN fittings. Torque to 40 ft./lbs.

Note: If primary filter is part of the engine's fuel pump, ignore Step 2a.

a. Remove primary fuel and/or water separator. If primary filter is part of the fuel pump, ignore this step.

b. "ONLY" if a 90° fitting is to be used (as seen in this photo), follow these steps:

1. Remove upside down "T" Block pump assembly by removing the 4 bolts holding it to the FASS filter base. Pay attention to the O-rings (2) and ball(1).
2. Remove the fuel manifold and assemble 90° fitting directing it in the correct direction.
3. Reassemble fuel manifold then pump assembly to FASS filter base making sure all O-rings & the ball are seated in their proper place. Torque to 110 in./lbs.

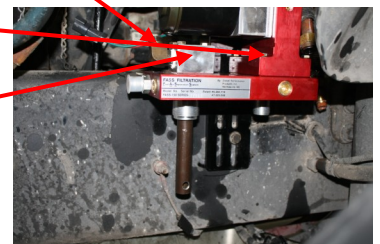
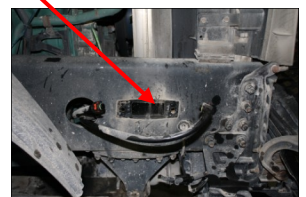
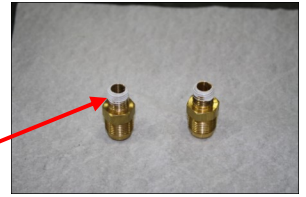
c. Attach BR-2001 to back of system using the spacers and 1/4" bolts. Use 2 shortest on the system base.

d. Position system where it will be mounted. Mark the (4) mounting points **using the template located on the contents page**. Prior holes may be used. Drill these marked locations with a 13/32 bit.

Note: Prior to installing pump, connect wire harness and turn on pump. Spray liberal amount of WD-40 or similar lube into water separator nipple. This 'wets' the Gerotor and allows for easier initial priming.

e. Assemble to frame using the (4) - 3/8" bolts & flange nuts placing the RS-1001 between the frame and bracket.

f. Apply motor oil to O-rings located on filters. Attach to system and torque appropriately



STEP 3: IDENTIFY FUEL LINE CONFIGURATION

REVIEW BEFORE BEGINNING THIS STEP

Note: Fuel lines, excluding nylon type fuel lines, in excess of 6 years old should be replaced due to interior lining deterioration. This condition can cause many problems including but not limited to: fuel starvation, uneven fuel tank levels and etc.

Note: Uneven fuel level conditions can occur between the tanks if the pickup/return lines are improperly installed. When routing the return line from the FASS Fuel System, first identify your current fuel system. Now match with the correct fuel line section below and follow the corresponding procedures.

Below Are The Three Types of Return Systems

Note: For optimal engine performance gains, the return line should return to its own port.

Most Popular - Usually on 1994 Trucks & Newer:
Double Draw/Double Return Line System

FASS fuel line kit should have all of the product to complete this process: **FLK-S03**

2nd Most Popular - Usually on 1993 Trucks & Older (except 359 Peterbilt - next selection):
Single Draw/Single Return Line System

FASS fuel line kit should have all of the product to complete this process: **FLK-S02**

359 Peterbilt: Single Draw Out of Cross Over Fuel Line/Single Return Line System

Dual Tank Recommendation:

1st Choice - Convert to a complete Double Draw/Double Return Line System.

2nd Choice - Convert to a True Single Draw/Single Return Line System.

Advance to Corresponding Section

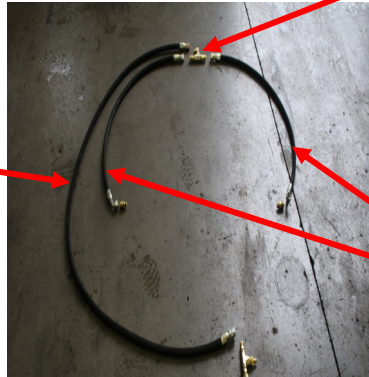
STEP 4: DOUBLE DRAW/DOUBLE RETURN FUEL LINE SYSTEM

Caution: Do Not use sealant on AN fittings. Only use sealant on threads installed into pump assembly or joining fittings.

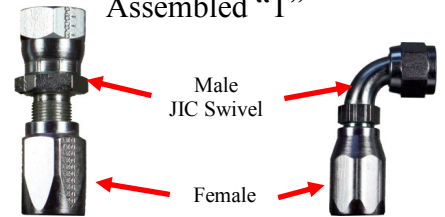
Note: No extra ports? - Review last page of this manual then return to this page.

The fuel line being made in this section will resemble:

Return line from FASS with straight ends to cross member where the line will "T" off.



Assembled "T"



From "T" to each fuel tank with 1-straight fitting & 1-90° fitting on each line. These lines must be the exact length on both sides.

- Locate extra bung on the fuel tanks, most KW's have a 1/4", Peterbilt have 3/8" or 1/2" extra pipe plug located by the fuel lines at the top of the fuel tank. Other models may have an extra port some where at the top of the fuel tank. Remove the plugs and install a -8 AN fitting into each tank. It maybe necessary to use a bushing to adapt fitting to tank.



- Install (90° or straight) fitting into fuel line using the following procedures: recall on this procedure when necessary.

- Assemble fuel line into female hose fitting (reverse threads), then apply a modest amount of oil to the interior lining.



- Secure female end in vise.



- Oil male JIC swivel (90° or straight) and assemble into female



- The male portion should tightened all the way, as seen.

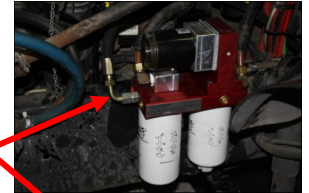


STEP 4: DOUBLE DRAW/DOUBLE RETURN FUEL LINE SYSTEM

- c. Assemble the “T” using (1) 3/8 NPT ‘T’, (2) -8 ANx3/8 MPT & (1) -8 ANx3/8 MPT 90° as seen in the photo.



- d. Attach the line completed in Step 4b to the return port of the FASS labeled with an “R”. Route to the center of the nearest cross member aligned with the ports in the fuel tank being used for return fuel. Measure & mark this line as it will connect to the 90° fitting of the “T” in this location.



- e. Cut the fuel line and assemble a -8 AN hydraulic fitting in the opposite end of the line connecting to the “R” port of the FASS.



- f. Assemble a -8 AN hydraulic fitting into one end of the remaining fuel line. Route this fuel line from straight fitting of the “T” to the return port in the fuel tank, mark & cut.



Caution: Route the side with the exhaust first as it will be necessary to travel below the frame to avoid the exhaust, each side has to be the exact same length. Later it will install as seen.



- g. Cut the remaining fuel line to the “Exact” same length line as the line in Step 4f.



- h. Assemble (1) of each -8 AN 90° & -8 AN Straight into each line addressed in Steps 4f & 4g.



- i. In the same manner as previously covered, route and loosely connect the assembled fuel lines discussed in this section to the appropriate points of connection including the ‘T’.



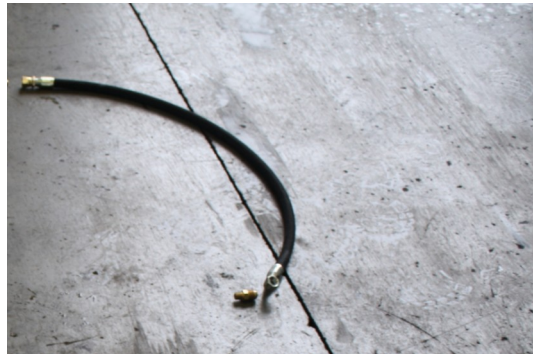
- j. Torque all connections to 18 ft./lbs. Secure the fuel line and all fittings.



Continue to Step 5

STEP 4: SINGLE DRAW/SINGLE RETURN FUEL LINE SYSTEM

The fuel line being made in this section will resemble:



- a. Locate a fuel return port into the fuel tank. Most KW's have a 1/4", Peterbilts have 3/8" or 1/2" extra pipe plug located by the fuel lines at the top of the fuel tank. Other models may have an extra port some where at the top of the fuel tank. Remove the plugs and install the -8 ANx5/16 NPT into each tank, it maybe necessary to use a brass bushing.



Note: No extra ports? - Review last page of this manual then return to this page.

- b. Install -8 AN hydraulic fitting into fuel line using the following procedures:
*recall on this procedure when necessary.

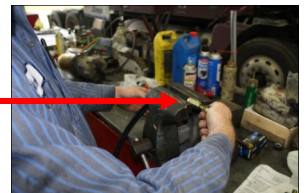
1. Assemble fuel line into female hose fitting (reverse threads), then apply a modest amount of oil to the interior lining.



2. Secure female end in vise.



3. Oil male end of 90° JIC swivel fitting and assemble into female end.

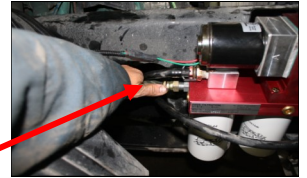


4. The male portion should tightened all the way, as seen.



STEP 4: SINGLE DRAW/SINGLE RETURN FUEL LINE SYSTEM

c. Attach the line completed in Step 4b to the return port of the FASS labeled with an “R”. Route to the port in the fuel tank being used for return fuel. Measure, mark & cut.



d. In the same manner as previously covered, route and loosely connect the fuel lines discussed in this section to the appropriate points of connection.



e. Torque all connections to 18 ft./lbs. Secure all fuel lines and fittings.



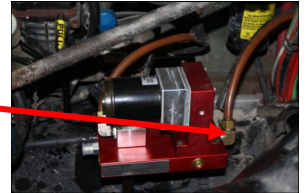
Continue to Step 5

STEP 5: FUEL SUPPLY LINE

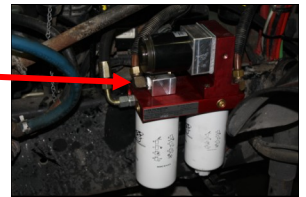
Skip to Step C & D if:

Fuel supply line connects directly to engine, primary fuel filter is not remote mounted. Usually, not always, on NTC/STC's and N-14's.

- a. Attach the fuel supply line from the fuel tank to the FASS using a 10-272L or one of the fitting from the filter housing removed in Step 2.

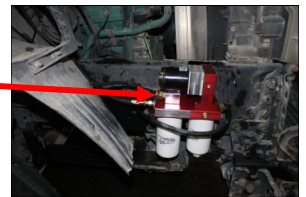


- b. Attach the fuel supply line from the FASS to the engine pump using a 10- 272L or one of the fittings from the filter housing removed in Step 2. Once completed, move to Step 6 and skip the rest of Step 5.



- c. Disconnect fuel line from engine. Connect to “T” port of the FASS.

- d. Assemble a –10 AN hydraulic fitting into one end of the #10 fuel line and loosely connect to either the FASS or the engine.



- e. Route fuel line to open port (engine or FASS) measure and cut.

- f. Assemble a –10 AN hydraulic fitting into the cut end. Remember, clocking of the fuel fittings may be necessary to connect to ports in discussion.



CAUTION: IT IS VERY IMPORTANT TO BLOW THIS FUEL LINE OUT BEFORE FINAL ASSEMBLY TO ENGINE!!

- g. Attach the assembled fuel line to the FASS and engine.

Note: Part # 3915423S from Fleetguard will take the place of the engine mounted fuel filter.

STEP 6: REVIEW INSTALLATION & SECURE CONNECTIONS

- a. Bolts and fasteners properly tightened?
- b. Electrical harness and fuel lines secured and properly tightened?
- c. Has the system been primed, refer to owners manual?
- d. Check for leaks.
- e. Start the engine
- f. Recheck all fluid and filter connections for leaks
- g. Product registration filled out and ready to be mailed or faxed.

OPTIONAL BUNG FITTING

3 Ways of Producing Extra Ports

1. Most Preferred & Easiest

- a. Drill and tap a 3/8" fpt in the thicker band of aluminum as seen.
- b. If possible, install the fuel tank vent in this port and connect the FASS re-
turn to the vent port, for cosmetic's.



2. Weld a Bung Fitting

- a. Fire Hazard, must be accomplished by a professional.

3. Last Option

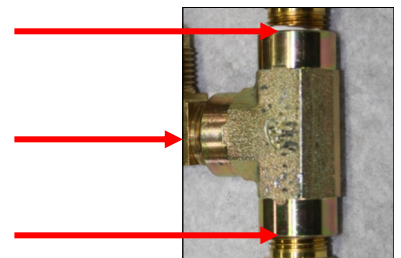
(Note: May cause back pressure to engine return.)

- a. Stand a "T" on end in the place of original tank return fitting.
- b. Route engine return to side entry and FASS return through top of "T".

FASS Return

Engine Return

Fuel Tank



NOTES