



**AEROMOTIVE**  
**Part # 11808**  
**03-07 FORD POWERSTROKE Fuel System Kit**  
**INSTALLATION INSTRUCTIONS**

**CAUTION:**

Installation of this product requires detailed knowledge of automotive systems and repair procedures. We recommend that this installation be carried out by a qualified automotive technician.

Installation of this product requires handling of diesel. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby. Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle before proceeding with the installation.

When installing this product, wear eye goggles and other safety apparel as needed to protect yourself from debris and sprayed diesel.

Aeromotive system components are not legal for sale or use on emission controlled motor vehicles.

**This kit contains the following parts:**

1 ea Frame Bracket 1	1 ea Pump Power Harness
1 ea Frame Bracket 2	2 ea P/N 15104 AN10 to 3/8" J2044 Quick Connect
1 ea 3/4" Pickup Tube	1 ea P/N 15129 AN10 to 1/2" J2044 Quick Connect
1 ea Bottom Plate Baffle	1 ea P/N 15130 AN12 to 5/8" J2044 Quick Connect
2 ea 2" Bracket Spacers	1 ea 15633 0-100psi, 1/8" npt, Fuel Pressure Gauge
1 ea Fuel Pump Assembly (130gph)	1 ea Basket
1 ea 1/2" Return Hose Assembly	1 ea Foam Core
1 ea 3/8" Feed Hose Assembly	3 ea 3/8-16 Zinc Plated Jam nut
1 ea 3/8" Pressure hose from factory fuel pump	3 ea AN-10 o-ring
1 ea 5/8" Suction Hose Assembly	1 ea AN-12 o-ring
1 ea Intank Return Assembly	3 ea 3/8-16 x 4" Hex Head Bolt
1 ea Boxed, Pickup Tube Assembly	2 ea 3/8-16 x 3" Tapered Socket Cap Screw
1 ea Wiring Harness	12 ea Tie-Wraps
	3 ea Zinc Plated Lock Washer

**PUMP SPECS:**

<b>Regulator Adjustment Pressure Range:</b>	<b>2-20psi</b>
<b>Flow Output @ 13.5V:</b>	<b>130gph @ 10psi</b>
<b>Filter Micron Rating:</b>	<b>2 Micron (CATERPILLAR 1R-0750)</b>
<b>Coolant Ports:</b>	<b>AN-08 ORB</b>
<b>Inlet Port:</b>	<b>AN-12 ORB</b>
<b>Outlet/Return Port:</b>	<b>AN-10 ORB</b>
<b>Filter Threads:</b>	<b>1"-14</b>
<b>Factory Pressure setting:</b>	<b>55 psi</b>
<b>Gauge Port:</b>	<b>1/8" NPT</b>

**WARNING: DO NOT REVERSE POLARITY ON PUMP! FUEL PUMP DAMAGE WILL ACCUR.**

This kit uses the factory fuel pump as a fail safe. The total out put from the system is now 130gph + the flow from the factory fuel pump. If in the event of a fuel pump failure, the vehicle will continue run. If deleting the factory fuel pump, use port plug # 15617 to block off the inlet from the factory fuel pump.

### WARNING!



Always be aware of flammable situations. Drilling and grinding can be potential ignition sources. Extinguish all open flames, prohibit smoking and eliminate all sources of ignition in the area of the vehicle and workspace before proceeding with the installation. Ensure you are working in a well ventilated area with an approved fire extinguisher nearby.

### WARNING!



Installation of this product requires modification to a fuel tank, failure to satisfy all safety considerations will result in fire, explosion, injury and/or loss of life to yourself and/or others.

### WARNING!

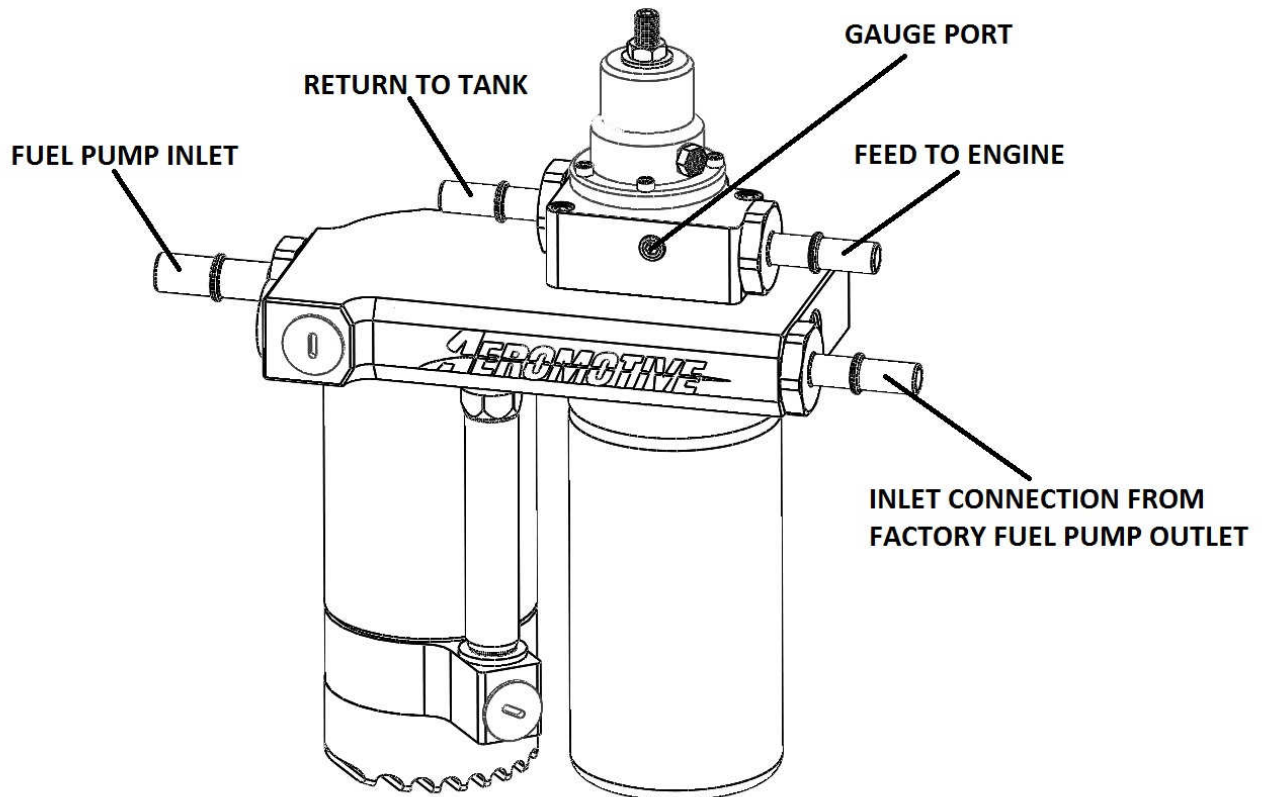


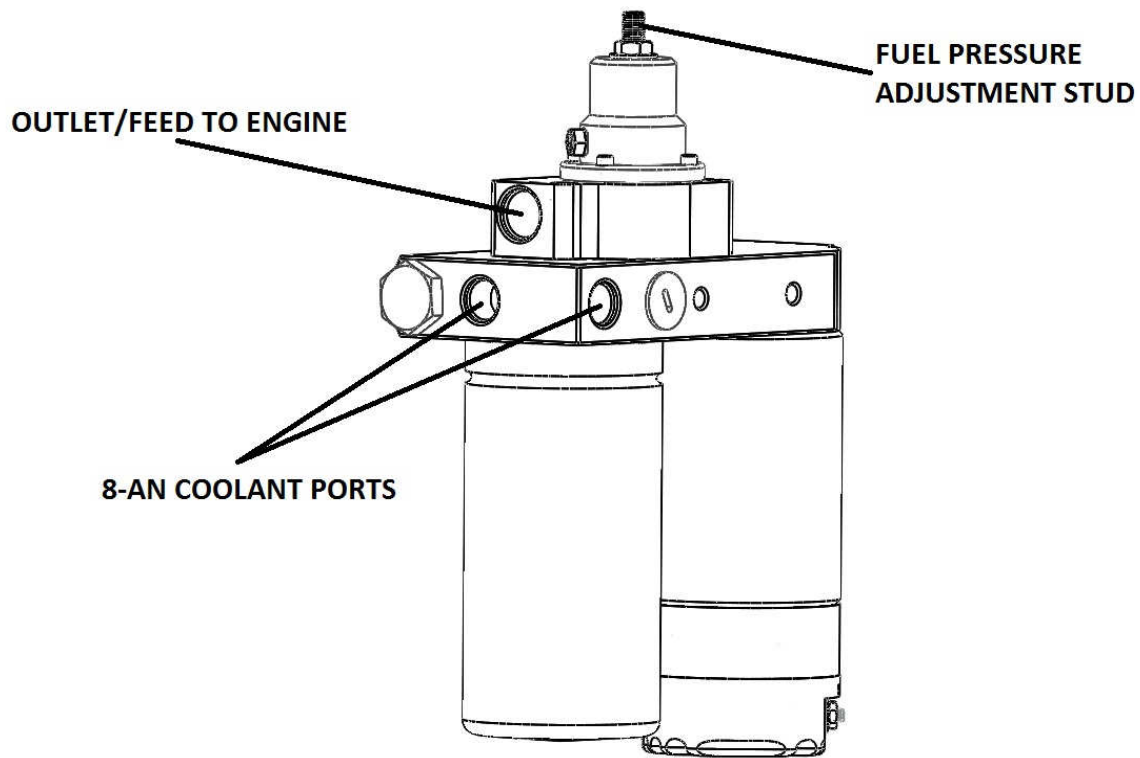
Mechanical and hydraulic lifting devices can tip over or lower accidentally due to incorrect maneuvering or technical errors. A falling object can cause injury and/or loss of life to yourself and/or others. When working under the vehicle always use stands and ensure that the ground or floor is stable and level. Never crawl under a vehicle which is only supported by a jack.

### CAUTION:



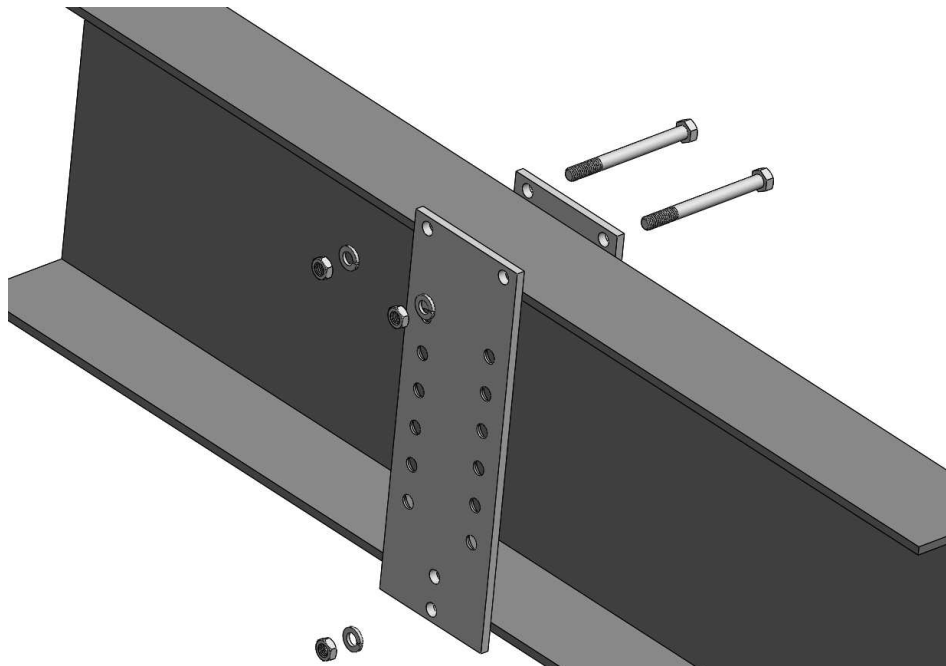
Make sure all batteries are disconnected before starting installation. Most diesel truck have two 12v batteries.





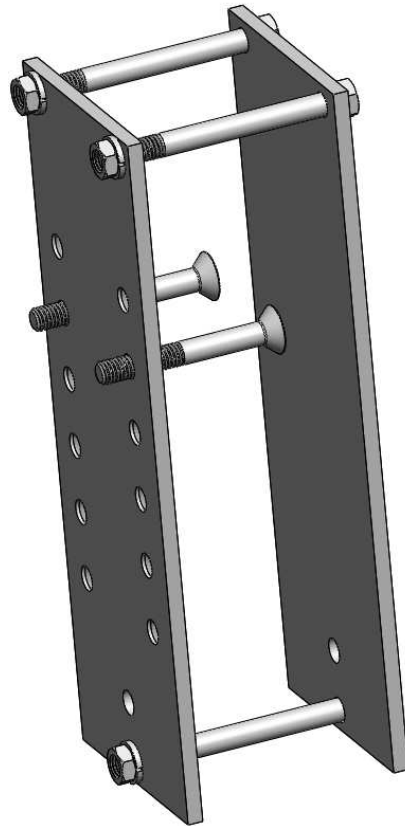
1. Find a suitable mounting location on the driver side frame rail. The pump can be mounted on the inside or outside of the frame (typical mounting on the inside).
2. Assemble the bracket to the frame as illustrated in **FIGURE 1-1**. Use the 3/8" x 4" bolt, lock washers and nuts.

**NOTE:** When installing the top bolts in the mounting plate, be sure not to pinch any tubes or wiring between the plate and frame.



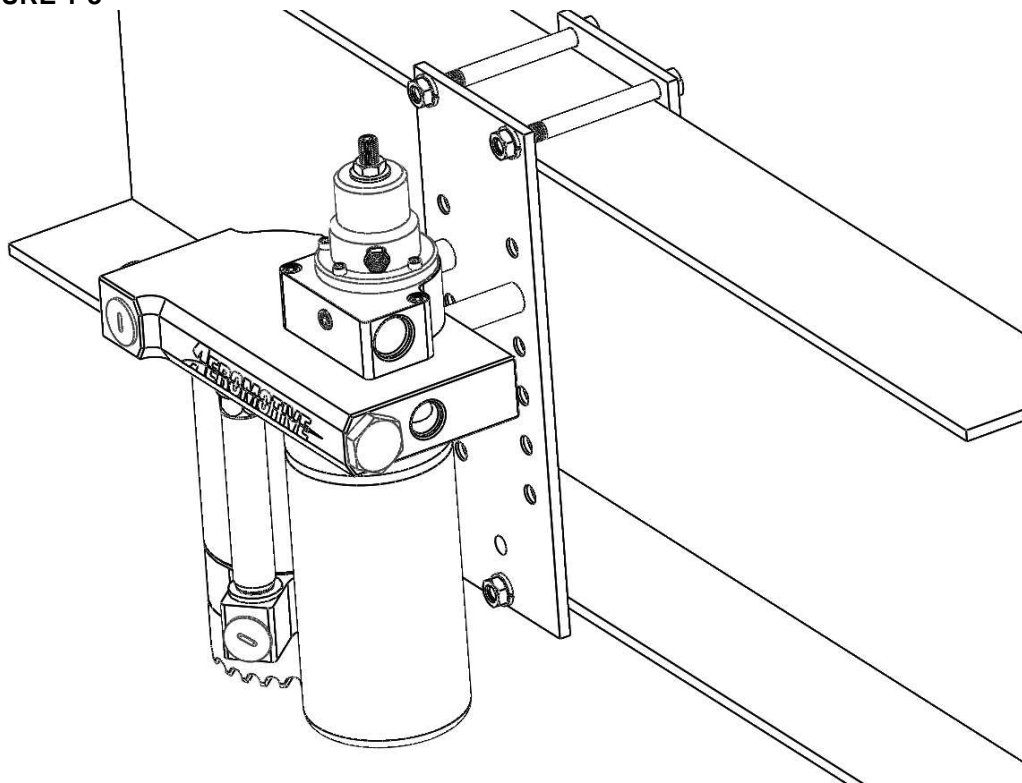
**FIGURE 1-1**

3. Choose the holes that best set the pump height closest to the floor pan. This will allow maximum clearance for road debris (on or off road). Feed the tapered head 3/8" bolts thru the back side of the bracket. **FIGURE 1-2**



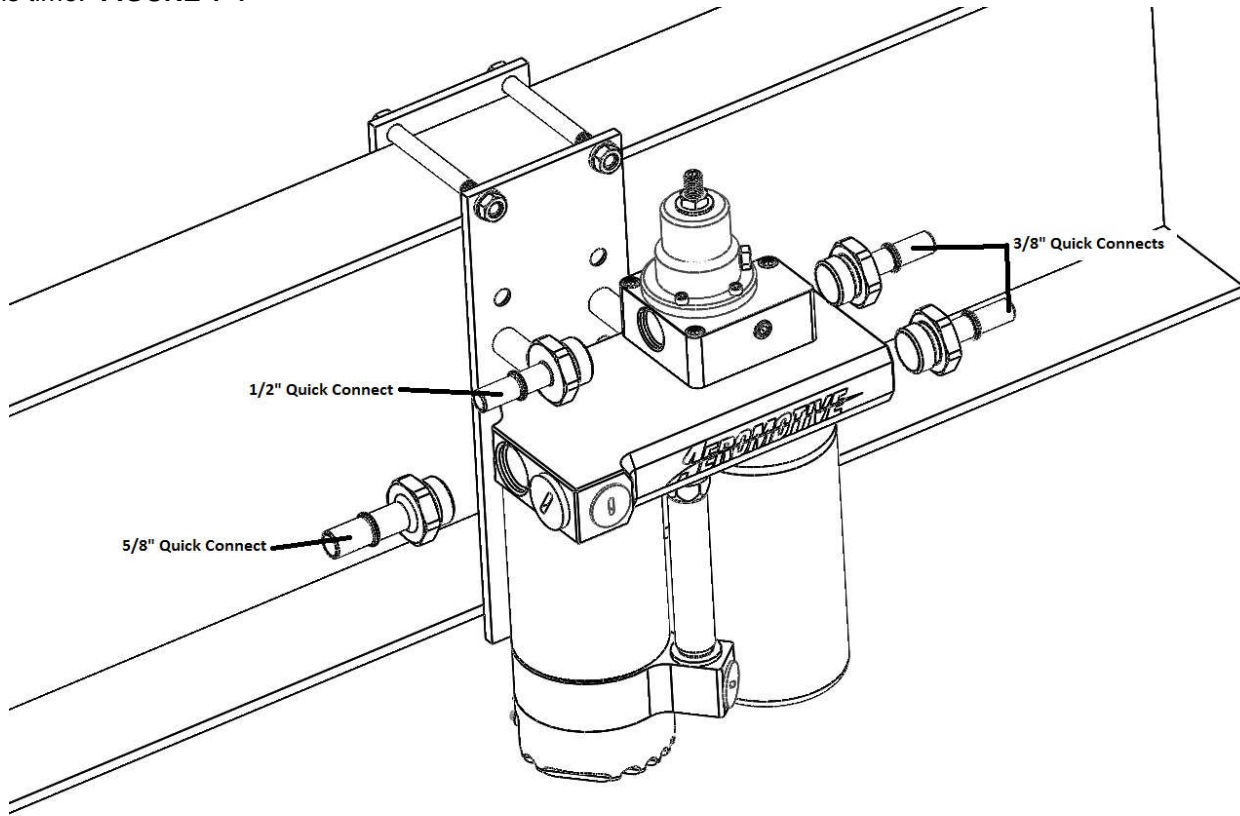
**FIGURE 1-2**

4. Slide the two spacers over the two bolts to space the pump away from the frame and wiring. Now tighten the pump to the bracket. **FIGURE 1-3**



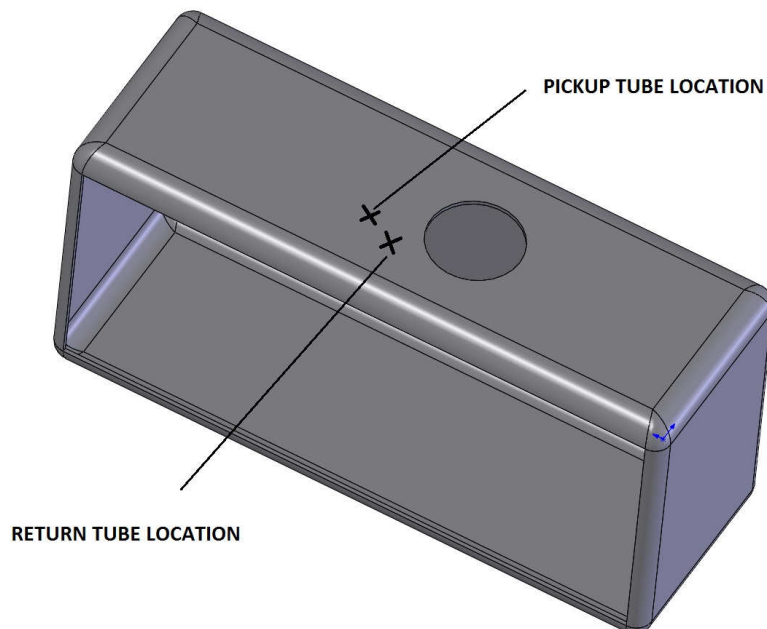
**FIGURE 1-3**

5. Screw the FOUR port fittings into the pump. Ensure that the fitting have the o-rings installed on them. If not, do that at this time. **FIGURE 1-4**



**FIGURE 1-4**

6. Before removing the fuel tank from the vehicle, mark the tank where there is adequate room between it and the bed. These locations will be used to determine the best spot for the feed and return tubes. Remove the fuel tank from the vehicle and place it on the ground. Remove the factory fuel level sending unit and set aside (careful not to damage it and note the orientation of the float arm). Choose a location that's close to the factory tank opening because you have to reach the backside to install a nut. Before drilling your holes make sure the factory fuel level arm will not come in contact with the Aeromotive baffled pickup assembly (**Location marks are examples only**). Failure to do so will result in the gas gauge not working. **FIGURE 1-5**

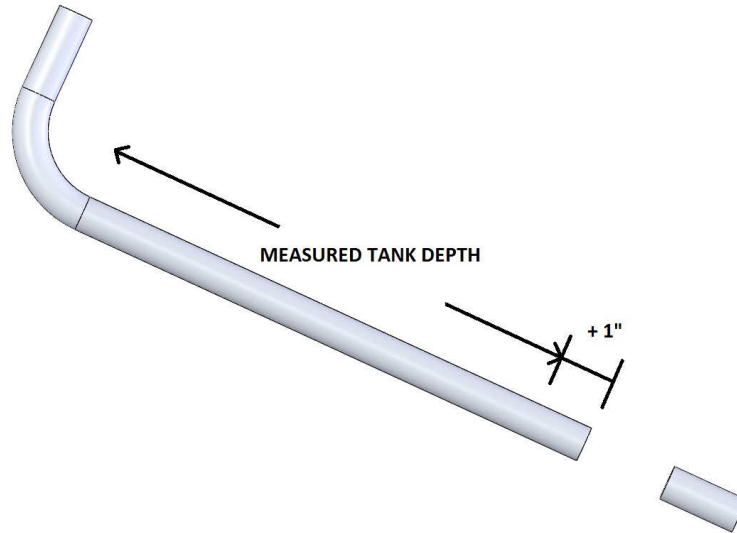


**FIGURE 1-5**

- Find a spot on the tank suitable for the pickup tube assembly. Make sure you have enough room for the 100 micron pre-filter and baffle assembly inside the tank (tank wall clearance and factory basket clearance). Drill a 1" hole for the pickup tube assembly (clean out all debris after drilling hole).
- Measure the depth of the tank through the hole you just drilled. Add 1" to the measurement and cut the pickup tube.

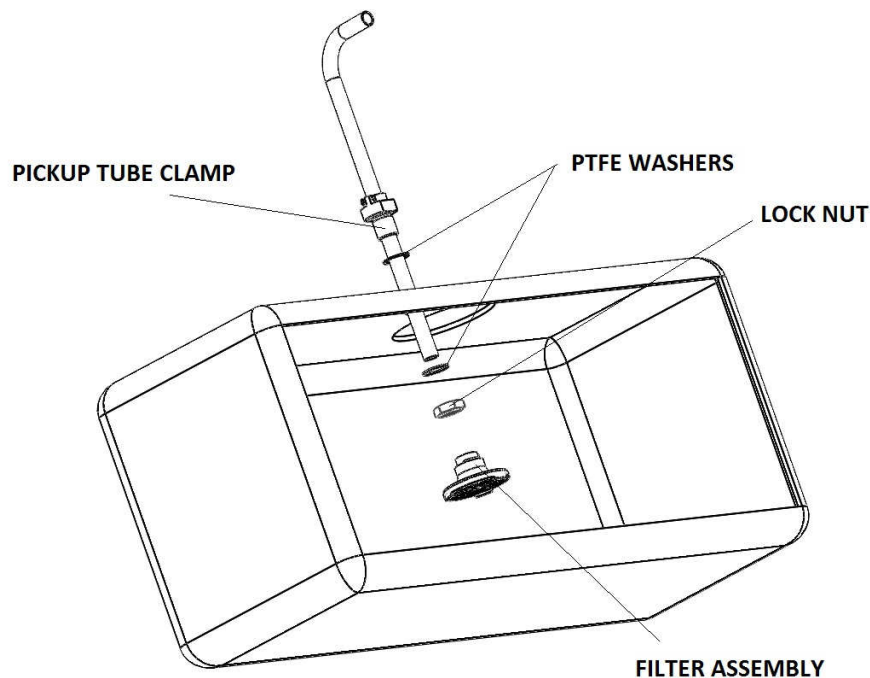
**FIGURE 1-6**

**NOTE:** The tube will be longer than needed and is a built in cushion. You can shorten the pickup tube to better fit your vehicle.



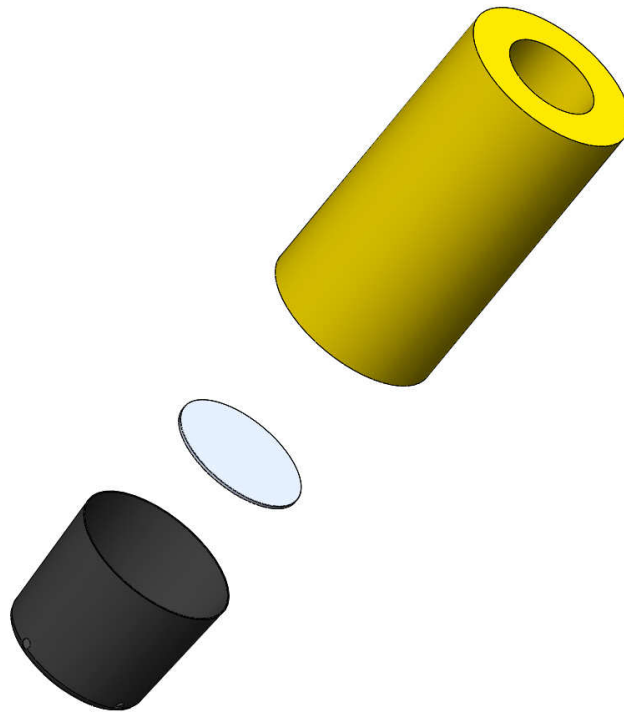
**FIGURE 1-6**

- Insert the pickup tube assembly as illustrated in **FIGURE 1-7**. Place one PTFE washer, lock nut and filter assembly into tank using the factory fuel module (**do not tighten anything yet**). Lightly oil the pickup tube and insert it thru the pickup tube clamp. There will be some resistance because of the two sealing o-rings. Lube the end of the tube and push it into the filter assembly and tighten the filter clamp (tube can be tilted toward the factory open to aid in assembly). Now tighten the pickup tube clamp lock nut.



**FIGURE 1-7**

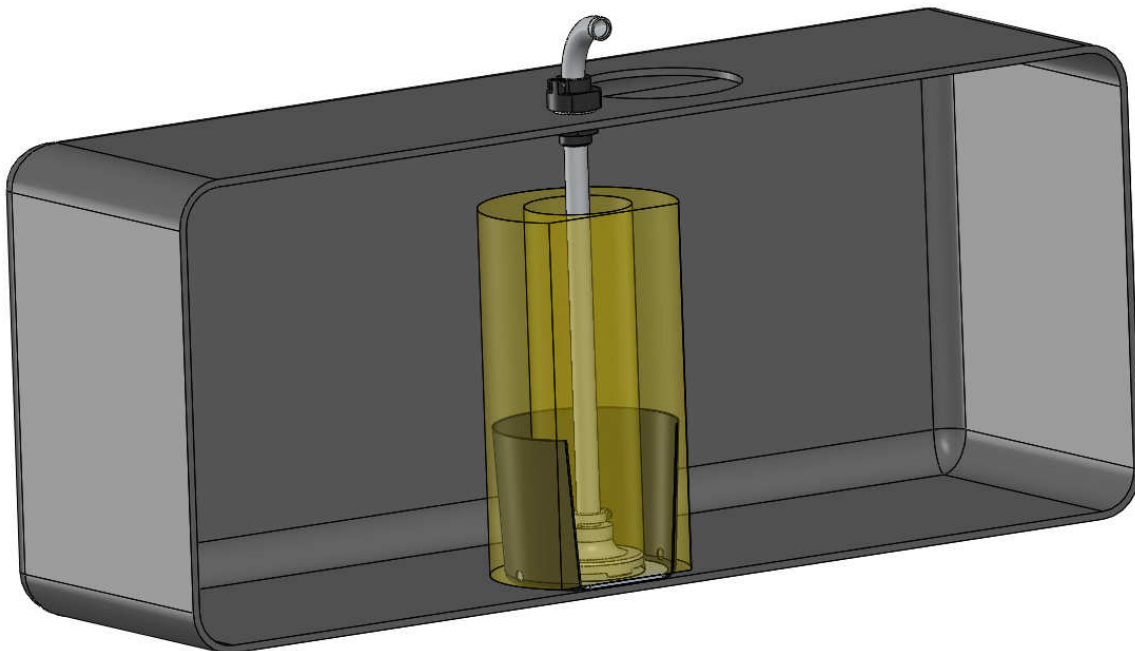
10. Assemble the baffled pickup assembly and insert it into the tank. **FIGURE 1-8**



**FIGURE 1-8**

**Note:** *The round bottom plate can be trimmed to fit down in the tank or cut in half and assembled in the tank.*

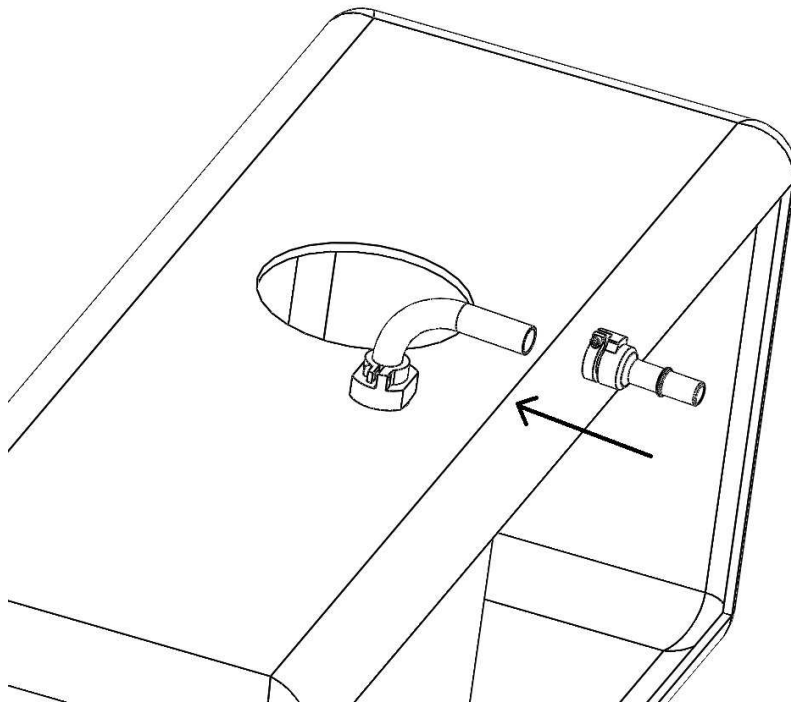
11. Push the pickup tube assembly down into the baffle until the filter rest on the bottom plate. Position the outlet toward the middle of the vehicle and tighten the tube clamp on top of tank. **FIGURE 1-9**



**FIGURE 1-9**

12. Attach the 5/8" J2044 connector onto the pickup tube. Use light oil to ease the installation, tighten clamp.

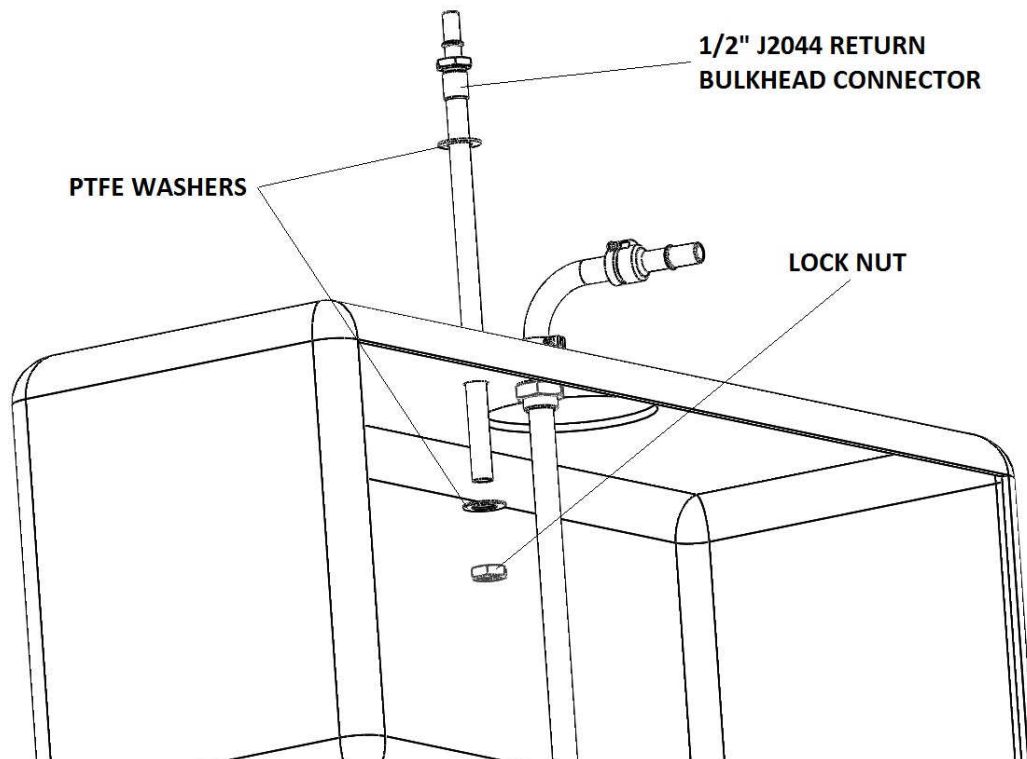
**FIGURE 1-10**



**FIGURE 1-10**

13. Find a location on the tank approximately 2.5-3" away from the pickup tube. Mark this spot and drill a 3/4" hole for the return tube assembly.

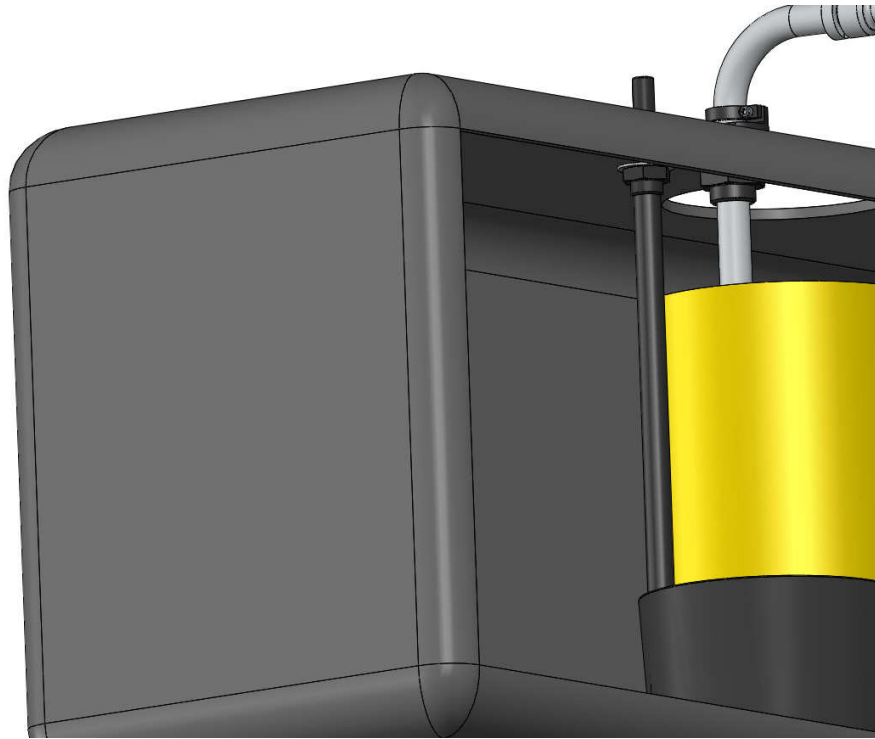
14. Measure from the top of the hole you just drilled to half way down the black Aeromotive basket. Cut the return tube assembly to length. Insert it into the tank as shown in **FIGURE 1-11**.



**FIGURE 1-11**

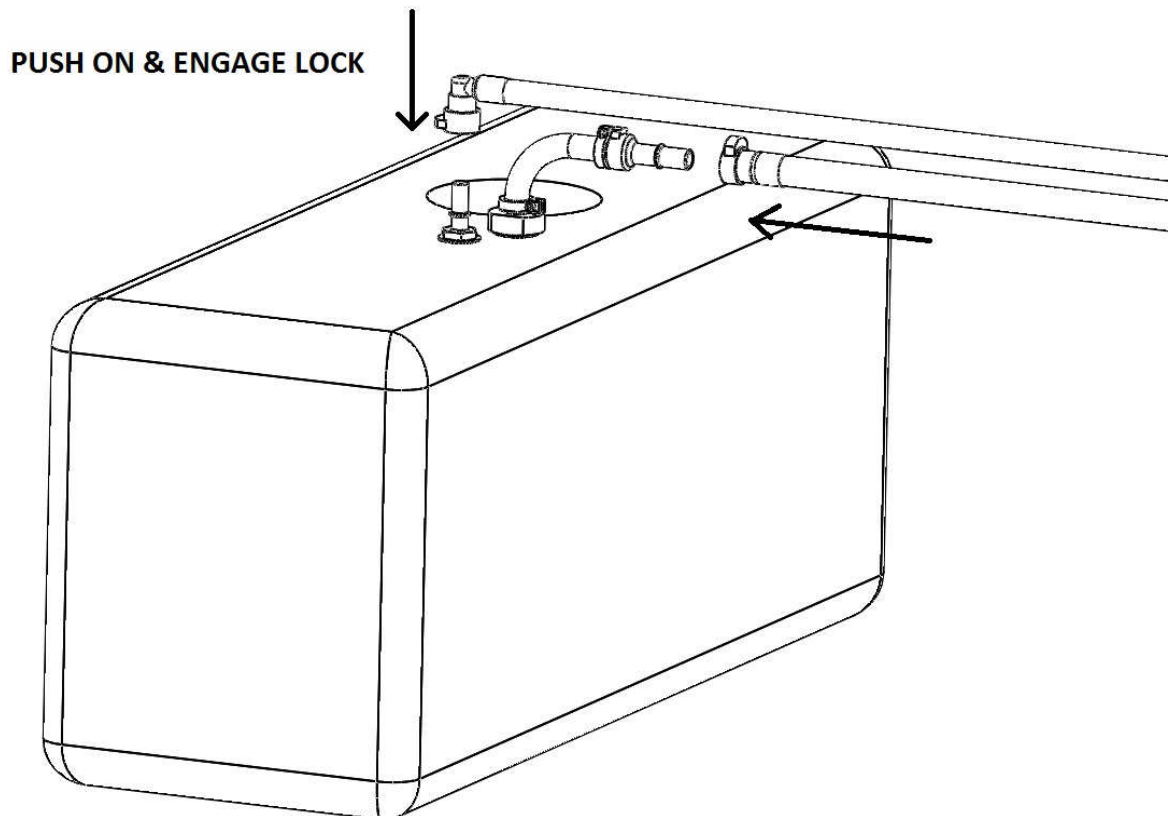


15. As you are inserting the return tube into the tank, guide the tube in between the black rubber basket and yellow foam. Once installed, tighten lock nut inside of tank. **FIGURE 1-12**



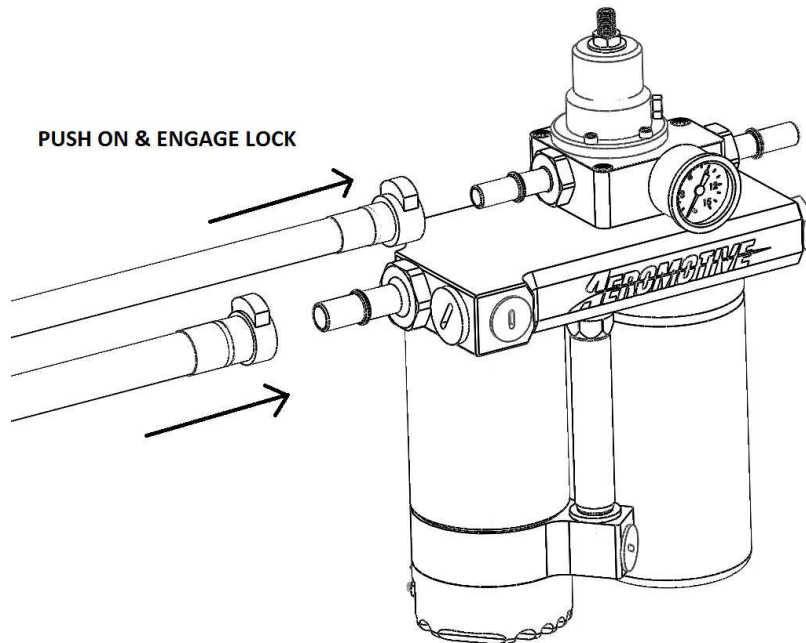
**FIGURE 1-12**

16. Reinstall the factory pickup assembly noting the position of the fuel level as it was removed. Position the tank under the vehicle and attach the feed and return lines. Raise tank and position it into place. **FIGURE 1-13**



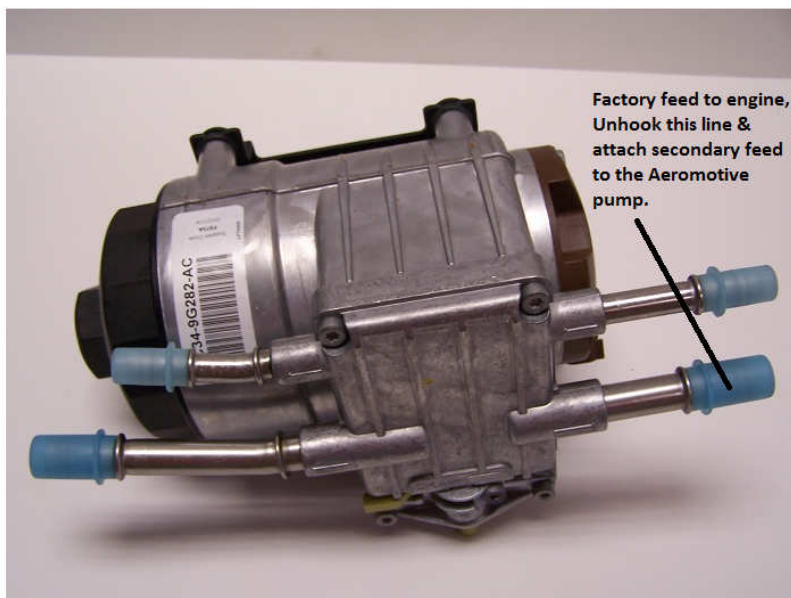
**FIGURE 1-13**

17. Route line away from moving parts and hot exhaust and secure in place with provided zip ties.
18. Now attach the feed and return lines to the pump and install fuel pressure gauge in the 1/8" npt gauge port. Route the lines as such to take out excess length. **FIGURE 1-14**



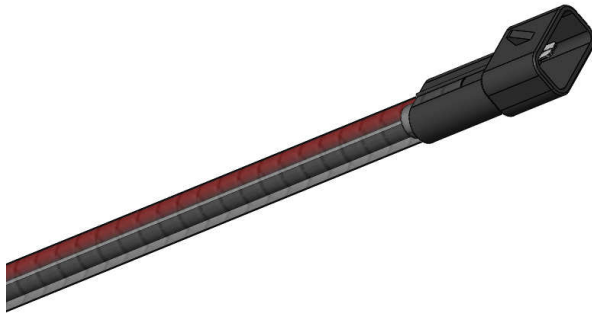
**FIGURE 1-14**

19. Disconnect the factory J2044 connector from the factory fuel pump outlet (factory fuel pump located right below the drivers floor board mounted to inside of frame). Connect the female/female 3/8" hose to the factory fuel pump outlet and route this line to the fitting for "inlet connection from factory fuel pump outlet". With the last hose, connect it to the outlet on the Aeromotive pump and route it to the factory line you disconnected from the factory pump. **FIGURE 1-15**



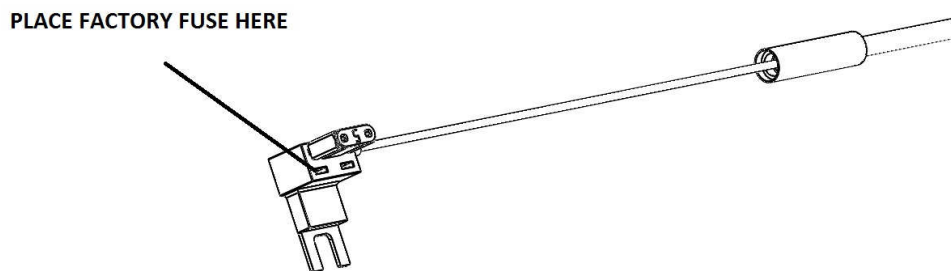
**FIGURE 1-15**

20. Aeromotive has made wiring up your new diesel lift pump very quick and easy with the use of Delphi weather pack connections and nylon power braiding. There are only three connections that need to be made:
1. Pump weather pack connection
  2. Power and ground connection
  3. Mini Fuse tap connection
21. Find a suitable place in the engine bay to mount the relay and fuse holder. Once mounted route the fuel pump power wire to fuel pump and make the connections (pump power connection shown). **FIGURE 1-16**



**FIGURE 1-16**

22. Locate the fuse box and remove the top cover to gain access to the fuses. Using a voltmeter or test light, find a fuse that is "hot" when the key is in the "on" position. Remove the selected fuse and replace it with the mini-fuse tap. Take the factory fuse you just removed and place it in the empty spot on the fuse tap. It may be necessary to trim the fuse box lid to clear the fuse tap and wire. **FIGURE 1-17**



**FIGURE 1-17**

23. Connect the Red (+) and Black (-) to the battery terminals. Make sure all wiring and fuel lines are secured properly.

24. The system is now ready to prime. The Aeromotive diesel lift pump is a self priming system and does not require you crack or bleed any part of the system. Turn the key to the "on" position. Verify the pump is running by checking the fuel pressure gauge (pressure is pre-set at 55psi). Check for leaks at this time.
25. If you wish to adjust pressure you can do that at anytime. Loosen the jam nut on the top of the regulator and turn the adjusting stud to adjust pressure. Clockwise raises pressure while counterclockwise lowers.
26. Start the vehicle and verify all connections are leak free.

**Thread Size 1"-14**

<b>Part #</b>	<b>Manufacturer</b>	<b>Description</b>	<b>Micron Rating</b>
BF1258	Baldwin	Fuel/Water Separator	10 Micron
BF1212	Baldwin	Fuel/Water Separator	
BF1214	Baldwin	Fuel/Water Separator	
175-2949	CAT	Fuel/Water Separator	
1R-0750	CAT	Fuel Filter	2 Micron
P551000	Donaldson	Fuel/Water Separator	10 Micron
P551001	Donaldson	Fuel/Water Separator	20 Micron
P558000	Donaldson	Fuel/Water Separator	20 Micron
FS1000	Fleetguard	Fuel/Water Separator	10 Micron
FS1001	Fleetguard	Fuel/Water Separator	10 Micron
FS1009	Fleetguard	Fuel/Water Separator	14 Micron
FS1212	Fleetguard	Fuel/Water Separator	14 Micron
LFF1223	Luber Finer	Fuel/Water Separator	
LFF8000	Luber Finer	Fuel/Water Separator	
3406	Napa	Fuel/Water Separator	14 Micron
3407	Napa	Fuel/Water Separator	5 Micron
3405	Napa	Fuel/Water Separator	14 Micron
33407	WIX	Fuel/Water Separator	5 Micron
33115	WIX	Fuel Filter	10 Micron
33504	WIX	Fuel/Water Separator	14 Micron

## ***AEROMOTIVE, INC. LIMITED WARRANTY***

This Aeromotive Product, with proof of purchase dated on or after January 1, 2003, is warranted to be free from defects in materials and workmanship for a period of one year from the original date of purchase. No warranty claim will be valid without authentic, dated proof of purchase.

This warranty is to the original retail purchaser and none other and is available directly from Aeromotive and not through any point of distribution or purchase.

If a defect is suspected, the retail purchaser must contact Aeromotive directly to discuss the problem, possible solutions and obtain a Return Goods Authorization (RGA), if deemed necessary by the company. Please call 913-647-7300 and dial option 3 for the technical service dept. All returns must be shipped freight pre-paid to the company and with valid RGA before they will be processed.

Aeromotive will examine any product returned with the proper authorization to determine if the failure resulted from a defect or from abuse, improper installation, misapplication or alteration. Aeromotive will then, at it's sole discretion, return, repair or replace the product.

If any Aeromotive product is determined defective, buyer's exclusive remedy is limited in value to the sale price of the good. In no event shall Aeromotive be liable for incidental or consequential damages.

Aeromotive expressly retains the right to make changes and improvements in any product it manufactures and sells at any time. These changes and improvements may be made without notice at any time and without any obligation to change the catalogs or printed materials.

Aeromotive expressly retains the right to discontinue at any time and without notice any Aeromotive product that it manufactures or sells.

This warranty is limited and expressly limits any implied warranty to one year from the date of the original retail purchase on all Aeromotive products.

No person, party or corporate entity other than Aeromotive shall have the right to: determine whether or not this Limited Warranty is applicable to any Aeromotive product, authorize any action whatsoever under the terms and conditions of this Limited Warranty, assume any obligation or liability of any nature whatsoever on behalf of Aeromotive under the terms and conditions of this Limited Warranty.

This Limited Warranty covers only the product itself and not the cost of installation or removal.

This Limited Warranty is in lieu of and expressly excludes any and all other warranties, expressed or implied. This Limited Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.