

INSTALLATION MANUAL

FOR 24 VALVE 5.9L CUMMINS POWERED

DODGE TRUCKS

1998 ½ THROUGH 2002



MODEL FRRP-150

***FACTORY REPLACEMENT RAPTOR PUMP
WITH BIG LINE KIT***

**READ THESE INSTRUCTIONS THOROUGHLY
BEFORE BEGINNING INSTALLATION**

Performance Fuel System Parts



RAPTOR **Fuel Pumps**



*Adjustable
Regulator*

MOUNTS IN THE SAME LOCATION AS THE OE TRANSFER PUMP



OVERVIEW



Welcome to the **Raptor™ FRRP Fuel Pump**

The Raptor™ FRRP-150 Fuel Pump is a Premium high output replacement lift pump for the Dodge Cummins 24 Valve 5.9L diesel engine. A complete installation kit is included.

The output pressure for the 5.9L 24 Valve Cummins engine is factory set at 14/16 PSI.

Pressure and flows are approximate as they will vary with fuel temperature and as the brushes wear in.

The FRRP-150 is for stock 5.9L Cummins Diesels.

The Raptor™ FRRP-150, a gerotor fuel pump, features an adjustable pressure regulator

SAFETY GUIDELINES!

The installation of the **Raptor™ FRRP Fuel Pump** can be made easy by following the steps outlined in this manual.

1. Inventory the package components completely. Notify *PUREFLOW AIRDOG* immediately of any parts missing or damaged.
2. Read the installation manual and understand how the system operates before beginning installation.
3. If any installation procedure is uncertain, contact *PUREFLOW AIRDOG* for technical assistance.

NOTE: SOME OF THE PICTURES USED IN THIS MANUAL ARE FOR EXAMPLE ONLY AND MAY NOT PICTURE A COMPONENT EXACTLY THE SAME AS FOUND IN YOUR TRUCK.

CAUTION: Chock the vehicle's tires to prevent rolling.

CAUTION: Disconnect the battery cables to both batteries before proceeding with the Raptor™ Fuel Pump installation.

CAUTION: Wear safety glasses when operating power tools such as drills and grinders or when using a punch or chisel.

**Use Good Judgment and Common Sense
When Installing the Raptor™ FRRP-150**

Parts List










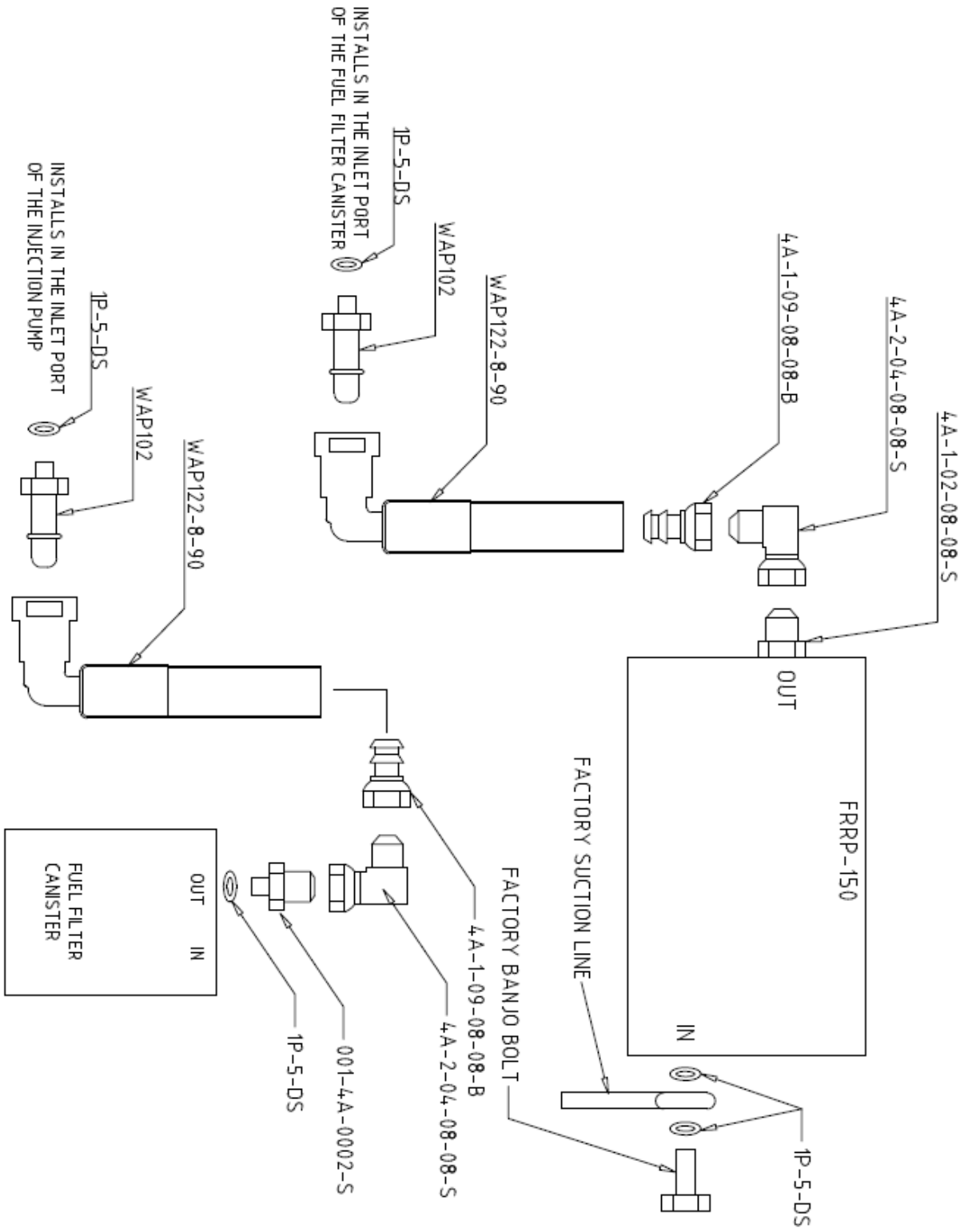
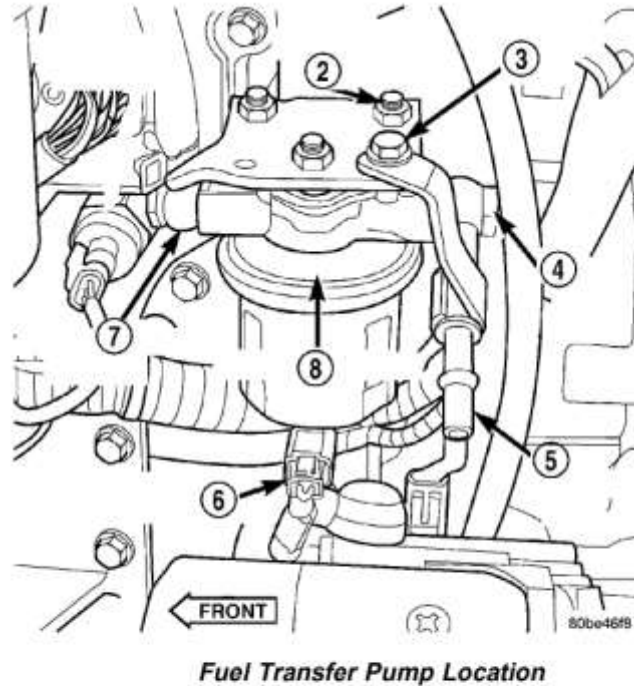
QTY	DESCRIPTION	Part Number	IMAGE
1	RAPTOR™ FRRP FUEL PUMP	FRRP-150	
1	Mounting Hardware Kit	901-61-0102-FRRP	
1	Customer Service Oring Replacement Kit	906-05-0100	
1	3/4"-16 Oring Boss X -8 JIC Fitting	4A-1-02-08-08-S	
2	Fitting, 1/2" Push Lock X -8 Female JIC Swivel	4A-1-09-08-08-B	
2	Fitting, -8 Male JIC x -8 Female JIC Swivel, 90° Elbow	4A-2-04-08-08-S	
2	Output Hose Assembly	WAP122-8-90	
2	12mm X 1/2" Male SAE J2044 Quick Connect Fitting	WAP 102	
4	Sealing Washer (installs on WAP102 fitting and factory inlet banjo)	1P-5-DS	
1	12mm X -8 Male JIC fitting	001-4A-0002-S	

ILLUSTRATION OF COMPONENTS



INSTRUCTIONS

REMOVING THE STOCK PUMP



- 2 - PUMP BRACKET NUTS (3)
- 3 - SUPPORT BRACKET BOLT
- 4 - BANJO BOLT (REAR)
- 5 - FUEL SUPPLY LINE
- 6 - ELECTRICAL CONNECTOR
- 7 - BANJO BOLT (FRONT)
- 8 - FUEL TRANSFER PUMP

FIG 1. (SOURCE: alldatapro.com)

1. Disconnect the electrical connector. Reference #6 of Fig. 1
2. Remove the banjo fitting on the inlet side of the stock fuel pump. Reference #4 of Fig 1.
Do not discard this banjo fitting. It will be reused.
3. Remove the banjo fitting from inlet of the filter canister.
4. Remove the fuel line support from the mounting bracket. Reference #3 of Fig 1.
5. Remove the 3 mounting nuts at the top of the bracket. Reference #2 of Fig 1.
6. The stock pump along with the outlet hose can now be completely removed from the vehicle.

INSTALLING THE FRRP-150

1. Replace the 2 original sealing washers on the stock banjo fitting with the 2 new ones provided (part# 1P-5-DS).
2. Firmly tighten the factory fuel supply line in the inlet port of the FRRP using the factory banjo fitting. The factory support bracket is no longer used.
3. Install the Boss O-ring fitting (part# 4A-1-02-08-08-S) into the outlet port of the FRRP and tighten firmly.
4. Firmly tighten the FRRP to the stock bracket using the hardware supplied. See Fig 2

Fig 2



5. Install the 12mm X 1/2" Male SAE J2044 Quick Connect Fitting (part# WAP102) with seal washer supplied into the inlet port on the fuel filter canister. Do not over tighten. The fitting could crack or break! See Figures 3 & 4.



Figure 3



Figure 4

Note: Figures 3 & 4 depict a push lock style connection. This kit is supplied with connects as shown in the parts list.

6. Connect the quick connect end of the "Output Hose Assembly" (part# WAP122-8-90) (See Figure 5) to the inlet fitting installed in step 5. It will "click" when properly connected.



Figure 5

INSTALLING THE FRRP-150 CONTINUED

7. Cut the open end of the “Output Hose Assembly” to the desired length and install the ½” push lock x -8 swivel (part# 4A-1-09-08-08-B) into the end. See Figures 6 & 7

Figure 6



Lubricate the fitting with oil.

Figure 7



Push the hose completely on the barb.

8. Loosely install the male end of the 90° elbow (part# 4A-2-04-08-08-S) on the hose assembly.
9. Loosely install the female end of the 90° to the outlet fitting of the FRRP previously installed in step 3.
10. Route the hose assembly in a fashion to prevent kinking or chaffing.
11. Tighten the connections that were left loose in steps 8 and 9.
12. Connect the factory power lead to the lead from the motor of the FRRP-100.

INSTALLING THE BIG LINE KIT

1. Remove and discard the fuel hard line that runs between the filter canister and the injection pump.
2. Install the seal washer and “WAP 102” male quick connect to the inlet port of the injection pump. (See Figure 8)

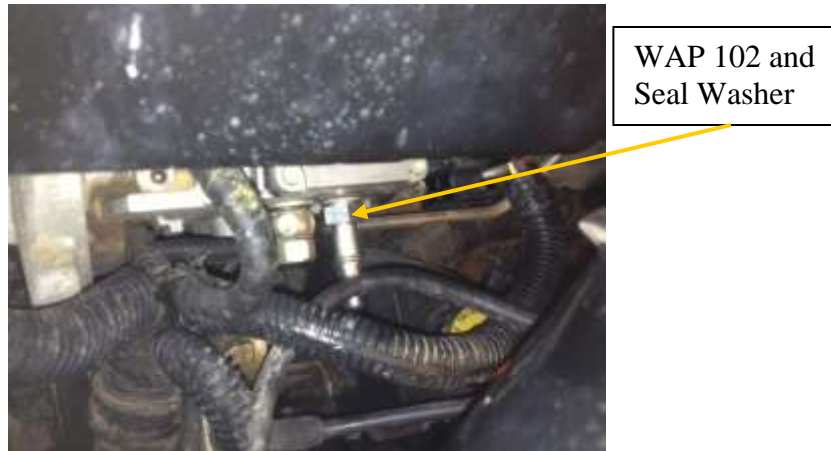


Figure 8

3. Install the 12mm X -8 male JIC fitting with seal washer into the outlet port of the fuel filter canister.

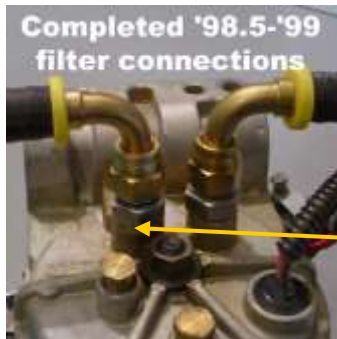


Figure 9



Figure 10

4. Install the female quick connect end of the hose assembly, WAP122-8-90, onto WAP 102 installed in step 2 of this section. Push firmly until a “click” is heard.



Figure 11

INSTALLING THE BIG LINE KIT

5. If required, cut the open end of the hose assembly to the desired length and install the ½” push lock x -8 swivel (part# 4A-1-09-08-08-B) into the end. See Figures 12 & 13

Figure 12



Lubricate the fitting with oil.

Figure 13



Push the hose completely on the barb.

6. Loosely install the male end of the 90° elbow (part# 4A-2-04-08-08-S) on the hose assembly.
7. Route the hose assembly in a fashion to prevent kinking or chaffing.
8. Loosely install the female end of the 90° to the outlet fitting of the fuel filter canister previously installed in step 3.
9. Tighten the connections that were left loose in steps 8 and 9.

Connect the factory power lead to the lead from the motor of the FRRP-150.

INITIAL START PROCEDURE

1. Turn the starter key to the on/run position.
Note: It may be necessary to bump the starter for the ECM to energize the **Raptor™ FRRP-150 Fuel Pump**.
2. While the **Raptor™ FRRP-150 Fuel Pump** is on, bleed the fuel line to the filter canister by disconnecting the quick connect at the canister. As soon as the line is purged of air and fuel is observed, quickly reinstall the female quick connect. A click will be heard when properly installed.
3. Start engine!

Adjusting the Pressure Regulator

NOTE: PureFlow AirDog strongly recommends the use of a fuel pressure gauge to monitor the output pressure on all of its fuel systems.

To adjust the fuel pressure, loosen the lock nut on the regulator adjustment screw. Using a flat blade screw driver, rotate the adjustment screw clockwise to increase pressure or counter clockwise to decrease pressure. Be careful not to loosen the regulator assembly base. If you do, tighten it immediately. When finished, properly torque the regulator adjustment screw lock nut!

Properly tighten the adjustment screw **Lock Nut** when finished.



RECHECK ALL FUEL FITTINGS FOR LEAKAGE AND PROPERLY TORQUE AS NECESSARY. BE SURE ALL FUEL LINES ARE PROPERLY ROUTED TO PROTECT FROM EXCESSIVE HEAT AND SECURED TO PROTECT FROM CHAFFING AND ABRASION. RECHECK ALL ELECTRICAL LINES, SECURE AS NECESSARY.