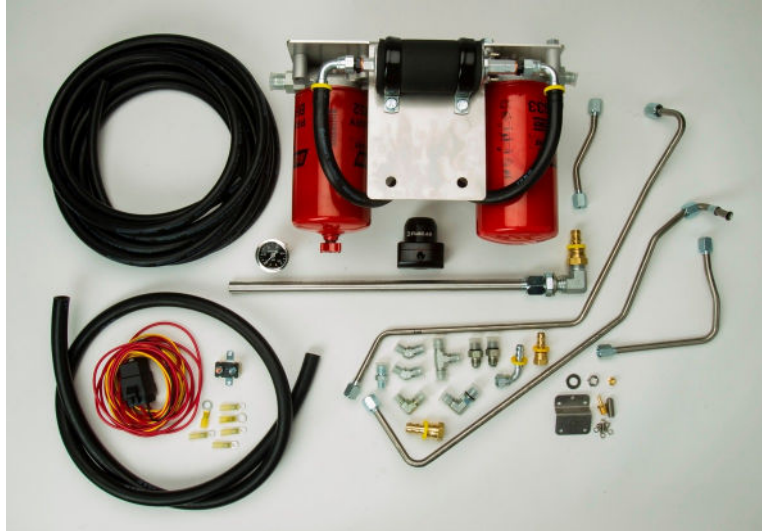


## The Irate Fuel System



### **Installing the Hard Lines.**

**1.** Remove innercooler piping and intake Y. The OBS trucks require the removal of the turbo and collector for access to the drivers side rear fitting. Optionally, one can remove the down-pipe and turbo to gain greater access to the back fittings on the Super Duty truck. Place the #6 JIC straight fitting into the rear of the passenger side head (image 1). Then place the #6 JIC 90° fitting into the rear drivers side head pointed straight up (image 2). Use an adequate amount of thread tape or pipe sealant to assure proper seal and prevent leaks. Do not over tighten.



2. Disconnect factory wiring harness and lay it over to the passenger side of the engine bay. This will allow placement of the new fuel lines extending to the back ports. The lines will lay parallel just along the top of the heads below the injector harness. Remove the lifting eye on the passenger head to route the line properly. The lifting eye will need to be left off.

3. To access the front lines and fittings, remove the AC compressor and lay the compressor with its hoses still attached to the side.

(Warning: do not remove the AC hoses from the AC compressor.)

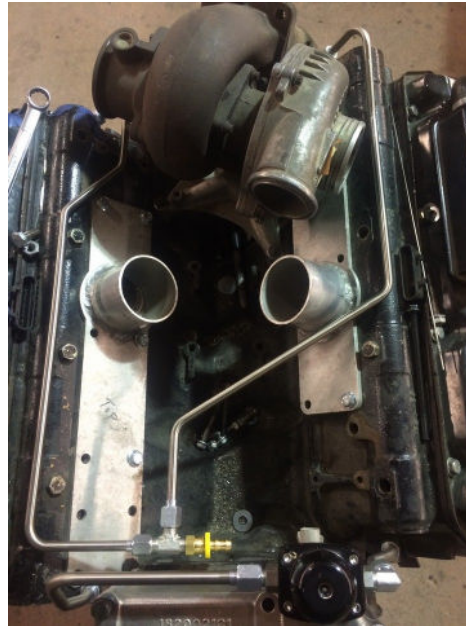
4. Remove the alternator to gain access to front of the head.

5. With AC compressor and alternator placed to the sides, take the bolts out of the front accessory brackets. Pull the brackets forward to gain access to the front ports on the heads.

6. Install the #6 JIC 45° fittings into the front ports of both head pointing straight up. (see images 3 & 4)



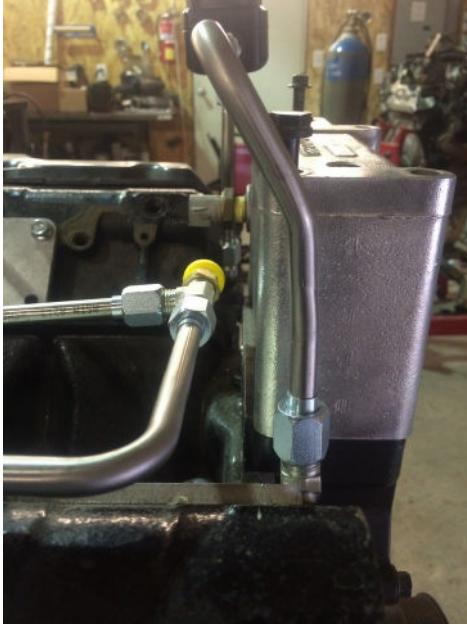
7. With all fittings installed one can now install the back lines and connect them to the supplied #6 JIC Tee fitting in the valley of the motor. This is where you will supply fuel to. (See images 5, & 6)



**8. Installing the front lines.** The short line goes on the driver side head. The 15° bend on the short line faces down (images 8 & 9). With the regulator facing front, the #6 90° o-ring fitting will be on the drivers side, and the straight #6 o-ring fitting will face to the passenger side. With the regulator facing forward connect the driver side line but do not tighten completely. Leave both line fittings loose on the regulator at first to allow enough movement to set the correct alignment. Once correctly aligned tighten all fitting.



The passenger side line has a 90° bend which is mounted to the top (images 10 & 11). Install using the same process as the driver side line, and again leaving the fittings loose. With the fittings loose manipulate the regulator into alignment. Once alignment has been achieved tighten all fittings. The regulator does not mount on a bracket, but is suspended above the motor by the hard lines.



With all fittings, lines, and regulator attached and tightened the regulated return lines will appear as shown in (image 12) as viewed from the rear of the engine.



9. With all hard lines in place and tight, it is now time to reassemble.

(FOR A FUEL SYSTEM YOU WILL NEED TO ROUTE THE RUBBER SUPPLY AND RETURN LINES UNDER THE DRIVERS SIDE BRACKET AS WAS ORIGINAL.)

10. Once reassembled with all fuel supply and return lines plumbed, making sure the pressure gauge is installed on the regulator, then key on the ignition without starting the engine. This is done to pressurize the system and check for leaks around all fittings. It may require cycling the key on and off a couple of times to check all fitting. If no leaks are detected then start the engine and set the fuel pressure on the regulator using the gauge. A typically pressure setting is around 65psi. The pressure can be adjusted to between 60 to 70psi by turning the Allen bolt on the regulator. Turning the Allen head bolt in raises the pressure and out lowers pressure.

**If installing a full OBS fuel system:**

1. Cut supply line off of hard line after the selector valve at the frame, insert the 5/16" brass barb onto existing rubber hose from selector and install hose clamp. It is a good idea to clamp the line off as to not have fuel coming out of the line while completing the next few steps.
2. Mount Fuel bracket on inside of frame. (Bracket has to go on outside of frame on regular cab trucks.) This is easiest done by clamping the bracket to the frame and drilling two holes for the 3/8" bolts to bolt to the frame. Once the bracket is mounted you can then add onto the black hose as needed with the new supplied hose to attach to the pre pump filter. Use the supplied fitting brass push-lok fitting. Once plumbed and mounted you can now run the new line from the post pump filter to the motor. Once ran to the motor we typically run the line where the factory hard lines ran behind the AC compressor.
3. Once the supply line is attached to the T fitting in the valley you can now run the new line off of the regulator behind the AC compressor also. This line will attach to the factory return hard line on the frame. The return line is located just behind the drivers side front tire, or below the steering shaft. The line raises of the frame about 1.5-2"(On OBS it is the top hard line). That is the return line. If you remove the line from the return line you can then slide the new push-lok hose over the factory hard line and clamp it in place.

4. The supplied wiring harness can then be ran. Instructions are in the bag with the harness.

5. Once all plumbing and wiring is complete you can key on and inspect for leaks. Be sure to route all lines and wiring so that nothing is close to high heat sources, zip tie as necessary.

### **If installing a Superduty:**

After dropping the tank and installing the 5/8" pickup tube, mount the fuel bracket to the frame using the supplied 3/8" bolts. This can be mounted right behind the transfer case.

Once the filter and pump bracket is mounted to the frame you can now route the 5/8 Push-Lok hose and cut it to the length needed and install the fitting and attach it to the pre pump filter.

1. Run the 1/2" fuel line to the motor and connect to the t fitting in the valley using the supplied 8 hose x 6 jic reducer.

2. Once the supply line is ran you can now run the return line from the regulator back to the tank. This line can be routed behind the alternator where the factory lines were routed. We remove the factory lines when installing the systems. You can then hook the return line to the old factory supply line so you have a higher flowing return all the way into the tank.

3. The supplied wiring harness can now be installed. We typically ground the pump to the frame on a mounting bolt so that an extra wire doesn't need to be ran back to the motor. The relay will be triggered off of the factory wiring, this will keep the factory inertia switch in place.

4. Once all is ran you can prime the system, you may need to crack a filter so that the pump can gain prime easier. This may take a few key cycles to get the filters primed.

Irate Fuel System

5. Check the system after installation for leaks and ensure all fittings and connections are tight and noting is rubbing that could cause future failure.