

# Fuel Regulator Installation and Trouble Shooting

## INSTALLATION:

The Iron Bay Fuel Regulator should be installed between the fuel tank and the carburetor preferably closer to the carburetor (usually within 12")

- 1.) The fuel line from the fuel tank attaches to the large brass fitting in the center of the fuel regulator.
- 2.) The fuel line to the carburetor attaches to the smaller brass fitting that is off to the side of the regulator body.
- 3.) The fuel regulator can simply hang from the fuel lines or be hard mounted. If it is not secured by hard mounting, make sure that the fuel lines will not allow it to move forward into the propeller arc.
- 4.) It is a good idea to install the plastic tee fittings to allow for easy fueling of the tank. The filling tee should be installed between the pick-up line of the fuel tank and the fuel regulator wherever convenient.
- 5.) The vent tee can be installed anywhere between the pressure source (muffler or crankcase), and the fuel tank.
- 6.) Both tees require plugs to prevent leakage during operation. "Fuel Dots" are the most common plugs used for this application.
- 7.) Install the check valve in the vent line near the pressure source (try muffler pressure first) make sure the check valve allows flow into the fuel tank, and prevents flow from returning to the source.

## INITIAL TESTING

If all lines and the regulator are secure, remove the fill/vent plugs, fill the tank with fuel, and replace the plugs. Open your needle valve a turn or two from its normal location. (Remember, even though the fuel tank and fuel lines are pressurized, the regulator is activated by "vacuum"). In comparison, your original installation used the needle valve to restrict the pressure created by the muffler, therefore the needle valve was typically closed more. Also, the seal around your needle valve is more critical because the system can easily draw air (remember it's a vacuum system) around worn O-Rings.

Prime and start the engine as you would normally.

The most common problem incurred during testing is not being able to richen up the mixture. (For instance the needle valve is almost all the way out, and the mixture is still too lean).

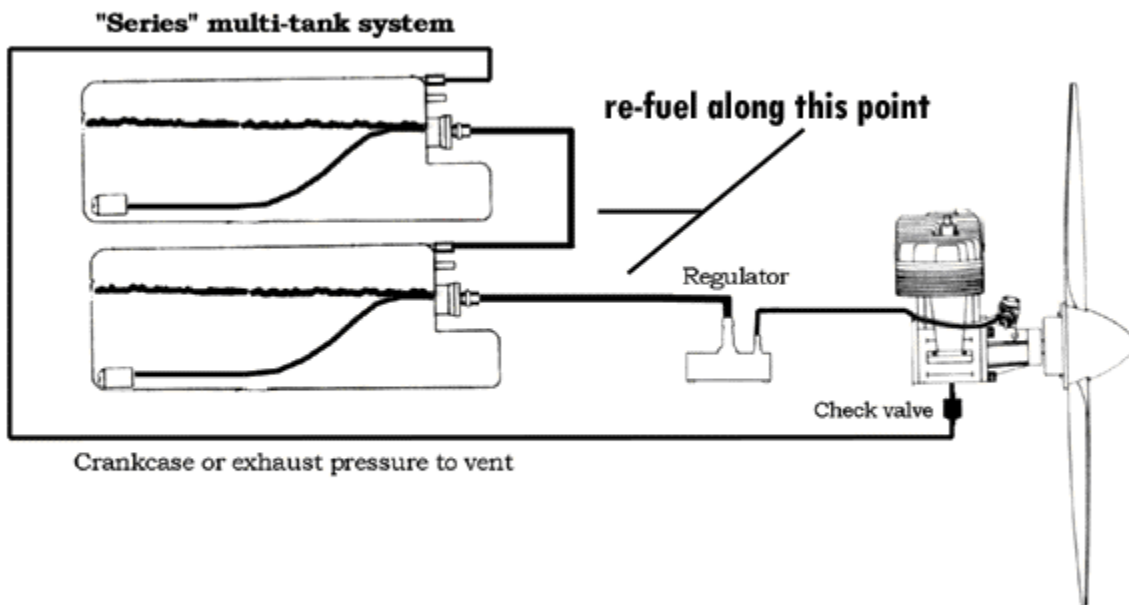
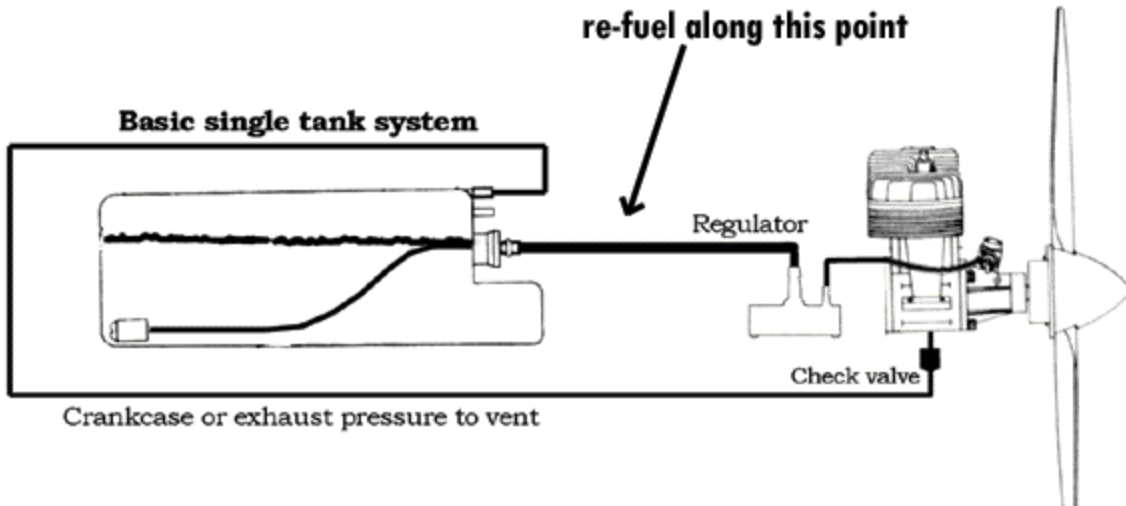
If this occurs, either you do not have enough pressure, the fuel regulator is too far from the carburetor, or air is leaking around your needle valve.

Presuming that you have good O-Rings around the needle valve, to solve the problem you can first try to shorten the fuel line between the regulator and the carburetor. If the characteristic persists, you will have to find a way to create more pressure.

The location of the pressure tap on a muffler can affect the pressure that creates regardless of the size engine. It is important to know that a larger engine size does not necessarily result in more muffler pressure. For instance, a small engine (.15 size) may have a muffler that provides a great deal of pressure because it is somewhat restrictive, while a 1.20 may have a free flowing muffler such as the common "Pitts" style that produces very little pressure.

A good way to tell if your muffler is making adequate pressure is to look at the fuel tank. The majority of tanks should swell up slightly from the pressure when the engine is running. However, some tanks are produced from very hard material and will not visibly swell.

If you don't achieve sufficient pressure after experimentation with the muffler, you will probably have to tap the crankcase with a pressure tap to obtain a higher pressure.



Additional troubleshooting information is available at [www.ironbaymodelcompany.com](http://www.ironbaymodelcompany.com). Click on the Parts list/Documentation link and then click on the regulator link.

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