BoonDocker Nitrous System Installation Instructions
Manometer Instructions

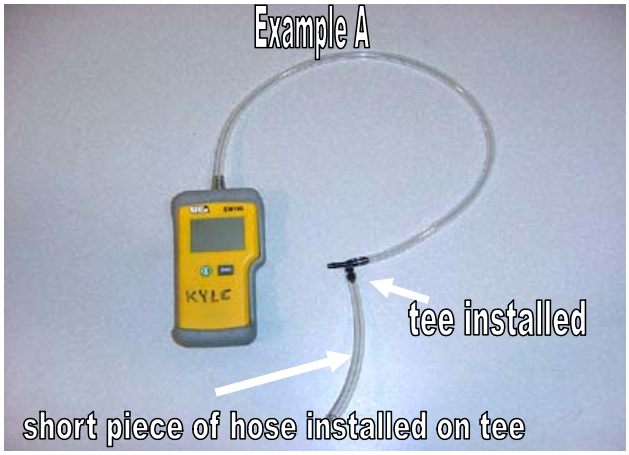
-Introduction

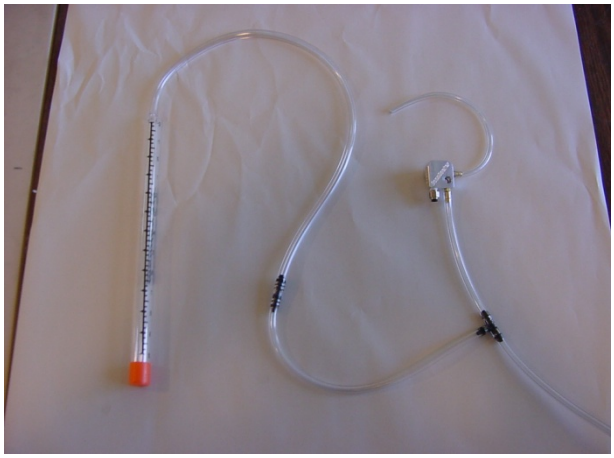
The manometer is used to read the amount of pressure the nitrous manifold is producing. This is measured in inches of water pressure in a water column. This is a very useful tool in setting up and tuning your nitrous system. Each manifold built will produce a slightly different pressure, also when changing nozzles it will cause the manifold to produce higher or lower pressure dependent on how many holes being sprayed and the position of the nozzle in the nitrous manifold. Rotating the nozzle slightly will cause it to build a different amount of pressure. That being said, the use of a manometer when setting up our system will allow you to know what pressure you are running with a given amount of nitrous being sprayed to give you consistent results.

-Hooking up the manometer

In order for the manometer to work properly the nitrous system needs to be completely installed, with all vent lines and orifice cup plugs installed, if applicable. Once the system is installed you simply need to "T" in the manometer to the system. It is important that you leave the system intact, if you remove part of the system to install the manometer you will not get an accurate reading.

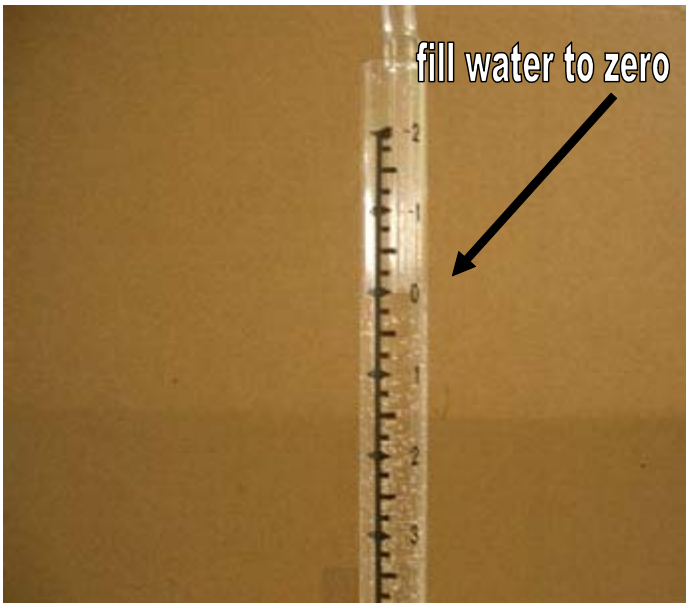
To install the manometer, you will need to install a "T" fitting at the end of the manometer line. Then install a short piece of hose to one side of the "T" (Example A). (The plastic water manometer will already have these fittings installed). Remove the Carburetor vent line from the manifold, hook the line from the manometer to the manifold and hook the line removed from the manifold to the barbed fitting on the manometer, or if you have installed a "T" in the vent line between the manifold and the Carburetor, you can unhook the line from the "T" and install the manometer there.





How to read a water manometer

After confirming the manometer is working properly, it's time to get your reading. Imagine the larger tube on the manometer is a cup and the small tube inside is a straw. When the nitrous button is pushed the water level in the "straw" will drop. This will be your pressure reading. Push the nitrous Button for 2 seconds, or until the pressure evens out It is normal for the pressure to bounce around within half an inch. **If water comes out of the top of the manometer you are way too rich!!**



Pressure readings:

Every machine is different and requires a different amount of pressure to run correctly. Therefore there is no universal pressure reading that works for all applications. Here are some starting points to help you on your way.

Snow machines:

Any snow machine running the standard 35-45 HP excluding the Skidoo's with DPM, Should start at 5" of pressure. Any Skidoo with DPM requires a lot more pressure to run correctly. Start as high as you can go, at least 9-10".

ATV's and Dirt bikes:

When running the standard 10-20 HP a good starting point would be 4", if you are running the 25 HP nozzle you might want to increase your pressure to 4.5".

NOTE: These numbers are base settings, more commonly you will be a little on the rich side. Run your machine on nitrous and note how it runs. If you get a clean, crisp HP increase your setting is correct. If it bogs, or sputters it is most likely on the rich side and will need to be leaned out.

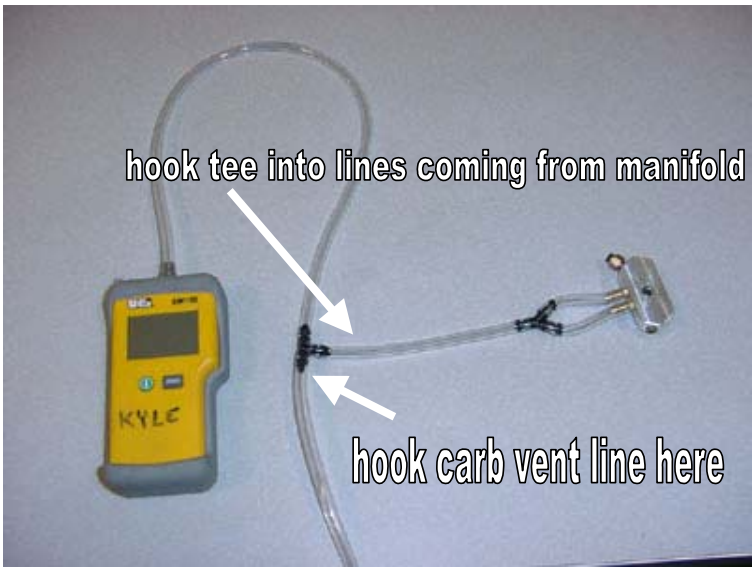
Adjusting your pressure:

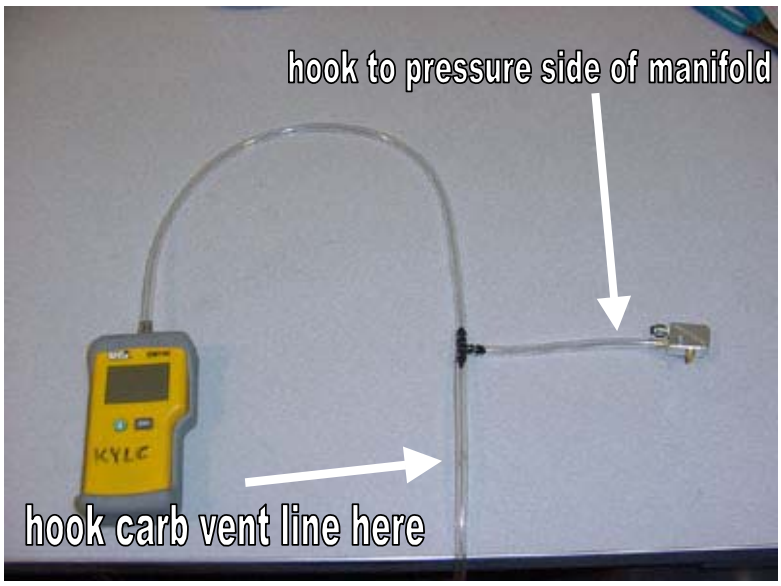
To adjust your pressure reading, use the brass adjustment screw(s) on the nitrous manifold. Right turn is to richen (add pressure) and left turn is to lean (subtract pressure).

Using a digital manometer

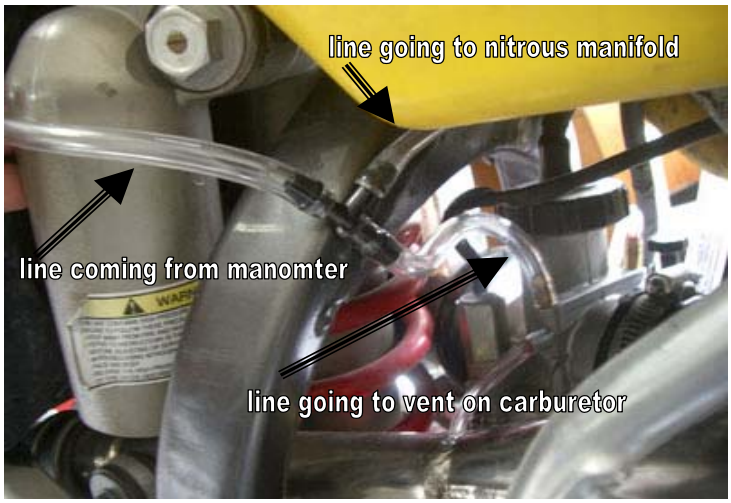
When using a digital manometer, make sure it is zeroed out before you start your testing. Hook up manometer according to the directions on page 1. Push the nitrous Button for 2 seconds, or until the pressure evens out. This will be your pressure reading. NOTE: It is normal for the pressure to bounce around within half an inch.

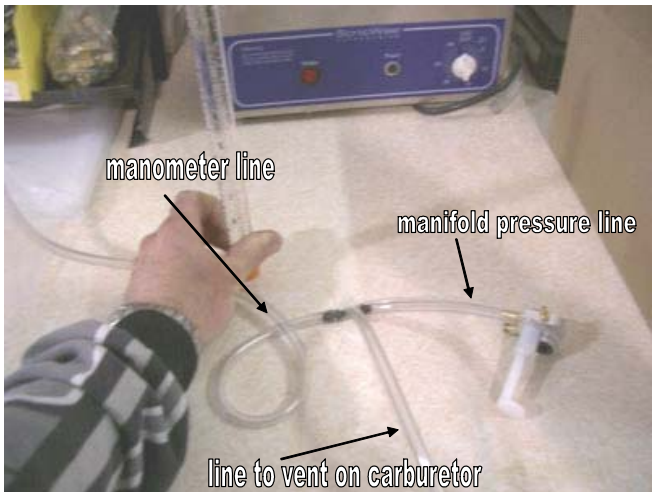
Here are some examples of hooking up a digital manometer.





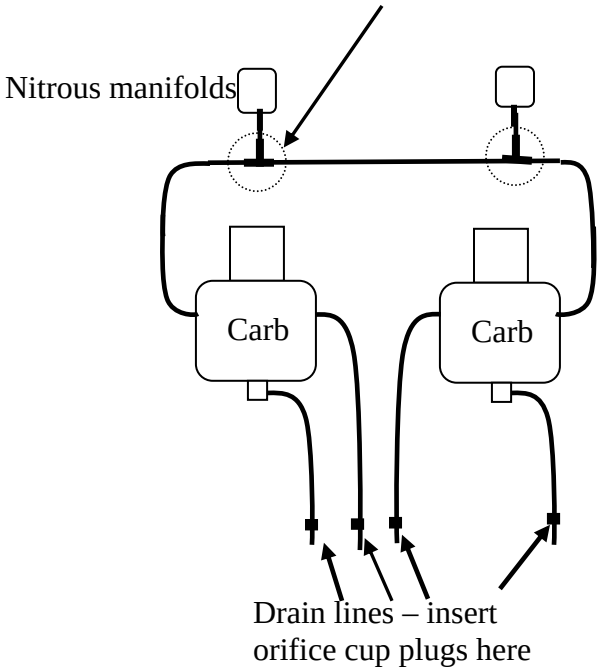
Here are some examples of hooking up hooking up a water manometer





Two carbs, two manifolds

Connect manifold vents together/ **Connect manometer here when checking pressure to insure accurate reading**



Additional tips for using you manometer:

On the Ver. 3000 manifold, there are 2 barbed fittings. The larger barbed fitting is located on the same side as the nitrous inlet. This barb should be the one hooked up to the carburetor vent line and it is the fitting you use to get your pressure reading from. The small barbed fitting, will usually have a 8" piece of tubing on it and is the pressure bleed off. Any pressure not going to the floats bowls will be bled off here. Do not plug or put a cup plug in this tube.

The Ver. 2000 manifold has 2 barbed fittings. It is important when hooking up the manometer, or installing the nitrous system, that both barbed fittings are teed together then ran to the carburetor or manometer.Each barb has a different adjustment, so they have different pressures. If they are not teed, you will not get an accurate reading, or be able to properly tune your nitrous system.

When installing 2 or more manifolds, it's best to "T" each maifold together, to equalize the pressures between them, then run them to the carb vents or to the manometer to tuning. Failure to do this will make it very difficult to tune, and will deliver different amounts of fuel to each cylinder.

The position of the nozzle is a huge factor in what pressure reading you get. If a hole in the nozzle sprays directly at the pressure pick up hole on the stem, the pressure will be high. If none of the holes are spraying directly at the stem, you will build less pressure. This comes in handy if you have a manifold that is not building enough pressure or if you have a manifold that is building too much pressure.