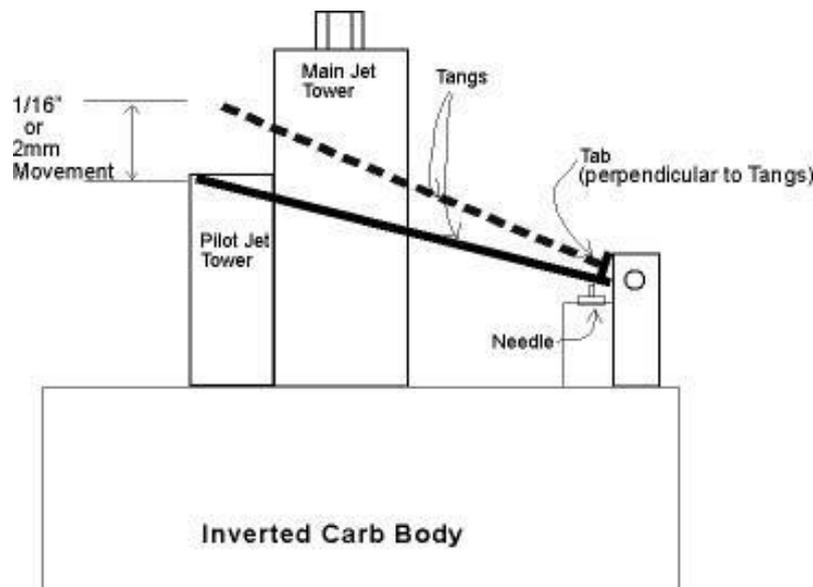


Beta Carb Mods



After receiving my 02 Beta Rev 3 I am very pleased with the bike. I am getting quite a few recommendations on how to set the bike up and what areas to change or set.

One particular area is the carb. I have heard many statements regarding the float level and how to set it up. This setting of the "float level" carries with it many misnomers.

Firstly I have never had a problem with the carb spilling out gas. Once the carb is properly set up it will run flawlessly. The problem is that many people do not know how to set up the float level or in fact what the parts of the carb actual do!

The first area of urban legend is the two little brass outlets with the pink hoses attached. You may know these as the "over flow tubes".

In reality they are not overflow tubes. While they may allow fuel to escape from them that is not there sole purpose of design.

They are in fact atmospheric tubes.

The main purpose of these tubes is to allow the fuel to reach atmospheric pressure.

This means that when the pressure in the carb body (slide area) drops due to the negative pressure in the engine the atmosphere pushes (@ 14.7 PSI) on the fuel surface helping it go up the jets.

There are two adjustments on the float level.

1. The tangs set the fuel level.
2. The little tab sets the travel of the tangs.

The "brass tang" level should be set accordingly.

Remove the float bowl and slide. Place the carb on a flat surface. Get down to eye level with the carb body and you will see two towers sticking up. One tower is the main jet tower the other is the pilot jet tower. Due to casting imperfections I will not supply an actual measurement.

(This settings is visual and will vary from carb body to carb body that is why I will not supply an actual measurement)

The brass tangs should project itself to the extreme left hand top corner of the lower tower or pilot jet tower. This sets the float level.

We will now set the little tab that sticks out perpendicular on the brass tangs.

The purpose of this tab is to stop the actual travel of the tangs downwards.

This is important, as it will alleviate many anomalies once set correctly. One must know that the small pointed plunger that the brass tangs pushes up acts like a light switch. The gas is either on or off. With this in mind one need only have this plunger move enough to allow the gas to flow freely and then close when the tangs act upon it pushing up.

Think of this! When you land off a large rock the weight of the floats push quite rapidly down inside the float bowl. This is known as gravity. The extended movement of the floats downwards tends to do two things. It moves the floats way down inside the float bowl allowing more gas than needed and it also causes some of the excess gas to be pushed up into the jets and into the engine. It also if not set correctly allows the float tangs to travel down to far.

It is kind of like being inside a fast moving elevator and when it reaches this bottom it kind of makes you bend your knees. In other words the elevator has stopped but you are still going downwards.

Adjusting the travel tab on the carb will not stop the floats from going down but it will stop the float level tangs from traveling all the way down. This is important as the further they travel the more they are likely to stick.

So how do you set this travel tab?

With carb back on the table and the float tangs set to the previous mentioned setting (top left hand lower tower) you should be able to lift the float tangs about 1/16 NO MORE.

This bit of play allows the tangs to move away from the plunger jet safely. You will notice that the plunger jet has a springy feel to it. This allows the float level tangs to still travel up and press continual against the plunger jet for a good seal. The first contact of this plunger will not necessarily close the plunger jet off that is why there is some additional travel afforded.

The bottom line is that if the gas is coming out of the atmospheric tubes (overflow tubes to you) then the gas level is way to high to begin with. It is not that they are not shutting off it is purely that they are set to high. Keep in mind we are talking about the bike in static upright position with or without the engine running.

The other thing I would highly suggest is that the pink hose ends be cut on a very sharp angle and small holes placed in the pink tubes. This will help alleviate the siphoning action if it does tend to flow out of the tubes. After all the levels and tangs are set correctly. There is still the possibility that gas will come out of the tubes in some rare circumstances. By cutting the ends of the tubes on a very sharp angle and piercing small holes into the tubes that siphoning action is somewhat cut off. This siphoning action can even after the floats have settled down keep it self self-going.

Also you should withdraw the pivot pin (the pin the float level pivots on) about 3/8 of an inch and pinch it with some side cutters about 1/8 on an inch from one end and then slide/push it back in. This notched pin will help it stay put in its housing.

These pins tend to vibrate out and hit against the side of the float bowl (look at the inside of the float bowl for witness marks to this happening).

One other area of concern on the Beta is the two vent hoses coming out of the engine are far to near the float bowl. In fact mine were pushing against the float bowl this caused excess vibration into the carb body, which in turn plays havoc with the float levels.

Note original info from Billy Traynor on the Trials Action Website forums.
<http://www.trials.net/> & now see www.trialscentral.com (forums/Beta)

I have tried there mods on my Rev-3 and they work well. Next to no leakage and a smoother, cleaner response at low revs.

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