



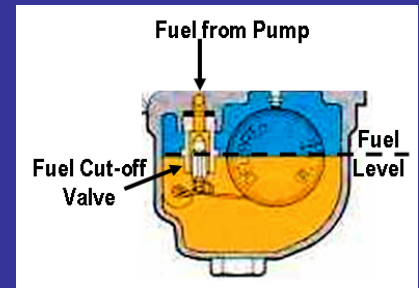
Fuel / Oil Ratios

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....Carburettor Float Height Tuning - Design & Management

I am sure you already know that fuel level or float height can be used to tune your carburettors jetting, so how is it done? Well to put it simply any change in fuel level in your carburettors float chamber will change the static head of fuel on all of your carburettors fuel jetting circuits and therefore the higher the fuel level, then the richer will be your overall jetting and conversely the lower your fuel level, then the weaker will be your overall jetting. A similar effect is to be seen when adjusting the pop-off pressures in diaphragm carburettors used in many karting applications.



Dellorto recommend float height settings for all of there racing carburettor types and recommend that fuel level tuning is controlled by changing the float weight. Again as with above the heavier the float, then the richer will be the overall jetting and again conversely the lighter the float then the weaker will be the overall jetting.

How does this work? Well the heavier float will float lower in the fuel and therefore, given that the float is connected via a light metal lever to the fuel cut-off valve, the result is that the fuel level in the bowl will be higher when eventually the fuel supply is cut-off and vice-versa for the lighter float. As you can start to see, these principles open up a whole new area of carburettor tuning to add to the already infinite combinations available from various needles, needlejets and main jets, don't worry as all of Jet-Tech's Software includes "Fuel Level Tuning" to help manage your carburettors float height and float weight adjustment features. This unique software feature is designed to help guide you through these infinite combinations.



Finally some tips to help you get the best from your carburettor tuning; if you have a choice between the single and double float designs for the Dellorto carburettor, always go for the double float design as this design is much better in dealing with the lateral forces developed during cornering. Always fit an overflow catch tank to your carburettors vent pipes, in this way you know if you have a fuel cut-off valve problem, without it you may be wondering why you are always running rich! Always make sure your fuel is top quality and contains no water dirt or contaminates. Use a good quality filter system such as the Jet-Tech Fuel Prep to filter your fuel.

Fuel / Oil Ratios

When we look at fuel/oil ratios in the 2-stroke mix, it's worth understanding the affect that changing the oil/fuel ratio will have on your jetting. The default setting in Jet-Tech applications is 50:1. If you increase the oil content, you are effectively reducing the amount of petrol (gas) in the mixture so are likely to need a larger (richer) main jet. The converse is also true so reducing the oil content is effectively making the mixture richer, so a smaller (leaner) main jet may be required.

The question is how is a change in oil/fuel ratio compensated for in Jet-Tech software? The answer is quite simple. For Synthetic-based oils, every 1% change (increase or decrease) in oil/fuel ratio is equal to 5 units (increase or decrease) in both the Jetting and Needle Factors. For Castor-based oils, every 1% change (increase or decrease) in oil/fuel ratio is equal to 3 units (increase or decrease) in both the Jetting and Needle Factors.

For example: A Rotax Max with an oil/fuel ratio of 50:1 is equal to a 2% oil mix. If you change the oil/fuel ratio to 33:1, the oil mix is equal to 3%. Therefore, for a MAX using synthetic oil, changing to a 33:1 oil/fuel ratio would require a positive increase in both the needle and jetting factors of 15 units. If your engine uses Castor-based oil, this would require a positive increase in both the needle and jetting factors of 9 units.

In Jet-Tech Pro, the oil/fuel ratio is recorded in the Gearing/Oil/Weight screen. The percentage oil in the mix is automatically calculated when you change the ratio. If you are using Jet-Tech MAX, ICC, RoK or Moto, just use this simple calculation to work out your oil/fuel ratio %.

$$\frac{\text{Oil (ml)}}{\text{Fuel (ml)}} \times 100 = \text{Oil Ratio \%}$$