

Setting the Amal Concentric MK1 Float Height

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Most of these instructions were taken from the Amal web site. I've re-written parts and kept only those parts specific to the Concentric MK1 carb using the RKC/561 4-Stroke Major StayUp Kit from Amal to rebuild the carb.

The concentric carb will function across a wide range of fuel levels. However, an accurate fuel level is the foundation of the overall jetting of the carb and makes a significant contribution to the smoothness and performance of an engine. Setting the float height is hard with the old plastic float because the float needle seat had to be raised or lowered by hammering. The new Amal StayUp float has stainless steel tangs which can be bent to alter the fuel level.

If your float chamber is fitted with a brass needle valve you may find the valve sealing under its own weight before the float has risen far enough to press it shut. Symptoms of this problem can be that the carb takes a long time to tickle, hesitates on pickup and does not idle reliably. A Viton tipped aluminum needle valve is included with the rebuild kits, and that needle overcomes the problem.



Per Amal, the correct fuel level for all Mark 1 Concentric carbs is 0.21" plus or minus 0.040" below the top edge of the float bowl. Thus, when the needle valve is being held shut by the tangs of the float, the level of the fuel will be between 0.17" to 0.24" (4.33mm to 6.35mm) from the top of the bowl. Note that I know that this is correct for Triumph motorcycles. Motorcycles with tilted cylinders might require different float heights. Amal says not, but I've heard of people with Nortons saying this is not right for them, so...

The fuel level can be checked by removing the float chamber and observing fuel running into it. The fuel flow should be sufficient to hold the needle valve open until closed by the action of the float. Insufficient fuel flow will cause the needle valve to seal under its own weight before the float rises far enough to press the valve shut. The level of the fuel can then be measured down from the top surface of the float chamber.

It is difficult to see the fuel in the float so I set my caliber at .21" and use the depth indicator to make a fine scratch on the inside of the bowl. Then I use a fine sharpie to make a mark that I can see while adjusting.

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Then I use a single banjo (or dual banjo with one side sealed), and a piece of tubing, and slowly fill the float chamber with water through the tubing. The float will stop the flow and, using a flashlight, I can see the level of the water in relation to the sharpie mark. It is important to hold one side of the pivot spindle down while filling and checking so the pivot doesn't float up and give you a false level reading. Generally, it shouldn't take much bending to get the level right. If it seems like it's taking too much bending to get the level high enough, you can carefully tap the float needle seat a little farther into the bowl – just don't damage it in the process!



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Once I have adjusted the level using the tangs on the float, I double check by checking that the top of the float is barely above the edge of the bowl.



Notice the red arrow in the picture. There are often little protrusions like shown that can hit the roof of the float bowl area, so I carefully cut them off flush with the top of the float. Also, the bowl gasket that comes with the kit often has some flash on the inside edge – it is important to remove the flash before installing the bowl which can usually be done just by scraping with a fingernail.