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## 691-622069/A The All New AMAL Concentric StayUp® Float



The AMAL Carburetter Company, (Burlen Fuel Systems Ltd) manufacturers of all genuine new AMAL Carburetters and spares Worldwide, have introduced a revolutionary new float for Mk1, Mk1.5 and Mk2 Concentric AMAL carburetters.

The new adjustable height StayUp® float is resistant to modern ethanol based fuels and has a military spec closed cell construction making it puncture proof. The ability to adjust the float arm allows for quick and easy minor alterations to float levels where required.

The material specified was used by the S.U Carburetter Company for military installations in the 1980s, where a guaranteed fail safe operation was critical. Due to the close link between S.U and AMAL today (both owned by Burlen Fuel Systems Ltd), the secret behind the material has been released and upgraded for the manufacture of this float, making it virtually unsinkable.

### Optimising Amal Mark 1 Concentric Fuel Levels

Although the Concentric carburetter will function across a wide range of fuel levels, an accurate fuel level is the foundation of the overall jetting of the carburetter and makes a significant contribution to the smoothness and performance of an engine.

The correct fuel level for all Mark 1 Concentric carburetters 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 0.25" (4.33mm to 6.35mm) from the top of the bowl.

The Amal StayUp float has stainless steel tangs which can be bent to alter the fuel level. The nylon floats are non-adjustable.

To adjust the fuel level correctly it is important to understand the changes that have been made to Concentric carburetter float chambers since the Mark 1 Type was introduced in 1966

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1966-1972

The original float chambers were fitted from 1966 to 1972 with the drain plug being introduced in 1970. The depth of the needle valve seating from the top edge of the float bowl to the floor of the seating measures 0.588". Other distinguishing features are:

- 1) The top of the seat sits flush with the surrounding alloy.
- 2) Pressure on the float tags to hold the needle valve shut will cause the float to protrude above the top of the bowl by an angle of approximately 5 degrees.

This seating depth produces a fuel level very near the top end of the correct range, and small variations in float weight, float tag position and float needle wear can produce a carburettor that runs excessively rich and in extreme cases cause the floats to foul the top of the float chamber. These float chambers also have shallower float spindle slots than later versions.

To improve the fuel level in these bowls it is necessary to either adjust the needle seat to achieve a depth of around 0.565" or adjust the tangs of the Stayup float so that the far edge of the float sits 0.080" below the top of the float bowl. The tangs can be easily adjusted by clamping the float in a vice up to the spindle hooks and tapping the body of the float gently in the direction required until the required level is achieved.

Moving the float needle seat up or down is an operation that should only be attempted as a last resort as it is possible to damage or loosen the seat, effectively destroying the float bowl. Remove the float, needle valve and banjo bolt, and heat the bowl by immersing it in a suitable container of boiling water. Use a 1/8" diameter rod to gently tap the seat up, or a suitable drift that will not damage the valve seat to move it down, until the proper setting is attained.



1972 to Present

The 0.588" seating depth was modified in May 1972 to 0.579". In April 1974 an adjustment to the slots for the float spindle also lowered the float. The seating depth was further reduced to 0.574" in May 1986 and has remained as that ever since. In this position the fuel level is correct when the top surface of the float is parallel with and just above the top of the float chamber when the valve is closed. This position is also correct for the floats in the Mark 2 Series of carburettors. Some minor adjustment of the float tangs may be useful to achieve balance between cylinders but there should be no need for significant adjustment unless the needle seating has previously been disturbed or it is intended to experiment with different fuel levels for performance purposes.

It should also be noted that to promote the most efficient operation of the carburettor it is important to ensure that there are no obstructions in petrol taps or banjo filters to prevent the maximum possible rate of fuel flow.