S U Carburetor Assembly

The unique S.U. ('Skinner's Union") Carburetor provides precise control of both air flow and gasoline flow, according to the needs of the engine at that moment. An oil-damped Piston rises and falls according to engine vacuum (throttle opening and load). The Piston lowers or raises a fuel-metering Needle in or out of a jet. At the same time, the bottom of the Piston varies the size of the carburetor throat opening. Needles are engineered to vary in diameter along their length, according to the needs of the particular engine and vehicle. Needles and Jets are manufactured to tolerances of less than 1/10 the thickness of a human hair.

General Instructions

Some basic mechanical knowledge is required to properly rebuild carburetors. We strongly recommend following the detailed instructions outlined in your workshop manual, however we have listed some special tips below for your added assistance.

1. Thoroughly clean carburetors with cleaning solvent before disassembling them.
2. Disassemble one carburetor down to the bare carb body. (It is advisable to leave one carburetor assembled to use as reference for reassembly on the other carburetor.)
3. Begin reassembly using new gaskets and components provided in kit. Three particularly important steps must be observed when re-assembling carburetors:
   A) Be sure piston needle is installed with the needle shoulder flush with the bottom of the piston.
   B) When installing new jet, be sure piston needle is centered into the jet before tightening the jet securing nut. When not tightened down the jet will move slightly side to side to allow for centering adjustment. The piston/needle assembly should drop freely into jet.
   C) Be sure float level is adjusted properly. To do this, install float, new float pin and new needle and seat into float chamber lid assembly as follows:
      - Hold lid assembly upside down, which will close needle and seat and cause float to be in its most closed position. The gap between the machined lip on the lid and the float should conform to the specs listed in the diagram below. If the clearance is not correct, adjustment is necessary. On the earlier style floats with metal hinge pieces, carefully bend metal tab to alter resting angle of float. On later floats (all plastic), it is necessary to remove needle and seat and install/remove shim washer under needle & seat.

Tuning Tips

Once carburetors are re-assembled and installed on your car, it is now necessary to properly set the idle and mixture adjustments.

When setting the idle on multiple carburetor installations, it is far easier and more accurate to use a carburetor synchronizing tool, such as part number STL0013, than to listen to the hiss with a length of tube.

When setting fuel/air mixture adjustment, we again recommend following the guidelines laid out in the workshop manual. Another useful tool when setting carb mixture is the 'Colortune 500', part number STL0037. This device allows the user to see the flame in the combustion chamber, and adjust the mixture according to a color chart provided.

SU Carburetor Schematic