Zenith Float Level

by Tom Endy

The purpose of the float and the float valve in a Zenith carburetor is to control the amount of fuel that enters the reservoir from the fuel tank. During operation the valve is opening and closing to meter the amount of fuel entering the reservoir so as to maintain the proper level in the main jet and cap jet, and to prevent flooding the carburetor.

When static the float should close the valve and the fuel level should be at a nominal 5\8" down from where the upper and lower castings join. This value is according to most how to books.

Measuring the static float level is difficult because you can't see the level. Suppliers sell a gadget that screws into the drain port. However, I have never had much luck using one. For this reason I built a test stand to be able to properly observe the static float level.



The test stand: Fuel is poured into the can at top. It runs down into the glass container and raises the float installed in the upper housing. When the float valve closes the fuel level can be observed and measured.

There are two ways to adjust the float level. One is by bending the float arm. This method is not advisable as it generally molests the float such that it will not properly shut off. The second method is to add or subtract washers under the float valve. In most cases the float level will dial in properly with an unmolested float and a single washer under the valve.

If the valve does not close off at a nominal 5\8" when static, the fuel level in the reservoir will rise. The fuel level in the main jet and cap jet will also rise proportionally and eventually spill over the top of the jets and run into the throat of the carburetor where it will drip out the weep hole in the bottom of the lower casting and puddle beneath the car.



The static float level is set at 5\8" down from the bottom of the top casting.

The standard float valve will generally close at 5\8", but it may not be 100%; there may be some seepage. This may not be a problem if the owner prudently shuts off the tank valve when the car is static. However, often the tank valve does not shut off 100%. The result is fuel leakage from the carburetor. The best remedy for this is to install a Viton tip float valve that is available from most suppliers. Viton tip float valves offer a more positive shut off feature.

Any float valve used is subject to rust particles in the tank occasionally getting between the valve and the valve seat causing leakage. This is why it is always prudent to shut the tank valve off when the car is static.

If the tank valve is found to not shut off 100% an effort should be made to locate one that will shut off 100%.