

By Lynn Sondena

# Six Overlooked Problems on the Zenith Carburetor



*It pays to pay attention to detail*

**A Model A owner** recently brought me two Zenith carburetors to work on. They were both nicely painted and looked good. One ran poorly, and the other did nothing but leak fuel out of the rear of the carburetor.

So, here are six items on the Zenith carburetor that are often overlooked and where attention to detail is not given by the person doing the rebuilding work.

## 1. TWISTED FUEL STRAINER A-9559 (See figure 1.)

Why is a new fuel strainer twisted when installing? Is the reproduction part too long? No, it's due to the fact that the small, brass end had been broken off a previous strainer, thus taking up room. Figure 2 shows the small piece that was removed from the strainer housing.

If the float and float valve are removed, this will provide access to the end of the strainer hole. (See figure 3a.)

Figure 3b shows the broken end of the strainer from the float valve threaded hole.

A bright light will help detect the broken part. I use a  $\frac{1}{16}$ " pin punch, and small, bent picks to remove the broken end as shown in figure 4. These tools are available at most hardware and automotive stores.



Figure 1



Figure 2



Figure 3a



Figure 3b



Figure 4



Figure 5

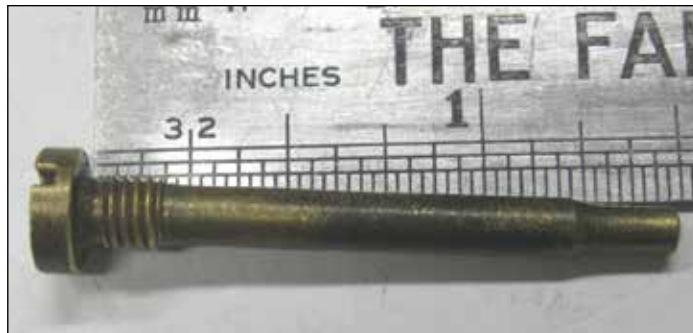


Figure 7

## 2. FLOAT A-9550 AND FLOAT PIN A-9558

When purchasing Zenith reproduction parts, you are better off to purchase USA-made parts. They cost more, but are made to the original specifications.

As a case in point, one of the carburetors I was working on had a new, reproduction float. It fit sloppily on the float pin. The original Zenith float pin has a diameter of  $\frac{3}{32}$ , .093, or #42. The foreign-made float had a diameter of  $\frac{1}{8}$ , .120, or #31, which is too large, causing the float to be sloppy on the float pin. (See figure 5.)

Also, the USA-made floats are leak-tested before being shipped from the factory, so they are ready for use. (In case you wonder, the float pin is 1.355 inches long.)



Figure 8



Figure 6. Compensator jet at left adjustment needle set at right.

## 3. COMPENSATOR JET A-9575

The compensator jet fits inside the float chamber at the lower rear, left side of the lower body casting. Figure 6 shows the compensator jet A-9575 on the left and the adjustment needle seat A-9532 on the right.

All too often I find an adjustment needle seat in place of the compensator jet. They look very similar, but the adjustment needle seat has a larger diameter hole, which is also countersunk for the needle to seat into. Be sure not to use this for the compensator jet, because the adjustment needle seat will add too much gas to the air/fuel mixture.

The gas adjustment needle seat is found on 1928 and early 1929 carburetors. This part was eliminated as the later carburetors had the seat machined into the lower body casting.

## 4. MAIN JET A-9534 (See figure 7.)

If using a reproduction main jet, be sure to check the length. It should measure 1.48 inches from the top of the



Figure 9

jet to the bottom of the threads. A lot of the reproduction jets are  $\frac{1}{16}$ " to  $\frac{1}{8}$ " too short. These need to be soldered on the non-threaded end to add length to the jet. The jet can then be redrilled to be usable.

The main problem I have found with the main jet is old gaskets inside the lower body casting. (See figure 8.) There should be only one gasket.

A main jet that is lower than the cap jet (see figure 9) will seep fuel from the float bowl. This fuel comes out of the top of the main jet and drains to the rear of the carburetor when the engine is not running. (This is another good reason to turn off the gas tank shut-off valve when not running the engine.)

*Continues on page 12)*



Figure 10



Figure 11



Figure 12



Figure 13



Figure 14

## 5. ADJUSTMENT NEEDLE HOUSING A-9528 AND ADJUSTMENT NEEDLE A-9525 (See figure 10.)

The adjustment needle housings being reproduced today are too tight for the adjustment needle to fit correctly. The tight fit can cause the needle housing to come loose from the lower cast iron casting. It can also lead to damage to the needle point, due to the excessive force needed to turn the gas adjustment valve (GAV).

The problem is usually caused by burrs inside the end of the housing where the slots were cut. A fast, simple way to remove the burrs is to use a  $\frac{5}{32}$ " or .156 straight flute reamer. (See figure 11.)

Figure 12 shows the reamer with the guide I use to keep it straight. I use the insulator from a solderless wire terminal. Figure 13 shows a wrench turning the housing on the reamer. This procedure gives control and safety to the operator. I would not recommend using a power drill with the reamer, as it will cut too fast.

Figure 14 shows the chips on the reamer that were removed from the housing. The wrench size will be 10 mm if the adjustment housing is original or a quality reproduction. Other reproduction housings use a  $\frac{7}{16}$  inch wrench.

I do not recommend removing the snap ring on the end of the housing. If it's removed, the housing could be

damaged during removal or reassembly.

The snap ring's purpose is to provide tension on the four fingers, which in turn provides the correct resistance on the choke rod so it won't turn on its own while driving. The snap ring needs to be on the gas adjustment housing. By using the reamer, the snap ring can stay in place.

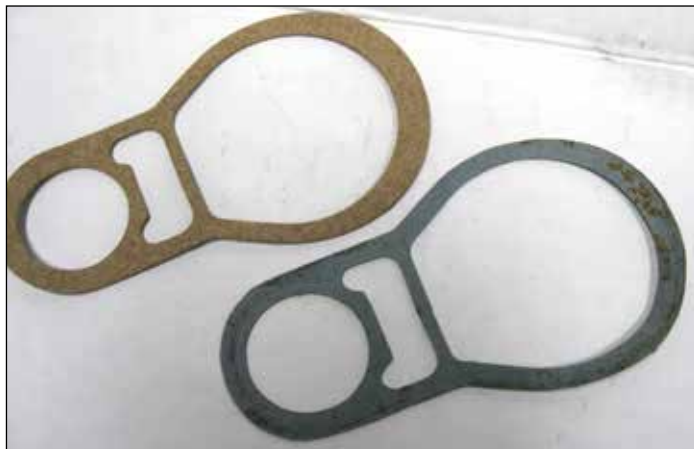


Figure 15a

## 6. BOWL GASKET A-9502

This is the gasket that fits between the carburetor's top and bottom castings. Figure 15a shows the brown gasket on the left, which is made to original specifications. Like the original gaskets, it measures  $\frac{3}{64}$  inch.

The blue gasket on the right is a paper-thin reproduction gasket. It measures  $\frac{1}{64}$  inch, almost two-thirds thinner than the original gasket. Figure 15b shows a side view of the two gaskets, showing the contrast in their thickness. To put this in perspective, it would take three blue gaskets to equal the thickness of one brown gasket.

The thick gasket is more durable, will last longer, and will also compensate for casting flaws. The thin gasket will affect the height of the idle jet (A-9542) from the lower carburetor casting, which in turn can cause idling problems.

**IF ATTENTION TO DETAIL** is given to these six items, your Zenith carburetor should operate to perfection! There are many areas of the carburetor that need close attention, but these are the six most common problems I find when someone brings me a rebuilt carburetor that does not function correctly. ☹

Lynn Sondenaar of Sandy, Oregon, purchased his first Model A while in the 7th grade. He and his wife, Patty, are members of the Beaver Model A Club of Portland, Oregon, and own a 1929 Roadster Pickup and a November 1930 Victoria.



Figure 15b

