Salvaging a Carb

Bill Lee

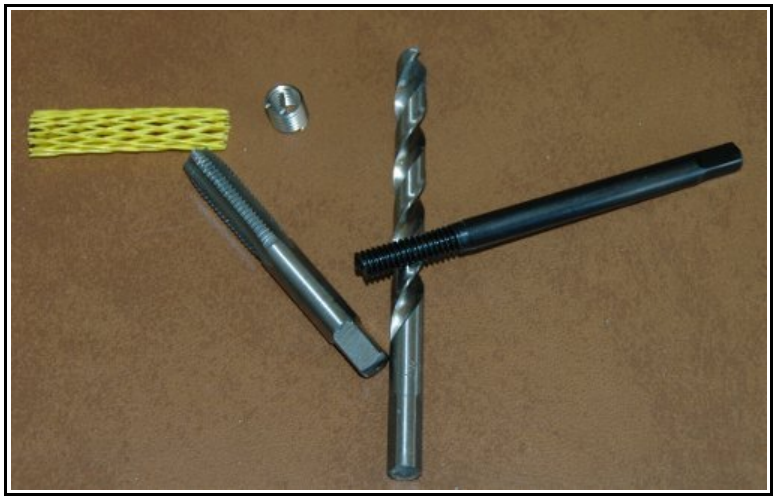
As most of you know, I have had recurring carburetor problems since the Model A Day gathering last fall. On that trip, I got about a half mile from the pavilion at Water's Edge only to have the A cough and sputter and die. Towed it on to the pavilion, and later that day, Bill Wittner lent me his spare Tilly that he carries in his car.

When mounting Bill's Tilly, I noticed that both ends of the mounting flange had stripped threads. Bill had simply resorted to through bolts with a nut on the backside of the flange. Bill's carb got me home where I mounted a spare Zenith that I had. But I was never really satisfied with the way it ran, and, sure enough, at Winnsboro, it started to act really stupid. Once again, the borrowed Tilly from Bill to let me complete the tour.

I rebuilt the original carb (found a plugged main jet) and started to put it back on. Whoops! Why won't that front bolt tighten? You guessed it! Stripped threads in my Zenith!

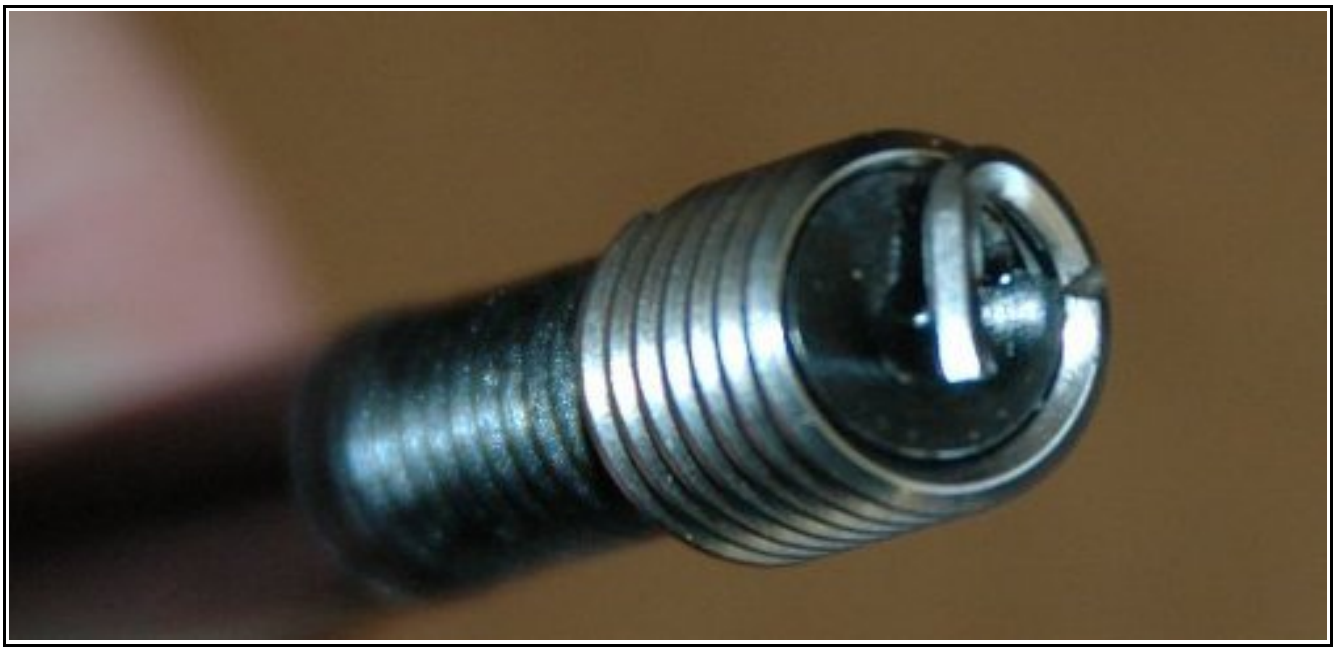
I asked around and Joe Creecy suggested getting helicoils for it. I was skeptical until he said you can buy the kits at the local auto parts store. Sure enough! Off to the local ABC Autoparts and they had the kits. Needed one for the 5/16-18 bolts that are used to mount the carb. Brand name was “Perma-Coil”. It requires a drill bit of the proper size which must be purchased separately. 21/64” for this size kit.

The kit consists of a dozen of the helicoil inserts, the special tap and the insertion tool. (The yellow in the picture is a plastic sleeve to protect the threads of the tap when not in use.) The kit for the 5/16-18 insert was about $22 and the drill bit was about $5.



Here you can see the parts that come in the kit, the drill bit, and on the right a close-up of one of the inserts. Notice the tab and the notch about 90º away.

No pictures, but the installation is to first drill out the holes with the 21/64” bit and run the special tap in the hole. Now you have a hole that has 18 threads, but larger than 5/16” bolt requires. Then the insert is threaded into the tapped hole with the insertion tool, the tab broken off, and you're done.



Here is the end of the insertion tool with one of the inserts on it, ready to be threaded into the tapped hole. If you look closely you can see that the end of the tool has a ramp leading to a notch that captures the tab on the insert. When the insert is screwed into the threaded hole, the tab causes it to slightly compress in diameter. Once you get it where you want it, you unscrew the insertion tool and the insert locks itself in place. The last step is to grab the tab with a pair of needle-nose pliers and snap it off at the notch.

Bingo! New threads and a salvaged carburetor!

Here's what the threads look like after the fix. Note that on the bottom there is a small piece of the thread that hangs out. I didn't worry about that but a Dremel with a cut-off wheel would dress that off nicely.

With my courage built up, I did the inserts to Bill's Tilly as well! Thanks, Bill, for the loan, and, Joe, for the idea.

I used my mill to hold the carburetor when drilling and tapping the holes. I suspect a drill press would work as well, but holding the carb while drilling is a bit difficult. With the mill and the mill vice, it was relatively easy. If anybody in the club needs this done, I now have the kit, and would be happy to assist or do it for you.