

# BUILDING A NOZZLE TOOL

By George Lanthier

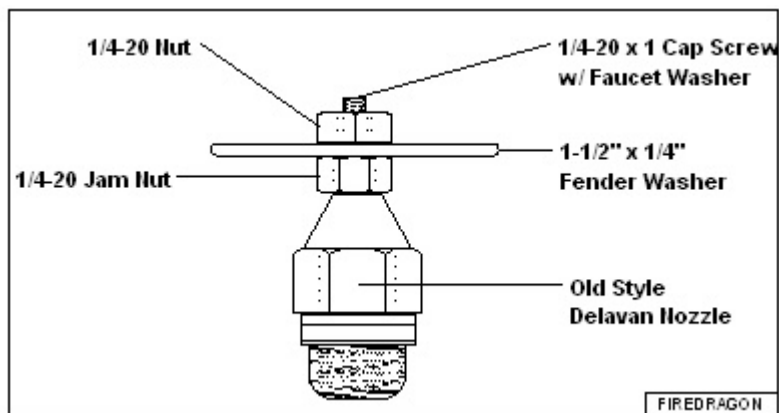
In **Figure 1**, we have a plugged nozzle that also acts as a very 'cool tool'. The 'cool tool' part of it is a Beckett 'Z' dimension tool. It allows you to set the head to nozzle dimension on any 'F head' and you don't have to drop the burner off the appliance. This idea was first developed by Jim Dowling, a service technician on Long Island, so thanks again Jim.

Using an old style Delavan nozzle, **Figure 2**, (the ones where the parts fall out when you remove the filter), punch out the steel insert from the face of the nozzle by knocking the insert back into the nozzle body. Insert a 1/4-20 x 1" cap screw or round head screw with the head ground down to fit. Get a 1/4-20 jam nut and a 1-1/2 fender washer. Check that the thickness of the jam nut and washer is 0.203" +/- 0.010" combined with a micrometer or by using a burner and Beckett 'T gauge'. (You may have to substitute flat washers for the jam nut to get this dimension.) Beckett states that the distance from nozzle face to the back of the head should be 13/64 or 0.203".



**Figure 1**

This is for F-0 through F-30 heads. Assemble the gauge by putting the screw in the nozzle adding the jam nut, fender washer and nut. Use either lock-tite or a second lock nut to hold everything together. With everything tight, put the nozzle on a flat surface to check that there is no bend in the washer.



**Figure 2**

To use the tool for 'Z dimensions' remove the electrodes and install the tool. Slide the gun assembly into the tube until the washer hits the back of the head. Mark the position with a scribe and remove, reassemble with normal nozzle and electrodes, line up the scribe mark to the tube and lock down. It is a lot easier than removing the entire burner and using a standard 'Beckett T' gauge and if you use the orange gauge on a hot burner you only get one use of it .

After I made up a few of these I realized that if a faucet washer was placed on the screw as it entered the nozzle I would have a plugged nozzle for this test, so.....leave the nozzle line and drawer assembly with the tool inserted outside of the burner housing and the nozzle line connected to the pump and then turn the burner on. If a leak is present it will be easily found.