

## Cleaning Non-ferrous Parts

My goal in cleaning any torch is to remove as little of the metal as possible. In the past, I've bought a few torches where the restorer removed the corrosion with a coarse wire wheel or cutting emery on a buffing wheel. These methods obviously work but they cut deep into the metal and remove the original surface texture. Some early White and Turner/White torches I have restored had a slightly rough (matte) finish on their tanks. This would be removed by the methods mentioned above. When cleaning burners, I like to see them as they looked when they were cast. Burners are typically rough and have many cracks and crevices. Heavy buffing to remove the dirt and carbon from these cracks and crevices removes a lot of metal and makes the burner look unnaturally smooth.

The method I use below minimizes the loss of surface metal:

To clean the brass and bronze parts of a torch, after it has been disassembled, use toilet bowl cleaner (see picture). Toilet bowl cleaner contains Hydrogen Chloride, an acid that almost instantly breaks down the corrosion and does not eat into the metal. I recommend Lysol brand "Maxcoverage" (see picture). This product is almost 10% Hydrogen Chloride. Check the label of different products available to you. The higher the percentage of Hydrogen Chloride, the more effective it will be as a cleaning agent. The tank should be handled differently from the smaller parts. For the smaller parts, including the burner, soak them in the bowl cleaner overnight submerged in a plastic container. Clean the tank by hand, brushing on the bowl cleaner and letting it work for an hour or so (see picture). Then clean it with very fine steel wool (grade "0000"). For difficult areas use a small wire detail brush. The bowl cleaner soaks into all the tiny cracks and crevices and removes the corrosion as well as the grime and carbon. Be sure to wear rubber gloves and eye protection when working with this material. Also, make sure you are near a water source, just in case it splashes on you. I work outside so I always have a garden hose nearby.

Once the smaller parts have soaked overnight in the bowl cleaner they turn a copper color (see second picture). Use a bucket of hot soapy water to rinse the parts. Submerge all parts except the tank in the soapy water. Make sure the soapy water passes through all the passageways in the burner and lower support. The soapy water neutralizes the acid. Rinse the tank off by hand to keep water from entering inside the tank. Dry the parts. To further clean the parts and remove any remaining particles, use a very fine wire wheel, fine steel wool, or a small detail wire brush. In the picture, the tank was finished with fine steel wool. All other parts were gently cleaned using minimal pressure on a very fine wire wheel. The very fine wire wheel and steel wool will remove almost all of the copper color and return the parts back to their original color. The inside of the burner can be cleaned with a bronze bore brush from a shotgun cleaning kit.



I have always had these kits around so it's convenient for me to use them. I use a 12 gauge brush. It seems to be the perfect diameter for the typical burner. The higher the number of the gauge, the smaller the brush. For smaller burners, I use a 20 gauge brush. I guess if I looked around, I would find a brass or bronze brush that would work as well. This is just easier for me. These kits and interchangeable brushes can be found at any sporting goods store.

The finish you see in the final picture is the result of this cleaning process. No parts in the picture were buffed or polished.

After the parts have been cleaned they can be inspected for damage. In the case of this Detroit Model #42 Auto, there are some relatively deep scratches in the tank. I will address how to remove these scratches in a separate article. If repairs are not needed, the parts can now be easily buffed to a bright finish without removing a significant amount of material.

The toilet bowl cleaner can be saved and reused. Many torches can be cleaned with one 32 ounce bottle. When you no longer need it, dump it in your sink. It does a good job of keeping the drains running free.





