

Removing Excess Solder Repairs

Many times I have seen torches with significant amounts of solder on seams or around fittings. In most cases it was an attempt by the user to repair a leak in the tank. It was always interesting to me that these torches were used by professionals that worked with lead and solder on a consistent basis. And yet, the person doing the repair found it necessary to add a pound of lead to seal a tiny leak. I have always considered myself lucky in that I was able to easily remove the excess solder and return the torch to its original form. I do, however, have an advantage. The advantage is that it doesn't matter to me if it still leaks after I am done. I just want it to look cosmetically correct. In most cases, I may have actually fixed the problem but I never test torches to see if they work.

Knowing how to properly remove the excess solder enabled me to purchase these relatively ugly torches at an inexpensive price. The excess solder is very distracting and most collectors aren't prepared to properly remove it. It can also be a little intimidating since you don't want to attempt something that may ruin the torch.

I will explain how I remove solder and then you can decide for yourself if you want to attempt it. I assure you that it is not difficult. The hard part is getting up the nerve to do it. A good approach would also be to try the technique on the bottom of a scrap torch. I have more torches in my bone yard than I do in my collection. Almost all canister style torches are soldered on the bottom of the tank. The tank is formed and then the bottom plate is soldered on. Many of them have a lot of solder around the rim. This is a perfect place to practice until you feel comfortable.

There are very few tools required to do this properly. You will need a propane torch with a burner that has a trigger activated igniter. This just makes it easier to work with. You will not have to continually turn off and re-light the torch. You will also need a small brass or steel wire bush (just slightly larger than a toothbrush), fine steel wool, and 400 grit wet/dry sandpaper for metal.

This isn't so much about tools as it is technique. This technique requires patience. If you are not a patient person, read no further.

The technique involves heating the surface of the solder one layer at a time. It is not about blasting it with the torch and melting all the solder in one shot. It is more like peeling an onion one layer at a time. The idea is to heat the surface of the solder by moving the propane torch back and forth across the solder as if you were using a paint spray can. In a short amount of time you will notice that the surface of the solder turns from gray to a very shiny chrome or mercury color. This is an indication that the surface of the solder has melted and just below the surface the solder is slushy. At this time the propane torch can be turned off (release trigger) and the solder can be briskly wire brushed. I always go in one direction with the brush and use long strokes. Always brush away from yourself because the solder is hot coming off the wire brush. At this point it is just heat and brush as many times as you need to remove most of the solder. It may take five or six passes to get it mostly off. Remember, there probably should be some solder on the torch where the repair was and you don't want to remove any solder that actually belongs there and should remain. At this point there is still a lot of solder on the torch that is rough and uneven. It is also on areas of the torch that should be brass or bronze when polished. The next step is to use the propane torch in the same side to side motion as earlier but you will be using the fine steel wool to remove the solder. Remember, you don't want to remove too much material. The steel wool is used for shaping and smoothing. Long strokes will make the entire surface smooth.



On the Baum & Bender auto torch to the left, you can see that there was a significant amount of solder around the base of the tank. After removing the bulk of the solder, the key was to make the solder line look correct when finished. I used steel wool to clean off any remaining excess solder. This allowed me to make a more presentable line as I heated the solder and then wiped the steel wool across the juncture of the tank and lower casting.

Be careful when using steel wool because it will burn. If you hit it with the torch, it will ignite. I always do this outside. As you can see in the photo to



the left, the solder repair extended significantly above the contact point between the base plate and the wall of the tank.

After you have cleaned the excess solder off with a wire brush and steel wool, there will be a thin layer of white solder in places where it doesn't belong. The majority of the remaining solder can be removed by heating the brass about an inch away from the solder. You will see that the white solder will turn wet and shiny looking as the solder heats. Steel wool can again be used to remove it once it is heated. On the torch above, I first got the line between the tank and lower casting very close to the way I wanted it to look. I then heated the brassy area just above the area that I wanted to give finishing touches. As you heat the brassy area you will see the solder melting in a pattern away from the heat. This allows you to clean up the areas that need attention without directly applying the flame to the solder. It also allows you to not heat and disturb any areas you are happy with. With a little practice you can control what areas should be heated and how much heat should be applied.



Even after you have removed the excess solder, the areas that were incorrectly covered with solder will still appear white in color. To return them to the brass or bronze color, use a 400 grit wet/dry metal sandpaper. The layer of solder is very thin and sands off with ease. After buffing, the scratches from the steel wool and sandpaper will be gone. If you are repairing a seam such as the one on the Baum & Bender auto torch, it is sometimes difficult to make the solder in the seam smooth. If your solder is not smooth, apply some Flux to the area and gently pass the flame from the propane torch across the area you want to be smooth. Do this in the same manner you used to melt the excess solder. You will be melting the surface of the solder and it will find its own level. It will then appear to be smooth and level. Be careful not to apply too much heat. If you do, all the solder will melt and recede into the tank. You only want to melt the surface. This is accomplished by the back and forth motion of the propane torch and a total awareness of the color of the solder.

This technique can be used on any part of the torch but the theory is consistent. Do not blast the area with heat to remove the solder because you will be melting solder that should stay intact. Instead, gently heat the area until the surface turns shiny. Then remove small amounts at a time.

As you can see by the photo (to the right) of the finished torch, it makes a significant difference. Other than the excess solder, this torch was actually in very nice condition. I did not have to disassemble the tank. I just had to remove a less than professional repair.

