

The Lamp Cleaning Cookbook

by Len Gaska

To Clean or Not to Clean

The decision to clean one's lamps is a purely a matter of personal taste. Many collectors do clean their lamps, but some prefer to leave them as is. A cleaned and polished lamp is definitely more identifiable as to markings, the presence of plating, and other details. A cleaned lamp is also more pleasing, especially if it resembles an unfired lamp directly out of the box. The disadvantage of cleaning your lamps comes into play when you want to trade. One can always trade an uncleaned lamp and leave the decision up to the recipient.

There is one overriding concern. If you do decide to clean your lamps, **DO THE JOB CORRECTLY**. Every collector has probably run across lamps that have been permanently ruined by improper cleaning. Take the time and pride to do the job correctly and the results will be worth the trouble. This article is intended as a **GUIDE**, not a recipe book. You **MUST** experiment because there are no shortcuts to expertise here!

If you decide to clean your lamps, there is a further decision to be made. And that is whether to limit your cleaning to the exterior of the lamp or to clean it inside and out. The inside is the most difficult to clean, partially because of access and primarily because that is usually where the most stubborn corrosion and tarnish is found.

The Theory of Cleaning

The fundamental theory behind cleaning anything is deceptively simple. That is to remove the offending material without affecting the object in any negative way. Simple in theory, but often difficult in practice. To remove stains, corrosion, and other foreign material, one must either apply chemicals that attack the foreign matter or use abrasives for removal. The two rules for lamp cleaning are then as follows.

1. Use the mildest chemicals possible to get the job done and use the right chemical on the right material.
2. Use the finest abrasives available. Most polishes have diatomaceous earth as an ingredient. This should be the only abrasive used on the outside of the lamp. For the inside, one can generally use 0000 steel wool and obtain an acceptable result.

Where to Clean Your Lamps

Many of the chemicals used in lamp cleaning are caustic to skin, lungs, and less important things such as drainpipes. It is best to perform the cleaning outside or in a very well ventilated area. Remember that chemicals such as hydrochloric acid have a propensity to eat drain pipes, so forewarned is forearmed. Dilute your chemicals with lots of water before pouring them down a drain. My approach to disposal of hydrochloric acid is to throw it in a large plastic bucket and let it evaporate. One can also neutralize it by adding baking soda, limestone, or spent carbide. Since cement has limestone as an ingredient, chunks of concrete in the waste acid bucket will also neutralize it in time.

The Tools of the Trade

One needs a decent set of screwdrivers, nut drivers, and wrenches to disassemble lamps prior to cleaning. Use the right tools to avoid bugging up nuts and other parts. A vice-grip pliers is no substitute for the correct size of socket or wrench. Hemostats make really good tools for cleaning and polishing small or less than easily accessible areas. Discarded toothbrushes are necessary items to remove corrosion after a lamp has been dipped. Fine steel wool, grade 0000 is recommended for cleaning the inside of the carbide chamber and the area where the felt and water feed is found.

One final tool that I have starting using recently is a brass turbo-tumbler. They are sold commercially at gun stores to clean and polish shell casings for home reloading. They utilize ground up walnut shells and polishing chemicals. They usually take several days to polish a lamp, but it is worth the wait to avoid the tedium of hand polishing. A decent size commercial tumbler costs over \$100, but one can be constructed for \$10 to \$15 in materials.

A fairly complete list of chemicals and their uses follows.

1. Hydrochloric acid. Also known as muriatic acid. This is used for removing spent carbide and corrosion from brass or nickel plated brass lamps. It is obtainable at most swimming pool supply houses for a few dollars per gallon. **This is strong stuff!** Although it is not highly caustic to skin in this concentration, it can cause eye damage, will hurt like hell when it gets into open sores, and eats up many metals and other materials. Use this stuff with caution and observe common sense safety precautions. I don't use rubber gloves when removing lamps from an acid bath, but I do rinse my hands with haste. An alternative to hydrochloric acid is sulfuric acid which is also found at pool supply houses. I don't recommend its use as it is much more damaging to organic matter. Like skin and eyes, for example.
2. Ammonia can be used to remove corrosion. It does not remove spent carbide and make take days to soften up stubborn tarnish, but it is much gentler on brass. I have had some strange and undesirable results with ammonia, so I do not use it. I would appreciate hearing from anyone who has successfully used ammonia for lamp cleaning.
3. Carburetor parts dip is wonderful stuff for removing organic material from lamps. Old tape and bits of rubber gasket can be softened up and removed easily after dipping the lamp in the parts dip for 15 to 30 minutes. It has no apparent affect on metal.
4. Lime-Away. A commercial product used to remove hard water scale. This stuff appears to be more effective in removing thick hard water scale than hydrochloric acid. It is much slower than hydrochloric acid in removing tarnish and carbide, but is much less caustic and therefore more gentle. I often use Lime-Away on valuable lamps as there is less chance of ruining the finish.
5. Rust removers such as Rust-Biox or Naval Jelly are effective for removing light rust from steel.
6. Aluminum Jelly. Made by Duro. Very effective in cleaning aluminum lamps.
7. Lacquer or an equivalent clear coating. Steel lamps or parts that are rusty or have had rust removed should be coated after cleaning and a thorough drying. Lacquering brass lamps will protect them from further tarnishing, but my personal preference is to leave them uncoated.
8. Brass polishes. There are many different brands on the market, but I have had the best results with Simichrome and Never Dull.

Attacking that Tarnish

The first operation is to disassemble the lamp as completely as possible. There are two reasons for this. First, different parts are made of different materials and must be cleaned with different procedures. Secondly, some parts may not need cleaning and there is no reason to subject them to caustic chemicals. I have always been able to remove frozen lamp bottoms by applications of hydrochloric acid. Invert the lamp and apply the acid sparingly in the crack between the top and bottom. Rinse and repeat as often as necessary. After disassembly, remove as much of the spent carbide and other foreign materials as possible. A dull knife works well for getting rid of spent carbide. If a sharp knife is used, there is danger of puncturing the carbide chamber. The next step is to use dilute acid to completely purge the insides of spent carbide. This procedure consists of putting a small amount of acid in the carbide chamber and letting it work until there is no further bubbling action. Acid and spent carbide react with vigor, so use a small amount at a time and keep raising the level of acid until it reaches the top and all the carbide is gone. The use of a small amount at a time is to prevent the acid from bubbling up and spilling over the sides of the lamp. One can use straight acid for this operation, but a 1/5 to 1/10 dilution will minimize getting acid on the outside of the lamp. If the carbide chamber has holes in it, seal them with silicone putty or equivalent.

After a thorough rinsing and drying, the lamp is ready for the parts dip or paint remover (if necessary). This operation will dissolve and/or soften organic material such as pieces of rubber gasket or old tape. Fifteen minutes to a half-hour is usually sufficient. Washing with soap and water or a rinsing in gasoline will rid the lamp of residual parts dip which smells awful. Again, do this operation in a well ventilated area.

Further cleaning depends on the type of material. Nickel plated reflectors demand a different procedure than aluminum lamps, so separate the parts as to material and proceed.

Nickel Plated Lamps, Reflectors, and Other Parts

Nickel plated items are the easiest of all parts to clean, primarily because tarnish and corrosion do not form or do not stick as for brass lamps. The best chemical to use for this operation is very dilute hydrochloric acid. A quarter cup of acid per half-gallon of water usually does a very nice job. Dip the parts in the acid for a few minutes and remove and brush with a soft toothbrush. Repeat as necessary until the tarnish is gone. If the Ni is corroded through, do not leave the part in the acid for more than a few minutes at a time as the plating will tend to peel away. After a thorough rinsing and drying, the part is ready for polishing.

Aluminum Lamps and Parts

Aluminum reacts with much vigor when exposed to hydrochloric acid, so limit its use to removing spent carbide from the inside of the carbide chamber. Lime and scale can be removed from aluminum lamps with Lime-Away. Either spray it directly on the scale or dip the entire lamp. Repeated applications of 10 to 15 minutes each are sometimes necessary. When the scale is gone, rinse thoroughly and dry. Aluminum jelly is then used for the final cleaning. This stuff is a fairly thick blue jelly-like substance that does a nice job of ridding aluminum of corrosion, yet does not adversely affect the metal. Simply coat the part with the jelly and let it work for about 15 minutes. Rinse and brush with a soft toothbrush. A light rubbing with grade 0000 steel wool can sometimes improve the appearance. The keyword here is a LIGHT rubbing, as too much pressure will leave scratch marks. Aluminum can be buffed to a high sheen if you know what you are doing, but I prefer the dull appearance that is typical after cleaning.

Steel Lamps and Parts

Steel is the hardest material to clean for several reasons.

1. Rust actually pits the steel and these pits are almost impossible to clean.
2. Many steel lamps are galvanized or lead dipped. Use of acid will remove this protective coating.

Strong hydrochloric acid will remove rust as will commercial rust removers such as Rust Biox or Naval Jelly. If the rust is thick, do not waste your time with rust removers. Just remove the thicker portions with steel wool and then coat with a spray lacquer or equivalent. The protective coating is important to impede further rusting which will occur in virtually any climate. Light rust usually can be removed with the rust removers. Follow the directions and rinse thoroughly. A quick drying with paper towels or a cloth is necessary as further rusting will occur almost immediately if the metal is wet. Again, after cleaning and a thorough drying, the part should be coated.

Brass Lamps and Parts

Brass is by far, the most common material that you will have to deal with. Tarnish varies from the very thin and easy to remove to the really thick and stubborn stuff that requires strong measures. The really stubborn tarnish is invariably found in the carbide chamber and above. Felt holders and washers are also problems to clean. I prefer use of strong acid to remove this stubborn tarnish as cleaning is much quicker. The key is to apply the full strength or nearly full strength acid to only the inside without letting it touch the outside of the lamp. If the carbide chamber is not cracked and does not otherwise leak, repeated applications of full strength acid followed by brushing and rinsing will do the trick. The area below the water chamber can be treated by inverting the lamp, plugging the gas tube, and pouring full strength acid into the well. To clean the end of the water valve, screw the top onto the carbide chamber when it has acid in it. Use of fine steel wool in these areas poses no problems as they are not visible anyway. Furthermore, these areas are often pitted anyway, so use of fine steel wool will only improve the appearance.

Processing the outside of the lamp requires a gentler approach. Dilute acid (1 part per 20 of water) will usually soften the corrosion within 5 to 10 minutes. Repeated dippings, brushings, and rinsings are often necessary. If you do decide to use hydrochloric acid, start with a very weak solution and experiment. Repeated experience will give you a good feel for the concentrations to use. Note that some brass lamps, especially some early Justrites, will turn pink in acid. This is due to the zinc being dissolved out of the brass. This pink coating can be polished out, but it requires a lot of work. The point here is to use very weak acid concentrations for early Justrites and some other types of lamps. The quality and composition of brass in carbides varies greatly, so again, experience is necessary.

Ammonia is an effective tarnish remover, but it takes considerably longer to work. Soaking for days at a time will often be necessary to remove thick tarnish as is found on the inside of lamps. The advantage of ammonia is that it will not dissolve zinc out of the brass, so final polishing is much easier. But as I stated earlier, I have had some strange results with ammonia, so I do not use it.

Lime-Away is a good alternative to hydrochloric acid, but takes longer to work as it is a much more mild caustic. I have used it successfully on lamps with moderate corrosion with a ratio of about 1 part Lime-Away to 5 parts water. The lamps I have processed with Lime-Away required 2 to 4 hours of soaking before the corrosion could be brushed away.

Final Polishing

This is the most tedious of all the operations. All nickel plated and brass parts may be polished using a commercial brass polish. I highly recommend Simichrome, a metal polish made in Germany, and available in auto parts stores. Never Dull is also a fine product. These two products do a better job with less work than any other commercial products I have tried. Despite the claim that some polishes require no "elbow grease," the primary polishing mechanism is due to the diatomaceous earth or other very fine abrasive scrubbing the lamp. This simply means that some pressure is required to gain an acceptable sheen. Cotton balls make a good applicator. A hemostat is a really good tool to polish small areas as it can firmly hold a bit of cotton that has been dipped in polishing compound. After the polish dries, buff it with a soft cloth. Of course, repeated applications may be necessary until the desired effect is achieved. I do not recommend polishing a lamp to a mirror finish. A moderately shiny lamp looks more like the original product than one that has been highly polished.

I recommend the use of fine steel wool to polish the inside areas and parts such as felt holders and washers. Unless the lamp is in really good shape, these areas are difficult to polish with chemicals.

Some Final Notes

The key to successful lamp cleaning is experimentation. Always start with the weakest acids, the least pressure, and the most care. Work up to the point where cleaning takes the least amount of time while giving the best results. If you care to spend the money, use of Lime-Away with an ultrasonic cleaner should theoretically do an exceptional job of tarnish removal. Be prepared to spend \$150 and up for an ultrasonic cleaner with an adequate capacity.

While this article puts forth a lot of procedures for lamp cleaning, the list of effective methods is by no means complete. If you have some good methods, I would appreciate hearing about them.