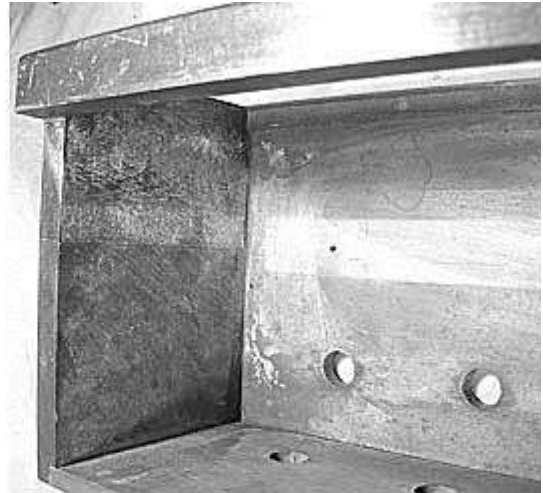


Restoration Of Shellac Finishes On Older Radios

*by Lane Upton
3788 Loretta Dr.
Salt Lake City, UT 84106-2956*

Most of the radios produced prior to 1925 were finished with shellac because it was economical, fast drying, and easily applied. Lacquer finishes became popular during the late 1920's, and continue to be the common economical finish today. However, shellac continues to be used as a sealer. Both shellac and lacquer were tinted with aniline dyes and this practice continues today.



Top, Rear and Interior of Cabinet Before Restora

Most collectors are too quick to strip off a finish that is discolored, has missing areas, is scratched and worn, or has other defects. In the case of shellac finishes this can create a lot of unnecessary work and quite possibly the loss of the original color--which was integral with the shellac when it was sprayed onto the wood.

In this article the author will attempt to explain some of the simple techniques that can be used when restoring shellac finishes. The cabinet from a Crosley Ace 3B is shown in before and after photos as a demonstration of what can be done.

First make sure you have a shellac finish. This can be determined very quickly by testing with alcohol. Alcohol will not affect lacquer finishes, but will almost immediately dissolve a shellac finish. Wet a small spot on a rag or your fingertip with alcohol and touch it to an inconspicuous spot on the cabinet. If it softens the finish then it is shellac, if not then it is another material.

Cleaning

Before any work is performed on the finish, the cabinet must be cleaned. Many cabinets are coated with a brown film from tobacco tars and/or deposits from the old natural gas stoves and open heaters. Also, many cabinets have a film of polish and/or

wax. Quite often a good cleaning, followed up by oiling (to be discussed later in this article) is all that is needed for a good restoration.

Begin your cleaning with a vacuum cleaner. As you work, use a paint brush to loosen the dirt down in the corners and crevices. I use a paint brush with the bristles cut down to about one half inch long. This makes it stiff enough to remove dirt yet soft enough to not harm a finish.

A quick test for wax or other deposits is to scrape the finish with your fingernail. Such material will build up under your nail. Waxes must be removed first. If wax is suspected, clean the finish with a rag wet with paint thinner (mineral spirits). NOTE: I have found that the "low odor" thinner does not do as good a job. Allow the thinner to dry completely before proceeding.

Once the wax is removed I suggest switching to 409 cleaner, which does the best job of cleaning cabinets--both inside and out. Use rags that have been soaked in warm water and wrung out fairly dry. However, the first step is to dampen the finish using a rag wet with clear water. If 409 is used on a dry surface it will actually remove a thin layer of finish.

Spray the 409 onto your rag (not on the finish), wipe an area of finish, allow a minute or so for the cleaner to work, then wipe off with a clean rag to remove the dirt and cleaner. Rinse out your rags when they become discolored. When you have gone over all the surfaces, repeat the cleaning until the rags come out clean.

Restoration Cautions

These procedures require the use of alcohol, but do not use the "denatured alcohol" that is sold in paint stores; it has too many additives. I use methanol (methyl alcohol) for most of my work which I buy as "gas line anti-freeze" at the automotive parts house. Another readily available pure alcohol, is "Everclear," which can be purchased from a liquor store. It's pure grain alcohol, but it is much more expensive.

Remember that the materials and/or propellants used in this work can be flammable and/or oxygen displacing, especially the materials in spray cans. All work should be carried out in a well ventilated area away from any flames or sparks. Rags and towels used with these products should be disposed of properly to avoid spontaneous combustion.

Due to its high alcohol content, shellac will absorb moisture very rapidly. Do not use shellac on a very humid day unless you are in a fairly dry area. This is especially true of material in spray cans, where the vaporizing of the alcohol drops the temperature of the sprayed shellac.

If the shellac has absorbed enough moisture it will turn a milky white color. If this happens, rub it down with 4/0 steel wool and then wipe over it with a soft clean rag moistened with shellac and wrung out as dry as you can get it. Work quickly before the alcohol evaporates.

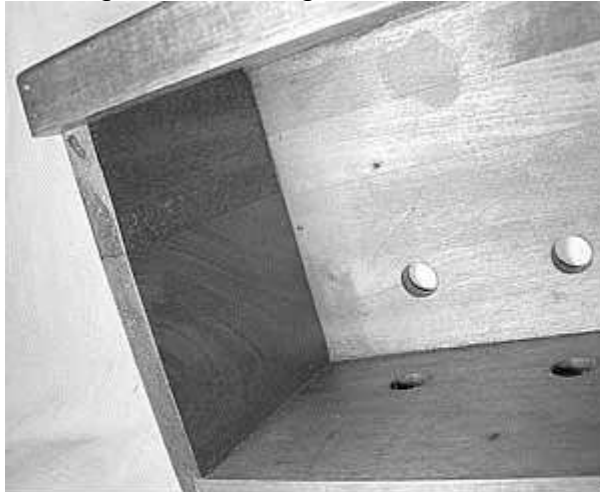
The Cabinet Top

Once the cabinet is cleaned, decisions must be made as how to proceed. For instance, look at the photo of the cabinet top. There is a dark ring which was caused by water or rust, an area where the finish is actually scratched and missing, and a deposit of something that didn't come off with the cleaning. Here's how I proceeded.

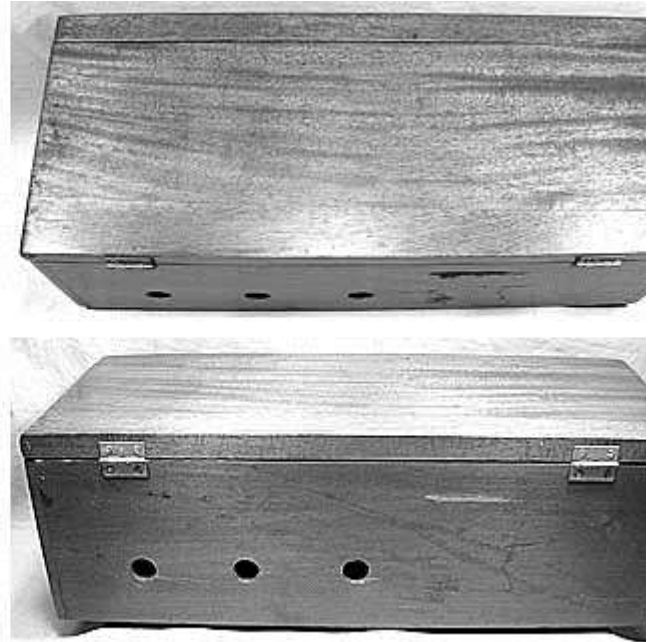
Before working on the top, I removed the hinges from the lid and also the Crosley label on the underside. The lid and the top bar on the cabinet were first lightly rubbed down

with 4/0 steel wool, with a little extra rubbing on the deposit that hadn't washed off. The point here was not to remove much of the finish, but mainly to smooth down the surface of the deposit.

The refinishing procedure to be applied next is not as difficult as it may sound, but it does take some practice. I placed the lid, with the top up, on a clean cloth on a flat level work surface. Then I poured alcohol onto a large piece of 4/0 steel wool until it was saturated and dripping. The shellac was rubbed with the saturated steel wool until the entire top surface was liquefied. I made an effort to minimize the amount of alcohol running down the edges.



Top, Rear and Interior of Cabinet After Restoration.



When using this procedure, be sure that the steel wool remains well saturated with alcohol. Once the entire surface is liquid shellac, smooth it out by stroking the surface end to end, going with the grain. When you are finished the shellac surface should be smooth and even, as if it had just been brushed on.

After the top had dried, I repeated the procedure on the top bar of the cabinet, being very careful not to drip alcohol onto any other shellac surfaces. And, wetting a small piece of steel wool pad with alcohol, I carefully cleaned up the edges of the lid, being careful to not get alcohol in the bottom surface.

Once all the surfaces are thoroughly dry, they should be rubbed out lightly with a pad of 4/0 steel wool. Be careful when rubbing around the sharp corners; use very light pressure to prevent complete removal of the finish.

Balance Of The Cabinet

It was decided not to rework the shellac anywhere else on this cabinet. Though the back had scratches, as well as a gouge about 1/8" deep, they would be fairly well colored in with the final oil finish. And, of course, they would be out of sight most of the time.

The water stains on the inside of the cabinet were lightly gone over with a 4/0 steel wool pad that had been dipped in alcohol and wrung out to get it as dry as possible. This again takes a little practice, but it is a handy technique for removing surface stains

from shellac surfaces. In this case I did not make an effort to completely remove the water stains, just to minimize them. However, repeating this step two or three times, allowing the shellac to dry between steps, will completely remove water rings and stains.

Touch-Up Staining

Quite often many of the scratches, dings, etc. can be touched up with an oil stain of the proper color using a small artist's brush. I find it effective to rub over the stain lightly with a finger to smooth it out and blend it in. For this work I prefer to use a gelled stains such as "Jel'd Stain" by Wood-Kote¹. Be sure to let the stain dry at least 24 hours before applying any materials over it.

Another type of stain is the alcohol-soluble aniline dye. Water-soluble aniline dyes are also available, but water tends to raise the grain of the wood. The dyes come in powder form and are mixed with the solvent to gain the desired intensity. The alcohol-soluble dyes are fast drying and can be mixed with shellac to tint it. They are available from woodworking supply houses, such as Woodworker's Supply², in small amounts and in a large variety of colors.

On occasions when I need a small amount of tinted shellac for touch-up work, I will spray shellac from a spray can into a small container and then add the aniline dye. This tinted shellac is applied to scratches with an artist's brush, allowed to dry, then rubbed out with 4/0 steel wool. After the area is given a final coat of oil, the touch-up will be barely visible.

Two words of caution in using aniline stains: 1) they are very intense in color, so it is better to use several coats of a dilute stain rather than coming up with an effect that is too dark. 2) this stain is difficult to get off of your hands and almost impossible to get out of clothes.

Oiling: The Finishing Touch

A very thin coat of a Danish oil type product covers many surface defects, evens out the appearance of the finish and helps to preserve the finish. There are many such products on the market, but I prefer Varathane Natural Oil Finish by Flecto³. A quart of it will cover many cabinets.

The oil can be applied using a rag or a paint brush I prefer using an old wash cloth which I keep in the can. Put on a wet coverage of oil being sure it gets into the corners, cracks, etc., allow it to soak in for a few minutes, and then rub it out lightly with 4/0 steel wool. The oil should then be wiped off until there is just the very slightest layer left.

I use paper towels for wiping down the oil, finishing up with a final wipedown with clean dry paper towels. I have found that if a rag is used for the final wipe down, too much of the oil is removed. On rough surfaces, such as the insides of cabinets, the towels may leave particles in the oil. These can be wiped down with 4/0 steel wool.

If the oil starts drying and gets gummy, wet it with more oil and it will dissolve again. Be sure to leave only the thinnest film of oil. If you allow a heavy coat to dry, you will have a very poor looking finish. After the oil application, place the cabinet where there is a minimum of dust and allow it to dry for at least 24 hours before handling.

This oil treatment is certainly not limited to shellac finishes, I use it quite regularly on lacquer finishes and even on bare wood as a final finish. It works very well over oil stains, but be sure your stain is thoroughly dry before applying the oil.

Material Sources

1. Wood Kote Products: www.woodkote.com
2. Woodworker's Supply: www.woodworker.com
3. Flecto: www.flecto.com

References

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www.naturalhandyman.com/iip/author/zinsser/shellac.shtm

Using Shellac

www.naturalhandyman.com/iip/author/zinsser/shellac2.shtm

Furniture restoration & finishes, includes a variety of articles on finishes by individuals

www.antiquerestorers.com/Articles/furniture_articles.htm

The Furniture Doctor, by George Grotz; An educational and very enjoyable book.

Although out of print, it is still readily available from used book dealers.