

French Polishing  
With Modern Methods  
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French polishing is one of the most misunderstood finishing methods that is wrapped in a mantle of mystique and misinformation. It is nearly a lost art, and that is a pity as it is an extremely useful finish that is elegant and remarkably smooth. There are a handful of woodworkers who make new furniture that is entirely French polished. This is a very time-consuming process of filling and rubbing with many coats of shellac. There are others, like myself, who use it for finish restoration, for which it is perfectly suited.

French polish is nothing more than a method of rubbing on a shellac finish. The technique can vary, but the final finish is glassy smooth. It dates back more than 2000 years and there are ancient Chinese pieces that are still in very good condition in many museums. Shellac is a natural product that is an extract of insects collected in southern Asia. It is dissolved in alcohol and rubbed on with a pad, usually made of stretched cotton cloth over a filling of cotton or wool. The beauty of French polishing is that it lays down a very thin layer of shellac at each pass and fills the grain and imperfections without building up finish that has to be sanded off. So, it is self-leveling.

Pianos and many antiques have been French polished for much of history, up to the middle of the 20<sup>th</sup> century. Shellac is still the preferred finish for some hand-made pianos in Europe. French polishing can be applied over nearly any finish to achieve a high polish. Since it fills scratches selectively, I find it an ideal refinishing method that does not require stripping the old finish, filling the grain, staining, applying multiple coats of modern finishes, and sanding a polishing most of that new finish off again to achieve a high polished final product. Instead, French polishing builds on the original finish that was often painstakingly applied by fine craftsmen. In many cases, the original finish was shellac and French polished in the factory. Later, sprayed lacquer and then modern polymer finishes have replaced the hand-rubbed finishes.

This class is about how to French polish without stripping. The Chinese, not the French, invented this technique that dates back to 400 BC. Also, it is not a polish; it is a finish. Marco Polo brought this technique back. The bug came from China. Shellac is a durable finish. If you leave Whiskey on it overnight it would leave a mark. Watermarks take a while. With modern French polishing you leave out the oil.

### **Origin of Shellac**

There are 1000's of female lac bus, *Kerria lacca*, that live inside the twig. The process is labor-intensive. Kids climb the trees to gather the twigs. They scrape all the bugs into a pile and put them in a linen sack. They put it over a fire until it melts. They squeeze the black through the sack. They stretch the sheet. When it cools they get the shellac flakes. It takes a million bugs to make a pound of shellac.

Shellac comes in a lot of colors from blond to garnet, depending on the purity of the material. De-waxing is an additional process of absorbing the waxing material out of the shellac for more stability, more water resistance and a harder finish.

**To make shellac finish**, start with some shellac flakes. Shellac does not have a long shelf life because it is made with denatured alcohol and is highly hydroscopic. From the can it may last three years. Read the label; ideally you want dry gas denatured alcohol.

The materials for traditional French polishing:

- Shellac flakes mixed with alcohol, placed in a sealed bottle
- Oil
- 4-F pumice as a filler, which will become clarified by the shellac
- Linen (T-shirt material)

#### **Commercial Shellac Products**

- Amber shellac, 3 lbs/gal.
- Clear de-waxed
- Clarified de-waxed in 2lb/gal
- Qualisol from Mohawk
- Eutony

**Video of French Polishing**, by Jeff Jewitt (from homestead finishing supply)

Linseed oil, shellac flakes,

2lb shellac flakes in a gallon of denatured alcohol

Shake the jar every two hours. It takes about a day.

Add 3-4 oz. by volume of pumice

Surface preparation is the key, because any imperfections will be magnified.

Sand to 220 grit. If you want to stain under a shellac finish, use water-based, not alcohol-based stains.

Wipe on a coat of wood dust.

Brush on quickly the pumice shellac filler.

Go across the grain to fill the mixture into the pores.

Wipe off the excess filler.

Next day, start with a golf-sized roll of cloth. Work the shellac into the cloth, then wrap the cloth into T-shirt material. Twist it so there are no seams.

Lightly move the roll back & forth to prepare the surface, using less than a lb of force.

Repeat this striping surface until it is even. Do the edges periodically. Lubricate the roll with mineral oil to keep the roll from sticking.

Keep working the board without favoring any particular area so the pad doesn't stick.

Open the cloth and apply more alcohol and lacquer to the gauze.

Every time you recharge and build the body of the finish, keep doing the edges as well.

As you work you will notice trails or clouds. These should evaporate in a couple seconds. If they don't evaporate, you are using too much oil.

Store the pad in a sealed jar.

Fill cracks with pumice mixture with a brush or toothpick.

Fold a quarter of 600 grit sandpaper to remove lightly any pimples left by the finish, then wipe off the residue with a clean soft cloth.

The next day sprinkle some pumice onto the roll in the jar and re-wrap it in the T-shirt.

Continue coating, doing the edges, and paying attention to the trails. Use the same sequence of figure 8s and continue recharging the pad.

Then using straight strokes and as much pressure as you can, stroke back and forth.

On the next day, start with a new cloth for the clearing stage.

Test for alcohol level on your wrist. Burnish the hard surface with a rapid back-and-forth motion.

For curved surfaces don't use pumice because it will leave deposits.

Using a brush, use less finish so it won't drip. Slapping the brush will remove drips.

With a cloth pad, work the finish in circles.

Materials:

brush

roller

alcohol

sandpaper

pumice

shellac

Nicks & dents can be filled with hard wax put on with a hot knife, put on like shellac sticks.

If there are water marks or stains, apply Howards finish with 400 sandpaper.

Blending is done with a colored lacquer to fade it out into the periphery in the edges.

People are very good at noticing imperfections. Eliminate the edges and they are less noticeable. Scratches across the grain are the hardest.

Moderate scratch: 10 minutes

Slight water damage: 5 minutes

The good thing about French polish is that you can start with the polish and then fill the deep cracks.

Modern crazing and slight roughness repaired with Tung oil finish before French polishing. Just wipe on the oil with a rag. Fine hairline cracks cannot be filled by French Polishing. Tung oil can be thinned by 20% and left on overnight so it soaks down into the cracks. Use 600 paper and then French polish.

One Chickering was in a house of heavy smokers, cats and with paper stuck on it. The varnish scraped off easily.

**French Polishing video** by Douglas Gregg

First sand and smooth

Apply Howards Finish Restore: rub on then wipe off. Howards will dry in about five minutes.

While the crazing is still there, it will soon be gone.

Polish with a cloth roll of gauze. Sprinkle on pumice & add some French polish.

Stretch the fabric tightly onto the pad & rap in T-shirt cloth.

With a quick circular motion, apply with constant movement or it will stick. The pumice fills the cracks. If it feels that it is dragging, add more polish. Tap on wrist to feel how dry it is. This is much quicker than stripping. As the cracks fill you can feel that the pad is not dragging as much. If you don't have a crazed finish you don't need pumice. Often crazing can be partially sanded off at the beginning. The smears will start to get sticky enough that it is time to move on to another area. If you don't see any streaks, then you are not putting anything on.

Hang venetian blinds over the window to see how flat or wavy the surface is.

To change the color of the water spots, once the surface has been French polished, the different colors can be added to the finish rather than to the wood. Use an alcohol-finish stain. Test a small spot for color matching first. Use a small brush in a dabbing, stippling motion to touch up small spots. Don't get it 100% perfect or it will show. Get it about 90% and use irregular motions. Long strokes will make it look like brush strokes. Shellac will dry in a couple minutes so you can see how it does. Wipe off excess shellac from the brush onto a rag or paper towel. Reddish rings are tough to deal with because the eye goes straight to them. A little brown next to the edges often takes care of it. If you can get a surface nice and smooth, it will hide a multitude of sins. The eye always stops to look at broken lines. If there is a scratch or a color change, the eye will go straight to it. Mahogany has lots of grain, which makes it easy to hide imperfections. Wherever there is a dark streak, make it darker. For a softening effect, make some longer strokes over the stippling; make the strokes more or less random. With 800 paper in water as a lubricant, gently smooth it out. Spray the sanding marks with Sproe Konig lacquer aerosol to fix the stain into a repair.

**Chips** can be filled with liquid clear nail polish, which is a lacquer. Put it on a little proud and then sand it down. It does shrink. Make two or three applications. This takes about five or ten minutes to dry and can be sanded down in about a half an hour with a wooden block and 800 grit wet sandpaper. Stay away from the edges so as not to sand off the finish. Work either in a straight line or circles; it doesn't matter since it will be French polished again. Using light pressure let the sanding paper do the work for you. We only want to take down the high spots of nail polish. Also gently level off the peaks from the brush marks on the touch-up finish. This will make the final French polish go faster.

For a scraper, use cheap glass microscope slides. Veterinary hospitals throw these away. Slightly flex the slide with your thumbs in the middle, and push the slide away to scrape off any high points. Don't go too sharp or it will chip out. Sand down the rest of the way with a wet paper block. Feel the surface with your fingers to find out if it is smooth. When it dries the light will also show how it is.

Put a drop or two of finish French polish on the pad. This is a very dry finish. A good finish should be clear enough that you can place a twelve-inch ruler on it vertically and you can see the number twelve. By using a drier pad for the finish, you eliminate the steps of waxing off. Do circular overlapping sweeps

Do a final wipe back and forth with the grain.

An average piano takes about eight hours. This badly crazed and nicked piece took 15-20 hours.

At the end there is the option of waxing it with automotive wax. Wax would then have to be reapplied about once every year or two. He used classic MaGuire's wax.

Clean it and spray it with shellac.  
Scrubbing Bubbles cleans the surface really well.

Cat scratches can be filled with spackle and powdered dye. Then French polish  
Ebony finish is hard because there are so many shades of black. Start with powdered dye in the  
French polish, Sharpie ball bearing touch up pencils, or black nail polish, or Koenig black hard  
wax.

Overfill an ebony chip with Koenig, take it down then French polish  
Ding gone.

For satin finish use scotch brite pad

Ebony finish rubbed off: sharpie paint stick, French polish.

Ready-made shellac has about a three-year shelf life. To tell, pour some in a glass and it should  
be dry in about 15 minutes.

Qualitol doesn't do as high a polish finish as the Koenig product, plus Qualitol must be waxed.

Roll-on Rustoleum and EasyPoxy are good products for recoating painted surfaces.

Check out <http://www.classicpianodoc.com>

#### **Sources of Materials and Information:**

Special French polish, Hard Wax filler, Spray finishes, and related supplies –  
Konig North America <http://www.konigtouchup.com>

*Alcohol-soluble powdered dyes, shellac, and rubbing materials – Wood finishing Enterprises*  
<http://www.woodfinishingenterprises.com/coating.html>

*Pumice and Trans Tint Liquid Dye/Stain concentrate (alcohol-soluble) –  
Homestead Finishing Supplies*  
<http://www.homesteadfinishingproducts.com/htdocs/TransFastdyes.htm>

*Hand Applied Finishes DVD by Jeff Jewitt and glass slides for scrapers:*  
<http://www.Amazon.com>

If you put ammonia on varnish the varnish will never harden again and will remain gooey. Sand  
it down and French Polish it and the finish will be fine.

## Hands-On Finishing Session

### NOTES

1. Rub on Howards Restore-a-Finish.
2. Wipe off the board with some tongue oil to clean it.
3. Pour some Restore-a-Finish straight on the wood and with a sanding block rub it in to fill any grooves and to sand off any bumps.
4. Wipe off the excess with a rag.
5. Take a gauze roll and create a ball about golf-ball size.
6. Wrap the ball in the T-shirt material
7. Wet down the ball with some alcohol so it is damp all the way through.
8. Dribble about a teaspoon of French polish onto the ball. Knead the ball, squeeze it and work the polish into the ball.
9. Open up the T-shirt wrap and sprinkle some 4-F pumice onto the gauze ball. This pumice has been ground four-times to make it extra fine. Pumice fills the little dings. Periodically add pumice and a little polish to the ball.
10. In a circular motion, rub the polish ball on the wood surface, moving constantly so the ball does not stick. If you move fast you can get away with a ball that is too wet. We're not painting the finish on – we're rubbing it on.
11. If the ball gets dirty, move it to a clean spot in the cotton wrap. If the cloth wears through, move the cloth because there should be no defects in the cloth. Keep it clean and smooth.
12. After the circular strokes, go back and make quick linear strokes along the grain.
13. If there is a bump discovered while in the midst of polishing, it can be sanded down with a block, water and 400 grit paper. Then wipe off the water and continue polishing.
14. To fill scratches, use a converted wood burner with a flat tip. Touch the tip to a Konig color stick and test the color on a transparent sheet of plastic. Apply and spread the chosen color into the groove.
15. Take a darker color and scratch grain lines into the wood with the iron. Draw in grain.
16. Spray a quick light mist of Konig lacquer over the touch-up area.
17. Follow up with a wipe-on tongue-oil finish or a wipe-on polyurethane like minwax, because a bare shellac finish will stick on a damp day when sat on.