

Steps to a Quality Piano Refinishing, Part 3

Sanding and Wood Colorants

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In the first two chapters of this series (December 2005 and February 2006) we discussed tearing down a piano, protecting it, stripping the finish, and repairing the veneer. Now it's time to sand and color the wood.

Sanding and Surface Preparation

I believe it is important to sand most woods thoroughly with sandpaper grits ranging from 100 to about 180. Highly figured woods need to be sanded with up to 220 grit paper to remove scratch lines from the coarser grits. I prefer to spend most of my sanding time with a cork block and 120 grit garnet sandpaper. Many finishers over-sand wood and spend far too much time preparing for the finish. That time doing “extra” sanding is much better spent on sanding the finish between coats. (A more detailed discussion of applying and building a finish will appear later in the series.) Sand with even pressure and avoid leaving sharp edges on the boards. Sharp edges will not hold a finish and are the first areas for physical contact, so they will be the areas to wear off first. Many older pianos, even with normal use, show areas where finish has been worn off the edges. The best way to avoid these worn finish edges is to prepare the surface so that you can build a finish on it. Don't forget to sand the hinge mortise areas and where felts will be replaced.

Choosing and Applying Quality Wood Colorants

Many materials and techniques are available to achieve a good color balance while retaining the clarity and beauty of the wood. The most common colorant is a pigmented stain. Minwax® produces a popular pigment-based wiping stain, as well as stains that contain both pigment and dye. Pigments are great for accenting the grain of many woods and can be quite resistant to fading from light damage. They can be used on either raw wood or pre-conditioned surfaces. Applying a wash coat of either thinned sealer or wood conditioner before applying a pigment stain can give you more control over the way it is absorbed into the wood. A conditioner is usually a mix of one part linseed oil to ten parts of mineral spirits. Soak the wood with the conditioner, wipe clean, and apply the wiping stain. This allows the stain to be uniformly absorbed into the wood, thus avoiding blotching. The problem with pigmented stains is that they need a place in the wood to hold on to. Woods like maple do not provide a good “biting” area for pigmented stain so most of the stain simply ends up getting wiped off.

This is where dye colorants work wonders. The colorant in dye is molecular in size and is easily absorbed into wood. Dyes are best used on raw wood. They are based in water, alcohol, lacquer thinner, or oil solvents and can be applied by spray, brush, or wiping. I like to spray an alcohol-based

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Photos 1 - 5 (FROM TOP) — Block sanding with 120 garnet sandpaper. Be sure to sand the edges lightly, including the mortised area for the lid flap hinge. If this area is not clean, there will be finish adhesion problems here later. Cut the sharp edges. Slightly rounded edges allow a finish to build easier and you will be less likely to rub through the finish during the rub out stage. Be sure to get the detail areas clean. Old finish remaining in crevices will cause finish adhesion problems.

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dye for my first colorant step. If necessary, the color of the wood can be further adjusted with either a different color of dye or a pigmented wiping stain. This multi-staged colorant application is great for matching woods like poplar or maple to mahogany or walnut. The process is explained in detail below.

Many mahogany veneered pianos have maple secondary parts that need to match the primary veneer. Getting the base color 90 percent right before applying the finish will ensure a good match without obscuring the grain in the wood. Dyes alter the color of wood without blocking the grain. I like to use Trans-Tints® from Homestead finish supply. These concentrated metalized dyes can be mixed with water, alcohol or lacquer solvents. I dilute them with alcohol and spray them on. In ten minutes, the wood is dry and ready for the next step.

Color Matching Maple to Mahogany: A Case Study

Recently, I had to color some maple legs to match a mahogany Steinway. The pictures will show you how I did this. I was not striving to transform the maple into mahogany, just to get the leg to have similar grain characteristics. Start by creating



Photo 6 — Matching maple to mahogany. The music desk provides sample grain and coloration.



Photos 7 (ABOVE) & 8 (BELOW LEFT) — Start with brown dye colorant brushed on to make grain streaks.



Photo 8



Photo 9 — Spray mahogany dye on the entire leg.



Photo 10 — Wipe with maroon Scotch-Brite to lighten colors as needed.



Photo 11 — Strike out stronger accents of grain, if necessary.



Photo 12 — Apply sealer coat.



Photo 13 — Lightly sand before glazing.

an artificial grain by painting on a diluted dark brown dye in narrow strips. Use a brush, sponge, or graining feather. Next, spray the whole leg with mahogany dye, which is also diluted in alcohol. This technique blends the base graining you have created with the top layer of dye and gives the grain a depth similar to that of natural mahogany. If the contrast is too strong, rub the leg with a maroon Scotch-Brite™ and re-apply the mahogany dye. If the contrast is too weak, re-apply or highlight the base grain as needed. Practicing on sample boards will show you what you can do with different colors and woods.

Next, apply a coat of sealer. I like Zinsser's "Sealcoat®". It is de-waxed shellac and works well as a base coat for a lacquer finish. Once the sealer has dried, mount the leg on the case of the piano to check for matching accuracy or the need for additional colorants. It is likely that the leg will need a few more color adjustments. After the sealer has been allowed to dry for a few hours, lightly scrub with maroon Scotch-Brite and apply a first coat of lacquer. When dry, lightly sand with 320-400 grit finish paper. I use 3M gold paper. Sanding the finish before glazing is not always neces-

sary, but if you uniformly sand the surface, the glaze has a better surface to bite onto.

Glazing

I like to use a glaze for the next step. Glazing provides warmth and highlighting to the finished piece. Glaze is traditionally made up of a pigmented colorant in a thinned binder. Think of a glaze as a thick, pigmented oil stain. There are many glazing mediums that are premixed and can be adjusted with additional universal, oil, or japan concentrated colorants. I use pigmented oil colorant (such as those made by Ronan or Sheffield) mixed with turpentine and a little linseed oil.

Start the process by applying the glaze onto the surface using a 1½" brush. At this point, you do not need to be too concerned with neatness. Spread the glaze with either a 4" brush or a piece of cheesecloth. By taking long dragging strokes you can spread the color evenly, while if you dab the surface with the loaded brush you will add color in a particular area only. Remove excess glaze from the grooves by

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Photo 14 (top left) — Applying the glaze. Photos 15 (top right) & 16 (above left) — Spread glaze with brush or cheesecloth. Photo 17 (above right) — Remove excess glaze.

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wrapping your thumbnail in cheesecloth and wiping the grooves down. It is important to get the excess glaze out of the grooves and inside corners in order to avoid finish-adhesion problems.

If you want to highlight the center of the piece, there are two ways to accomplish this. Either add a little extra glaze around the edges, or apply a uniform color across the entire surface and then wipe the glaze a little harder down the center. The second technique makes a very subtle change in the shading. You can choose the technique that best suits the character of the piece and the highlight you are trying to achieve. If the wood has a fairly lifeless grain and figure, you can add more intensity by doing more highlighting with glaze. If the glazing appears a little too heavy, go over the wood lightly with Scotch-Brite to remove areas of glaze and add subtle highlights.

It is much better to apply two thin coats of glaze between additional coats of finish than one heavy glaze application. If the glaze is too thick, you may encounter finish adhesion problems. Once the glaze is applied and manipulated, allow it to sit for about a half hour before applying a coat of lacquer. This method allows the lacquer to dissolve into the previous coat and become one layer of finish with the glaze “sandwiched” inside. Experience has shown me that these thin layers of glaze will not weaken the bond between coats of lacquer, whereas a heavy application of glaze might cause de-lamination of the layers of finish.

Keep in mind what the final sheen of the finish will be. A satin finish tends to magnify the effects of glazing more than does a glossy sheen. If your piece will end up with a rubbed satin or semi-gloss sheen, keep the highlighting subtle. The glazing can be more dramatic if the final finish will be glossy.

The glaze is usually the last step necessary for matching the legs to the mahogany case. If minor adjustments are still in order, it can be done with either another application of glaze in a different color or the application of a “toner” lacquer. To create a good toning/shading lacquer, mix a concentrated dye colorant into thinned lacquer. Spray light coats to adjust the color. If you are unsure of the amount you will need to match a finish, spray a coat on clear glass or plastic, and then place it on the board to gauge the effect. You can use sheets of plastic from photo album pages to perform this “shade test.” Simply spray the page, peel back the plastic and place it on the board.

By following these coloring steps, you can be assured of achieving a very close grain and color match when transforming maple to mahogany. ☒



Photos 18 (TOP) & 19 (ABOVE) — Mounting the leg on the piano allows you to check color matching more closely.



Photo 20 (ABOVE) — Nice match! Photo 21 (ABOVE RIGHT) — The completed leg installed!