

Small Shop - Big Results



Preparation for a Beautiful Brushed-on Varnish Finish – part 4

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A happy holiday season! For those of you working on refinishing a piano for the first time, we've come to the turning point of the project. Once the processes described in this installment are completed, it's smooth sailing from here on out.

Patching in:

The most challenging veneer work involves repair to a significantly damaged area on a large surface, where replacement of the entire sheet of veneer is impractical or not desired. In this situation, it becomes necessary to cut a veneer piece to blend in with the surrounding veneer – not always an easy task.

Begin by preparing the repair site on the piano. Decide on the exact area to be patched. If the repair is on the back edge of the side of the piano, a typical spot for this type of work, you may want to taper in and out of the damaged area to mimic grain lines. If the top and bottom of the patch is too squared off, it will be much more obvious than if the repair flows in a more natural line. If the damage is on a corner of the side or the piece that you're working on, start back away from the damage and taper the cut out gradually to encompass the full extent of the width of the damage. Use a soft pencil to mark a line for the border of the repair, and then make a cut in the veneer along the line using an X-acto knife. Do not use a straightedge to make this cut, but rather cut freehand in a manner that mimics grain lines.

Remove all remaining veneer inside the repair area. You will probably need to use a dampened rag and flat iron to heat the veneer inside the cut and to moisten the old glue. (You may have to redo the cut line – the steam from the iron and damp rag will tend to make the cut hard to see). Once the unwanted veneer is loosened, a putty knife or chisel may be used to scrape away the veneer up to the line you have cut. Just be careful not to gouge the veneer on the good side of the line. If there is a veneer layer underneath the face veneer, (referred to as the crossband veneer - not all pianos have this, however – see Photo 1) and it is damaged as well, that needs to be repaired before going any further.

With all unneeded veneer removed and the crossband layer of veneer repaired as needed, finish the preparation by rough sanding the area smooth with 60 grit paper.



Photo 1: Repair site cleaned out with border defined – no crossband veneer

Once the area to be repaired is ready, you need to select the piece of veneer to use in cutting the patch – not always a simple task. You of course must start by obtaining the correct species of wood – mahogany, walnut and oak are the most common, but you may very well have a piano covered with cherry, teak, rosewood or some other exotic veneer that will only be available in a specialty shop or catalog (Rocklers, for example). If you do place an order through a catalog, by the way, I would purchase several pieces more than necessary, and ask that if possible, they ship as much of a variety as possible.

Unfortunately, even when you have the correct species of wood to choose from, you will find that there is a great variety in both hue and grain pattern from sample to sample. It is not unlike trying to find a match for a broken ivory to an otherwise perfect keyboard from your collection of recycled keytops. There are so many variables, that finding an identical match is sometimes impossible. As for choosing a matching veneer, if a compromise must be made, I would choose the piece that comes closest in figure (grain pattern) as possible to the veneer of the surrounding area. A difference in hue may be dealt with in the staining stage of the project.

One approach to finding a good match as to grain pattern is to use a sheet of wax paper to outline the area to be replaced, and to mark in the direction of the grain of the surrounding area (Photo 2). This is especially important if you are dealing with a species with a lot of figure in the wood. With a highly figured wood, draw lines on the wax paper to represent the direction of the prominent swirls. With a veneer such as mahogany, mark the locations of the dark bands running in the direction of the grain.



Photo 2: Making a wax paper pattern

Once the wax paper pattern is made, slide it over each sheet of veneer that you have to work with to find the optimum match. Look for a grain pattern that is as consistent as possible with what's on the piano. With a straight grained veneer, such as most mahogany veneers, match corresponding light and dark bands to the veneer of the case, if those are evident. With a swirling grain such as you find in walnut, rosewood or teak, just realize that unless you're extremely lucky that day, you **won't** find a piece that fits in perfectly in everyway (refer back to Photo 1 of last month's installment – I have a decent selection of teak veneer, and this was the best I could find). Find what works the best from the veneer samples that you have. (This is why I recommend buying more veneer than what you need for the job, and why you should ask for variety when placing an order.) Do keep in mind that for any particular grain pattern that you have in your collection of veneer pieces, you also have the mirror image if that would work better – just flip the piece over to back side and the swirls will be going the opposite way (unless you're working with a paper or crossband-backed product).

When you have chosen the exact spot you intend to cut your patch from, mark the location with two pushpins stuck through both the wax paper and the veneer inside the borders of the patch. Now, remove the pins and the wax paper, cut the wax paper pattern along the border, and then replace on the veneer, using the push pins to locate its precise position. (These pinholes will be later filled with lacquer stick.) Mark the border onto the veneer with the flat edge of a pencil – try not to leave an indentation. Remove the wax paper pattern for the final time, and with an X-Acto knife, cut the veneer at least an inch to the outside of the border.

Next, align the veneer patch over the repair site so that the pencil line marking the border is directly over the line that you cut into the veneer on the case. On large repair patches, use the push pins to secure the patch piece into the underlying area of the repair site, tapping them all the way in with a mallet. Further secure the patch piece by taping around the perimeter, leaving approximately ½" to the outside of the pencil line with no tape. Small repair patches may be secured with just tape. As much as possible, make the inner edge of the tape line run parallel to the pencil line. If the repair is along the edge of the case or part, make that edge of the patch flush with the side, and tape around the corner.

The reason for firmly securing your repair piece is that you will be cutting outside the pencil line marking the border of the damaged area, through both the new veneer, and a bit more of the old veneer. That way, the cuts in the old and new veneer should be identical and the new piece should fit into place like two pieces of a jigsaw puzzle fitting together. This is a much easier approach than trying to make the new veneer piece fit the contour of an existing cut line by shaving and sanding the edge until it matches.

To make this cut, you need the right tool. In our shop, we have several older X-Acto knives with metal chucks to hold the blades. I have several newer knives that have plastic chucks and these don't work – the blade bends back when sufficient pressure is applied.

When everything is ready, hold your knife in your right hand with your fingers wrapped around the handle, and your thumb applying pressure down directly behind the blade. If necessary, use your left hand to help steady and guide your right hand as it makes the cut. Press down very firmly since you are cutting through two layers of veneer, and as closely as possible, stay centered down the middle between your pencil line and the tape line (Photo 3). Try to make the cut cleanly done the first time. If you have to go back to redo sections where you didn't manage to cut through both layers, you will have to retrace the original cut line, which can be difficult to do – the sharp -act blade will readily slice into new wood if the pressure from your hand pushes it away from the path.



Photo 3: Making a steady cut down the center of the road

With the cut made, remove the tape holding the excess veneer and the extra scrap of veneer itself, but not the patch of new veneer, or the tape holding it in place. Before doing that, examine along the fresh cut line to make sure that it extends into the old veneer. If at any point the blade did not cut into the old wood, take your knife now, and using the patch as your template, deepen the cut.

Once this is done, remove the patch, take off the tape, and prepare your glue. For this type of work, I would recommend hot animal hide glue. Mix a small amount in your glue pot, and heat it for until all the crystals are melted, and the glue has the appearance of warm honey. Add in more water or more glue crystals to achieve this consistency.



Photo 4: Apply a liberal layer of hot glue

Spread an even coat of hot glue on the underside of the patch (Photo 4), then put the patch aside on your workbench for the moment, glue side up. Plug in your flat iron and set on a medium setting and allow it to heat up. There's no hurry using this type of glue, since you'll be heating the work with your flat iron anyway it doesn't matter whether or not the glue has set up. I actually prefer that the glue has cooled, in that it's less messy to work with.

When the iron is ready, place the patch in position and heat up half of the patch with the iron while holding on the other half with your free hand. Work the iron up to the cut line until you see glue squeezing out, indicating that the glue is remelting (Photo 5). Continue heating the patch for a few moments more until the visible glue begins to bubble. Remove the iron after several moments of bubbling, or you risk scorching the glue and rendering it ineffective



Photo 5: Glue squeezing out begins to froth

With a wood block (a small rectangular piece of pinblock scrap is ideal for this) smooth the heated area, pushing the excess glue out and working the veneer towards the cut line. The veneer, while hot, will tend to curl up, but keep rubbing it down, and as the veneer and glue cool, it will flatten out and adhere. Done correctly, the seam between the old and new veneer will have absolutely no gaps.

Once the half you began with is firmly affixed, clean the glue from the seam up with a paper towel, then repeat the process with the other half of the patch. By doing one half at a time, it is easier to attain a perfect result (Photo 6), but if you do find that you need to reposition the entire piece a slight amount, you may easily do so by reheating the entire patch until the glue begins to melt, and starting the process over. This, to me, is the big advantage of using hot glue over contact cement, at least in situations where you are trying to match a cut line.



Photo 6: Patch glued in place, ready for sanding and stain-matching

At this point an initial sanding of the case to remove all remaining residue from stripping and gluing (plus the excess pigmentation from the original finish) is in order. This first sanding should be with 100 grit paper, and should be done by hand. Although using a palm sander will be tempting, 100 grit cuts quickly, and will leave swirl marks that are not apparent until a stain is applied. As always with sanding, only go in the direction of the grain. Use a sanding block wherever possible, and be particularly careful on edges not to sand through the veneer.

Once this initial sanding of the case and parts is complete, the only step that remains before the final sanding, staining and varnishing is whatever lacquer stick work needs to be done. That will be the focus in next month's installment.

Until then, the best of luck with your project piano. If you're in the area, stop by the shop for a visit.



Seasons greetings from the frozen tundra land

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