

Tip #41

***Finishing Touches* — PART 1 — Preparing the Surface**

This marks the beginning of a six-part series on finishing...one of the most often overlooked elements of creating a professional-looking woodworking project -- and without a doubt, one of the most important. Beginning and experienced woodworkers alike frequently spend countless hours building a project to perfection, only to get in a hurry as the project nears completion and end up ruining everything by doing a half-hearted job of applying the finish. Our first installment, “Preparing the surface”, will be followed in the next issue with Applying an oil finish. Then, we'll move on to Applying a natural finish, Applying a synthetic finish, Refinishing and finishing-up our series with Paints & Stains. So, let's get started.

The true beauty of any woodworking project depends on three things: a good design, good craftsmanship and a good finish, In the long run, the finish may actually be the most important of the three...even though it's often the most neglected. And this, more often than not, is a simple matter of not knowing what to do in this all-important step. We hope this series will solve that problem.

The first step in applying a professional finish is preparing the surface to receive it. Poor surface preparation will botch-up all the work you've put into the project to this point and cost you money, since rough surfaces can easily suck-up 20% to 30% more finishing materials than a properly prepared surface. And depending on the finish you're applying and the overall size of your project, this could translate to some big bucks!

Scraping and Sanding

There are two primary methods of smoothing the wood to accept the finish: scraping and sanding. Sanding is the simplest and the one the majority of woodworkers are most familiar with. Scraping, however, takes some practice, and in many cases, a combination of both scraping and sanding is the best.

Start by going over your entire project with a hand scraper. This will level off the surface of the wood and knock off any glue beads. When scrapers are properly sharpened and used, they will remove a tissue thin layer of wood with each pass and in just a few minutes, bring your surfaces to a level of smoothness that could require hours of tedious hand-sanding. For more about sharpening and using hand scrapers properly, check out our special How-To article entitled “Use & Sharpening Instructions for Hand Scrapers.” Do be aware, however, that hand scrapers will not work on end grains, so you'll have to clean these spots up with sandpaper or a plane (a low angle block plane is the best choice for end grains).

Once you've scraped your surfaces, begin sanding your project with medium to medium fine (80 to 120-grit) sandpaper, then work your way up to a very fine (150-grit to 220-grit) paper. The finer the grit you finish with, the more prominent the grain pattern of the wood will be...and the glossier your finish. Whatever you do, do NOT use “cheapo” flint sandpaper, as the quartz dust could react (unfavorably) with the finishing material you'll be using.

As you sand, use full strokes WITH the grain of the wood. Sanding against the grain will produce scratches that will show up on your finished project as unsightly lines. Sand end grains in one direction only -- this serves to “comb” down the wood fibers. Finally, when you're finished sanding, try running a nylon stocking (or pantyhose fragment) over your sanded surfaces to help you locate any spots you may have missed.

Removing the Dust

After sanding, brush or vacuum most of the sawdust from the surface of your project. Then give it a thorough rub-down with a tack cloth to remove any remaining dust, dirt or abrasive particles, leaving a perfectly clean surface. Tack cloths are inexpensive and are readily available at hardware stores and home centers. Or, if you prefer, you can make your own by soaking a piece of cheesecloth in a mixture of varnish and turpentine...or by sprinkling some of the actual finish you're planning to use on a piece of cheesecloth until it becomes “sticky”.

Whenever you perform touch-up sanding during subsequent finishing operations, always be sure to wipe your surfaces with a tack cloth. This simple practice -- keeping your project clean and dust-free as you go -- is perhaps the most important step to achieving a high-quality, long-lasting finish.

Filling the Pores

Few projects will be perfectly smooth when you've finished scraping and sanding. Like your skin, wood has tiny pores -- open spaces between the grain. If you build your projects from closed-grain woods such as maple, cherry or pine, a coat or two of sanding sealer will fill these spaces nicely. You can make your own sealer for this job by mixing one part alcohol to one part shellac. Apply the sealer, allow two hours drying time, then lightly sand with extra fine (220 to 280 grit) sandpaper.

Open grained woods with clearly visible pores such as oak, mahogany or walnut will require an application of wood filler. Mix your filler with stain or dye to make it lighter, darker, or to match the color of your wood. Brush it on with the grain, then brush a second time against the grain. As you go, work the filler into the wood grain with the palm of your hand. Do a small area at a time (filler sets-up in 15 to 30 minutes). Before it sets completely, wipe off the excess with a coarse cloth (such as burlap), then follow-up with a fine cloth, being careful to remove all the residue without rubbing too hard. Allow 24 hours for drying, then apply a wash coat of shellac and alcohol over the filler, followed by another light sanding.

Don't use sanding sealer or a wash coat if you're planning to apply a stain or oil later on, as these materials will keep penetrating finishes from penetrating the wood. Instead, apply them after the stain or oil. Some woodworkers mix shellac with oil to make a material that will fill and finish in a single, easy step.

Fixing Dents and Gouges

Oftentimes, when you're assembling a project, you may accidentally drop a tool or another project component on a surface, denting the wood. When this happens (and it WILL), dents can be repaired by simply covering the affected area with tiny pin pricks, then soaking it with hot water. This will soften the wood fibers and cause the compressed wood to swell back to level. In stubborn cases, cover the dampened area with aluminum foil and apply a hot electric iron.

If you chip or gouge the wood, don't do anything to repair it until after you've applied the first coat of stain or finish. At this time, you'll be in a better position to match the color of the patching material with the final color of your project. There are two types of material for filling gouges -- wood putty and burn-in sticks. Putty is the most commonly available. Choose a brand that suits you or make your own from sawdust and white glue. Work the putty into the damaged area with a knife, let it dry completely, then sand it smooth, being sure to remove all the excess from the surrounding undamaged areas, as any remaining putty could mar your final finish.

Although they're harder to come by than putty, many woodworkers prefer burn-in sticks because they set faster and adhere better. Start by selecting the proper colored stick for the job. Melt it into the damaged area with a burn-in knife. Press it into place, smoothing it as you go with light strokes. Once it's cooled completely, shave the material down carefully with a sharp chisel until it's level with your surface, then lightly sand.

As you work, take pains to keep the wood smooth, even and clean. The proper preparation of a surface isn't merely the first thing you do to finish your project; it's an operation that continues throughout the entire finishing process.