

# Dry-Brushing Wood Stains

*Widen your range of color possibilities using stains and tints*

by Roland Johnson



I pride myself on being able to restore all types of furniture. So when a customer called on me to look at two grungy, broken-down filing cabinets and asked whether I could bring them up to snuff, I couldn't say no.

The filing cabinets were made of white oak. One was missing a side; the other needed two new sides. The client liked the character of the old pieces but realized they were not valuable antiques. She wanted the repairs done for less than the cost of new cabinets. We discussed options and agreed the new frames would be made of solid white oak, the panels of plywood.

I couldn't get the white oak plywood locally. With the customer's consent, I used red oak panels. I now had two finishing challenges: matching new white oak to the aged patina of the original case and making red oak look like aged white oak.

To help make these kinds of repairs appear seamless, I have developed a staining technique I call dry brushing. I've blended the light sapwood of walnut to match the dark brown heartwood. I've used it to even out hard-to-stain woods such as maple and cherry. And I can make new wood look like it's 100 years old.

Dry brushing is a two-step process that begins with traditional staining: The wood is sanded and a stain is applied and then wiped off. When that's dry, a second, heavy coat of stain is applied. This coat is delicately brushed with a soft, dry, natural-bristle brush to remove and blend any excess stain. This method leaves pigment on the surface of the wood as well as in the pores.

## **A good set of brushes and quality stains and tints**

The brush must be pliable and have dense, soft bristles. I prefer natural bristles, but you could use a different kind of brush as long as it's recommended for varnish or enamel. Don't buy



***Changing the color of oak—Red oak panels in a white oak frame (left) don't match. So the author stained the piece and dry brushed the red oak to achieve a uniform color (right).***

cheap brushes; an inexpensive brush may seem soft and supple, but it will be prone to losing bristles. It's not easy to remove bristles from a dry-brushed finish.

I keep a range of brush sizes on hand to suit different jobs. A 2-in. brush works well for small areas such as face frames and chair parts. A 2½-in. brush is good for small panels and other medium-sized surfaces. For large areas, such as tabletops, I use a 4-in. brush. This brush can really move stain around in a hurry.

My favorite stains are oil-based pigment stains produced by Benjamin Moore and Pratt & Lambert. These stains have finely ground pigments and good solvents. Fine pigments help to eliminate brush marks, and good solvents evaporate quickly and evenly. Cheaper stains use solvents that don't seem to have even-drying



## Tinting and toning colors

Color-matching stains can be a real guessing game. A little knowledge about color theory will help make sense of mixing your own stains.

There are three primary colors: red, yellow and blue. Tints are combinations of these primaries. I define tone as the shade (light or dark) of a color. Tint is the actual color.

Let's use red as an example. Red is the tint. By adding black or white, you change the tone.

By adding a different color, such as blue or yellow, you change the tint. Pink is a lighter tone of red made by adding white. Purple is a new tint made by combining blue with the red. Equal amounts of all three colors produce brown.

To get specific shades of brown to match wood colors, use more or less of the primary colors. To lighten the tone of your stain, either brush more



**Mix and match stains.** Benjamin Moore's golden oak and colonial maple stains are mixed to create a tint matching new millwork to an old white oak filing cabinet under repair.



**Apply a base coat.** The rebuilt side of the case is covered with a first coat of stain and then wiped off.



**Red oak panels get second coat.** Apply the blue-tinted stain to the panels; when the stain develops a dull sheen, begin dry brushing. Let the brush just skim the surface.

characteristics. I have not had success with water-based stains because they raise the grain too much.

To create the tints I need, I combine different stains and add tinting colors (see the story above). But you don't need to buy dozens of different stains. I recommend you get a quart each of Benjamin Moore's walnut and golden oak stains. For tinting, purchase 2-oz. bottles of universal tinting colors (UTCs) in red, yellow and blue. These are the basic tints used in paints and are available from most paint dealers. With this kit, you can accomplish a lot.

Because I need to match colors of many different woods in my work, I also use maple stains for their yellow cast, cherry stains for their red cast and a teak stain for its gray-green cast.

On occasion, a good match using premixed colors eludes me, and I resort to mixing my own stain from scratch. I use a clear stain base (I get mine from a local paint dealer) and color it with artist's oils or UTCs. Artist's oils can be used for tinting small batches of stain, but they are expensive.

### Just the topcoat of stain gets dry brushed

To match the white oak frame to the red oak panels on this job, I applied a base-coat stain to the entire piece, wiped it down in the traditional manner and let it dry. Then a second coat of stain, tinted slightly differently, was applied to the panels. These were dry brushed to match the white oak.

I begin by mixing a base-coat stain and testing it on a piece of scrap from the project. Large differences in grain porosity or wood color—even in the same species of lumber—will affect the results. For the base coat on the filing cabinet, I mixed Benjamin Moore's golden oak and colonial maple stains.

Once I have a good color match, I stain the workpiece (see the center photo at left). When I stained the new parts of the filing cabinet, I was fortunate that the new white oak millwork blended nicely with the old. But the red oak panels were still too warm.

To adjust a stain's color, I add different tints. To cool down the red oak, I added a little blue tint to the base stain and tested it on a sample. This new batch of stain resulted in a perfect color match between the red oak and the white oak, but the tone was still too light. This is where a dry brushing technique comes to the rescue. I brushed the new color stain over the panels. I let the stain set up until it took on a dull sheen. The time will vary

of it out or thin it with mineral spirits before applying.

### Matching dissimilar woods:

Every species of wood leans toward certain parts of the color spectrum. In the accompanying article, I matched red oak to white oak. I first blended a stain to match the new white oak to the old, but the stain proved to be too red, or warm, for the red oak panels. To remedy this, I added just a few drops of a blue universal tinting color (UTC) to cool the color and make a good match.

If you have a stain that is a bit on the blue, or cool, side but you want more of a mahogany color, simply add some red tint.

It only takes a tiny amount of colorant in some cases to make large changes in tint. I can usually remedy a bit too much colorant by adding a little bit of the other primary colors to balance my mistake. But the more times I have to add a bit of colorant, the harder it will be to duplicate my efforts.

**Keep a variety of tints on hand:** My color kit consists of

a number of artist's oils for small batches of stains, such as for touch-ups, and less-expensive UTCs for large batches.

The artist's oils I have are burnt sienna, raw sienna, burnt umber, raw umber, yellow ochre, permanent blue, alizarin crimson, white and black.

In UTCs, I keep burnt sienna, raw sienna, burnt umber, raw umber, thalo blue, bulletin red, light yellow, lamp black and white. Using umbers and siennas is a quick way to get basic browns without the need to mix the primary colors together.

er. Umbers and siennas have a tint built in. With a little experience, you will know which to use as a base.

To get a feel for color matching without mixing a batch of stain, practice mixing colorants on a piece of white tag board. I use toothpicks to get a small amount of tint colorant out of the container, and with a small artist's brush, I mix the colors in varying densities to see what changes occur. Make sure you use a new toothpick for each colorant. Just a little contamination can ruin your mix. —R.J.

from five to 15 minutes, depending on the temperature.

I brushed the stain back and forth with the grain (see the bottom photo on the facing page), using just the tips of the bristles of a clean, dry, soft brush. The weight of the brush does the work. If you press down too hard (see the photo at left below), the stain tends to move around and the brush gets wet. If you use the sides of the bristles or drag the brush at too flat an angle, the stain will smear and leave obvious brush marks.

It's important to keep the brush dry. I use paper towels to wipe the stain off the tips of the bristles after a few passes. If the brush becomes wet with stain, it will only smear the stain, not dry it. Continue to wipe the stain with the brush until the surface is dry. You know you're done when the workpiece has a uniform sheen and the brush no longer picks up stain. The stain should not show brush marks or any other obvious signs of a thick topcoat. If the results are not to your liking, erase the surface with a rag moistened with mineral spirits.

Overlapping fresh stain over dry-brushed stain can be a problem. The fresh stain's solvent will dissolve the built-up pigment of the dry-brushed stain quickly, resulting in a poor blend line. Always try to find natural breaks to stop and start the brushing, and try to work small areas at a time. The only

exception is a tabletop. Here I do the entire surface at once. I work fast, but I never hurry. On a piece that is fairly complex, such as a chair, I tend to do one or two parts at a time. Sometimes I'll mask off completed areas to avoid getting fresh stain on an already brushed surface.

### Spray on a protective finish

A dry-brushed surface needs a protective coating. Any solvent-based finish will work, but you must apply it by spraying. A dry-brushed surface is very delicate because pigment is floating on top of the wood. If you try to brush on a finish coat, solvents will dissolve some of the dry-brushing, and you'll have a real mess. Handle the piece carefully before final finishing.

I spray my work with an acrylic lacquer. I start with one coat of sanding sealer, lightly sand with 220-grit and then apply two coats of finish, sanding between them with 220- or 320-grit. If you don't have spray equipment, you can use aerosol cans of spray sealer and finish. □

*Roland Johnson restores antiques and builds reproduction furniture and architectural millwork in his one-man shop in St. Cloud, Minn.*



**Too much pressure**—This will only sweep the stain around.



**Just the right touch**—Gently sweep bristles across workpiece.



**Keep the brush clean.** Wipe bristles every few strokes.