

Mix Your Own Oil Stains

Simple recipe uses artist's pigments to get exactly the right tone and color

by Tom Wisshack



I'll be the first to admit it. There's a real purity to a "natural," unstained wood finish, a real virtue to letting the wood's true figure and color come through. But if you are refinishing, restoring or reproducing a piece of furniture, well, a "natural" finish is something that you just can't afford. Color, tone and patina take years, sometimes decades, to develop on "naturally" finished pieces. In almost 20 years of refinishing and restoration work, I have developed a way to get the right color and patina in a matter of hours.

My technique for coloring wood is better than either aniline dyes or commercial stains because of the control I have over tone and depth of color. Also, the stains are largely reversible. I make my own oil stains with turpentine or paint thinner, linseed oil, Japan drier and artist's oil colors.

The turpentine serves as a solvent, diluting the pigments in the artist's oil colors; the linseed oil acts as a binder to

Stain can bring out the best.
The author's table, veneered with crotch mahogany and built with cherry legs, received just one light coat of his homemade oil stain. After observing the natural colors already in the wood, he mixed a stain that accentuated them and gave the wood a head start on developing a patina.

An infinite range of color choices is one good reason to make your own oil stains. A sample board illustrates the subtle colors possible using artist's oils for your pigments:

A. The first section is natural Honduras mahogany with just one coat of linseed oil.

B. Section B has a light coat of the author's homemade oil stain applied to it. The stain consists of turpentine, linseed oil, Japan drier and just a bit of burnt-umber oil color.

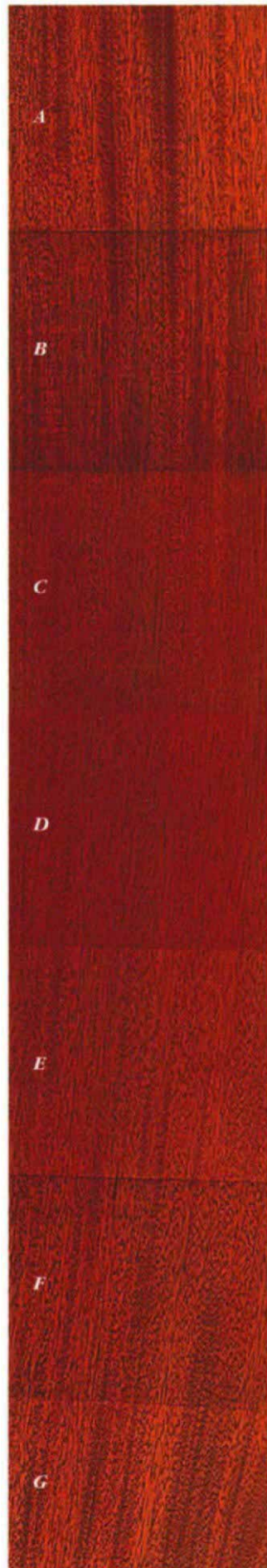
C. More umber has been added to the same stain to produce the tone in section C.

D. Cadmium red and yellow are added to the same stain to heighten the colors already in the wood.

E. Finding section D somewhat too red, the author added a little green to neutralize the red and to bring the tone back to brown.

F. A little black adds depth to the stain.

G. The mixture was thinned in half with turpentine to yield the natural-looking result in section G.



keep the ingredients in solution; and the Japan drier ensures that the oil colors will dry within a reasonable amount of time (some dry much slower than others).

One exception is that I substitute copal painting medium (available in art-supply stores) for the linseed oil if I'm working on an antique. The reason is that linseed oil will tend to darken most woods over time. The copal works just as well as a binder. When working with an antique, I take another precautionary step. I also seal the surface prior to staining with shellac before applying any stain, so the stain can be removed entirely at a later date if more work is to be done on the piece.

The key to my stains—the secret ingredients—are the artist's oil colors. What makes them so special are the quality of the pigments used and the fineness of the grind. Artist's oil colors are generally ground much finer than the pigments used in commercial stains, which are often the same as those used in paints. Because the pigment particles are so fine, the resulting stains are much more transparent than commercial stains, letting more

of the wood's figure and grain show through. And artist's oil colors are permanent and more fade-resistant than off-the-shelf wood stains.

Mixing the stain

I mix the liquid ingredients in a glass jar. For a small batch of stain, I'll start with about a pint of turpentine or thinner, one-third cup linseed oil and three or four drops of the Japan drier. I mix the artist's oils separately on a small sheet of glass (my palette), and then I add the mixed pigments to the liquid mixture a little bit at a time until I get the depth of color I'm looking for. I adjust the mix of pigments to get the tone I'm after (see the photo on the facing page).

I'm looking for a *very* dilute stain, on the order of a tenth or so as concentrated as a commercial product but with the consistency of low-fat (2%) milk. The advantage of such a dilute stain is that I can control it by applying it in two or three coats rather than all at once, deepening the tone while still retaining a semitransparent surface. Additionally, if the color is not quite right, I can adjust it repeatedly to alter the tone without ending up with a muddy, murky mess.

The maximum amount of artist's oils I add to the 1-pint solution is about one-third of a standard-size tube, or a little



Getting the color right—Mix artist's oil colors separately on a sheet of glass, and then add them to a mixture of turpentine or paint thinner, linseed oil and Japan drier until you have the tone of the pigments you want. Copal painting medium should be substituted for the linseed oil whenever you don't want to darken the wood, such as when refinishing an antique.

less than half an ounce. This can vary, depending on the intensity of the colors used, so you'll have to experiment. But even the finest quality artist's oils will give you an opaque finish if you get too heavy-handed with them. More light coats are better than fewer heavy coats.

Because these stains are so dilute, it's rarely necessary to seal new wood prior to staining. An exception is pine, which may appear blotchy regardless of how dilute the stain is. A penetrating sealer, such as one of the commercially available Danish oil finishes or a thinned solution of tung oil, eliminates this problem.

Applying the stain

I generally brush on the first coat of my homemade stain, let it stand about 20 minutes and then wipe it off. Leaving the stain on the wood for more or less than 20 minutes will not dramatically alter the amount of color the wood absorbs but how you wipe off the stain will. A brisk rub leaves only traces of the stain on the wood's surface. Gently wiping in circles and then with the grain will leave considerably more stain on the wood. Subsequent coats can be applied with a cloth.

If you don't like the way the stain looks on the wood, usually you can remove most of it with steel wool and naphtha or paint thinner while the stain's still wet. After the wood has dried, you can try again.

Sealing in the stain

After staining, I like to allow at least three or four days (a week is even better) before applying a finish. This allows the stain to dry thoroughly, minimizing the chance of it bleeding into the finish. An additional precaution I often take is to use a dilute coat of dewaxed (the most refined version, also called blond dewaxed) white shellac as a sealer between the stain and whatever I decide to use for a finish. The shellac will isolate the oil stain so that practically any finish can be applied without problems. Or you can just use the shellac itself as the finish.

Sometimes I'll also "spice" the white shellac with orange shellac. I add it in small increments to give the surface an amber tone that's reminiscent of an older piece. Whatever finish you use, though, be sure to refer to the can or the manufacturer's instructions to make sure it's compatible with the shellac sealer. □

Tom Wissback makes and restores fine furniture in Galesburg, Ill.

Quick, custom oil stains from Japan colors

by Mario Rodriguez

When building an antique reproduction or recreating a missing component, an important and difficult part of the job often can be the precise matching of the original's color. It's almost impossible to achieve this with the application of a single coat of stain even if you mix your own stains. The task often requires several coats, with successive coats used to deepen or adjust the previous application of color. My system of alternating a light coat of lacquer between coats of stain gives me unparalleled speed, flexibility and reversibility.

For my stains, I use Japan colors suspended in turpentine. Japan colors are highly concentrated basic pigments, usually in an oil-based solution, and are available in a variety of colors. A ½-pint generally costs from \$7 to \$12.

I can custom mix practically any shade I need by combining two or more colors, and I can control the intensity and opacity of the stain by varying the proportion of Japan colors to turpentine. I have used this technique to alter harsh or unnatural colors from commercial stains. Garish reds and oranges, for example, can be changed to cooler browns and rusts with a light wash of green. I've also warmed up plenty of dull gray-brown walnut pieces with a light red-orange wash.

I mix my stains by pouring a little more turpentine than I need into a glass jar, and then I add the Japan colors to the turpentine. I check the color and intensity of the stain on a sample board and adjust accordingly. Usually, I apply the color with a rag to eliminate lap marks. But I use a brush when I have to get the stain into tight areas.

After the stain is completely dry, I spray on a light coat of lacquer to act as a sealer or barrier coat. To apply the lacquer, you can use a conventional spray rig, an HVLV (high-volume, low-pressure) unit or even aerosol spray cans.

When the lacquer dries, another coat of stain can be applied to darken or change the color without disturbing the previous layer of stain. If the second coat of stain doesn't achieve the color or effect you want, simply wipe it off and try again. □

Mario Rodriguez teaches woodworking in New York City, and he is a contributing editor to Fine Woodworking.