



Choosing and Using Brushes

The right brush and a good technique make finishing a pleasure

BY DAVID SORG

Brushing on a finish involves considerably less expense, space and even danger than spraying. The results can be as perfect as any sprayed finish, requiring only a little more time. I earn an added bonus when using a brush instead of a spray gun. Holding the brush, dipping it into the finish and then letting it glide onto the wood brings my project to life and provides me with a unique satisfaction. Choosing the right brush can save you hours in application speed and ease of use. Proper technique will help you avoid or minimize mistakes and brush marks.

I have two rules when it comes to buying a finishing brush. First, don't buy anything with a plastic handle. I've never seen a high-quality brush that didn't have a wooden handle. Use the plastic-handled ones for staining wood or painting your shed.

The second rule of thumb is to buy the best brush you can afford. To put things in perspective, for less than the cost of a good router you can buy a set of top-of-the-line brushes that will meet all of your finishing needs. No wonder my woodworking friends are jealous.

Brushes can be divided into four broad

categories: natural bristle, synthetic bristle, artist's brushes and nonbrushes, such as foam wedges and pads. I will guide you through each group and suggest which brushes will match your preferred type of finish and the piece you are finishing.

Natural bristles are the prima donnas of brushes

Natural-bristle brushes are considered the best choice for lacquer, shellac and oil-based finishes. These brushes can hold more finish than their synthetic alternatives, an important issue for flowing shellac or lacquer. With these finishes you must maintain a wet edge, and the fewer the trips to recharge the brush, the better. Natural-bristle brushes seem to transmit a better feel for even finish distribution. I can more easily sense the degree of slickness or drag beneath the natural bristles, especially when tipping off to achieve a smooth surface. But I'd be the first to admit that it may just be the fact that I've been using natural bristles for nearly 20 years.

The disadvantages of natural bristles include a faster rate of wear and breakage of the bristles (which are a pain to pick out of

your finish coat, especially if it's fast-drying lacquer or shellac), and they are harder to clean than synthetics.

Synthetic brushes are getting better

A few years ago you would have used a synthetic brush only with a water-based finish. But synthetic brushes have come a long way since the early days of blunt-ended nylon bristles. Tynex and Chinex are among the brand names you'll see on better full-sized brushes. The latest addition from Purdy is Syntox. When applying alkyd varnish, a Syntox brush leaves as few brush marks as a natural-bristle brush does, and it works as well with water-based finishes as any other brush I've tried.

For smaller areas, choose an artist's brush

Artist's brushes are made from a variety of natural and synthetic materials. For \$3 to \$6 you can get 1/8-in. and 1/4-in. brushes made from synthetic Taklon that are useful for touch-ups. A 1-in. brush is handy for small projects, such as drawers, or thin edges. The most useful artist's brush for applying shellac or solvent varnishes is the 1 1/2-in. or

BRUSH TYPES, SIZES AND SHAPES

NATURAL

Natural bristles are still the standard that synthetic ones try to match. Most people associate badger hair with natural bristle, but pure badger-hair brushes are too soft for applying most finishes. The stiffest bristles are hog or Chinese bristle, which come as either white or the slightly stiffer black. Most all-purpose natural-bristle brushes are a blend of hog bristles and either badger or ox hairs. Costing \$20 to \$30, natural-bristle brushes are expensive. And because natural-bristle brushes absorb so much water and become limp, they are not a good choice for water-based products.

SYNTHETIC

Synthetic bristles used to be confined to water-based finishes that were unsuitable for natural bristles. They have always been cheaper and easier to maintain than their natural counterparts, and as their quality has improved, growing numbers of finishers are switching to them for all types of finishes. Names of some of the better bristles are Chinex, Tynex and Syntox, but avoid bristles described only as nylon, polyester or a blend of the two.



THREE SIZES TO FIT YOUR NEEDS

A 3-in. brush, a 2½-in. angled sash brush and a 1½-in. brush with either natural or synthetic bristles cover most finishing requirements in woodworking. An angled sash brush can cover wide surfaces and get into tight spots. In general, always use the largest brush that can fit into the area to be finished. The carrying capacity of the larger brush means fewer trips to the can to reload and makes it easier to maintain a wet edge and avoid overlap streaks.

OVAL BRUSHES FOR LARGE AREAS

If you have a large surface to finish, consider purchasing a brush with an oval-shaped ferrule (the metal band between the handle and the bristles). These brushes can hold a lot of material, allowing large areas to be finished before reloading. However, it's more difficult to obtain a smooth surface using an oval brush.



ARTIST'S BRUSHES FOR SMALL AREAS

Artist's brushes can fit into tight areas. The 1½-in. wash brush with synthetic Taklon bristles will apply a final coat of thinned shellac or oil-based finish that leaves almost no brush marks. Expect to pay \$25 to \$55 for these brushes.



Small brushes for tight spots. Artist's brushes can reach areas that larger brushes can't.

SOURCES OF SUPPLY

Purdy brushes can be viewed at www.purdycorp.com and are available at most paint stores and home-improvement centers. Specialized natural- or synthetic-bristle brushes can be purchased at the following web sites: www.finepaints.com and www.homesteadfinishing.com.

FINISHING A TABLETOP

Load the brush



Strain the finish. After a can has been opened several times, dried finish collects around the lid and bits of skimmed-over finish may be floating inside. Remove all of this debris by passing the finish through a paint strainer.

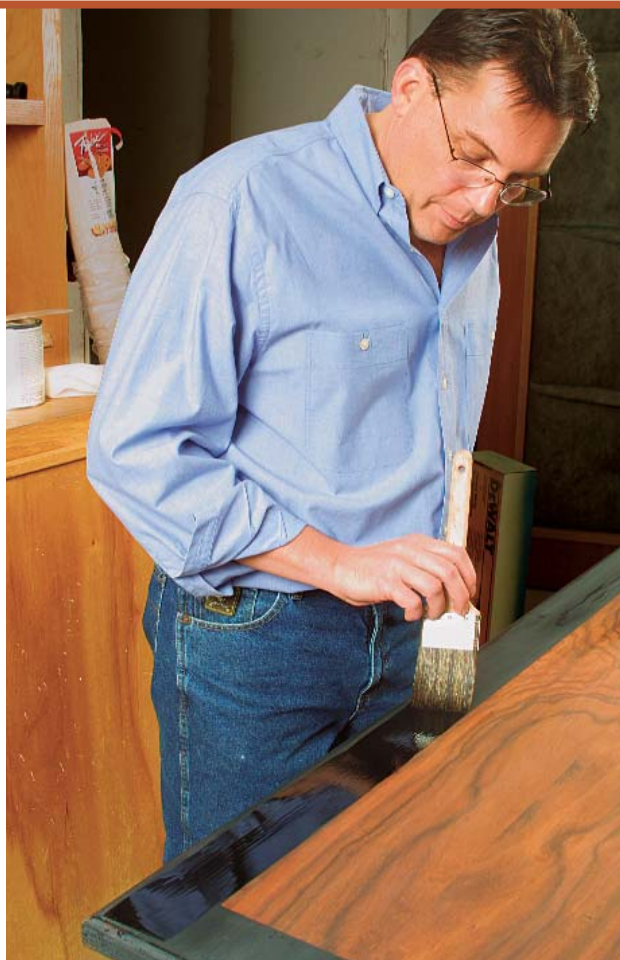


Clearly better. Pouring some finish into an empty container allows you to thin only the finish you'll use. Select a container that the brush easily enters, and adjust the volume to reach halfway up the bristles.



Adjust the load. Push the brush gently against the side of the container to strain out the desired amount of finish. Do not scrape the brush against the rim of the container because it can cause bubbles in the liquid.

Start at the edge



Begin just inside the corner of the table. Continue about $\frac{1}{8}$ in. from the edge closest to you. After exhausting the finish, come back and brush off the edge where the stroke began.



Then pull off the edge. Short strokes with the tip of the brush finish the edge of the table. A curved profile is the hardest edge to finish because of the lack of a clearly defined boundary.



Continue the first strip. Start in the dry area and brush back into the feathered edge before reversing direction and carrying on to the far edge.

2-in. wash brush. Offered by companies such as Winsor & Newton, a wash brush is a very soft blend of Taklon and natural bristles (or pure Taklon). It allows you to float or “wash” on thinned-down finishes (see “All About Thinning Finishes,” *FWW* #151, pp. 86-91) with virtually no brush marks.

Use foam pads and wedges for stains and first coats

Last, and generally least, are the nonbrushes—foam wedges and pads that come on the end of a handle. These are cheap and useful for staining and applying first coats of most clear finishes where much of the product will be wiped or sanded off. But be cautious using them with lacquers,

which may melt the foam. Also, the alcohol in shellac may dissolve the glue that attaches the foam to the handle.

Because material from these pads is squeezed out by applying more pressure, achieving an even finish is difficult. Particularly with pieces that have lots of edges, moldings or carvings, you're more likely to get runs as you try to make the pad conform to the contours of the piece.

Don't be in a rush to brush

Much as the steering wheel of a sports car transmits the feel of the road, with experience you'll be able to sense when the brush is flowing material onto the surface at the proper rate. You'll feel the subtle differences between areas that are puddled

Work across the top



Prevent pooling. With thicker finishes, leave a gap between strokes.



Blend the lines together. The tip-off stroke fills the gap, creating a finish of uniform thickness.



Look out for puddles. Occasionally look at your work from a low angle to check that the finish is being applied evenly. Slow-drying finishes can be leveled simply by rebrushing.

too thickly and the extra drag from spots that have been skipped entirely.

Developing this feel takes practice. Make up a sample in the same wood and in some of the same profiles that appear in your project. Aside from helping you decide which brush feels right for the job, the sample will help you determine a finishing schedule; the correct stain color; how many coats to apply; whether thinning is necessary; when to sand and with what paper; and how the final finish will feel and look.

The easiest way to finish a project is to take it apart into its smallest components. It is also important to determine what order you will brush the various surfaces of your project. Dovetailed drawer fronts, in partic-

ular, are much easier to finish cleanly when not yet attached to their (usually) unstained and/or unfinished sides.

Remove all hardware or carefully mask any that must remain. In general, work from the top down, from the inside out, from a panel to its stiles and rails. The goal is to reduce the number of wet edges that you must try to keep so that the finish can integrate or melt into itself without leaving brush marks or ridges. Try to break down everything to a series of small panels, strips of moldings, or blocks of carvings.

Getting the brush wet

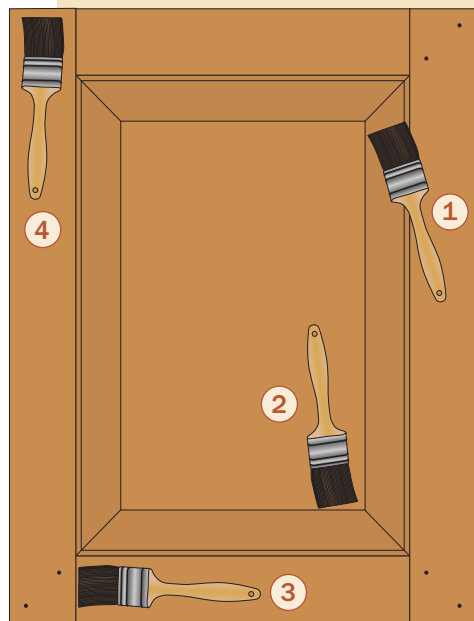
After straining the finish into another container and adjusting its viscosity (see the left photos on the facing page), if neces-

sary, load the brush with the finish material. It's important to pay attention to how much finish you are placing into each brush load. Too much material, and you'll drip finish across the surface as you head for the area to be worked, or it will puddle the moment you lay the brush on the surface. If you pick up too little, it will mean more trips to the can and more time for wet edges to set up before the next brush load gets there.

Adjust each brush load for its intended surface; for instance, a flat tabletop takes all you can give it, while a $\frac{3}{4}$ -in.-wide by 12-in.-long drawer edge barely needs the tips of the bristles wetted.

Start each panel at the edge farthest from you. This way, if you drip onto unfinished

FINISHING A RAISED PANEL



Paint by numbers

Brush a raised panel in the following order to achieve a flawless finish:

1. Start on the panel bevel, working away from a corner.
2. Treat the panel center like a small tabletop.
3. Brush the rails of the frame.
4. Finish the stiles—brushing off, not onto, either end.
5. With the tip of a barely wet brush, finish the edge last.



- 1 **Begin with the bevel.** Bring down the brush away from a corner to avoid pooling the finish. Brush with the grain whenever possible. Once the stroke has been completed, use the tips of the bristles to push a small amount of finish into the corner.



- 2 **Think of the panel as an aircraft carrier.** Land the brush inside the near edge of the panel and continue the stroke until you “fly off” the far edge.

Watch it on the web

To see a video clip of David Sorg brushing a raised panel, go to www.finewoodworking.com.

areas, you’ll be able to go right over the drips. If practical, work with the grain.

Takeoffs and landings on tabletops

On your first stroke you have two edges—one parallel to the grain and direction of the brush stroke and one perpendicular to the grain and stroke. Land the brush just in from the perpendicular edge and move it about $\frac{1}{8}$ in. from the parallel edge until you run out of finish. Don’t lean on the brush. Now return to where you started the stroke and brush off the perpendicular edge. The biggest cause of runs and drips is brushing onto an edge, which allows surplus liquid to dribble down the side of your project.

Finally, reverse the direction of the brush

and lightly glide it from where the original stroke ended and go off the perpendicular edge. This process is called tipping off and should leave an even amount of finish that is as wide, or slightly wider than, the width of the brush. On a small surface, you may be able to go right off the other perpendicular edge as well. In this case, your tip-off stroke will be more like an airplane touch-and-go landing, coming in lightly an inch or so from one edge and taking off at its opposite edge.

On a larger surface, you have two choices for beginning your next stroke with a recharged brush. Some prefer to bring down the brush just inside the wet area where it began to thin out, then continue

on toward the far edge. Others prefer to begin a few inches into the dry area, brushing toward the feathered edge and into it, then reversing the stroke and carrying it toward the far edge. Which technique you choose will depend partly on how fast you work; for example, with lacquer and shellac you run a risk of pulling out the drying finish if you start inside of it.

Continue your finishing pattern until you reach the far edge—spreading out a brush full of material, then tipping off to merge the stroke with the previous one.

Begin the next stroke by laying down the edge of the brush either immediately next to the first stroke or slightly separated from it. With thin shellacs and lacquers that will



3 *The rails need special attention. If the rails butt into the stiles, brush the rails first, starting and stopping as close to the joint as possible.*



4 *Brush the stiles as you would a tabletop. Start inside the near end, continuing to the far end, then come back to brush off the near edge.*



5 *Leave the edge until last. Apply a line of finish using the tip of the brush, then pull it off each edge.*

melt into each other, I usually lay up the edges to the previous stroke or even overlap them slightly. With thick varnishes, I keep the strokes separated, then blend the edges by tipping off. Water-based varnishes require this blending to be done quickly; oil varnishes give you plenty of time.

Continue until you complete the panel, checking the adjacent edges for any rollover that can be wiped off an otherwise dry surface. If the other surface is wet, it's best to let the drip dry and sand it rather than try to brush it out.

Run-free raised panels

Start with the bevel surrounding the center panel. Beginning the brush stroke right in

a corner tends to cause pooling. If anything, interior corners can be starved of finish to yield a crisper look. Start the stroke $\frac{1}{8}$ in. away and discharge the brush as you head for the opposite corner. Come back with the nearly dry brush to blend the beginning of the stroke into the first corner.

Brush the flat section of the panel the same way you would a small tabletop: Start the stroke just inside one edge and brush off the far edge. Return to brush off the first edge, and finally tip off the whole strip with a touch-and-go pattern, avoiding brushing onto either edge.

Then do the strip of molding that surrounds the panel, or the entire rail or stile if there is no decorative edge. If the rails butt

into the stiles, brush the rails first, starting and stopping as close to the joint as possible (slightly over the edge onto the stile is better than coming up short of it). For these strokes, you'll want a slightly less loaded brush because you're going to stroke to a line instead of going off an edge, and you don't want to leave a roll of material. With oil-based varnishes you can just stroke right out onto the stile because it will stay wet long enough to be picked up when you brush the stile. Finally, finish the edges of the whole assembly.

Brushing narrow boards

Brushing a board that is wider than the width of your brush but not as wide as two brush widths is tricky. Brush a coat of finish down the middle of the board, stroke out to each of the three remaining edges, then tip off with a couple of strokes parallel to the grain.

If the board is narrower than your brush, turn the brush on an angle to make its effective width the same as the wood. This is where an angled sash brush is often convenient. When you are brushing edges of boards or doors, hold the brush perpendicular to the surface and use just the tip to lay a bead of finish down the center of the strip from one end to the other. Again, using the tip of the brush, spread the center roll of material to each edge across the grain. Last, do a long, light tip-off stroke following the grain.

Carvings and latticework

Carvings can be finished in shellac or lacquer by using a small artist's brush. First, coat undercuts and recesses with a lightly loaded brush, then brush the tops and primary surfaces, allowing the edges of the finish to melt together. Additional coats are usually just placed on highlights that can be lightly sanded, if necessary. Surfaces that will be rubbed and polished require more finish.

When brushing oil varnish, apply it more liberally, then pick out any pools with a discharged brush. To even out the coverage in the area, use a dry brush and work in short, vertical motions (called stippling). Water-based finishes can be worked in a similar manner, but in small sections to keep the working area wet. □

David Sorg is a professional finisher and artist in Denver, Colo.