Better Painted Furniture

Use automotive filler and primer to level the wood, aerosol cans to paint and clear coat it

by Chris A. Minick

Automotive aerosol paint makes for a flawless finish. *Wearing an organic-vapor respirator and rubber gloves, Chris Minick sprays a cabriole leg in a number of light coats. By hanging the leg from a chain, he can rotate the leg as he fills in missed areas. The spray booth is a U-shaped drape of 4-mil polyethylene hung from his garage rafters. Minick leaves the doors open for ventilation.*

Paint showcases furniture's wood and form*—Painted maple legs emphasize the lines of the author's highly polished coffee table. The black tabletop edges, bottom apron bead and corner legs make an attractive frame around the ribbon-striped-mahogany veneer top and quilted-mahogany veneer apron. The underside of the table is also painted.*

Photos: Alec Waters

"If it works, don't mess with it," sums up the attitude that many woodworkers have toward finishing. Learning about a new finishing technique can be complicated and confusing. So it seems easier to stick with an old standby like tung oil, or stain followed by varnish, even though it may be merely adequate. If that's your habit, you may have overlooked an important class of finishes—paint.

Paint is a versatile medium because it can be used as a design accent to emphasize the lines of a piece, or it can be used to draw attention to handsome woods in furniture (see the bottom photo on the facing page). A painted finish also lets you use up those too-good-to-burn pieces of scrapwood. But don't be mistaken. Paint cannot cover up poor workmanship or shoddy surfaces. A painted finish requires better preparation than a clear finish. Fortunately, there are some products that make the whole process relatively painless.

If I have to paint a fairly large project or one that needs a special color, I use a good latex paint and an airless sprayer. But for most items, especially the ones that require a professional-looking paint job (such as the coffee-table leg in the top photo on the facing page), I use ordinary aerosol spray cans for priming, painting and clear coating. Auto-parts stores have a marvelous variety of colors and types to choose from. And automotive fillers and putties are superb too.

Learning from automotive finishers

Folks working in the automotive industry are constantly refining paint finishes, due to the meticulous demands of car finishes (see the box at right). That's the main reason I buy many of my furniture-finishing products, including fillers, primers and paints, from my auto-parts store. And given the fact that paint is more easily scratched and more difficult to repair than most clear finishes, I borrow another technique from automobile finishers: I clear coat my painted finishes. Before I buy anything for a project, though, I think through my whole painting strategy.

Planning your paint job

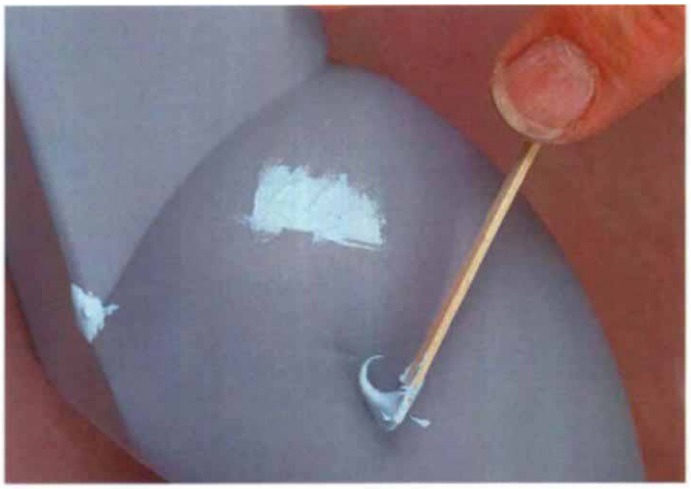
Painting, like any finishing technique, can be frustrating when some unexpected problem arises halfway through the process. The best way to eliminate surprises is to test all your materials and practice new techniques on scrapwood. After all, you wouldn't cut dovetails the first time using prized wood for your project. So you should treat paint-finishing the same way. Paint decisions for a piece of furniture must be made before the first board is cut.

Because my furniture pieces often combine painted elements as well as stained and clear-coated portions, it's easier to finish each component separately, then assemble them. Though this requires careful planning of the construction and care in final assembly, it eliminates complicated masking and leads to better finish results.

When choosing stock for your project, think about which com-

Two-part auto-body filler won't shrink, so it's great for leveling defects in wood. *Using plastic-covered graph paper to measure the proper amount offiller and catalyst, Minick mixes the filler. After he packs the filler, he uses a knife to strike the repair flush with the surface, which will reduce sanding later. Areas of the leg that will be glued have been masked off. The filler cures quickly.*

Glazing putty smooths out blemishes in primer*—After Minick primes a leg, he sands it out to reveal tiny surface dents and nicks, which he fills with blue glazing putty. When that's dry, he'll sand, re-prime and then lightly sand again in preparation for paint.*



Why new car finishes work on wood

Furnituremakers may question the wisdom of using automotive finishes on wood. After all, aren't car finishes brittle—meant for relatively immobile surfaces like metal instead of dimensionally unstable substrates like wood? Although that argument was true in the past, it is no longer accurate. Automotive primers, aerosol paints, clear-coat finishes and touch-up paints have changed because car components have changed. The latest materials, such as high-impact plastics and composites, are used to manufacture car bumpers, trim and door panels. So paint makers have had to reformulate their coatings to accommodate increasing flexibility. This flexibility allows woodworkers to use car-finishing products on wood, which is notoriously unstable. If you don't care to use finishes from the auto-parts store, you can use most general-purpose aerosol primers, paints and clear coatings to get equally stunning results. *—C.M.*

Simple tools improve the quality of a paint job—*To prime the spackled MDF edges of an end table, Minick places it on a lazy Susan mounted to his bench. This allows him to spin the work as he sprays. Because the push buttons on aerosol cans are awkward, he uses an inexpensive plastic trigger handle.*

Use spackle to fill voids in edges

Spackle fills voids in medium-density fiberboard—*After masking off the veneered top of his table with paper and acrylic adhesive tape, the author rubs wallboard spackle onto the MDF edges. The spackle adheres well, dries quickly and sands beautifully.*

The medium-density fiberboard (MDF) edges of my coffee-table top posed a unique finishing problem for me. Because the top was veneered, I needed a way to hide the MDF core. Edge-banding with solid wood was an option, but that didn't fit my design. I ruled out veneer as well because of the shaped edge that I wanted. So I decided to paint the edges black, like the legs. But first I had to prepare the surface of the MDF for primer.

MDF absorbs finish like a sponge, and the small pits in the core must be filled or they will show through the paint. A few finishers tackle this problem by using glazing coats; this technique requires real skill. Large furniture manufacturers solve the problem by spraying on two-part edge filler/surfacer, but it is expensive, hard to find and requires specialized spray equipment. I avoided all this by wiping a coat of wallboard spackling compound (made by DAP) on the exposed MDF edges (see the photo above). The spackle sands easily, fills the pits and provides a good base for the primer. To save yourself some work, mask off the top and bottom of the tabletop before you start spackling the edges. —*C.M.*

ponents will require special needs. For example, if you decide that certain parts must be real smooth, then maple, poplar and birch are good wood choices. However, if you want to show a bit of wood texture through the paint, then open-grained woods, such as oak and ash, are more appropriate. I wanted smooth, glossy black legs on my coffee table that would enhance the figured-mahogany veneer top and apron. In addition, I wanted the legs to be hard to guard against knocks. For these reasons, maple was the logical wood choice. But as far as the painting goes, the wood used is irrelevant, really, as long as you are careful with the under-paint treatments.

Preparing surfaces and equipment

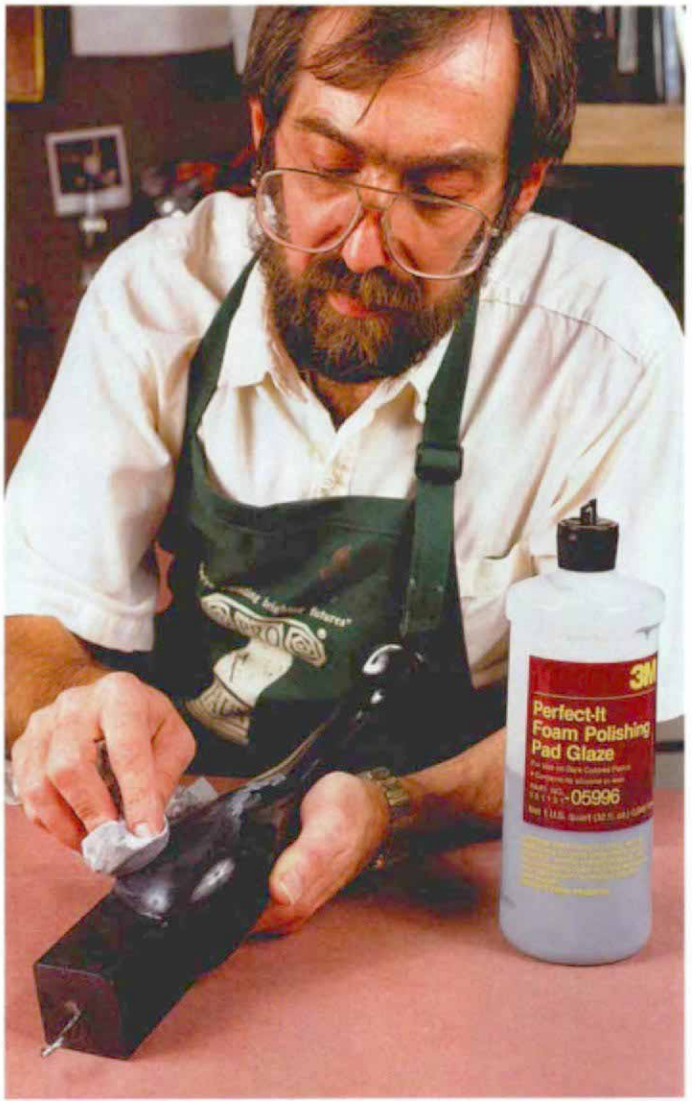
The key to getting flawless painted furniture is meticulous surface preparation. The monochromatic nature of paint dramatically magnifies minor flaws that would otherwise go unnoticed under a clear finish. Small tearouts, hairline cracks in knots, stray sanding scratches and other seemingly minor defects must be filled and smoothed before painting. This may sound like lots of dismal work, but if you follow car surface-preparation steps, you can reduce the drudgery.

Sanding and filling—All parts should be thoroughly sanded to at least 180-grit and inspected under a strong light; then use auto-body fillers to level off any voids. These polyester fillers (familiar brands include Bondo and White Knight) work exceptionally well at repair because they tenaciously stick to raw wood, cure quickly, sand easily and accept most kinds of oil-based and latex primers and paint. Best of all, they don't shrink. On the down side, they smell bad and have a short working life once mixed, usually less than 15 minutes.

For the coffee-table legs, I filled dents and nicks with two-part auto-body filler (3M's 2K Lightweight putty). I even built out an edge that had been clipped off on the bandsaw (see the top photo on p. 63). I also filled in the knots. No matter how sound they look, knots always have cracks that show through the paint. Knots often contain resins, too, especially in softwoods. So once the filler in the knots had cured (about 30 minutes), I sanded them flush and spot-sealed the knots with shellac just to be safe. Finally, to make the edges of the medium-density fiberboard (MDF) top perfectly smooth, I used some spackle (see the story at left).

Setting up a makeshift spray booth—I don't have a paint booth in my home shop, so before I prime or paint, I set up a crude but effective painting area in my garage (see the top photo on p. 62). Ventilation for my plastic spray booth is provided by a box fan that draws outside air through an open rear door and exhausts it through a partially opened garage door. I also use a good organic-vapor respirator to protect myself when I'm using aerosol cans to spray primer and high-solvent lacquers.

Priming and puttying—Primers serve the same functions for painted finishes as sealers do under clear coats. Primers seal in resins and extractives that may discolor the paint, provide a uni-



For a high-gloss finish, rub out the clear coats with liquid automotive polishing compound. *As a finishing touch, Minick buffs out the clear-lacquer topcoat (one of five) on a coffee-table leg.*

form non-porous base for the color coat and highlight any defects that were missed in the filling process. Aerosol primers are sensible to use if you're painting relatively small areas. I often use automotive high-build, scratch-filling primers under pigmented-lacquer paints. High-build primers are easy to apply, sand like a dream and fill in tiny nicks and pits in wood. Adhesion tests in my shop show that automotive primers are completely compatible with high-solvent lacquers, but marginally compatible with oil paints and not at all with latex. When I buy primer at the store, I pick up several different brands of cans and shake each until I hear the little agitator ball dislodge. I pick the can that takes the longest for the ball to loosen because, generally, this means the primer contains a higher percentage of solids. Primers with more solids do a better job and are easier to sand.

Allow the primer to dry thoroughly (it should powder easily when sanded), and then inspect the piece carefully. You'll be surprised at the number of imperfections that will appear on your supposedly smooth wood. You must fill the tiny defects, or they'll show through the paint. Don't use the two-part auto filler this time, though, because it won't stick to the prime coat. Instead, use an automotive glazing putty, which is designed for application over primer (see the bottom photo on p. 63). 3M's Acryl-Blue Glazing putty suits my needs, but any non-shrinking brand should work.

Sand the primer and dried putty smooth. Next apply a final coat of primer. Then sand again—this time to at least 220-grit but not finer than 320-grit. While you're sanding, be careful not to cut through to the wood, or you will have to re-prime. The object of this final sanding is to level and smooth the surface but still leave some tiny scratches in the primer. This slight texture, called tooth, makes a better bond between the primer and topcoat.

Painting, clear coating and rubbing out

Aerosol paint cans are available in different colors, gloss levels and brands. I have had good luck using both Plasti-kote and Krylon on furniture. Aerosol paints that are low-gloss sand easier than high-gloss ones, but I prefer the high-gloss variety because their higher resin content adds to the durability of the finish. You shouldn't be overly concerned about the actual glossiness, however, because the final sheen of the project will be controlled by the clear coat.

To start painting, I mist a tack coat of paint over all the primed area. Then I spray several light coats to fill in the blanks until the entire surface is covered with a level wet coat. Continued painting at this point will result in runs or sags. Let the solvent evaporate for five minutes or so, and then lay on another coat the same way. Two or three coats are usually enough to provide sufficient color build on a well-primed substrate.

For the tabletop's edge, I overcoated the spackled and sanded edge with the same automotive primer and paint that I used for the legs. The only differences were that I masked off the top and then used a lazy Susan to hold the work (see the top photo on the facing page).

The clear coat is the final touch that sets apart an average paint job from a real showstopper. Clear coats not only protect the paint from occasional dings but also add depth to the finish, which is more suitable for fine furniture. In addition, clear coats unify components by providing a consistent sheen over the entire piece. And clear coats are easier to rub out and repair than paint.

For peace of mind, I usually choose my clear finish from the same resin family as the paint. I used an aerosol automotive clear acrylic on my table project, but any good clear lacquer will work. For the tabletop edges, I clear coated the paint with Pratt & Lambert #38, which is the same varnish I used on the mahogany-veneered top and apron. Four or more clear coats may be needed to achieve a good film thickness (3-4 mils). Remember, some film will be lost when rubbing out, so compensate for this. Make sure that your paint is completely dry before you clear coat. I like to wait several days.

For rubbing out clear coats to a high luster, I like to use liquid automotive buffing compounds (not paste compounds). I've found that car buffing compounds are easier to use than those carried by most wood-finishing-supply places. Both 3M and Meguiar's offer good compounds for polishing. Meguiar's has several formulas with different abrasive levels for hand-rubbing or power buffing. Let the clear coats dry a day or so, and then buff out to whatever sheen you desire (see the photo above). □

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