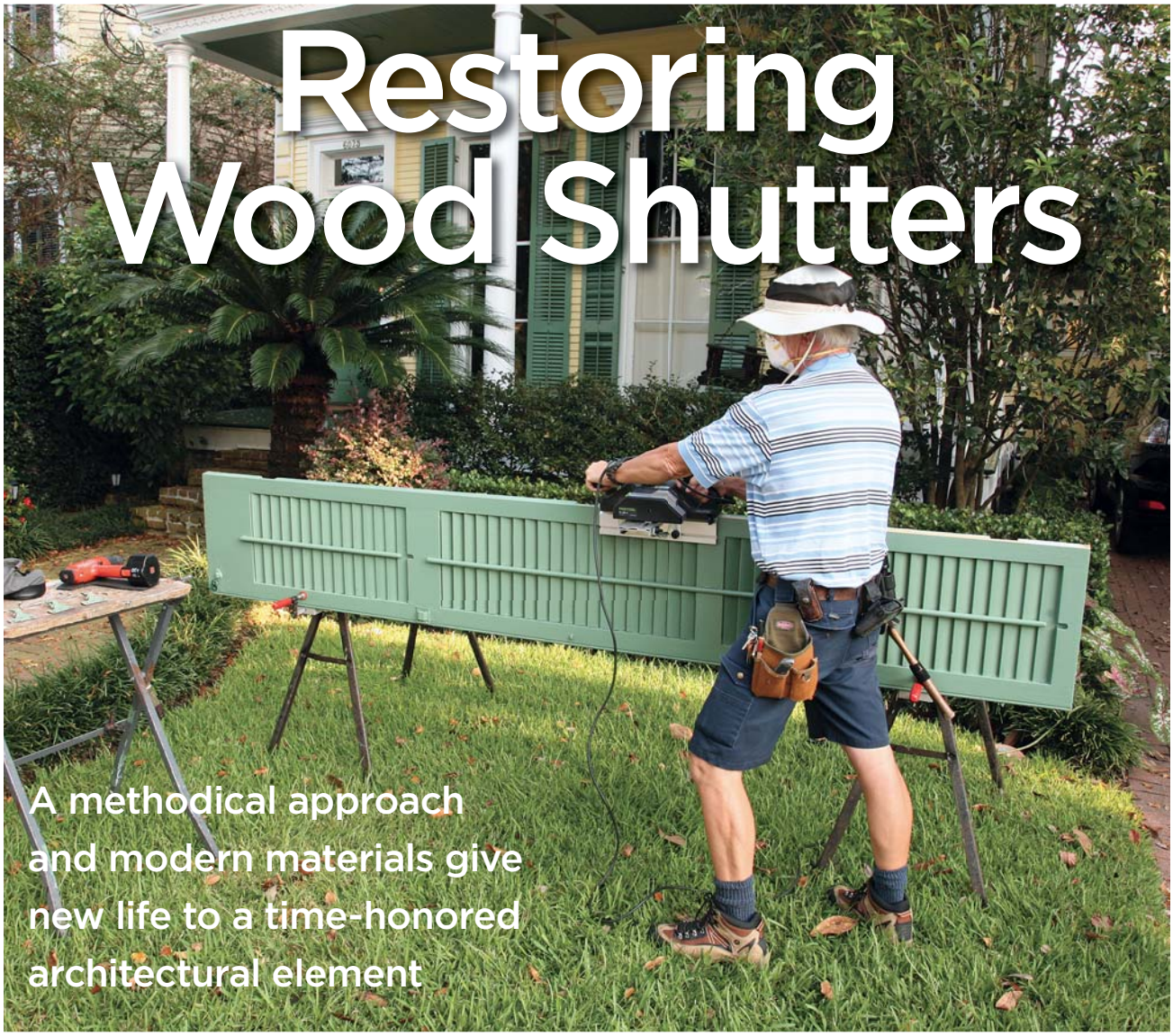
Restoring Wood Shutters



A methodical approach and modern materials give new life to a time-honored architectural element

by Mike Davis

Nothing finishes off an old house like shutters. Not the cheesy plastic versions found on suburban split-levels, but real wood ones that open and close. Unfortunately, wood shutters are often neglected and allowed to deteriorate, so your first inclination might be to replace them. But in fact, new shutters — real ones, that is — typically cost more than the time and materials it takes to restore the originals.

Removing Hardware

I begin a shutter job by assessing the units' general condition from the ground. Then I take the shutters down and inspect them to get the true scope of the damage.

Assuming restoration makes sense, I remove the hardware. In New Orleans, where I work, this generally includes two Acme hinges per shutter, or three hinges for shutters taller than 7 feet (**see Figure 1, page 2**). These two-piece hinges allow the shutter to be lifted off for maintenance and also hold it securely in open position without the use of a shutter dog, an S-shaped restraint hook common on shutters hung with strap hinges.

Acme hinges come in seven sizes, but I mostly see #2s; they're $2\frac{13}{16}$ inches high

Figure 1. Replacement shutter hardware — including the cast hinges and catches and black slide bolt shown here (top left) — is available from Van Dyke's Restorers. The two-part Acme hinges make it easy to remove shutters for maintenance. The author has new hardware powder-coated, then backs it with pieces of Vycor before installing it to prevent water from following the screw holes into the wood (bottom left).

and throw the shutter about 2¾ inches from the face of the casing. I also see larger #1½s, which work better with very tall shutters.

Most shutters also have a bottom catch with a strike plate and an escutcheon, and some also have slide bolts — typically 6 inches long — for latching the two panels together when they're closed.

Many shutters have some kind of pull — D-rings are common — but I rarely replace it unless the shutter gets a lot of use; it's just something else to rust and foster rot.

I reuse the hardware as long as it still works. Usually I have it sandblasted or chemically stripped, and then I paint it with Rustoleum. If the client wants something more durable, I'll have it powder-coated at a local shop. When needed, I buy replacement hardware from Van Dyke's Restorers (800/787-3355, vandykes.com). I always reinstall hardware with stainless steel screws.

Stripping the Shutters

After dealing with the hardware, I usually have the shutters chemically stripped; at $25 to $30 per panel, it's well worth it. When I get the shutters back, I use a garden sprayer to apply a 10-to-1 solution of muriatic acid (or vinegar) and water to neutralize the stripper. Standing the shutters on simple racks made from 4x4 posts and ⅜-inch steel pins makes this and the eventual repainting process a lot easier (**Figure 2**).

After giving the wood a good soaking with the neutralizer, I let it dry to 14 percent — the equilibrium moisture content for cypress in my climate — then start digging out the rot with my "dental picks" and 5-in-1 painter's tool.

For larger areas, I use either a

Figure 2. After using a template to space the holes, the author drills holes (above) to accept the ⅜-inch steel pins on his simple site-made finishing rack (right).

Figure 3. After using a rotary rasp and a variety of hand picks to remove rotted wood (top left), the author fills the depression with epoxy-based products, starting with LiquidWood consolidant (top right) and following with WoodEpox compound (above left). Abatron's Woodcast, applied against the plywood form, helps shape the new corner (above). West Systems epoxy, thickened with chopped fiberglass, provides bulk (far left), and is followed by another light coat of WoodEpox to make final sanding easier (left).

rotary rasp chucked into a die grinder or a drill with a 3/8-inch bit (**Figure 3**).

Rot Repair

I try to get back to fairly sound wood before making rot repairs, then soak the damaged areas with Wood Care Systems' Bora-Care (800/827-3480, ewoodcare.com) mixed 1-to-1 with water and applied with a brush or syringe.

Once that solution dries, I treat any remaining spongy areas with LiquidWood epoxy from Abatron (800/445-1754, abatron.com). With the LiquidWood still wet, I fill the rot cavities with WoodEpox putty, another Abatron product.

For large holes, I use West System epoxy (866/937-8797, westsystem.com), adding one of the company's fillers or even sawdust to the mix when needed. (An excellent online user's manual explains the system.) West is so hard when it dries it can be a bear to sand, so I cap off repairs with one of the Abatron epoxies before the West System is fully cured.

Repairing Slats

I replace broken or missing slats with new ones that I make from Spanish cedar, a species known for rot resistance. Getting

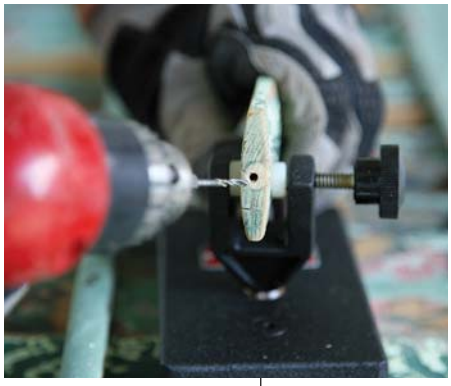


Figure 4. When the author is unable to reinstall a broken slat because the fit is too tight, he replaces the wood pin with a stainless steel sheet-metal screw. He drills a pilot hole in the end of the slat (left), engages the screw far enough so that the slat can slip into the frame, then backs the screw into the pin hole with needle-nose pliers. A piece of vacuum hose disguises the shiny threads (below).

them into place can be tricky. Sometimes I can use a bar clamp to spread the stiles far enough to get the pins into the holes. Or I may trim one or both pins and use a hammer and flat-head screwdriver to persuade the slat into place.

Another trick, when all else fails, is to replace the pin with a #8 stainless steel pan-head screw, which I screw in just enough to get the slat in the hole, then back out with needle-nose pliers once the slat is lined up (**Figure 4**).

Control Rods

I put off working on control rods until last (**Figure 5**), so that any staples that are going to break or come out while I'm handling the shutter will have done so. If a control rod is fractured, I'll fix it with epoxy.

I'll sometimes even fix a rod that is broken in two, inserting a 3-inch stainless steel trim-head screw in one broken end

Figure 5. A broken slat staple is removed with needle-nose pliers (above left), then replaced with a new one pushed in with channel locks (above). A U-shaped block of wood supports the control rod as the staple is driven into place with a steel punch (left).

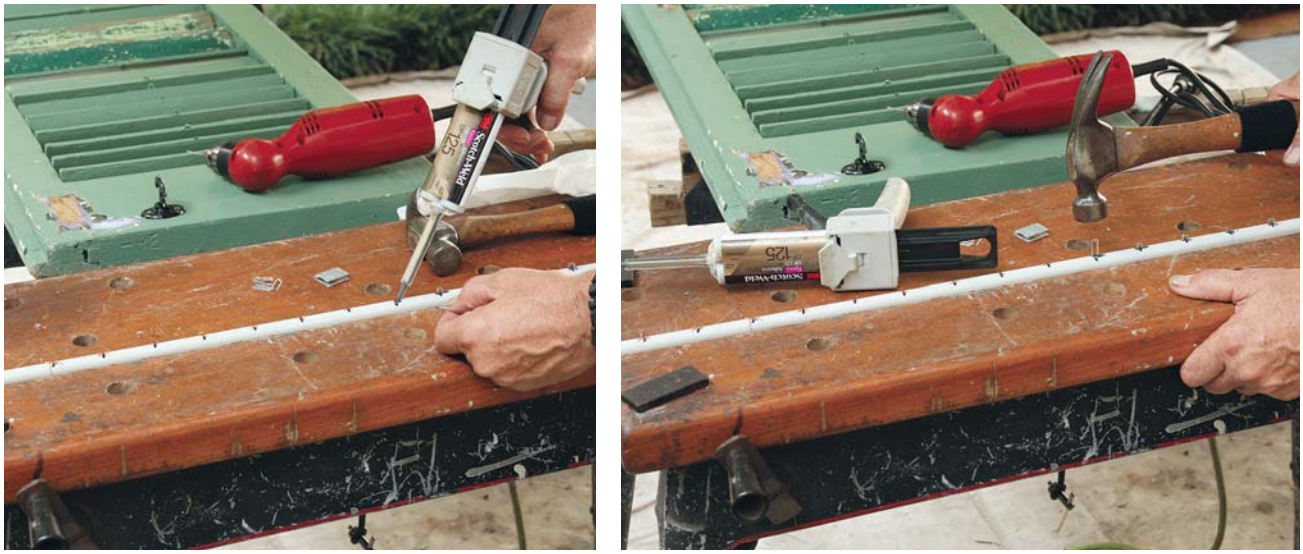


Figure 6. Occasionally it's necessary to make a new control rod. After drilling holes for the staples, the author puts a dab of glue in the holes (above left), then drives each staple home (above). He repeats the process when linking the rod staples to the slat staples (far left and left).

and drilling a hole in the other end large enough to accept the screw head. I fill the hole with epoxy and slowly insert the screw, catching the squeeze-out as I go. I stop just short of "home," mix some filler into the excess epoxy to thicken it, then push the pieces together and reinforce the repair with splints and tape while the epoxy dries.

When I have to, I make new rods from Spanish cedar, clamping the blank into a bench vise so I can mark and drill 1/16-inch pilot holes for the staples. I use galvanized staples — because I haven't been able to find any stainless ones — and glue them into place with epoxy (**Figure 6**).

Fitting to the Opening

After the shutters are again structurally sound, I test-fit them in the openings, then cut a 5-degree bevel on the tops and bottoms to shed water and a 2- or 3-degree bevel on the inside stiles to eliminate binding.

When everything fits well, I put a 3/16-inch radius on all the perimeter edges with a laminate trimmer.

Paint Prep

Before priming, I wipe the wood with a nonoily solvent like DuPont Prep-Sol 3919S. For new shutters, I use Mill Glaze Away (Napier Environmental Technologies, 800/663-9274, biowash.com).

Paint stripping raises the grain, so I hit the worst of the resulting "fuzz" with an orbital sander — but I don't go too crazy because the first coat of primer makes sanding much more effective.

If I ever do a set of shutters for my own home, I'll do a full schedule of high-performance two-part coatings. Until that day,

I have to deal with compromises, which I have distilled down to two options.

The first is to spray Abatron's Primkote 8006-1 epoxy, a thin-viscosity, clear sealer-primer that soaks deeply into wood and dries almost instantly. Primkote is so thin it leaves plenty of mechanical "keying" for an alkyd primer to follow. I like Pratt & Lambert Suprime S1008 (800/289-7728, prattandlambert.com).

The other option is a lot trickier, but provides better protection: spraying DuPont's two-part Corlar 2.8 HG epoxy (800/438-3876, performancecoatings.dupont.com), then spraying alkyd primer over it before it's completely cured. The trick is getting the alkyd on at just the right time: If the Corlar has not dried enough, the alkyd will react to the solvents and ripple. But if the Corlar has completely cured, the alkyd won't stick as well.

Doing this correctly takes practice and experience — and cool weather. Do it wrong and you'll have a big mess.

Spraying

I use a Binks HVLP sprayer to apply the Corlar and alkyd primer **(Figure 7)**. It applies a fine finish with little overspray, and the 2-gallon pressure pot and 25 feet of hose give me plenty of reach and capacity.

If the shutters haven't been completely stripped of paint, I hit them with a deglosser right before spraying the Corlar.

I spray the slats first. I open them all the way so I can get the end grain, and then I do the rest of them, working up and down and spraying from both sides until I have full coverage. Next I do the frame, saving the top and bottom until the shutters are off the rack. I check for runs after every shutter is complete. Once the primer has had two days to dry, I go over everything lightly with 80-grit sandpaper to remove any remaining fuzz.

Before hanging, I use a paintbrush to apply two coats of the Corlar epoxy to the shutter tops and bottoms. After the shutters are fit to their openings, they're removed once again and sprayed with a second coat of Corlar and a second coat of alkyd primer. I usually let a painter handle the top coats. I tell clients to insist on an oil-based paint because it holds up better than latex in our climate.

Figure 7. With a 25-foot hose and a remote pressure pot, the author's spray rig allows him plenty of mobility to get in between the shutters on the spray rack. After all the coats have been applied, he fills the holes in the bottoms of the shutters and coats tops and bottoms with a brush.

Despite the considerable expenditure of time and money, it's often hard to tell the difference between a real shutter restoration and the lick and a promise I generally see. But when the next hurricane or wind storm is approaching and your customers can effortlessly close and secure their sturdy shutters, they'll appreciate your effort and they'll feel good about spending the money.

***Michael Davis** is a restoration carpenter in New Orleans.*