Re-creating Victorian Trim

Complicated profiles require custom knives, but installation is a cinch

BY SEBASTIAN EGGERT

Victorian-era carpenters had a trick or two up their sleeves. Although the fashion of the day called for wide interior trim with complicated profiles, builders developed a method for installing it quickly and easily. My work often requires replicating trim in houses from that period (photo left), and I've learned to make and install new trim that looks just like the original material. The process is not as hard as you might think.

Original millwork came from a catalog

Victorian builders had access to a wide variety of molding and millwork, carried by rail or ship all over the country. Port Townsend, Washington, where I work, had access to suppliers in San Francisco, and trim details vary widely in houses here. Styles have changed, though, and the old patterns are no longer made commercially. Instead of compromising with newer factory-made styles, the crew in my shop makes trim to match the original.

Most of the molding in our area originally was made of redwood or western red cedar. Less frequently, we find Douglas-fir trim or,

CAST THE OLD TRIM

1. Mask off baseboard section. When trim can't be removed, the author masks off an area several inches wide in preparation for making a cast. The square ensures that the profile will not be distorted.

2. Wax makes the mold removable. A coat of paste wax prevents the casting material from sticking to the trim. All parts of the profile must be protected.

3. Molding profile from a body shop. Automotive body filler spread over the baseboard cures quickly and makes a faithful copy of the baseboard profile. Keeping the application as thin as possible reduces warping as the filler hardens.

in what were the homes of wealthier residents, red and white oak.

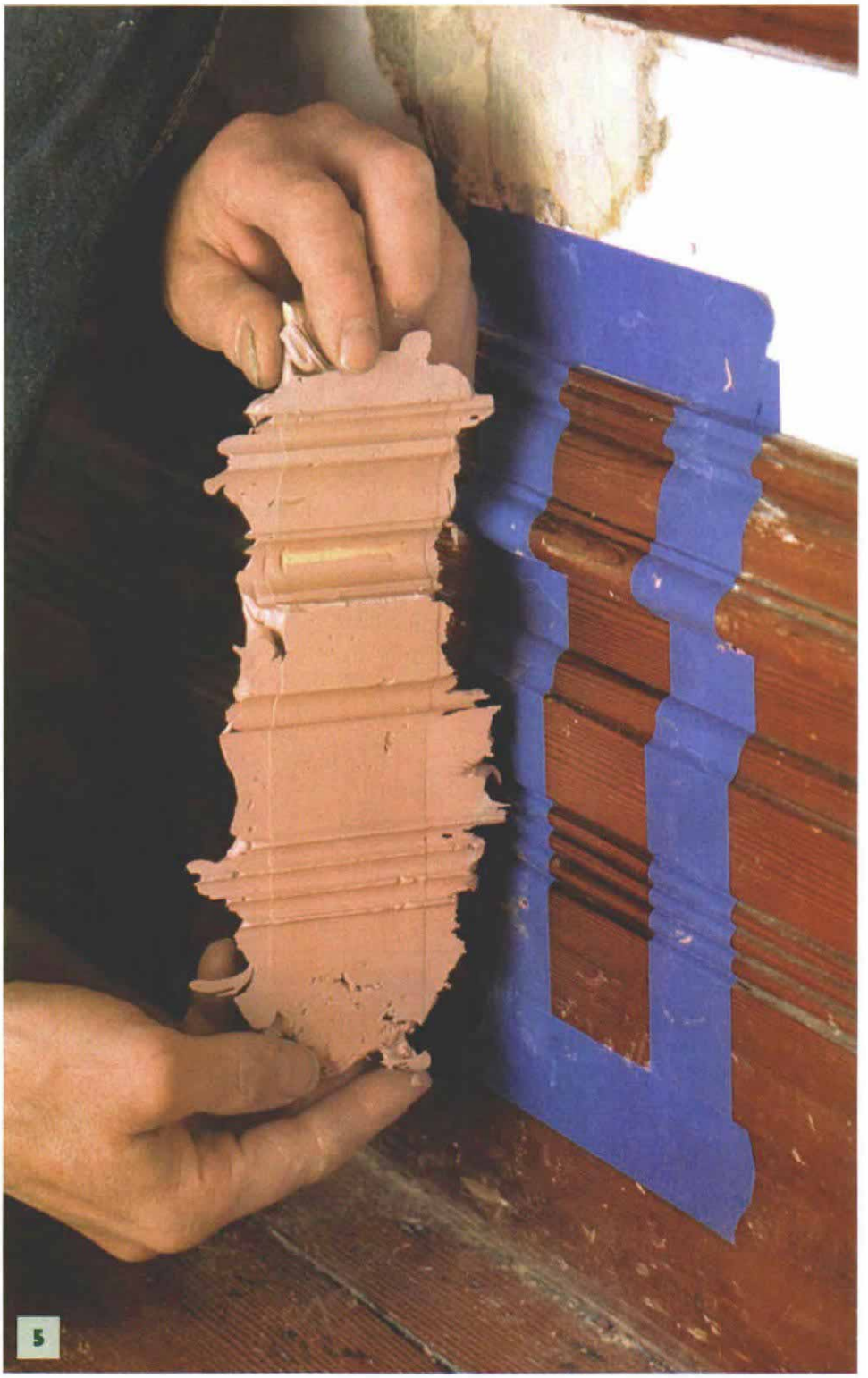
The Trenholm house, where the photos for this article were taken, had been empty for years. Almost all the original woodwork had been removed during various remodeling efforts. We were fortunate, however, to have at least one example of every essential trim element: an interior door with a plinth block and casing, a bay window with its original rosettes and a short section of the baseboard, all with the original varnish intact.

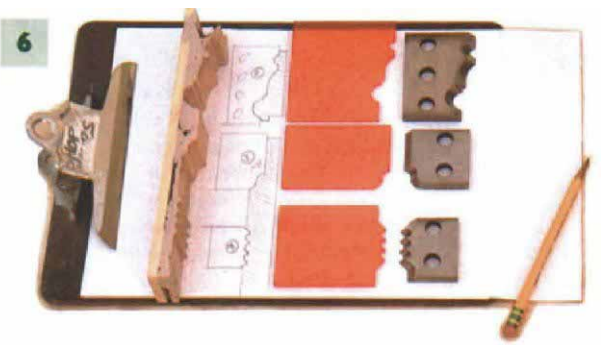
In rooms where some original varnished woodwork remained, we could complete the trim with identical molding in red cedar. In the remainder of the house, we made trim in the same pattern but from less expensive paint-grade poplar.

Custom knives require an exact pattern of existing trim

We reproduce most of the running trim on a Williams & Hussey (800-258-1380; www.williamsnhussey.com) molder-planer using knives custom-made for the job. Plinth blocks are an exception: Because the profile is cut across the grain and because the pieces are short, a shaper, which also uses custom

4. Reinforcing batten strengthens cast. A strip of wood pressed into the uncured body filler prevents the cast from breaking when it is removed from the baseboard.





5 and 6. From body filler to cutting edge. Once the filler has cured, the pattern is popped off (photo 5). After trimming the edges, the author traces the profiles onto paper and faxes them to the maker of custom molding and shaper knives (photo 6). Plastic templates to the left of the knives come in handy for resharpening.

Two passes are better than one. With two sets of knives mounted in a Williams & Hussey molder-planer, the author cuts the baseboard profile in two passes.

knives, works best. All the knives we needed—five sets in all—cost about $800.

A sharp outline of existing trim is critical in getting accurately profiled knives. When I'm working with a scrap piece of trim—one that has already been removed—I carefully strip off any layers of paint and finish without destroying the shape. Then I make a fresh perpendicular cut at the end and trace the profile onto a piece of paper. Plinth blocks can be traced in place this way (photo bottom left).

To get a pattern from trim that's still attached to the wall, I use Bondo, an automotive body filler, to make a cast of the shape. First, I mask off an area around a clean section of molding, leaving about 3 in. of the trim exposed and making sure the edge of the masking tape is square to the profile (photo 1, p. 96). A coat of paste wax applied next prevents the Bondo from sticking to the wood (photo 2, p. 96). Standard paste wax works fine. I mix up a batch of the filler and spread it on the molding, taking care to fill all the creases and shapes of the profile (photo 3, p. 96). A bit of fiberglass cloth can help to reinforce the pattern, and for large patterns such as this baseboard and cap, a thin strip of wood embedded in the filler helps it to keep its shape (photo 4, p. 97).

Bondo has a tendency to warp if it's applied in a thick coat, so I spread it as thinly as possible without making an impossibly delicate form. After the resin sets up, I carefully pry it from the work (photo 5, p. 97) and cut a clean edge that can be traced onto paper.

I fax the profiles directly to the knife supplier, in this case Counsellor Profiles (800-635-6285; www.cpitools.com). CAD drawings of the profiles can be sent via e-mail as well. The image is turned into a computer file and eventually into a pattern (photo 6, p. 97). Because fax transmissions can be distorted, it's a good idea to provide a scale with precise measurements for reference. When the knives arrive (in as little as three days if I pay extra for overnight shipping), I check their size and shape for accuracy.

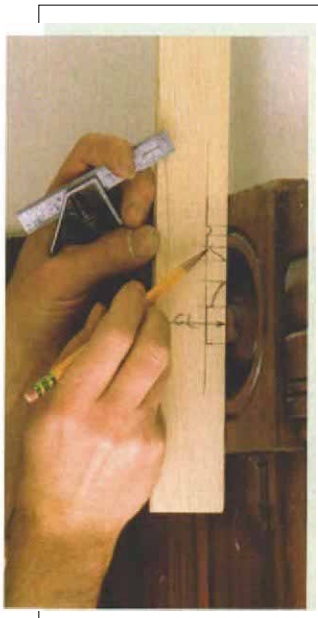
Rough boards become finished trim

Most true Victorian moldings are fuller in thickness and width than what's commonly

PLINTHS TAKE SHAPE

Trace the profile when you can. To re-create missing plinth blocks, the author starts with a full-scale outline on paper. This one is easy: A square end is exposed and accessible.

Plinth blocks made on a shaper. A sled carries a poplar blank past custom shaper knives to create a plinth block. Keeping the feed rate slow helps to minimize cross-grain tearout.



Making rosettes on a lathe

Sampling a bull's-eye rosette. New rosettes made on a lathe start with an accurate story pole, which shows profile shapes and depths.

Specialty bits are available for making rosettes on a drill press. But the scraping cut often tears the wood, and the profiles are shallow and uninteresting. Instead, I make all my rosettes quickly and accurately by hand on the lathe, just as Victorian-era workers did.

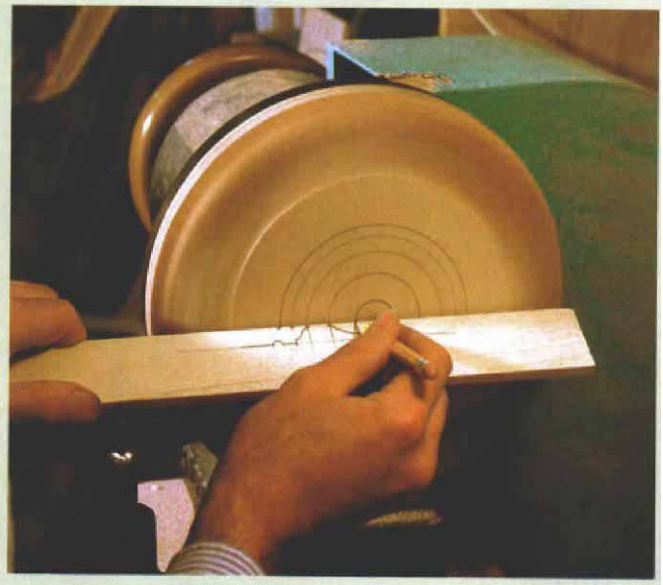
I start with a pattern taken from an original rosette. Layout lines and depths of various details are marked on the beveled edge of a small stick (photo above left). I then make a small notch in the stick at each line to hold the point of a pencil, which makes it easy to mark a rosette blank while it spins on the lathe.

A blank is held in a jig on a faceplate by a pair of wedges (photo top right). With the lathe running, I find the center by touching the point of a pencil lightly to the blank. I then index the layout stick to the center-point on the blank while supported by the tool rest. I touch a pencil point to each notch, making easily visible marks to guide my cuts (photo center right).

I find an efficient sequence of cuts using as few tools as possible. I make the deepest flat-bottom cuts first with a parting tool, and then I connect the details with a small detail gouge (photo bottom right). When the pattern is complete, I use sandpaper to touch up the work while it's still turning.

After the first 50 rosettes, you can do them in your sleep, which can be dangerous, so I stop periodically and take a break.
—S.E.

A jig holds the work safely in place. A poplar blank is held securely in a lathe jig with two hammer-driven wedges. It takes only seconds to remove it.



Transfer details to blank. Tiny notches at each profile transition help the author to mark the spinning blank.

Keep tools to a minimum. With the lathe turning at 1100 rpm, the author makes the initial cuts with a parting tool, then finishes the profile with a detail gouge.

INSTALL THE MOLDING

Start a door with a plinth. To case a door, the author starts at the base with a plinth block. It should be installed so that its inner edge is flush with the jamb.

Mark casing for a cut. With one end of the casing squared and resting on the top of the plinth, the author marks the other end for a cut where it meets the head jamb.

available at the lumberyard today, so I buy my stock in the rough and mill it to match the size of the molding samples. The Williams & Hussey, machine I use has an open side that makes it a good choice for shaping wide casing and baseboard.

With the custom knives bolted to the machine and with the machine turned off, I lower the cutterhead until the knives touch a piece of ¾-in. plywood clamped to the table surface. I make a mark on the plywood to indicate where the edge of the stock should travel. After removing the plywood, I fasten a thin, straight batten at the alignment point and parallel with the edge of the plywood. A second batten or a block of wood on the other edge completes the guides and helps to keep the stock oriented correctly as it passes under the knives. With the jig waxed, I make a test cut and reposition the plywood bed if necessary.

Victorian baseboards are usually wide, and in some cases, the stock is wider than the cutterhead. If the auxiliary plywood bed is too narrow to accommodate a second guide batten, I just cant the bed a degree or two so that the feed rollers push the molding tightly against the single guide batten.

I was able to cut this molding in two passes—the first to remove most of the material, then a finish pass of 1/32 in. to 1/16 in. to clean it up (top photo, p. 98). For deeper profiles, it may be necessary to hog out some of the waste on a table saw first or to make multiple passes on the molding machine. Rosettes, the square pieces of trim at the upper corners of door and window openings, are made on the lathe (sidebar p. 99).

Plinth blocks are cut on a shaper

Plinth blocks are used to stop the ends of the baseboard and base cap at every doorway and to support the door casings. Traditionally, the grain runs vertically, parallel to the casings, so the molding pattern is cross grain. The shaper is my machine of choice for making plinth blocks because its slow feed rate tears out less grain than the molder. Custom knives also are needed for this operation, and they must be specified for the particular cutterhead of the shaper.

It's important that the blocks be held securely to minimize vibration, and they must slide smoothly past the knives to reduce tearout. I use a sled jig designed so that the base edge acts as a guide as it slides against the shaper fence (photo bottom right, p. 98). Vertical stop blocks on both sides of the block hold it in place (the blank is run through upside down). I place the stop blocks as far apart as the rough plinth stock is wide, usually about ¼ in. wider than the finished plinth. The extra width is ripped off later to remove any tearout. Handles on the back side of the sled keep my hands safely away from the cutterhead.

Toggle clamps that hold the blanks in the sled are mounted on the stop blocks high enough so that they clear the top of the shaper fence. I set the height of the shaper cutters so that they clear the edge of the sled base. The depth of cut is adjusted by pivoting the shaper fence toward or away from the cutterhead. I make a few test cuts to ensure that the alignment is correct; then I cut the full profile on the plinth blocks in one full pass. Deep, complex patterns often tear out a bit of the material, so the work should be moved past the cutters slowly. I also make extra blocks and plan to do some sanding and cleanup.

Door-casing installation is simple: Start with a plinth at the base

Victorian trim profiles may be complex, but installing the trim is fairly simple. Except for baseboard corners, there are no miters to cut, and there's practically no measuring. Door casings are easy to figure out. Side casings are the height of the jamb less the height of

Rosette meets casing. The inside corner of the rosette just touches the inside corner of the door jamb. When the casing is centered on the rosette, it creates a 3/16-in. reveal at the jamb.

Baseboard cap is coped. With the lower part of the baseboard leveled, mitered and installed, the author applies the rabbeted cap. Inside corners of the cap are coped. Base shoe covers the gap between the floor and the bottom of the baseboard.

the plinth block, and the head casing is the width of the opening between the jambs. The rosettes and the plinth blocks are the same width (in this case, 6 in.). The 5 5/8-in. casing is narrower than the plinth blocks by twice the reveal (2 x 3/16 in. or 3/8 in.). The casing is always centered on the plinth block and the rosette.

To begin the door trim, I check the jambs for plumb, level and square, and make sure edges are flush with the surrounding walls (if not, these problems must be corrected before I go any further). The plinth blocks usually measure a whole number in height (10 in. in this case). They are nailed so that one edge is flush to the inside edge of the door jamb, without a reveal (photo left, facing page). If necessary, I scribe the plinth base to fit the floor. I rest a length of casing on top of the plinth and mark it where it intersects the head jamb (photo right, facing page). I cut the casing to my mark, center it on the plinth block and nail it in position with a 3/16-in. reveal at the jamb.

I use a pneumatic nailer for maximum grab and minimum notice. At the jambs, I use 18-ga. brads to hold the molding edge tight; elsewhere, I use regular pneumatic casing nails that are 2 1/2 in. long, and I drive them into the studs.

Rosettes are next. They are nailed at the top of the casing so that the corner is in line with the inside corner of the jamb (photo above left). The piece of casing for the door head is cut to the same length as the head jamb and installed between the rosettes with the same reveal at top and bottom.

Window casing is installed the same way as door casing except that the side casings sit on the stool instead of the plinth blocks. I make the aprons with mitered returns the same length as the outside-to-outside measurement of the side casing.

Baseboard, caps and base shoe

The baseboard for this project consists of two parts: the main molding and a rabbeted base cap that sits over the top. Because the baseboard is so wide, it should be nailed at the top edge as well as the bottom. I find it helpful to mark the studs beforehand to get the best possible nailing purchase.

I cut the inside and outside miters for the baseboard on a sliding compound-miter saw. Coping inside corners on such a wide board would be awfully slow, but I check the corners for square and adjust the angles accordingly: It's an imperfect world, especially in an old house (I often wonder if anyone used a framing square back in the good old days).

The extra width of the baseboard also makes bending it to fit irregularities on the floor difficult. An additional base shoe is nailed to the floor to hide any gaps at the bottom. I butt the ends of the base shoe to the plinth blocks. If the base shoe projects beyond the front of the plinth, I clip it back at a 45° angle from the point where it touches.

Base cap is smaller and more detailed than baseboard, so I cope the inside corner joints (photo above right). Because the cap is rabbeted, the first piece has to be notched to fit over the baseboard. I make the 45° corner cut with a chopsaw, then cope the joint with an aggressive 60-grit disk on an angle grinder. Find a good position to brace the grinder as you move it against the work. The price you pay for speed is the potential for fast errors.

I place nails in the recessed parts of the molding pattern to help obscure the holes. The stud layout I did for the baseboard also helps me to find good nailing for the base cap. The flexibility of the narrower profile helps the molding to follow any irregularities in the wall surface. □

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