SHOP-BUILT TRIM FOR Doors & Windows

Preassembling extension jambs and casings guarantees tighter joints and a better finish

by Jim Schultz

Show up in the final weeks of any job and you'll see the trim carpenters and painters bumping heads with all the other trades trying to mount cover plates, hang wallpaper, and lay floor coverings. Looming deadlines and general job-site chaos can make for less than perfect finish carpentry — the part of the job that needs to look the best. To combat those end-of-the-job headaches, we've developed a system for producing door and window trim as complete prefinished units in the shop. We then install them at the last minute — after everyone else is out of the way and the bulk of the moisture generated during construction has disappeared. The end result is better-fitting trim with little or no touch-up and few callbacks.

Our most popular trim is a shingle-style flat casing with a three-piece head (see Figure 1, next page), but we can adapt these techniques to any style of trim the customer or designer specifies.

Measure Twice...

The first step to producing perfect-fitting trim units is to make detailed measurements and diagrams of each opening. I keep a simple notebook and give each opening a unique ID, such as "kitchen — East window." On

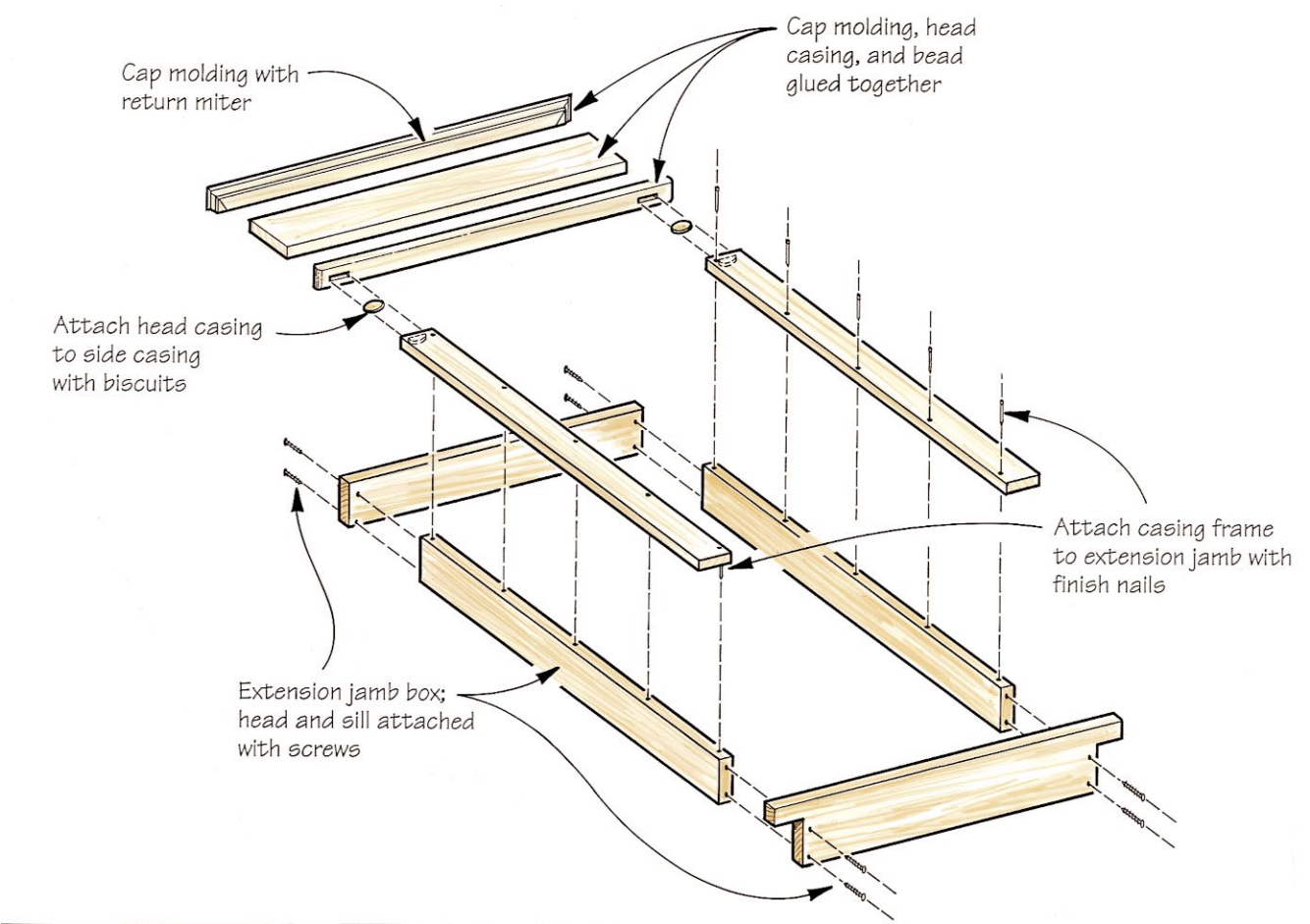

Figure 1. The author assembles extension jamb "boxes" with wood screws, while the casing frame is joined with biscuits and glue. He attaches the frame to the jamb extensions with finish nails.

Figure 2. The secret to a precise final installation is careful measuring. The author checks both walls and window units for plumb, and uses a framing square and tape measure to check jamb depth at the corners.

new projects, I try to get to the site after the drywall is hung but before it's finished to scope out potential problems that can be remedied before the trim arrives, like bowed walls, or door or window units that have been installed out of plumb. Ideally, even in old work, at least one surface must be flat and true, although we can adjust the trim unit, the wall, or both if necessary before installation. It's important to know which imperfections will show and which won't — a small gap above a door head is not as important as a gap between an exposed side casing and the wall.

To get accurate measurements, I first check each opening with a straightedge

Figure 3. Ulmia spring clamps help in gluing up return miters on the cap moldings (left). The three pieces of the head trim are glued together to form a single piece (right).

Figure 4. While the head trim assemblies are drying, the author assembles the jamb extension "boxes" using wood screws.

and level, and make notes of potential problems. Next, I hold a framing square diagonally across each corner of the opening and measure back to the window frame, noting each measurement (Figure 2). On units requiring wide extension jambs, it's important to note on the diagram whether the measurements are based on the face of the drywall or the face of the window unit being plumb, as this will affect which side of the piece goes against the miter box fence back at the shop. Many times, I'll have to taper wide extension jambs to get a perfect fit at both surfaces, so I want to make sure that I reference my cuts off the correct edge. I measure door openings similarly, carefully checking the wall thickness at each corner.

Back at the Shop

We have a complete woodwork shop and mill all our own jambs, sills, and casings from high-quality rough stock. If you buy your material premilled, make sure it's dried to at least 8% moisture content; 6% is ideal. I check this with a Lignomat moisture meter. Using dry stock assures that the joints will stay tight and stable.

One key to this method is that we carefully pre-sand all the finish stock so that we have little or no touch-up sanding to do after the units are assembled. Even before cutting the pieces to length, we sand all the stock up through 150-grit paper to get rid of all milling marks. If you're buying your finished stock from a millwork shop, have them wide-belt-sand everything up to 120 grit, then finish up on site with hand sanders and 150 grit.

Assembly. Once the pieces are sanded, we cut everything to final length based on the diagrams I made at the site. I use a Makita 12-inch compound sliding miterbox fitted with a high-quality blade. (My favorite blades are made by Forrest; I use the Woodworkers #1 for crosscuts and the #2 for ripping.) Using premium blades results in tight joints and crisp edges with little tear-out and few saw marks to clean up.

I start by assembling the cap moldings, which have a return miter (Figure 3). I glue the returns on with Elmer's ProBond, and clamp them with Ulmia spring clamps while the glue dries. These are handy clamps that are set on the joint with a special tool that resembles a snap ring plier.

While the glue sets up on the cap moldings, I glue up the head casings, which have a 1/2-inch bead across the bottom. Finally, I glue the caps onto the head casings.

Any time I'm waiting for glue to set up, I move on to the extension jamb "boxes" (Figure 4). For windows, this consists of the head and side jambs, plus the sill or bottom jamb; for interior doors, it's typically head and side jambs with a spacer piece tacked across the bottom.

To assemble the extension jambs, I predrill and screw the pieces together using a special square-drive screw from Equality Screw Co. (800/854-2886). These fasteners cause fewer assembly problems than standard drywall screws (which tend to strip, split the wood, and not draw down) and are well worth the extra cost. If the unit requires a sill, I cut it so there is a 1-inch reveal in front, a 1/2-inch reveal at the side casings, and a 1/8-inch reveal where the jamb extension meets the window unit. (With some window brands — Andersen casements, for instance — I make a flush fit at the window unit, then apply a factory stop that covers the joint.)

By the time all the jamb extension boxes are assembled, the head casings are dry and ready to be joined to the side casings to make the "frame." I use a Porter-Cable biscuit joiner and #20 biscuits and glue for these joints. I mark and cut the biscuit locations from the back of each piece to ensure perfect alignment where the frame will meet the jambs (Figure 5, next page). For glue-up, I clamp the unit to a backer piece to ensure that everything stays perfectly flat. Wax paper between the casings and the backer pieces prevents the glue from sticking. If the frames are not kept flat and the joints tight at this stage, they won't fit properly on the extension jambs.

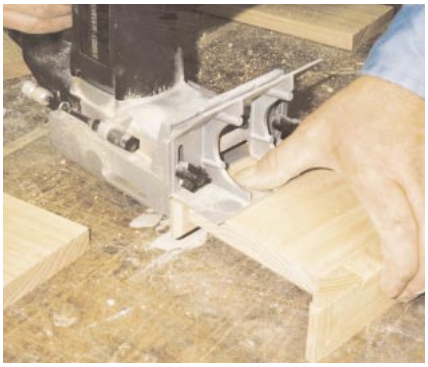

Figure 5. Once the head trim is assembled, the author biscuit-joins the side casings to the head piece. He clamps the pieces to a backer piece to make sure the back is perfectly flat.

Once the frame is ready, I attach it to the extension jambs using glue and a Paslode Impulse cordless trim gun (Figure 6). I find that the Impulse does a better job at setting finish nails in hardwood than a pneumatic nailer.

Prefinishing Helps

We use a variety of finishes from Sherwin-Williams, depending on the job. When staining, we usually use Minwax products. We often custom-tint the stain to match existing work using concentrated tints from Color Corp. of America (815/987-3777).

Since we have a spray booth in our shop, we always prefinish the units before taking them to the site for installation. But even if you're working in a site shop with a brush-on product, you should consider prefinishing, because it can give you better control both of the finish itself and of the final installation. For example, when a job calls for wallpaper, we typically wait until the paper is up before slipping the prefinished unit into place. That way, the wallpaper dies behind the trim for a perfect look. It would be hard to achieve that without prefinishing.

The final step after finishing is to fill any exposed nail holes. For this we use Crawford's Putty, which we tint with the concentrated tints to match the wood perfectly. It's not unusual for us to mix several colors of putty for each piece. Crawford's goes on easily and does not shrink; it's available through Sherwin-Williams.

Figure 6. A Paslode Impulse finish nailer is the gun of choice for attaching the casing frames to the extension jamb boxes. The author finds that this airless nailer sets the nails better than pneumatic nailers. He also uses it on site for final installation of the units, avoiding the hassles of compressor and hoses.

Installation

Because we take such care in measuring and making the units, installation is usually a matter of slipping the finished unit into its respective hole and attaching it through the casing into the wall using the Impulse. If a unit needs to be shimmed off the rough opening, we typically do that before final installation. On rare occasions we'll have to make some last minute corrections to the wall or the unit. Door frames are made up with the trim applied to one side, and the second side applied in the field. We try to hold off installation of baseboard until the door units are installed, but if necessary we can mock up the jamb and install the baseboard first.

Doing It On Site

Although you may not have a shop to work in, this technique will also adapt well to a job-site shop. Setting up an out-of-the-way production cutting and assembly station will save lots of time compared with moving your tools and materials from room to room. You'll avoid the job-site traffic, and the results will be better.

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