by David Frane

Interior Trim Tips

Use production techniques to keep fancy finish work within a reasonable budget

Fine interior finish work is one thing that separates high-end work from average work. As a carpentry foreman for a custom home-building company, I spend most of my time supervising finish carpenters. We work on expensive custom homes, so we've done every sort of carpentry detail imaginable. If it has a dome, a vault, an eyebrow, or a bow, we've done it. But no matter how complicated or expensive the house, we still spend most of our time hanging doors and installing trim.

Because most finish work is so standard, we try to approach it systematically. There are enough uncertainties in this business without inventing new ways to do everyday carpentry tasks. Our system isn't a strict set of rules, however; it's just the way we do things nine times out of ten. How we do a particular job depends on the design, the quality required, the schedule, the layout of the worksite, and the skills of the individual carpenters. Careful planning lets us control costs and devote more time and money to the unusual parts of the job.

A carpenter installs an interior door precased with custom moldings.

Preparing the Walls

On most jobs, interior trim work officially begins when the plasterer or taper leaves. If that's the first time you stop to think about the trim, though, you've missed the boat. You'll make your life easier by ensuring that the house is framed with an eye toward the trim. Carefully inspect the frame before the drywall goes up, marking the locations of studs, pipes, and ducts on the subfloor. These marks will help you to keep finish nails where they belong. You should also make sure that the frame is straight where it should be straight, and that there's nailing where you will need it.

Adding nailers. Make sure there's blocking behind the ends of all running trim. This includes at inside corners and door openings. If door or window casings are significantly wider than 3 1/2 inches, it's also a good idea to double the king studs. Without the extra stud there won't be enough nailing, and the outer edge of the casing will be left flapping in the breeze. A good painter will caulk the inevitable gap (a bad one won't even notice it), but this caulked joint will eventually tear, leaving a jagged mess. The same goes for large crown moldings and built-up cornices. Where the crown molding runs parallel to the ceiling frame, odds are that there won't be good nailing for the top edge unless you install it before the drywall goes up.

Making flat surfaces. There's no substitute for surfaces that are flat, square, level, and plumb. Rolling walls and ceilings lead to rolling trim or reliance on "tube scribing" — otherwise known as caulking. (A skilled carpenter can taper door jambs, plane the backs off casings and baseboards, or scribe crowns to uneven ceilings, but the finished job usually doesn't look right.) There's a limit to how flat you can make walls and ceilings that are framed with kiln-dried framing lumber, however. The stuff typically shows up on site at 18% moisture content, then twists and bows as it dries. You can minimize the damage by paying special attention to areas where variations in the wall plane will be especially visible. For instance, long uninterrupted runs of flat chair rail or baseboard follow the wall surface more closely than high-profile moldings, so they're more likely to emphasize wall imperfections.

Plaster tricks. On walls that will be finished with a skim coat of plaster, you'll get a neater trim job by borrowing a technique from the days of wood lath and three-coat plaster: the plaster ground (Figure 1). Plaster grounds are wood strips that are installed where they will be covered by interior trim and that serve as trowel guides during plastering. When properly shimmed to create a uniform plane, plaster grounds keep wall surfaces uniform where they need to be. Doors go in quicker, and casings lay flat against the plaster without the need to chop plaster, taper jambs, or plane the backs of casings.

It takes time to install grounds, so use them only where you have to meet exacting tolerances or where the grounds will pay for themselves by speeding up the finish work. Grounds don't make the plasterer's job any harder, but they make extra work for the drywall hanger, who will have to cut the blueboard to fit around them.

We often install plaster grounds just below the tops of baseboards and along both edges of crown moldings. Exterior window and door jambs can be used as grounds, too, since they go in before the drywall. For interior doors that get installed after the plaster, we sometimes nail 1/4-inch-thick lauan strips around the edges of rough openings, letting them project the same distance past the face of the blueboard as the door jamb will.

Selecting Stock

Most of our projects are big enough to justify custom milling of almost all trim, even when the architects specify stock profiles. Custom milling has a number of advantages. One advantage is that if the trim will be painted we can have it milled in poplar. Poplar is cheaper than pine and produces crisper profiles. And though I miss the smell of pine trim on our jobs, I don't miss the way it dents and loses edges.

Another advantage with custom millwork is that cornices and casings that are usually built up from two or more stock moldings can be milled as one piece. It's almost always easier to install one large molding than two smaller ones. It also makes for a better job. For example, most two-piece baseboards consist of a piece of 3/4-inch-thick flat stock capped with a small molding. The lower part of the base spans small hollows in the wall, while the cap bends right into them. This can look pretty bad; the reveal between the top edge of the base and the molding profile should be uniform.

Of course, one-piece trim isn't always a blessing. At inside corners, single-piece baseboards have the shortcoming of requiring you to cope the entire width, rather than just the molding. A compromise solution is to mill everything so that the cap fits into a groove on top of the base (Figure 2, next page). This not only keeps the cap running parallel to the base; it also ensures that if the base shrinks a bit, a crack won't open up between it and the cap.

Planning the Sequence

It's always best to group like tasks. An inefficient carpenter will hang and case a door, then case a window, then install a few pieces of baseboard, then do another door, and so on. An efficient carpenter will hang all of the doors, then case all of the doors and windows, then run the base. You should also do all trim layout at the same time. It's aggravating to discover that Carpenter A took the thickness of the finish floor into account when setting baseboard in the living room, while Carpenter B worked off the rough floor in the adjacent hallway.

Installing Doors

Interior finish work usually starts with hanging and casing doors. Prehung, precased doors are fairly common these days, and when using stock doors with standard jambs they're probably the way to go. Precased doors simplify installation, since you can travel light when installing them. If you're not scribing the jambs to the floor, you could theoretically do the whole job with a level, a tape, a hammer, and a nail-set.

We tend to have a mix of stock and custom doors and a variety of jamb widths, so we prehang and precase our own doors. This gives us more control over the quality and scheduling of the work. Last-minute changes to details like door swings are less disruptive with our own carpenters doing the work. When the carpenters that prehang the doors are the same ones that install them, it's less likely that defective doors, jambs, or hardware will slip by unnoticed. Doing the prehanging ourselves also gives us a wider choice of casing profiles to choose from.

It's faster to case doors on a waist-high work bench than to case them on the wall. It's important that the work area is well lit and has plenty of electrical outlets. You can waste lots of time hunting for blown breakers or tripping over the tangle of cords that miraculously appears when there are too few outlets. And what passes for fine craftsmanship in a dim work area often looks like a hack job when the lights are turned on.

Bevel. Doors should have a 3-degree clearance bevel on the latch side. If the blanks aren't prebeveled, you'll have to get out the power plane and bevel them yourself. Determine which side to bevel by siting down the edge. If it's bowed, be sure to set the concave face toward the door stops.

Assembly. After the side jambs have been dadoed and cut to length, but before they've been assembled, cut the hinge mortises (Figure 3). When hanging more than a few doors at a time, it's best to use a router and a hinge mortising jig. We use a Bosch three-hinge jig that will accept an add-on to mortise a fourth hinge on oversized doors. Mortise the jambs and doors, drill holes for the hinge screws, then install the hinges on the jambs and doors.

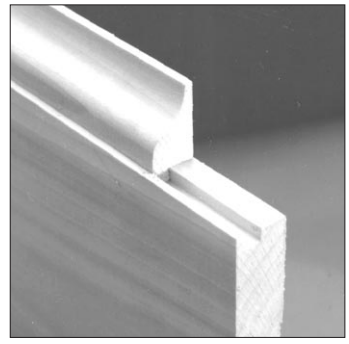

Figure 2. *With two-piece baseboard,* *the author uses a custom-milled base cap that interlocks with the baseboard. This leaves a consistent reveal at the front edge of the cap and prevents cracks from appearing at the joint if the base shrinks.*

The next step is to assemble the jamb unit and put the door inside it. Insert a couple of 3/32-inch spacers between the strike edge of the door and the side jamb, placing one high and one low. Then hold the unit together by nailing through the side jambs and spacers into the door with finish nails. Don't drive these nails home; you'll need to remove them before hanging the door. (I've seen more than one carpenter scratching his head wondering why the prehung unit he just installed wouldn't open.) A scrap wood spacer between the bottom edges of the jambs is a good idea if you have to transport the doors.

Door casings. Next, precase the latch side of the jamb unit. Cut the miters with a chop saw, compound miter saw, or a radial arm saw. It doesn't matter what you use, as long as the saw is large enough, is well calibrated, and has a sharp blade. This is also a good time to precut the casings for the other side of the door, as well as for the windows.

Whenever possible, we secure our miters with biscuits. (This is nothing new, by the way — I once took casings out of a 1920s house that had football-shaped splines in the miter joints.) Most carpenters use a portable

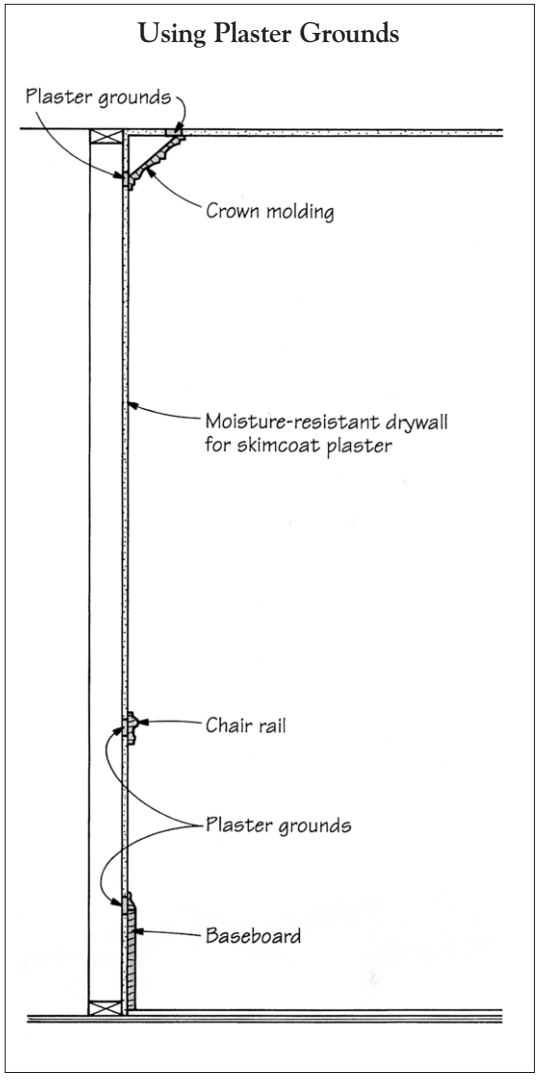

Figure 1. *Flat walls.* *On walls that will receive a plaster skim coat, the author uses plaster grounds — wood strips that serve as trowel guides during plastering and that are later hidden by trim. This ensures a flat wall surface behind running trim.*

Figure 3. *Prehanging doors.* *Even on high-end custom jobs, the author keeps costs in line by production-line preparation in the shop. Here, workers mortise a run of doors for a new house with a router and mortising jig.*

plate joiner for cutting the slots, but when doing production work it's often faster to use a router table with a properly sized slotting bit (Figure 4, next page).

To assemble the casings, we glue the miters, insert the biscuits, and screw the joint shut with long drywall screws, screwing from above so that the plug won't show.

Installing the door. There are lots of ways to hang doors and I've tried most of them. My preference is to install the jamb with the door hanging in it. (You know it's right if the head jamb is level, the hinge jamb is plumb, the margins are an even 3/32 inch, and the face of the door is flush with the jambs.) To install the door, nail through the casing just like you would with a precased window. You still have to shim and nail the jamb, but the door will stay put while you're doing it.

Align the unit in the opening, then fasten the side jambs. Nail at the top and bottom, as well as at hinges and strikes, using 12d or 16d finish nails. I've seen jambs nailed with finish guns, but I don't trust the narrow-gauge gun nails to hold things where they belong. Remember to solidly back the jambs with shims wherever you nail. (One disadvantage to using precased doors is that you can't slide the shims all the way through like you can with uncased doors). I always try to use dry shims, since they won't shrink and cause the doors to sag. A few days before installing the door units, I break open the bundle of shim shingles and spread them out somewhere warm to dry. It's easier to work with shims that are all the same width, so I also rip the shingles to around 1 1/2 inches.

As an added precaution against sagging doors, I screw the jamb to the jack stud at the top hinge. One way to do this is to put a long drywall screw through the jamb behind the hinge. A slick alternative is to replace one of the short screws in the top hinge with a 2 1/2-inch version, which will penetrate the jack stud by at least 1 inch. If you always replace the same screw, it's easy to come back later and tweak sagging doors by lifting the door and tightening the long screw.

Figure 4. ***Precasing doors*** *in the shop makes installation go quickly at the site. A table-mounted router with a slot cutter for biscuits (1) and a pneumatic finish nailer (2) speed the work. Two biscuits at each miter (3) produce tight-fitting, stable joints (4).*

Running Trim

After the doors have been hung and cased, it's time to do the running trim. This includes baseboard, chair rail, and crown molding.

Layout. The first step is to snap level lines on the wall to represent the top edges of baseboards and chair rails, and the bottom edges of crown moldings. Some carpenters just let the baseboard follow the floor, but long pieces of baseboard aren't always straight and floors aren't always flat or level. Baseboard that's parallel to an out-of-level floor is more noticeable than baseboard that is level but not parallel to the floor.

In small rooms you can make these lines with a water level or an accurate 6-foot level. In large rooms, it's easier to use a transit or builders level.

You should also spend some time planning the installation sequence. For instance, if the baseboard or crown molding in a room has scarf joints but the last piece has to be coped on both ends, you're doing something wrong. Why try to fit a piece with two coped ends when you can finish with one that has been coped on one end and scarfed on the other?

Installation. It should go without saying that joints should fit tight and lay flush. Stock that is dented, bowed, or otherwise defective belongs in the dumpster, not on the building. The nails holding trim to the wall should penetrate a good inch into the framing and there should be enough of them to hold the trim in place: one nail per stud for crown molding, two nails per stud for baseboard. The inside corners of molded trim should be coped and the running joints scarfed. To keep scarf joints from telegraphing through the paint, we glue them with yellow glue. Nail in a regular pattern and in such a way that you don't destroy the details of the trim.

The Payoff

The main point in all this is that careful planning is the most important part of any job. Finish carpenters shouldn't have to worry about what was done on the job before they got there. When finish work begins, the right materials should be on site, the blocking should be in place, and the walls, ceilings, and floors should be flat, plumb, and level.

Of course, even the most thorough planning can't absolutely guarantee top-quality work done within budget. But inadequate planning almost always leads to some combination of poor-quality work and cost over-runs. Remember, a bad carpenter will always do bad work, but a good carpenter is only able to do good work to the extent that the people running a project make it possible. ■

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