Casing a Door

Work carefully, and save the wood filler for the nail holes

by Bob Syvanen

Nowhere in house building is the workmanship more obvious than in interior trim, and doors are among its most visible locations. It takes skill, patience and the proper tools to do good work. Perhaps more important, the use of some special techniques will lead to results that the craftsman can be proud of.

The wood most commonly used for trim is pine, though almost any wood will do—solid wood, that is. Various alternatives to solid wood are now available. Such materials as plastic and hardboard are more stable than solid wood and less likely to split. But while they may look like wood, they don't feel like wood, smell like wood or work like wood. There is really no substitute for the real thing. If you're going to work with the best, use #1 clear material.

Casing stock often comes in random lengths from 7 ft. to 20 ft. Usually, however, you'll find it in the standard lengths of 10 ft., 12 ft., 14 ft. and 16 ft. You can sometimes purchase complete trim packages for standard-sized windows and doors. A door package will include two head casings (the horizontal pieces above the door) and four jamb casings or side casings (the vertical pieces at the sides of the door).

Door casings come in various widths and profiles, but all are partially relieved, or plowed, on the back surface. (For a useful booklet on wood molding and casing patterns, contact the Western Wood Moulding and Millwork Producers Association, Box 25278, Portland, Ore. 97225.) The relieved section is about 1/16 in. deep, and leaves a shoulder about 3/8 in. wide on each side of this trough. When the trim is installed around the opening, one shoulder rests on the door frame and the other rests on the wall. The relieved section bridges any high spots that might be between them, and allows the casing to make good contact with each.

A quick way to relieve shop-made casings is to run the stock on edge through a table saw, with the blade set at a slight angle. If you turn the stock end for end and repeat the cut, a triangular section from the back side will be removed, leaving two flat shoulders like those on mill-cut casings. The drawing at right shows three styles of casing you can make in the shop.

If the head casing is to be square cut and laid on top of the side casings, it can't be relieved along its entire length because the relieved area will show up at the ends of the head casing. On such pieces, relieve the trim using a dado blade on your table saw. Start and stop the blade just short of the casing ends.

Tools—Any tool that makes a job easier will usually improve your work, since it will let you concentrate more on the result and less on working the tool. The best example of this I can think of is my miter box. Years ago, I used a homemade wood miter box. When I switched to a heavy-duty metal miter box with its own backsaw, I did better work faster. Now I use a power miter box. It speeds up the work and allows me even more time to concentrate on what I'm doing. (For more on power miter saws, see *FHB* #19, pp. 42-45.) Now I wouldn't think of trimming out a house without one. The quality of a tool also makes a big difference. Good work cannot be done with a dull saw, a dull plane or a power tool that makes sloppy cuts.

In addition to the power miter box, the tools I use for casing a door are these: an orbital sander, a 13-oz. hammer, a block plane, a 2-in. and a ½-in. chisel, a small and medium nail set, a combination square, a framing square, a utility knife and a tape measure.

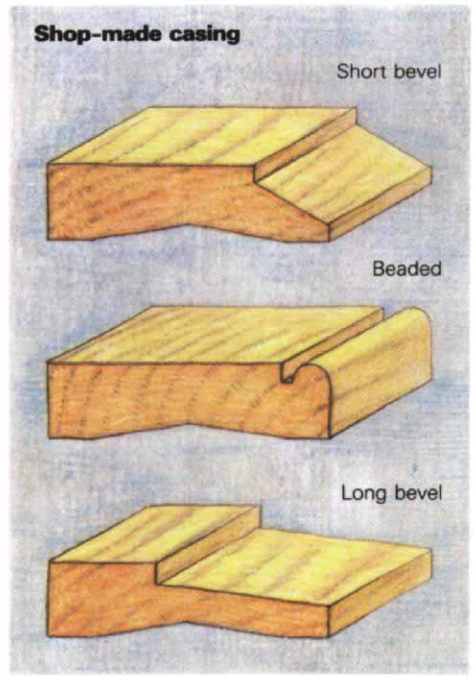
I also consider my portable work stool to be standard equipment for interior trim work. This stool, called a cricket, is simply a step made out of ¾-in. material, with a shelf below to hold tools, nails, glue and sandpaper. Mine is about 14 in. wide by 25 in. long by 19 in. high, but the measurements can vary depending upon your needs. What's important is that you can stand on it and reach the head casing, and that you have convenient access to your tools. There should be a hand hole in the top so that the whole "casing shop" can easily be picked up and carried to the next opening.

Consider the opening—It's easier to case a door if the rough framing of the opening is square and plumb, with plenty of support for the trim. The thickness of the walls should be consistent, but often it isn't. The jambs may be poorly aligned or of different widths, and the wall finish may be sloppy—a real pain when you're trying to get casing to fit neatly to both jamb and wall. And all too often, sheetrockers will stop their sheets at either side of the rough opening and fill in the space above with a small piece. This usually causes problems. Most important for the finish carpenter is the thick build-up of joint compound at the corners of the door opening. Sometimes the excess material can be sanded down or scraped away, but it's usually difficult to case over.

A successful casing job also depends on how well the door jamb was installed. For casings to fit properly, jambs should be 1/8 in. wider than the finished wall thickness. This leaves the jamb 1/16 in. proud of the drywall on each side of the door, and allows you to bevel the edge of the jamb nearest the drywall (before the jamb is installed) so that the casing will fit snugly.

Casing the opening—The first step in casing the opening is marking the jambs for the setback, or reveal. The reveal is measured from the inside face of the door jamb (drawing, next page), and allows for a slight margin of error when installing the casing. I make the reveal about 1/8 in. to ¼ in., depending on casing size and type, but it's mainly an aesthetic decision.

A combination square, set for the depth of the reveal and used as a gauge, can be used to mark the reveal. It works quite well, but I prefer to make up a wood gauge block. A gauge block won't lose its adjustment, as a combination square sometimes does. I make my block from a 2-in. by 4-in. piece of ¾-in. thick scrap stock, with a rabbet cut in it on four sides to the depth of the reveal. To mark the reveal, I lap an edge of the block over the door frame, and run it along the frame to guide my pencil. The resulting line is quite accurate. The gauge block also makes it easy to mark the reveal at the corners



Drawings: Christopher Clapp

of the door jamb where a combination square can't quite reach. When two people are installing casings, it's a good idea to cut identical gauge blocks for each so that all reveals will be the same.

There are three basic styles of door casings: square-cut, mitered and corner block.

Square-cut casings. Simple square-cut casings (drawing A, facing page) are fairly easy to cut and install. Once the reveal has been marked, the casings can be cut to rough length and the pieces distributed to appropriate openings. I like to do this in order to be sure I have them all. It's upsetting to interrupt the flow of work in order to cut, shape or order one extra side casing. Working one opening at a time, I begin fitting the casings by making a square cut at the bottom of each side casing, checking each one for a precise fit at the floor after aligning it with the reveal line. When the casings must be installed before the finish floor is laid, I fit them to a scrap wood block as thick as the finish floor will be.

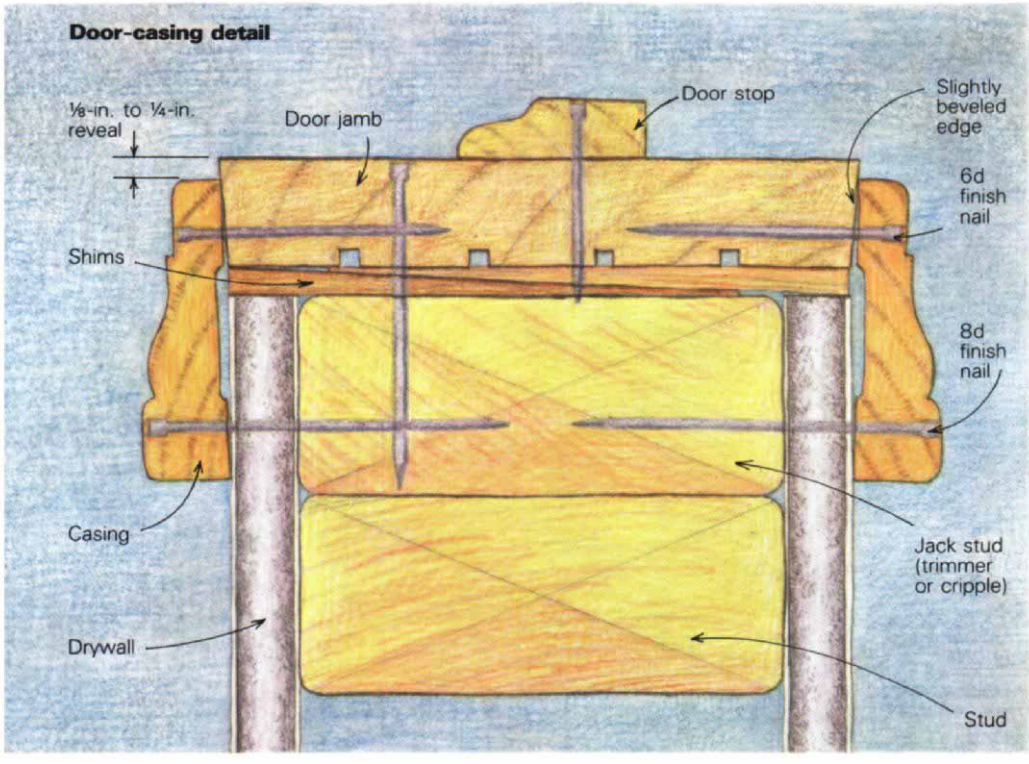
With one of the side casings held in place, I align it with the reveal line on the jamb, and mark it where it intersects the head reveal line. I use a sharp knife to make a precise mark on the inside edge of the casing, not on the face. A square trial cut can then be made about ⅛ in. above this mark, followed by a trial fit with the head casing. What's important here is to determine the correct angle. If the cut isn't quite right, an adjustment can be made when the piece is recut. The second cut is made a tad below the first one, but still shy of the true cut mark. When the angle of the trial cut is perfect, it can be duplicated at the true cut mark. The casing can then be aligned with the reveal line and tacked in place. Drive one 6d finish nail partway into the stud and one 8d finish nail partway into the jamb so that the casing can be removed for more trimming if necessary. Repeat the procedure for the remaining side casings.

The head casing is completed simply by squaring one end, holding it in place on top of the side casings, marking it to length with the knife, and cutting. Some people like to cut the head casing slightly long, so that it overhangs the jambs by ¼ in. or so.

After double-checking the alignment of the side casings, I nail them in place at the door jamb with 6d finish nails (4d for thin trim and some molded trim). Hardwood should be predrilled before you nail it. The casing edge that is against the wall should be nailed with 8d finish nails into the trimmer studs. I also like to toenail a 4d finish nail through the end of the head casing and into the top of the side casing. This helps to keep the joint surface aligned. The trim should fit tightly against the door jamb and the wall, so use as many nails as it takes to do the job. A good way to test the trim for tightness is to rap the casings with your knuckles. If they make a rattling "clack-clack" sound, put another nail in and rap again. When you hear a solid-sounding thump, the casing is tight. All nails should be set.

As an additional precaution against joint separation, I usually run a bead of white or yellow glue along wood-to-wood contact points just before nailing. These are very visible joints, and when glued and nailed, they'll hold together even if the wood shrinks. Wipe all traces of glue off the surface, using a damp cloth. This is very important if the casing is to be stained.

Variations of square-cut casing. One variation uses head casing that is thicker than the jamb casings. It looks best when these head casings extend past the jamb casings by the difference in their thickness (drawing B). For example, if the jamb casings are ¾ in. thick and the head casing is 1 in. thick, the head casing would extend past the jambs by about ¼ in. on each side. A second variation starts with a standard square-cut casing, and then adds mitered backband molding around the outside edge (drawing C). A third variation is used when the inside edge of a flat casing is beaded. This technique requires that you miter the beaded edge, square cut the ends of the head casing and cover the outside edge of the whole casing with a mitered backband molding (drawing D).



Mitered casings. The second, and most common, way to trim out a door is to miter the corners of the casing (drawing E). With mitered casings, a trial 45° cut is made instead of a square cut at the top of the side casings, but otherwise the trial cutting and fitting are the same as with square-cut casing. If the door jamb isn't square (use a framing square to check the corners where the head jamb meets the side jamb) and can't be adjusted, trial cuts on scrap stock will help you find the proper angle for the head casing. The side casing and head casing must have the same angle cuts in order for the outside corners to meet and for the molding profiles to match. This step is very important if the casing will be stained, since the joint is so visible.

When the outside corner of a trial miter joint is open, the angle of the next trial cut will have to be adjusted to take more stock off the heel, or inside corner, of the miter. Remember that head and side casings must be cut using the same angle. The adjusted cut on the head casing, therefore, should reduce the gap by one half, with the remaining half cut from the jamb casing. These adjustments are usually so small that changing the saw angle with any precision is difficult.

To make fine adjustment cuts using a miter box, I put a wedge between the miter-box fence and the stock—pieces of cardboard, wood chips or even plane shavings will work. By moving the wedge away from or closer to the saw blade, slight variations in the angle of the cut can be made. Another way to make fine adjustments is to use a block plane. Make sure the iron is sharp and set for a fine cut.

Mitered casings are installed in much the same way as square-cut casings. The only additional nailing that's required is at the outer portions of the mitered corners of the head and side casing, where 4d finish nails or brads should be sunk from each direction.

Corner-block casings. The third method of trimming out a door is to fit the ends of head and jamb casings to corner blocks (drawing F). The corner block should be a little thicker than the side casing, and can be combined with a similarly shaped plinth block. The plinth block's purpose, aside from making the visual transition between the casing and the baseboard, is to provide a wide, flat surface for the baseboard to die into.

The plinth block is installed first, and should be plumb. It can be installed with a reveal that matches the casing reveal—⅛ in. to ¼ in. is fine. Installing the casing from this point is the same as described earlier, except that the side casings are fitted and butted to the plinth block.

Mating the surfaces—These techniques all work well when the walls are flat and evenly dimensioned around the door opening. But since a house isn't usually built to the tolerances of furniture, wall surfaces won't be perfectly smooth, and the openings won't be textbook square and plumb. Fortunately, there are ways to compensate for irregularities.

With square-cut casings, a little tipping away from the plane of the wall can be tolerated, but not much. When the top of a head casing tips toward the wall, the entire length of the joint in front will be open. To correct this, put a wedge-shaped shim behind the head casing to bring it into proper alignment. A spot of glue will hold the wedge in place.

You can also shim mitered casings, but when the tipping is minor, the back side of the 45° angle can be shaved with the block plane to bring the trim into alignment. This sort of adjusting cut can also be made in a miter box by placing a shim between the casing and the bed of the miter box, near the blade. The resulting back cut will allow the front joint of the miter to close up. If the front edge of the miter must be trimmed down, a wedge placed under the casing at a point farther from the blade will do the trick. All these cuts are made long for a trial fit before cutting to exact length.

When the thickness of the wall is greater than the width of the jamb, the casing will tip in toward the opening, resulting in a visible gap between the casing and the wall. The surfaces of the casing will be out of alignment as well. The gap can be eliminated by planing the shoulder of the casing to fit the wall surface. The alignment problem can be a bit more difficult to deal with, but not impossible. Unfinished casings with flat surfaces can be surface planed with a sharp block plane and sanded with an orbital sander or a sanding block. If the trim is to be stained, however, great care must be taken to avoid sanding across the grain, as the marks will show in the finish. Molded casings can be trimmed to align at corners using sharp chisels.

Wherever shims are used or a casing is planed, it's important to adjust the other trim pieces that will be affected. For example, if a side casing is thinned at the top, the head casing must be thinned to match. If the side casing is thinned at the bottom, then the adjoining baseboard must be thinned, as well.

Filling nail holes—I find that painted casings require more effort to prepare for than stained casings. Paint accentuates any imperfections, and slight dimples left by partially filled nail holes show like beacons through the paint. So the filling must be done carefully. For tools, you'll need a putty knife, good eyes and a sensitive hand.

The best filler I've found was recommended to me by a painter. ONETIME Spackling (Red Devil, Inc., 2400 Vauxhall Rd., Union, N. J. 07083) is an acrylic spackle, and its smooth, putty-like consistency makes for easy application. It dries quickly and sands easily, so you can paint over it almost right away. Using the putty knife or a dab on your finger, fill the holes as completely as you can (if you've done the casing correctly, you won't have any joints to fill). After the spackle dries (a couple of minutes), use fine sandpaper to smooth away the excess. Check the result by rubbing the filled areas with your hand—you'll feel imperfections you can't see. Spackle again where necessary, sand and check. If the first coat of paint reveals a nail dimple, reach for the spackle again.

When the job calls for the casing to be stained, filling nail holes goes a bit differently. I find it's easier to stain the casing before I install it since it's easier to do the job at my workbench. After the casing is installed and the nails are set, I brush on a coat of polyurethane. This protects the wood, and will keep the putty I use from staining the wood around the nail hole. Once the polyurethane has dried, I fill the nail holes with Color Putty (Color Putty Co., 1008 30th St., Monroe, Wis. 53566). It comes in many colors to match various stains, and you can also mix colors to match unusual stains. I rub it into the hole with a putty knife or the back of my thumbnail, and remove the excess with a rag or my finger. After the putty has dried, I apply at least one more coat of polyurethane to the casing.

Refinements—Before finishing, all corners and edges of the casing should be eased. Sharp edges don't hold paint well, and they dent easily and are uncomfortable to touch. I like to block-plane these edges before installing the casing, using one continuous stroke for each cut. A continuous stroke leaves a smooth surface that keeps the same bevel along its length. If you have to plane an installed casing, you'll need a bullnose plane, a chisel or sandpaper to get at the inside corners.

Occasionally a piece of casing won't look as good as you think it should, so you have to remove it. If the piece has to be used again, the nails should be pulled through from the backside of the wood. This is particularly important when working with prestained trim. If you drive the nail out head first, it will tear the surface of the wood as it exits. To pull nails out from the backside, use either a hammer with sharp edges on the claw or pincer-type pliers. The hole can easily be filled later.

When I'm through casing a door, I load my tools on the cricket shelf and move the whole thing to the next opening. I never leave an opening until it's completely finished and ready for the painter—it's too easy to forget something otherwise. □

Bob Syvanen, of Brewster, Mass., is a consulting editor of Fine Homebuilding *magazine.*