

Casing a Double-Hung Window

A job you can do quickly and well

by Bob Syvanen

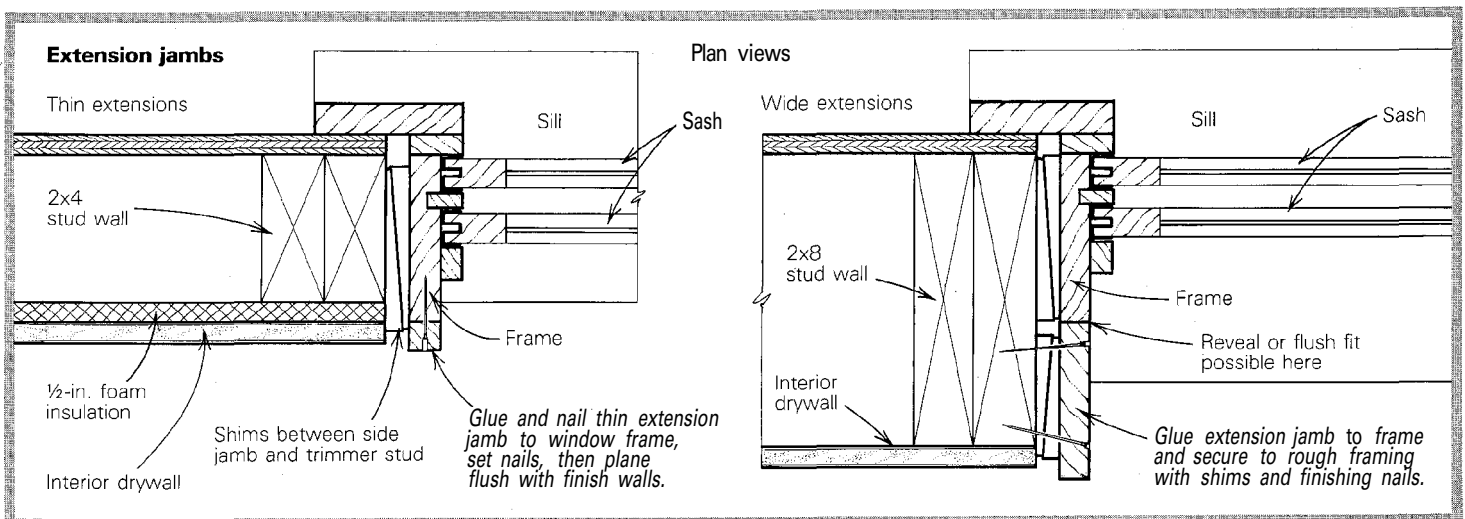
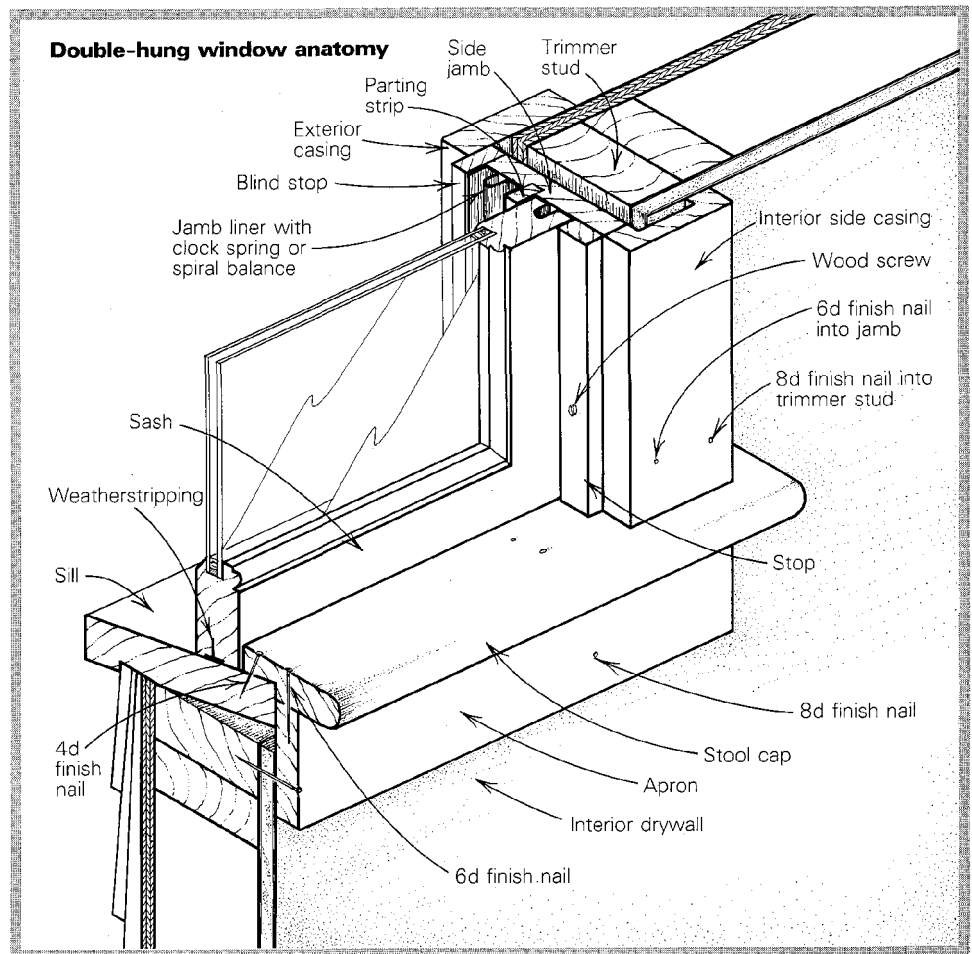
Despite the growing use of casement windows in new construction, the double-hung wood window is still the traditional choice in Colonial-style houses. In the old days, double-hung windows became popular because they didn't require hinges or other hardware and because small panes of glass (often all that was available) could be used to make windows of different sizes.

Almost any salvage yard will have on hand a varied selection of old double-hung units for a fairly cheap price. The best new double-hung windows have insulated glass and a friction-type slide mechanism that doubles as a weather seal. Some are clad with vinyl. Whatever the brand or age, the anatomy is basically the same (drawing, right), and they're not difficult to case.

If the window has been installed right, its frame will be plumb and square. This makes casing a lot easier. Unlike doors, windows have frames that aren't usually flush with the surface of the wall. Most frames are a little proud, so you have to plane the top and side jambs flush with the wall before installing the trim.

Side and head jambs in a standard double-hung window are usually a full 4½ in. wide. They're designed for the thickness of a standard 2x4 wall: 3½-in. wide studs plus ½-in. drywall and ½ in. for exterior sheathing.

Window frames in thick walls will require extension jambs (drawing, below), which you can either order from the manufacturer or make yourself. These side and top pieces can be made from wood strips as thin as ½ in., or with 1x



boards 6 in. or even 8 in. wide. The narrow-strip extension jambs can be glued and nailed directly to the edges of the existing window frames. If you use thin extension jambs, be sure to set the nails so that they won't nick your plane blade when you're planing the jambs flush with the interior wall surface. Wider extension jambs should be shimmed plumb and square with the window and nailed to the rough-opening studs and headers. I still make these a little oversize, so that they project past the surface of the wall; then I plane them in place to fit.

Installation—Many newer-style double-hung windows (Andersen and Pella, for example) can be cased on all four sides with the same trim stock. The stool cap and apron are optional. On older double-hung windows and in any Colonial-style house, you need to trim out the base of the window with a stool cap and apron. Most lumberyards stock about five basic stool-cap styles (drawing, below left). Older windows usu-

ally have a stool cap that's beveled on its underside to fit on top of the window sill, which is sloped to a standard 12° pitch. New windows use a stool cap that has a tongue on the inside edge that fits into a groove in the sill.

As bought from the lumberyard, the stool cap is just a pine plank that's been milled with a tongue or bevel. You have to cut it to fit the width of the sill and scribe the ends to fit against the wall, beneath the side casings.

To calculate the finished length of the stool cap, I use the length of the head casing and add 1½ in. to it. A stool cap of this length has nice lands at the bottom corners of the window, where side casings meet the stool cap (drawings, below right). To start, I cut the stool cap to around 2 in. longer than its finished length.

I center the stool cap on the sash, mark the cutlines for its fit over the sill and scribe the ends to fit snugly against the wall. When doing this layout work, allow for a slight gap between the cap and the sash so that the window will

operate freely. If the wood is to be stained, a dime's thickness is good; use a nickel if the woodwork is to be painted.

Once the stool cap fits well against wall and sill, I cut the ends to their finished lengths. The ends have to be profiled to match the nosing at the front of the cap. I do this by removing most of the wood with a block plane. Final smoothing is done with sandpaper wrapped around a wood block. It's also possible to use a router if you have a bit that's close to the correct nosing profile. Also, I like to prime the underside of the stool cap where it sits on the window sill, since it's practically exterior trim, and I back-prime all exterior trim to curtail moisture absorption. Finally, I nail the stool cap in place with 4d finishing nails driven into the sill.

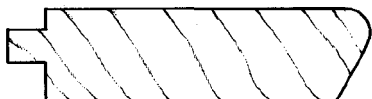
A variety of casing stock is available, so you're not limited to the square-edged 1x4s shown in the drawings. The side and head casings are fit in much the same way as you'd trim out a door (see *FHB* #30, pp. 55-57). Some windows are

Stool-cap profiles

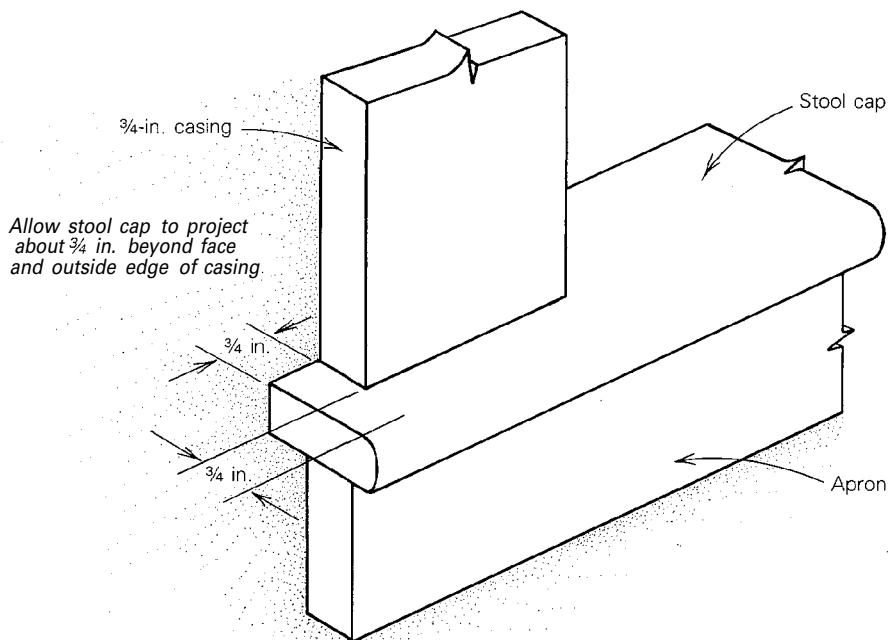
Stool caps for beveled sill



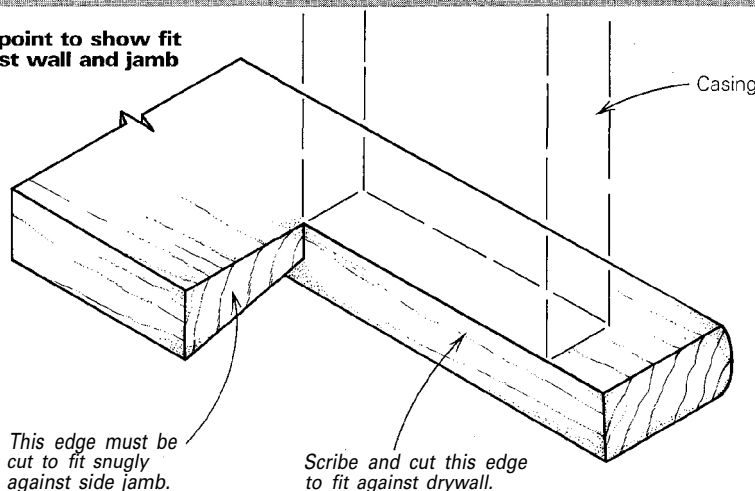
Stool cap for grooved sill



Cutting and fitting the stool cap



Viewpoint to show fit against wall and jamb



designed so there can be a slight reveal where the casings meet the jambs. Others (like the window shown in the drawings) have a flush fit.

The head casing can meet the side casings in a simple butt joint or in a miter, or all three trim pieces can butt into a pair of decorative corner blocks. As is the case with door trim, the ornateness of the trim depends on your taste, but you should always aim for tight-fitting joints. The pieces can be temporarily tacked in place to check for fit, then removed and trimmed with a chisel, block plane or chopsaw if necessary.

Once the joints are good, nail the casing in place with 8d finishing nails. If your trim pieces are less than $\frac{3}{4}$ in. thick, 6d or 4d nails will do. I nail the outer edge of the casing to the trimmer stud first, then nail the inner edge of the casing to the jamb. The trimmer connection is far stronger than the jamb connection, so I can straighten a slightly bowed casing, aligning it with the jamb without putting undue pressure on the jamb. I also drive a finishing nail up through the stool cap and into each side casing to snug the stool to the casings.

If you've installed a stool cap, the apron goes on next. It should be the same length as the head casing. If you're using molded trim, the apron will be cut from the same molding stock, and each end of the apron should be shaped by coping to match the profile of the molding. For a first-class job, especially if the trim is to be stained instead of painted, each end of the apron should have a mitered return instead of a cope (drawing, top right). The little return piece is very fragile and will split out if you try to nail it. So glue it instead, taking time to size the grain of both pieces with two applications of glue.

The apron has to be installed with the stool cap perpendicular to the window sash. A combination square placed against the window and the top of the stool is a good way to check this right angle (drawing, bottom right). If it's not right, a few raps with the hammer (use a scrap piece of wood to cushion the blows) should bring the stool cap up or down.

Before nailing the apron, I like to brace it from below with a short piece of scrap lumber that gets wedged between the apron's bottom edge and the floor. Then I nail down through the stool cap into the apron, and through the apron into the rough sill.

The last pieces of window trim to install are the stops, the small, molded pieces that run across the head and down each side of the jamb, defining the path of the innermost sash. On some double-hung windows, the stops are installed at the factory. If they're not, you should screw the side stops in place so that they can be taken off easily if you ever need to remove the sash. The top stop can be nailed with 4d or 6d finish nails. Again, if the window is to be painted, allow about $\frac{1}{16}$ in. of free play between the edge of the stop and the window. If stain will be the finish, use slightly less clearance. Where stops join at the top corners of the window, I prefer to miter the molded part and butt the flat part. This creates a better joint than a full-width miter. □

Consulting editor Bob Syvanen lives in Brewster, Mass.

