PRODUCTION

Jamb Extensions

by Gary Katz

Window extension jambs are a fact of life for trim carpenters. In new construction, sometimes the wall thickness hasn't been determined when the windows are ordered; in a remodel, the wall may gain thickness — from rigid foam insulation, for example, or the addition of furring and paneling. But often, we just plain forget to order wider window jambs, which is unfortunate because most window companies manufacture windows with either custom-sized jambs or factory-installed extensions at little or no additional cost.

A Marvin window, for instance, should rarely need extensions because the company builds jambs to almost any width. There is one price for a typical 2/6x4/0 casement window if the jamb is between $4^{11}/_{16}$ and $5^{9}/_{16}$ inches, and the same window costs only $21 more if the jamb is up to an inch wider. Similar nominal charges apply to manufacturers who ship windows with factory-installed extensions.

Andersen casement windows, on the other hand, always need extensions because the jambs are only $2^{7}/_{8}$ inches wide. The extensions, which are shipped loose, come in three sizes, but they're reasonably priced. For a 2/6x4/0 casement, for example, jamb extensions run from $18.50 to $41.50, depending on whether the finished wall is $4^{9}/_{16}$, $6^{1}/_{4}$, or $7^{1}/_{8}$ inches thick.

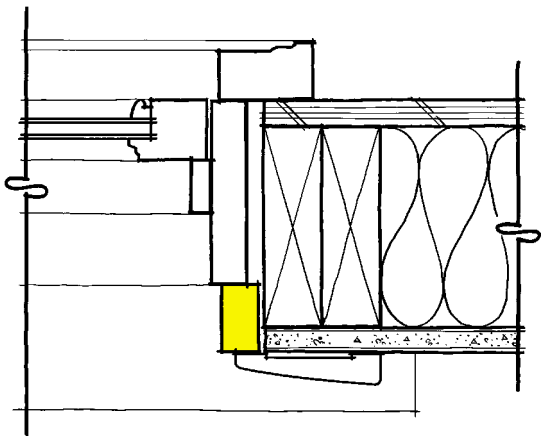
Three Types of Jamb Extensions

Depending on the design and width of the window jamb, the profile of the extensions takes one of three shapes (see Figure 1, next page). The simplest extension is a piece of square-cut stock that butts against a square jamb edge. Another type of extension has a tongue that mates neatly into

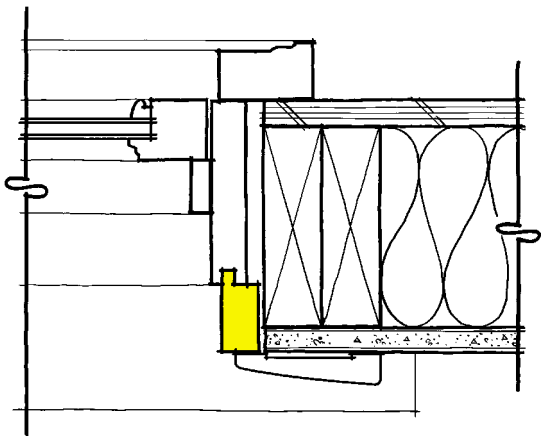
Take all dimensions at once and preassemble frames for fast & accurate window jambs

Common Jamb Extension Profiles

Square-Edge



Tongue & Groove



Back-Rabbet

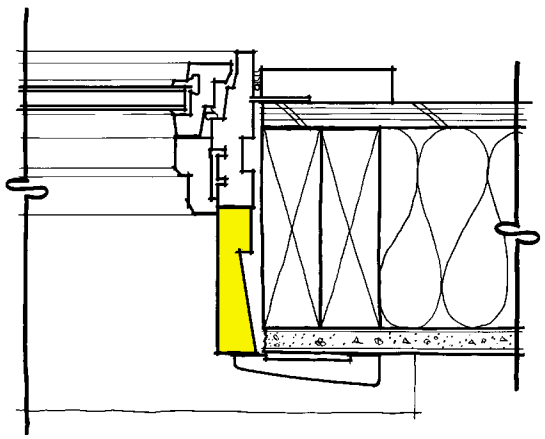


Figure 1. Jamb extension profiles differ, depending on the shape of the window jamb and the width of the wall. A square edge works well on a plain window jamb when the extension is narrow, while some extensions must be milled with a tongue to fit a corresponding groove in the jamb. For wide walls, a back-rabbet reduces the length of the screw needed to attach the extension.

a corresponding dado in the jamb, such as you'll find on Andersen jambs. A third type, called a back-rabbet, is standard for manufacturers like Eagle. A back-rabbet is especially useful for wide extensions where you want to avoid having to drill a deep countersink.

Site-built extensions. Either because of job-site complications or forgetfulness, I often mill my own extensions from S4S stock. For paint-grade windows, I use finger-jointed pine. While it's tempting to use MDF because it's readily available, mills easily, and paints beautifully, I think MDF is the wrong material for jamb extensions. Fastening through the face of MDF material works well, but nails or screws driven into the edge without predrilling cause flaking and splitting (Figure 2). Since jamb extensions are all about endgrain — extensions are fastened to the jamb through the edge, then the casing is fastened to the extension by nailing into the same edge — it's best to use real wood. If the job is being stained, pick material that matches the grain pattern of the window jambs.

Milling jamb extensions. I prefer to mill extensions in my small shop because it's easier and faster, though I often cut them on site, too. Either way, to increase productivity and save installation time, I measure all window and door extensions before I'm called to install the finish work so that all the material is on the job the first day of work. I purchase stock in widths and lengths that result in the least amount of waste, though I try to avoid ripping more than two extensions from one piece of stock. This reduces milling time and eliminates the need for a surface planer, because I can use the factory edge on the room side. A table saw equipped with a fine-tooth carbide blade makes a smooth enough cut for the inside edge, which is butted against the window jamb. If the extensions are thin, however, I often rip more than two out of a single piece of stock, then pass them through my portable surface planer. I also ease the exposed corner of all extensions with a table-mounted router or hand-held laminate trimmer

using a 3/16-inch roundover bit. If you don't own all those tools, buy the narrowest stock you can find and anticipate a little more waste.

Tongues and back-rabbets can be milled quickly with only a table saw. The tongue for an Andersen extension requires several passes, though I often eliminate the tongue for thin extensions, and apply them flat, directly on top of the dado. Back-rabbets can be made in two passes (Figure 3). The shoulder cut for a back-rabbet should be made about 1 inch from the window-side edge of the stock; the bevel cut begins at the corner and angles to meet the shoulder cut. If the extension can be applied before the window is installed, using a nailgun to fasten the extensions is faster than screws.

Picture Frame Extensions

Most of the jamb extensions I apply are less than 1 inch wide to make up for the thickness of shear paneling that was forgotten when the windows were ordered. For narrow extensions, I measure all the windows on the job, precut the pieces to length using a repetitive stop on my chopsaw, and pin-nail them to the jambs. To find the width of the extensions, I hold a block of wood or a square flat against the wall and measure from the window jamb, then I add 1/16 inch to make it easier to install the casing. I take several measurements on each window, especially at the head and sill, where drywall tends to thicken, then I average the measurements. If the difference is more than 3/16 inch, I make custom rips.

When extensions are wider than 1 inch, however, I preassemble them in my shop, where I can work faster on a large waist-high work surface with all the necessary tools in easy reach. I fasten the corners with screws (adding glue won't hurt, but it's slower), just like the head and legs of a jamb, so that the joints will never spread (Figure 4).

I approach picture-frame windows differently from windows with stool and apron. Because I preassemble the frames in my shop, I measure for picture-frame jamb extensions while I'm figuring the

Figure 2. MDF is not a good material to use for extension jambs. While it mills easily and takes paints well, it tends to split when screwed or nailed through the edge.

Figure 3. A back-rabbeted extension can be milled on site in two passes with a table saw. The bevel cut begins at the corner of the stock and meets the shoulder cut about 1 inch from the window-side edge. Back-rabbeted extensions can be fastened with a nail gun before the window is installed.

Figure 4. The author preassembles picture-framed extensions in his shop. All four corners are screwed to the keep the joints tight.

Figure 5. On windows trimmed with a stool and apron, the stool horns must be long enough to catch the casings (above). If the horns need to be scribed for a tight fit against the wall (above right), the author creates a slight back-cut using a panel saw (right).

material takeoff. It's faster than it sounds, because no matter how many windows a house has, most are the same size. Measure the inside dimension of the jamb and add twice the reveal — 3/8 inch for a 3/16-inch reveal, 1/2 inch for a 1/4-inch reveal. Sometimes, the extension frame has to slip over window stops that are proud of the jamb. In that case, measure outside to outside between stops and add 1/16 inch for clearance.

My extension jamb takeoff is usually a short list of window sizes with slash marks for each frame I'll need. Occasionally, a window size will be listed twice, with different extension widths.

Stool and Apron Extensions

Window stool is applied directly to the jamb and serves as the jamb extension as well as the sill, so it must be cut to fit before the extension legs and head can be installed. This work must be done on site, but production techniques can speed installation.

As with every piece of repetitive door and window trim, first measure and cut all the stool to width and length, then scatter the pieces to every window, along with precut extension legs and heads. Next scribe and cut each piece of stool, and test the fit. After all of the stool is cut, fasten the extension jambs to the stool, then attach the complete frame to the window. This method minimizes the number of times I change tools, and dramatically speeds an otherwise slow and expensive process.

The stool has to be long enough to catch the ends of the casings, but finding the dimension is easy arithmetic. First, double the width of the casing; then add twice the casing reveal on the jamb plus twice the casing reveal at the end of the stool. Now add that total to the inside dimension of the window jamb. For example, a 3 1/2-inch-wide casing with 1/4-inch reveals at both the jamb and stool requires a piece of stool that is 8 inches longer than the inside jamb measurement.

Scribing the stool to fit isn't too difficult, either. After cutting the stool to length, measure in at each end and make a mark at the width of the casing plus the jamb and stool reveals (4 inches for 3 1/2-inch casing with 1/4-inch reveals). Then hold the stool against the finished wall and align the marks with the inside edges of the window jamb (Figure 5). While still holding the stool in place, get ready to scribe the horns so they'll fit tightly against the walls and the window jamb. First, take a quick measurement to verify that the stool and jamb are parallel. If they're not, slip a small shim behind one end of the stool to correct the problem. Then spread your scribes the distance between the stool and the jamb, and scribe the horns from the finished wall. This scribing technique works well for bullnosed returns, too, and always results in a tight fit.

Cutting Your Own Shims

Although using screws eliminates the need for shims, on especially wide extension jambs, shims are still a good way to prevent the jambs from splaying and the joints from spreading. It's good practice to place a shim on both sides of each corner, and at the center of the opening on all sides. Also, while everything is open, it only takes a second to stick a couple of shims between the sill and the stool to support the weight of exploring children.

I don't like the spongy quality of packaged shims, so I make my own. Wide MDF shims are easy to cut on a chop saw, and they chisel off easily. But for most applications, I use a sled on my table saw to crosscut scraps of 2x6 into endgrain shims. The sled is an 8x12-inch scrap of 3/8- or 1/2-inch plywood with an angled notch cut into one end. The shoulder of the notch is 5/16 inch deep, and sets the thickness of the butt end of the shim. The angled cut is 5 3/8 inches long, just shy of the width of a 2x6. A large block of wood screwed to the back of the sled serves as a handle to keep my hand far away from the blade.

To cut shims, slide the saw fence over until the sled is just beside the blade. Then, hold a short length of 2x6 in the sled's notch and push both through the table saw blade. When the shim falls off onto the sled or behind the blade, slide the sled back for the next cut. I cut shims until the angle on the 2x6 gets too steep, then I turn the piece of 2x6 around and cut in the other direction.

The author prefers to make his own endgrain shims, which are strong but easy to snap off. He crosscuts 2x6 scraps using a sled made out of plywood with a tapered notch cut along one side. When the angle on the 2x6 gets too steep, he turns it around and cuts from the other end.

Figure 6. After fastening the back-rabbeted extension jambs to the stool with drywall screws, the author drills pilot holes in the shoulder using a tapered countersink bit (left). He also countersinks the stool so the screws won't interfere with the apron (right).

Figure 7. After positioning the preassembled frame against the window jambs (above), screw the extensions through the back-rabbets (above right), and fasten the stool through the countersunk pilot holes (right).

Figure 8. To achieve a consistent reveal when installing stacked extension frames, the author uses a wood block milled on all four edges.

I use a small panel saw to cut scribes because the combination of high rpm and a small blade help in making fine, slightly-curved cuts. I keep the blade square to the stock at the start of the cut, so the end of the stool will meet the wall square, but I back-bevel the inner portion of the notch so that the piece will fit tightly against the wall without any struggle. I finish the inside corner of the cut with a back saw, also back-beveling slightly.

Installation. Wide, back-rabbeted extension jambs should always be firmly attached to each other and to the stool. Only then should they be installed on the jamb. The joint between the extension jamb and the stool is especially weak and can spread if it isn't properly secured.

On large job sites, I like to assemble the frames on a work table, which I carry into each major room. I have an old Ryobi chop saw stand, but a set of sawhorses or a Workmate and a sheet of plywood work well, too. For large windows and small rooms, the floor makes a good work table, with one wall used as a brace. I bring along two cordless drills, one with a long Phillips driver and one for drilling pilot holes. I use a tapered drill bit and countersink for pilot holes, and 1 1/2-inch drywall screws to fasten the legs to the heads and to the stool (Figure 6, previous page).

While the extension frame is still lying flat on the floor or worktable, I use a 9/64-inch bit to drill pilot holes completely through the back-rabbet for the mounting screws. The pilot holes are large enough so that the screws slip through the extension. Angle the holes slightly to make it easier to reach the screw with a driver. But don't angle the holes too much or the tip of the screw might penetrate the face of the jamb.

Though the stool isn't back-rabbeted, I still drill a few "pocket" holes through the bottom. I start the holes with a 3/8-inch bit, drilling perpendicular to the stool about 2 inches from the edge of the frame. Then I slowly raise the drill, bring the bit almost vertical, and bury the tip in the stool. Finish the hole with a long 1/8-inch bit. With a pocket hole,

Figure 9. When the window is out of plane with the wall, paint-grade extensions can be individually scribed (above), then ripped with a panel saw and sanded (right). For stain-grade extensions, however, the author prefers to measure both ends of each piece to make sure the ends mate perfectly.

the screw heads are countersunk and never interfere later when it's time to install the apron.

Next, position the frame against the jamb. I use a long Phillips driver in a magnetic bit holder to drive 1 1/2-inch drywall screws (Figure 7). One screw about every 1 1/2 feet is more than sufficient. If the drywall is already installed and cut close to the window opening, a quick hammer blow will clear a path to the pilot hole. Also clear the drywall from the pilot holes beneath the stool and screw the stool to the jamb.

Stacking Jamb Extensions

Doubling up jamb extensions is another way to trim thick walls. Double extension frames, or stacked extensions, can be faster than wide, one-piece extensions because double frames are easy to preassemble from square-cut stock, and they can be installed in stacks, one after the other, using a nail gun.

For double extensions, use smaller reveals, which allow more wood for fastening. Measure for the first frame just as for any other window, then add 3/8 inch for the second layer, which leaves a 3/16-inch reveal. To speed up installation, I use a reveal block — a 3/4x3-inch square piece of wood with a 3/16-inch-deep rabbet all the way around — which can be positioned quickly in each corner, in any direction (Figure 8). I cut and assemble the frames in my shop, then fasten them to the window jamb, one on top of the other. If the second extension is 1 inch thick or less, I attach the pieces one at a time.

Scribing for Irregular Walls

Framing isn't always plumb, and occasionally a window or door jamb can't be set parallel or in plane with a wall. Some trim carpenters install extensions proud of the wall, then use a portable power plane to cut them almost flush to the wall. If the drywall is installed, a 1/16-inch-thick spacer taped to bottom of the plane prevents planing the drywall and ruining the blades.

But extensions can also be scribed. I use two methods: One is fast and crude; the other, slow but perfect. For apartments and tract housing, I position each piece of the frame against the jamb, then lay my pencil against the drywall and scribe a line on the back of the extension (Figure 9). I use my panel saw to cut along the scribed line, then sand the edge near the reveal line and ease it with my laminate trimmer and a roundover bit.

I take a little more time in custom homes, particularly with stain-grade material. Before assembling the frame, I measure and find the widest point of the jamb extension. Starting from that corner of the jamb, I mark and then measure both ends of each extension, so that the mating ends are exactly the same dimension. I rip the pieces with my panel saw, or freehand on a table saw, then sand and ease the edges before assembling the frame.

With either method, always apply the apron under the stool last. That final detail is the easiest and yet the most gratifying part of the whole job.

***Gary Katz** is a finish carpenter and writer in Reseda, Calif.*