

On the Job

Jig for Fast Jack Miters

by Gary Katz

Last spring, as part of a discussion of traditional New England trim in *JLC* Online's finish-carpentry forum (search on "New England home details"), Jim Chestnut posted a great explanation of the benefits of the traditional jack-mitered beaded casing joint **(1, 2)**:

"Beaded casing is an excellent choice, with or without plinths or backband. Its biggest advantage is versatility. If you use a backband, the bead can be jack-mitered, the rest of the casing butted, and the backband mitered. If you wish, the jack-mitered legs can be pocket-screwed together before installation. You'll have no problems with wood movement using this method."

"Another advantage is that you can vary the widths of the flats as needed to fit in tight spaces, which is not

possible with highly detailed profiles. For instance, if a cabinet starts a little too close to a window, you can make the casing for that window slightly narrower than in the rest in the house and no one will ever notice. Upstairs, if you have a closet door jammed right next to the bedroom door, you can use a single jamb casing between the two doors, with beads on both edges jack-mitered into the single head casing that runs across the top. Then install a backband up one door jamb, across the top of the continuous head casing, down the other jamb, and it looks like the architect knew what he was doing. Likewise, it's easy to make adjacent windows in a window wall look mulled together using this technique."



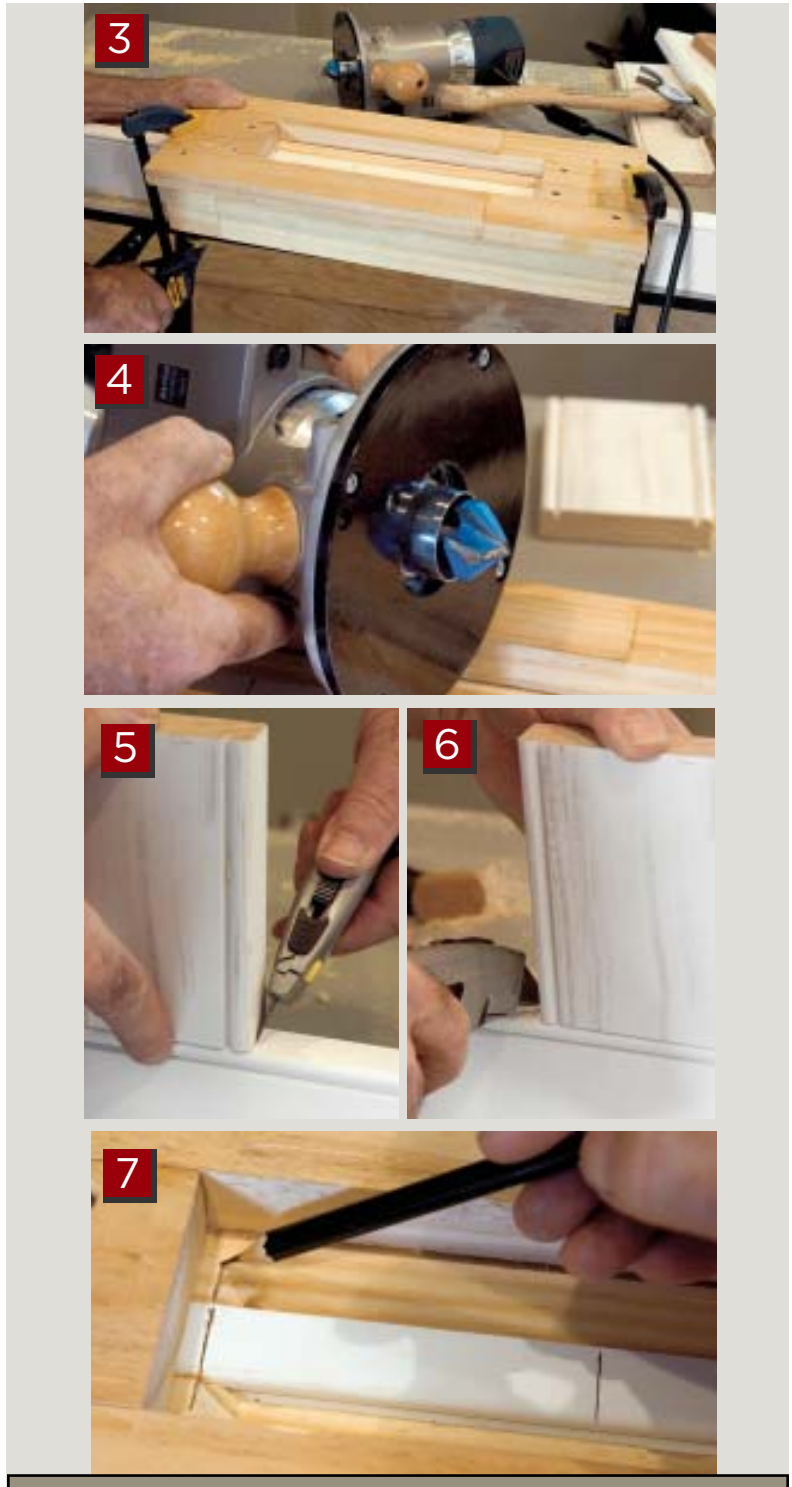
On the Job | Jig for Fast Jack Miters

After reading this, I wanted to figure out a way to produce this joint quickly. Traditionally, jack miters are cut by hand, with a dovetail saw and a shooting guide, then cleaned up with a paring chisel. But for production work, you have to move a little faster, so I came up with the router template shown here **(3)**, designed to be used with a 45-degree chamfer bit **(4)**. Since the particular bit I was using, a coring bit, came to a point, I ground it slightly to make it flat across the bottom. As you can see, the bit slipped while I was doing this; though it isn't pretty, the damage was on the back of one cutting edge, where it didn't matter.

The template slips snugly over the beaded casing stock and can be quick-clamped in position. I shot a couple of 18-gauge 1¼-inch nails through both sides of the jig, centered above the casing stock, then clipped off the points, leaving about ⅛ inch protruding from the bottom of the jig. When I tap the jig against the casing stock, these short spikes prevent the material from slipping while I rout. The jig has “sacrificial” strips of wood on each side of the casing; these help prevent tear-out and can be replaced as needed, or even changed depending on the thickness of the material being mitered.

In the photos shown here, I'm preparing to “mortise” a vertical leg into a head casing by scoring a line on both sides of the square-cut stock with a utility knife **(5, 6)**. I then slip the jig over the casing, lining up the left-hand mark on the casing with the 45-degree cut line of the jig.

(I darkened the scored lines with a sharp pencil so they'd be visible in the photograph **(7)**, and highlighted the previous chamfer cuts in my jig so it would be easier to line up the scored mark.)



On the Job | Jig for Fast Jack Miters



I cut one side first **(8)**, then move the material up against the opposite shoulder of the jig **(9)**. Though the clamps hold everything secure while I run the router, there's a lot of chatter with this bit because I'm taking a pretty heavy bite all at once. A plunge router with two or three preset depth stops might work better, but all in all, the template guide did a good job. It left a fairly flat bottom across the joint **(10)**, which required only a little tune-up with a sanding block **(11)**.

It's true the early attempt shown here **(12)** could have been tighter. But keep in mind that in this photo the casing is just standing in place. As Jim Chestnut pointed out, pocket screws and some glue would do a lot for this joint.

Of course, cutting the single jack miter at the end of a door or window head casing is a lot easier than cutting in a double-beaded piece. I position the template with the layout mark and mortise out the waste — there's no need to reposition the jig **(13)**. As long as I lay out each joint carefully, the leg will end up perfectly flush with the end grain on the head every time **(14)**.



Gary Katz, moderator of JLC Online's finish-carpentry forum, is a regular presenter at JLC Live.