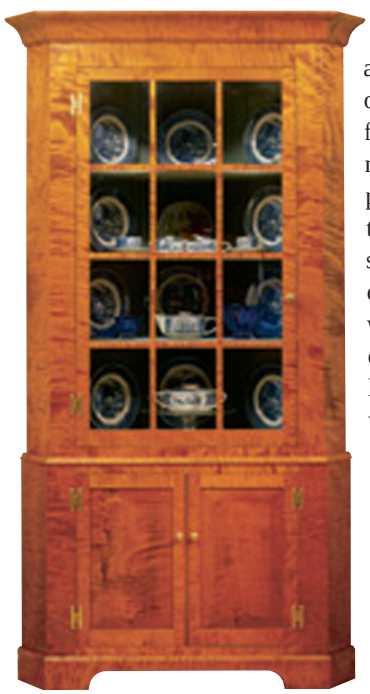
Simple

Divided-light Glass Doors

The easiest way ever to add mullions and muntins to any door.

Glass doors dramatically change the look of furniture. Not sure you can do glass doors? I have a trick for you!

A true glass door has what is known as divided-light panes, meaning each pane of glass is separated from the others by a wood frame. Some manufactured pieces of furniture use a large sheet of glass and overlay a framework to the front of the glass to look like a divided-light door, but it is just not the same to me. Traditionally, making a divided-light door requires special matched router-bit sets and a difficult technique known as cope and stick. But even professionals find this technique a bit labor intensive.



For years I've been using a simple method to make divided-light doors using simple butt joints, glue and a box full of spring clamps.

This method works best with flat-mullion doors. The process can be used with profile-mullioned doors, but this heads you back into some cope-and-stick work, so we'll start with this simple door. This flat-mullioned style is appropriate for Shaker, Southern, Arts & Crafts and many 18th-century furniture designs.

The starting point is a door frame with a rabbet cut around the inside edges of the door frame. I use a couple of different methods to make the initial door frame. One is a more traditional joinery method called a rabbeted mortise-and-tenon joint, while the other is a more simple mortise-and-tenon door with a rabbet cut in the frame after assembly. Either works, so I'll let you decide if tradition should win out over speed and convenience.

by Glen Huey

Glen Huey builds custom furniture in his shop in Middletown, Ohio, for Malcolm L. Huey & Son and is the author of "Fine Furniture for a Lifetime."

Regardless of how you make your rabbeted door frame, this is your starting point for the tricky stuff to make a simple divided-light door. The frames above use the traditional rabbeted mortise-and-tenon joinery. It really does look a little nicer, and if you're already cheating on the muntins and mullions, maybe a little extra effort on the frame is not out of line.

The divider pieces for these doors are made from two different sizes of wood strips. The face material is 1/4" x 3/4", while the backer pieces are 1/4" x 1/2". I use a new sacrificial fence on my miter gauge for each new door project to keep tear-out on the backside of the pieces to a minimum. This also makes locating the cut easier by aligning the strips with the initial kerf in the fence.

Photos by Al Parrish.

To begin the muntin section of the doors, find the shelf locations on your project's case (generally the glass dividers align with the shelves) and mark these on the edges of the door. Cut the backer material to run from side to side. These pieces divide the glass area horizontally. The fit should be snug, but not so tight as to bow the frame. Glue the backer piece into the rabbet area and clamp until dry, usually about 30 minutes.

Now flip the door over. The first face pieces to install are the pieces that run the full length, in this case the center piece that divides the glass area vertically into two sections, left and right. The piece again needs to be snug, but not too tight. Glue each end (as well as each area) where the face crosses the backers (two locations in this case). You'll notice that I have the door elevated on some jars. The contents aren't important, but the elevation is very helpful.

SIMPLE MORTISE-AND-TENON DOORS

Both methods of door frame construction begin with the mortises. Make your centered 1/4"-wide mortise (for a 3/4"-thick door) 3/4" shorter than the width of the door frame, leaving a 3/8" shoulder on either edge to ensure that the rabbet doesn't expose the joinery (A). Then simply cut the matching tenon and assemble the door frame (B). When the glue is dry, use a rabbeting bit in your router to create a 5/16" x 1/2"-deep rabbet on the inside back edge (C). Finally, square out the corners of the rabbets with a sharp chisel (D).

Flip the door over again and begin to cut and install the three backer pieces that complete the "T" for the glass and run from muntin to muntin. These pieces back the face piece. Glue and clamp until dry.

Finally, flip the door face up one more time and cut and install the remainder of the face pieces. You can install all the pieces at one time, without allowing each piece to dry. You're limited only by the number of clamps you own, but don't work so fast that things get sloppy. **PW**

RABBETED MORTISE-AND-TENON DOORS

After cutting the mortises just as in the simple version, the first step in the more complex method is to create the 5/16" x 1/2" rabbet on the inside edge of all the door pieces. I simply make the cuts in two passes on the table saw (A). Next, define the shoulder of the face cheek on the tenon. Set the blade so it just clears into the rabbet (B). Now move the fence location 5/16" closer to the blade and make the second shoulder cut, creating an offset of the cuts (C). With the fence at the same location, create the edge shoulder (D). Finally, cut the cheeks, remembering that there are two different cheek lengths (E).