

Easy-to-Build Sanding Cabinet

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WOODWORKING AND HARDWARE

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Add storage for your sanding supplies without eating up shop space



What you'll find inside:

- Elevation drawings
- Complete materials list
- Step-by-step plans

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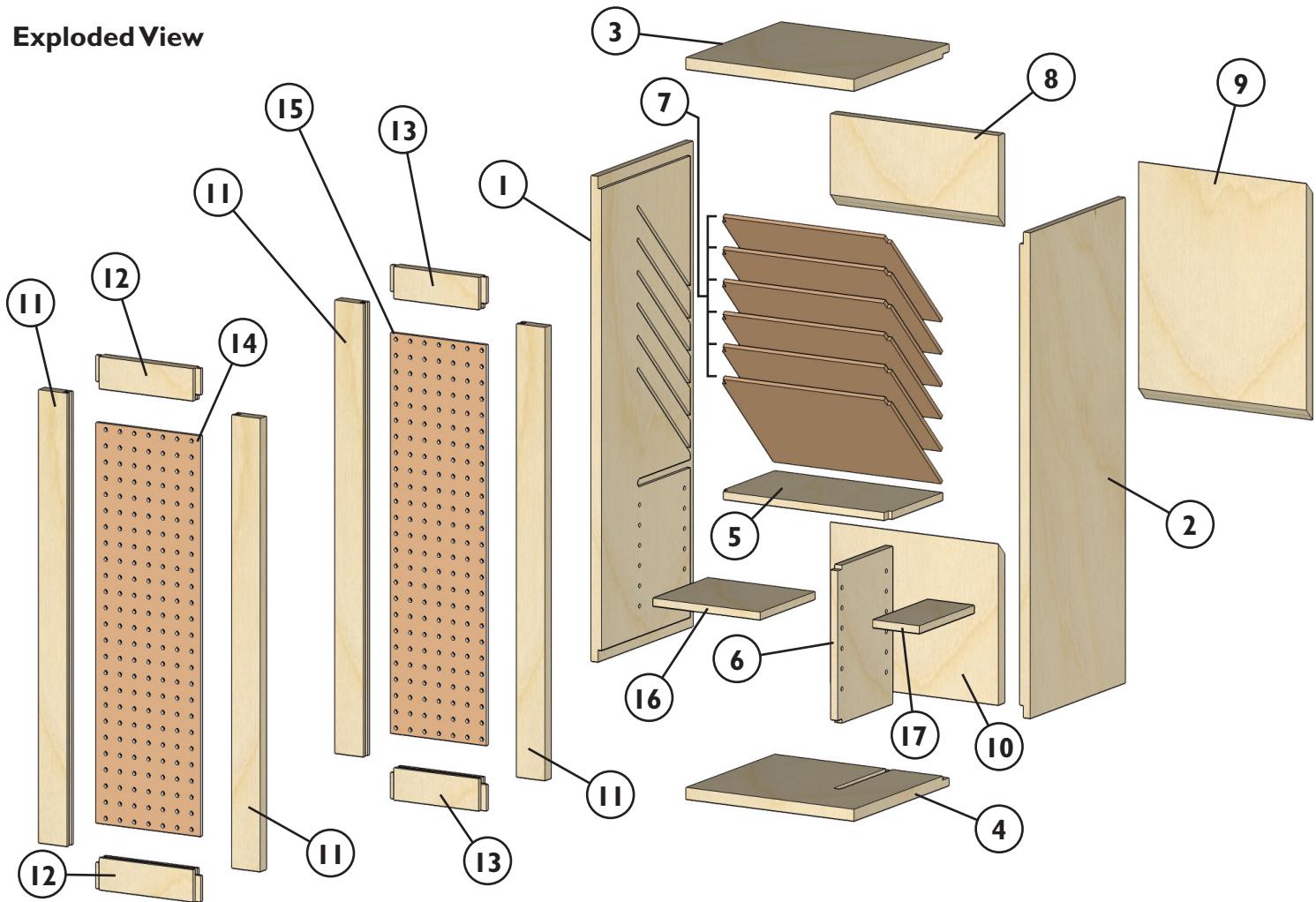
For the past 10 years, I've kept most of my sanding supplies in a drawer. It's never worked ideally, and as I've accumulated more and different supplies — multi-roll sanding packs for woodturning, contour sanding grips, etc. — it's become a real bother. So I came up with this cabinet design, sized specifically to fit a small section of unused wall space in my shop. It allows me to store sandpaper efficiently and has space for other sanding supplies, too. Shelf pins for adjustable shelves allow some flexibility in terms of configuration, and the use of Rockler's Tandem Door Hinges provides ideal space for holding sanding disks and other gear. Additional pegboard on the outside of the cabinet provides space to store a handy sandpaper cutter mounted to a plywood backer that can be taken anywhere. And the whole thing mounts to the wall with a French cleat system that allows for easy removal if that ever becomes necessary. It's made from readily available materials — plywood, hardboard, pegboard and some solid maple for the door frames. —S.R.



Materials list

Pieces	Material	Qty.	T x W x L	Required Machining
1. Left Cabinet Side	Birch plywood	1	3/4" x 11" x 30"	Rout a 3/4" wide x 1/4" deep rabbet along top, bottom and back edges of inside face. Rout 1/4" wide x 1/4" deep stopped dadoes at 45° angle for Sandpaper Dividers. Rout 1/2" wide x 1/4" deep stopped dado for Fixed Shelf. Drill shelf pin holes.
2. Right Cabinet Side	Birch plywood	1	3/4" x 11" x 30"	Mirror image of Left Cabinet Side.
3. Cabinet Top	Birch plywood	1	3/4" x 11" x 11 3/4"	Rout a 3/4" wide x 1/4" deep rabbet along back edge of inside face.
4. Cabinet Bottom	Birch plywood	1	3/4" x 11" x 11 3/4"	Rout a 3/4" wide x 1/4" deep rabbet along back edge of inside face. Rout 1/2" wide x 1/4" deep stopped dado for Vertical Divider.
5. Fixed Shelf	Birch plywood	1	1/2" x 6 1/2" x 11 3/4"	Rout 1/2" wide x 1/4" deep stopped dado for Vertical Divider. Cut 1/4" x 1/2" notches in front corners.
6. Vertical Divider	Birch plywood	1	1/2" x 6 1/2" x 9 3/4"	Cut 1/4" x 1/2" notches in front corners. Drill shelf pin holes.
7. Sandpaper Divider	Hardboard	6	1/4" x 9" x 11 3/4"	Cut 1/4" x 1/2" notches in front corners.
8. Back Top Cleat	Birch plywood	1	3/4" x 11 3/4" x 5 1/2"	Cut 45° bevel on one long edge.
9. Wall Cleat	Birch plywood	1	3/4" x 11 3/4" x 14 1/4"	Cut parallel 45° bevels on short edges.
10. Back Bottom	Birch plywood	1	3/4" x 11 3/4" x 9 7/8"	Cut 45° bevel on one long edge.
11. Door Stile	Maple	4	3/4" x 2" x 28"	Cut 1/4" wide x 3/8" deep groove centered on long edge.
12. Outer Door Rail	Maple	2	3/4" x 2" x 7 5/16" (includes tenon)	Cut 1/4" wide x 3/8" deep groove centered on long edge. Cut 1/4" thick x 3/8" deep tenon on each end. (Fit to Door Stiles.)
13. Inner Door Rail	Maple	2	3/4" x 2" x 6 11/16" (includes tenon)	Cut 1/4" wide x 3/8" deep groove centered on long edge. Cut 1/4" thick x 3/8" deep tenon on each end. (Fit to Door Stiles.)
14. Outer Door Panel	Pegboard	1	1/4" x 7 5/16" x 24 3/4"	
15. Inner Door Panel	Pegboard	1	1/4" x 6 11/16" x 24 3/4"	
16. Adjustable shelf	Birch plywood	1	1/2" x 6 1/2" x 7 3/8"	
17. Adjustable shelf	Birch plywood	1	1/2" x 3 1/8" x 6 1/2"	
18. Tandem Door Hinge Set		1		Rockler item #59882
19. #8 x 2" Screws		1 pk.		Rockler item #30353
20. Finish Washers		1 pk.		Rockler item #70573
21. 1/4" Shelf Supports		1 pk.		Rockler item #33860
22. Rockler Sandpaper Cutter		1		Rockler item #51415

Exploded View



Cut the pieces to size

If you're using a table saw, try to cut all pieces with shared dimensions in the same setup. You'll avoid the extra time and potential for inaccuracy involved with repeat setups. For this project, the top, bottom, sandpaper dividers and fixed shelf all are $11\frac{3}{4}$ " long. Cut them all at the same time, and you're guaranteed they'll all be the same. The sides, top and bottom are all 11" wide, so cut those pieces with the same setup.

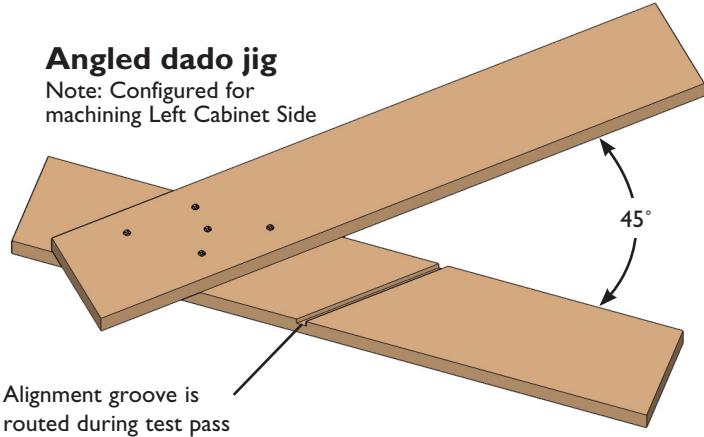
Wait to cut the piece for the back until you've assembled your box. You want an exact fit, so you want to measure off your finished box, in case there are any small variations from the plan.

Rout the stopped dadoes in the sides

The six sandpaper dividers fit in $\frac{1}{4}$ " wide x $\frac{1}{4}$ " deep grooves cut into the cabinet sides. (Woodworking esoterica: Because they run across the grain, these grooves technically are called dadoes; the "stopped" comes in because they stop short of the stock's edge.) The easiest way I could think of to do this operation was to make a jig.

Angled dado jig

Note: Configured for machining Left Cabinet Side



The jig is made from two pieces of $\frac{3}{4}$ " x 4" x 24" scrap plywood screwed together with the top board at a 45° angle. I drilled countersunk pilot holes in the top piece where the two would be joined, then placed the bottom piece underneath, used a small rafter square to get the 45° angle and fastened the pieces with #8 x $1\frac{1}{4}$ " screws.

The bottom piece goes tight against the edge of the workpiece, and the angled piece will guide the router for the 45° cut. Install a $\frac{1}{4}$ " diameter straight bit (or

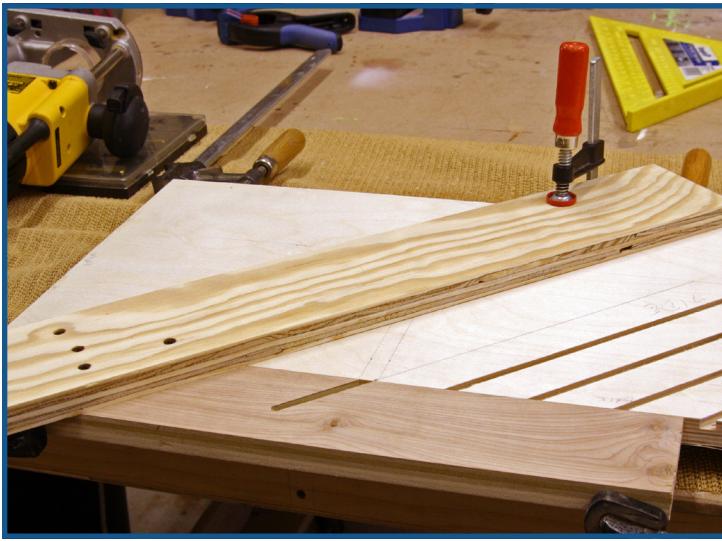


Fig. 1

undersized plywood bit) in your router and set the cutting depth to $1/4"$. To make it easier to align the jig precisely to the desired cut lines on your final workpieces, position the jig against a piece of scrap and make a practice cut so that the bit routes a path into the bottom piece. You can use this guide path to line up subsequent cuts.

Note: Before making these — or any — cuts in your final workpieces, make test cuts in scrap to verify your setup.

Refer to the **Side View** drawing to mark the starting points for the dadoes and the line showing where to stop the dadoes. For each cut, be sure to align the same edge of the guide path in the jig to the mark. Otherwise, the grooves won't be uniform distances apart. Clamp the jig in place to make sure it doesn't shift during use. **Fig. 1.**

You'll need to "reverse" the jig after you've cut the dadoes in the first cabinet side to make mirror-image cuts in the second cabinet side. Unscrew and flip the top piece, countersink the holes on that side, use the rafter square to get the 45° angle facing the opposite direction and fasten the pieces with the screws. Make another practice cut in scrap to create the new guide path in the jig. Mark and cut the dadoes as you did in the first side.

To make the $1/2"$ wide \times $1/4"$ deep dadoes for the stationary shelf, you can actually adapt the jig again, this time using the 90° edge of the rafting square to position the top piece. Then cut a new guide path in the bottom piece so you can line up the cuts in the sides.

Side View, Fig. 2.

Rout the stopped dadoes in the shelf and cabinet bottom

The shelf and the bottom need to have mirror-image $1/2"$ wide \times $1/4"$ deep dadoes to accept the vertical divider.

Cabinet Side View

Note: Right Cabinet Side shown; make mirror-image version for left side

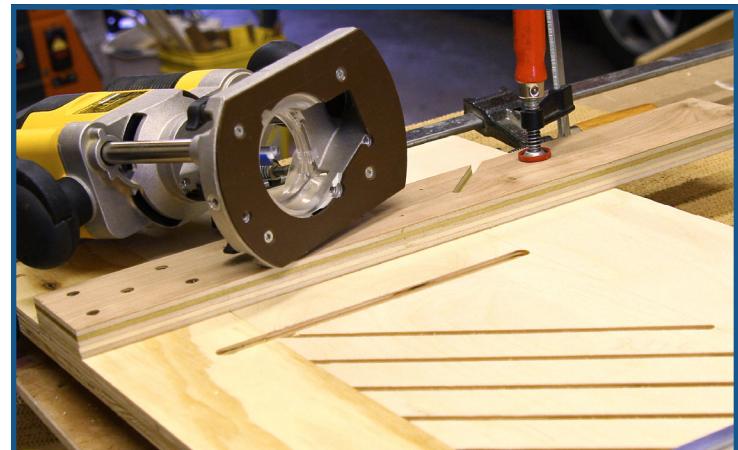
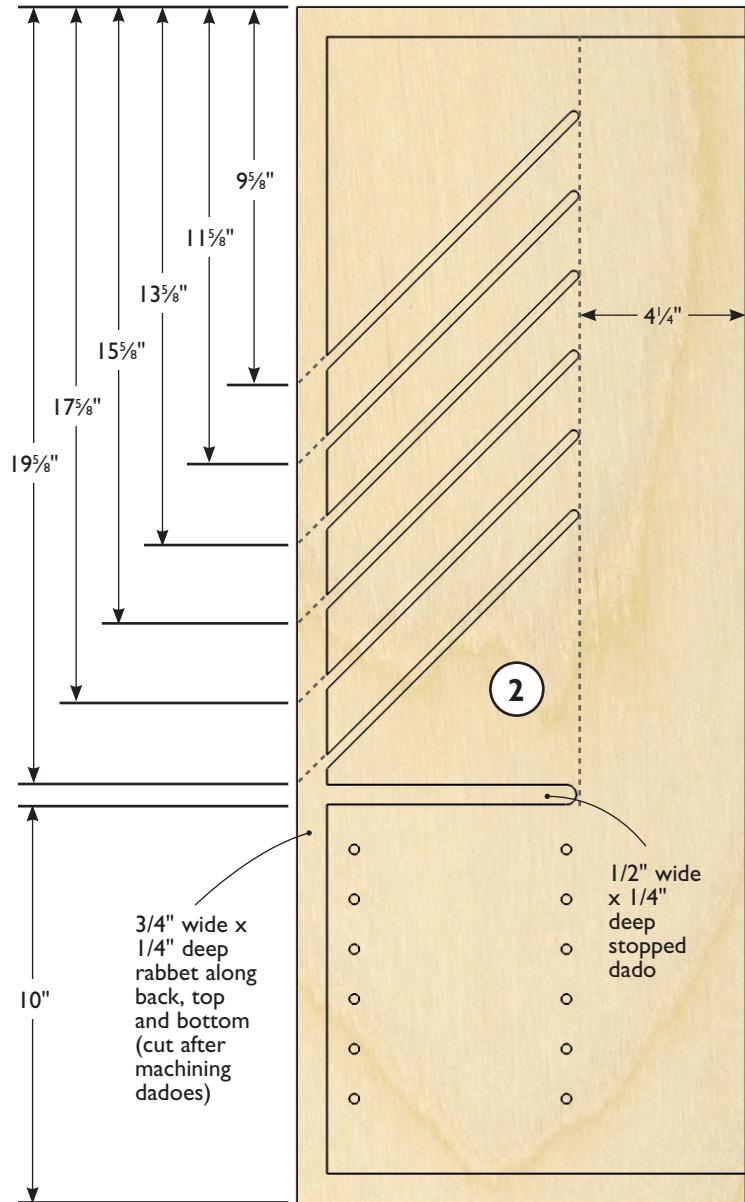
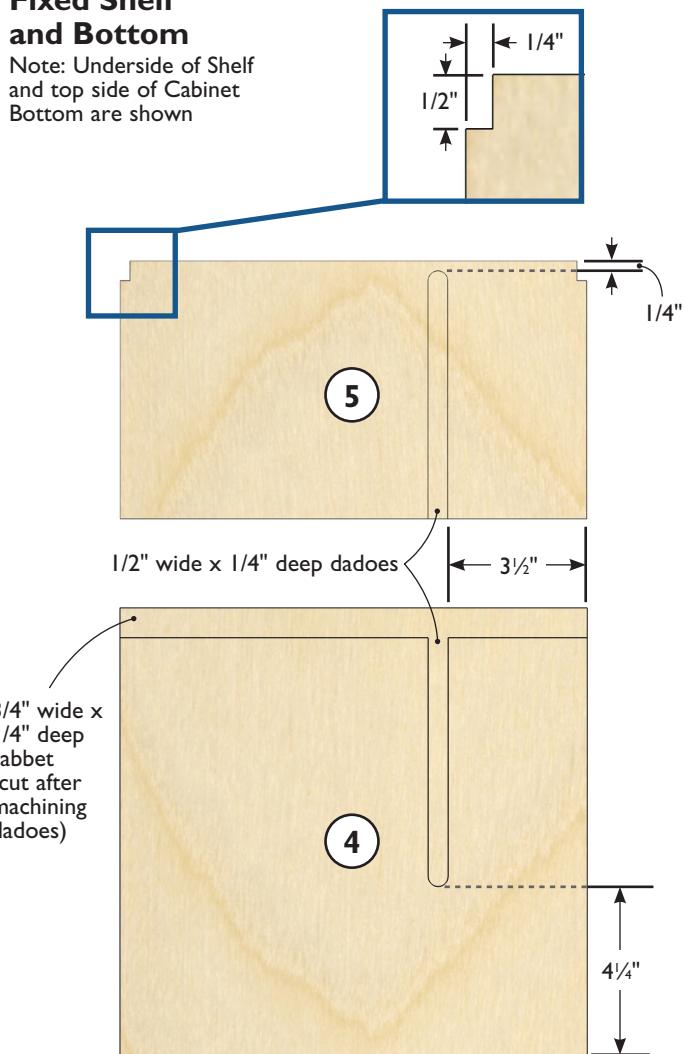


Fig. 2

Fixed Shelf and Bottom

Note: Underside of Shelf and top side of Cabinet Bottom are shown



I chose to cut these at a router table with a solid fence set back the right distance.

The first step is to unplug your router and install a 1/2" straight bit. With the router in the table, set the bit height initially so the bit is easy to rotate.

Set the fence position (See **Fixed Shelf and Bottom** for distance). To get an accurate measurement, make sure you've rotated the bit so one of the cutting edges is at its apex toward the fence.

Next, you need to mark the bit's leading and trailing edges on the fence. (You'll use these marks, along with marks on the workpieces, to start and stop the cuts in the right place.) Place the wide face of a rafter or combination square or a squared piece of wood against the fence. Bring the squaring device carefully up to the bit and rotate the bit so the cutting edges make contact. (Be careful not to damage the cutting edge if you're using a metal square.) Mark the location on the fence and use a square to extend it vertically so you'll be able to see it.



Fig. 3



Fig. 4

Repeat the process on the other side of the bit. **Fig. 3.**

On the workpieces, identify the faces that will get the dadoes. Be sure to locate the dadoes so they'll line up when the cabinet is assembled.

On the workpieces' opposite faces, near the edges that will run against the fence, mark a line indicating where the dadoes are to stop.

Set the router bit cutting height to 1/4" and make a test cut to verify all settings. Make any necessary adjustments.

For the shelf, rout the dado by using a wide push block/backer to advance the workpiece into the bit. Keep the edge tight to the fence, and stop when the line on your workpiece meets the line on the fence that indicates the trailing edge of the bit. **Fig. 4.**

The process for routing the dado in the cabinet bottom is a little different.



Fig. 5



Fig. 6

Position your workpiece against the fence and lift the leading edge to keep it from contacting the bit. Advance the workpiece until the leading mark on it lines up with the forward mark on the fence. Continuing to hold the workpiece against the fence, lower the leading end onto the bit and advance the workpiece all the way forward. **Figs. 5 and 6.**

Cut the rabbets in the sides, top and bottom

You can do this with a rabbeting bit in a router or with a dado blade set in a table saw. I opted for the saw and added a sacrificial fence to the saw's fence to prevent damage to both blade and fence.

Once you're set up, it's pretty straightforward: Cut $3/8"$ wide x $1/4"$ deep rabbets on the top, back and bottom inside edges of the sides and the back inside edges of the cabinet top and bottom. These will hold the $3/4"$ thick back panels.

Notch the pieces that fit into the dadoes

Notches must be cut into the forward corners of the sandpaper dividers, the stationary shelf and the vertical divider. The stopped dadoes aren't as long as the pieces, and these $1/4"$ x $1/2"$ notches are necessary so the pieces will fit in the dadoes and leave a clean appearance.

I did this at a table saw with a dado blade, a zero-clearance backer on my miter gauge and a stop block on the fence. The backer prevented blowout, and the stop block helped position the stock for each cut. Make test cuts in scrap and check the fit in the dadoes to verify your setup. **Fig 7.**

Drill the shelf-pin holes in the sides and the vertical divider

I wanted the bottom shelf areas to have adjustable shelves in case my storage needs changed. There are a number of ways to machine shelf-pin holes, but I decided

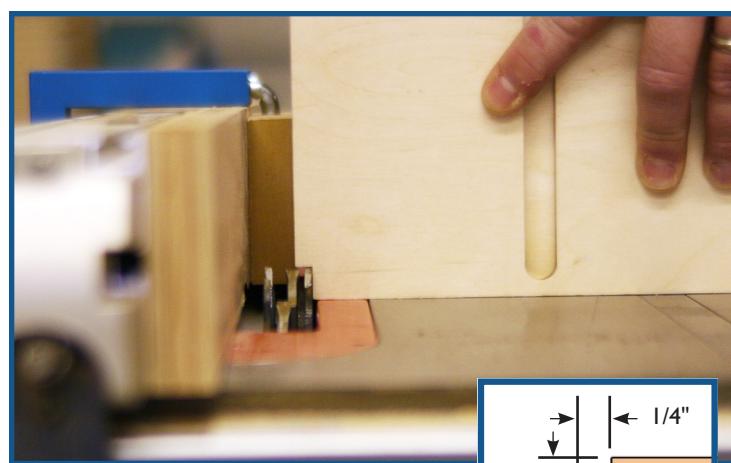
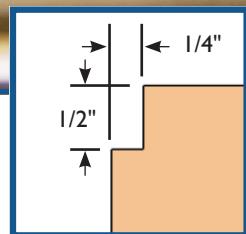


Fig. 7



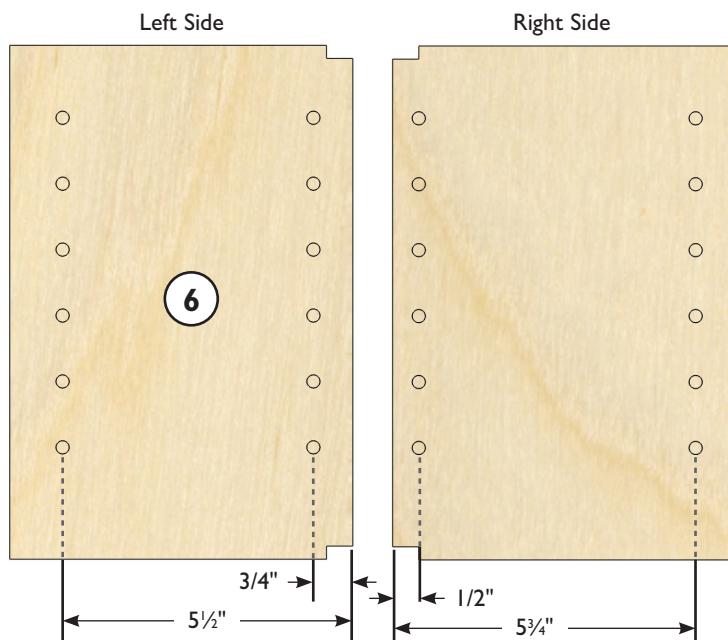
to use a drill and the jig shown. It's compact and easy to use, and you end up with precisely spaced holes. **Fig. 8.**

I wanted the holes closer to the edge of the stock than the jig's built-in fence would allow, so I drew vertical lines and centered the jig's holes on those lines. You'll note from the drawings that the holes on the vertical divider are offset front to back to avoid any problems with shelf pins not fitting from both sides. But the most important thing in drilling the holes is to make sure the jig is positioned at the same level vertically for all rows. I accomplished this on the vertical divider by actually fitting it into the dado in the cabinet bottom and butting the bottom of the jig against the cabinet bottom. On the cabinet sides, I held a piece of stock in the bottom rabbet and registered the jig against that.

Assemble the case

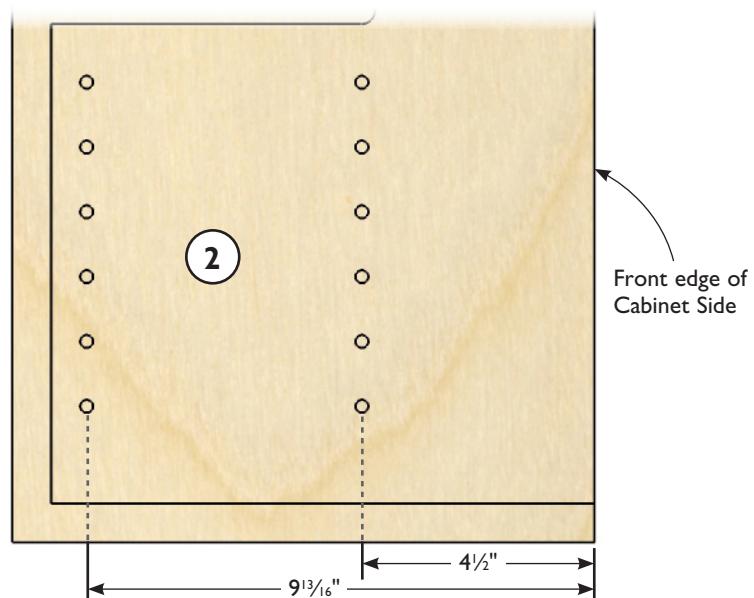
Start by attaching one of the sides to the bottom. I used glue and #8 x 2" screws with finish washers because

Vertical Divider Shelf Pin Hole Locations



Cabinet Side Shelf Pin Hole Locations

Note: Right Cabinet Side shown; make mirror-image version for left side



I wanted extra strength. Rockler's Clamp It Assembly Squares and Corner Clamping Jig made it easy to align and hold the pieces at a right angle so I could drive the screws. **Fig. 9.**

Next, spread a little glue in the dadoes for the shelf and vertical divider, and install those pieces. I tacked them in place with a couple of 3/4" long, 23-gauge pin nails driven at an angle. Then put glue in the 1/2" dado and bottom rabbet of the other side and attach the side to the cabinet bottom with more screws.

With the cabinet on its front edges, slide in the sandpaper dividers, aligning their back edges with the edge of the rabbets on the sides. I didn't use glue, but I did tack the dividers in place with pin nails. **Fig. 10.**

Next, spread glue in the top rabbets of the cabinet sides and position the cabinet top in place. Attach with screws.

Make the French cleat in the back

Because of the angled sandpaper dividers, it would be difficult to mount the cabinet with a solid back. You'd need a long extension for your drill, and even then, it would be hard to drill and drive screws while holding the cabinet at the right height.

A simpler approach is to cut the back piece into three pieces, angling the blade to 45°. This will form what is known as a French cleat, and it's a great way of mounting heavy items to a wall.

The top and bottom pieces are glued and screwed to



Fig. 8



Fig. 9

the cabinet; the large middle piece gets mounted to the wall, with at least one row of screws going into a stud. **For this method to work, it's crucial that the angled edge on the top piece face the inside of the cabinet and the angled edge on the bottom piece be angled outward. The top angle on the cleat piece needs to face the wall.** If done correctly, the cabinet will slide onto the cleat and can be secured with a few screws into the sides of the cabinet. If you need to remove the cabinet, just remove the screws and lift the cabinet off the cleat. See **Exploded View**, page 3.

Make the doors

The doors are simple tongue-and-groove construction with 1/4" thick pegboard for the center panels. I cut the grooves and tongues with a stack dado set at the table saw. See **drawings at right**.

I set the fence 1/4" away from the 1/4" dado stack to center the groove. Just to be sure the groove would line up all the way around, I marked one face of each board and made sure to run that face against the fence. I used a featherboard and push stick to keep the stock tight to the fence and table and my hands away from the blade.

I cut the tongues by installing a sacrificial fence on the saw's fence and adding a chipper to extend the dado stack to 3/8" thick. I used a backer on the miter gauge to prevent tear-out.

Once pieces were machined, I assembled the doors with glue where the frame pieces came together (but not on the panel), measured the diagonals to check for square and clamped the assembly overnight.

After doing some cleanup sanding, I checked the dimensions of the doors to make sure the widths will work with the Tandem Door Hinges. (If necessary, you can shave a little off the two long edges to get the needed clearance. You don't want to find out after the doors are mounted that they're too wide to close.)

Mount the doors

Follow the instructions that came with the Tandem Door Hinges to install the hinges and mount the doors.

Add the extras

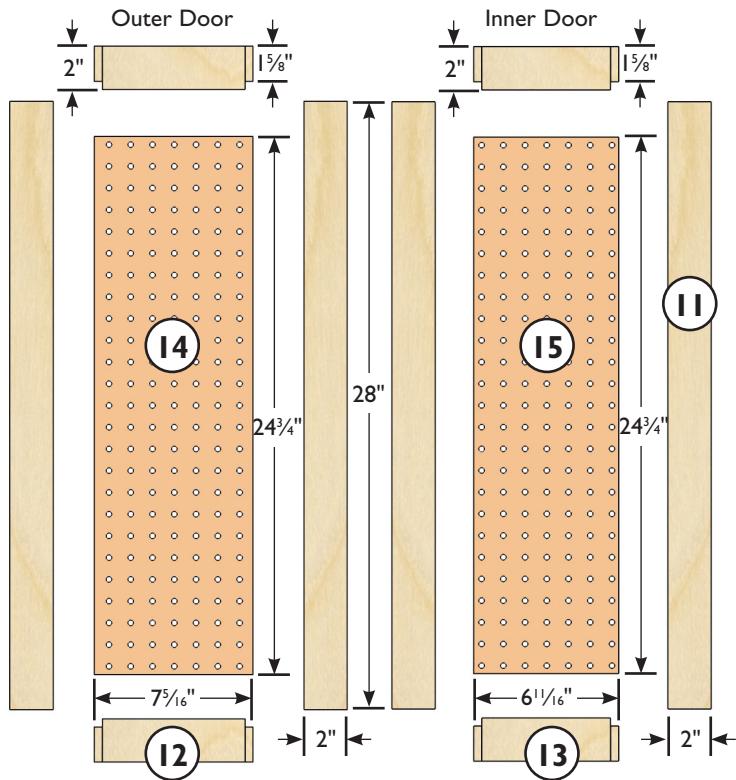
I installed spacers and some leftover pegboard on the left side of the cabinet and cut a piece of 1/2" plywood as a backer for the Rockler Sandpaper Cutter. I rounded the corners of the plywood using Rockler's Corner Radius Routing Templates (Fig. 11) and drilled a hole so I can hang it on the pegboard.

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Fig. 10

Door Dimensions



Tenon and Groove Details

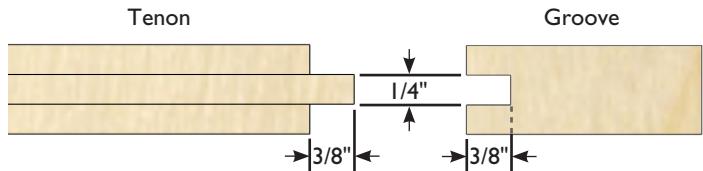


Fig. 11 – A piloted flush-trim bit and Rockler's Corner Radius Routing Templates made quick work of rounding the plywood corners to match those on the Sandpaper Cutter