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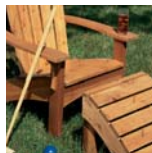
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## JELLY CUPBOARD

**E**very fall, my grandma made homemade jelly. After each jar was sealed, it was set in a jelly cupboard similar to this one to cool. I always liked the “down-home” look of that cabinet and tried to duplicate that appearance with this version.

**JOINERY.** The shelves in this cupboard could have been mounted on adjustable shelf brackets. But I did something different this time. By gluing the shelves into dadoes in the cupboard sides, the shelves are permanently attached. This helps keep the cabinet from racking. So the shelves are both functional and structural. The door frame is assembled with half-lap joints reinforced with dowel pins at the corners. This joint is easily cut on the table saw or router table.

**TIN PANELS.** The door holds four tin panels. The pattern punched in each one is decorative, but it also serves a practical purpose. The holes allowed air to circulate so moisture from the jelly wouldn't build up inside the cabinet. Making the panels is easy. We used four sheets of tin (purchased at a local hardware store) cut down to approximately 10" x 14" each. Just use a punch and follow a pattern that you've draw on a piece of paper. The cupboard can also be built with wood raised panels instead of tin. The Designer's Notebook on page 8 shows how to make this option.

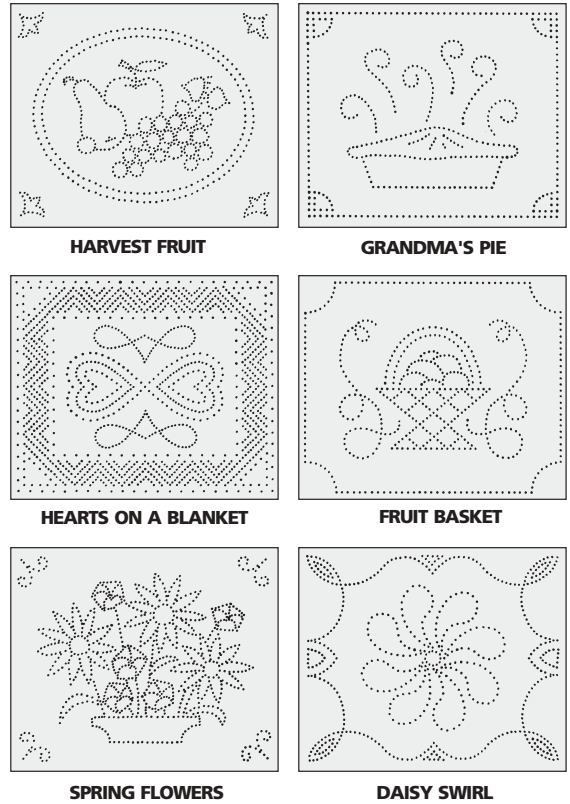
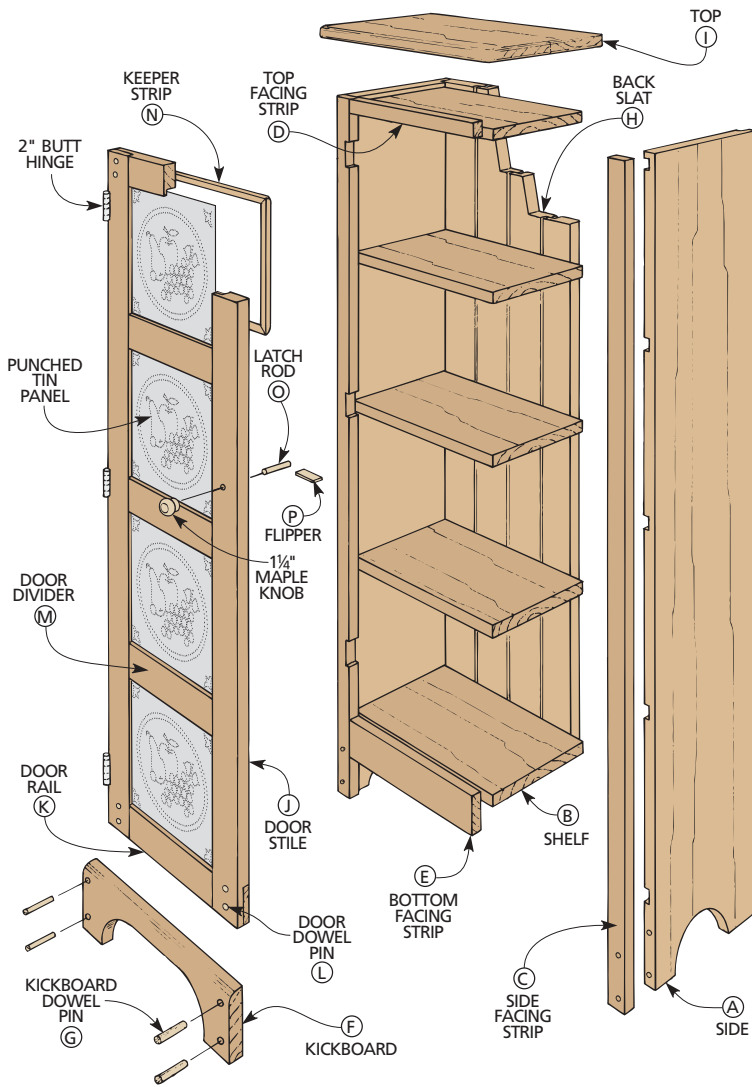
**BACK SLATS.** Ordinarily I use plywood for a cabinet back, but for a “country” project like this, plywood seemed out of place. So I used solid pine — but not a glued-up panel. Instead, I cut rabbets on the slats for a “ship lap” joint. This allows them to expand and contract without pushing on the cupboard sides.

**FINISH.** To avoid a blotchy finish, I used a pine sealer first. Then I stained it to get an “aged” look.



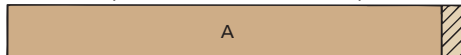
# EXPLODED VIEW

OVERALL DIMENSIONS:  
20W x 12<sup>3</sup>/<sub>4</sub>D x 58H

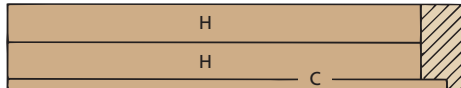


## CUTTING DIAGRAM

$\frac{3}{4}$  x  $7\frac{1}{4}$  - 60 (Four Boards @ 3.3 Bd. Ft. Each)



$\frac{3}{4}$  x  $11\frac{1}{4}$  - 60 (Two Boards @ 5 Bd. Ft. Each)



$\frac{3}{4}$  x  $11\frac{1}{4}$  - 96 (8 Bd. Ft.)



$\frac{3}{4}$  x  $11\frac{1}{4}$  - 96 (8 Bd. Ft.)



**NOTE:** PARTS G & L ARE CUT FROM AN 18" LENGTH OF  $\frac{1}{4}$ " DOWEL. KEEPER STRIPS (N) ARE CUT FROM OVERSIZE BLANKS. CUT LATCH ROD (O) FROM  $\frac{3}{8}$ " DOWEL. CUT FLIPPER (P) FROM SCRAP.

## MATERIALS LIST

### CASE

<b>A</b> Sides (2)	$\frac{3}{4}$ x $11\frac{1}{4}$ - 57 $\frac{1}{4}$
<b>B</b> Shelves (5)	$\frac{3}{4}$ x $10\frac{1}{2}$ - 17 $\frac{3}{4}$
<b>C</b> Side Facing Str. (2)	$\frac{3}{4}$ x 1 - 57 $\frac{1}{4}$
<b>D</b> Top Facing Strip (1)	$\frac{3}{4}$ x 1 - 16 $\frac{1}{2}$
<b>E</b> Bot. Facing Strip (1)	$\frac{3}{4}$ x 2 - 16 $\frac{1}{2}$
<b>F</b> Kickboard (1)	$\frac{3}{4}$ x $5\frac{1}{2}$ - 18 $\frac{1}{2}$
<b>G</b> Kickbd. Dwl. Pins (4)	$\frac{1}{4}$ dowel - 2 $\frac{1}{4}$
<b>H</b> Back Slats (4)	$\frac{3}{4}$ x $4\frac{5}{8}$ - 51 $\frac{1}{4}$
<b>I</b> Top (1)	$\frac{3}{4}$ x $12\frac{3}{4}$ - 20

### DOOR

<b>J</b> Door Stiles (2)	$\frac{3}{4}$ x $2\frac{1}{2}$ - 49 $\frac{5}{8}$
<b>K</b> Door Rails (2)	$\frac{3}{4}$ x $2\frac{1}{2}$ - 16 $\frac{3}{8}$
<b>L</b> Door Dowel Pins (8)	$\frac{1}{4}$ dowel - $\frac{3}{4}$
<b>M</b> Door Dividers (3)	$\frac{3}{4}$ x $2\frac{1}{2}$ - 12 $\frac{1}{8}$
<b>N</b> Keeper Strips (16)	$\frac{1}{4}$ x $\frac{1}{4}$ - 13 rough
<b>O</b> Latch Rod (1)	$\frac{3}{8}$ dowel - 1 $\frac{5}{8}$
<b>P</b> Flipper (1)	$\frac{1}{8}$ x $\frac{1}{2}$ - 1 $\frac{11}{16}$

### HARDWARE SUPPLIES

- (24) No. 8 x  $1\frac{1}{2}$ " Fh woodscrews
- (6) No. 8 x  $1\frac{3}{4}$ " Fh woodscrews
- (3) 2" x  $1\frac{9}{16}$ " butt hinges w/ screws
- (4 pieces) 10" x 14" tin (rough size)
- (40)  $\frac{1}{2}$ " wire brads
- (1)  $1\frac{1}{4}$ "-dia. maple knob
- (20) 4d ( $1\frac{1}{2}$ "-long) square cut finish nails (optional)

## SIDES & SHELVES

Back when cupboards like this were a common fixture in the kitchen or pantry, they would probably have been made of knotty pine. So to make this jelly cupboard look authentic, I used No. 2 common pine.

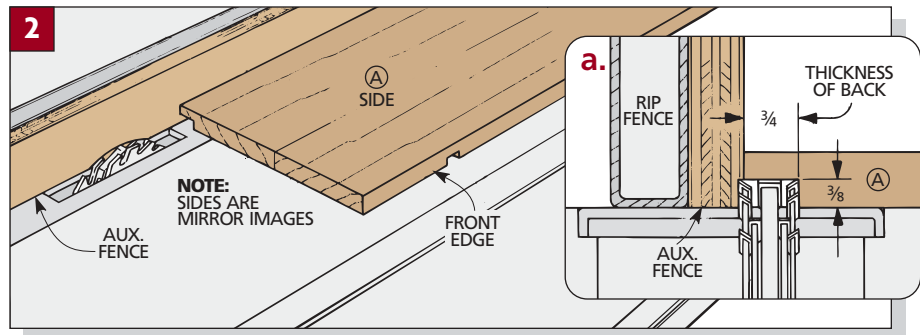
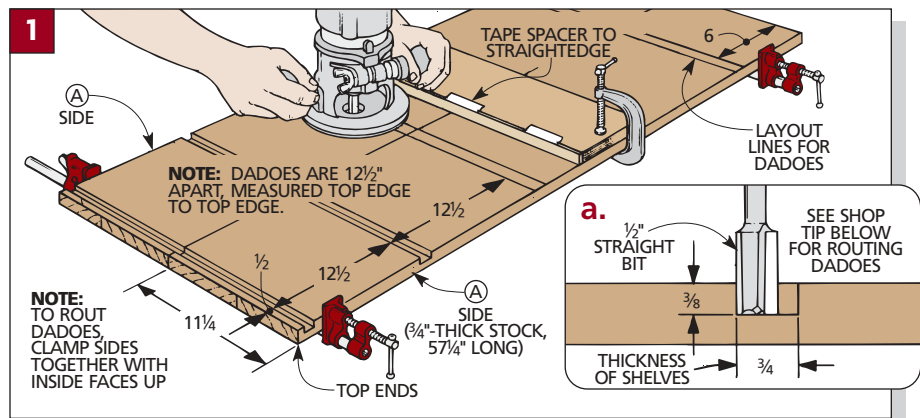
After letting the lumber dry out in the shop for two weeks, I started work on the sides of the cupboard.

**CUT TO SIZE.** In order to minimize the cupping that may occur with wide boards, I edge-glued each of the sides from two narrower boards. When the glue dried, I cut the sides (A) to a finished width of  $11\frac{1}{4}$ " and finished length of  $57\frac{1}{4}$ " (Fig. 1).

**SHELF DADOES.** Five shelves hold the sides of the cupboard together. The shelves are held in dados spaced apart evenly (Fig. 1). But there are a couple tricks to routing the dados in the sides and getting them to align after the cupboard is assembled.

First, I clamped both cupboard sides together with their top ends flush and the inside faces up (Fig. 1). Then I laid out the positions of the dados by measuring down from the top end.

To follow the layout lines for the dados, I guided the router against a straightedge clamped to the workpiece. And because the pine for the shelves was slightly less than  $\frac{3}{4}$ " thick, I used a  $\frac{1}{2}$ " straight bit in the router. I routed each dado to the correct width in two passes



by using a removable spacer against the straightedge (Fig. 1). (Refer to the Shop Tip below for details.)

**BACK RABBET.** After routing the dados for the shelves, a rabbet can be cut in each cupboard side for installing the back slats (Figs. 2 and 2a).

**Note:** To make sure the rabbets are routed along the correct edges (the sides are "mirror" images), it helps to stand

the sides up first and mark the edges to be rabbeted.

**DECORATIVE CUTOUTS.** The last cuts to make on the cupboard sides look simply to be decorative — but they also serve a purpose.

The semi-circular cutout at the bottom of each piece creates a pair of "feet." (Fig. 3). This allows the cabinet to "bridge" uneven spots in the floor.

## SHOP TIP

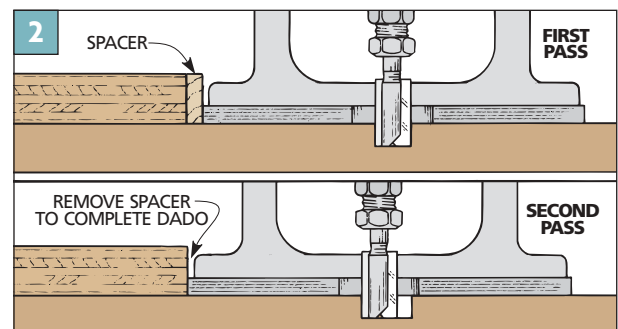
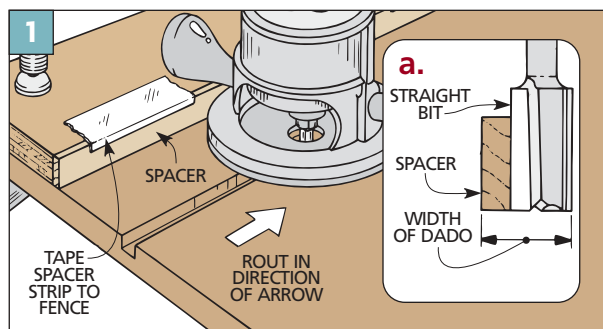
### Routing Custom-Fit Dados

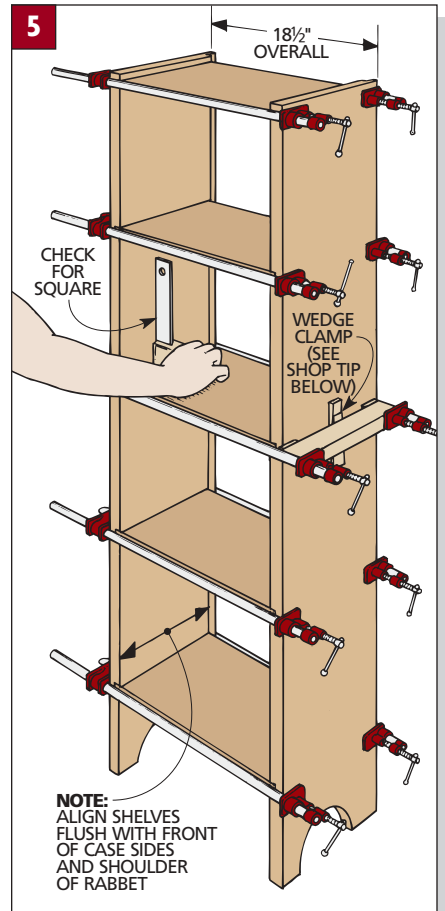
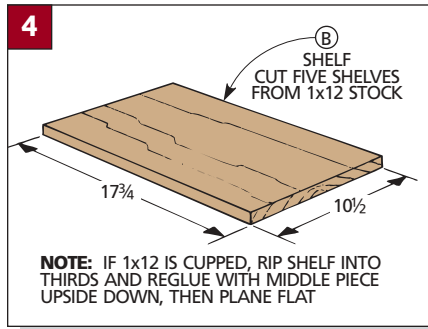
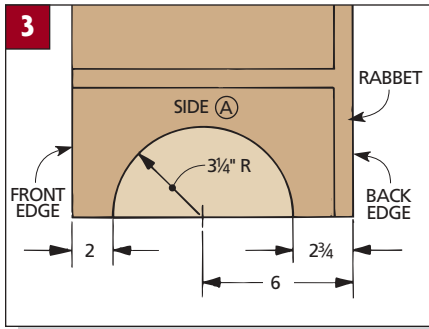
When cutting a dado in a large panel, using a hand-held router is easier than wrestling a large panel on my table saw or router table.

Since lumber is rarely the exact same thickness as the diameter of a router bit, I use a smaller bit and make two passes. First set up a

fence with a spacer strip that determines the exact finished width of the dado. The width of the strip, plus the diameter of the router bit

should equal the finished width of the dado (Fig. 1a). After the first pass, remove the spacer. A second pass completes the dado (Fig. 2).





**Note:** Although the feet start out different widths, they'll end up the same after a facing strip is added to the front (refer to *Fig. 6* on page 5).

After laying out the arcs, I used a jig saw to cut just shy of the layout lines. Then I smoothed up to the line with a drum sander.

**SHELVES.** Next, I started on the shelves. I cut these from 1x12s. A single board this wide will often cup. If your stock is cupped, one way to flatten it is to rip each shelf blank into thirds. Then glue the blank together with the middle piece upside down. When the glue dries, plane the blank flat.

Now the shelves can be ripped to width so they're flush with the front edges of the sides and also the shoulders of the rabbets for the back slats (*Fig. 5*). Then cut the shelves (B) to finished length (*Fig. 4*). To determine this length, measure between the bottoms of the dados on the case sides.



*Square-cut nails are an authentic detail. To prevent splitting the wood, drill pilot holes before driving the nails. Then "set" the heads just below the surface with a punch before sanding the side.*

**ASSEMBLY.** Finally, the case can be assembled with the shelves glued into the dados (*Fig. 5*). The Shop Tip below shows one way to do this.

**Note:** Keep the shelves flush to the front edges of the sides (A). If you don't have enough clamps, you can also assemble the case with square-cut nails.

## SHOP TIP

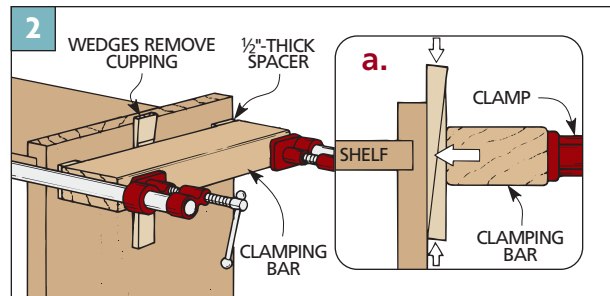
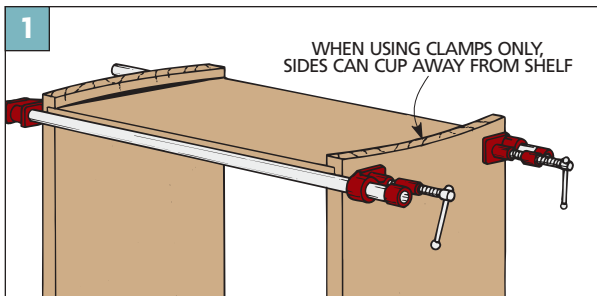
### Clamping With Wedges

While dry-assembling the jelly cupboard, I ran into a problem. When the shelves were clamped between the sides, the centers of the side panels cupped out (*Fig. 1*).

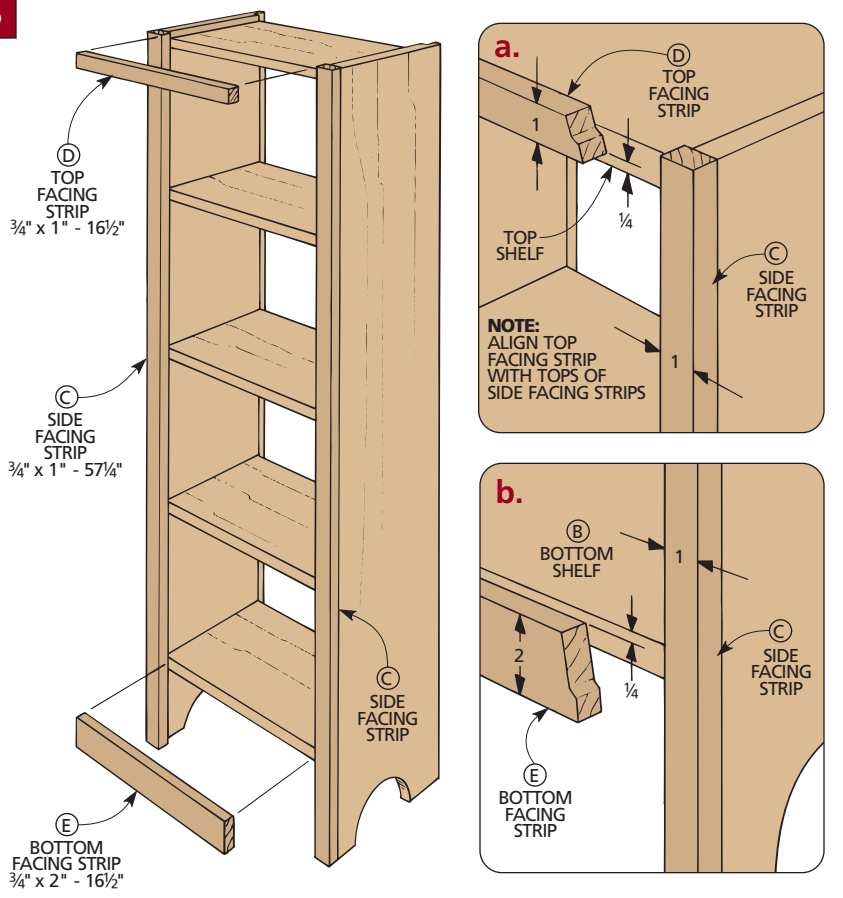
1). I came up with a fix that uses opposing wedges. The wedges work against a clamping bar that "straddles" the sides (*Fig. 2*). It's simply a 2x4 block with a 1/2"-

thick spacer glued on each end. I stuck the spacers to the side of the cabinet using carpet tape. Then I clamped the cupboard assembly together. To force the

center of the side panel tight against the shelf, tap opposing wedges between the clamping bar and the sides until the shelf is completely seated in the dado.



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## FACING STRIPS

To create a frame that surrounds the door, facing strips are added next.

The facing strips are attached to the front edges of the cabinet sides and to the top and bottom shelves (*Fig. 6*).

**RIP TO WIDTH.** First, I ripped two side facing strips (C) and one top facing strip (D) to a width of 1" (*Fig. 6*).

**SIDE STRIPS.** Now cut the side strips to the same length as the cupboard sides. Then glue these to the sides, flush with the outside edges.

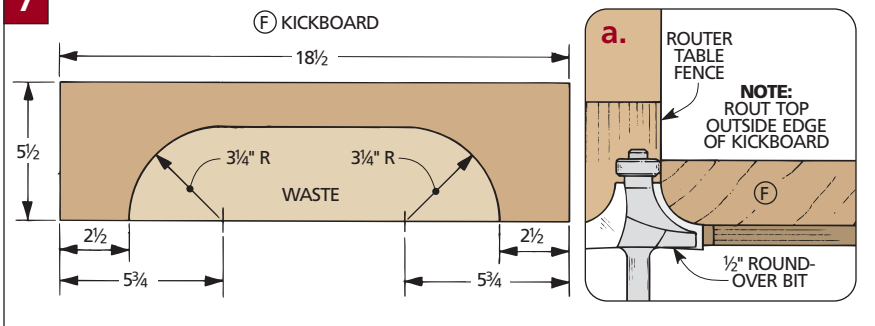
**TOP AND BOTTOM STRIPS.** Next, I ripped a 2"-wide piece for the bottom facing strip (E) (*Fig. 6*).

Then the top and bottom facing strips (D, E) can be cut to length to fit snugly between the side strips.

**ATTACH TO CASE.** Before gluing on the top and bottom strips, make marks on the top and bottom shelves to indicate where the strips should be glued on (*Figs. 6a and 6b*). By leaving 1/4" of each shelf edge exposed, a lip is created at the top and bottom of the door opening. These lips serve as stops for the door (attached later).

## KICKBOARD

7



A kickboard at the bottom of the cupboard adds a decorative touch.

**CUT TO SIZE.** To make the kickboard (F), first rip a piece of 3/4"-thick stock to a width of 5 1/2" (*Fig. 7*). Then cut it to length to match the width of the case.

**ROUND OVER TOP EDGE.** Next, to soften the transition between the kickboard and the lower facing strip, rout a 1/2" roundover along the top outside edge of the kickboard (*Fig. 7a*).

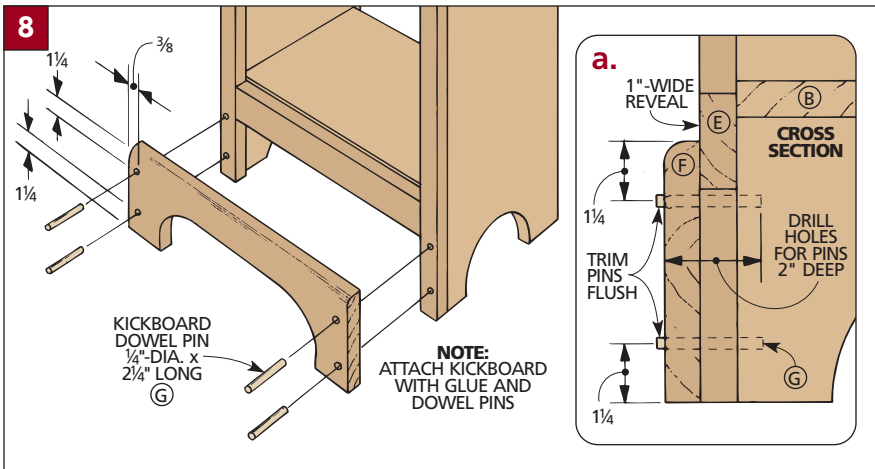
**TOE OPENING.** To make a toe opening on the kickboard, I used my jig saw to cut out a profile along the bottom edge (*Fig. 7*).

**ATTACH TO CASE.** Now the kickboard can be attached to the case. But I did this with dowel pins (G) (*Fig. 8*). First, clamp the kickboard to the case and drill two 1/4"-dia. holes that go through the kickboard and facing strip into the cupboard side (*Fig. 8a*).

Then cut four lengths of dowel to fit in the holes.

**Note:** Cut the dowels so they stand proud of the kickboard when they're tapped into the holes (*Fig. 8a*). Then they can be trimmed and sanded flush after they're glued in place.

8



## BACK & TOP

The back of the cupboard is made of individual slats to allow for plenty of expansion and contraction.

**CUT TO SIZE.** To make the back, start by ripping four back slats (H) from  $\frac{3}{4}$ "-thick stock to the same width (Fig. 9). The finished width allows for a  $\frac{1}{16}$ " gap between the installed slats (Fig. 9a).

Next, cut the slats to finished length so they extend from the top of the cabinet sides to the bottom of the lower shelf (Fig. 9).

**SHIP LAPS.** The ship lap joint is really just overlapping rabbets. The rabbets are cut to a depth half the thickness of the pieces ( $\frac{3}{8}$ " ), and to identical width.

**Note:** Cut rabbets on the opposite edges of the middle slats, but on just one edge of each outside slat (Fig. 9a).

**ATTACH SLATS.** Now the back slats can be screwed to the cabinet, keeping the gaps between them equal (Fig. 9a).

**TOP.** The top (I) is an edge-glued blank (Fig. 10). Cut it to finished size to allow for a  $\frac{3}{4}$ " overhang at the front and sides (Fig. 10a) but not the back.

Next, rout  $\frac{1}{8}$ " roundovers on the edges of the top, and sand a  $\frac{1}{8}$ " radius on the corners. Now the top can be attached using woodscrews driven up from below (Fig. 10a).

## DOOR FRAME

The door of the cupboard is a frame and panel unit. Its construction is the same whether you use tin or wood panels.

**DOOR FRAME.** To make the door frame, start by ripping two door stiles

(J) and two door rails (K) to finished width (Fig. 11).

Then, to determine the length of the pieces, measure between the facing strips and subtract  $\frac{1}{8}$ " to allow for a  $\frac{1}{16}$ " gap all around the door. Cut the frame pieces to finished length (Fig. 11).

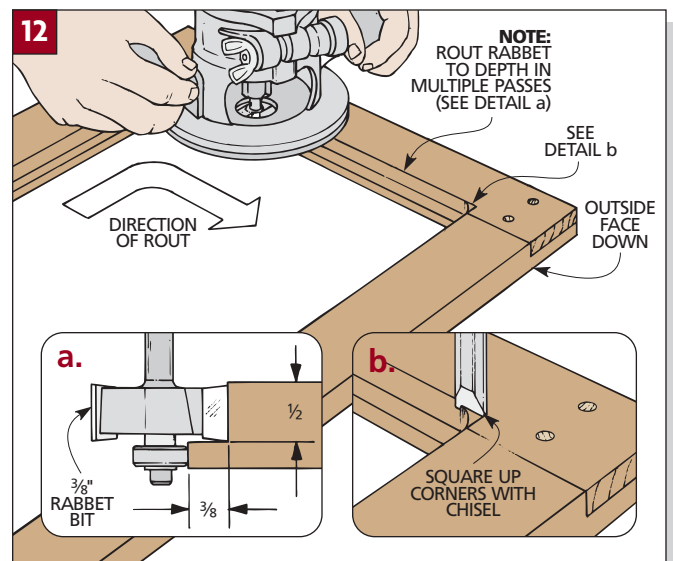
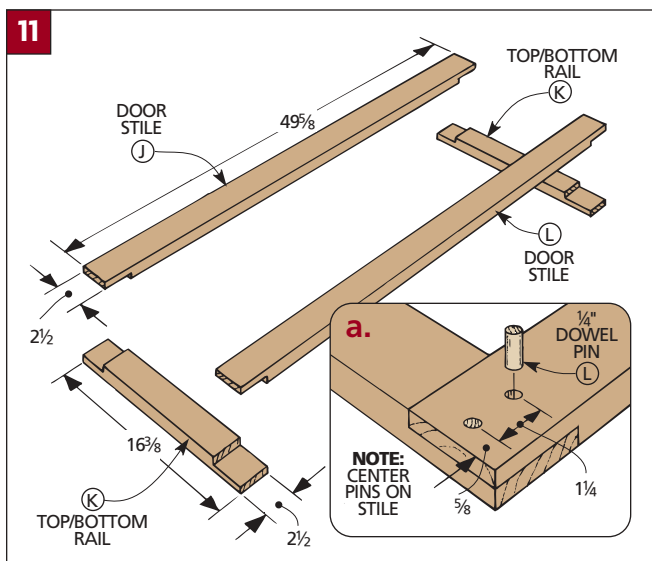
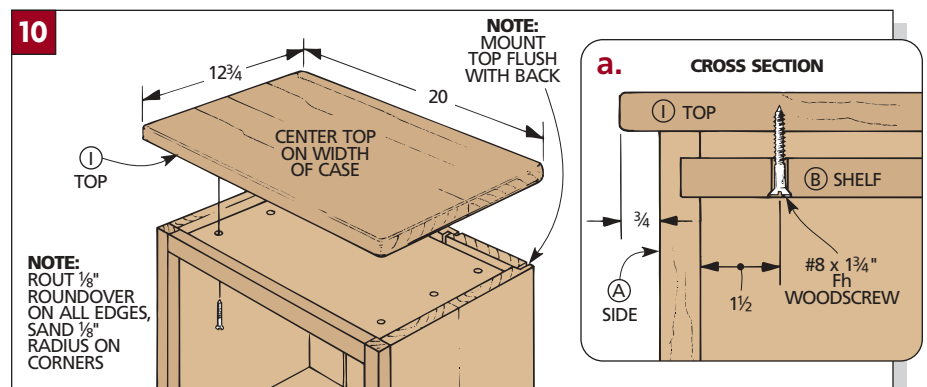
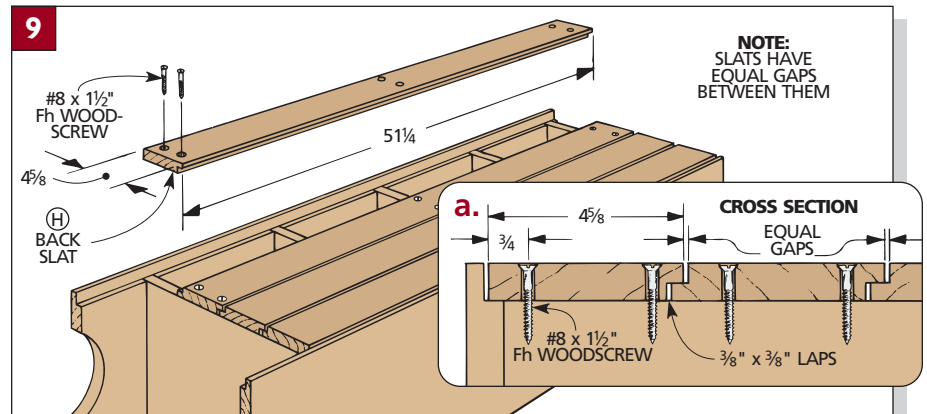
**END LAPS.** Now cut the end lap joints half the thickness of each of the mating pieces (Fig. 11a).

After the lap joints are cut, the frame can be glued and clamped together.

**CORNER PINS.** Next, I drilled two  $\frac{1}{4}$ "-dia. holes through each corner of the frame for the dowel pins (L) (Fig. 11a). Then glue the pins into the holes and trim them flush with the frame.

**RABBET.** When the frame is assembled, rout a rabbet around the perimeter of the door opening in the back side (Figs. 12 and 12a). This creates a lip for the door panels.

When the rabbet is cut, square up the corners with a chisel (Fig. 12b).



When the frame of the door is complete, the dividers (M) can be built. The purpose of the dividers is to separate — and support — the door panels.

**CENTER DIVIDERS.** Start by ripping three blanks to finished width (Fig. 13). Then cut them to length to fit between the rabbets in the door frame.

**TONGUES.** The dividers are held in place by a short tongue on each end (Fig. 13). I used a dado blade to cut the rabbets that form the tongues (Fig. 14).

**EDGE RABBETS.** Now the dividers can fit flush down into the frame. But first, in order to completely support the panels, two more rabbets are needed on the edges of each divider (Fig. 15a).

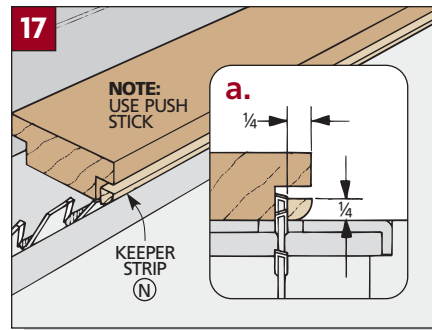
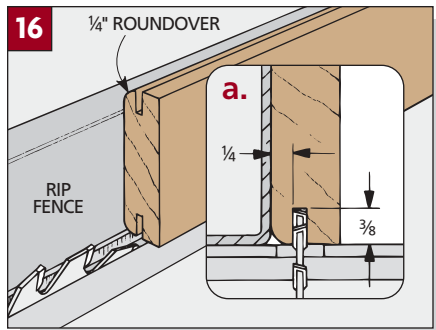
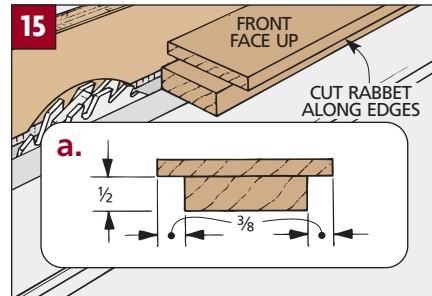
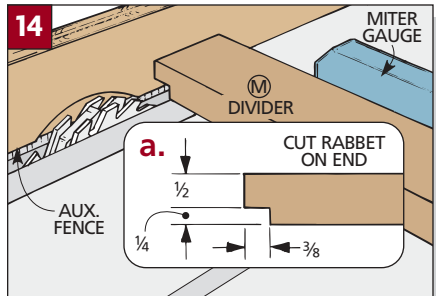
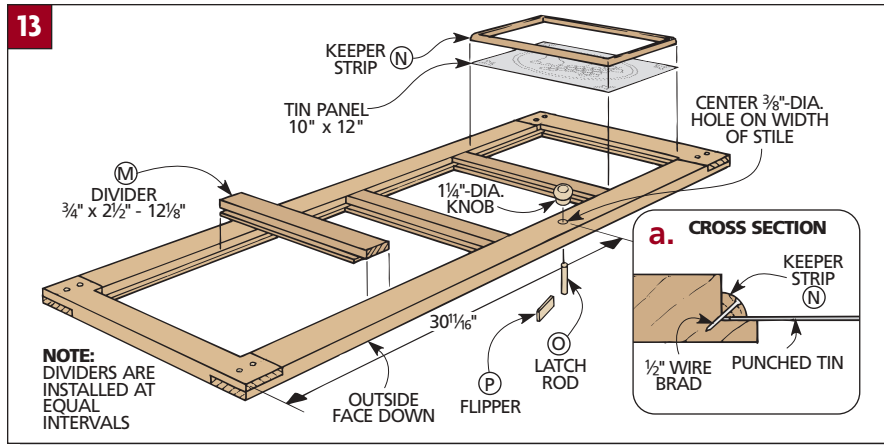
To cut these rabbets, I again used my dado blade (Fig. 15). Cut these with the front of the divider facing up.

**KEEPER STRIPS.** Once the dividers are glued in place, work can begin on the keeper strips.

The panels are held in place by small quarter-round keeper strips (N) that are nailed to the door frame (Fig. 13a). To make these keeper strips, first rout  $\frac{1}{4}$ " roundovers on both edges of a blank (Fig. 16). Then set the rip fence  $\frac{1}{4}$ " from the blade and cut a  $\frac{3}{8}$ "-deep kerf on each edge. Finally, to separate a keeper strip from each edge, run the blank through the blade face down so the keeper strip falls to the waste side (Fig. 17). This prevents kickback.

**TIN PANELS.** To make the tin panels, tape your pattern to the tin blank, then fasten the blank to a hardboard backing board. Punch the holes by striking an awl with a hammer. Use softer strikes for smaller holes, heavier strikes for larger holes. When each panel is finished, trim it to size and secure it in the door (Fig. 13a).

**MORTISES.** After the panels are in place, the door is attached to the case. I used three 2"-long hinges and cut a

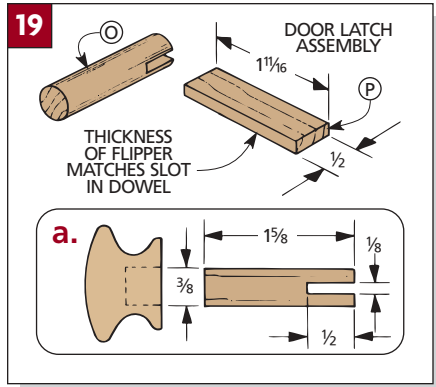
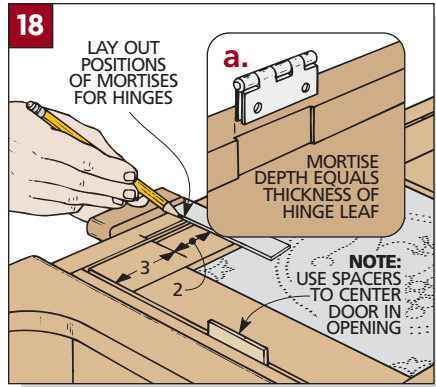


shallow mortise for each hinge in the door stile and the facing strip (Fig. 18a and the Exploded View on page 2).

**DOOR KNOB.** Next, I built a knob and latch assembly. To start, drill a  $\frac{3}{8}$ "-dia. hole through the door stile (Fig. 13). Then drill a hole in the wooden knob to accept a length of dowel (O) (Fig. 19a).

A short “flipper” (P) fits in a slot in the end of the dowel (Fig. 19). When the knob is turned, the flipper will catch the facing strip and prevent the door from swinging open (see photo).

**FINISH.** Now the cupboard can be stained and finished. Since pine can stain unevenly, use a sealer first. ■



Before gluing the latch together, make sure it will rotate. If it doesn't, lightly sand the dowel until it does.



# DESIGNER'S NOTEBOOK

Change the look of the cupboard just by using solid wood panels instead of punched tin. These raised panels can be made entirely on the table saw.

## CONSTRUCTION NOTES:

- To make the wood panels (Q), glue up four blanks from  $\frac{3}{4}$ "-thick stock.
- Measure the rabbeted openings in the back of the door frame. Cut the panels  $\frac{1}{8}$ " less than these measurements to allow for a  $\frac{1}{16}$ " gap all around (Fig. 2).
- To steady the panels, fasten a tall auxiliary fence to the table saw rip fence (Fig. 1). Then tilt the table saw blade  $10^\circ$  and raise the blade to  $1\frac{3}{8}$ ".
- Cut the bevels in two passes, moving the rip fence slightly between passes. The first pass removes most of the waste. The second "skim" cut cleans up burn marks or blade swirls and creates the  $\frac{1}{16}$ "-wide shoulder (Fig. 2).

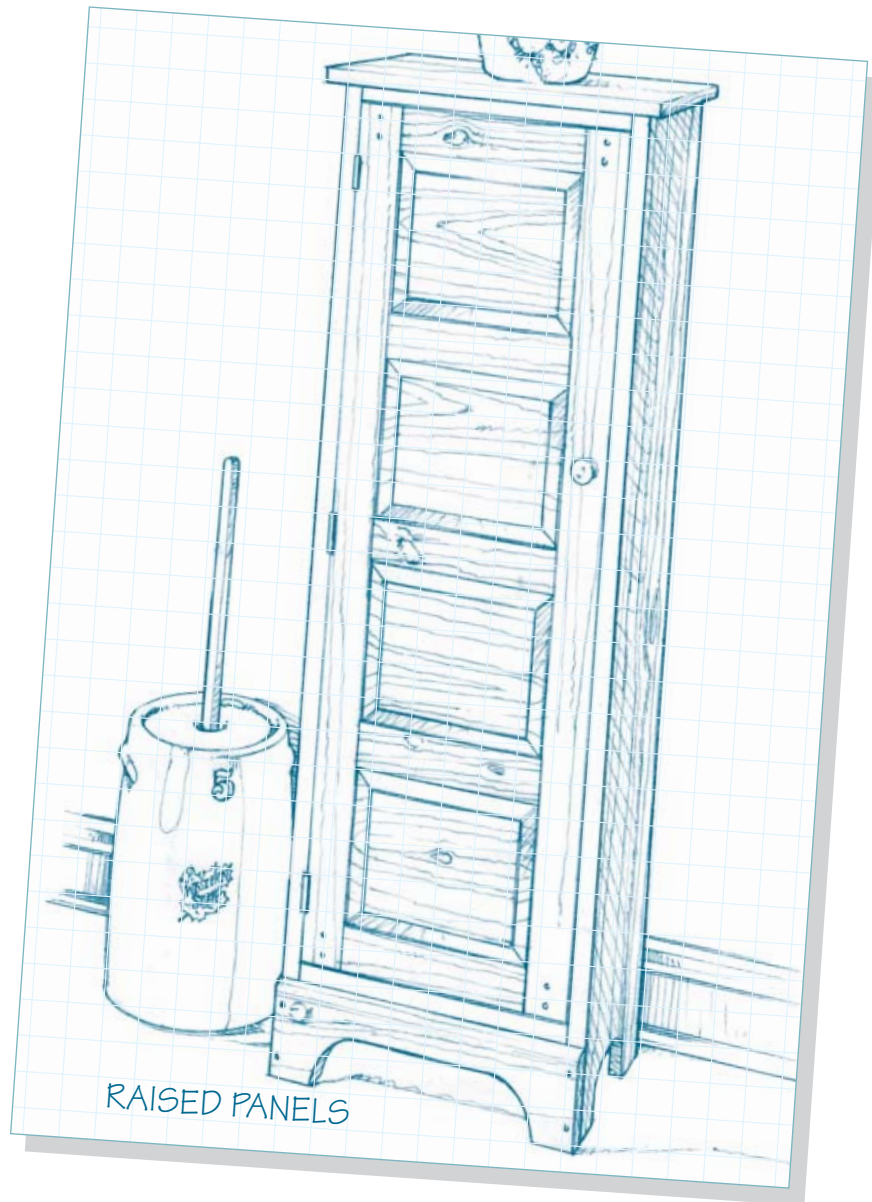
**Note:** Before moving the rip fence for the second pass, cut the bevels on all the edges of all your panels.

Cut across the end grain edges first. Then any chipout will be removed when the cut is made on the face grain edges.

■ The tilted blade will slightly undercut the shoulder. To square it up, make a sanding block with a bevel on one edge that matches the bevel on the panels.

■ To make a tongue on the edge of the panel, cut a  $\frac{3}{4}$ "-wide rabbet  $\frac{1}{4}$ " deep on the back edges (Fig. 2).

■ Now, fasten the panels in the door with keeper strips (Fig. 2).

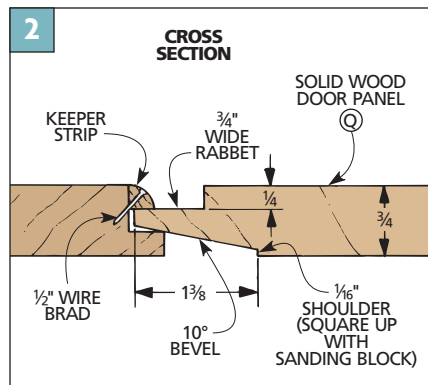
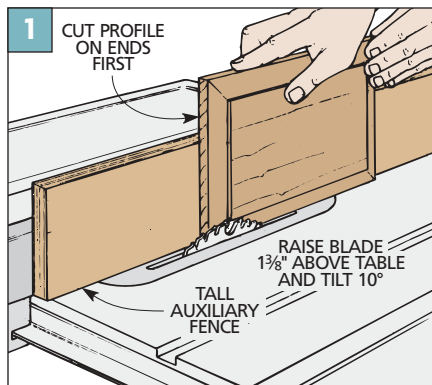


## MATERIALS LIST

### NEW PARTS

**Q** Door Panels (4)  $\frac{3}{4}$  x  $9\frac{7}{8}$  - 12

**Note:** Don't need tin panels



If a panel shrinks, an unfinished edge may be exposed. To prevent this, apply finish before mounting it in the frame.