WOODWORKER'S JOURNAL

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Classic Project

Tabletop Armoire

In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.


Tabletop Armoire

This Tabletop Armoire is an elegant piece with classic proportions. It's perfect for use as a curio cabinet or perhaps a dresser-top jewelry chest. Our armoire is made of pine, but consider using a hardwood if you don't like the painted look.

Start with the top (A). As shown in the Top Detail, the top is built up of two boards to get the needed 1¾ in. thickness. Glue both boards together and when dry, rip the top in half along the dotted line. You can skip this ripping step if you have a bandsaw with a 6¾ in. or greater resaw capacity. If you plan on ripping the top in half before cutting the profile, add an extra ⅛ in. to the width of the stock to account for the material lost when the ripping cut is made.

Next, lay out the 5½ in. and 6¾ in. radii on the edge of the top, as shown in the elevation. You'll need to do the layout on both of the pieces if you ripped the top in half. Cut the profile, then glue the two halves of the top back together, being careful to keep them in register. Use files and sandpaper to fair any unevenness and smooth away the bandsaw marks. But don't round the edges or cut the stopped dadoes for the side panel assemblies yet. You'll do that later, before you fit the top to the case.

The case is a frame-and-panel assem-

May/June 1990 57

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Tabletop Armoire

This Tabletop Armoire is an elegant piece with classic proportions. It's perfect for use as a curio cabinet or perhaps a dresser-top jewelry chest. Our armoire is made of pine, but consider using a hardwood if you don't like the painted look.

Start with the top (A). As shown in the Top Detail, the top is built up of two boards to get the needed 1 3/4 in. thickness. Glue both boards together and when dry, rip the top in half along the dotted line. You can skip this ripping step if you have a bandsaw with a 6 3/4 in. or greater resaw capacity. If you plan on ripping the top in half before cutting the profile, add an extra 1/8 in. to the width of the stock to account for the material lost when the ripping cut is made.

Next, lay out the 5 1/2 in. and 6 1/4 in. radii on the edge of the top, as shown in the elevation. You'll need to do the layout on both of the pieces if you ripped the top in half. Cut the profile, then glue the two halves of the top back together, being careful to keep them in register. Use files and sandpaper to fair any unevenness and smooth away the bandsaw marks. But don't round the edges or cut the stopped dadoes for the side panel assemblies yet. You'll do that later, before you fit the top to the case.

The case is a frame-and-panel assem-

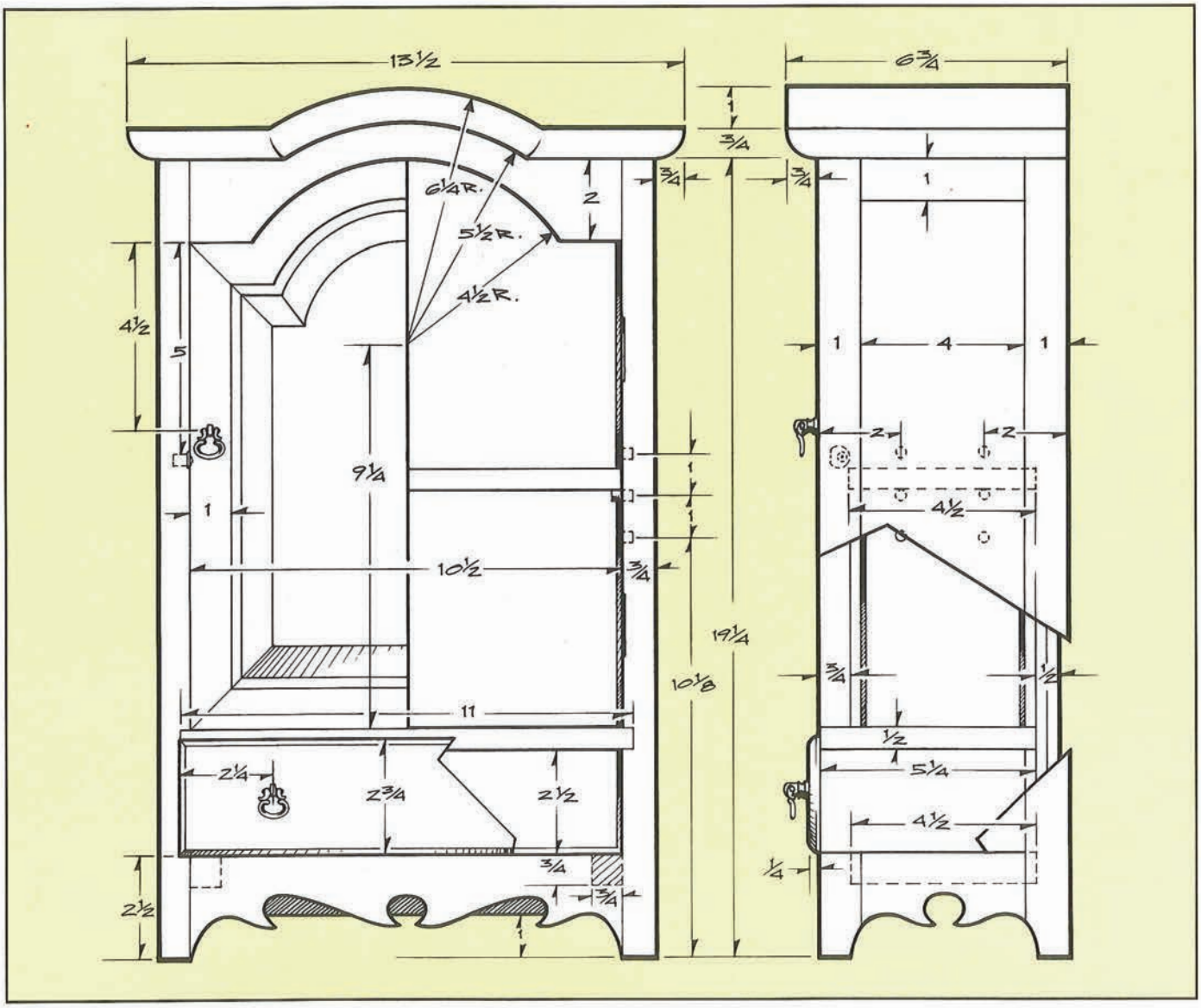
bly. Start by constructing the side frames. They consist of stiles (B) joined by a top rail (C) and bottom rail (D). The stiles are identical except that the front stiles have a 1/4 in. wide by 1/4 in. deep groove cut full-length on one edge, while the back stiles have this groove both on an edge and on a side (see Corner Detail). The 1/4 in. by 3/8 in. tongue on the top end of the side frame-and-panel, the profile on the lower end, the stopped dado for the shelf, and the grooves for the top and bottom front stretchers are all cut after the side frame-and-panels have been assembled.

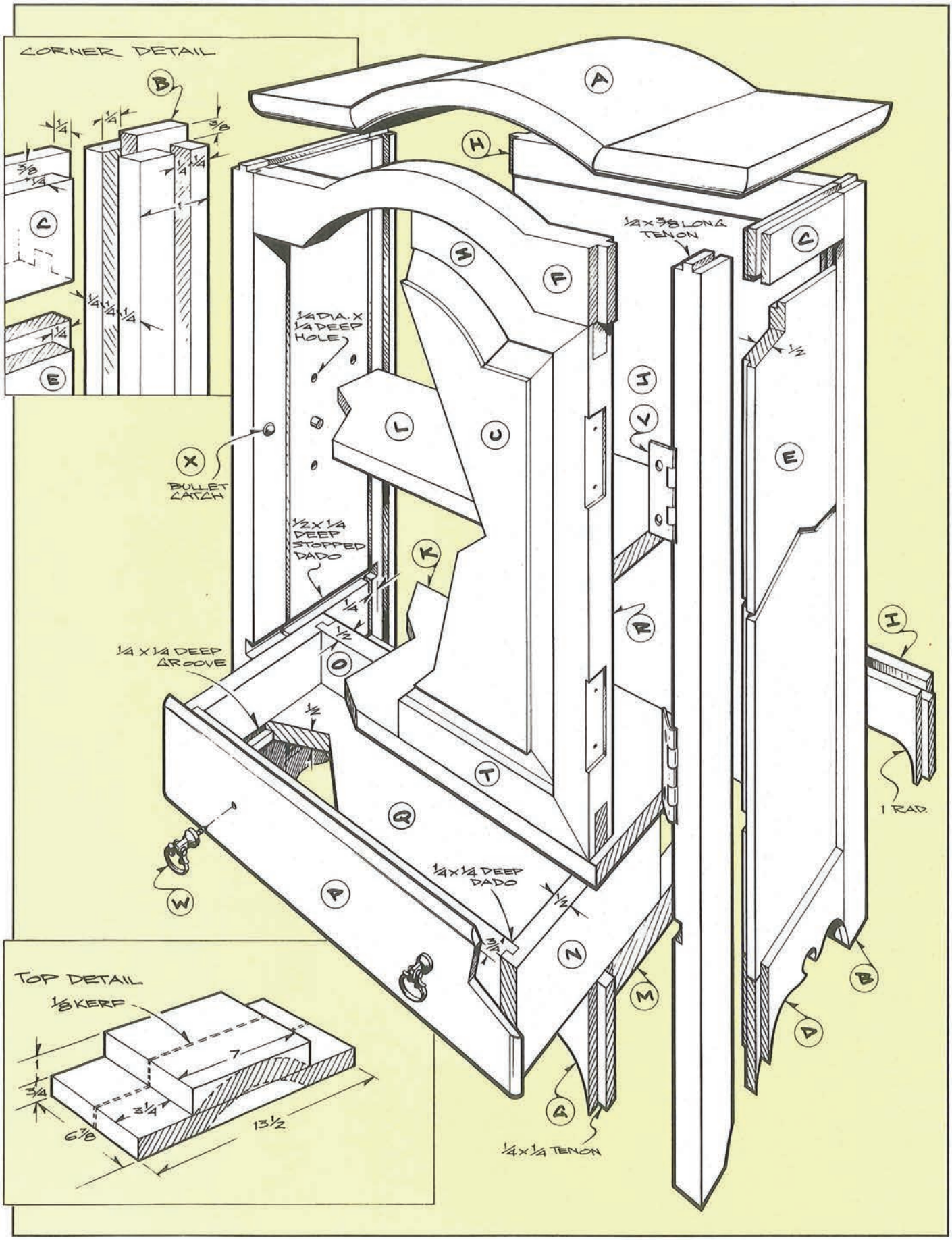
Before starting any assemblies, cut the remaining case parts. Note that the side panels (E) and back panel (J) are both cut for an exact fit top to bottom, but allow a little room for wood movement side to side. We made our panels from solid stock, but if you use plywood instead, there's no need to allow extra room for wood movement. The panels are cut to size, and then a 1/4 in. by 1/4 in. rabbet is cut all around. If you make the panels from solid stock, and plan to paint the armoire, make the rabbet a little deeper so that the thickness of the tongue is about 1/32 in. less than the groove width. The tongue on the panels must be a little thinner than the groove so the paint won't peel off during assembly. We painted the panels first since if they're painted after assembly and there's some shrinkage, then an unsightly line would show.

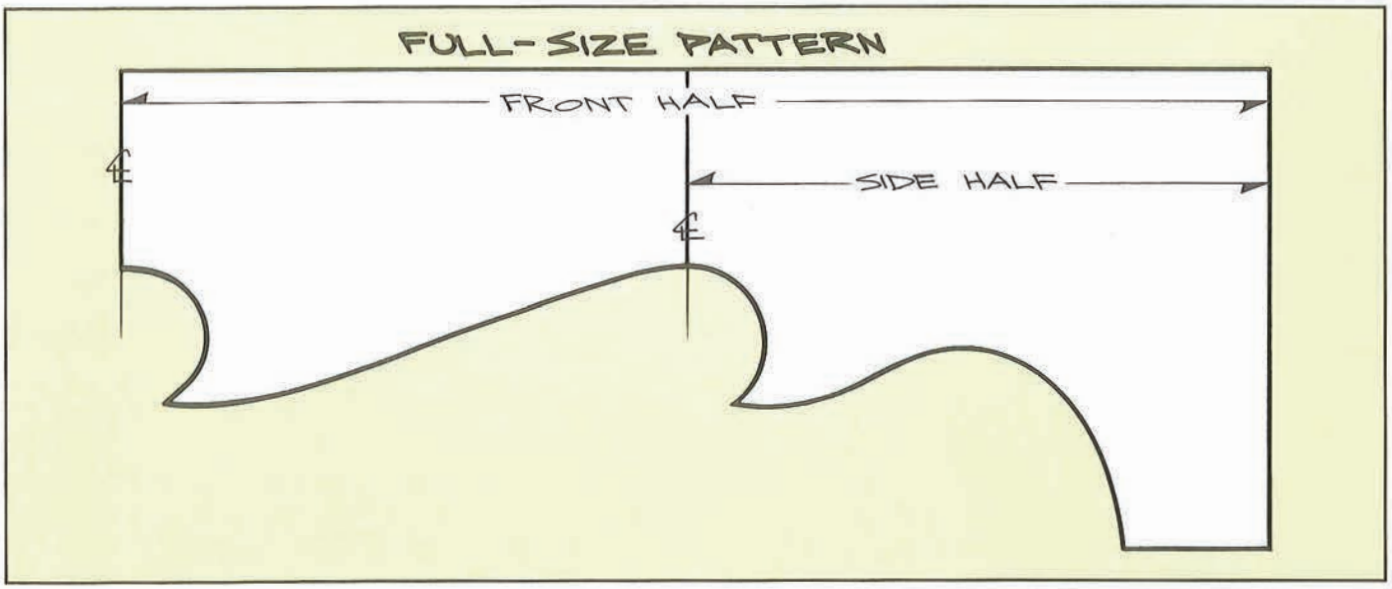
Also cut the front stretchers (F, G) and back stretchers (H, I). Note that the back stretchers are both grooved to accept the back panel, and that the top stretchers both front and back must also be shaped to fit the top. But don't worry if you can't get a perfect fit. Any gaps between the top stretchers and the top will be filled and sanded before you paint.

Assemble the frame-and-panel sides. When dry, cut the profile on the bottom (see full-size half-pattern), and establish the 1/4 in. by 3/8 in. tongue on the top. Note that when you cut the bottom profile, you'll actually be cutting 1/4 in. deep into the stile. Be careful not to lose any of the short grain sections of the bottom rail. If any do break off, glue them back. At the final preparation stage prior to painting, you can sand any inconsistencies or fill any gaps.

Now cut the stopped dadoes in the







frame-and-panel sides for the bottom (K). Use the router equipped with a 1/2 in. straight cutter (you'll probably need several passes) and square the end of the cut with a 1/4 in. chisel. Also drill for the bullet catch (X) in the stile and drill the 1/4 in. diameter by 1/4 in. deep holes on the inside of the side panels for the shelf support pins. But take great care here so you don't break through the 1/2 in. thick panel. A drill press with a depth stop is the best choice for both these jobs.

The router equipped with a 1/4 in. diameter straight cutter is used to cut the grooves in the front stiles for the front rails. The grooves at both the top and bottom ends are stopped, and must be squared with a chisel. Now assemble the two frame-and-panel sides to the stretchers, back panel and bottom. The profile in the bottom front stretcher, and the cutout in the bottom back stretcher are both made after the case has been assembled. Transfer the front profile from the full-size half-pattern and use a coping saw or a hand-held jigsaw to cut it out. The back cutout is just a 1 in. radius at either end connected by a straight line. The coping or jigsaw is also used for this cutout. Use files and sandpaper to clean up the saw marks and any irregularities on the various profiles.

Place the top on the case to mark for the 1/4 in. wide by 3/8 in. deep stopped dadoes to fit the tongues on the sides. These dadoes are cut with the router and a straight bit, but you'll need at least three passes, each removing about 1/8 in. of stock. Then round the edges of the top with a file and sandpaper, and assemble the top to the case. Cut the shelf (L) and drawer runners (M) to fit.

The drawer we show is a rabbet-and-dado construction. There's a 1/4 in. lip at the top and sides of the drawer front (P), and the bottom (Q) slides into a groove in the sides (N) and front. Drive a screw up into the lower edge of the back (O) to anchor the bottom. Our drawer bottom was made of 1/2 in. thick solid stock—the same as the panels—but you can also use plywood.

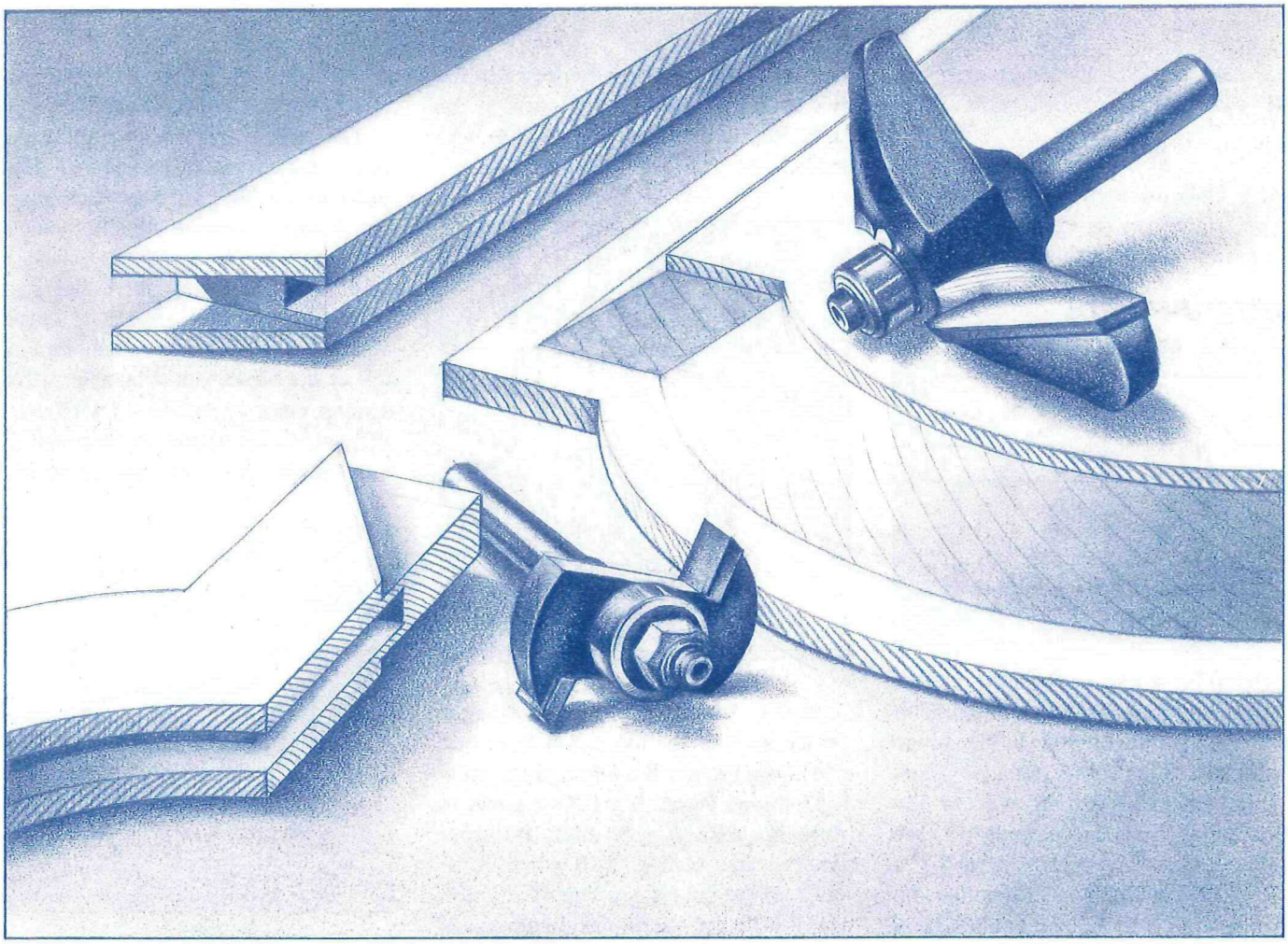
The door (R, S, T, U) is made as described in the Special Techniques article on page 23. When fitting the door to the case, you'll need to file a bevel on the inside of the door arch to provide clearance at the top front rail. Test fit the door, then file just enough away so the door doesn't catch as it closes.

Use a wood filler as needed to fill any gaps, sand smooth, then apply a base coat of sandable white primer. Sand with 320-grit sandpaper, then paint with a pink or coral enamel. The mottled look is achieved by dabbing on McCloskey Tungseal Colonial Maple Wood Stain No. 949. Use a cloth wad or pad (we used an old T-shirt) for the large surfaces, and a paintbrush to get into the corners. When dry, we sprayed on a coat of clear lacquer to seal the finish.

Bill of Materials
(all dimensions actual)

Part	Description	Size	No. Req'd.
A	Top	1 3/4 x 6 3/4 x 13 1/2	1
B	Stile	3/4 x 1 x 19 5/8*	4
C	Top Rail	3/4 x 1 3/8 x 4 1/2*	2
D	Bottom Rail	3/4 x 2 1/2 x 4 1/2*	2
E	Side Panel	1/2 x 4 3/8 x 16 1/4	2
F	Top Stretcher (Front)	3/4 x 3 x 11*	1
G	Bottom Stretcher (Front)	3/4 x 2 1/2 x 11*	1
H	Top Stretcher (Back)	3/4 x 3 x 11*	1
I	Bottom Stretcher (Back)	3/4 x 2 1/2 x 11*	1
J	Back Panel	1/2 x 10 7/8 x 15 1/4	1
K	Bottom	1/2 x 5 1/4 x 11	1
L	Shelf	1/2 x 4 1/2 x 10 1/2	1
M	Drawer Runner	3/4 x 3/4 x 4 1/2	2
	Drawer		
N	Side	1/2 x 2 1/2 x 5 1/4	2
O	Back	1/2 x 2 x 10	1
P	Front	3/4 x 2 3/4 x 11	1
Q	Bottom	1/2 x 5 x 10	1
	Door		
R	Stile	3/4 x 1 x 11 3/4	2
S	Top Rail	3/4 x 3 x 10 1/2*	1
T	Bottom Rail	3/4 x 1 x 10 1/2*	1
U	Panel	3/4 x 9 x 12 1/4	1
	Hardware		
V	Hinge	1 1/2 x 1	2
W	Pull	5/8 wide	3
X	Bullet Catch	3/8 long x 5/16 dia.	1

* Length includes tongue or tenon(s)



Making a Tombstone
Frame-and-Panel Door

Don't let the Special Techniques heading fool you into thinking that this is only for experienced woodworkers. The special element here is the arched profile (called a tombstone) and the extra handwork that it entails. Except for the few extra steps that the tombstone detail adds, this is basically just another raised-panel door.

The door shown is used on our Tabletop Armoire (page 57). However, the same basic technique can be used for almost any small tombstone frame-and-panel door. Just adjust the width and length dimensions of the frame parts. The raised panel was shaped with a panel raising bit. The bit is available from MLCS Ltd., P.O. Box 4053, Rydal, PA 19046 (Tel. 1-800-533-9298). Order their part no. 686 ($45 postpaid). This is a 1/2 in. shank bit, so you'll need a router with a 1/2 in. capacity collet. The larger, more powerful router is a must to power a bit of this size.

Our door features a mitered bridle joint frame. The bridle joint tongue is cut on the rail ends, and a mating groove is cut on the stile ends. The fussy part is the miter on the rails, which can't be cut with just a single miter gauge setting.

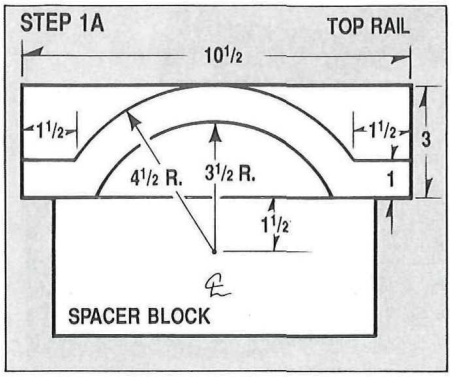
Because our Tabletop Armoire is a painted piece, we used pine for the construction. Pine makes an ideal wood for several reasons. It doesn't cost much so there won't be much of a loss if you make a serious mistake. And, because pine is so easy to cut, the chisel work needed to clean up the inside corners of the tombstone raised panel should not be a problem. Finally, because pine is close-grained, it takes paint very well. Just be sure to avoid using any stock with knots, since knots in pine sometimes telegraph through paint.

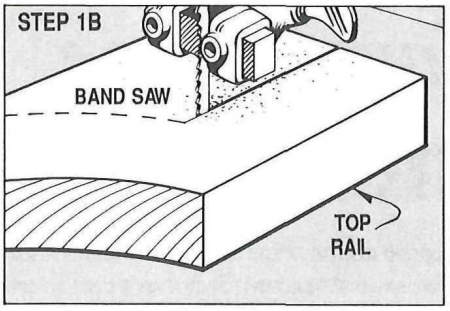
Before starting on the step-by-step instructions, cut all your door parts to size. The dimensions are given in the Bill of Materials on page 60. Make your

door after completing the case, so you can adjust part sizes if necessary.

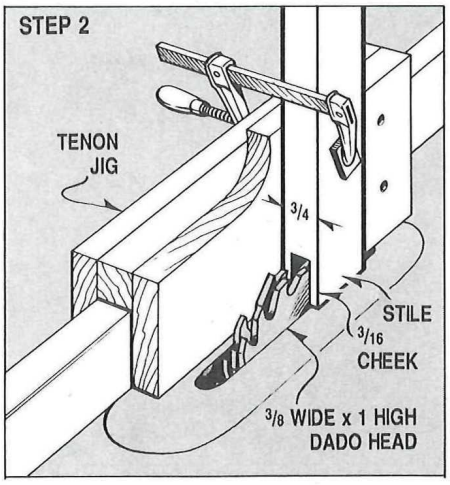
Step-By-Step

Step 1: Using a compass, lay out the concentric curves on the top rail stock. The easiest way to do this is to temporarily clamp the stock to a flat surface, with a 3/4 in. thick spacer block adjacent to raise the compass point to the same plane. Locate the center point as shown 1 1/2 in. from the bottom edge of the stock, and then use the compass to scribe the two radii, which are 4 1/2 in. and 3 1/2 in. respectively (Step 1A). Then use the band saw to cut the profile (Step 1B).

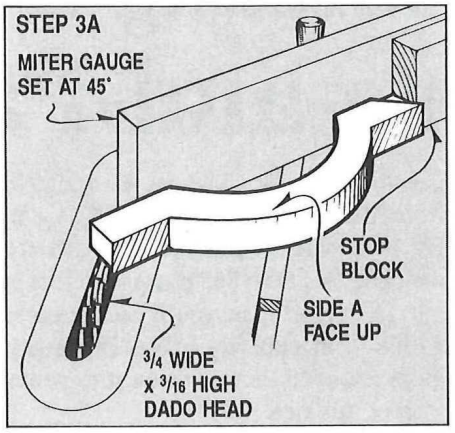




Step 2: Cut the bridle joint on the stile ends. You'll need a dado head, mounted in the table saw and set to make a 3/8 in. wide cut. You'll also need a tenon jig to support the stock, which must be passed across the cutter on end. The tenon jig we use fits over and rides on the fence. As shown, since our frame parts are 3/4 in. thick, and we're using a 3/8 in. thick tongue in our bridle joint, the tenon jig and fence are located so the dado cut leaves 3/16 in. thick cheeks on either side. Note that the dado head is raised to a height of 1 in., a dimension equal to the width of the stile and rail parts at the joint. Repeat the cut on both ends of both stiles.

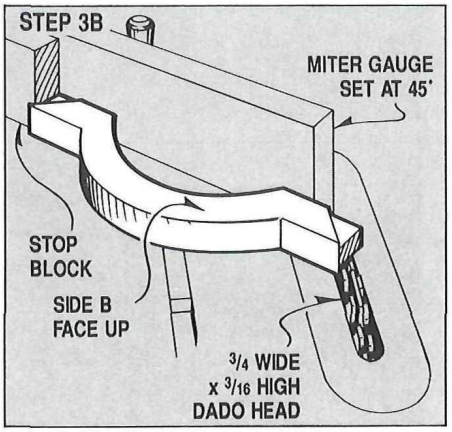


Step 3: To cut the bridle joint tongue on the ends of the top and bottom rail, you'll need to use the miter gauge set at a 45-degree angle. But before going to work on your project stock, test your miter gauge setting with some scrap stock. If the cut isn't a true 45 degrees, you'll have gaps at the inside or outside point of the miters when you assemble the door frame.



Once again use the dado head, but increase the width to 3/4 in. The height of the dado head must be 3/16 in. to establish the 3/8 in. tongue thickness. Note that these settings assume that your stock is exactly 3/4 in. thick. If the actual thickness of your stock is not 3/4 in., then you'll need to adjust the settings to reflect the stock dimension.

The most accurate way to make these miter cuts is by using a stopblock. But in order to cut both sides of each tongue, you'll have to reverse the miter gauge to the opposite side of the blade, in addition to reversing the miter gauge angle to the complementary 45 degrees. With your miter gauge in the slot to the left of the blade, you'll be able to make a miter cut on opposite ends of side A and side B, as shown in Step 3A. The illustrations show the cuts being made on the curved top rail, but you'll follow the same procedure to cut the straight bottom rail.

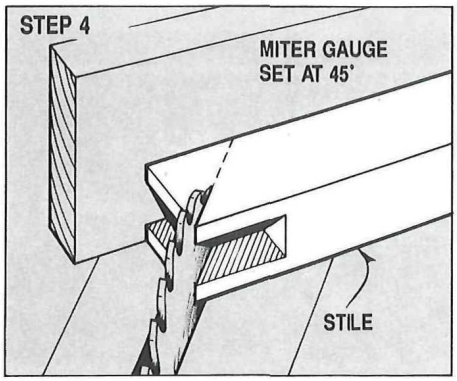


The miter gauge angle must be reversed, and the miter gauge must be located to the right of the blade, in order to cut the remaining miters (Step 3B). But because you have to reset both the miter gauge and the stopblock, there's only one way to get the setting exact. The technique requires that you cut a few extra miters on scrap pieces the same length as your work stock in Step 3A, then use those scrap pieces to test the stopblock setting in Step 3B until it's just right.

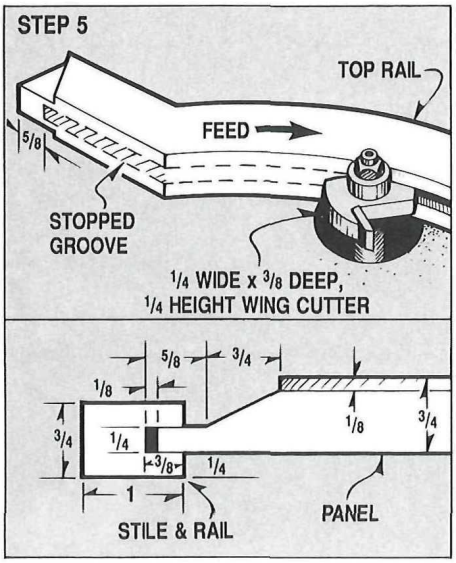
Another way to cut the joint on the rail ends is with a 45-degree miter cutting jig. The jig is a timesaver if you do a lot of framing work. It's basically just a sliding table with fixed 45-degree guideblocks that rides in the table saw miter gauge slots. Plans for both 45-degree and 22 1/2-degree miter cutting

jigs were featured in our September/October 1988 issue (Volume 12, No. 5).

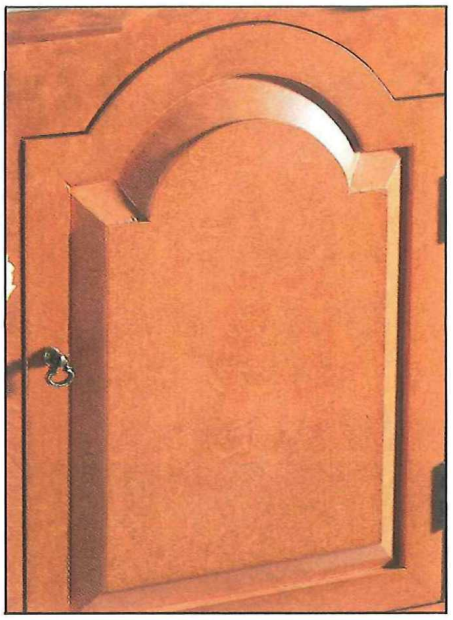
Step 4: All that remains of the frame joinery is to miter the stile ends. Angle the miter gauge to 45 degrees and use a stopblock to insure the proper length, as you did with the miters in Step 3. One setup is all you'll need though, since the miter cuts are through. Just be sure to use a sharp blade to avoid tear-out on the top cheek, which won't be supported.



Step 5: We used a wing cutter to make the panel groove in the stiles and rails. The wing cutter is a must to cut the groove in the curved top rail—without a lot of hand work—and once you are set up it's easy to also cut the bottom rail



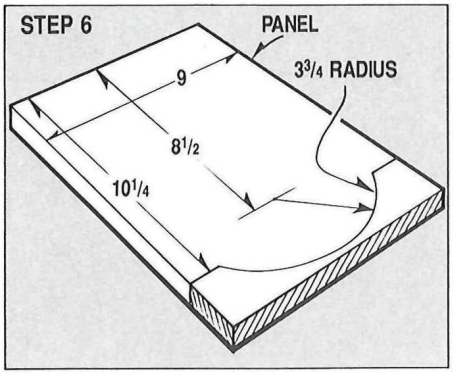
and stile grooves. The wing cutter we used cuts a 1/4 in. wide by 3/8 in. deep groove. It's part no. 368, also available from MLCS (see page 23 for address and phone). Cost for this cutter is $14 postpaid. Note that on the top and bottom rails, you'll need to make a stopped groove, since you don't want the cut to show on the ends.

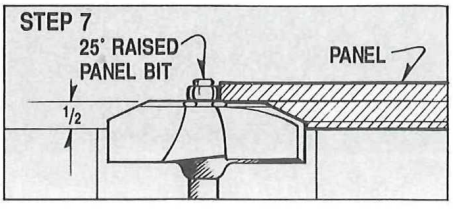


As shown, the panel is sized so its tongue fits about 1/4 in. deep into the groove in the stiles and rails. This allows for wood movement in the panel.

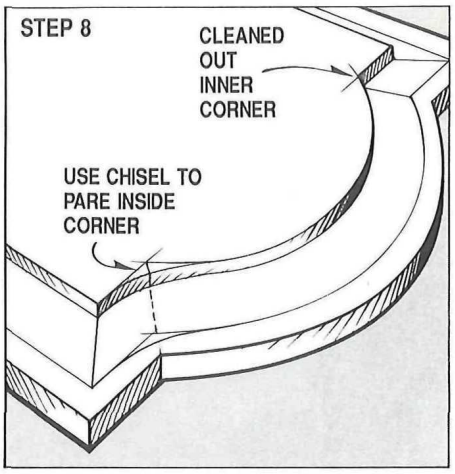
Step 6: Lay out the tombstone profile, then use the band saw to cut the panel to size.

Step 7: With the panel raising bit mounted in the router table, now cut the raised panel detail.





Step 8: As shown, the panel will need a little handwork on the inside corners of the tombstone top, where the panel raising bit did not reach. Use a sharp chisel to clean out the inside corners. This part is a little like carving, but much easier. Use a sharp pencil to continue the lines of the radius and tombstone shoulder, then clean back to the line, being careful to maintain the proper bevel. Note that maintaining the plane of the



bevels is particularly important in order to get a good straight line where they meet. It helps to first use a knife to establish this line and then pare along the bevels until they meet the knife cut.

After final sanding, apply the painted finish to the panel, then assemble the frame around it. If you try to apply the finish after assembly, when the raised panel contracts, you'll see a strip of unfinished surface appearing at the panel edges. Drill a pilot hole, then drive a small nail into the panel at the center point of the top and bottom rails. This will help to equalize wood movement in the panel.

Although our frame-and-panel shows a 1/4 in. thick tongue on the panel fitting into a 1/4 in. wide groove in the stiles and rails, *in practice you should sand the* panel back enough to thin the tongue down to about 7/32 in. thick. If you don't allow this extra, then the paint will peel off as you insert the panel into the frame. Instructions for the painted finish are on page 60.

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