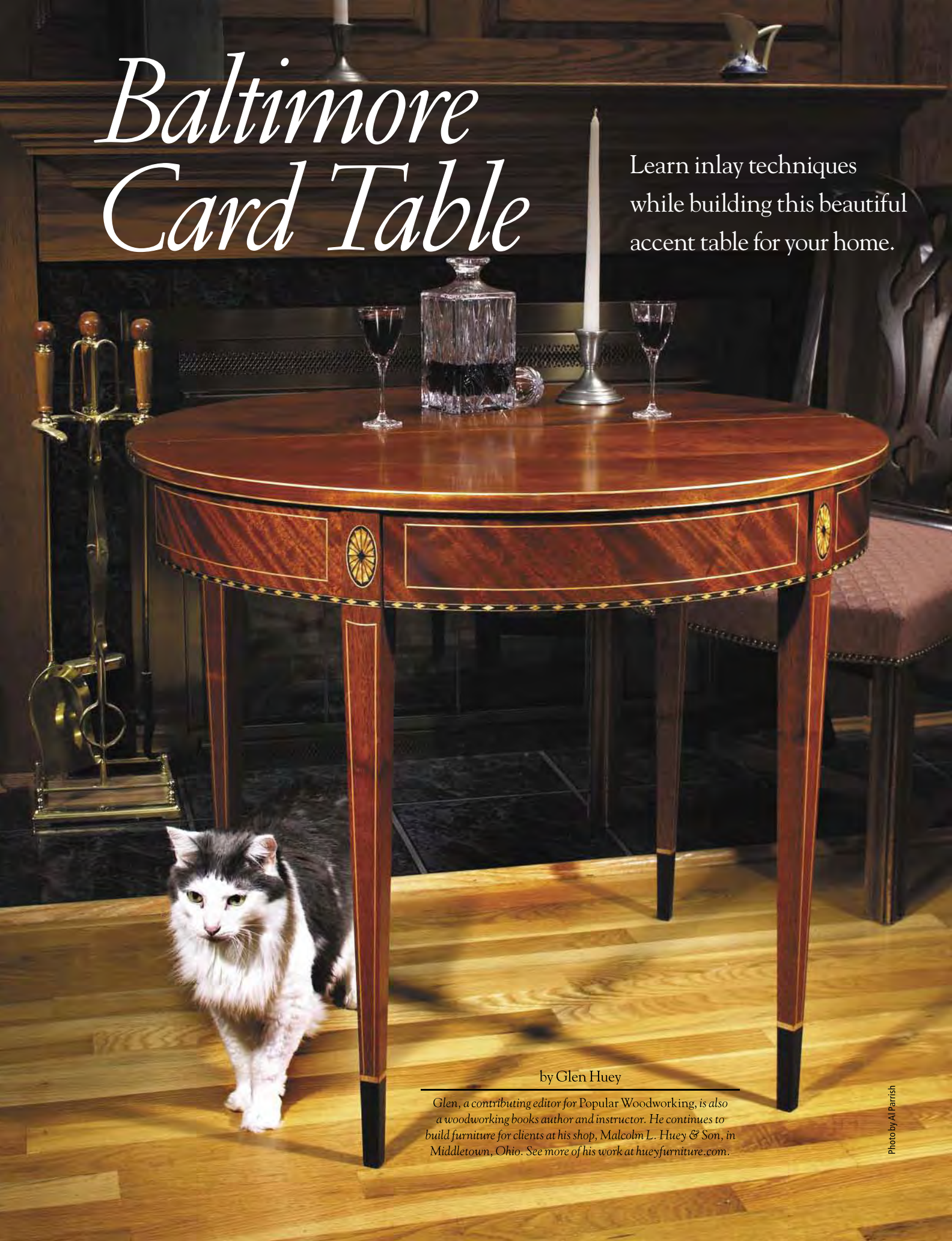
Baltimore Card Table

Learn inlay techniques while building this beautiful accent table for your home.



by Glen Huey

Glen, a contributing editor for Popular Woodworking, *is also a woodworking books author and instructor. He continues to build furniture for clients at his shop, Malcolm L. Huey & Son, in Middletown, Ohio. See more of his work at hueyfurniture.com.*

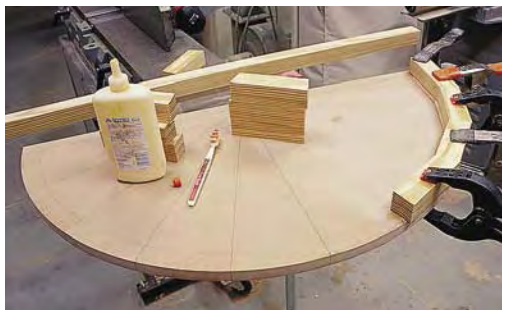
Photo by Al Parrish

A beautiful demilune side table always catches your eye. Some of these tables also open into an equally attractive and more functional four-legged round table. The table here is a inspired by an original attributed to Levin S. Tarr (1772-1821) and built between 1795-1810 in Baltimore, Md. The original is now part of the Colonial Williamsburg Collection of Southern Furniture in Williamsburg, Va.

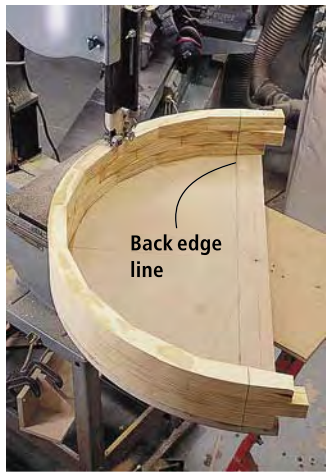
The ornamentation on card tables from Baltimore varies quite a bit, but the construction details and design are consistent. Tarr's table has all the construction details common to post-revolutionary Baltimore card tables. These features include the half-round shape, a laminated apron, two rear swing legs that overlap the ends of the front rail when closed and a dovetailed rear apron. Oak and/or yellow pine are the secondary woods used in construction.

On my table, the inlay has been simplified and some of the inlay was purchased rather than hand-fit, as in the original. This saved time without affecting the overall grace of the piece.

Because of the detail involved in this table I've focused on the inlay work and swing legs. A comfortable level with basic woodworking skills is advised for building this piece. If helpful, more step photos are available at woodworkersedge.com.



I have oriented the grain on the blocks so the quartersawn edge is to the front. This helps reduce the movement of the face when complete.



Step photos by the author

Set the template and bricking onto the guide pin and make a slow, steady cut using a 1/2" skip-tooth blade. The resulting apron thickness is slightly over 1" thick, completing the curved apron.

Make your first cut to remove the template piece. Hold the apron as tight as possible against the fence during this step. Then reset the fence to the finished height of the apron, rotate the piece to the opposite edge and make your second cut.

To trim the ends of the apron, patience and accuracy are required. I clamped the apron to my miter saw, carefully checking the squareness of the end mark to the blade before making the cut.

Shaping the Apron

The apron, which is built up using rows of pine blocks, is a detail faithful to the original. It's a stable way to make an accurate curved shape. Begin by cutting a half-circle template from a piece of 3/4"-thick medium density fiberboard (MDF) that's 18" x 34". The finished diameter of the template is 33 1/2". To make the circular cut I used an auxiliary table that clamps to my band saw's table. This setup lets me insert a 1/4"-diameter guide dowel at 16 3/4" from the blade.

A matching diameter hole is made in the MDF board centered on one long edge and set in 3/4". This allows the hole to not be precisely at the back edge. The resulting shape will be larger in circumference than a half-circle, which is fine. Save the falloff pieces for later in the project.

Now divide the template into 10 pie-shaped wedges to help align the pine blocks. To lay out the wedges, start with a line at the pivot point running parallel to the back edge. Then get your protractor out and divide the top into 18° sections. You should end up with a center line perpendicular from your base line.

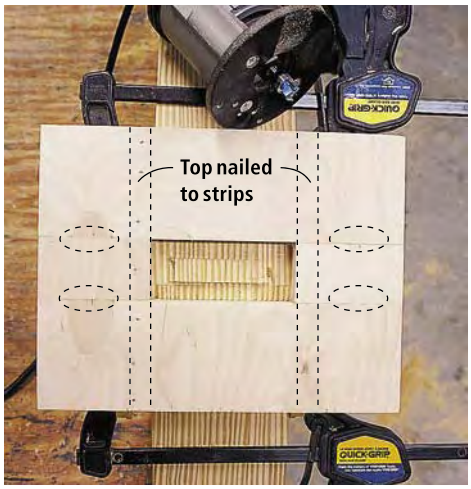
Next, cut your pieces of yellow pine to size and trim the ends at 9°. The 1 3/8" dimension is the height of the blocks. The blocks are located on the template with the center of the block flush to the edge of the template. Glue the pine blocks onto the template around the outer edge.

When the glue on this first row has dried, use a bearing-guided flush-trim router bit to sculpt the front face of the blocks to the template. Then repeat the process with the second row of yellow pine blocks (staggering their location) and rout the face again. Repeat the steps for the third row.

With the bricking complete and the outside curve routed, carry the line from the template that marks the back edge of your apron (the true half-circle location) up the sides of the apron. Then move back to the band saw and reposition your center pin to 15 5/8" from the blade to shape the rear surface of the apron.

Next, head to the table saw and carefully make two cuts. The first is to separate the apron from the strip of MDF template still attached. The second is to rip the apron to its 4" width.

Then clamp the apron to the miter saw so that you can make 90° cuts exactly at the lines marking the back edge of the apron.



I make my routing template using 1/2" Baltic birch plywood. Rather than cut out and clean up a hole, I make my template from four pieces and hold them together with biscuits. This method leaves an accurate opening that is 1 5/8" wide x 4" long.

My miter gauge cradle isn't fancy, but it is accurate. It needs to hold the centerline of the leg parallel to the saw table during the cut. Don't worry about how high off the table the cradle holds the leg. Adjusting the blade height will set the cut's depth perfectly.

Making the Apron a Frame

To join the curved front apron into the frame of the table, the rear apron is dovetailed to the curved front apron at both ends. Lay out the dovetail pins on the just-cut ends of the front apron. Define the pins with a backsaw and remove the waste material, keeping the bottom of each tail area at a right angle to the apron end. Transfer the pin layout onto the rear apron and cut the tails. Once fit, glue it in place.

Finally, cut a medial stretcher that fits snugly between the rear and front aprons. Attach the stretcher with screws and plug the front screw holes.

The front legs have a bridle joint at the top that straddles the front apron. To add strength, the bridle joint also slips into a dado cut in the face of the apron.

I used a template to locate the front leg dado in the apron. The center of the legs actually falls on the 36° arc from the center of the top, where the first level of bricking was laid. Place the template (shown above) into position and clamp, making sure that the inside edges are tight to the apron. Use a dado or planer router bit with a top-mounted bearing to cut away the material to a depth of 3/8" in the apron. Do this in both front leg locations.

Tapering the Legs

To make the tapered legs, first rough cut the lumber to size. I prefer using the jointer to taper the legs. It gives me nearly identical tapers on all the pieces.

Draw a line on each leg 4 1/2" down from the top. Draw a second line at the center point of the total length of the taper, measuring up from the foot. Set the jointer to cut at a depth of 3/16". Then run each face of each leg flat on the jointer starting at the foot. Stop the cut at the half-way mark, carefully lifting the leg from the knives.

Flip the leg end-for-end and take a second pass on each side by holding the foot and the stop point of the first cut flat on the infeed table. This will cause the top of the leg to "pop a wheelie" over the knives and start the tapering cut at the 4 1/2" mark.

Mounting the Legs

Select the legs that will be the front legs and lay out the area to create the bridle joint to attach the legs to the apron. Measure down 4" from the top of the leg and 5/8" from the front face. Remove about 9/16", leaving about 1/2" at the rear of the leg. You'll need to fit this notch to your apron making several cuts at the band saw and finishing with sharp chisel.

The rear legs attach to the swing rails with the more traditional mortise-and-tenon joint. Cut the 1/4" x 3" x 1"-deep mortises on the inner face of each of the rear legs.

Preparing the Leg Inlay

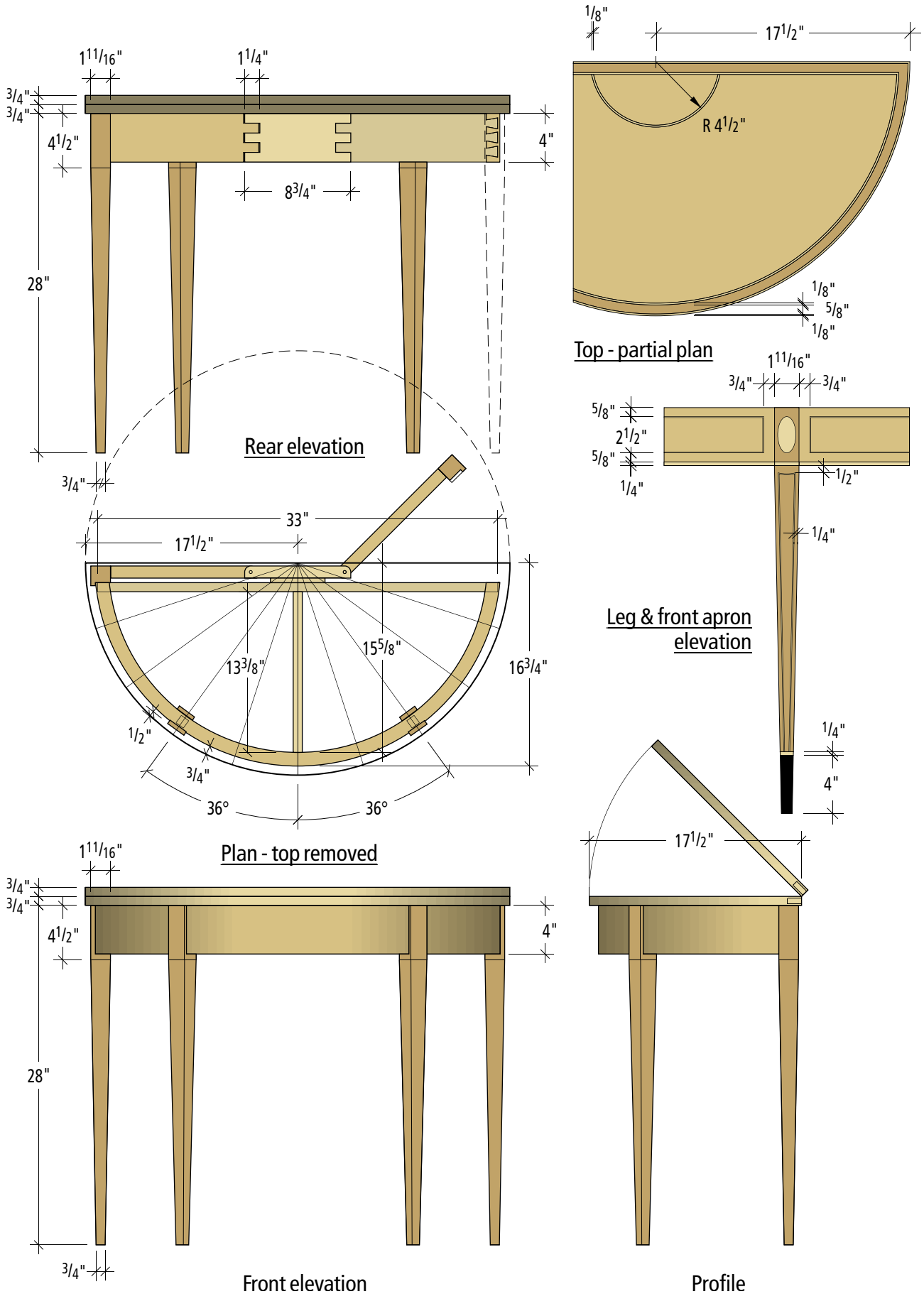
The inlay work on this table starts on the legs. Using the miter gauge on your table saw, make a cradle that will hold each leg in position and level to the table saw top. Install a dado blade to cut the 1/4"-wide x 1/8"-deep dado for the cuff starting 4" up from the foot of each leg. Cut all four sides of all four legs.

The next inlay to prepare for is the banding that runs across the front of the front legs, on the outside face of the rear legs and along the bottom edge of the apron.

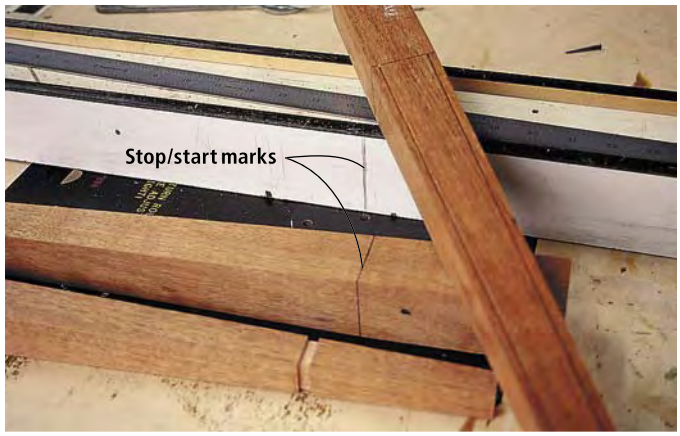
To cut the recess for the banding on the legs, load a 1/4" straight router bit into the router table. Set the fence 3 3/4" from the bit and set the bit height for 1/16". Make the cut. Because the leg tapers just below the cut, it's important to keep the face side flat against the table during the cut.

BALTIMORE CARD TABLE

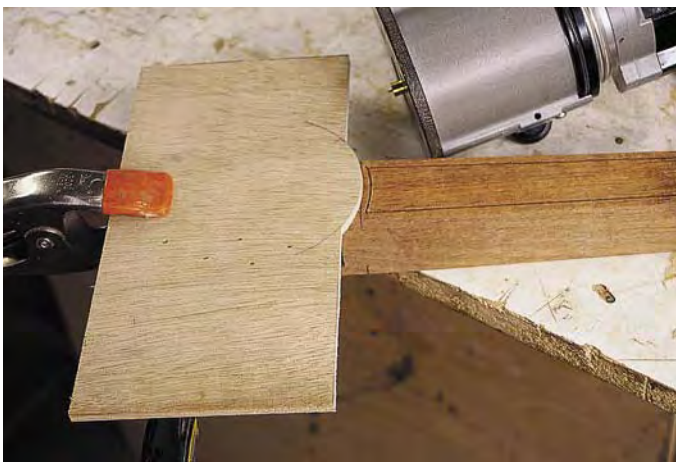
	NO.	ITEM	DIMENSIONS (INCHES) T	W	L	MATERIAL	COMMENTS
❑	32	Blocking pieces	1 3/8	1 1/2	5 3/16	Yellow pine	
❑	1	Rear apron	3/4	4	33	Poplar	Dovetails both ends
❑	4	Legs	1 11/16	1 11/16	28	Mahogany	
❑	1	Medial stretcher	3/4	4	13 3/8	Poplar	
❑	1	Fixed rear rail	1	4	8 3/4	Poplar	
❑	2	Swing rails	1	4	14	Poplar	Cut to fit
❑	1	Swing rail spacer	3/8	4	5 1/2	Poplar	
❑	2	Tops	3/4	18	36	Mahogany	Half round
❑	2	Leg string inlay	1 1/2	1/16	24	Maple	Shop-made
❑	2	Cuff inlay	1/4	1/8	24	Maple	Shop-made
❑	2	Top edge inlay	1 1/2	1/8	36	Maple	Shop-made
❑	1	Top stringing	1 1/2	1/8	36	Maple	Shop-made
❑	1	Veneer inlay		8	10	Madrone burl	
❑	10	Table top clips	3/4	7/8	2 1/2	Poplar	


1 11/16"
1 1/4"
3/4"
3/4"
4 1/2"
4"
8 3/4"
28"
3/4"
Rear elevation
33"
17 1/2"
13 3/8"
15 5/8"
16 3/4"
1/2"
3/4"
36°
36°
Plan - top removed
1 11/16"
3/4"
3/4"
4 1/2"
4"
28"
3/4"
Front elevation
1/8"
17 1/2"
R 4 1/2"
1/8"
5/8"
1/8"
Top - partial plan
1 11/16"
3/4"
3/4"
5/8"
2 1/2"
5/8"
1/4"
1/2"
1/4"
Leg & front apron elevation
1/4"
4"
17 1/2"
Profile

Holding the top of the leg against the fence and the face side toward the table (remember that the face side of the rear or back legs is the side facing outward, opposite of the mortise) make a pass over the bit, cutting the thickness of your inlay.



Install a 1/16" bit in the router table and set the fence 1/4" from the bit. Set the bit to cut 1/8" deep. Run the cut on two edges of the face, from the 4 1/2" line at the top of the leg into the area that was cut for the cuff.



Start the scalloped stringing cut by inserting the bit into one side of the existing cut and move toward the opposite side until it just enters the second side cut. Keep the bushing against the pattern.

The cradle supports the leg from underneath. The top piece with the oval template is clamped to the box, centering the cut between the top of the leg and the lower edge of the apron as well as the middle of the leg. Note that the orange-handled clamp serves to keep the leg positioned lengthwise in the cradle.

The next step is to cut the string inlay groove along the length of the legs as shown in the photo above right. For the scalloped stringing at the tops of the legs make a simple arched pattern that will act as a guide for your router bushing, as shown above. It's a good idea to mark the beginning and ending edges of the router base for reference.

Cut and install the stringing. I cut the necessary thickness at the table saw and ripped the width at the band saw. It helps to install a zero-clearance throat plate at the band saw. Add the glue sparingly into the cut, start the stringing at the top, and gently force it into position. Sometimes I use a larger piece of dowel as a rolling pin to help. Also, cut and fit the 1/4"-wide and 3/16"-thick cuff. I like to miter its corners for appearance.

Oval Inlay

The last inlay pieces are the two ovals at the top of the front legs. You need to build a simple three-piece U-shaped cradle that will hold the leg steady. Another piece of plywood is cut out for the oval pattern and makes a fourth side to create a box. Use an inlay bushing and bit (I've included information on one in the Supplies box on page 73) to cut the oval inlay recesses on the legs.

To trim the purchased oval inlay to fit the leg recess, use double-stick tape to attach the inlay onto a scrap piece of wood. Place the same pattern used to cut the recess into position over the inlay and again, using the inlay kit as directed, cut the inlay to match.

Carefully remove the cut piece of inlay from the scrap, apply the glue and install. Place a piece of wax paper over the inlay, then cut a small oval scrap to act as a press over the wax paper and inlay. Clamp the scrap in place over the inlay until the glue dries.

Knuckle-joint Legs

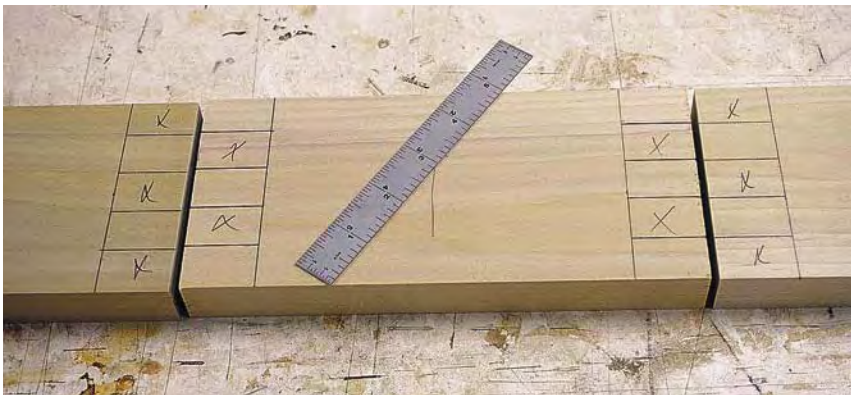
The knuckle joint at the rear of the table is one of the magical parts of this project. While closed, the table looks like a solid demi-lune table. The knuckle joints and swing legs allow the table to open into a stable, full-size table.

Begin the twin knuckle joints by cutting the three pieces to size that create the mechanism. Scribe a line 1 1/4" in from the ends, and begin by laying out five equal spaces. Mark the blocks as shown to designate the waste areas. Mark the top edge of all three pieces to ensure they go back in position.

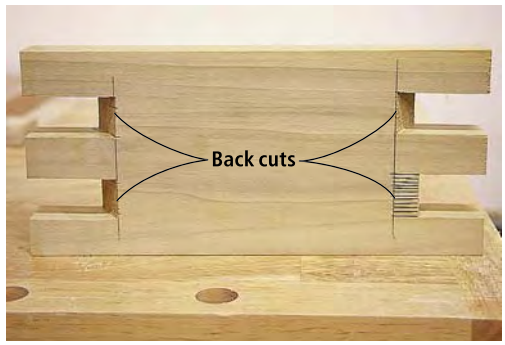
At the table saw set the blade height to the 1 1/4" line and make

MORE READING:

Southern Furniture 1680-1830
by Ronald Hurst
(Harry N. Abrams)
williamsburgmarketplace.com



To mark out the knuckle spacing, set one end of a ruler (at zero) on one side of the board and set the 5" mark on the opposite edge of the board. Then transfer each of the inch marks to both ends of the center rail and one end of each swing section.



To allow enough room for the swing rails to open, on the back side of the center rail draw a line 3/4" behind the shoulder cut at the saw. With a hand saw cut small cuts to that line while maintaining the front edge shoulder. With the cuts made, chisel away the waste.

the cuts that define the joint's fingers. Cut on the waste side of the line and nibble away the waste.

With the fingers all cut, the fixed rear rail needs to have 45° back-cuts made in the notches to allow the fingers on the swing rails to open correctly.

Round the outside edge of the fixed rail and the inside edges of the swing rails. I used a quarter to draw the circle and rounded over the edge with the sander.

Position the pieces into place against a tall straight fence on your drill press leaving a small space between the ends of each set of fingers. Use a 3/16"-diameter drill bit to drill for the steel-rod hinge. The hole should be 3/8" from the end of the fingers and 1/2" in from the outer edge.

To determine the final length of the two swing legs, clamp the knuckle assembly to the rear apron, and mark and cut each swing leg 1/4" longer than the apron corner at each end. This is the outside edge of the leg. Then lay out the tenon for joining the swing rails to the rear legs.

With the mortise and tenons made on the swing rails and legs, add the swing-rail spacer centered on the inside face of the fixed rail with glue and brads. Set this assembled section aside for now. Don't attach the legs to the swing rails or the knuckle assembly to the table yet, there's still some work to do on the apron section.

Apron Veneer

Now it's time to veneer. The front of the apron is veneered from a single sheet of mahogany veneer. I followed the pattern on the antique table and oriented the grain at 45°. Roll out the veneer and mark the three pieces on a 45° angle. I made the panels 1/2" oversized to allow for trimming. Lay out and cut the panels for the apron with a utility knife.

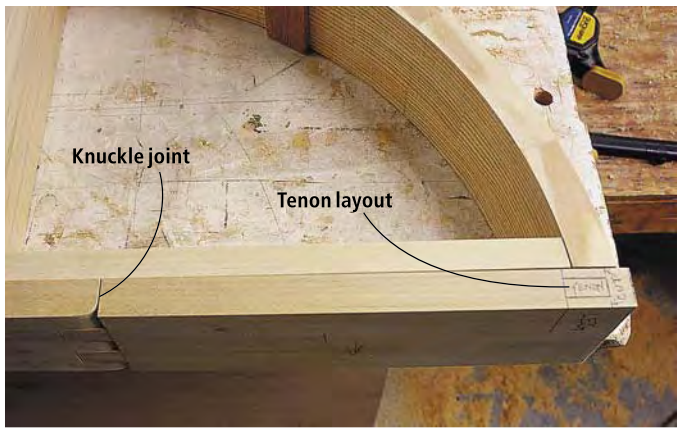
Apply a generous amount of contact cement on the apron and panels. When the cement is ready, carefully place the panels onto the apron. Use a flush-trim router bit to trim the edges of the veneer. To help make a clean cut, work in the direction of the veneer grain. Carefully trim the ends with a straightedge and a sharp knife.

Apron Stringing

To cut the recesses for the stringing on the apron faces I used the scrap pieces from the MDF apron template to set up a jig on the router table, which should still be set up for the stringing on the legs.

With the jig in place (see photo, next page), plunge the apron onto the bit and spin the assembly in the jig to the opposite line. Repeat this process on each panel. Reposition the fence to 3 1/8" and make the same cuts, creating the string inlay line for the bottom of the apron.

To complete the work using this jig, install a 1/4" straight bit,



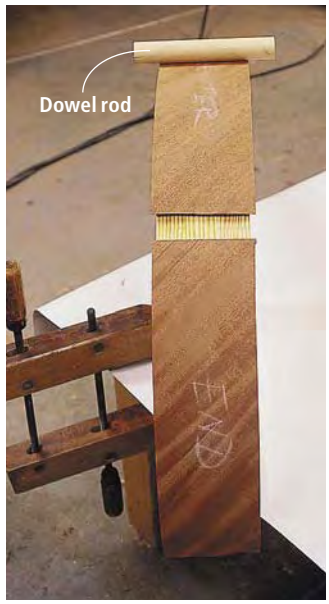
With the length of the two swing legs determined (1/4" beyond the apron corner) you're ready to lay out the tenon location on the end of each piece. Then cut the tenons and the corresponding mortises in the legs.

reposition the fence and cut the bottom edge of the apron for the banding inlay.

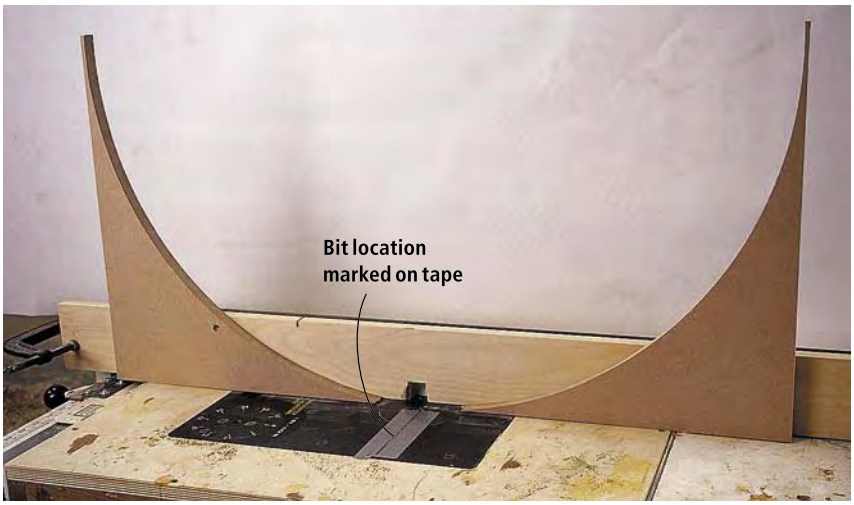
Next it's back to freehand routing to connect the recesses you just cut. Install the 1/16" bit into a trim router along with a small bushing to act as a pilot. Clamp a straightedge into position that's long enough to allow the bit to begin in one of the string lines. I mark the edges of the router base plate to help me with this cut.

Using contact cement, install the banding along the bottom edge of the apron. The banding I've listed in the Supplies was somewhat expensive and there are alternatives available from Rockler for significantly less.

Cut to size and fit the shop-made string inlay using wood glue. Here you will need to take your time to install the inlay. A little



With the oversized veneer panels you should not have trouble placing the veneer panels on the apron. Make sure to roll the panels to smooth any small air bubbles. I use a section of dowel rod for this step.



To rout the grooves for the apron stringing, attach the template scraps to a sacrificial fence on your router table. Attach them so that the apron just fits inside the pair. Install a 1/16" straight bit set to an 1/8" height and mark both sides of the bit width on a piece of tape that extends about 5" from the bit. Mark a line that is 3/4" from each end of all the panels of the apron. Set the fence 5/8" from the bit and you're ready to rout.

After marking the legs at the meeting point of the apron, remove the legs from the swing rail. Use a router and straight-cutting bit to remove as much of the material as possible. Don't cut past the lines. Finish up any remaining material with a sharp chisel.

With the template secured, install a 5/8" straight-cutting bit with a 3/4"-outside diameter bushing into the router and remove waste material to create the recess for the edge banding.

To cut the veneer sections, simply make a first cut on the end of the veneer strip, then slide the veneer out about an 1 1/4" and make a second pass. This creates the first piece of edge band veneer. You will need 22 or more pieces of this curved edge banding.

This is the edge of the table that everyone will look at, so take your time fitting the veneer sections. Hold each piece in place after fitting to accurately match the next piece to it.

glue goes a long way in that small line. Roll the inlay into the groove with a section of dowel.

With everything dry and set, carefully use a scraper to bring the inlay flush to the veneer surface.

Fitting the Legs

Assemble and clamp in place the swing leg assembly, then pull the rear legs tight to the apron while leveling the top edge, and mark the area on the leg that is to be cut away to a depth of a 1/4". I used a router to remove the waste. Then glue the legs to the swing rails and attach these to the table.

Now make the final connection of the front legs. Add glue to all surfaces of the bridle joint, clamp in place until set, then finish with a #12 x 1 1/4" wood screw from the inside of the leg.

Cut and fit glue blocks into the corners of the table. These will need to be cut on a slight angle to ensure a secure fit.

The Top & More Details

Set up and cut the half-round pieces for the tops at the band saw as you did the template in the first step. Cut the top halves oversized by placing the pivot hole at 17 3/4" back from the front edge of the top and centered in from side to side. The pin on your circle-cutting jig should also be at 17 3/4".

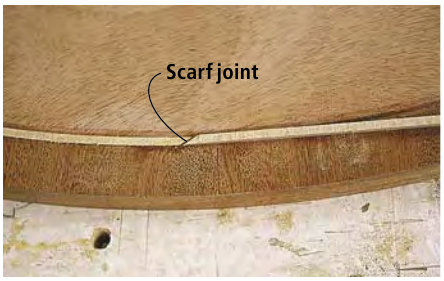
To begin the detail work on the top, first create a half-circle template guide to rout the recess for the edge banding. The template is made the same way you cut the top pieces. Start with a 17" x 35" blank and use a 16 7/8" location on the pin. Once the template is cut to half round, it's necessary to cut the back edge to achieve the 7/8" area at the rear of the top. The goal here is to have a 7/8" set-back showing on all sides of the top once the template is in place.

Attach the template with double-stick tape at the edges of the tops and two screws (located in the area that is to be covered with a veneer inlay). You're now ready to rout the recess for the veneer.

Use patience to set the depth of cut to the veneer thickness. This has to be worked in a couple passes. Be sure to keep one pass with the 3/4" OD bushing tight against the template. Leave the template in place (we'll need it again shortly).

To ensure the edge banding will accurately follow the curve of the top, you need to make another jig and head back to the band saw.

Start with a scrap piece of plywood that is 4 1/2" wide and 18" long. Locate a pin hole at one end, place the circle-cutting jig pin in the 16 7/8" hole, then make a swing



To cut the string inlay on the top, install an 1/8" bit and the bushing from an inlay kit without the additional spacer, and run the groove guided by the top template that's still in place. This groove runs around the entire top edge.

Clamp this template in place, and follow the direction on the inlay kit to cut the area and the matching inlay.

cut on the piece, creating a small radius on the jig.

Next, with strips of veneer cut to 4", lay one strip onto the plywood, lay a second piece of plywood on top of that to keep things flat, and with the veneer extended, make a pass on the end (see photo at center left).

To trim the veneer pieces, use a sharp utility knife and straightedge to match up the edge of the cross banding while fitting the pieces to the top. Work around the entire top and number the pieces as they are fit. Remove the pieces and apply the contact cement. When ready, carefully apply the edge band to the top. Press the pieces for a tight fit. Allow the adhesive to dry, then trim the veneer flush to the outside edge with your router.

Stringing and More Inlay

To complete the inlay work on the top there are more string inlays and another veneer insert. Start with the string inlay that separates the veneer edge banding you just attached from the main top (see photo above left).When you need to join two pieces of the stringing, do so with a scarf joint, as shown.

Move to the back edge of the top. Remove the top template, then make a 9"-diameter template for the inner inlay (seen only with the top closed). Because we need to re-install this template I mark the center line of the template and a corresponding line on the top.

The inlay piece was made from a section of Madrone burl veneer that I had in my shop, again using the template bushing kit. Glue the inlay into position and when dry, replace the template and cut a groove around the inlay for another band of string inlay.

With all the grooves cut it's time to make the stringing and install the pieces in the top. Remember, a snug fit is required on the stringing. Because of the tight radius of the inner circle, it may be necessary to dampen the stringing before installing. Leave it in the groove to dry. It will hold its shape when dry.

Here I have changed the bearing on a flush-trim bit to allow for a 1/16" cut. You need to run the top and bottom of both the top and the sub-top.

The hinge I used allows the joint to remain loose when moving. This gives the joint space to move without rubbing the two parts of the top together.

All that's left is creating the final bit of stringing on the top's edge. Create the shop-made stringing for the edge and install this with the contact cement. When dry, scrape and sand all the inlay flush with the top.

Completing the Top

The installation of the hinges is all hand work. Lay out the location and hinge shape, and cut the area with chisels.

To attach the top to the base I use a 1/4" three-wing slot cutter bit in the router table to make the slots in the apron. I then use wooden clips to attach the top. Space them equally along the front and rear, and place a few along the medial stretcher. The cut should be a 1/2" down from the apron edge.

Make the wooden clips, which are 3/4" thick x 7/8" wide x 2 1/4" long. Rabbet one end to fit into the grooves and install using #8 x 1 1/4" slot-head wood screws. Final sand the entire table and you're ready to finish.

The finish begins with black paint. Place tape at the lower edge of the cuff inlay and paint two light coats of acrylic latex paint on the foot of the legs. This will create the ebonized look. Once the paint has dried, apply two coats of blonde shellac, a coat of dark brown glaze and finish with three additional coats of shellac. Let the shellac dry and hand rub the table to a satin finish with steel wool and wool lube. Then apply a few coats of paste wax.

Whether you build this table with or without the inlay details, you should be very pleased with the beauty – and function – of this Southern furniture classic. **PW**