



Woodsmith **PLANS**

# ROUTED BOWLS



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*You can make great-looking wood bowls without turning or carving. A template and simple router accessories make it easy.*



I've always liked the look of wooden bowls. But without a lathe or carving tools, they're difficult to make. So when Chris Fitch, one of our designers, suggested there might be a way to make bowls using a router, I was more than a little interested.

All the bowls in the photo on the right were made using a hand-held router. The technique is easy. And you can make bowls in a variety of sizes and shapes.

The greatest challenge to making bowls with a router is figuring out a way to make a deep enough cut to form the inside of the bowl. But by adding a collet extension to your router, you can solve this problem. Then all you need to do is follow a simple shop-built template and you'll be making bowls in no time.



## Setting up Your Router

Before you begin routing bowls, there are a few things you'll need to consider. The first of these is making certain you have the right router and it's set up properly for the job.

**ROUTER.** I used a plunge router because I found it a little easier to make the frequent depth changes required when hollowing out the bowl. But you can use any router that has the ability (at least 2 horsepower) to handle the 1/2"-dia. shank collet extension and the bit you'll be using to make the cuts.

**COLLET EXTENSION.** Like I said before, the key to routing out the bowl is adding a collet extension to your router, as shown in the box at the bottom of the page. The extension slips into the collet of your router and adds about 2 1/4" to the router's depth of cut. This allows you to rout deep enough to quickly and easily form the inner shape of the bowl.

With the extension in place, you can then install a bowl and tray bit. This bit lets you make a cut that's flat at the bottom and round at the edges to shape the inside of the bowl.

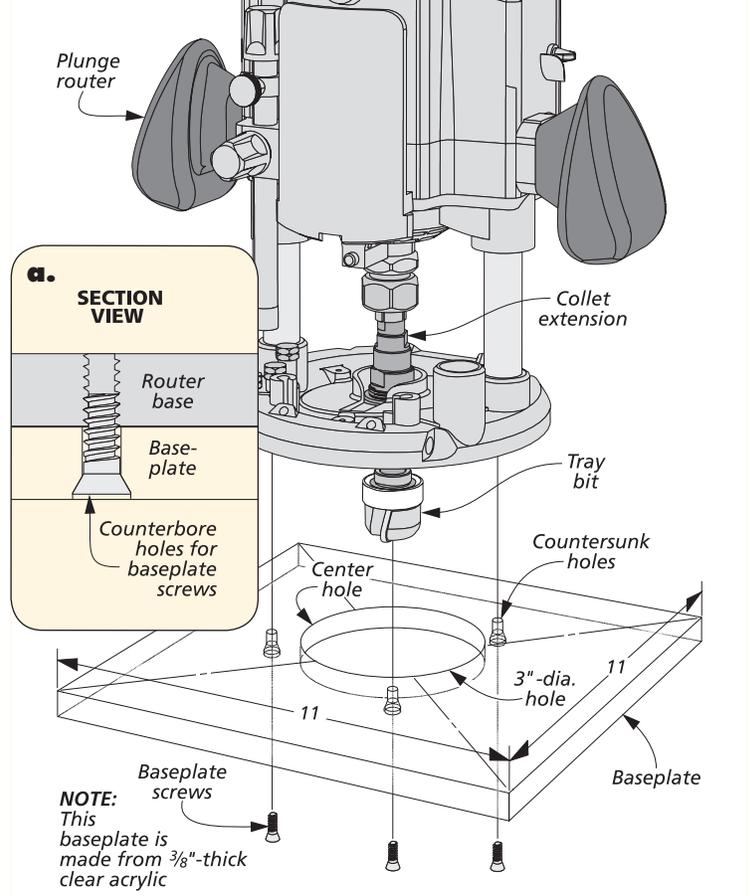
There's just one other thing to do before you can begin routing. You'll need to modify the base of your

router so you can use it with the bowl template you'll build later.

**ADD A WIDE BASE.** To make this modification, you'll need to replace the base that comes with your router with a larger auxiliary base, like you see in the drawing at right. This larger base allows the router to ride securely on the template without falling through the wide opening, as shown in the main photo on the previous page.

You can make the base from a number of different materials. I chose to use 3/8"-thick clear acrylic (Plexiglas) for my base. This made the base strong and rigid so it wouldn't flex. And the clear acrylic lets me see what I'm doing as I make the cuts.

Building a new base is pretty straightforward. First, trim the base to size. Then draw lines from corner to corner to find the center. Use the original baseplate as a template to



accurately mark, drill, and counter-sink the mounting holes. Finally, use a hole saw at the drill press to cut out the center hole.

After mounting the plate, the next step is to glue up a bowl blank and make the template you'll use to shape the inside of the bowl.

## SHOP TIP: BOWL BIT & EXTENSION

▲ A collet extension and a standard bowl and tray bit are all you need to create a variety of great-looking wood bowls in your shop using your hand-held router.

▲ Using a standard router setup, most routers will only allow you to make a cut about 1/2" deep.

▲ With the addition of a collet extension, you can add 2 1/4" to the depth your router can cut.



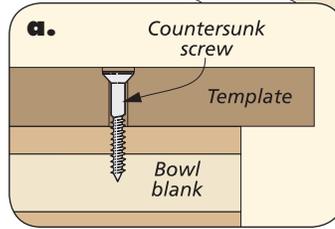
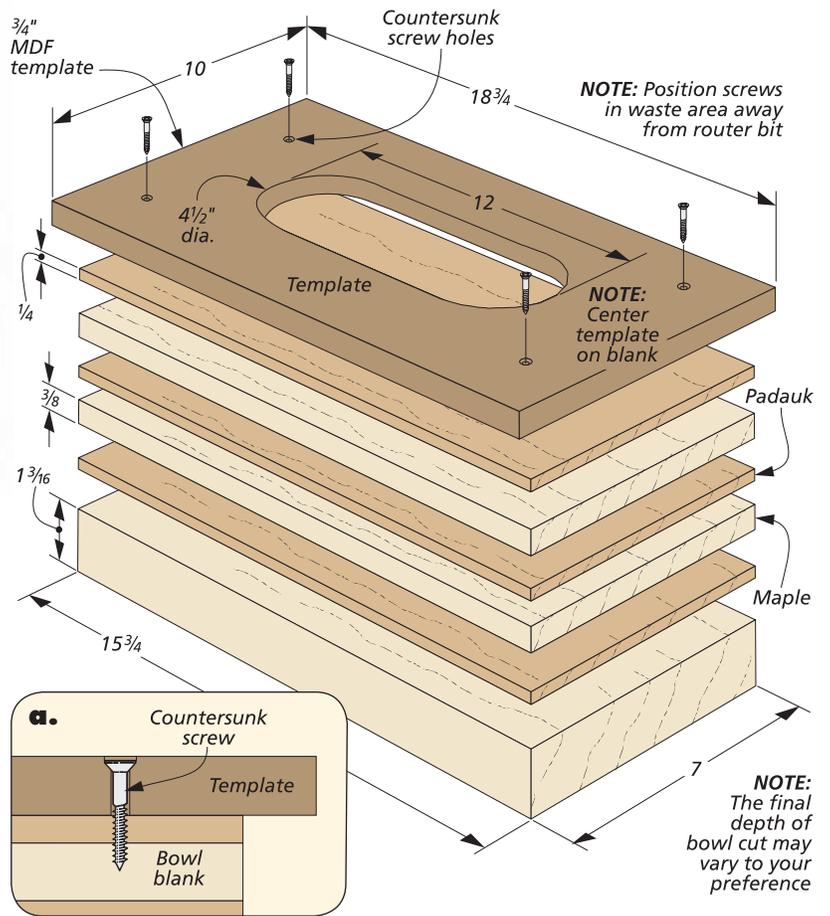
▲ To add color to your bowl, just alternate different types of wood as you laminate the bowl blank.

## Bowl Blank & Template

The thing that makes router-made bowls interesting is the many shapes and sizes you can create. But no matter what style you choose, the process is the same.

First, you'll need to glue up the bowl blank. This is important since it will determine the color and appearance of the bowl. You'll need to choose the wood to use. (For the bowl above, I used padauk and maple.) Then decide on the size, shape, and any options you might want. (You can see a few options on pages 5 and 6.) All these determine the size of blank you'll need to make.

**MAKE THE BLANK.** The next step is to trim the materials for the blank to size, apply glue to the layers of wood, and clamp them together,



as shown in the drawing above. I like to keep the blank under 3" thick. This way, I won't exceed the cutting depth of the router and bit when the template is added.

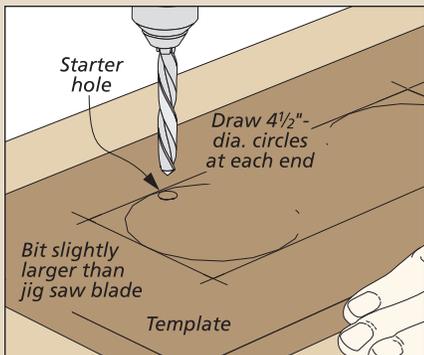
After the glue dries, you can remove the clamps and then move on to making the template.

**TEMPLATE.** To rout out the inside of the bowl, you'll need a template to guide the router. I used 3/4" MDF for

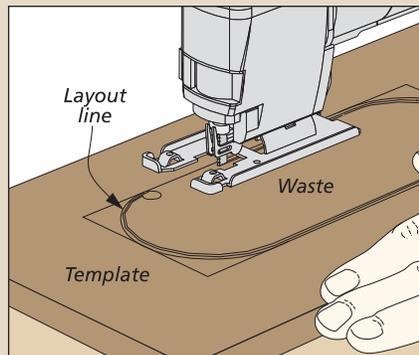
my template. And because I wanted to have a stable base for the router to ride on, I sized it about 1 1/2" larger than the blank on all sides. Then you can cut away the area in the middle to match the inside shape of the bowl, as shown in the box below.

Finally, attach the template securely to the blank with screws. And then you're ready to begin routing out the inside of the bowl.

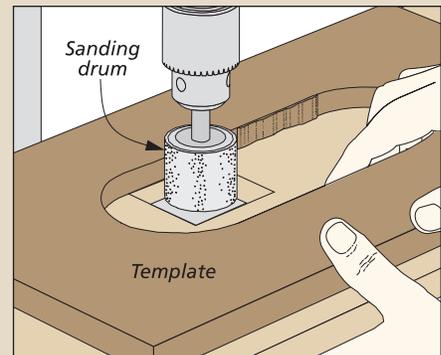
## HOW-TO: SHAPE THE TEMPLATE



**Starter Hole.** To cut out the template, begin by drilling a hole near one edge slightly larger than your jig saw blade.



**Cut Out the Waste.** After inserting the jig saw blade in the hole, cut along the scribed line and remove the center waste.



**Smooth the Edges.** A sanding drum on the drill press quickly removes blade marks and smooths the curves in the template.

## Shaping the Bowl

Giving shape to the bowl is really pretty easy and requires just two basic steps. First, you'll use your router and the template to rout out the inside of the bowl. Later you'll cut away the outer portion of the blank at the band saw to give the bowl its final size and shape.

Since your blank is all ready to go, all you need to do is install the collet extension and tray bit in your router. Just be sure the extension and bit are tightened down snugly.

**SECURE THE BLANK.** Next, secure the blank in position for routing. I like to use the vise on my workbench for this. This way, when I clamp the blank in the vise, the template sits unobstructed above the top of the bench and I can tighten the jaws of the vise firmly around the blank to keep it from moving around.

**ROUT OUT THE INSIDE.** With the blank secured, you can set the bit to take a  $\frac{3}{16}$ "-deep cut, turn on the router, and place it on top of the template. The extension and bit project past the plate, so it's easiest to tip the router slightly and slowly lower the bit onto the surface as you begin to make the cut. This way, once the bit cuts a small pocket, you'll be able to set the router flat on the template and use the bearing to guide the bit in shaping the inside of the bowl.

Since you're removing a lot of material, one thing you'll notice is the bit creates a lot of chips as it cuts.

So you'll need to clear the chips from inside the bowl frequently with your shop vacuum as you cut away the stock.

Once you complete the first pass, drop the bit another  $\frac{3}{16}$ " and remove a second layer of material. Repeat this process until the recess is cut to depth, leaving  $\frac{3}{8}$ " at the bottom. Then you can move on to shaping the outer surface of the bowl.

**TRIM AWAY THE BLANK.** With the inside roughed out, you can remove the template from the blank. The next step is to shape the outside of the bowl. You'll do this with the band saw.

This step is easy. First, mark the thickness of the bowl walls on the blank, like you see in the first drawing below. I like to leave a little more than  $\frac{1}{4}$ " so I'll have extra thickness for sanding the walls smooth. After marking the bowl, you can move to the band saw. Then you can simply follow the trim line and cut away the blank, as shown in the second drawing in the box below.

Finally, I added a small foot to the bottom of the bowl using a router with a roundover bit at the router table. The third drawing below shows how this is done.

**SAND & FINISH.** Once you're done with the basic shaping, all that's left is to use a power sander to smooth

## SHOP TIP: SPEEDY SANDING

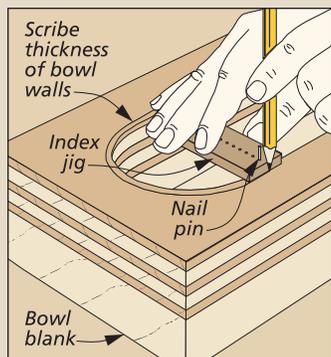
Wavy sanding discs attach to the sanding pad with hooks and loops and come in a variety of grits. They make it easy to sand into corners and curved surfaces without leaving gouges.



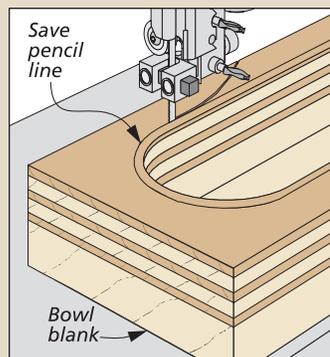
A Tim Skilton Sanding Pad attached to your drill press works great for smoothing out the bottom and curved inner surfaces of the bowl.

out the rough spots, as shown in the photo above and right drawing below. Then follow up with some hand sanding to complete the job. Finally, you can apply some salad bowl finish or mineral oil and it's ready for use.

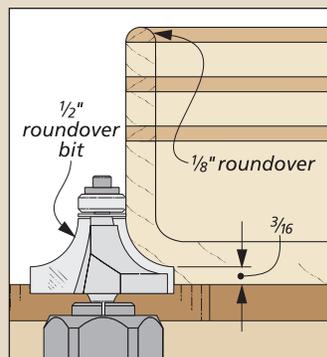
## HOW-TO: TRIM THE OUTSIDE OF THE BOWL



**Lay Out the Walls.** A piece of scrap wood, a few holes, and a nail helps you lay out the walls.



**Trim the Waste.** Just follow the outer trim line with your band saw to shape the outside wall.



**Decorative Foot.** A pass at the router table with a roundover bit adds a decorative bottom.



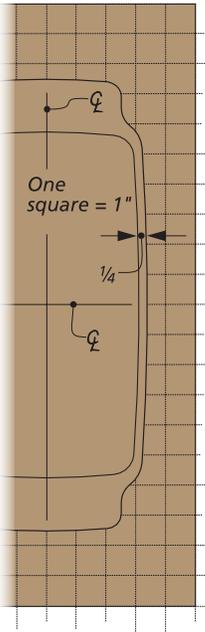
**Shaping the Walls.** A belt sander will quickly shape the walls to the desired thickness.

# DESIGNER'S NOTEBOOK

## Three Bowl Options



### BOWL TEMPLATE



### Bowl With Handles

In addition to a variety of shapes, options like handles can be added to your bowls (photo at right). To do this, you'll need to modify the blank and add an extra step. Begin by lengthening the blank so you'll have added stock for the handles.

Then you can rout out the inside of the bowl as before. Next, you'll need to flip the blank over and make a second template for the bottom to help you create the handles.

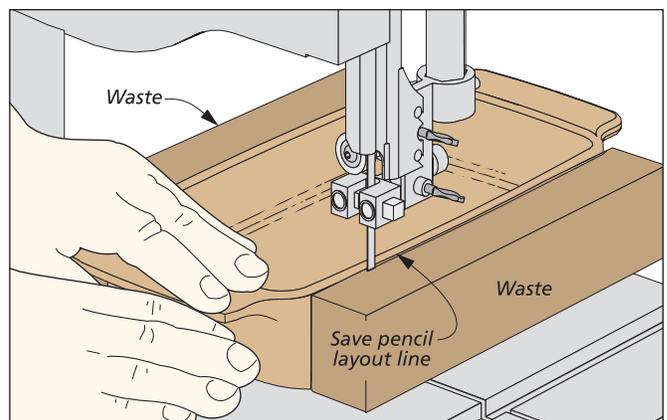
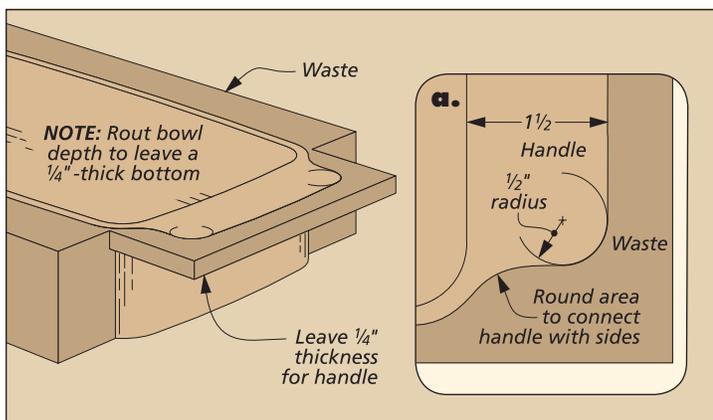
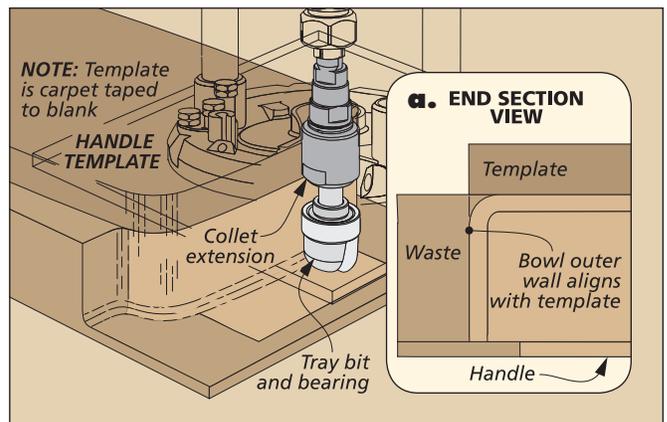
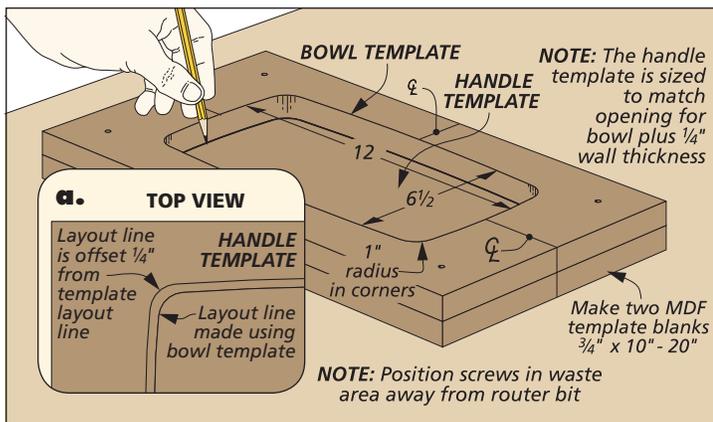
**BOTTOM TEMPLATE.** You'll want to be sure the bottom template is sized correctly, so use the template you used for making the inside of the bowl. Place the original template on a piece of MDF, as shown in the first drawing below. Then trace the pattern of the cutout onto the template.

Once the pattern is drawn you can remove the original template. Then enlarge the pattern by  $\frac{1}{4}$ " all the way around, and trim the template to shape at the band saw.

Next, you can use double-sided tape to attach this template to the bottom of the blank, as shown in the upper right drawing below. With the template secure, use it to guide your router as you rout away the stock at

both ends of the blank. Just be sure to leave about  $\frac{1}{4}$ " thickness at the bottom for the handle (upper right drawing below).

**OUTER SHAPE.** With the routing done, you can flip the blank over and trim away the waste, making curved cuts to transition from the sides to the handles (lower drawings). A little sanding will smooth the curves around the handles of the bowl.



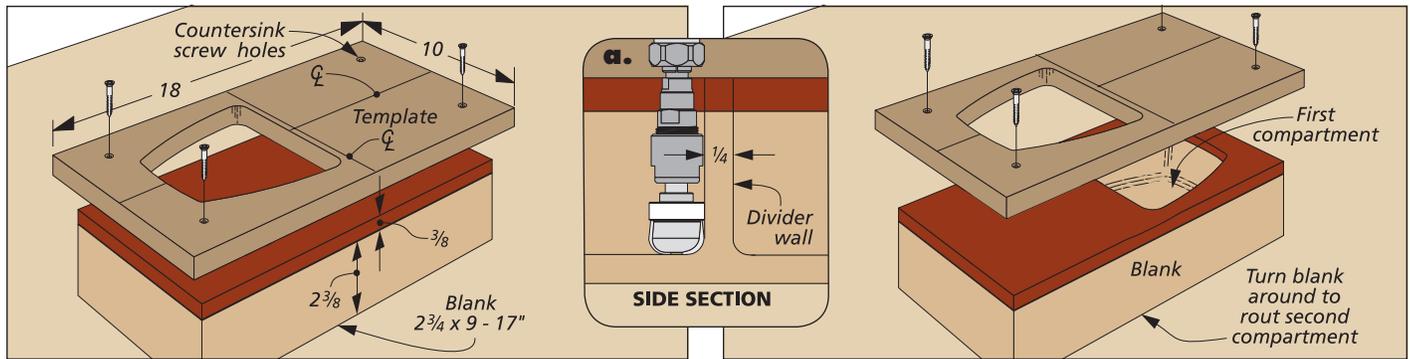
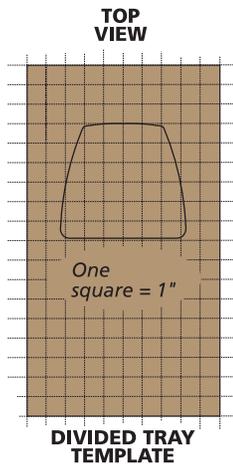
## Divided Bowl

Adding a divided compartment, as shown in the bowl at right, is easy. All it takes is a little template planning.

First, trim a piece of  $\frac{3}{4}$ " MDF slightly larger than your blank. Then divide the length and width of the template into two equal parts and draw lines to mark these points, like you see in the first drawing below.

Next, you'll want to lay out the area of the inside of the bowl that is to be routed away. Just be sure to leave at least  $\frac{1}{4}$ " along the centerline to create the divider as the stock is routed away (detail 'a' below).

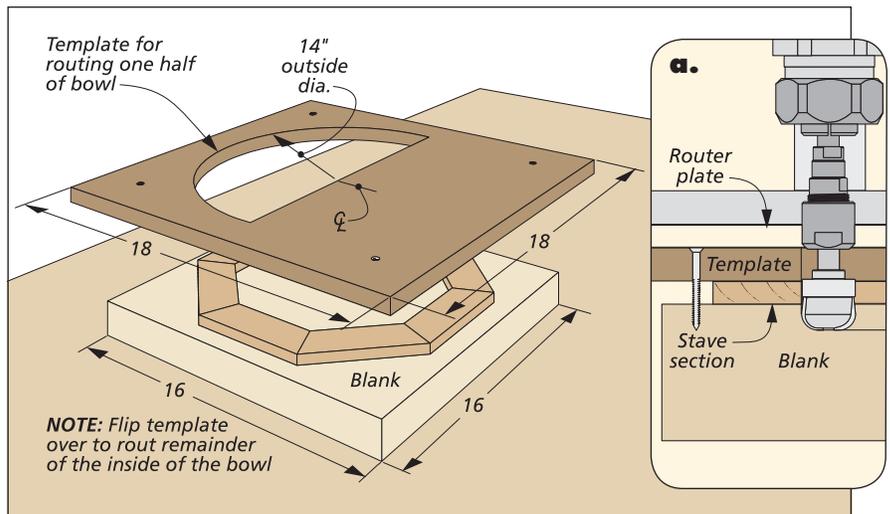
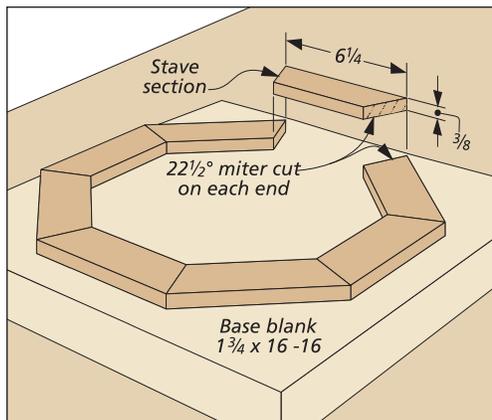
To ensure the compartments are identical, just cut out one side of the template. This allows you to rout one compartment and then simply turn the blank around, secure the template again, and trim away the stock on the other side (second drawing below).



## Large Round Bowl

Adding contrasting wood to the rim, as shown in the photo at right, enhances the appearance of the bowl. You can conserve stock by gluing wood staves to the blank around the rim (drawing below). Then lay the template over the strips and rout out the inside (detail 'a').

Another thing you'll quickly encounter when making large bowls is the challenge of keeping the router from falling into the large template opening. You can solve this problem by simply cutting out only half the opening in the template (second drawing below). This way, you can rout one side, then flip the template over, and rout away the material in the other half.



▲ A few pieces of contrasting wood mitered together add a great look to the rim and limits the amount of stock wasted.