

## Serving Tray



### Resources For Making A Serving Tray

Chisels | Clamps | Glue | Handsaws | Handplanes | Miter Gauges | Table Saws | Thin Stock

A while back a friend of mine stopped by the shop with a piece of Padauk that she had been keeping for some time, and which she wanted made into a tray. The piece was a little longer than two feet, and a little less than one, and 3/4" thick. At first I told her that I didn't think there was enough wood there to make the tray she wanted with sides about 1-1/2" high. But after looking at it I realized there was just barely enough lumber there, and made this tray for her. If you have a similar sized piece of wood around, you can do the same, or perhaps use up some of your smaller scraps to get the parts.

In order to get the wide bottom for the tray, I realized I would have to resaw part of the board to make two thin pieces. These I could edge glue for a wide bottom. The part to be resawn needed to be at least 5-1/2" wide. From the remainder of the board I was able to rip three pieces off for the sides, and still keep a piece wide enough for the bottom. Two of these rippings made the long sides, the other made both the ends.

### Cut List- Serving Tray

- 2- 3/4 x 1-1/2 x 24 long sides
- 2- 3/4 x 1-1/2 x 11-1/2 ends
- 1- 3/4 x 5-1/2 x 24 piece to be resawn for the bottom.
- 1- Misc. rippings for splines

### Serving Tray

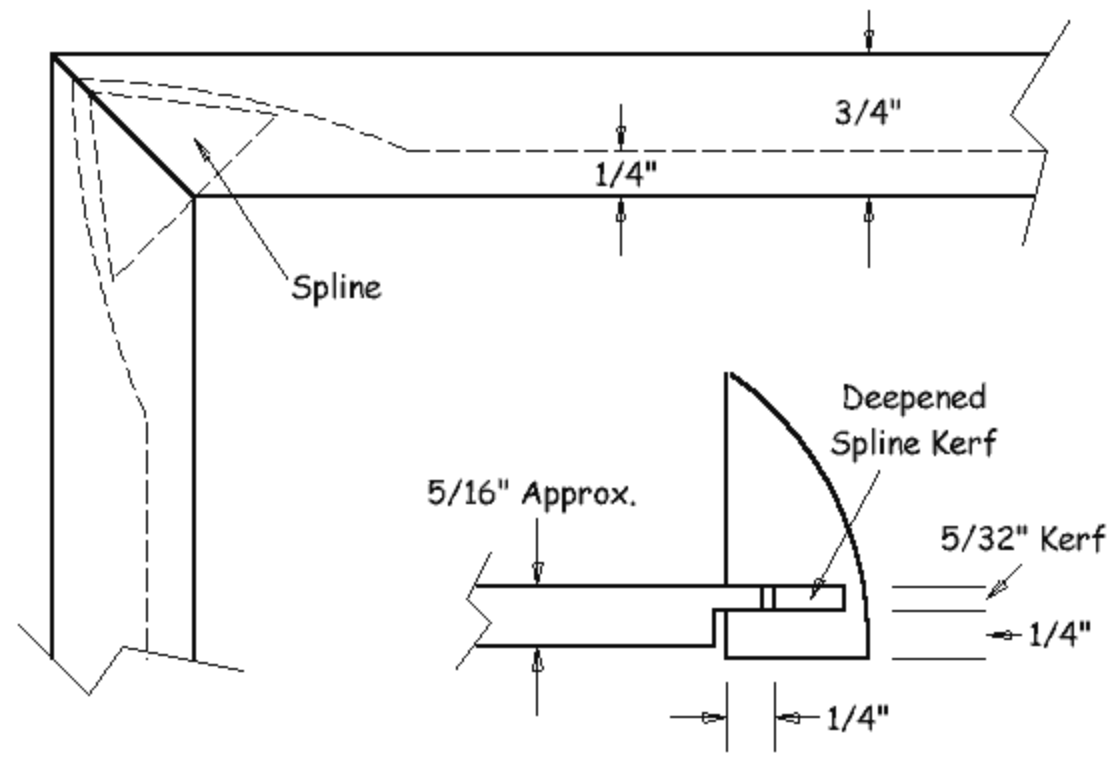




Photo 1- Rip out your parts. A push stick such as that shown here is a basic safety device for making cuts on pieces of smaller width on the table saw. Every woodworker

likes a different shape of push stick, but they all do the same thing- keep your fingers away from the blade.

To see table saws and blades, [click here](#).

Begin your tray by ripping out the parts, be they from one board or many, as in photo 1. Next set up on the table saw to resaw the wide piece for the bottom. You can do this resaw with a 10" table saw, as shown in photos 2 and 3. The blade on a ten inch saw will come up above the table almost three inches, which is just enough to saw through half of the board, then flip the board and saw through the other half, splitting it into two.

You can also do resaw with a band saw. For a lengthy treatment on the subject, go to [Thin Stock](#).

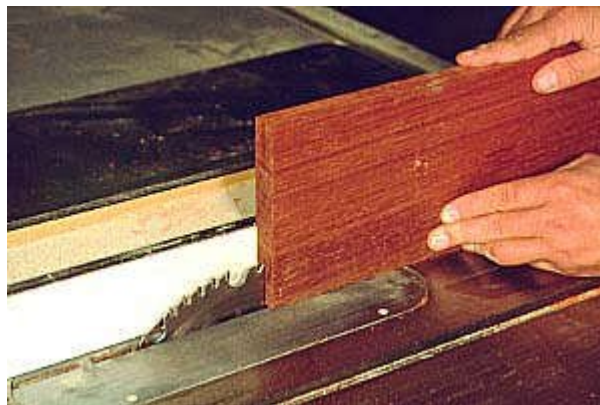


Photo 2- Make the resaw cuts on your stock in two passes, first with the blade at a lower height as shown. If you try to take the whole cut in one pass the cut can be much harder to

control.

But do it in stages. First raise the blade to 1-1/2" as in photo 2, and make a cut on both sides. Set the fence so that the blade cuts down the middle along the edge of the board. Then, raise the blade to full height and make the second cut, as in photo 3.

blade. Don't put your hand onto the face of the wood directly adjacent to the blade. Guide the work in with your hand on the face in front of the blade as in the photo, then remove this hand when the end passes through the blade.



Photo 3- For the second pass raise the blade high enough to cut through. Don't keep your fingers on the face of the board as shown here as you push the wood through,

because if the wood has an unseen fracture in it which shatters as your hand is next to the blade, your fingers will fall into the blade. Table saw safety means avoiding any remote possibility of your hand falling into the blade when something goes not as planned.

Open the now separate parts like the pages of a book- and you have a "bookmatched" set of boards. Straighten the two edges at the center of the panel on the table saw or with a jointer, and glue the two together as in photo 4. Once the bottom is out of clamps, belt sand it smooth, or use a hand plane.



Photo 4- Edge glue the thin parts together for the tray bottom. The edges that get glued must be straight to get a good glue bond. If they are not straight, make numerous very small cuts on the edges of the boards at the table saw, flipping the board between each cut so the freshly cut edge rides against the fence for the next cut. This will gradually straighten the edges.

To see clamps [click here](#).  
For glue [click here](#).

Cut a large bevel onto the outer edges of the side pieces to begin the shaping of the rounded surface on each of them. Since the blade on my saw tilts toward the fence when the fence is to its right, I found it best to move the fence to the left of the blade and make the cut as shown in photo 5. Had I left the fence on the right, the blade would have been

tilted very close to the fence, making it harder to complete the cut safely. Always use a push stick on cuts of this kind.

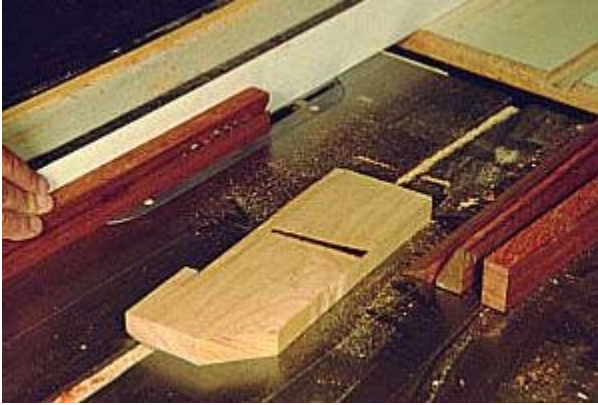


Photo 5- Cutting the bevel on the tray sides. Keep that push stick close by so you can grab it half way through the cut and put it on the work to finish the cut. Push sticks are not a luxury when doing this kind of work on the table saw, they are a safety necessity.

How much of a bevel do you cut off at the saw? Sketch the curved profile that you want to achieve on the end of one of the pieces, and set up the blade to graze the edge of your drawn curve.



Photo 6- Using a block plane to round over the outside faces of the tray sides. If you don't have a block plane you may choose to leave the pieces with a flat bevel.

To see block planes, [click here](#).

Now take the parts to your bench and sharpen up your block plane. Place each piece in the vise as shown in photo 6, and shape the upper portion of the curve taking medium depth cuts with the plane. Compare all the parts as you cut each one to keep them all similar. It's not necessary that they all come out with exactly the same curve, but they should be close to each other.



Photo 7- Rounding the lower area of the sides. Your block plane must be sharp to do this work effectively. A new block plane out of the box will probably not have the iron

sharp enough to cut smoothly. Having a block plane means having sharpening stones and knowing how to use them.

Don't shape the last 1/16" of the top edge of the parts. This is so that there is enough of a lip to hold the part in the vise without crushing the edge in the next step. Place each part in the vise as shown in photo 7, and use the block plane to shape the bottom area of the curve. When you have finished, there should be very little if any of the flat bevel left which was made by your table saw blade.



Photo 8- This table saw miter jig will cut very accurate joints for your tray. The jig is worth the effort to build well because you'll use it in the future for other cuts. Use a flat piece of plywood for the base, and carefully make and fit the runners on the bottom that ride in the miter gauge slots so that the jig slides smoothly with no side to side slop.

Miter the corners of the sides with a special table saw cut-off jig as in photo 8. This jig slides along the table top with runners attached to its bottom that fit in the miter gauge grooves in the table. Put two fences on the jig, as shown. Set both fences at 45o to the blade, but most importantly, be certain that there is exactly 90o between the two fences. Use one fence to cut one side of a joint, use the other fence to cut the other side. So long as the fences are at right angles, the joints you get will also be square.

You can also make this kind of cut with a miter gauge at the table saw. Various very accurate miter gauges are available, to see some of them [click here](#).

You are also cutting the parts to length with this operation. The exact length of the parts is not critical, but it is important that parallel sides are equal in length. Make the short sides 11-1/2" long approximately, and the long sides about 24".

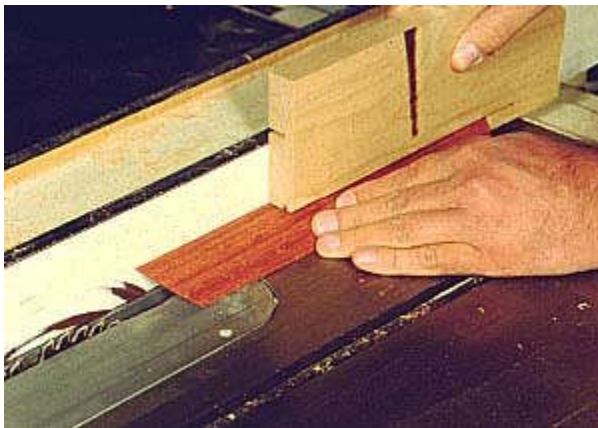


Photo 9- Cutting the kerf for the tray bottom to fit into.

Cut a kerf along the inside, bottom edge of the sides for the bottom to fit into as in photo 9. Make it the width of a regular combination or rip carbide blade. Locate the lower edge of the kerf 1/4" from the bottom of the parts, and make it 1/4" deep. Use a push stick as shown to push the parts through.



Photo 10-  
Deepening the  
kerf on half  
the ends for  
the splines.

You'll join the corners by deepening the bottom kerf at the corners only, and fitting a spline into the deeper kerf. Leave the fence in place after the last step. Raise the blade to 1/8" less than the thickness of the sides. Make a pencil mark on the saw table insert, adjacent to the blade, which shows you where the middle of the cut is. This is where the blade cuts highest. Now take each side, and deepen the groove on one end of each as shown in photo 10. Push the part in only until the front tip of the part just crosses the pencil line you drew on the table. Then retract the part.

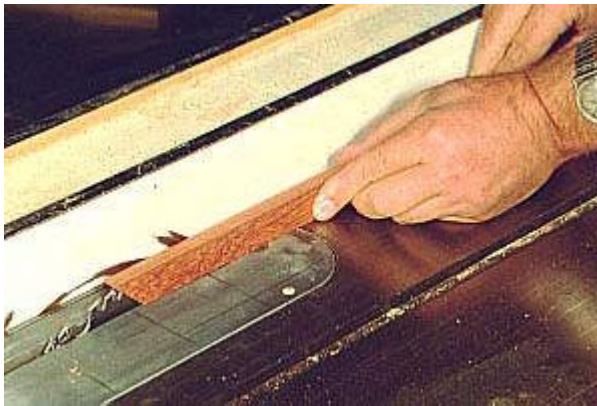


Photo 11-  
Deepening  
the kerf on  
the other  
half of the  
ends.

With the saw fence located as it is, you can make only half of the deeper grooves. To make the other half, turn off the saw, and move the fence away from the blade about an inch. Place one of the parts on the table in front of the blade, and set the fence so that the blade falls into the shallow groove. Now the top of the side is hitting the fence, not the bottom. Carefully set the fence so that the blade is perfectly aligned with the groove. Remove the piece, turn on the saw, and again cut deeper



pencil line, then retract, as in photo 11.



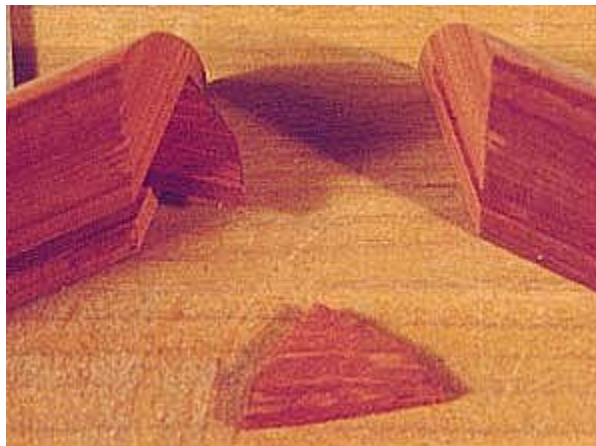
Photo 12- Cutting a rabbet on the lower edge of the bottom to leave a lip that will fit in the groove in the sides.

Dry assemble the sides and measure the space inside. Add 3/8" to each of these dimensions, and use those figures to cut the bottom to size. Next put a rabbet on the lower edge of the bottom, as in photo 12. Make the rabbet 1/4" deep, and adjust its location along the thickness of the edge so that the lip that remains is a loose fit in the groove on the sides.



Photo 13- Fitting splines into the corner joints.

To make splines to fit the grooves in the corners, first rip out thin pieces at the table saw, the thickness of which fits the grooves snugly. Next use a saw and a chisel to cut out small triangles to fit in the joints, as in photo 13. Make the splines such that the grain of the splines runs perpendicular to the line of the miters, not parallel to it.



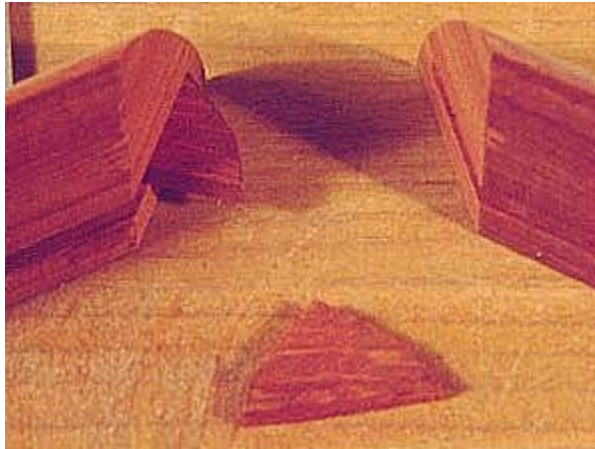


Photo 13B-  
Blowup photo of  
the joint. Custom  
fit the splines to  
fit in the grooves.

So that there is as much room for the splines in the corners as possible, cut off the corners of the bottom as in photo 14. With those out of the way, you can make the splines wider for a stronger joint.

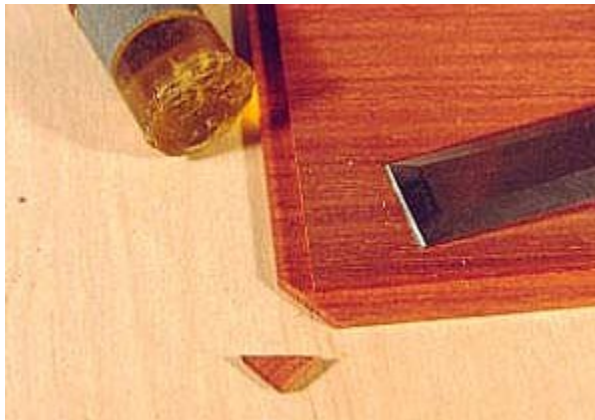


Photo 14- You'll  
need to chop off  
the corners of the  
bottom to make  
way for the  
splines. Rub a  
little wax on the  
corners after they  
are cut and you  
have dry fitted  
the tray, to be  
sure that the glue

will not grab the bottom corners. The bottom needs to be able to move with moisture variations, so can't be glued in place.

Dry fit each of the joints to be sure that the splines are not so large that they prevent the joint from coming together, and trim them as necessary. Glue up the tray as in photo 15. Don't use metal clamps- use thin nylon string. Bar clamps will dent the lower edge of the sides, and you can't place them onto the curve of the sides to close up the joints at the top. By wrapping string around the piece as shown, the tops of the joints will come together. More loops equals more pressure, but you only need enough to make the joints meet.



Photo 15- Nylon string is slightly elastic and so stretches enough to provide some pressure for pulling together parts like this.

Several wrappings should be enough to pull the joints together. After the string is on, shift the joints by hand for best alignment, then leave it to dry.