A Circle Cutting Jig That You Can Build

by Fred Holder

In a recent issue of CREATIVE WOOD, the official publication of the National Association of Woodworkers in New Zealand, Dick Veitch had an article on making a circle-cutting jig. It was so simple that I had to try my hand at making one.

This article is about my approach to making a circle-cutting jig using the basic concepts described and illustrated in Dick's article. The jig is shown in operation in the photo below while cutting a disk from a 3/4" thick board. This disk was to become a bowl made by cutting circles at a 45-degree angle and stacking them to produce a bowl blank from a flat board. Cutting the original circle was the first stage in this operation.

The Circle Cutting Jig being used to cut a round disk from a flat board. This rig worked best on flat boards because my bandsaw blade tended to wander a bit as the circle cutting process proceeded.

Each bandsaw will be a bit different, so no dimensions are given. The baseboard must be at least as large as the table of the bandsaw. I actually made mine somewhat larger than the bandsaw table.

I began by mounting a strip of wood that would fit into the guide groove on my bandsaw table. I then cut a slot in the baseboard using the guide strip to ensure the cut would be in the right place when the board was mounted on the bandsaw table.

I decided where I wanted the board to be located on the table and attached a stop that would limit the travel of the baseboard toward the back of the bandsaw. The backside of the baseboard is shown in the following photograph. You can see the strip of mount that goes into my bandsaw slot and you can see my stop (at the top in a darker brown color).

Bottom side of the base board for the circle cutting jig.

The guide strip and the stop determined where the board would fit on the bandsaw table. I next cut a swiveling piece that would carry the piece of wood to be cut into a circle. I wanted the pivot point of this part of the jig to be in line with the cutting edge of the bandsaw blade.

So, with the baseboard in place, I used a square to mark a line across the board that was the cutting edge of the saw blade. I then sawed out the swinging board leaving an offset for the pivot point. I drilled a hole where the pivot point bolt would be located and then aligned the rotating board so that the hole was over the center of the blade position line and drilled a hole through the base board, counter sunk the back side for the bolt head and attached the two pieces together as shown in the photo below.

The two pieces have been attached to one another with a pivot bolt and are ready to make the saw cut into the swinging board.

I then mounted the jig onto the bandsaw table, started the saw and swung the swinging board in to make a saw cut into the swinging board. I had drawn a line on the swinging board that ran through

the centerline of the pivot hole. This line was in about one inch from the edge of the board. When the saw cut reached this line, I stopped the cut and installed a stop that would limit the swing. The top of the jig is shown below.

This view shows the top side of the jig after it was fully assembled.

Now, I simply had to add some points on which the wood to be cut could rotate while being cut. These holes were located on the line that passed through the pivot point of the swinging board. I chose to space them 1/2 inch apart and numbered the whole inch locations as shown in the following photograph.

To rotate the wood, I needed to add something that could fit into the holes above. I decided to use duplex nails since they have a double head on them and can be removed easily.

I made two different pivot pins: one shown in the five inch position in the above photo; the other was a bit longer for thicker blocks of wood. I used the short one to cut flat boards and the longer one to cut half log sections as shown below.

This certainly made it much easier to cut a 1/2 log section into a round circle than trying to use a cardboard disk to guide the cut.

This photo shows the finished piece. Note the duplex nail sticking out of the bottom of the turning blank.