

# Using Your Lathe as a Spirograph Offset Turning

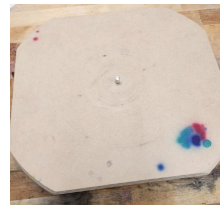
Mark Wallace



Start with a 7 to 12 inch square blank  $\frac{3}{4}$  or  $\frac{4}{4}$  thick smooth on the front face. Clear tight grained hardwood will turn easier than open grained woods. By utilizing offset turning. You will be able to create a spirograph pattern on your blank.

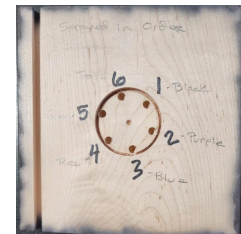
## Mounting Faceplate

To mount the blank on the lathe. I used a piece of MDF mounted on a faceplate with a  $\frac{1}{4}$  inch pin in the center. Start by finding the center of your mounting board. Then drill a  $\frac{1}{4}$  inch hole. I used an aluminum dowel, but a wood dowel would work just as good. The dowel should protrude no more than  $\frac{1}{2}$  inch from the mounting board.



## Blank Preparation

The size of your chuck jaws will determine what size recess you will need to drill. For 50 mm/2 inch jaws use a 53 mm/2  $\frac{1}{8}$  inch forstner bit. For my #2 Oneway Stronghold jaws. I use a 2  $\frac{1}{2}$  inch forstner bit. Find the center of your square blank and mark it. Then draw a 1 and  $\frac{1}{2}$  inch diameter circle using a compass. To get six even segments take the compass without changing the circle size and mark around the circumference of the circle to get 6 even segments. If you need to use a protractor to determine your segments. 6 spirals will be 60 degrees, 5 will be 72 degrees, 4 will be 90 degrees, and 3 will be 120 degrees. Drill the  $\frac{1}{4}$  holes and check that they are deep enough to allow the blank to sit flat on the faceplate mounting board. After the  $\frac{1}{4}$  holes are drilled. Then mount your forstner bit to drill a shallow  $\frac{1}{8}$  inch recess to be used later to mount the blank on to turn the beads. Label the holes 1, 2, 3, etc. Will make life easier when mounting on the pin for cutting the grooves.

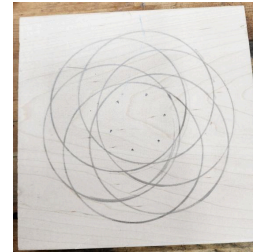


## Turning and Coloring Process

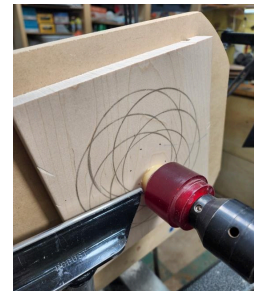
On the faceplate mounting board. Mount the blank on each of the holes and bring up the live center mounted in the tail stock and create a small dimple for each of the holes.



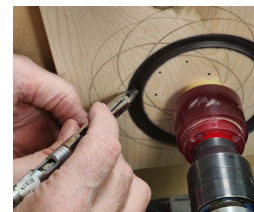
Take your compass and use the dimples created in the previous step to draw your circles. Use your best judgement to determine the size of the circles. You want the circles to be big enough to not come near the dimples but not too big to run off the side of the blank. The circles will be your guide to cut the grooves/spirals.



Mount the blank on the faceplate mounting board with the pin in hole 1. To not create a deeper dimple, insert a piece of wood between the live center and the blank or use a soft live center attachment. In the picture I am using one half of a Rubber Chucky sphere jig. Tighten up the tailstock to apply enough pressure to hold the blank securely in place. Turn on your lathe and see where the solid circle is. Use this circle as your reference point to start your V cut to make the groove. Make sure the gouge is completely closed (perpendicular to the blank) Make the groove about  $\frac{1}{4}$  to  $\frac{3}{8}$  inch deep. I use a small  $\frac{1}{4}$  bowl gouge with a fingernail grind or a  $\frac{1}{4}$  spindle gouge with a fingernail grind. To cut groove number 2. Mount the blank in hole number 2 and cut the groove. Next move on to pins 3 through 6.



If you are planning to color the grooves. Now is the time to use your airbrush and spray the first color. The trick here is to get the nozzle of the airbrush right up into the groove.  $\frac{1}{8}$  to  $\frac{1}{4}$  inch away to minimize the overspray. I have found that you get the best results when you cut one groove and then color it. Then go on to the next groove, cut it and color it. You get a much cleaner result as opposed to cutting all the grooves and then going back and coloring the grooves.



You have now completed the spirograph grooves and it is time to move on to the beads. Remove the faceplate mounting board and replace it with your chuck. Mount the blank in the recess you previously drilled. The purpose of the beads is to remove the dimples created earlier. Cut your grooves using a dedicated beading tool or a spindle gouge. Using your airbrush color the beads. Here you want to get super close ( $\frac{1}{8}$  inch) to the bead when spraying to minimize the overspray.

