




# Southern Turners Project Sheet

## Spirals & Twists



This project sheet is on how to layout and carve spirals on your work. Often called Barely twists or rope twists they are generally used to embellish spindle work such as candle sticks and furniture legs, however the principles are the same for carving spiral work onto hollow forms, bowls etc.

To begin with there is some terminology to be aware of:

 <p><b>BINE:</b> the section of timber that spirals i.e. The candle stick on the left has a single bine while the one on the right has two. The number of bines is only limited by your imagination and design.</p>	<p><b>TWIST:</b> the number of complete revolutions that a bine travels around the centre axis. Direction: twists are described as either twisting to the <b>LEFT</b> or <b>Right</b>. The table leg pictured is a double bine with one and a half twists. This spiral is twisting to the left, therefore known as a left hand twist.</p> 	 <p><b>OPEN &amp; CLOSED:</b> an open twist (sometimes called hollow twist) is one that you can see through. The picture on the left is open, while the one on the right is closed.</p>
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### Marking out

To begin any project that you may want to include spiral work on, you must first lay out guidelines. In the examples used below we will look at a basic single and double bine closed twist on a parallel cylinder. For slightly more advanced projects you may wish to have more bines, over tapered or on swollen vessels such as bowls or hollow forms, or perhaps produce an open twist (or combination of all of the above). For all these variations the basic marking principles remain the same.

#### Single Bine



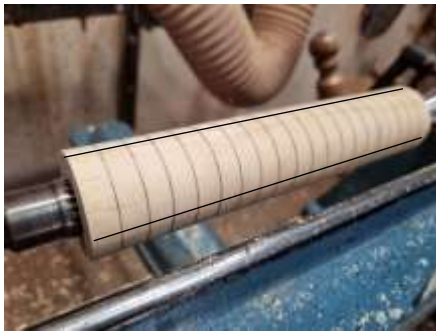
#### Single Bine

The blanks used in the examples are 200mm long and approx. 40mm in diameter. Begin with a cylinder and mark lines evenly along its length. The spacing and number of bines will affect how tight the twist will end up. These are known as 'pitch' lines.

#### Double Bine



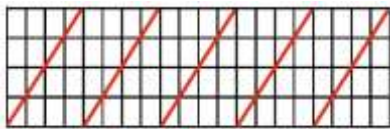
#### Double Bine



Set your tool rest at about centre height and draw lines along the spindle to mark the diameter into even quarters. Larger diameter projects will require more division lines, but keep them evenly spaced. If you are planning on a 3 bine twist, divide your spindle into thirds (or multiples of). See 'tips' at the end of this project sheet for help in doing this.



Mark diagonal lines to join the corners of the squares and continue around the spindle. With the double bine spiral, mark a second line opposite your first line. Indicated in green on the picture to the right.



If you were to lay the designs out flat, they would look like these.



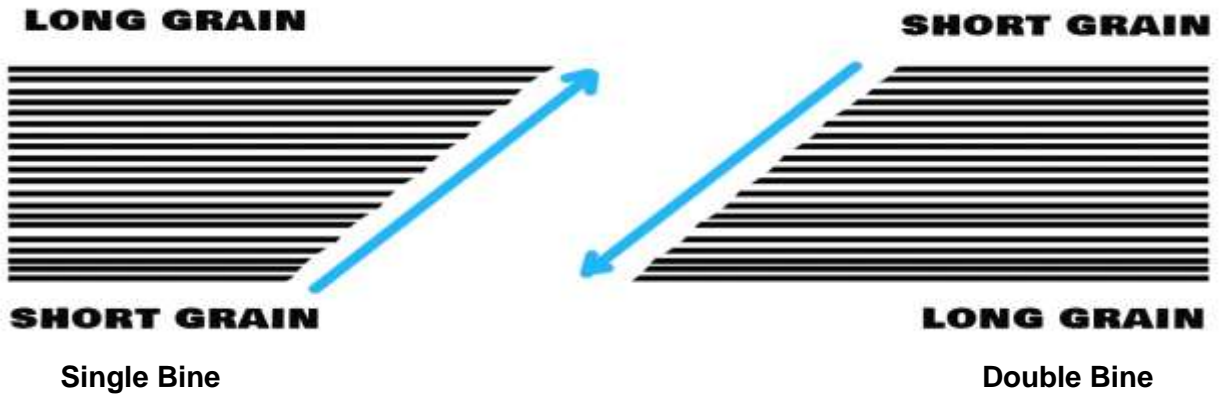
Using a fine-toothed handsaw cut along your diagonal lines. Try to maintain a constant depth, as these cut lines give your rasps and files something to follow and indicate how deep to go. It may help to stick a piece of tape along your saw to act as a depth indicator.



## Carving

When carving or 'cutting out' your spirals it is preferred to cut the timber with the grain, as cutting against it will produce grain tear out, which may not be repairable and ruin your project.

In the picture below the timber grain is represented by the horizontal black lines, with the diagonal clear void in the middle representing our saw cut lines. If we cut the timber in the direction of the blue arrows the shorter wood grains are being supported by the longer wood grains, however cutting the opposite direction offers no grain support, and will cause tear out.



Using the principle discussed above to guide your cut direction, begin removing wood with your rasp or file using the saw cut as a guide. Orientate the timber and start from which ever end is more comfortable for you. Cut down to your saw cut depth.



When you have completed roughing one side, flip the timber around and rough out the remaining side.



Using finer rasps or files, continue to refine and smooth the shape, try to ensure an even depth and radius on your bines.



## Single Bine



Moving onto abrasives, finish smoothing the piece, taking care to remove all tool marks and pencil lines. As a suggestion, using long thin strips of cloth backed sandpaper is much easier and faster than using smaller pieces.



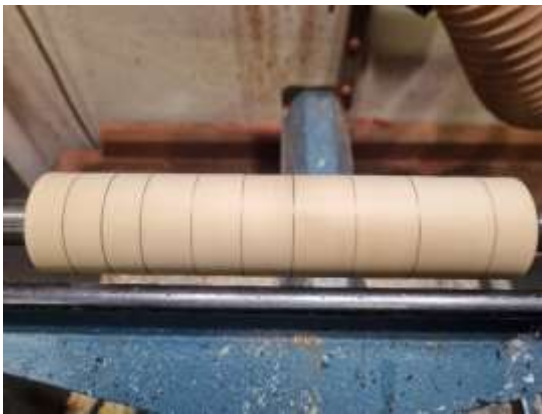
Job Done! Now to experiment and incorporate into your next project.

## Double Bine



## Variations

When beginning marking out your twist, rather than having your pitch lines evenly spaced, try beginning with the lines closer together and gradually widening. This will produce a spiral that begins tight and gradually stretches out, or in the reverse if marked out that way.



## Tips

If you do not have an indexing system on your lathe, an easy way to mark your horizontal lines is to wrap a thin piece paper around the spindle, cut it to length (one complete revolution), remove, fold into quarters and wrap back around the spindle, the folds will be evenly spaced around you spindle.

