

## Lollipop Style Rope Tool

Here is what I call my lollipop rope tool - The tool head can be made of any stiff material, from wood to plastic to metal. The design allows it to be cut from any board or sheet. Hard woods work better than soft woods, Delrin or high density polyethylene works better than plexiglass. I prefer hardwood or solid plywood to metal.

This tool is based on the maximum diameter of the strand ( the strand circle) to be laid up. Every thing is then proportioned from the strand circle. The design works for 3, 4, or 6 strand rope tools. The number of strands becomes the number of channels, or strand guideways to cut into periphery of the headstock. See the figure on the next page.

Make the inner circle at least 4 times the diameter of the strand circle across the center of the headstock material. Draw a reference line from the center of this circle to at least 6 strand diameters beyond the inner circle.

- ❖ For three strand tool, draw additional reference lines at 120 degrees left and right of the reference line.
- ❖ For a four strand tool, draw additional reference lines every 90 degrees from the reference line.
- ❖ For a six strand tool, draw additional reference lines every 60 degrees from the reference line.

Draw a strand circle centered on the intersection of the inner circle and each reference lines. Outward along the reference lines, position at least two (4 is better, but 7 is too much) more strand circles rim to rim with the first strand circle. Draw an outer circle around the outside of the last strand circle in the stack.

For four and six strand tool heads, add a strand circle centered at the center of the inner circle. This gets drilled to become a guideway for a rope core to pass through the tool. The use of a core is optional on four strand ropes, but is required for six strand ropes.

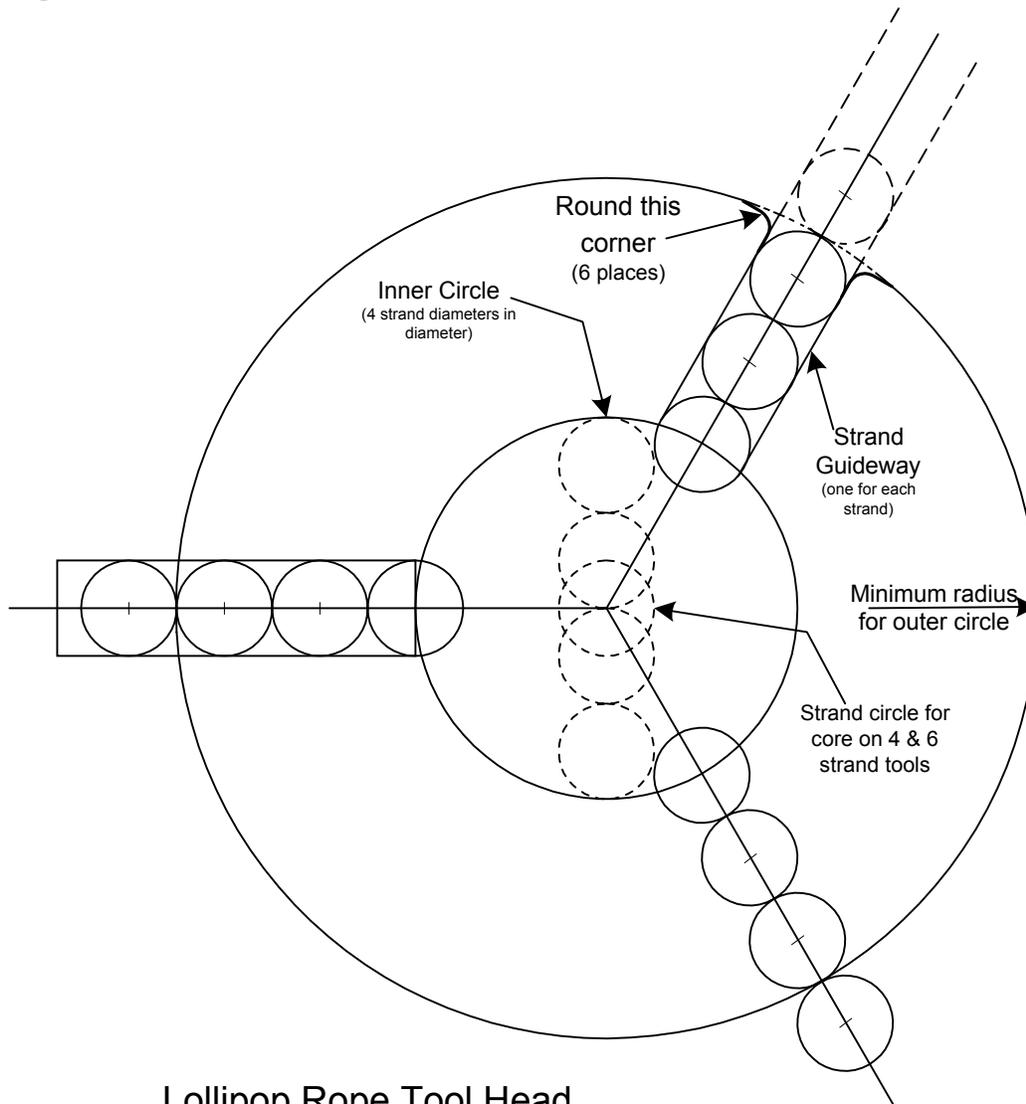
This outer circle becomes the outline of the tool head. If the tool handle is to be included from the same material, then break the outer circle between two strand guideways and incorporate the handle design on to the tool head drawn on to the material.

The strand diameter is the size of the drill bit to use for cutting the tool. Drill the strand guideway circles before cutting the perimeter of the tool head out of stock.

If the handle is a separate part, then the toolhead can be cut into a circle, following the outer circle, Use the bandsaw or scrollsaw to cut the outer edge and the straight cuts into each strand guideway.

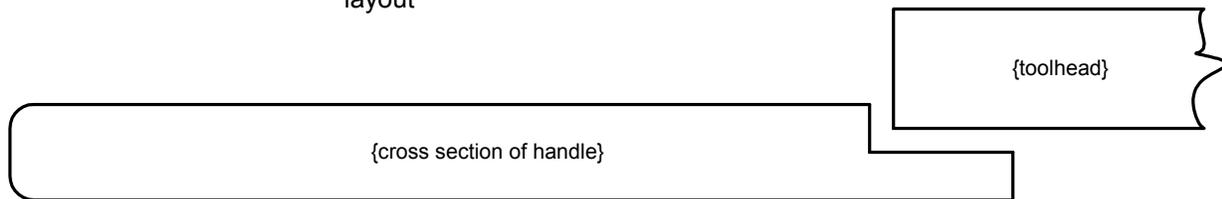
Round the corners of the strand guideway mouth where the strand guideway meets the outside edges of the tool. For all cut or drilled edges, round the edges to break the sharpness. The tool should be sanded smooth to prevent snagging on the rope yarn.

A separate handle can be glued, screwed, or bolted to the tool head, between two strand guideways. The width of the handle must not overlap a strand guideway.



### Lollipop Rope Tool Head

Three Strand version shown in various stages of layout



### Lollipop Tool Handle

Sample design of a handle for toolhead