

## Off Center Spindle Turning Demo

General: This document describes the process to create an off center spindle piece in the shape of a person. It was written to accompany the NW Woodturning Club monthly meeting held in May 2017.

Materials: Spindle blanks of straight grained hardwood having the dimensions of 1 ½" square up to 2" square. Length approximately 10". Wood should not have knots, cracks or other defects.

Procedure:

1. Square to Round: mount between centers and rough to round. Cut a tenon at one end. Mount tenon end into the chuck jaws. Mark jaws on the piece to ensure alignment in the event the piece comes loose from the chuck.
  - a. Face off the end opposite the tenon, the free end, and make it flat and square. This end will accept the cone center.
  - b. Examine the piece for grain orientation.
  - c. On the free end, make a mark across the diameter of the free end that will ensure the desired grain patterns on the piece.



2. Bottom of the figure: to turn the bottom portion from the waist, or hips, to the feet, use the exact center of the piece for the point of the cone center. Mark the length of this part of the figure with a pencil. Cut a tapered shape from the waist to the ankles, then flare out wider for the feet; this part of the figure will be symmetrical. Then shift the cone center 3/8" off center to change the torso shape; this will make the thinner

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waist shift off center from the feet. A lathe speed of approximately 1200 RPM should be



sufficient.

3. Middle torso: Loosen the chuck and then shift the cone center approximately  $3/8$ " off the center, but along the diameter line. Retighten the chuck and set the cone center. Turn from the waist up to the chest area of the figure. You can measure the torso length by using the Golden Mean proportions if desired. Retighten the chuck and continue turning the large cove for the torso. It will narrow down from the chest to the waist. This will be cone center point #2. NOTE: it is possible to check the center point location by hand turning the lathe spindle and use a pencil to mark the wood. The pencil line will indicate the tool cut line.



4. Head and Neck: Loosen the chuck and shift the cone center  $1/2$ " to the opposite side of the center hole. Retighten. Check the wood being removed. If not enough or too much, make a minor change in the location of the cone center. This will be cone center point #3. Cut in to form the neck to the desired diameter. Then cut the head to the desired diameter. Keep in mind the proper proportions of the human body for the

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diameters of the neck, head and chest. If the figure is to have a hat, then cut the head



up to the underside of the hat brim.

5. Hat Brim: Loosen the chuck and shift the cone center point to get the desired diameter of the hat brim. NOTE: check the center point with the pencil. If you cut too much wood, you cannot put it back! This will be cone center point #4.



6. Top of hat: Loosen the chuck and shift the cone center back to center point #3. The top of the hat must align with the lower part of the head which is under the hat brim. The

top of a hat always aligns the head or skull of a person!



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7. Completion: Your figure is now mostly complete. You may shift the cone center back to various center points in order to make adjustments to the figure shape and the transition points. Sand the figure as desired at each stage.
  - a. Using a parting tool, cut the figure off above the hat as desired.
  - b. Using a parting tool, cut the figure at the base where desired.
  - c. Painting or staining can be done but is beyond the scope of this procedure.  
Contact Miguel Hernandez for advice if desired.
8. Other figure variations: it is possible to use these same procedures to create either a male or female figure. Hats of different shapes or no hat. Shoes of all sizes. Straight leg pants or a dress with no feet showing at all.

Have fun!