

# Turning Christmas Ornaments

Course number: 95540001

## Course goals:

- Learn the steps in shaping and assembling ornaments
- Make custom tools for hollowing small objects
- Learn techniques for creating spherical shaped objects

## Materials:

- 2.5 x 2.5 x 4 inch hardwood blank
- $\frac{3}{4}$  x  $\frac{3}{4}$  x approximately 5 inch pen blanks or equivalent for finial
- 3/16 inch Allen wrench for tool making
- 1  $\frac{1}{2}$  x 1  $\frac{1}{2}$  x 5 inch scrap wood for tool handle
- Metal ornament hanger
- Brad nail to drill a hole for the above
- Vice grip pliers
- CA or 2-part epoxy glue
- Sand paper & finish



## Discussion:

Making ornaments is both fun and instructive. The process of laying out, shaping and hollowing the ornament body teaches several transferable skills which can easily be applied to many other projects. While commercial tools are available for hollowing small objects the process of making your own tools is fun and allows you to make tools that are specific of the project at hand. Shaping small spindles with the shallow-fluted gouge or skew chisel requires patience and careful cutting while developing improved hand-eye coordination.

There is an opportunity to complete future ornament projects using exotic or dramatic woods, sanded and finished to a high degree. Consider using un-figured hardwoods of contrasting colors as finials with these special woods. If these will be special gifts make sure to sign and date the undersides.

## Activity Part One: Making the hollowing tool

- Set the lathe speed to approximately 1,200 RPM.
- Mount the tool handle blank in your four-jaw scroll chuck and round out with the spindle roughing gouge.
- Create pleasing shape to fit your hand.
- Drill a 3/16 inch hole 1 ¼ inches deep to accommodate the Allen Wrench tool blank.
- Sand and part off the tool handle.
- Insert the Allen Wrench tool into the handle and secure with two part epoxy or thick CA glue.
- At the grinder shape the tip of the tool keeping the tool on the platform at all times
  - Round the tip to a circular shape.
  - Flatten the top of the wrench.
  - Relieve the underside of the tool by beveling from the tip toward the handle.



Hollowing tool components



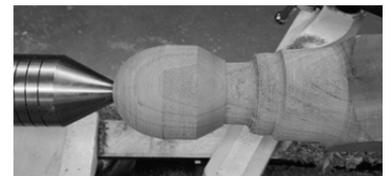
Tool tip ground to shape

## Activity Part Two: Shaping and hollowing the ornament body

- Set the lathe speed to 800 – 1,200 RPM.
- Mount the hardwood blank in your four-jaw scroll chuck and round out with the spindle roughing gouge.
- Layout the spherical shape by transferring the diameter dimension to the spindle and marking out that length into three equal portions.
- Drill a 3/8 inch hole ¾ of the way through the sphere blank.
- Turn the outside shape except for the portion nearest the headstock which must remain approximately ½ the diameter.
- Hollow the sphere in three steps.
  - Hollow the portion nearest the opening to 1/3 the inside depth constantly checking the wall thickness being careful to not damage the 3/8 inch hole through which you are hollowing.



Mark the depth before drilling



Drilled, laid out, and partially turned



Hollowing the first third



First third complete, second started

- Hollow the center portion to 2/3 the total depth, rechecking the wall thickness.
  - Reduce the lower third to the final spherical shape by eye.
  - Complete drilling the 3/8 hole completely through the bottom of the blank.
- Complete the external shape by reducing the base portion, sanding and parting off.

### Activity Part Three: Creating the finials

- Mount the finial blank into the base portion of the four-jaw scroll chuck and support the opposite end with the tailstock and live center.
- Increase the lathe speed to a minimum of 1,500 RPM.



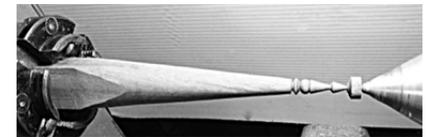
Mount the blank at the base of the jaws

- With your skew chisel or shallow fluted gouge shape the finial blank into a long slender taper leaving 1/8 inch at the tailstock end to cut off later.



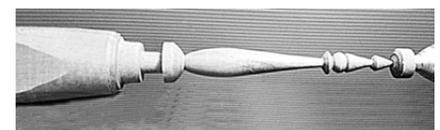
Round then taper the blank

- Plan and execute a design for the finial working carefully from the tailstock end toward the headstock.



Shape finial from tailstock end

- Create a tenon to match the 3/8 inch hole drilled in the body; the tenon should be 1/4 inch in length. It is important to recheck the exact diameter of the hole with calipers before cutting the matching tenon.



Add tenon and complete the tip

- Undercut the tenon area to allow the finial to set snugly against the curved shape of the ornament body.
- Part off the finial in the center of the tenon leaving half of the tenon remaining.

- Using the remaining tenon for the top finial under cut it to snugly fit the top portion of the ornament body.



Use 1/2 the tenon for the top finial

- Shape the opposite side into a small round shape, sand and part off.



The completed set of finials

