

**MAY 2017 DEMONSTRATION  
TURNING A LIGHTHOUSE WITH DON LUM**

**M**embers and guests of the Central New York Woodturners assembled on Wednesday, May 10<sup>th</sup> for their monthly meeting and demonstration of a lighthouse ornament by **Don Lum**. Here is Don's write-up of his demonstration:

The ornament consists of a base, the body of lighthouse, a catwalk, light, cupola, and roof.

**MATERIALS**

**Body of Lighthouse:** One piece of wood 1 1/4" x 1 1/4" x 4". NOTE: This section looks great when a variety of woods are laminated to make the blank

**Base:** One piece of wood 1 1/2" x 1 1/2" x 1/2"

**Catwalk:** One piece of wood 1 1/2" x 1 1/2" x 1/4". Drill 1/4" hole through center.

**Cupola:** One piece of wood 1" x 1" x 1". Easy way—drill hole in all four sides.. Or take this opportunity to use inside out turning.

**Roof:** One piece of wood 1 1/2" x 1 1/2" x 1/4"—drill hole in center. One piece 1" x 1" x 1". Turn tenon on each end with the smaller tenon to fit into hole. Glue together prior to workshop.

**Top:** One piece of wood 1/4" x 1/4" x 1/4"

**Light:** 1/4" dowel

**INSTRUCTIONS**

**BODY—Laminating & Turning the Blank**

Start with blank of 1 1/4 x 1 1/4 x 4 inches. If you want contrast in the body, cut on bandsaw at a 45 degree angle.

Make a sandwich of contrasting woods. Additional pieces of veneer can be added for more color.

Use a PVA type glue to assemble. After glue cures, mark center on



each end and turn between centers to shape but slightly larger than desired diameter.



Use a parting tool to turn a tenon on bottom end.

Place bottom tenon in chuck, using the center in tailstock to align the workpiece.

Use a 1/4 inch drill bit in Jacob's chuck to drill approximately 3/4 inch deep in top of body.



Exchange Jacob's chuck for cone center in tailstock; square off top of lighthouse body. Turn to desired final size.

Sand and piece is ready for finish.

**BASE**

The base of the lighthouse is a piece of contrasting wood at least 1/4 inch wider than base of lighthouse body x 1/4 inch thick .

Mark center of one side; mount on glue block. You can use two-sided tape or any other method. I prefer a hot glue gun as it is quicker and cheaper.

**Lighthouses were built to serve as navigational aids and to warn boats of dangerous areas.**

**How many lighthouses are there along Lake Ontario?**

**MAY 2017 DEMONSTRATION, page 2**

Whatever you prefer to use, use a cone center in tailstock to center piece and provide clamping pressure.

When the piece is firmly attached, turn base to desired diameter, slightly larger than bottom of lighthouse body.

Remove tailstock and use a parting tool to hollow center of base to slightly deeper than tenon on the bottom of the lighthouse.

Sand and curve outer edge.

Remove base from glue block.

Turn a tenon on the glue block to fit hollow in base. I make this a loose fit and use hot glue to attach clamp with tailstock and waste block next to base. When cured slightly turn bottom of base slightly concave.

Sand and piece is ready for finish.



**CUPOLA**

The cupola is 1" x 1" x 1<sup>3</sup>/<sub>4</sub>". If you want a round hole to show light, select a contrasting wood.

Mark center of each side and drill hole on each face slightly deeper than diameter of blank. For mini lighthouse, this is the easier method .

OR

Use the inside out method. This gives you a lot more freedom in making shapes to show light.

Either way the rest of the turning is the same.

Place work piece between centers.

Turn a tenon on one end.

Place in chuck and use the Jacob's chuck in tailstock to drill the same size hole that was drilled in the top of the lighthouse body.

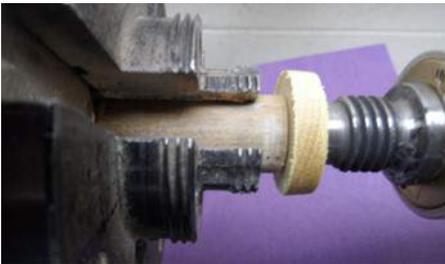
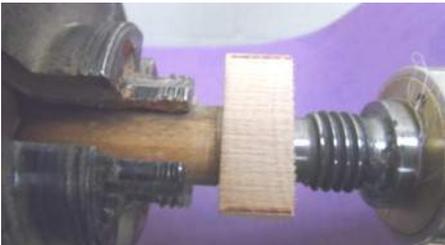
Replace Jacob's chuck with a cone center.

Turn cupola to desired shape and size, using a parting tool.

Turn a tenon 1/16" on the top of the cupola.

Sand piece and part off.

Cupola is ready to finish.



**The first lighthouse in the United States was built on Little Brewster Island at the entrance of Boston Harbor in 1716. The British blew it up in 1776. The replacement tower was built in 1783 and is still functioning as a navigation aid.**

**MAY 2017 DEMONSTRATION, page 3**

**CATWALK**

Select a piece of contrasting color at least 1" larger than bottom of cupola.  
Mark the center and drill hole the same size as before.

Place waste block in chuck and turn tenon to match hole in catwalk.

Remove cone head from cone center.

Place coneless center in tailstock. Use hot glue to attach catwalk to waste block using the tailstock to clamp.

When cured, turn to desired diameter. Be sure to leave enough space to allow spheres to be placed. Slightly indent the bottom of catwalk.

Sand.

Remove from waste block and re-glue bottom of catwalk to waste block. Make sure you have removed old glue from waste block before gluing.

Turn upper face to desired thickness, slightly indenting it.

Sand and it's ready to finish



**LIGHT**

Remove waste block from chuck; replace with piece of wood slightly larger than the drill bit size you've been using. Turn to achieve a tight fit in top of lighthouse body. Place catwalk and cupola on piece and mark where the bottom of the catwalk sits, making sure the light will show.

Turn desired shape of light and color if you wish. I use red and green magic markers. It is easier at this point to apply finish before assembly.



**ROOF**

Make the roof out of contrasting wood. Select piece at least 3/4 of an inch larger than the tenon on top of the cupola.

Mark center and drill hole .

Select a second piece and place between centers.

Turn a tenon on one end to match the hole drilled.

Turn a second tenon on the opposite end to go into chuck.

Glue together using PVA glue.

After glue has cured, place tenon in chuck. Remove tailstock and hollow out bottom of roof to accept the tenon on top of cupola.

Try for tight fit as the weight of ornament will hang on this.

Remove from chuck and replace with a waste block, Turn a tenon to accept hollow in the bottom of the roof. Use tailstock to center and clamp in place the hot glued piece.

After glue has set, turn to desired shape. Leave slightly over size.

Using Jacob's chuck, drill a 1/16 inch hole about 3/8 inch deep in top. Use a contrasting wood on which you have already turned a 1/16 inch tenon.

The AAW journal, *American Woodturner*, includes a article with instructions for a solid lighthouse..

This ornament is not yet "written up" in an AAW publication!

How do I know? I used AAW Explore to search

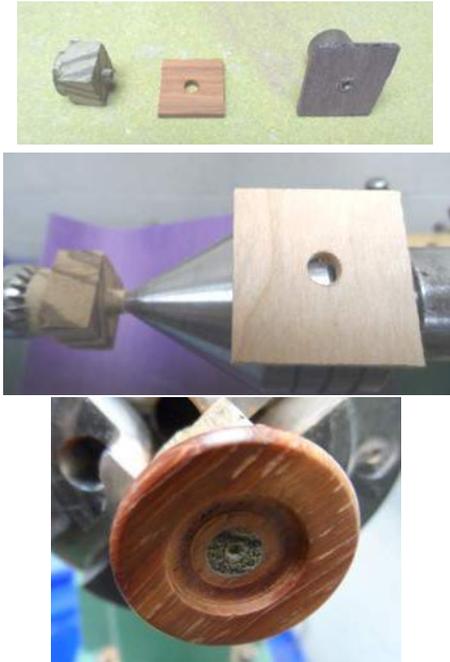
As an AAW member, you can access any of the articles on this topic as well as many, many others.

AAW Explore makes it easy to find relevant articles on any topic!

**MAY 2017 DEMONSTRATION, page 4**

Glue together. At this point I use a thick CA glue and clamp with tailstock and allow at least ten minutes to cure.

After curing turn to final desired shape.



Assemble all pieces, using whatever method you wish to hang .



Demo and write up by *Beth & Don Lum*  
Photos by *Beth & Don Lum*

- There are 15 Lighthouses on Lake Ontario
- Fort Niagara
  - 30 Mile Point
  - Braddock Point
  - Charlotte-Genesee
  - Sodus Point
  - Sodus Outer
  - Oswego West
  - Selkirk
  - Stony Point
  - Galloo Island
  - East Charity Shoal
  - Horse Island
  - Cape Vincent
  - Breakwater
  - Tibbetts Point



**COMPLETE**

Finish all pieces.

Glue together lighthouse base, body, catwalk and light.

If you wish to add globes to catwalk:

Dry fit cupola on light.

Mark where you want globes to be.

Using a small bit in drill press, create a slight cup at these points. Use a piece of scrap hardwood in chuck to turn globes.

Color, if desired.

Glue in place.



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