

# Cindy Drozda

"The Fine Art of Woodturning"

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## Preparation Instructions

### For the participants of Cindy Drozda Signature Workshops

#### Subject: Triangle Box



#### Workshop Goals:

My main goal for all of my workshops is to help members of the Woodturning community to become better woodturners and artists. I do this through sharing the methods, techniques, and design philosophy that I use in my own work.

Another goal is to give participants the experience with me that they are looking for. For many, that is to take home a piece of my signature work that they have made.

You are to be congratulated for your willingness to learn from me! It is through exposure to other turners that we all share and grow, as individuals and as a group. Your turning and artwork will improve as a result, no matter what your turning experience level at the moment. I attend other turners' workshops whenever I can. I always benefit from learning different ideas and ways of doing things.

This is your opportunity to step into my shoes, and experience the ways that I do my work. Everyone does things differently, and you may or may not decide to incorporate my ideas and methods into your own work. Having exposed yourself to new methods, processes, and philosophies will make you a better turner. You will have more options and more "tools" available for doing your own work.

#### Subject:

The subject of this workshop will be my "Triangle Box". It is a lidded container with an over-fitting lid. The outside is turned on 3 sets of centers, making it look like a triangular shape.

In addition to the steps and processes involved in the project, participants will learn boxmaking techniques, fitting parts together, jam-fitting techniques, and multi-axis turning.

Depending on the length of the class, we may decide to do an inlay in the top of the lid.

In a single day Triangle Box Workshop, we will all complete a Triangle Box. Multi-day Multi-Axis Box Workshops will include other projects also.

## **Class Structure:**

My workshops consist of short demonstrations of each step in the project, followed by time for the participants to complete that step.

The focus will be on completing the process as a group, and learning some techniques along the way. I do not recommend spending a lot of time sanding and finishing.

We will have a morning session, a lunch break of about 1 hour, and an afternoon session. At the end of the day, we will leave the shop as clean as we found it. Hours of class will vary, depending on the facility that we are using. Usually, we spend a 6-7 hour day working at the lathe.

Please contact your club's representative for the hours of your class, and any other specific details.

## **Turning Experience Required:**

This workshop is the lesson, not the final exam! Your performance in class will not be graded or judged. We all learn at our own level and our own rate. It is the nature of clubs and guilds that the workshop participants will be at different levels. It's my job as instructor to challenge everyone at their level. All skill levels are welcome, though some turning experience is highly recommended.

## **Technical Preparation:**

You should be "current" with your own tools and methods. In other words, it will be better for you if you have turned something recently and are reasonably comfortable with what you currently do.

You don't need excessive practice, or instruction, to prepare for this workshop. The best time to schedule time in your shop to practice is in the weeks following the class, when you can put into action the ideas and methods that you learned, and make them your own.

## **What to Bring to Class:**

1 – Safety eyewear, face shield, or goggles. This is important. Eyeglasses don't count unless they have protective side shields and ANSI spec safety lenses.

2 - You do not need to bring wood. All of the wood will be provided.

3 – Tools (list below) and any sharpening jigs that you like to use.

4 – Sandpaper and finishing materials if you intend to finish your project.

5 – Your specific goal for this workshop.

6– To get the most out of this workshop: Please bring an open mind and willingness to learn!!

## Suggested Tool List:

I will be bringing extra tools to share, so if you don't already own some of these tools don't worry. Just bring what you have. It is a good idea to attend the workshop, and see if you want to do this work in the future, before buying new tools.

### Important:

**Face Shield or Safety Glasses – everyone must protect their eyes in this class!  
(regular eyeglasses don't count unless they have safety lenses and side shields!)  
A Full Face Shield is highly recommended for the Multi-Axis workshop!**

Spindle Roughing Gouge

3/8" Spindle Gouge

1/16" Thin Parting tool

1/8" Parting tool

3/8" or 1/2" Bowl Gouge

Box hollowing tools

scraper or other tool for making chucking tenons

small scroll chuck with "standard" jaws to grip a 2" tenon.

Drive center – preferably a "safety driver", or 1/2" Steb Center

Tailstock live center – preferably a small diameter cup center or 1/2" revolving Steb Center

Notepad & Pencil

### Optional:(bring if you have them)

Skew chisel 1/2" or 3/4"

smaller and/or larger bowl and/or spindle gouges

Round nose scraper or other tools for box hollowing

Square ended scraper 1/2"

Beading and Parting tool 3/8" or 1/2"

6" tool rest

vernier calipers for scribing (General Brand, the cheap ones)

depth gauge

wall-thickness calipers

binocular magnifiers or reading glasses (to be worn **with** your safety glasses of course)

Center finder

Ruler

Compass

Awl

Dust Mask

## The Triangle Box – Step by Step

**This design starts with a dry blank 3" x 3" x 3 1/4 "**

1. Layout top and bottom of box
  2. Mount blank between centers, round down to just over the Blue (major) diameter.
  3. Part in to Red (solid) diameters on ends to create reference diameters
  4. Turn multi-axis triangle using the 3 centers on the Green diameter. Cut until each side contacts Red diameter.
  5. Sand the triangular outside of the box completely
  6. Cut chucking tenons on both ends.
  7. Chuck on bottom, part off the 1" long piece that will be made into the top of the box.
  8. Hollow, sand & finish inside of box. Create lid recess.
  9. Chuck on lid, cut tenon to fit recess in box.
  10. Hollow, sand & finish inside of lid
  11. Jam fit lid onto waste block to shape and sand the top, creating inlay if desired.
- or -
7. Chuck on lid, part off bottom of box, leaving the lid in the chuck.
  8. Create lid tenon, hollow, sand, & finish inside of lid.
  9. Chuck on bottom of box, create a recess to jam fit the lid in place.
  10. Complete the top of lid, including recessing in a piece of wood for inlay if desired.
  11. Hollow, sand, & finish inside of box.
  12. Tune up lid fit if needed.
  13. Jam fit bottom of box onto waste block to shape the bottom.

**Done!**

This layout is for one specific size and shape of box, but many variations on this concept are possible. It can also be adapted to make items other than boxes. Try peppermills, vases, accent trim rings, bowls, tool handles, candle holders, etc. The possibilities are endless!

### **Here's how I determined the relationships in the layout**

(this formula works in this size range, and may (or may not) work the same way in much larger layouts):

#### **Starting with the largest diameter available in my blank:**

1. Multiply the major (Blue) diameter by .77 to get solid (Red) diameter
2. Subtract 1/2 " from the Red diameter to get the centerpoints (Green) diameter

#### **Starting with the smallest possible chucking point diameter that my chuck can use:**

1. Multiply the Red diameter by 1.3 (or divide by .77) to get the Blue diameter
2. Subtract 1/2" from the Red diameter to get the Green diameter

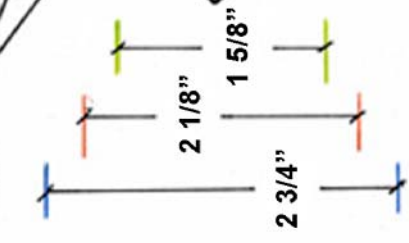
**Other things I have discovered:**

1. The larger the radius of the outer arcs, the more “triangular” the box appears.
2. The smaller the radius, the more like a circle it looks
3. If the design of the box doesn’t fit within the Red cylinder, the hollowing will cut through the sides. This could be either a good thing or a bad thing!
4. Other numbers of centerpoints are also possible using the exact same ideas. 6, 4, and 8 are easy to figure out.
5. Don't feel limited by symmetrical points! Any variation of asymmetrical polygons is possible!
6. If the centerpoints 1, 2, & 3 are shifted in relation to each other, you will get a “twisted” triangle (or whatever). This looks cool but is a lot harder to sand.
7. This same idea works well by only shifting the centerpoints on one end of the block, also.
8. Try a tapered 3 (or 4, 6, 8, etc)-sided turning. Make the layout smaller on one end of the block.

# Triangle Box Layouts

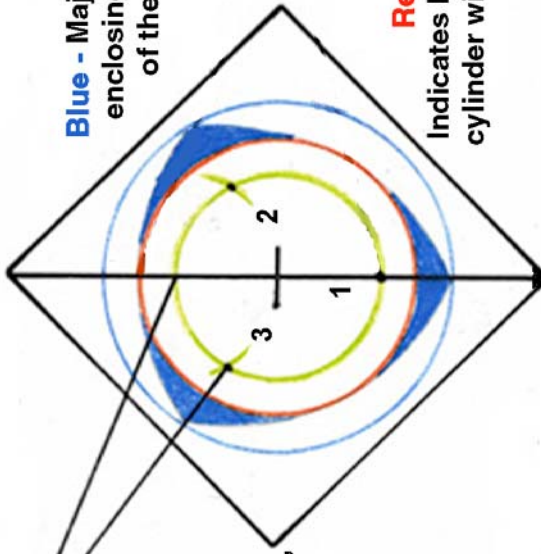
## Top Layout

Compass set to **Green radius** scribes arcs to locate centers 2 & 3

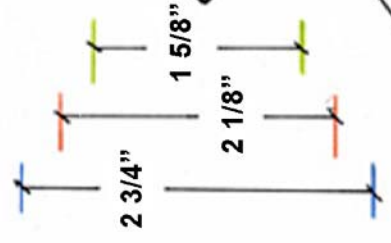


**Blue** - Major Diameter, enclosing all points of the triangle

**Red** - Indicates largest solid cylinder within triangle



**Green** - Circle on which the drive center points are marked



Compass set to **Green radius** scribes arcs to locate centers 2 & 3

## Bottom Layout

Set Compass from center point on **Green Circle** to opposite point on **Red Circle** to scribe arcs of **Blue** triangle points

