

Abstracts

for rechucking to turn the bottom. Round-bottomed bowls rock!

► **Strategies in the Pursuit of Form**

Good form is the foundation of all excellence, and it is up to each of us to find ways to best advance our own sensitivity to form. In this fast-paced presentation, Bill will discuss the strategies he has found useful in his pursuit of powerful form.

► **Importance of Personal Style**

Panel discussion.

Elizabeth Lundberg

► **Emerging Artist**

Alain Mailland

► **How I Design and Create My Pieces**

You'll enjoy this slideshow explaining how Alain realizes his pieces with big and long turnings, off-centering, carving, etc. There will be moments explaining his designs and inspiration. This slideshow is updated with new turnings and pieces.

► **Turn and Bend Your Piece**

Alain will turn and hollow a piece in end-grain, carve the walls into small stems, and bend them using a little steamer. If you've ever wondered how he does it, now's your chance to learn first-hand.

► **Turners without Borders**

Panel discussion.

Terry Martin

► **Redefining Symposiums: New Ways for Planning Woodturning Events**

Panel discussion.

► **Turners without Borders**

Panel discussion.

► **Photography for Publication & Jurists**

Panel discussion.

Brian McEvoy

► **Deep Hollowing with the Captive Boring Bar**

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William Moore

► **Getting Started with Metal Spinning**

This session will be an introduction to the basic tools, techniques, and materials of metal spinning. It will explain how to use a lathe and disks of metal to create metal forms. Attendees will be introduced to the basic tools needed to spin metal. Bill will demonstrate techniques to use these tools to successfully spin metal. He will discuss the materials needed and their properties.

► **Designing with Spun Metal and Turned Wood**

In this slide talk, Bill will discuss the ideas and design issues he has explored when combining spun metal and turned wood. The slides will help illustrate the variety of ways that the simple forms of spun metal can be combined to create more complex forms and will show how the variety of patinas can be used to color the metal.

Stuart Mortimer

► **Thin-cut Vase with Rim Twist & Bun Twist**

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► **Standard Hollow Form & Finials**

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► **Twisting Hollow Forms**

XX

► **Basic Spiral Work**

XX

Ambrose O'Halloran

► **Redefining Symposiums: New Ways for Planning Woodturning Events**

Panel discussion.

► **Turners without Borders**

Panel discussion.

Bill Ooms

► **Indexing for the Ornamental Turner**

Do you want to get into ornamental turning without spending a lot of money? Start with indexing that has always been the primary tool of the ornamental turner. This presentation will show you how to adapt your present lath to a state-of-the-art indexer by adding a stepper motor to the spindle of an ordinary lathe. Bill will present information about additional equipment like cutters and slide rest. The presentation will show how to decorate a Castle Box using simple indexing techniques and other decorative patterns that can be done with indexing.

Dave Peck

► **Combine Marquetry and Turning**

Dave will show how easy it is to make marquetry and inlay it into woodturnings. Topics will include sources of materials, tools, and information about marquetry and a survey of popular marquetry techniques. He will demonstrate proven techniques for inlaying into flat, cylindrical, cone-shaped, and complex curve turnings. Tips throughout the demonstration will go a long way toward ensuring success on your first attempt at combining marquetry and turning.

Binh Pho

► **Business of Business**

Panel discussion.

► **Design - Theoretical to Practical**

Panel discussion.

Graeme Priddle

► **Effective Teaching &**

Bill Ooms

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Bill was raised on a farm south of Chicago, and wood has always been a part of his life. As a second-generation woodturner, he learned basic woodworking techniques from his father. Even as a young man, his desire was to envision and create new things. This led him to his first career in engineering, and now he has returned to his roots as a full-time woodworker.

Much of Bill's early woodworking was turning hollow vases inspired by the pottery of Native Americans in the Southwest. Later, he combined his woodturning skills with his math and engineering background to create unique wood sculptures. Most recently, Bill has designed and built a complex and unique ornamental lathe to create highly decorated objects of wood art.

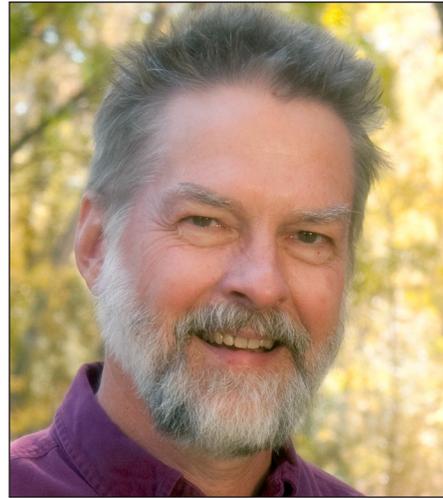
Bill and his wife, Pam, have their home and studio in the country north of Prescott AZ, overlooking the Williamson Valley.



“Wood is a unique medium for an artist -- it was once a living thing of beauty. A wood artist has the opportunity to transform it into something different that will continue to have beauty long after the tree has died and will last for generations to come.

The lathe is used as a carving tool. The overall shaping is done with hand-held chisels. The goal is to create curves and shapes that are pleasing to touch and pleasant to see. Decoration often requires more complex machinery in the form of an ornamental lathe. The artist determines the patterns and the location of each cut. Each piece is a unique combination of the natural wood and the touch of the artist's tools.

All work is done completely by the artist, from the selection of the wood, the drying process, shaping and hollowing, decorating, sanding, and finishing. Most pieces are finished using an oil finish and/



or natural waxes to preserve the warm feel of the wood.

Some of the wood is gathered from local tree removal services or from storm-damaged trees. Some wood is obtained from other woodworkers in various parts of the country or purchased from wood suppliers who can certify that no endangered species are used. All wood is kiln dried to ensure stability.”



Indexing for the Ornamental Turner

Do you want to get into ornamental turning without spending a lot of money? Start with indexing that has always been the primary tool of the ornamental turner. This presentation will show you how to adapt your present lathe to a state-of-the-art indexer by adding a stepper motor to the spindle of an ordinary lathe. I'll present information about additional equipment like cutters and slide rest. The presentation will show how to decorate a Castle Box using simple indexing techniques and other decorative patterns that can be done with indexing.

You can use a traditional index wheel (like those made by IronFire or Alisam), but you may want to consider adding a simple stepper motor to the spindle of your lathe and drive it with an old computer. This will give you a lot more options (any combination of holes plus phase shifting), it will be more accurate, and it will be a lot less prone to errors that can result from mis-counting the holes.

Unlike a regular motor, a stepper motor has a fixed number of positions. A typical stepper may have 200 or 400 steps per rotation that are very accurately controlled. This makes it ideally suited for controlling the rotation of the lathe spindle.

You can mount a stepper motor to almost any lathe. It just takes a bit of ingenuity on your part. I prefer a spring-loaded mount so it's easy to remove the belt from the stepper motor and put back the regular belt on the spindle. This makes it easy to switch between regular turning and the use of the stepper motor for indexing. In the demo, I'll go over how I added a stepper motor to my JET mini-lathe.



Below is a parts list that includes the important components. For making your own mounting, you can get various sizes and shapes of metal from your local hardware store. Using wood or plastic for motor mounting also is possible.

Available from phidgets.com
Stepper motor, #3308
Controller board, #1063
Power supply, #3024

Plastic pulleys - plasticpowerdrive.com or sdp-si.com

20-groove, 1/4" bore, #20MXLDF

130-groove, #130MXLDF

MXL Timing Belt - mcmaster.com or sdp-si.com

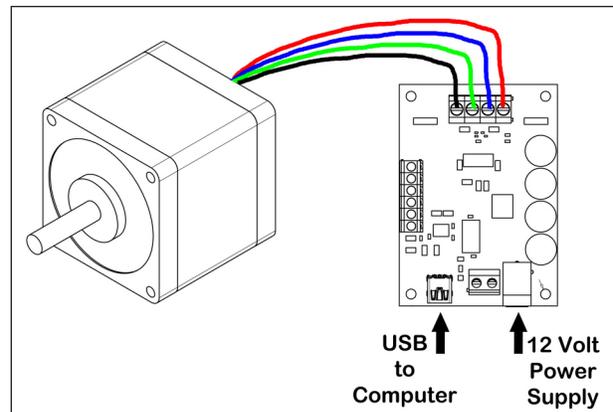
Order a length that is compatible with your motor mounting.

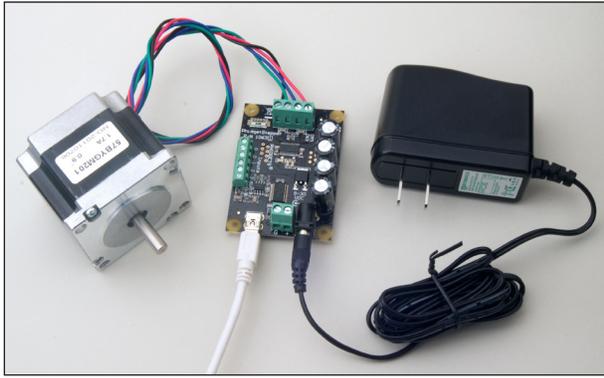
Hardware for mounting the motor - local hardware store, onlinemetals.com, or use-enco.com.

Software information - cornlathe.billooms.com/indexer.html.

The belt is an MXL timing belt to avoid the possibility of slipping. The large and small pulleys are compatible with the MXL timing belt. The small pulley has 20 teeth, and the large pulley has 130 teeth, to give a 6.5:1 increase in torque from the small stepper motor. The small pulley has a 1/4" bore to fit on the stepper motor, but the large pulley will have to be bored out to fit the size of the outboard spindle shaft on your lathe. I mounted the big pulley in my chuck and used a small parting tool to bore the center of the plastic to the size I needed. A video of the process of mounting the stepper motor to the lathe is available at youtube.com/watch?v=hqolk6IRizY.

Don't be afraid of the electrical connections. As with any electrical wiring, make sure that the power supply is disconnected from the AC outlet and that the interface board is not connected to your computer. The supplier of the interface board (phidgets.com) has a manual on their website with full information about connecting and testing the interface board. The connections are simple. Connect the 4 wires from the stepper motor to the interface board, plug the 12-volt power supply into the connection on the board, and connect the provided USB cable to your computer.





The final step is installing the “indexer” software on your computer. I recommend using an old computer (PC, Mac, Linux) that usually can be obtained for free. The software can be downloaded from www.billooms.com. A video about using the indexer software is available at [youtube.com/watch?v=XHpQbDNsyfU](https://www.youtube.com/watch?v=XHpQbDNsyfU).

To illustrate a simple project that can be done with indexing, I’ve made a simple castle box, made in 3 separate pieces. Although I’ve made threaded joints, you could use simple close-fit joints and could even glue the pieces together if you choose.



The “brickwork” decoration is done with a 1/8” diameter cutter that has a sharpened flat end. It’s mounted in a “universal cutting frame” that is rotated so the cutting motion is vertical. At each index point, the cutter is moved into the wood by a fixed distance. Each successive layer of “brickwork” is shifted by 1/3 of the pattern to give an attractive spiraling effect. This is difficult to do with a traditional index wheel, but it’s easy with the computer-driven stepper motor.



The “corbels” at the top of the centerpiece are done with a 1/8” diameter end mill mounted in a “drilling frame.” At each index point, the cutter is moved to cut a groove in the work. As with any router-like work, it’s better to take several shallow cuts rather than one single deep cut. Likewise, the top of the turret is cut with a 1/4” diameter end mill mounted in a “drilling frame.”

A more complex example of a castle is shown in the photo below. All the ornamentation was done with indexing (except for the arched tops of the windows).

There are many other attractive cuts that can be done using simple indexing. In fact, most of the historic ornamental work was done with indexing. The book, *The Principles & Practice of Ornamental or Complex Turning* by John Jacob Holtzapffel, is the best reference book for ornamental turning. Although published in 1894, reprints are readily available.

