

# Turning Times

THE OFFICIAL NEWSLETTER OF THE CASCADE WOODTURNERS

**November 2012**

**Please make sure that all content for the next newsletter reaches me by the 1<sup>st</sup> of January!**  
[turningwood@bendbroadband.com](mailto:turningwood@bendbroadband.com) Thanks!, Jerry Klug

**NEXT MEETING: 7:00PM, THURSDAY, November 15<sup>th</sup> AT FRANKLIN HIGH SCHOOL**  
5405 SE Woodward St, Portland, OR

## **PRESIDENTS MESSAGE**

The auction was a big success. Thank you to everyone who brought in wood, tools, or artwork, and thank you to those who bought them. The collective effort will allow for continued opportunities to bring in outside presenters and offer top line demonstrations and classes over the next year.

November 15<sup>th</sup> will be our last meeting for this year. In keeping with a theme of the upcoming Holidays the demonstrations will be on Christmas ornaments. The idea for this program came from Jerry Klug, and as punishment I have asked him to participate as one of the presenters. I have asked three people who make ornaments to bring in the parts that make up their ornaments and give a short talk or demo on one aspect of how they make their pieces. For example Stan Postma makes finials with a roughing gouge and I have asked him to do a short demo of how he does that. Kathleen Duncan adds elegance to her ornaments by making them in five parts rather than the standard three parts. She has also taken Eli Avisera's birds a step farther by making a humming bird ornament. Jerry Klug will be showing us how he turns his angels. After the short presentations we will break up so that you can question the presenter of your choice. There is a great deal of diversity in ornaments and methods of making them. The idea is to have a very informal meeting that reflects that and still allows you to get information that will enable you to make what interest you.

The challenge for this month is to bring in an ornament and I would like to give out a number of gift certificates to the participants.

With the election of new officers this will be my last Presidents message. I suspect that I am not the only one cheering. I tried to keep the meetings fun and bring in a diverse group of presenters so that everyone over time would find something of interest. There were a couple of moments of frustration, but for the most part I was very thankful and impressed by the level of cooperation in bringing you this year's programs. I want to thank everyone for this year. It is a very good club, and that is because of you.

November's meeting will also see the election of new officers for next year. The proposed slate is:

President Ken Kirkman

Vice President Peter Morrell

Treasurer Howard Borer

Secretary Skip Burke

Member at large Keith Strauss

Video Librarian Dawn McClard

Book Librarian Mike Worthington

Company Storekeeper **vacant**

Newsletter Editor Jerry Klug

*If you would like to have your name added to the list for consideration please let one of the existing club officers know. We really do need someone to run the store for next year. Come to vote as you can see the slate is nearly full so you don't have to be worried about being Shanghi'd.*

Gary Sundquist, President

Cascade Woodturners

[GarySundquist@gmail.com](mailto:GarySundquist@gmail.com)

## DALE'S CORNER

There will be no "Open Shop" in November or December because of the Holidays.

Remember this is the time of year to renew your AAW membership. You can reduce the dues by requesting a web only publication of the journal of the AAW, American Woodturner.

The results of the Board of Directors election are in. Please join me in congratulating Kurt Hertzog, Rob Wallace, and Lou Williams. Each has been elected to serve a three-year term on the AAW Board of Directors beginning on January 1, 2013.

Dale Larson

[woodbowl@frontier.com](mailto:woodbowl@frontier.com)

## TREASURER'S ACCOUNT

A great big "Thank You" to all the bidders at last month's auction. And "Thank You" to the auctioneer(s) as well. We netted a little over \$4600, which should pay for some high-level demonstrators next year. Well done to all.

I'm starting another 5-week turning class Tuesday, Oct. 30 at 6 PM at Franklin High. The next class will start in January, 2013 when school starts again after the New Year break. The cost is \$100 for the class.

Howard Borer

[howardborer@yahoo.com](mailto:howardborer@yahoo.com)

## SECRETARY'S NOTEBOOK

This year's auction went off extremely well with Jerry Harris acting as our spirited auctioneer. We generated several hundred more dollars this year than we did last year (hopefully Ken will not spend all of it too quickly during his tenure in 2013 as our new president). There were several bidding wars which took place of which one of the more noteworthy was for an original collaborative piece by Dale Larson and Randy Rhine. Huge quantities of raw wood were up for auction as well as several pieces which were in the truly HUGE category. Also auctioned were many roughed out bowl blanks which were highly sought after. This year again, several of our members graciously donated their time, shops, and expertise for auction.

Overall, I think the auction was a great success and fun was had by all who attended.

I have just recently submitted a new group order to Craft Supply. We can expect arrival of items before our November meeting. Some members were "a day late and a dollar short" in getting their order requests to me so I guess they will have to wait for the next group order in the early Spring or hope Santa knows their wish lists.

Keep turning....hope to see you at the next meeting.

Skip Burke

(503) 233-4263

[drgramp@comcast.net](mailto:drgramp@comcast.net)

## MORE WOOD

I was just contacted by a gentleman from Salem named Mark (503 580 2141) who has a farm or at least some acreage and this spring he had some oak trees felled. He now has 3 trunks about 7 feet long and 4 feet in diameter that he would like to give a good home to. He has a forklift that could load them onto a semi large truck. They are sitting outside on stickers as he has no room for them in his barn. If interested, give him a call.

Jerry Harris

## MEETING SCHEDULE 2012

DATE	DEMONSTRATOR	CHALLENGE
NOV 15	Christmas ornaments	Christmas Ornaments
DEC	No meeting – Merry Christmas	Be Merry

## EDITORS OPINION

What is your impression of segmented turning? I have talked with some who think it is too time consuming, complicated, requires math, too exacting or not “natural” enough. I spent three days with about 180 turners that think just the opposite of those comments. The third Segmented Turners Symposium held at South Lake Tahoe was a delight for all. I met at least eight turners from Oregon. Lloyd Johnson and I got to discuss his latest project, a jig to make bandsawing a bowl from a board safer and improving the accuracy that allows more bowl and less waste.

What do you see at a segmenter’s demo? Not a complete turning in 105 minutes (yes, the rotations were a bit longer than typical) but usually a slide show on specific techniques and displays of the tooling the turner had developed to accomplish his pieces. Then there was usually a turning portion to show how it all came together.

I watched how to turn “wave bowls” by John Beaver, how to plan, cut the pieces, construct and finish open segmented pieces by Dennis Keeling and Ray Feltz, learned the steps to construct a bowl from a board by Michael Mode with up to 5,000 individual pieces in a 15 inch wide bowl and what it takes to make curved segment elements from Craig Kurtz.



Will I be doing these turning techniques in my pieces? Not exactly but I plan to adapt a lot of what I saw to create my own style. Seeing these accomplished turners demonstrate their skills and sharing their knowledge has accelerated my desires to attempt new things.

The Segmented Symposium is held every two years at different locals around the country. Having it fairly close made the event just that much better.

Jerry Klug

## **MORE DRYING**

Following Dale Larson's article on drying wood last month, here are some other options that are a bit faster than air drying. They require a bit of equipment but you can consider these pieces as another "tool". Even though they speed drying, you do have to monitor the process to assure your wood is surviving.

### **FREEZER DRYER**

What do Jim Hall, Phil Lapp and Cindy Drozda have in common? They all use a modified freezer to dry their turnings to speed the drying process. Here is what Phil and Jim had to say about setting up a freezer to speed drying;

### **WOOD DRYING KILN**

Wood workers of all ilks are faced with one common dilemma, wood moves, and the wetter (say greener) it is the more it will move as it dries. Once a tree is cut from its life sustaining root system it begins to lose moisture and begins the drying process. Left in its natural state in log form the moisture travels out to the cut ends first and the pith channels this moisture faster than the surrounding heart and growth wood. As the moisture leaves these cells they collapse and become smaller or shrink. Since the surrounding cells are still full of moisture they cannot shrink to meet the dryer cells. Consequently the center will relieve the tension by checking in cracks radiating out from the center to the outside

If the log is cut into lumber the pith is usually discarded and the remaining boards are less likely to develop these checks if the end grain is sealed to prevent the rapid evaporation through the end grain. The lumber is either force kiln dried or stacked with spacers between each laver of boards and allowed to air dry. The straighter the grain of the wood the less likely it is to crack, twist, and other wise deform during the drying process.

Wood turners face the same problems. However, straight grain wood is not our first choice in most cases. We tend to cherish the twisted, curly, flame patterned crotch and other highly figured pieces. Unfortunately, these pieces are more apt to check, warp, shrink and assume weird and unpredictable shapes during the drying process. A beautiful piece of wood, when freshly cut from the log, may become so cracked or distorted that it becomes impossible to fashion it into the master piece the turner originally envisioned.

So what is one to do?

First, when do you cut the tree? Trees cut in the winter have less sap in them than trees cut in the spring and summer. Consequently, less moisture is in the cells and less moisture to get rid of.

Second, cut the log into the lengths equal to the diameter of the piece plus 2 inches. Study the cut ends and determine the most concentric pattern of the growth rings from a line drawn from the outside diameter through the pith. Cut the log longitudinally through this line. This gives you two halves with no totally enclosed pith. At this point a decision is to be made. Is the intended piece to be a normal flat bowl, or a natural edge bowl? If the decision is for natural edge the cutting job is complete, if flat a second cut is made parallel to the first cut at the desired thickness of the bowl. If the log is big enough several regular slabs can be cut plus a natural edge blank. Remember, when selecting where to cut, biggest or best, best always trumps big.

So now we reduced part of the potential for our wood to crack by eliminating the pith and getting the pieces into more board shapes which should eliminate part of the opposing tensions in the wood. But, it will still check unless the end grain is sealed to prevent the rapid escape of moisture. So, paint the end grains with end grain sealer, or at least a thorough coat of latex paint. At some point in time the piece will be cut into a round shape, usually on the band saw. Earlier is better than later, so why not do it now? After cutting the piece in to a board shape, but before coating it with end sealer, cut it into the desired round. Again, study the pattern, top and bottom, determine the best pattern (not necessarily the biggest) and cut the blank out. This reduces unnecessary wood in the shop but it also reduces unnecessary wood and moisture. At this point the end grain should be painted.

But if you really want to do the job right, now is the time to rough turn these blanks into roughed out bowls. Do this by mounting the blank between centers and turning away all the excess wood down to the rough shape you want. Now is not the time for fine cuts and fancy detail. Just get rid of unnecessary wood. Cut a tenon on the bottom and reverse the bowl into the chuck and rough turn the inside. Again no detail, just get rid of bulk. If the piece is going to be air dried leave about 1 inch wall thickness for each 12 inches of diameter. The bottom of the roughed out bowl can be thinner than the walls as they dry slower than the open end grain sides. Lightly round over the sharp edges of the blank. Any sharp edges are more likely to crack as the piece dries. Paint the end grain with some form of sealer to help balance the evaporation of moisture between side grain and end grain. Dale Larson, a master bowl turner, uses an inexpensive paste wax. I use Pentacryl by liberally applying it to all end grain surfaces, inside and out. Your roughed out blank is now ready to store in an open environment and let Mother Nature take its course. Drying time? Figure one year per inch of wall thickness.

If you chose to make a natural edge bowl it should be formed to the finish thickness (1/8"-3/8") at this point. The bowl will shrink and become oblong as it dries and you will probably never be able to remount it so as to get the best final cut possible. Again coat the end grain with some sort of end grain sealer. When the piece is dried it can be hand sanded to final finish.

So what does all this have to do with a drying kiln you may ask? I was getting to that but all these other thoughts jumped out before I could get to the subject.

Why a kiln? I get inspired with a new found treasure piece of wood, and I although my barn is filled with long forgotten pieces of wood, I have tried to discipline myself into caring for and using the wood as I get it. Consequently, if I turn a piece of green wood I don't have the patience to wait a year or so before I can finish turn and finish it. So I built my kiln to reduce this waiting period.

***The Kiln:***



Mine is a used metal carcass upright freezer. It is ideal because they are readily available at most appliance dealers, and they already have wire shelves. The compressor and all the other guts can be removed as they are not used. Drill six or seven ½” holes through the bottom and top of the freezer sidewall. Make sure the insulation does not block these holes as they are used for ventilation.

***Next:***



Mount a electrical metal duplex box to the back wall of the freezer. Install a water heater element thermostat into this box making sure the metal is in contact with the outlet box. Run a power cord through the wall of the freezer and into the outlet box. Attach one wire to one post of the thermostat. Connect the black wire of an insulated wire from the other post down to a ceramic light fixture holder mounted in the bottom of the freezer. Connect the black wire to one terminal and the white wire to the other terminal. Wire nut the white wire to the free wire of the power cord. A light switch can be added if you want a means of turning the unit off and on without unplugging the power cord. I set the thermostat to minimum and insert a 100 watt bulb. I also place a piece of light sheet metal on the bottom shelf to protect the bulb and diffuse its heat.

***Preparing the wood:***

If the bowl is a natural edge, it is turned close to final thickness. Other bowls are turned less than the 1”wall thickness per 12” diameter, probably about 5/8”. I cover all surfaces with Pentacryl (from Craft Supply and others). I also wrap plastic Saran wrap around the outside top edge to protect this edge from to rapid evaporation.

***Load & Go:***





I load the kiln with freshly turned pieces right side up, turn on the unit and close the door.

I don't have any scientific data on the temperature or the rate of evaporation. However, most freshly cut green pieces will be dry in several weeks. Smaller pieces will dry faster than larger pieces. Lighter woods, birch, will dry faster than heavier woods, oak.

I hope this information will be beneficial. If you have any questions feel free to give me a call.

Phil Lapp 503-925-0152

[phil.lapp@yahoo.com](mailto:phil.lapp@yahoo.com)

## **A VARIATION ON THE KILN**

Phil Lapp uses his dryer a lot different than do Loren Olsen and I. The wall thickness of the vessel determines the length of time that you need to leave it in the dryer. The way we operate is to measure the moisture content when we put it in the dryer and mark it on the side of the vessel. I have had pieces dry in 24 hours. The last piece that I put in the dryer had a moisture content of 30% with a 3/16 wall thickness and it dried to 5% in less than 24 hours. I have put pieces that had 3/8 +/- of an inch thick wall thickness and have them drop from 25% +/- to between 5 and 7 percent moisture content within 48 hours.

The length of drying time is also dependent on the specie of wood. Some take longer than others. The tighter the grain pattern the longer the drying time. However, I have never had a piece in the dryer longer than two weeks. The wall thickness is never over 5/8" and there is



almost always room to turn round after it dries. I usually do not worry about round though; when you sand a rough turned piece that is not round it ads character. All you have to do is reduce the lathe speed and let the sandpaper follow the surface of the wood. Not a big problem, just a different process.

I seldom experience any checking of the wood. If there is a possibility I will cover the end grain with "End Seal" but not the side grain. The moisture has to escape from somewhere. If you do experience checking, on final finishing, fill the cracks with brass, coffee grounds, chalcopryite, copper, or some other material; it will add to the final product.

Also, you have to put the dryer outside. There is a lot of moisture escaping from it and if you have it in the garage you are going to have all of the iron in the garage rust. Not a good idea. Another issue is wood movement, but that is for another time.

Jim Hall

## **VACUUM DRYING VARIANT**

If you already have a vacuum system to hold your platters for finishing the bottoms, you can add a line to an airtight chamber in a working freezer and suck out the water in record time. Since segmented turning wood must be fully moisture equalized, the vacuum system works well for preparing wood to segment. The chamber can be a modest size and the freezer can be anywhere the line will route to.

Some things to consider with a vacuum dryer;

- ❖ A trap to remove all liquid from getting into the pump.
- ❖ A moisture meter
- ❖ A digital scale (to weigh the pieces individually so when the weight stops dropping you know you have reached near equilibrium – usually around 6%)
- ❖ A chamber – I have seen them constructed out of thick plexiglass sheets and even old compressor air tanks. Two challenges are a re-sealable opening large enough to load your wood and enough stiffness so that the chamber will not implode with a full vacuum (-15 psi).
- ❖ A stop valve – once a vacuum is applied to an airtight vessel, the line can be blocked with a good stop valve and the vacuum will remain without the pump having to run constantly.

If you consider a vacuum dryer and are not familiar with the concept, ask one of the retired engineer types in the club to discuss the power of a vacuum at -15 psi. The surface area of the chamber is large enough that the total force is large. Even an old compressor tank rated at 150 psi may implode with a vacuum. I have examined vacuum chambers that you could park a truck in and those require an elaborate opening. Small chambers usually have two flat rim surfaces with a rubber “O” ring Bell Jar gasket.

Jerry Klug

## CANADA DRY

The following is another system that uses a de-humidifier to speed the drying rate. This dryer was built by Ed Pretty, current President and past newsletter editor of the Greater Vancouver Woodturners Guild and his article was published October, 2011:



Door. Note huge hinges and internal temp monitor.

My little drying fridge works pretty well for drying blanks and rough turned pieces but doesn't quite have the blast for large volumes of stock, so I decided to build a kiln. I had a bunch of thick styrofoam, a box of old freezer hardware (thanks, Dad), some random plywood and a couple of studs laying around. Ted Lightfoot offered me some steel clad 5" foam composite freezer panels he was going to throw out. All I had to buy was some adhesive and caulking foam. Basically my kiln cost \$30 to build. The dehumidifier to run the whole thing cost \$160. Naturally I had lots of angle iron around for mounting the dehu as well as some racking to make shelves (haven't used that yet because everything I put in was too big to go on shelves).



I started by cleaning out one corner of the upstairs of my shop— a very major undertaking. I sliced the foam with an electric wire heated by a battery charger into the thickness I needed to insulate the outside wall and rafters. I used Ted's panel for the back, other side and door. The panels are self supporting so only had to cut them to size (and shape) and anchor them in place. I attached framing material to the edges of the panels to join them at the corner and provide something to attach the door hardware

to the wall. The small portion over the door was framed in and insulated with the foam. The space is [about](#) 4 feet square and is insulated and sealed better than any house. Rocco (my wood guy) suggested I not get it too tight so I didn't provide any gasket around the door except at the top.



As you can see the hinges are huge and have no problem taking the weight of the dehu (it's heavy), so keeping it off the floor to save space. I wired in a box from a neighboring plug for internal power. I provided a drain through the wall for the de-humidifier.

The dehu generates a fair bit of heat and raised the temp to the high 20's (80F+) on it's own. I put a fan in to circulate the air and just today I added a small space heater to bring the temp up a couple more degrees in the dead of winter.

I loaded it on October 6th. The first few days the humidity being driven off made it smell a little musty so I cracked the door until that settled down. I got a remote temp and humidity monitor from Costco so can check on things from the office. How cool is that? At the present time the humidity is running around 38 – 40%: down from 60%. The temp is about 30+ degrees (90F+) with the heater providing a bit of a boost from the high 20's (80F+).

The first load was really wet maple burl and semi-dry curly maple. I borrowed a moisture meter from a friend and the semi dry maple is now at 15% after two weeks. The burl is still off the scale but I weighed it and it is dropping as well. Rocco says his dries wood in about five weeks, so time will tell.

The amount of wood I can out through this kiln is definitely enough to keep up. I had put the fridge in the guild newsletter to sell it, but I have changed my mind. It is very efficient and is excellent for roughed-out pieces and bowl blanks. Now to find a place for it.

Ed Pretty

Ed. Note: If you are interested in building Ed's kiln, there are de-humidifiers on both Craig's List and e-bay that run from \$15 to \$200 that will handle the job.

## COMPANY STORE

If a number of members want a certain item, and we are low on it please email Peter Morrell at [luvbermuda@aol.com](mailto:luvbermuda@aol.com) a week ahead, he could have it with no out of stock.

Volunteer for the position of Storekeeper. This is an important duty for many, many members and your help will be appreciated.

Anchor Seal has increased their prices so the next shipment may show a rise in price. Retail price at some locations is \$20/gal. We may want to purchase a 55 gal drum to keep the costs down. The problem is storing that much end seal. We have to have commitments to take the stock when it arrives and has been re-packaged to one gallon containers. We may want to share the shipment with another club to move it out quickly.

Company Store Item	Price
Accelerator (for Cyanoacrylate adhesives/CA), sprayer, 8 oz	\$6.75 each
Anchor Seal, one gallon	\$12.50 each
Cyanoacrylate adhesives (CA) - Thin, Medium and Thick, 2oz bottles	\$5.75 each bottle
Sandpaper, Aluminum oxide with heavy cotton cloth backing in 80, 100, 120, 180, 220, 320 & 400 grits	\$1.00 each sheet
Walnut Oil - filtered, 16 oz	\$4.00 each

## DEMOS - CLASSES – SEMINARS

**Rockler Woodworking** 503-672-7266, [www.rockler.com](http://www.rockler.com)

- What's Turning Day: 3 PC Mini Carbide Turning Tool demo, Dec 8<sup>th</sup>, 11:00 AM

**Woodcraft** 503-684-1428, [www.woodcraft.com](http://www.woodcraft.com)

- Turning Christmas Ornaments (\$115) by Paul Rasmussen, Nov 11<sup>th</sup> 10:00-4:00
- Beginning Lathe Turning (\$115) by Paul Rasmussen, Dec 1<sup>st</sup> 10:00-4:00
- Turning Christmas Ornaments (\$115) by Paul Rasmussen, Dec 8<sup>th</sup> 10:00-4:00
- Beginning Lathe Turning (\$115) by Paul Rasmussen, Jan 5<sup>th</sup> 10:00-4:00
- Pen Turning (\$40) by Allison Geary, Jan 9<sup>th</sup> 1:00-4:00
- Turning with Easy Wood Tools Demo, Jan 19<sup>th</sup> 1:00-2:00
- Pen Turning (\$40) by Dave Ward, Jan 26<sup>th</sup> 1:00-4:00
- Basic Bowl Turning (\$115) by Paul Rasmussen, Jan 27<sup>th</sup> 10:00-4:00

**Woodcrafters** 503-231-0226, 212 NE 6th Ave, Portland, [www.woodcrafters.us](http://www.woodcrafters.us)

- Poest will turn a very large bowl, Dec 1<sup>st</sup>, 10:00-3:00

## SYMPOSIUM SCHEDULE

There is something planned for every month that may match your travel plans:

- Tennessee Association of Woodturners 25th Annual Symposium, Franklin, TN January 25-26, 2013
- Alaska Woodturners Association Woodturning Symposium, Anchorage, AK January 26-27, 2013
- Desert Woodturning Roundup, Mesa, AZ February 22-24, 2013
- Totally Turning 2013, Saratoga Springs, NY March 23-24, 2013
- Southern States XIII Woodturning Symposium, Cartersville GA Apr 26-28, 2013
- Utah Woodturning Symposium, Orem UT May 16-18, 2013
- AAW Symposium, Tampa, FL June 28-30, 2013
- Woodturners of Olympia Symposium, Olympia WA July, 2013
- SWATurners Symposium, Waco, TX August, 2013
- Rocky Mountain Woodturning Symposium, Loveland, CO September, 2013
- Ohio Valley Woodturners Guild, West Harrison, IN October 11-13, 2013
- Wisconsin Woodturners Expo, Eau Claire, WI November, 2013

If you hear of an interesting symposium, e-mail me to add it to the list. Jerry Klug

## CLASSIFIEDS

To place or continue an ad, contact Jerry Klug at [turningwood@bendbroadband.com](mailto:turningwood@bendbroadband.com). We will run ads in the next newsletter after receiving your ad. Let us know if you want your ad continued more than one month.

**WANTED**, Good used lathe, at least 1 hp, 16" swing, variable speed, Hopefully with some accessories- gouges, chuck, etc...

Email Don at: [Don@keplar.com](mailto:Don@keplar.com)

**FOR SALE,** Bob Tuck is selling all of his tools and wood. The sale on October 6<sup>th</sup> was successful but there is still wood and tools left. His address is 2180 NW 111<sup>th</sup>, **Portland.** Bob **prefers** contact by email: [friartk@aol.com](mailto:friartk@aol.com). His phone is 503-643-6966 but please note that Bob is hard of hearing. Bob is requesting that all sales be in **cash**.

Power tools:

- ❖ Laguna Bandsaw model 18SE, 17" capacity, 5hp motor, extra 1 ¼" blades \$1500
- ❖ Grizzly two bag dust collector 220vt \$75
- ❖ Various smaller tools and some wood left
- ❖ Lots of hand turning tools, clamps and wood left.

**FOR SALE,** Woodworking Tools, Contact: **John Pullan** Merlin, Or 97532 541-450-5735

Jet 10” 3HP Table Saw with Xacta Fence II Commercial 30/50,	
Including large outfeed table:	\$900.00
Carbide thin kerf 50T blade	30.00
Carbide 50T blade	30.00
8” Freud Super Dado	65.00
Up Grade Jet Miter Gauge	30.00
Delta Tenoning Jig	60.00
Extra Jet Xacta Fence	50.00
Mortiser (General International)	125.00
Jet Dust and Chip Collector MDL. 650TS	150.00
Porter Cable Mdl. 690LR Router	75.00
Misc. Router Bits Available	
Porter Cable Belt Sander #362 V.S. 4: X 24:	70.00
Toyo Laser 56 Vented Kerosene Heater	600.00
Misc. Hand Planes	

## CWT MENTORS

Cascade Wood Turners has a mentoring program and the member turners providing assistance are listed in the “Resources” section of the web page <http://www.cascadewoodturners.com/resources.htm>. These members are available for you to contact if you need help in different areas of woodturning. If you would like to be a mentor yourself and be contacted with woodturning related questions e-mail me at [turningwood@bendbroadband.com](mailto:turningwood@bendbroadband.com) and I will add you to the list!

## QUICK LINKS:

There is a listing of web links used by club members in the “Resources” section of the web site <http://www.cascadewoodturners.com/resources.htm> . If you have a favorite or new site that would be useful to club members, e-mail it to me to include it with the list. [turningwood@bendbroadband.com](mailto:turningwood@bendbroadband.com)

## CASCADE WOODTURNERS SPONSORS

Support of the sponsors listed helps maintain our hobby supplies. Remember that your current membership card is good for discounts at these firms. For additional information see the website <http://www.cascadewoodturners.com/sponsors.htm> .

**Gilmer Wood Company**

**Rockler Woodworking & Hardware**

**Woodcrafters**

**KLINGSPOR Abrasives, Inc.**

**Woodcraft Supply**

Carbide Saw

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Video Librarian	Dawn McClard	(503) 255-3940	<a href="mailto:grtshearwater@gmail.com">grtshearwater@gmail.com</a>
Book Librarian	Mike Worthington	(503) 640-0373	<a href="mailto:mikedw47@comcast.net">mikedw47@comcast.net</a>
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**LAST CALL:** The January meeting is planned to have a short demo and a tool swap. Bring that tool you thought would revolutionize your work that you used once and see if someone else could use it. This is a good time to clean out those tools that are in the way. Plan to bring a piece of jewelry, a bangle or something wearable that you have turned for the challenge.