

NEXT MEETING
JUNE 23, 2005

JUNE VOLUME 4, ISSUE 6

ASSOCIATION OF REVOLUTIONARY TURNERS

JUNE 18, 2005

WWW.REVOLUTIONARY-TURNERS.COM

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PRESIDENT'S COLUMN - GARY BASHIAN

June 2005

I was happy to see we had an such a good turnout for the Irene Grafert demo last month. Irene ran an excellent program, focusing on the coloring and carving that are her trademark. Hopefully people took away an idea or two they may try themselves.

Something Ken Lindgren mentioned in his demo in April has really stuck with me. It sounds obvious to say it, but the best way for a beginning turner to improve is "time at the lathe". I'll expand on that a little, to say that there are two important things for a beginner. The first is good instruction. That's why we're doing the "Back to Basics" sessions this year. It's also one reason I believe so strongly in our Mentor Program. I hate to use the "P" word, but the other important thing is "practice". As Ken said, the best way to become a good turner is to do it over and over until it becomes natural.

One thing I'd like to encourage is increased member participation. This applies to not only the general meetings, but also supporting the various events, and contributing to the newsletter. We need to have a wide base of support for the events and projects. We try to offer a

wide variety of events, so there's something for everyone. Any member can write articles for the newsletter, just as any member can write video reviews. This is your club. Be a part of it!

Always be sure to spin the wood by hand first to be sure it doesn't hit anything, then stand to the side, out of the line of fire, when first powering up the lathe.

See you next time.

Gary

SAFETY TIPS

- Always wear a face shield!!!
- Make sure your tailstock is LOCKED before turning on the lathe!!!
- When you have to chase your lathe around the room, you're turning speed is too high.

MEMBERSHIP HAS ITS PRIVILAGES...

CA Glue & Accelerator Available

Thin CA Glue	2oz	\$4.00
Medium CA Glue	2oz	\$4.00
Thick CA Glue	2oz	\$4.00
Accelerator w/pump	2oz	\$3.00
Anchorseal	1gal	\$7.00

2" & 3" Velcro backed sandpaper discs
- 80 to 400 grit 10/pack \$2.00

NEWS OF THE MOMENT:**May Meeting Minutes:**

Since the May meeting consisted totally of the wonderful demonstration by Irene Grafert, there were no minutes taken.

Photographs and descriptions of the demo will be provided in a future issue.

News and Events for June 2005

Shop Visit at Donna Banfield's – come try Donna's Sandblaster - Saturday, July 23, from 10:00 a.m. to 4:00 p.m., Derry, NH, see Donna for directions

"Spirit of Wood" show - 10/23, Middlesex Community College, Bedford, sponsored by New England Woodcarvers, primarily a carving event, being expanded to include woodturning (demonstrations, competition, selling), CNEW also participating

Events not sponsored by the club:

David Ellsworth - this legendary woodturner is coming to Cape Cod Woodturners 6/11 - 6/12, registration forms sent out

Utah Woodturning Symposium, 6/16 – 6/18, Provo, UT, large national event, similar to AAW symposium, Registration \$220 (through 4/30), \$270 (5/1 – 6/1), 801-422-2021, www.utahwoodturning.com

Jean-Francois Escoulen - this well-known French turner specializes in high-end multi-axis turning, is coming to Ocean Woodturners, Saturday, July 16th at either 9:00 or 10:00 AM at the Cold Spring Community Center, 36 Beach St. North Kingstown, RI, admission \$20, pay-at-the-door, includes light lunch

AAW National Symposium - the premier woodturning symposium is being held this year in Kansas City, July 22 – 24, see Gary for brochure

Turning Southern Style XI Woodturning Symposium, Helen, Georgia (aka "Alpine Helen", about 90 mins NE of Atlanta), September 16-18, 2005. Download registration form at <http://www.gawoodturners.com/TSSXI.doc>

Totally Turning Symposium 10/15 - 10/16, Empire State Plaza Convention Center, Albany, NY

NOTES FROM THE 'NET-COMPILED AL PRIMM

Drying Wood With Forced Dry Air

http://www.woodturningplus.com/pressure_drying.htm

From the Woodturning Plus Website

How many ways do you know to dry wood? Do you want to learn another technique? Going under the belief that the more choices you have as a wood worker, the better, I have developed another technique for drying wood. Do you sometimes feel under pressure to get wood dried and then turned in a hurry? Well not to fear! Now you can use your pressure cooker to take some of the pressure off of you.

Using your pressure cooker and forced hot dry air you can dry wood very rapidly. The system is very inexpensive and most of it can be made from scrap supplies you can find in your and your friends junk piles. This system can dry wood to about 12 to 14 percent moisture content in about 2 days. The size of the pieces of wood that you can dry is limited by the size of your pressure cooker and the 4 inch diameter steel pipe that you will use for the forced hot dry air.

Preparing The Equipment:

There are 3 different major components to this system: 1. Pressure cooker 2. Air drier 3. Steel pipe for forced air dryer. The pressure cooker is just a regular pressure cooker used for cooking meals. I suggest that you find a used one from a garage sale instead of using your wife's. (See photograph #1.) You can buy one new for about \$30.00 or one from a garage sale for about \$5.00.

The second component of the system is an air dryer. The air that comes out of your air compressor contains a tremendous amount of moisture. You want to dry this air as much as possible. You will do this in 3 steps.

The first step is to use a water trap to remove water as it comes out of the air compressor. (See photograph #2.) You probably already have one on your compressor so you do not need to buy one.

The second step in drying air is by using a condensing coil. (See photograph #3.) Make this from a piece of scrap copper tubing. (I had some left over from when I plumbed my shop.) Carefully bend the copper into a fairly tight coil. You will need a plumber's bender for this or you can use a 12 inch diameter circle to bend the copper around. Try not to put kinks into the copper. Take this coil to your plumbing supply store and get them to put connections to go from the coil to your air compressor line. This is mixing two systems (air and water) so they may have to spend a few minutes figuring out how to make the transition. Add another water trap to the bottom of the coil. (See photograph #3.) This entire apparatus will be placed in a tub of cold water. Air from the air compressor will go into the top of the coil. (See photograph #4.) The air will be chilled and moisture will condense out at the bottom. This additional water will be caught in the second water trap at the bottom of the condensing coil. This is the most expensive part of the process. The fittings and the water trap will cost about \$30.00. However, this air drier can be used for other projects where you need dry air such as putting on spray finishes. Although the drier is not very pretty it is a whole lot cheaper than a commercial drier like the one I have at my dental office which cost about \$500.00.

The third step in drying air is heating it in a 4 inch steel pipe. (See photograph #5.) (Because it was necessary to reshoot photographs for this article, I painted it red so that it would show up in a photograph. The original black steel pipe was basically invisible to the camera. But not to my foot when I walked into it.) This heated dry air will flow around and through your wood to dry it. Again look around scrap piles or used metal collection centers for a four inch



The pressure cooker and fish cooker are very useful for drying wood in the shop.



The copper condensing coil and the water trap are useful to dry the air from your air compressor.



The condensing coil and water trap. Air from the air compressor goes through this coil which is sitting in water to cool it. Water condenses out at the bottom and the dry air goes to the steel pipe to be heated.

Drying Wood With Forced Dry Air

The Drying Procedure:

The first step of the procedure is to turn a 3 inch diameter piece of wood that you want to dry. It must be able to fit into your pressure cooker, so the length is determined by the width of your pressure cooker. Check with your calipers to make sure that the wood will fit snugly inside your neoprene to plumbers gasket.

The second step is to place the wood in the pressure cooker and fill it almost full with water. Place the pressure cooker on your fish cooker or heating plate. Cook under pressure for several hours. The only major concern here is that your pressure cooker not run out of water. The super heated water will dissolve a lot of the tars and resins that fill the tubules of the wood. Having the tubules open and free of tars will make it easier to dry the wood.

When the wood has been thoroughly cooked (at least 2 hours) carefully remove it from the pressure cooker. Cool the pressure cooker under running water before opening it. Handle the wood with thick leather welder gloves to ensure protection. (See photograph #9.) Now apply the large end of the neoprene gasket to the upper end of the 4 inch tube. Tighten the 4 inch end of the gasket with the hose clamp that comes with the gasket. Next insert the 3 inch tube of wood into the 3 inch end of the gasket. Note that one end of the wood must be 3 inches in diameter and about 2 inches deep to make an adequate seal with the gasket. The rest of the wood can be narrower if you desire so that the wood will dry more quickly. Lightly tighten the metal gasket around the wood. It is important the clamp around the 3 inch end is not too tight. Air must be able to escape from around the wood, but it must be tight enough so that the wood does not fall through.

Hook up your cooling coil and place it in a tub of cool water. Hook up the dry end of the air to the 4 inch tube steel. Put your hand over the wood to make sure that a little bit of air is escaping from around the wood. Now place the 4 inch steel tube with air attached on the fish cooker. Make sure that the fish cooker is set to low temperature. The low heat of the cooker will warm the air making it able to hold even more water. The heated dry air will rise and flow around the wood. In about 48 hours the wood should be quite dry.

Safety Considerations:

It is necessary to think about what you are doing and be careful. You are working with a pressure cooker, a heated steel 4 inch tube, and a fish cooker or heating plate, all of which can be dangerous. Wear leather gloves whenever you are handling anything hot. Make sure that there is no saw dust or anything else that is combustible around your fish cooker or heating plate. Make sure that if your 4 inch tube turns over that it can not cause anything to catch on fire.

Do not try to force steam under pressure through the 4 inch steel tube. This can make a steam cannon with enough force to kill someone. I tried this and the resulting explosion was quite remarkable. Fortunately I knew that this was a possibility and had built a containment enclosure around the system.

Results:

This technique will allow you to dry small pieces of wood to about 12 percent moisture in 2 days. If your wood is not dry enough just allow it to dry additional time in the forced air steel tube. Wood of about 1 ½ inch diameter will be extremely dry in 2 days. The 3 inch diameter wood will have a little higher moisture content toward the center. At 3 days the 3 inch diameter wood is very dry in the center. (See photograph #8) I used the Wagner moisture meter for this article because I already owned one, but it really is not necessary. Hard, dry, dusty, wood is dry enough.



I painted the steel pipe red so that it would show up in a photograph. The dry air enters through the tire valve just above the neoprene gasket.



Air goes in the bottom. The air is heated and travels up and through the wood that is held by the gasket at the end of the pipe. The air is very dry because it went through the condenser and is then heated.

Drying Wood With Forced Dry Air

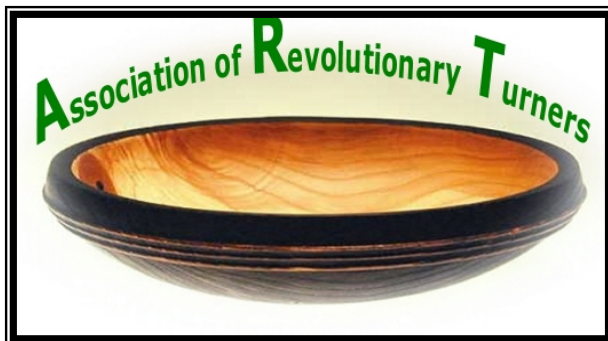
. The egg portion for this sewing kit was dried by this technique.) I did the twisted barley stem with the Legacy Phantom Lathe (1-801-377-5757 Legacy wood@earthlink.net). One word of caution if you are not used to working with dry wood, it is hard and dusty. There are some exotic oily woods that you will not want to use this technique on. After all you paid a lot of money for that expensive oil and you do not want to boil it away.

Conclusion:

This might be a fun project for you to build. You will develop an additional technique for drying wood and will have made an air drying system for your air compressor. There will be times in your turning future that you will enjoy being able to dry your wood in a short period of time. Be careful and have fun.



Steel tube with air hose connected. Condensing coil in water to cool the air. Air hose is connected to the steel drying tube.



Reducing Timber Drying Defects by Boiling

By Steve Russell

In the summer of 1999, several of my Internet woodturning friends urged me to begin a comprehensive series of timber drying tests. My goal was to reduce drying defects to the absolute minimum and to discover faster and more efficient ways to accelerate the drying process. This is the first in a series of articles profiling the results of my continuing drying tests with bowls, platters and hollow forms. This report covers "plain paper bag drying" and pieces that were "boiled, then bagged". Future articles will cover freeze drying, microwave drying, live flame drying, dry heat assisted drying, steaming, vacuum drying, solar kilns and supplemental treatments. These include alcohol immersion baths, mineral spirit immersion baths and Pentacryl immersion baths.

Boiling Experience:

I first started experimenting with boiling approximately three years ago. At the time, I had a supply of green Madrone Burr in my studio. This burr is quite unstable when it is green. Drying defects typically include severe cellular collapse, gross deformation, numerous checks and corrugation. With a supply of the burr in stock, I began to experiment with ways to reduce the drying defects by boiling. The procedure was a tremendous success. From then on, I would periodically boil timbers that were susceptible to significant drying defects. Last summer, I began a large scale-drying test with several local timbers.

Paper Bag Drying Experience:

I have been drying my rough outs in paper bags for almost two and a half years. I have become quite fond of the plain paper bag drying method. It is a significant time saver after a long day roughing out production bowls. It is quick, cheap and I have had good luck with it using a variety of timbers. However, there are certain times when other methods will work better. It really depends on the characteristics of the piece at hand.

Test Overview:

In March of 2000, the first group of 450 bowls and platters were removed from drying production. All of these bowls and platters were dried in paper bags. Some of the rough outs were boiled for one hour and were placed into paper bags without end grain sealer. The balance was placed into the bag straight off the lathe, without end grain sealer. The species included in this analysis: Maple, Walnut, Mulberry, Sycamore, Pecan, Winged Elm, White Ash, Flowering Plum, Bodark, Sweet Gum, Black Ash, Cottonwood and a few others.

Subject Pieces:

I chose to include some marginal pieces in the test (those with branches or rims very near the pith), because I like to "push the envelope". I usually make my chainsaw cuts to clear the pith, any checks and the smallest growth rings. This leaves a bit of turning stock from the center section, so it is not

wasted. However, on smaller logs there is precious little room to do this and still get a nice size bowl.

Therefore, I began experimenting with making a single cut, directly through the pith. This offered minimal waste and gave the largest possible bowl blank (unless bandsawn). However, the small growth rings next to the pith are very prone to splitting during traditional air-drying. (The small growth rings in the test pieces that were boiled, remained intact).

Immature or overgrown branches (I call them "branchlets") are another thing that has challenged me over the years. Most of the Sycamore pieces in this test came from trunks that were approximately 30"-32" in diameter. Sometimes, these immature branches will dry intact, but most of the time they do not. They tend to shrink and loosen when they dry and at times, even fall out. Liberal doses of thin CA will help, but even CA will not save them all. (All of the boiled test pieces that contained branchlets dried successfully and remained tight in the timber.)

The Procedure:

An open pot is used for boiling, but you can also use a pressure cooker. A pressure cooker will reduce the overall boil time considerably. The problem is getting a large enough pressure cooker to hold your bowls! Whatever you decide to boil in, use a pot that you can dedicate to timber boiling. The extractives in the timber will quickly make a mess of your boiling pot and you will not want to use it for anything else. In the past, I boiled my rough outs with a full rolling boil for the entire boil cycle. I found out that this was not necessary and just wasted propane. Those Cajun cookers can really burn the fuel!

Now, I bring the pot up to a boil and place the bowls and platters into the "soup". I boil most of the items for one full hour, under a low to medium boil (not a simmer, not a full rolling boil). You must monitor the pot to insure it does not boil dry. Periodically, you will have to replace some of the water lost during the boil. You can also cover the pot with a lid to help retain heat, water and conserve fuel. The boiling water may slosh out and stain some surfaces, so take precautions to insure that you have suitable protection.

Reducing Timber Drying Defects by Boiling

to insure that you have suitable protection.

Some of the smaller items may require a weight to prevent floating. A brick or a large rock works great for this. In unusual circumstances, I will boil for two hours if the piece warrants more time. However, all of the items in this particular test were boiled for approximately one hour. When I remove the pieces from the pot, I let them air dry overnight to reduce some of the excess water and bag them the next day.

In extreme cases (like green Madrone Burr), put the items into cool water and then bring it up to a boil SLOWLY, over the course of two hours. When the water begins boiling (2 hours from the start), boil for two to three hours. When this cycle is up, (4-5 hours from the start) turn off the burner and let the piece sit in the pot until the next day. Then, remove the items from the water and air-dry them for one day before bagging. However, most timbers do not require this extra effort.

Sometimes, the design will limit the amount of pieces you can put in the boiling pot. For example, semi enclosed bowls, hollow forms or tall roughed out vases etc. However, I load as many pieces as I can fit in the pot. You can load quite a few platters into the pot, because they stack so well.

Deciding When to Boil:

Does the piece include branchlets in the sides/bottom? Is there wild grain on one side and straight grain on the other? Is the rim/bottom of the bowl near the smaller growth rings (closest to the pith)? Is the species well known for gross distortion or cellular collapse during drying? Does the species exhibit "honeycomb" degrade or severe corrugation when dried? If so, then I would suggest you augment your "plain paper bag" method (rough out placed in the bag without alteration of any kind) with a boiling cycle. Here's why...

The Results:

Of the four hundred and fifty bowls and platters included in the analysis, the largest amount of drying defects were in the plain paper bag test group. The least amount of drying defects were in the boiled, then bagged test group which had little to no drying defects (splits, fissures etc.) and exhibited significantly less gross distortion, warp,

twist or other undulations in the test samples. Species with the largest amount of defects present when turned were Sycamore and Pecan, followed by Sweet Gum. For example: Several of the Sycamore and Pecan pieces had branchlets in the sides or bottoms of the test pieces.

Of the twenty bowls in the plain paper bag test group containing these branchlets, sixteen showed splits through the branchlets. Most of the splits were limited to the diameter of the branchlet in twelve bowls. The four remaining bowls had splits that extended well past the branchlet boundaries. All of the branchlets received an initial application of thin CA glue before going in the bag.

Twenty -one bowls and five platters in the boiled, then bagged test group revealed NO splits in any of the branchlets. Gross distortion on the rims of the bowls and platters was significantly less on the boiled pieces as well. They still warped a bit, but the overall rate was significantly less than the plain paper bag tests group.

Other comparisons demonstrated similar results. Twelve Black Ash bowls contained heartwood (wild grain) and sapwood in the same piece and were boiled, then bagged. These showed significantly less gross distortion than the plain paper bag test pieces. All of the Black Ash test pieces that were boiled, then bagged had no splits. Of the ten pieces in the plain paper bag test group, two revealed minor splits.

Bowls turned with rims or tops very close to the pith also exhibited similar results. Of the forty- five bowls and twelve platters in the boiled, then bagged test group, only one bowl contained a split. Of the forty bowls and fifteen platters in the plain paper bag test group, thirty-one of the bowls and twelve of the platters exhibited numerous split defects at the rims.

Summary and Advantages of Boiling:

This testing clearly demonstrates that the addition of a boiling cycle helps to prevent or eliminate many common drying defects. For me, I plan to boil, then bag much more often! I will reserve the plain paper bag method for pieces whose grain character and overall defects are within the demonstrated success profile. Other pieces that exhibit various defects or possible grain/growth ring com-

Reducing Timber Drying Defects by Boiling

ring compromises will get a "hot water bath".

I have also found that boiled timber dries up to twenty-five percent faster than non-boiled timber. Another advantage comes when you sand the piece. Species that tend to clog the sandpaper when traditionally air-dried, offer little to no clogging when they are boiled. In addition, most unwanted guests are eliminated in the boil cycle. This is especially important if you dry your bowls inside your home and you want to stay out of divorce court!

It is clear that boiling does have benefits for marginal, as well as sound pieces. It is my guess that the boiling process relieves or relaxes much of the internal stresses. The area around the branchlets on dry (boiled) pieces was very tight and showed no separation from the surrounding timber. I believe that the combination of the heat and hot water loosens the lignin bond between the cell walls. The internal stresses then relax a bit while boiling and when the piece cools, the lignin bond "cures" (for lack of a better word) in the new relaxed state. Wild grain and other defect prone areas are therefore, brought under control.

Most of the platters in this test were crotch pieces and the feathers on the boiled pieces were tight and free of checks. By contrast, the plain paper bagged pieces did contain some minor checking in the crotch feather areas. Even very thin platters (3/8" thick) showed very little rim movement in the boiled samples. By contrast, the non-boiled group had some pieces that looked like a potato chip!

Final Thoughts:

Some turners say that the reason they do not like to boil is the inherent color loss. In my experience, the outer 1/16" or so WILL loose color, but below that, the color is unaffected. I have carefully compared the color in air dried and boiled pieces many times. In my opinion, there is no detectable difference between color, shading or tone values in boiled timber and that of traditionally air-dried timber. If your rough out is only 1/8" or less in thickness, you have a valid point.

However, on a 12" bowl with a wall thickness of one inch, the

point is moot in my opinion. Obviously, nothing works in every situation, with every timber. I would encourage you to try boiling some of your problem bowls and platters before bagging them. The process is easy and relatively quick and offers amazing results. If you have any questions, please do not hesitate to contact me via e-mail at benzer@flash.net. Best wishes in all of your turning endeavors.

Steven D. Russell

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Eurowood Werks Woodturning Studio

The Woodlands, Texas

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MEDIA LIBRARY

Current Video Inventory:

- * *Turning Wood with Richard Raffan*
- * *Turning Boxes with Richard Raffan*
- * *Turning Projects with Richard Raffan*
- * *Bowl Turning with Del Stubbs*
- * *Skill Building Projects with Mark St. Leger*
- * *Sharpening Fundamentals*
- * *Turning Projects from Scrap with Bob Rosand*
- * *Natural Lipped Bowls – Ken Bullock*
- * *Wooden Bowls on a Budget – Ken Bullock*
- * *Rude Osolnik – Dean of American Woodturners*
- * *David Ellsworth Tape #1*
- * *David Ellsworth Tape #3*
- * *David Ellsworth Tape T*
- * *Skew Chisel with Alan Lacer*
- * *Turning a Salt & Pepper Mill by Holtham*
- * *1996 AAW Symposium - Techniques*
- * *1997 AAW Symposium - Techniques*
- * *1998 AAW Symposium - Techniques Vol #2*
- * *1998 AAW Symposium - Techniques Vol #1*

- * *1999 AAW Symposium - Techniques Vol #1*
- * *Vessels of Illusion by Trent Bosch*
- * *From Tree to Table by Mike Mahoney*
- * *Woodturning Wizardry by David Springett*
- * *Woodturning - A Foundation Course*
- * *Mike Darlow DVD set*
-> Available on VHS tapes
- * *Woodturning Projects with Nick Cook Volume #1*
- * *Woodturning Projects with Nick Cook Volume #2*
- * *Son of Skew by Alan Lacer*
- * *Range Rider Hat by Johannes Michaelson*
- * *Luke Mann Demo August 2004*

Current Book Inventory:

- * *Woodturning - TIME/LIFE Book*
- * *The Fine Art of Small-Scale Woodturning*
- * *Fundamentals of Woodturning by Mike Darlow*
- * *Woodturning Methods by Mike Darlow*

“If anyone would like to donate any ORIGINAL videos (no copies), please contact any of the club’s officers.”

CLUB EVENTS

LINKS OF INTEREST

[Central New England Woodturners, Worcester, Massachusetts](#)

[Massachusetts South Shore Woodturners Abington, Massachusetts](#)

JUNE MEETING AGENDA

- | | |
|------------------------------------|--------------------------------------|
| Club Update | Demonstration: |
| Business Meeting | Devon Thibeault: <u>Spin-</u> |
| Show & Tell | <u>dle Turning</u> |
| Demonstration or Scheduled Program | |
| Wood Swap | |

VENDOR NEWS

A.R.T. MENTORING PROGRAM

Our Mentoring program is designed to help the novice as well as the intermediate turners in the club. Take advantage of the Mentors listed below. They've all agreed to spend a few hours with anyone to help the beginner get started or the intermediate to advance their skills. All it takes is a phone call to make an appointment.

Mike Green - Lowell, MA
978-459-8308
mgreenburl@juno.com

Frank Movitz - Marblehead, MA
781-631-4411
gwpb@attbi.com

Derrick TePaske - Belmont, MA
617-489-0169
go.den@verizon.net

Steve Reznek - Concord, MA
978-287-4821
reznek@aol.com

Jack Grube - Londonderry, NH
603-432-4060
jackgrube@aol.com

Dietrich Kulze - Billerica, MA
978-663-5241
dk3@reuse.com



**“All it takes is a
phone call to
make an
appointment.”**

CLASSIFIEDS

Look! No Batteries Required...Ever Again! Batteryless, 110 VAC Powered Laser Pointer for those deep hollowing jobs. Plugs into any standard 110 VAC outlet. Use with deep hollowing systems such as the Jamieson, Kelton, Oneway, Pro-Forme, Dave Reeks, homemade, etc. varieties.

Price: \$25.00 each.

Get perfectly side ground edges on all your bowl gouges. Improved, easy to use gouge sharpening jigs. No matter what the sizes of your gouges, there is a sharpening jig to give you that perfectly ground edge. For use with the Wolverine or similar grinding aid. Three sizes to properly fit all gouges:

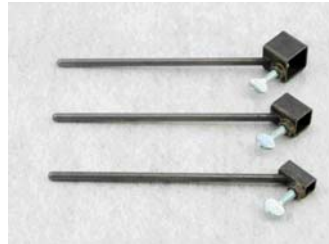
Size:	Prices:
Small (up to 3/8" dia.)	\$12.00 each
Medium (3/8" - 5/8" dia.)	\$12.00 each
Large (5/8"-7/8" dia.)	\$12.00 each
Set of all three:	\$30.00 (Save \$6.00)

Ultra-Thin Kerf Parting Tool. Blade is only 0.050" thin to give those wood saving and grain matching cuts. Overall length approximately 9-1/2" with comfortable handle for good control. Made from hardened High Speed Steel for a lasting edge and stiffness.

Price: \$20.00 each.



110 VAC Laser Pointer



Bowl Gouge Sharpening Jigs



Ultra-Thin Parting Tool

Please add \$5.00 Shipping and Handling to your order (no matter the number of items ordered being shipped to the same address at the same time).

To order, please make checks payable to Peter Toch and mail to:

Peter Toch
6565 Fairway View Trail
Roanoke, VA 24018

For questions or further information, please contact Peter Toch at (540) 774-4152 or ptoch@adelphia.net

* NOTE: These items are also available thru Mike Green at our monthly meetings.

“ Classified ads are free for members . Just send your ad to Al Primm. ”



Association of Revolutionary Turners ~ LEGAL STUFF ~

“ G E T I N V O L V E D ”

The Association of Revolutionary Turners (A.R.T.) was founded in 2001 to support the needs of woodturners in eastern Massachusetts. Its purpose is to provide education, information, and organization to those interested in woodturning. We meet on the 4th Thursday of every month at the Woodcraft Store in Woburn, MA. Memberships are on a calendar basis from January 1st through December 31st. Annual dues is \$20 per person.

President: Gary Bashian
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garybashian@hotmail.com

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(508) 897-2100 dietrich@kulze.com

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2005 MEMBERSHIP DUES

Dues for 2005 are now due. Please have cash or check ready at the meeting.