Minnesota WoodTurners Association

Minnesota Woodturners Association

An Affiliated Chapter of the American Assn. of Woodturners

December 1999 **Standard Edition**

Important Reminder ! **(See new rates on renewal form)**
It is time to renew your membership by getting your 2000 dues ($20) to:
Ron Meilahn (Dues go up after Jan. 1st)
1638 23rd Ave. NW
New Brighton, MN 55112

Successful Tool-Making Meeting

By Don Robinson

The November meeting was dedicated to showing members how to make their own tools. It was a resounding success and should lead to other meetings of a similar nature.
John Magnusson graciously opened his shop to the 44 members who attended and a big thanks goes to him.

For those of you who couldn't make this meeting you missed Hal Malmlov's presentation on making turning tools from planer blades and how to weight your tool handles by hollowing the handle, filling with buckshot then plugging the end. It gives the tool a nice solid feel and the extra weight should help with reducing vibration while turning. This is a tip I plan to use on some of my tools.

Larry Heyn presented ideas on making several turning tools. By using cold-rolled steel rod and standard machine-lathe cobalt bit stock you can achieve a wide range of tools. A typical configuration might be ¾ inch rod drilled to accept a ¼ inch bit. The bit can be mounted straight out the end of the rod for open-vessel turning or it can be set to any angle for use in turning hollow-form vessels. Of course, you must also make your own handle with a nice ferrule to finish it off. Larry likes to make his handles longer than what you might see on Sorby and other tools. The extra length gives the turner more control and again keeps the vibration down. If you make your own tools, try varying the length of the handle and the length of the cold-rolled rod until you find that just-right feel.

John Barklow demonstrated how to turn your bumpy old tool rests into slick as glass runners. By silver-soldering a 5/16 inch length of hardened injector pin rod onto your toolrest you create a very hard, straight and smooth surface to run the turning tool across. He also showed how to create a toolrest from scratch and topping it with this same rod stock. John is a machinist by trade and said he could be contacted for assistance if this project seems intimidating. The idea of having a smooth surface to run the tool on really appeals to me and will eliminate the need to run to the belt sander to smooth up the original surface.

We of course had the usual business meeting and had several new members introduce themselves. The show-and-tell was enjoyed by all. The different woods and shapes always inspire us to go home and try new things.

This meeting was a prime example of what this club is all about. Members sharing their knowledge with others. What a great experience it is. Let's keep it up.

Bob Picek sends this from the Internet:

For turners interested in developing / refining their turning skills, the following classes are being offered
at John C. Campbell and Arrowmont. Note the programs offered under the Elderhostel Program.

John C. Campbell Folk School - North Carolina		Instructor
1/9-15	WOODTURNING FOR EXPERIENCED TURNERS	Mike Mahoney
1/23-29	TURNING MAGNIFICENT VESSELS	John Mascoll
2/6-12	WOODTURNING BASICS	Doug Barnes
2/20-25	WOODTURNING BASICS FOR ALL LEVELS	Tom Fortenbery
2/25-27	WOODTURNING: NATURAL-EDGE BOWLS	Tom Fortenbery
3/5-11	TURNING - TOOLS, TECHNIQUES, AND TIMBERS	Bobby Clemons
3/19-25	FANCY WOODTURNING -	Robert Rosand

John C. Campbell Elderhostel

2/13-19 Introduction and Skill Building
3/12-18 Tools, Techniques and Timbers
2/ - 25 Build your skills and Expand Horizons
3/19-25 Fancy Woodturning: From Tool Sharpening to Beautiful Objects

Arrowmont - Tennessee

3/6-10 Michael Mode Turned Lidded Boxes
3/13-17 Ray Key Artistic and Functional Intermediate to Advance
3/27-31 Alan Stirt Turned Bowls and Platters: Form, Pattern, Texture, Color
3/27-31 Brent Skidmore Beginning to Intermediate

Arrowmont Elderhostel

4/2-7 James Bliss Boxes, Bowls, Ornaments
4/9-14 Lyle Jamieson Woodturning: Start to Finish

If you would like more information, contact Bob Picek (651-439-0657)

Newsgroups ... Post a Question .. Get and Answer!

Need to solve a problem about woodturning, wood, equipment, etc.. Internet newsgroups are a valuable source to get answers to your questions. There is no charge to participate in newsgroups. Two of my favorite newsgroups are:

rec.crafts.woodturning
rec.woodworking

Internet Websites

Many organizations have set up Websites on the Internet. Many sites post articles and newsletters. Some of the sites I frequently visit are:

Non-Profit Websites

http://www.woodturner.org	American Association of Woodturners
http://www.pathways98.org	Pathways exhibit of fine woodturnings
http://www.libertynet.org/woodturn/	Wood Turning Center ... International Education Center

Club Websites

http://www.rtpnet.org/~twnc/	Triangle Woodturners North Carolina ... Outstanding information site
http://home.vicnet.net.au/~pwguild/	Peninsula Woodturners Guild (Australia)... Many articles

If you need assistance getting on the Internet, accessing Websites or would like to come out for a visit and see the Internet first hand, feel free to call me. Bob Picek, Stillwater MN Home: 651-439-0657 Office: 612-814-3631

The Needle Game
or
"Understanding Tool Steel"

Jack heated an ordinary sewing needle and by suddenly cooling it he could make it brittle and easily broken. If he cooled it very slowly, it was bendable.

The needle. does it bend? is it brittle? or is it springy'?
Answer: All three. Depends on its inside structure.

Then how do you alter the structure?
Answer: By temperature

What has this got to do with wood turning?
Answer: Well needles are steel and your turning chisels and gouges are steel with various other elements thrown in like nickel, chromium, manganese etc. So that when the temperature increases and sparks fly when your tools contact the grinding wheel then perhaps the needle game has some relevance. You see, pure metals are relatively soft. Pure tin and pure lead are bendable (malleable) and their melting points are respectively 232 and 327 degrees centigrade. All the same size atoms of tin metal are bound together by electrons and they have no bonding orientation so that the atoms bond in all directions and consequently can slip over one another. This means that the whole structure can bend. If you loosen the bonds by melting the tin at 232 degrees and dissolve a little lead in the melt then we have an array of tin atoms with a few larger lead atoms mixed in.

Two things happen. One is that by putting a larger atom in the structure this blocks the tin bonds and the structure can break up more easily, meaning the melting point is lowered below 232 (in spite of lead having a melting point of 327). Secondly, some of the tin atoms are blocked and cannot slide one over the other making the alloy harder.
Similarly pure copper and tin are again relatively soft but when you make an alloy of copper and tin (which becomes bronze) then

you have a harder alloy than the pure metals by themselves.

Back in history, do you think King Agamemnon and Odysseus set out from Greece to Troy just to bring back Helen, who had eloped with Paris,. son of King Priam of Troy, when Paris visited Greece on a business trip coincidentally at the time when Menelaus, Helen's husband, was not at home. Greece had olives and grapes but no hard bronze - only bows and arrows. But across the Aegean Sea towards Persia there was lots of copper and tin. So it was more probable that Agamemnon's conquest of Troy and the East was in order to obtain bronze with which he could more easily fight off his enemies. After all, they didn't really get Helen back and Menelaus didn't really want her back after ten years and Agamemnon's wife, when he finally returned, was so angry that she suffocated him in his bath with his own bath-robe.

Bronze was used to make non-rusting, hard, sharp weapons.

Back to steel. One digs up red iron oxide and puts it in a furnace with charcoal carbon (later coke) and melts these together (with a few other things like limestone). In the very hot melt the carbon takes away the oxygen to form carbon dioxide, which escapes, leaving molten iron on its own. But some carbon gets trapped in the iron to form great big molecules of Fe3C which is iron carbide. So now we have the same situation as for lead and tin. Great blobs of iron carbide distributed among the iron atoms.

Three situations arise.

One is that the Fe3C is chaotically arranged and blocks the slipping past of the iron atoms making it very hard and brittle, This "pig iron' will crack if struck or dropped.

Secondly, one can have the Fe3C arranged in perfect order in layers between layers of iron atoms. This will bend under load.

Thirdly, one can drive off the excess carbon by heating the steel through hammering it on a blacksmith's anvil. The friction heat drives off carbon to the point when the blacksmith judges that the steel has lost its brittleness. But on a large scale, one uses the reverbatory furnace invented by Henry Cort around 1760 in order to match the quality of the steel England had to buy from Sweden and Russia. This was the time when James Watt was wanting steel for his steam boilers and George Stephenson for the steel rails and for making canons to battle with Napoleon.

The principle of the reverbatory furnace was to direct the flames from the fire below the molten pig iron up and over the surface of the melt by means of a low roof. This gave a controlled burning off of the carbon to the point when pig iron became steel with the carbon content less than 2 %. Mild steel contains less than 0.15% carbon and hard steel more than 0.3% carbon. The mechanical properties are further changed by adding other metals and by HEAT TREATMENT. Your expensive gouges and chisels may have additions of silicon, manganese and nickel. If it is high speed steel, the iron contains 12 to 18% tungsten, up to 5% chromium and 0.7% carbon. This alloy keeps its hardness at low heats and can withstand the high speeds of lathes.

So hardness depends on the atom structure and the heat treatment. Luckily, heat is transferred from the tool tip rapidly by the large bulk of metal. Large numbers of heat carrying atoms are present and it may be interesting to know that there are roughly 10,000,000000, 000000,000000 atoms in one gram of iron.

Remember the needle game and try it out at home

Jack Kent

HSS Cutting edge on Carbon Steel Tools

I read recently where a suitable piece of carbon steel had brazed on to it a worn out, large engineering hack saw blade with the teeth ground off. Only the top of the 3mm is HSS with a strong cutting edge. Another advantage is that the carbon steel dampens tool vibration

on the rest better than HSS, and does not damage the tool rest either. It also seems to absorb heat from the cutting edge. This idea can be used to make beading and parting tools, skews or straight chisels by brazing hacksaw blades between two pieces of carbon steel.

Worn out hacksaw blades are cheap but make sure they are solid HSS, not bimetallic. It is surprising that no tool manufacturer has thought of this laminating idea - maybe it is too costly in mass production.

Stafford Henke.

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Bob Picek 11/99

Future Meetings (Watch your mail for a postcard notice of the January meeting)

Minnesota Woodturners Association
Year 2000 Program and Events

Note: This is a tentative schedule and is subject to change. We are contacting demonstrators on availability.

Month	Topic
January	-Hollow Forms
February	-Products: Discussion of Lathes, Chucks, Tools, etc.
March	-Turning Eggs & Legs
April	-Lidded Vessels -Egg Challenge
May	-Small Projects: Fishing Lures, Jewelry, Ring Box, -... Small projects to turn during the summer. -American Woodworkers Show at St. Paul RiverCentre
June	-Mini Workshop(s) -St. Catherine's Show
July	-Mini Workshop(s)
August	-Picnic
September	-Metal Spinning / Segmented Turning
October	-Green Turning / Dog Burn -Northern Woods Show @ Southdale -Woodworkers Show at State Fairgrounds
November	-Reverse Chucking / Jigs
December	-Holiday Party -Challenge to be announced

Board of Directors Elections

The following members of the Board of Directors terms expire at the end of this year:

Don Wattenhofer - at large
Don Robinson - Newsletter Editor
John Ratliff - Wood Raffles/Newsletter Mailing/Refreshments
Ron Meilahn - Treasurer/Member Services

Todd Schweim has volunteered to run for Newsletter editor and Don Robinson has indicated that he would appreciate the break. All the other members have agreed to run for another 2 year term. Nominations for these positions will be solicited at the Holiday party and elections will be held at that time. If you would like to serve on the Board or get your feet wet on one of the committees that works with the Board to provide the activities of the club, just let one of the board members know.

DECEMBER HOLIDAY PARTY

Tuesday, Dec. 14th, 6:30 to 10:00 PM
@Norwest Bank (2nd Floor)
1200 Silver Lake Road
New Brighton, MN
Located 1 block north of I-694 at Palmer Drive
On the NW corner across from McDonalds

Notes:
1.) There will **not** be a wood raffle at this meeting.
2.) There will be glue sales and library activity.
3.) Think about what the club should make for the collaborative project next year.

TOY CHALLENGE

Bring a toy for the Toy Challenge and be eligible to win a great looking certificate. The awards are based on the votes of members and it will be great to see what everyone can come up with in this new challenge. No prize but great recognition. The award certificates will be for 1st, 2nd, 3rd, and 4th places.
The Toy Challenge is a wonderful opportunity for members to submit their entries to the Toys for Tots program. (See guidelines for making toys in the last newsletter.)

GIFT EXCHANGE & PRIZE DRAWING

Bring an unwrapped turned piece for the Gift Exchange and be eligible to win one of more than $500 worth of prizes donated or purchased by the MWA for this event. There will be an opportunity for "show and tell" about the gifts.

Delightful hors d'oeuvres' and refreshments will be served throughout the evening.

Any questions? Contact the following : Toy questions – Jim Jacobs at 651-437-2302. Food questions – Ron Meilahn at 651-633-8902. General questions about the party – Bruce Arones at 651-433-5364.

Committee Organization

The members of the Board do a wonderful job of getting things to meetings, arranging for events, getting information to us, but they can do a lot more if they have help from all the members. We are forming a whole bunch of committees, many of which will not have to have any meetings but will provide the resources to get things done that would otherwise be impossible. Some of the committee ideas have nobody in charge yet, so there is an opportunity to start something that can benefit everybody. One of those is a "Communication" committee that would include a phone tree so that if we find out on short notice that a noteworthy turner is in town we could have all the members phoned to set up a quick workshop. Another is "Community Events" that would provide community organizations with a turning demonstration (drawing on all our members as resources) if they requested it. A "Nominating Committee" could scour our membership list for new talent for our Board or committees when a vacancy occurred. Hal Malmlov currently handles the glue sales at meetings but could use a back-up in the Bloomington area that could take his place when he can't make a meeting.

We already have a committee working on finding a permanent meeting place for the club, where we could store our library, lathe, etc. and do demonstrations. We will also be looking into arranging for a video monitor for meetings so that everyone can see. There are a lot of exciting ideas that we could do and they can all come to fruition sooner with a bit more help. Our next newsletter will have a list of the committees that are finalized as of that date but don't be afraid to throw us a new idea or jump in with a helping hand at any time.

We will be sponsoring the AAW national symposium in 2001. The first organizational meeting for that will be Jan. 21, 00 at 7pm, location to be determined. We will need a LOT of volunteers for this event, and I guarantee that you won't be sorry. If you haven't attended a symposium before, you can expect to have your turning knowledge jumped forward several years by what you pick up. Let me know if you intend to volunteer by phone or email or at the holiday party, whether or not you can make the Jan. meeting.

Thanks!!
Mel

MWA Board

President:
Mel Turcanik (507) 634-7570
e-mail: turcanik@means.net

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Members-at-Large
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Larry Heyn (612) 571-2117

Secretary:
Ken Tempero (612) 476-9024

Newsletter Editor/:
Don Robinson (612) 441-8207
e-mail: dmrob@worldnet.att.net

Member Helpline

Do you have a question or need help with a project or turning? The following members have volunteered to try and answer your questions or point you in the right direction.

John Magnussen (612) 477-6294
Mel Turcanik (507) 634-4986
John Engstrom (612) 475-0307
Jim Jacobs (651) 437-2302
Ed Johnson (651) 224-4194
Don Wattenhofer (612) 572-1045
Tom Shields (507) 625-4186

If any others wish to volunteer for this list please call Don Robinson @ (612) 441-8207.

DUES REMINDER !

Please return your renewal subscription for 2000 so you will not miss any of the Newsletter issues, meetings, special events and club discounts available only to members in the coming year.

Don't delay! This will be the last newsletter for the 1999 members.

For Sale

Some of the most exciting Turning-Wood in the world is available right here in Minnesota!

• Incredible Exotic Burls
• Beautiful Boards • Fantastic Prices

Call Craig Lossing at (651) 785-4194 Today!

Membership Application/Renewal
MINNESOTA WOODTURNERS ASSOCIATION

_____ _____ _____
Name (Please Print) Telephone # Date

_____
Address City State Zip Code

- Dues are: $20 Yearly (if paid before January 1st)
$25 after January 1st
$15 after July 1st (2nd half year)

Amount Enclosed: $_____

Please Check: Renewing Member O New Member O
Are you a member of the AAW ? Yes O No O

You will receive all issues of the newsletter starting with the next mailing after you join along with a new members kit.

If you have an email address please list it below.

It may be used for MWA announcements. It **will not** be given or used outside this club !

Address _____

Mail To:
MN Woodturners Association
c/o Ron Meilahn
1638 23rd Ave NW
New Brighton, MN 55112

Minnesota Woodturners Association

Dedicated to providing education, information and an organization to those interested in woodturning.

The Minnesota Woodturners Association was formed in 1987 with approximately 25 charter members and now has about 100 members. The Association is non-profit and all work by members is done voluntarily.

The skill level of our members ranges from complete beginners to skilled professionals. Membership includes a few professionals but hobbyists make up the majority. The members live mostly in the Twin Cities metro area, however there are members in all areas of Minnesota and into western Wisconsin.

The Association normally schedules meetings once a month during fall, winter and spring of the year. (Sept. through May). The meetings are normally held on Tuesdays or Saturdays. The meeting locations vary from members' shops, educational associations, to the various woodworking stores located throughout the metro area.

The newsletter is published quarterly. (Sept. 1, Dec. 1, Mar. 1, Jun. 1)

The meetings usually consist of some sort of turning demonstration or related subject. The subjects of the demonstrations very from basic techniques to advanced levels. The meetings are always open to questions from the members and we invite and encourage them to share their knowledge and skills freely. The association tries to arrange at least one professional demonstration each year, with past professional demonstrators coming from all areas of the United States, England and as far away as Australia.

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First Class Mail

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