

Rocky Mountain Woodturners

A Chapter of the American Association of Woodturners

July Newsletter

Vol. 8 - No. 07

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Events Calendar

July 11 **Bruce Cohen**
Live edge bowls (turning nasty wood)

July 8 - 12 **Stuart Batty** Basic workshop @ Craft Supply Cost \$ 595.00

July 15 - 19 **Stewart Batty** Intermediate workshop @ Craft Supply Cost \$ 595.00

July 22 - 26 **Utah 5 Intermediate** workshop @ Craft Supply Cost \$595.00

July 29 - August 2 Dale Nish Basic workshop @ Craft Supply Cost \$595.00

August 8 **RMWT meeting**

August 5 9 **Kip Christensen** Basic workshop @ Craft Supply Cost \$ 545.00

August 26 - 30 **Mike Mahoney** Intermediate workshop @ Craft Supply Cost \$ 545.00

September 5 **RMWT meeting**

September 23 - 27 Richard Raffan Advanced workshop @ Craft Supply Cost \$795.00

September 21 Craft Supply Super Saturday

October 3 **RMWT meeting**

October 11-13 Texas Turn or Two
Featuring: Frank Sudol

October 26 **Rocky Mountain Woodturners 4th**
Annual Woodturning Symposium.

JUNE MEETING

Thursday – July 11 @7 PM
Industrial Science Building
Room 105
Colorado State University
Ft. Collins, CO

Agenda:

- Announcements
- Show and tell & Challenge
- Wood raffle
- Break
- Demo

Demo: Bruce Cohen
Live edge bowls

JUNE MEETING MINUTES

Nancy Quick-Brewer

The June meeting was called to order at 7:07 by president Doug Schneiter.

Old business consisted of a discussion of the 4th Annual RMWT's symposium. The symposium will once again be held at the Chilson Center in Loveland, CO on October 26th. Currently, it looks as though the headline demonstrators will be Ron Gerton of WA, Phil Brennion of AZ and Rex Birmingham of Utah. More information and brochures will be sent out at a later date.

We had 3 visitors at this months meeting. They were Kathy Batchman of Boulder, Aaron Jenson of Loveland and Thomas Burger of Ft. Collins.

Thomas joined the club during the break. He is employed by Sears Trostel in Ft. Collins. I hope all of you will join me in welcoming Thomas to the club! Be sure to stop in at Sears Trostel as I have sent a list of all current members to Thomas as they will be giving all RMWT's on the list a 10% discount on their turning purchases.

Everyone going to the Utah symposium and also the AAW symposium were wished a great time and a safe trip I'm sure we will hear a lot about both when everyone returns back home, with their minds on woodturning overload.

Next came our show and tell and then a short break before Chris started his great demonstration.

Treasure's Report: Allen reports that we currently have \$ 6061.04 in the club's account.

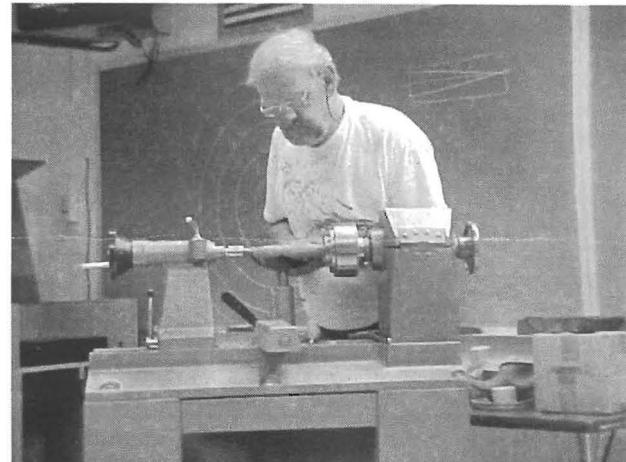
July Challenge: The challenge for July is either a turned box or an off set turning.

Notices: The Rocky Mountain School of Woodturning will not be holding any classes until October. Watch for further information on this.

Be sure and mark your calendars for the change July's meeting due to the fourth of July. Our next meeting will be July 11th at 7:00 p.m.

Mark your calendars for the 4th annual RMWT's symposium being held Oct. 26!!

Demonstration: Chris Stott, his box and off set turnings was a wonderful demonstration! Chris is a really great guy and has a super personality!



Here Chris is beginning to shape "Ellen." Using an eccentric turning to turn the form. Chris mounted and remounted the pieces on each of the axes (which was 3.)

He stated that you need to be sure to sand and finish each axis, as it is nearly impossible to remount the piece in the exact same place.



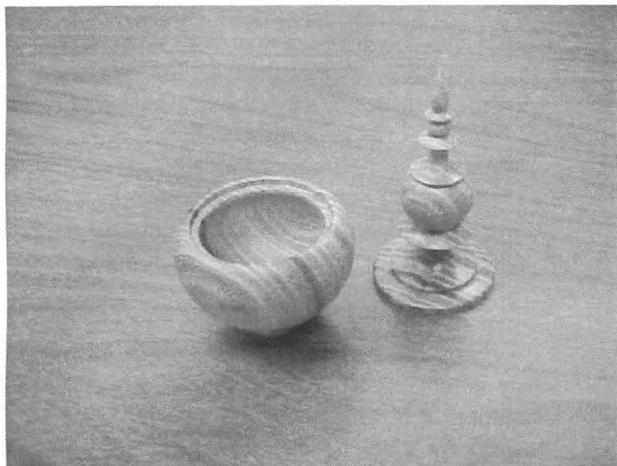
And now, here's "Ellen"! All turned and finished, isn't she beautiful?

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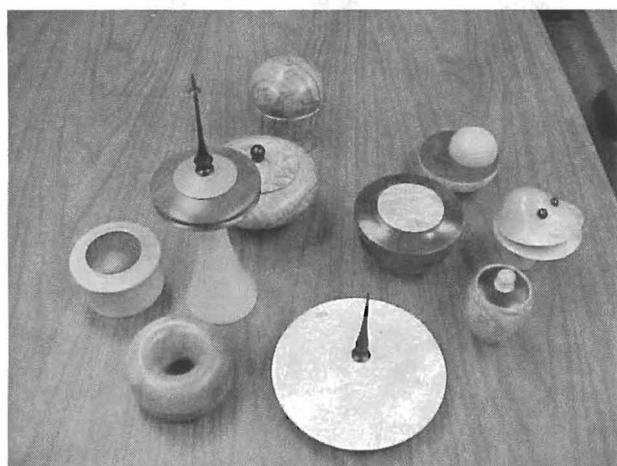
Editors Choice of Show n Tell



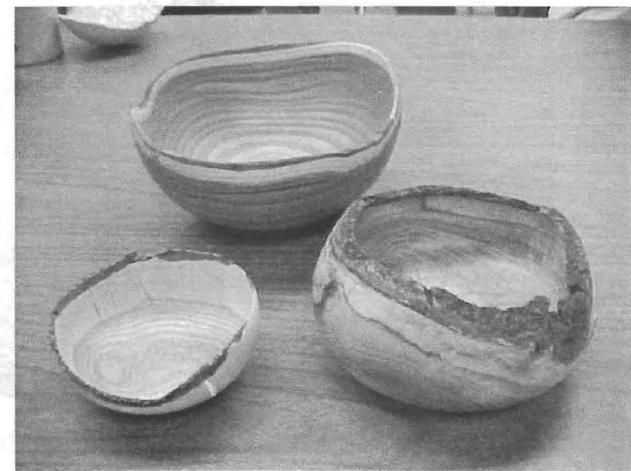
This is the beginning of one of the boxes that Chris turned from Osage orange. A piece of advice from Chris was that if you plan on selling this at a craft sale etc., do it fast before it starts turning brown.



Chris made and donated this beautiful box to the club. This is to go into a raffle at our August meeting, so plan on attending so you will have a chance on taking this home with you!!



These are a few beautiful pieces that Chris brought with us to show the club.



This month, I had a hard time choosing just one person's work for my choice! These 3 pieces bowls were the first bowls ever turned by our first time visitor Kathy Batchman of Boulder. Kathy says the middle sized one and the small one was turned back to back from the same log. The two smaller ones are of honey Locust and the larger one is Russian Olive. The finish is Tru-Oil. She used Bruce Cohen's lathe to turn them on. The larger bowl was turned while still green and the other two were started green, but then left to dry causing them to crack. She used 4000 grit Abralon to sand them with. Great work Kathy!

Show & Tell:

We had a nice selection on our show and tell table this month! Thank you to all who brought your turned pieces in to share with everyone!



Check out that top, pretty neat huh?

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Challenge Winner: June's winner of the \$15.00 gift certificate was Bob McConaughy. Congratulations Bob.

AAW Collaborative Challenge Entry: Take a look at the Rocky Mountain Woodturners contribution to the AAW collaborative challenge! Drew Nichols who was the AAW collaborative challenge chairman for our club told me that on Tuesday June 26th, he boxed up the piece along with about 20 additional tops and took it all down to David Nittmann whom will take it to the AAW symposium in Providence, RI with him. Drew says the piece turned out beautiful and by the looks of these pictures, I agree with him! The base of the top is of maple burl; the mid section is of segmented walnut, the next piece up holding the smaller tops is maple and mahogany. The handle is made of mahogany, maple and ebony. I am told that the main top including the base is 22 inches in height, 20 inches wide and weighed in at 19.6 lbs. It turns on the base with a steel rod placed into two bearings. The club would like to sincerely thank Drew Nichols, Dale Kechter, David Nittmann, Les Rice and Phil Lackey for their time and effort in this beautiful piece of work and donation. Also, a big thanks to all of the club members who so generously contributed a top for this project.



THE INTERNET

Nancy Quick - Brewer

<http://www.peakpeak.com/~artnwood/>
<http://www.shanehewittwoodturner.co.nz/>
<http://www.woodturner.org/>
http://www.woodturnerscatalog.com/shop_default.html
<http://www.packardwoodworks.com/>
<http://www.ubeaut.com.au/>
<http://www.carvertools.com/frmain.htm>

SHOP TOURS

Any volunteers to host a few shop tours this spring and summer? I have been hearing that they have been being missed by a lot of the club members. Now that the weather is nicer, there is no reason not to have one. It doesn't take much effort, you're going to be out in your shop anyway, so set a date, let me know by email at woodturns@aol.com or calling me at (970) 392 - 9035 and I'll put it in the newsletter and we'll all plan on coming out and helping you shuffle the dust and shavings around. No reason to clean up the shop, none of us turn in a spotless one.

TENNESSEE SYMPOSIUM

The 15th Annual Symposium of the Tennessee Association of Woodturners will be held August 23rd (7p.m.), 24th & 25th. Featured demonstrators will be Andy Woodard of TN, Phil Brennion of AZ and Binh Pho of IL. Further information can be obtained by contacting: Mike Zinser 615-292-8652 or email MikeZiner@msn.com

LYLE JAMIESON

Lyle Jamieson will be in the area the second week of August. He will be available for one on one, hands on class for anyone wishing private instruction in your own shop. Call Lyle to discuss your desires, availability and costs. 231-947-2348



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TEXAS TURN OR TWO

The Texas Turn or Two will be held this year October 11th thru the 13th in Witcha Falls. For reservations or more information please contact: Pat Titus A Texas Turn or Two P.O. Box 142 Adkins, TX 78101-0142.

Pat can also be reached by calling 210-649-2166(H) 210-649-4308 (W), or by email at btitus@sprintmall.com

FRONT RANGE (FRWT) CLUB

President: John Montague - (303) 794 – 01679

JaMont312@aol.com

<http://www.harrispress.com/frw/>

Meetings are held at Schlosser Tool and Machinery, 301 Bryant in Denver.

Meetings are held the first Tuesday of each month at 6:30 PM.

PIKES PEAK (PPW) CLUB

President: Tommy Keeton - (719) 392 – 7473

jeddix@msn.com

<http://www.homestead.com/ppwnews/>

Meeting at Woodcraft Supply on North Academy and Vickers in Colorado Springs

Meetings are held the first Thursday of each month at 6:30 PM.

MEMBER INFO EXCHANGE

Nancy Quick-Brewer

If you have sold your listed item, please let me know so that I can remove it.

For Sale: We have a new supplier of hardwoods! Special Orders! Contact Duane Dillow 1120 W. 2nd AV Cheyenne, WY 82001 (307) 637-8464 call or go buy and check his supply out.

Wanted: Used chuck with 1X8 thread. Call Steve Anderson at 970/586-2787

For Sale: 26 inch Woodmaster drum sander 5 hp 1ph motor. \$800 obo, also a Jet 1100 cfm dust collector. It is brand new but not big enough for our shop. \$250 new, make us an offer. Call the Jenson's at (970) 663-1868.

For Sale: Made to order shop coat with or without additional sleeves. See Don Deatherage at one of our meetings, or give him a call at 308/ 673-5341

For Sale: Powermatic dust collector 1½ hp with 1 micron felt bags \$150.00.

On going great deal on sanding disks: 2" disks are 10 for \$1, grits from 100 to 400, Velcro back (we always have these available - call if you don't see us at the meeting) - Call David or Cindy @ 303/449-7170 (leave a message anytime), or cdrozda@nyx.net, or rotoremotion@earthlink.net.

For Sale: Pharmaceutical grade cyanoacrylate glue. Stronger than standard woodturning CA glue. 99.8% pure!

CA-thin - 2oz \$5.00

CA-750 - 4oz \$9.00

CA-gel - 20gm \$4.00

Activator - 2oz \$3.00

Aerosol activator 6oz - \$6.00

Call Dennis Liggett, 719-481-8754, liggy@mindspring.com.

CA-med - 2oz \$5.00

CA-thick - 2oz \$5.00

CA-flex - 1oz \$5.00

Debonder - 2oz \$4.50

3-1/2" VICMARC CHUCK MISSING

The club's 3-1/2" Vicmarc chuck that is used for the club demonstrations is missing from the library cabinet. If anyone has it, or knows where it went please let one of the officers know. It was purchased for the demos.

DELTA MIDI LATHE

The RMWT's owns a new Delta Midi Lathe that is available to any RMWT member in good standing to be checked out for your use. Contact Doug to arrange to pick it up at the Loveland High School or at the meeting.

Dr. Wood Discusses: The Lathe:

Remember that all power tools are potentially dangerous. Always wear eye and ear protection when using woodworking tools. Read and understand the manuals and instructions provided with your tools, and never use a tool in a way that endangers you or those around you.

Whether you want to make chair legs, bedposts, table pedestals, or newel posts and balusters for stairways you will be turning on the lathe. The lathe is also finding increased popularity with the hobbyist woodworker for turning bowls and other decorative items. Woodturning is fast and does not require a shop full of other tools to achieve stunning results.

Woodturning is the fastest growing discipline in woodworking. New lathe designs, novel cutting tools and accessories, and particularly new project kits have fueled the renaissance in turning. No longer is the lathe a tool stored at the back of the shop under a tarp and only brought out to turn the occasional chair leg. It has taken center stage in many woodworkers' shops as a source of artistic expression and financial reward.

Turning wood on a lathe is different from every other type of woodworking because the wood is moving and the cutting edge is stationary. This means that the turner is in complete control of the design and execution of the work. Turning is a dynamic process in which the woodworker becomes sculptor: removing waste from the starting piece and deciding when the finished project has been achieved. This process is both the challenge and the nemesis of the woodturner.

The lathe is a simple and ancient tool. Bodgers in medieval Europe powered their lathes with Birch and Beech tree limbs. A rope was tied around an overhanging limb in the forest and thence down around the work to a foot treadle. Stepping on the treadle caused the piece to revolve back and forth with the limb acting as a spring. This simple process allowed the manufacture of chair parts and bowls. Turning on foot-powered treadle lathes became an apartment pastime in the French court of the 17th and 18th centuries. Today most turning for furniture manufacture is done on computerized machine lathes that turn 10 to 30 pieces at a time, but the satisfaction of personal control and artistic expression is still available to the woodturner.

A lathe is a machine that makes wood spin around in circles. If the grain of the wood is parallel to the axis of rotation it is called spindle turning (such as for chair legs and candle sticks), while if the grain runs perpendicular to the rotation it is called faceplate turning (used for bowls and platters). This latter name derives from the flat faceplate we use to attach the wood to the lathe. The part of the lathe to the left of the machine where the motor is located is called the headstock. The wood is connected to the motor by way of a spindle that is driven by a belt and step pulleys. The headstock spindle is threaded to accept faceplates and bored down the center to hold the spur drive during spindle turning. This bored hole is not straight, but has tapered walls to hold the spur by friction. The size of this bore is either a number one Morse taper (#1 MT) or a #2 MT, with a #2 MT being the larger.

At the end of the lathe opposite the headstock is the tailstock. It is designed to hold up the other end of the wood spindle during work, and is fitted with a 'center' that is driven into the wood. The center is held in the tailstock because it too has a Morse taper. Today most turners use a center with a ball bearing to reduce friction, called a 'live-center'. Between the head and tailstock is the tool rest. This is a horizontal piece of steel that the turner rests the tool on during turning, employing it somewhat as a tailstock and tool rest are all supported on the bed, or ways. In better tools the bed is a machined cast iron structure that securely supports the other parts of the lathe, but on smaller lathes and some English lathes the ways consist of one or two rods or tubes. Mass is critical for lathe performance, and the best lathes are huge, heavy affairs. Mass reduces vibration, and when you are holding the cutting surfaces in your hand you want to eliminate all sources of vibration. However, if you already own a lathe that you suspect is too light, mass can be added with sand, bricks, steel or concrete.

Turning tools come in many shapes and sizes, but the fundamental difference between most turning tools is whether they are manufactured from high carbon steel or from high-speed steel. Carbon steel tools are made from the same material used to make carving tools. While this material is preferred for tools that require a surgically sharp edge, carbon steel is too soft and heat-sensitive for the rigors of woodturning. This is why high-speed steel is used for all the best turning tools today. Good high-speed steel has a high tungsten and vanadium content that makes it very resistant to abrasion, as well as being impervious to the intense heat generated at the wood-tool interface during the turning of hard woods. Thus, tools made from high-speed steel retain their edge and will not lose their temper (hardness, not emotion) during use, both of which are problems with carbon steel tools. Do you have high-speed or carbon steel turning tools? It is easy to check during sharpening on the bench grinder. The sparks from high-speed steel are orange and stay together, while carbon steel sparks are yellow and fly apart. Try it for yourself!

Wood can be removed during turning by either cutting or scraping. While there is a place for scraping in some turning operations, I always encourage my students to cut the wood whenever possible. The use of a cutting technique slices

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through the wood fibers rather than tearing them, resulting in a superior finish that requires much less sanding (my regular readers will remember that I hate to sand). Wood turning tools are all cutting tools when used and sharpened properly, even those called 'scrapers'. If you have questions on sharpening turning tools I encourage you to attend one of our free Saturday seminars on the topic or consult one of the books mentioned at the end of this article.

Whether you are turning a candlestick or a bowl, cutting technique will speed up the process and give a more satisfactory outcome. The battle cry in my turning classes is "keep the bevel on the wood". All turning tools have a bevel ground into them that forms the cutting edge. A gouge is a single bevel tool with a gullet formed into a bar or slab of steel. Different sizes and shapes of gouge are used for both rapid stock removal and for delicate detail turning. A skew chisel is a double bevel cutting tool shaped somewhat like a carving or bench chisel. The skew is used for long straight cuts and detail turning. With either of these tools it is important to keep the bevel on the wood and cut. When you come off the bevel bad things can happen -- you can tear your work or get a catch that can damage or ruin your efforts.

The other basic tools in the turner's toolkit are the parting tool and various scrapers. Like the furniture scraper, the turning scrapers cut by virtue of a burr raised on the edge during sharpening. It is the burr that cuts, and without it the tool is useless. There are a wide variety of scraper shapes ranging from round to square to diamond-shaped. Dozens of turning tool shapes and sizes have been developed to handle particular turning jobs, and new tools enter the market each year.

In addition to the traditional spindle and bowl projects familiar to most turners, new project kits have become available in recent years. By far the most popular are kits to turn pens and pencils. These are all mandrel-based projects, meaning that a steel rod is mounted between the head and tailstock onto which the pen parts are placed and turned. There are Cross, Mont Blanch, and Parker-style pens, pencils, roller ball and fountain pen kits. It seems that everyone from middle-school students to retirees with access to a lathe has begun turning pens. Pens are a quick and relatively easy way to get into turning, and the pens can be quite stunning and profitable. Students in my classes with absolutely no shop experience have turned lovely writing instruments in less than two hours. Other mandrel-based projects are continually being introduced, but the turner does not need to rely on these projects. Creativity and imagination are the name of the game in turning, and no piece of wood is too small to be turned into something (this is both a blessing and a curse since it means no piece of wood is too small to throw away!).

If you want more information on lathes and turning I suggest you consult one of the growing number of books and videos on the subject. The book and companion video entitled "Turning Wood" by Australian turner Richard Raffan are outstanding resources for the novice and experienced turner, alike. Del Stubbs video on bowl turning is a classic, and a new book "The Lathe Book" by Ernie Conover is very informative. New videos by Chris Stott and John Jordan give lots of great tips and insight into both open and hollow forms. I also encourage aspiring turners to contact their local chapter of the American Association of Woodturners, (www.RTPnet.org/~aaw.com).

The techniques discussed in this article are intended to serve as a guide to the aspiring woodworker. The individual must recognize that there are dangers in any form of woodworking and use all safety precautions. Neither the author nor The Cutting Edge, Inc. can be held responsible for accidents resulting from the application of techniques discussed in this editorial.

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The above article is from The Cutting Edge at <http://www.cuttingedgetools.com/drwood.htm>.

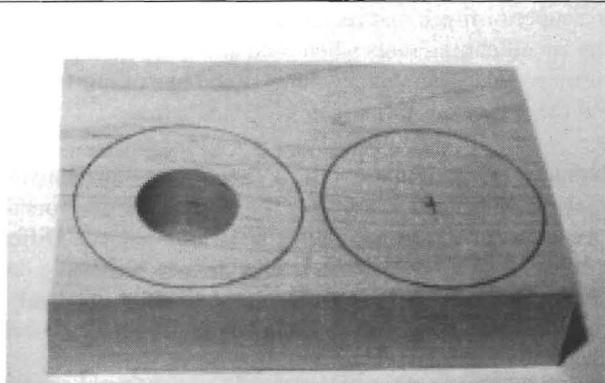
Hand Crafted Tools for the Hand Crafter

An earlier article in More Woodturning on turning wine stoppers got me thinking about collet chucks. I wondered if I could make one entirely out of wood. I thought this would be just an exercise to see if I could do it, but it surprised me with its usefulness. Although the All Wood Cullet Chuck doesn't have the holding power and range of wooden jaws mounted in a scroll chuck, it does have adequate power for turning tops, wine stoppers, and the odd bit of dowel. The All Wood Cullet Chuck also has the advantage of being much faster to mount on the lathe and to convert to different sizes. Another advantage is that it's virtually free.

Preparing the Chuck Body

Layout

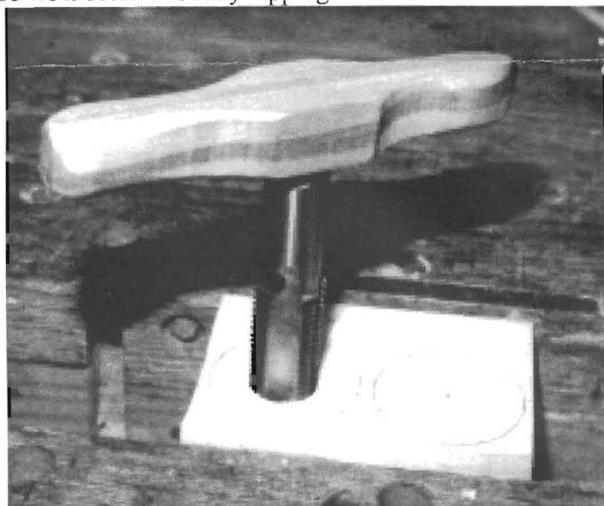
Start by finding some suitable stock for the Chuck Body. I used some 5/4 maple, but any fine grain hardwood in the neighborhood of an inch thick would do. Draw two circles on the wood. I used 2-1/2 inches, but again, it's not critical, as long as it's bigger than the diameter of your headstock thread. Mark the center of one of the circles.



Drill and Tap

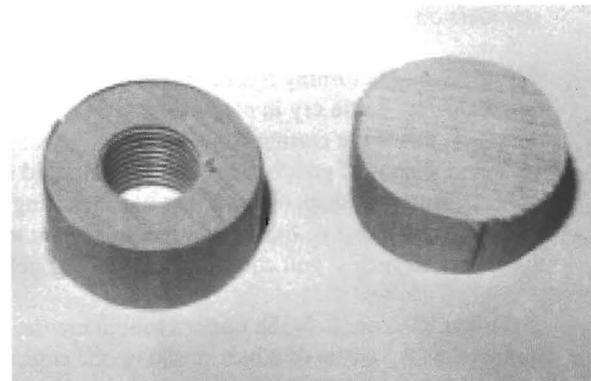
The next step is to drill a hole the appropriate size to tap your headstock thread in the middle of one of the circles. Kind snuck that in on you didn't I? That's right, you have to have a tap that matches your headstock thread. You might have a bit of trouble picking one up at your local hardware store, but an Industrial Supplier will have one. I use J&L Industrial Supply at 1-800-521-9520. Big taps aren't cheap, but all you need to tap wood is "quality import". For example, a 1x8 tap that will fit most Delta lathes J&L part number TAP 15146C is \$22.81. A 1x12, TAP 15153E, is \$22.81, and a 1-1/4x8, TSP 20801A, is \$44.85. Okay, \$44.85 is a goodly amount to spend on a "free" chuck, but once you have one you'll find it to be very useful. You can make all sorts of special purpose accessories like quick mount jam chucks, square drives, and light duty faceplates.

After drilling clamp the wood in your workbench and tap. I'm using a homemade wooden handle, as an industrial handle big enough to take a big tap isn't cheap. Try to keep the tap as vertical as you can. There are some wonderful devices that will insure a vertical tap. Some are self-contained; some are used with your drill press. I thought that I'd tried to make you spend enough already, so we'll correct for any tapping error later.

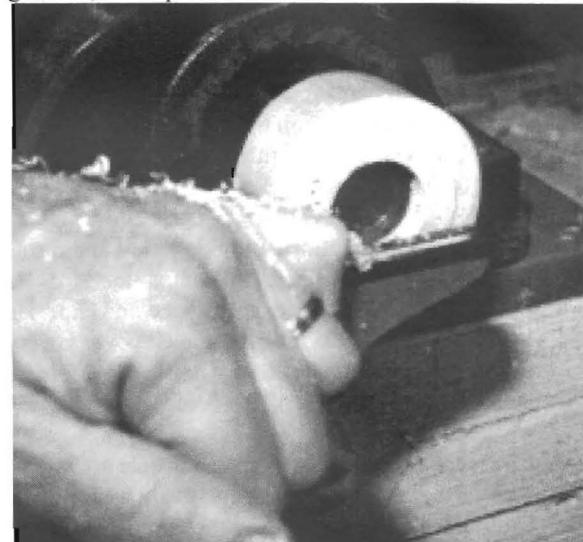


Face

Once you've tapped the hole, cut the circles out on your band saw.



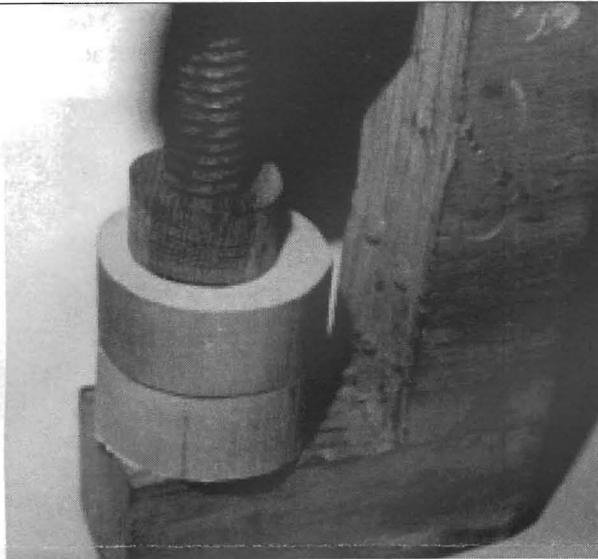
Now mount the tapped circle on your lathe. Wind it on until it makes contact with the spindle facing or the end of the threaded area, but don't jam it on hard. Unless you've done a really good job of tapping it will be a little eccentric. Take a small bowl gouge or scraper, and using light cuts, true up the face.



If your headstock has an unthreaded portion on the spindle, you can use a side-cutting scraper to turn a recess at this time. Next reverse the circle on the headstock. It should fit much better this time. True the second face, and mark it so you know which face to glue the other half of the body to.

Glue up

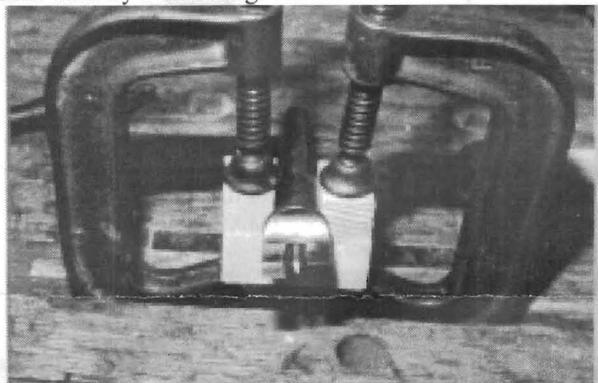
After facing the threaded circle, spread some glue on the second face and clamp it to the untapped circle.



I've used a big homemade clamp, but a few regular C-clamps and a scrap wood will do just as well. Set it aside to cure.

Making Stub Morse Taper Gauge

While you're waiting for the chuck body glue to cure, you can work on the stub Morse taper gauge. I got this excellent way to make a Morse Taper Gauge from a One-way Newsletter. Find a drive center or tail center that is in good condition and fits the way you like. Go to your scrap bin and find some small pieces of hardwood. For a #2 Morse taper you'll need two pieces about $3/4 \times 3/4 \times 1$ inch, and one piece $3/4$ inch thick by $2-1/4$ inch wide by 1 inch long.

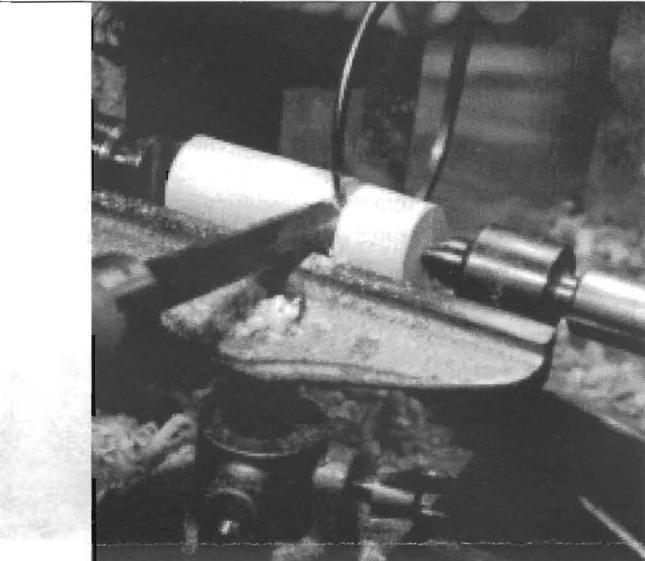


Find a couple of more C-clamps and glue the smaller pieces to the larger one using the fat end of the drive center taper to space them apart. Set aside to cure.

Preparing the Cullet

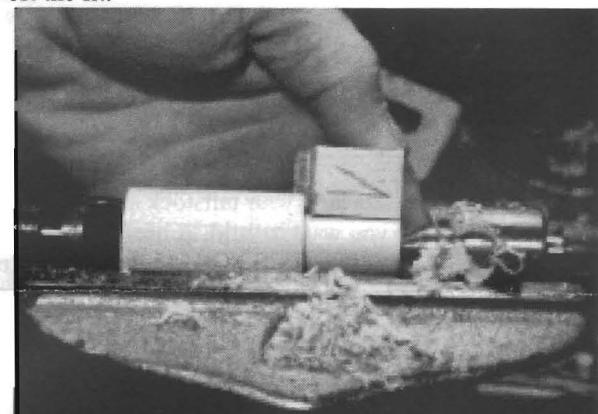
Turn round

The first step in making the collet is to find a small piece of hard wood. I used maple again. It should be about 3 inches long, and big enough that you can turn a cylinder that will be just smaller than the root diameter of your headstock thread. For my $1\frac{1}{4} \times 8$ threaded headstock, that is about $1\frac{1}{8}$ inch. Mount the piece between centers and turn round. Leaving the diameter a little big at this point would be prudent.



Make Stub Morse Taper

To turn a stub Morse taper on the collet, mark it an inch from the tailstock end. Set a caliper to the major diameter of your Morse taper, use it and a parting tool to cut down to the major Morse taper diameter at the point marked on the collet. Use your skew (or what ever you're comfortable with) to turn the end of the collet to a tenon the same diameter as the major diameter of the Morse taper. Now unclamp your stub Morse taper gauge, hold it in one hand, and hold your skew in your dominant hand. Angle the larger end of the gauge towards the tenon and test the fit.



If it doesn't fit, take a light cut the length of the tenon. Alternate light cuts of the skew and test fits until the large end fits. Now rotate the gauge a little bit more parallel with the tenon and test the fit. Make a mental note of where it starts to get too tight and take a light cut with your skew from that point to the end. Continue this way until the whole tenon fits.

If you're not comfortable holding a skew with one hand you can test with the gauge, then put it down and pick up the skew, etc. If you find the occasional event where the tenon grabs the gauge too disconcerting you can turn the lathe off to test the fit. Both of these modifications will

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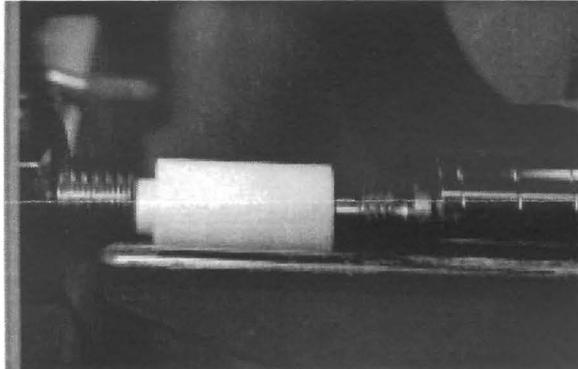
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lengthen the time required considerably, but of course you only have to do it once.

Drilling and Shaping the Collet

Mount and turn to fit inside Body

Remove the collet from between centers and remove your drive center from the headstock. Slide the tapered end of the collet into the headstock and give it a good whack to seat it properly. You can bring up your tailstock to steady the collet, but if you've gotten a good fit it won't be necessary for such a short piece, and will lengthen the time for the next step.



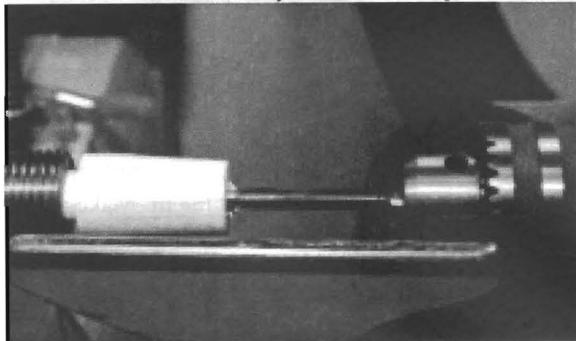
Taking light cuts, true the collet. Once it's running true, test to see if you can slide the threaded portion of the chuck body over the collet. If not, take light cuts and retest until it fits. You want a loose fit, but not a sloppy one.

Taper

Once you have the collet body trimmed to fit inside the chuck body, taper it over its length with your skew. I tapered mine about 1/8" over the 2 inch body. It doesn't matter exactly how much you taper it, but if you want to make other collets later it will be easier if you pick an easy to measure diameter.

Drill

Mount a drill chuck in your tailstock and mount a drill of the size stock you want to hold. A useful size to start with is 3/8 inch. Forstner bits are more rigid than twist bits and are less likely to drill off center. The downside of Forstner bits is that they don't drill deep well.

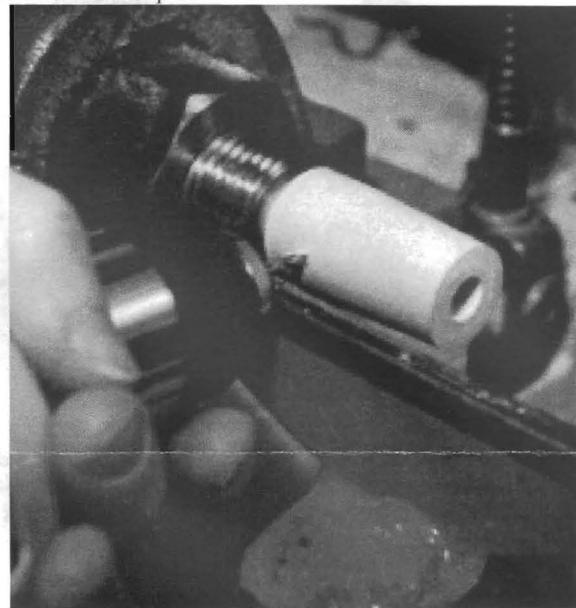


I wanted to be able to mount longer dowels completely through the chuck, so I drilled the first inch or so with a Forstner bit, and followed up with a twist drill.

Drill slot stops

Next lock the indexing head and adjust the tool rest so

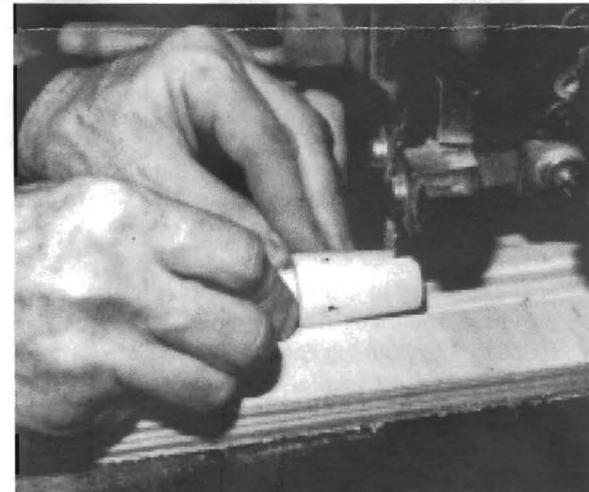
that it is about 1/16 inch below center. Mount a 1/8 inch bit in a drill and drill through the collet about 1/2 inch from the stub taper.



Then turn the collet 90 degrees and drill another hole. These holes are to stop the collet from splitting. On some collets I made later I omitted this step, and they haven't cracked. Yet.

Cut on Band Saw

The next step is to cut slots to the drilled holes in the collet body. You could use a handsaw, such as a hacksaw or dovetail saw, but it's easier on the band saw. This is considerably safer if you make a simple jig first. Take a short piece of scrap wood or plywood and cut a Vee notch the length of the piece. You can do this easily on a table saw with the blade tilted to 45 degrees. Then cut out a notch in one side a little past the center of the Vee. Clamp the jig to your band saw table so that the blade lines up with the bottom of the Vee. Now all you have to do is slide the collet up the Vee into the blade to cut the slots.

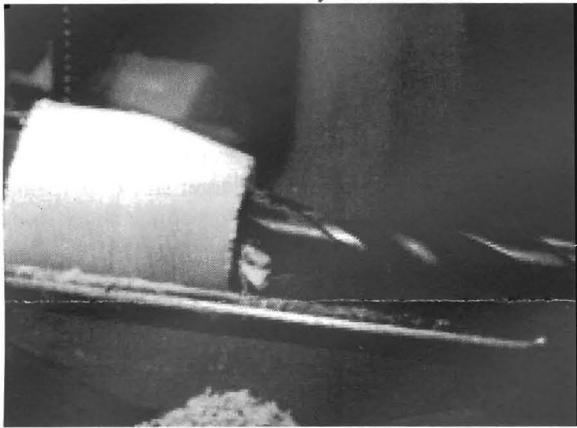


Save the jig, you might find it useful to cut dowels lengthwise, cut squares to rough octagons, etc.

Shaping the Chuck Body

Rough Drill

Mount the chuck body on the headstock and turn it true with a bowl gouge. Mount a drill chuck in your tailstock and mount a drill bit about the size of the end of the collet taper. Drill through the chuck body. Do try not to hit the headstock with the drill, as it's not good for either. To make this less likely, put a plywood washer on the headstock first to move the body out a little.



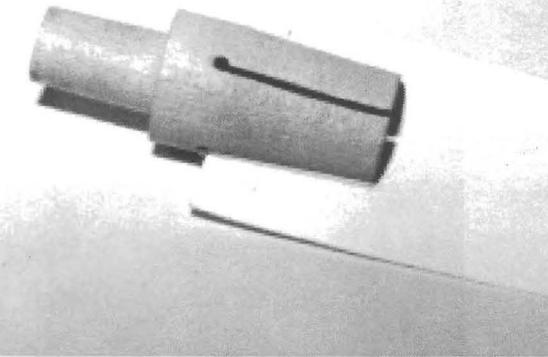
Taper Body

Using a bowl gouge taper the chuck body so that it will be slimmer near your eventual work and not get in the way. If Fred published this photo, you'll notice that by this time I was so confused by constantly setting up, tearing down, and moving my tripod and camera that I'm cutting the wrong way. It wasn't fatal, just gave the chuck a little extra texture to grip.



Make Taper Gauge

Take a piece of thin cardboard, such as a cereal box, and slide it into one of the slots in the collet body. Trace around the body, then cut on the lines. This makes a gauge to turn a matching taper in the collet body.

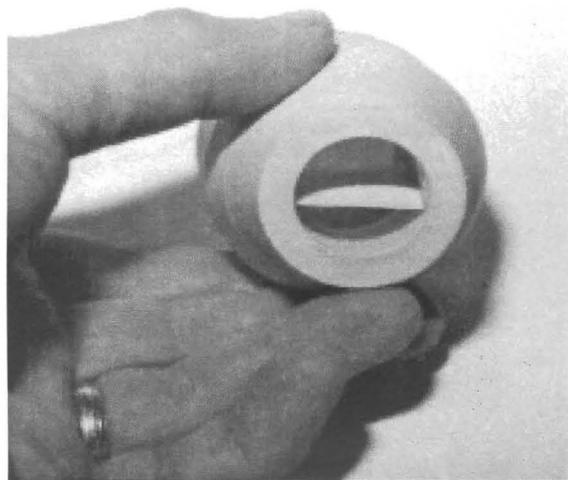


Taper Body Inside

Taper the collet body using a side-cutting scraper. You can rough it out to follow an even taper from the root diameter of the threads to the edge of your drilled hole. Then dismount the chuck body and check the fit using the gauge.

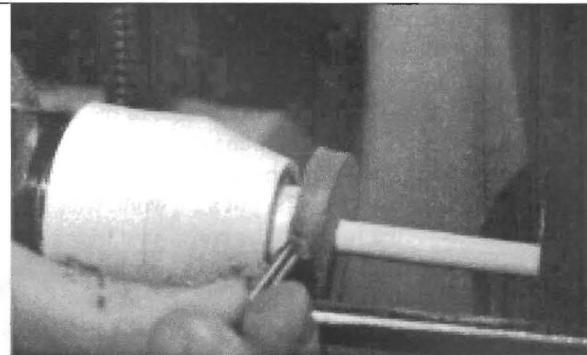


Made a mental note where stock needs to be removed, remount the body, and remove more wood where needed. Then remove the body and check with the gauge again. Continue in this fashion until you've got a fairly good fit.



Using the Collet Chuck

To use the collet chuck mount the collet body solidly in the headstock Morse taper. The first time you might want to apply a little wax. Then loosely screw the chuck body to the headstock. You may want to shorten the collet body a bit if it sticks out to far or true up its end. Mount your work by sliding it into the collet and tightening the body.



When taking heavy cuts, such as roughing a wine stopper (it's a pity wine stoppers aren't as easy to make) to round it's best to have the larger stock up against the collet end. You can easily loosen the chuck and slide your work out a bit to true up the end after the heavy work is done.

