

# UTAH WOODCHIPS



## Message from the President

September - 2006

Well, September looks to be a great month. For the first Tuesday event on September 5th we will be gathering at Timberline Woodworkers Supply in Orem. Joe Wagner will be demonstrating Christmas ornaments to help us get a jump start on these highly sought after turnings. We will follow up on the third Thursday at Woodcraft working on ornaments. Bring your questions, ornament sized wood and the tools you use for these. It's always best to learn on the tools you use in your own shop.

On Saturday September 23rd we will be gathering up in Mt. Green at the Kent Smith Memorial Park for a turnathon and picnic. This is the same location we were at in May. Bring your midi lathe, tools and wood. I'm certain this event will be as enjoyable as the previous picnics. The club will furnish a barbeque lunch with all the fixins. If you don't have a small lathe, be sure to come anyway. There are always lathes you can spend time on. We will begin about 9 am and go until late afternoon. Directions are on the back.

As promised, I demonstrated several of the steps I take in making the segmented bowls and vases I enjoy doing. Most of the saw dust came off my miter saw and nobody was more surprised than me when the 12 staves cut at a miter angle of 2.66 degrees and a compound angle of 14.77 degrees actually came together to make the tight fitting frustum they were supposed to. (A frustum is the part of a cone that doesn't include the point.) I had to run home and get the staves sanded and glued together before they changed their mind. The angles require trigonometry to calculate, so I wrote a simple computer program to do the math for me and even print out the results to take to the shop. If you would like a copy of it, send me an email and I'll send it back to you. This type of segmenting could be performed without so much math and cutting, but doing it this way saves more than 75 percent on lumber with not much more effort. You can see more of the details inside.

The third Thursday in August we worked on end grain. Fortunately for all of us Joe Wagner brought several hollowing tools that we each were able to try out. Among these were a 2 flute carbide ball end mill commonly used on metals in a custom built handle, as well as various round and square bit tools many of which Joe built himself. I've now got several new items added to my wish list.

Coming up in October we are going to meet in Kaysville at a beautiful barn next door to Jay Jorgensen's place. Jay Brown has agreed to demonstrate. The address is 200 east just north of Mutton Hollow. We'll get some directions in our next newsletter.

Finally Andy Archer has a large number of exotic small turning stock that he wants to sell. Contact Dave Bouwhuis or me for more information.

Remember to do the turners' challenge each month. The best one (judged by me) will receive a \$15.00 gift certificate from Craft Supplies USA. Any current member can enter.

*— Dave Best*

## Regular Monthly Meeting (first Tuesday)

Sept 5th - Timberline

1402 W. Center - Orem

Christmas Ornaments with Joe Wagner

Oct 3rd - Barn in Kaysville

200 East just north of Mutton Hollow

Nov 7th - yet to be determined



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club meeting, they are available for  
\$30.00 by saving shipping costs

Dave Best - Segmented Turning

Dave had been asked by several members to do another demo on segmented turning, since he was cut short by the Christmas party in December. He began by showing us how to glue up a "Veneer Sandwich" to be used in between segments to add a decorative character. Dave spreads the glue with a roller applicator for smoother glue application and does only one side. He then clamps the "sandwich" between two pieces of plywood and plastic sheeting with spring clamps and allows it to dry overnight. It will still be quite wet when removed since there was little air for the drying process. Set it aside on a flat surface to finish drying. The veneer can then be cut to size with a paper cutter or utility knife.

He then showed us how to cut and glue up pieces to create a "half frisbee" using his compound miter saw. This type of assembly has been used in salad bowls for a long time. Dave uses a good quality 70-tooth carbide blade. Before cutting the segments, Dave makes sure that the board he is using has very parallel sides by joining one side and then trimming with an accurate table saw. It must also be dead flat which can be done on a planer or drum sander. To cut the pieces, he uses a computer program he designed to determine the angles. He uses a sacrificial fence and bed on the miter saw for a zero clearance kerf which keeps the small pieces from being zinged across the shop. He sets his distance and angle, and lays a piece of masking tape on the bed under where the edge of the cut piece will be. For this demo the angle was 5 degrees. He then cuts a waste piece from the end. Next he starts cutting the pieces and cuts off the masking tape at the edge of the piece with a craft knife to set the distance for the next cut. The board is "flipped" over front to back every other cut. On this project he needed 36 pieces, so he stopped at 9, and put them together to check to see if they form 90 degrees. If not he would adjust the cuts. After the segments are all cut and sanded if needed to get a great fit, Dave starts the glue up process.

He glues two segments and a veneer piece, clamps it and sets it aside to dry. When dry, he checks that the segments still make a circle and adjusts using a disc sander before gluing the next step. He eventually glues up two one-half sections making sure that the pieces fit with no gaps. If there are gaps, he sands it to fit. At this point the two halves must be thickness sanded equally to ensure they stack correctly after the next cuts. A drum sander is used because a thickness planer tends to cause tear-out due to the changing grain pattern in the half circle pieces.

Dave cuts the semi-circular sections on his band saw freehand using a shop made table to get a 60 degree angle. The first cut location is determined by multiplying the thickness of the wood by the square root of 3 or 1.732 (only for a 60 degree cut) and measured in from the outside edge to draw the arc. The excess flat from not making a cut around the outside edge is used to clamp a "finishing" ring to the top of the bowl and is turned to shape later. Each sequential cut location is determined by placing the previously cut piece on top of the half circle and drawing a line around the inside to mark the next cut. He drops 3 degrees per cut causing a reverse arc in the bowl so the third tier would be cut at 54 degrees. You could also start at a lower angle and add a few degrees each cut for a more conventional curve. After the half round segments are cut, they get test fit again. When the fit is right they are glued up into shape on a solid wood bottom, in this case a bowl, using clamps or a weight.

After the glue cures the piece is mounted to a chuck and turned in the traditional way. Dave does do quite a bit of scraping as he brings the piece to its final shape. A cabinet scraper with a fairly aggressive curl is used before sanding which helps to smooth the surface. The cabinet scraper is held only in your hand with the tool rest out of the way.

Dave also demonstrated how to cut "staves" for segmented hollow forms or vases. A piece of bloodwood had been squared and flattened previously. The miter saw was set with a miter angle of 2.66 and a compound angle of 14.77. (It's not as hard as it sounds.) He ripped the waste edge off and then make a series of rip cuts flipping the board end for end after each pass. Again a piece of masking tape was used to mark the width of each cut. Twelve staves were required with these angles. The pieces then fit together to make a frustum. Rubber bands are used to hold them together temporarily to examine fit and also during glue up, while hose clamps are being added to secure the staves. A table top belt sander with a fine grit is always used to clean up the machining marks and can also make small adjustments to the angles if required to obtain a perfect fit. The one demonstrated will be used as the main body of a vase but different angles and lengths of board could be used to make the top of a vase or even a bowl. WOW! Great job Dave!"



Dave trying to convince us—it's not that hard!!!



Segmented work requires an accurate saw  
Dave's Makita works great



Starting the veneer "sandwich"



Gluing up contrasting wood



The end piece is cut off as waste



Dave cuts the first segment then flips the board



Tape on the sacrificial fence serves as a cutting guide



Dave cut the first 9 segments and checked for square



A half-round glued with colored accents



Checking the fit



Refining the fit to remove any gaps



Gluing the round



Glued up bowl ready for turning

Note—waste wood base for chucking



Beautiful finished product!

The vase made from cut staves with accent veneer and solid burl top



August turner's challenge

### Utah Woodchips

the official newsletter of the  
Utah Association of Woodturners  
2006 to 2009 Club Officers

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Be sure to look at our club shirts, hats  
and videos on our Club Website:

[utahwoodturners.org](http://utahwoodturners.org)

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### Utah Association of Woodturners

The Utah Association of Woodturners was formed in 1988 and is a local chapter of the American Association of Woodturners

**Meetings** - first Tuesday of each month at various shops or wood stores that support our club

Refreshments 6:30

Meeting 7:00 - 8:45 pm

You are invited to attend and become a part of the group. For more information contact any club officer.

Dues begin July 1<sup>st</sup> of each year:

\$25.00 full year

\$20.00 three quarters

\$15.00 half year

\$10.00 last quarter

Spouse \$10.00

### Training Meeting 3<sup>rd</sup> Thursday

Woodcraft Supplies

9891 S. 500 W.

Salt Lake City

7:00 - 8:45 pm

### Turners Challenge

#### Aug (for Sept. meeting)

Do some good Surface Embellishment (texture, burn, paint, carve, inlay...)

#### Sept (for Oct. meeting)

Halloween Decoration

#### Oct (for Nov meeting)

Lidded vessel

### Mt Green— Sept. 23rd

Mt Green— September 23rd Kent Smith Memorial Park on Old Highway Rd. Take I-84 up Weber Canyon, then take Mt. Green Exit, turn under the freeway to Old Highway Rd to your right for a half mile. The park is to your right with parking next to the bowery.

From the south on I-15, take the Weber State, South Ogden Exit and get on I-84 after you pass the river in the bottom of Weber Canyon.

From the north on I-15 take the exit to I-84 in Riverdale.

### Christmas is Coming!

Don't forget our club's commitment to help Bruce Bassett supply toy tops for his South American Children's Christmas Project. If we all bring 3-4 each month we'll make our goal.