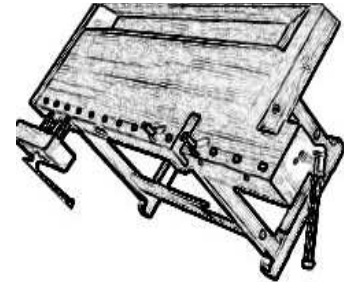


BENCHMARK



Newsletter of the Vancouver Island Woodworkers' Guild
VISIT US AT - WWW.VIWG.COM

Issue: JAN-2005

President's Report

Wow. Where did 2004 go? I hope you all had a great holiday season and that 2005 will bring you health and happiness. Tracey and I had a wonderful holiday on the island of Kauai – surfing, sunning and catching up on “R and R”. I stumbled across a fine furniture gallery in the small town of Kapa’a and had a chance to share stories about woodworking with the owner/builder. She was trained at the North Bennett School in Boston and had done some instructing at the woodworking school at Anderson Ranch. She builds beautiful Tansu cabinets out of Koa and related to me that despite the wealth in Hawaii, the struggle to survive as a custom builder is as great there, as it is here.

I missed the December meeting but was told that we had a great turnout. Scott Reid ran the meeting which featured Ted Rowley who gave a well-received demonstration on pyrography. Thank you Scott and Ted.

Cam Russell will be the keynote speaker for January’s meeting. He will demonstrate a production method of dressing and dimensioning rough lumber. We thought that this would be apropos considering all the rough wood that members have purchased over the years from the Wood Recovery Program. Cam’s professional knowledge on this subject should prove to be educational for all levels of woodworkers.

I would again like to remind members of the Visions in Wood Show which will be held in April 2005 at the Victoria Arts Council Building. Mike Kattler has proposed that this could be a “first timers” show for those who have never been in a show before. This is a great opportunity so if you have any interest, please contact Mike as soon as possible.

In closing, I’m sure many of you share my feelings of concern related to the devastation caused by the recent tsunami in southeast Asia and India. My heart goes out to all those who have been affected.

Russ Franson

Keynote for December – Ted Rowley

The Christmas meeting was very well attended and there was enough time for mixing a little. Ted did a presentation and demonstration that would be classified today as surface decoration. Many of us in the past have owned or seen someone using a wood burning iron. Today the term pyrography is used to cover the many ways wood can be augmented by burning. For those who may not know, Ted made our beautiful guild name tags. These are little gems that will look good forever.

As with many things, today’s tools are much more flexible and allow subtleness to be part of the artists statement. Ted gave us a quick walk through his Canadian made Razortip system. These are available in one pen and two pen models from Lee Valley at prices between \$150. and \$200. But that is just the beginning. By having a wide variety of tips available for the Razortip, many styles of wood burning can be tackled. This would include bird models or Flemish style carving. Ted uses it for wildlife carving, scrollwork and intarsia as well as wood panels completed as landscapes.

We saw some unique finished work that was achieved by augmenting creative wood burning with very diluted aniline dyes to produce a lovely pastel painted effect. Literally a painting on wood. All the grain still being visible. Although we were short on time, a number of people including myself stayed as we went to our mid meeting break and there were lots of questions.

Now, we know a little more about pyrography and we thank Ted who is a real stalwart of our guild.

Christmas Garlands for the Guild

Our thanks to Phil Cottell for bringing in the many packages (I believe about 20) of precut and packaged Christmas Garlands. These were done by Phil and family and were handed out to many lucky guild members which made the meeting seem more Christmassy. Thank you for your thoughtful gift.

Phil Makin

JANUARY MEETING

January 11th. 7:15 pm

Camosun College Carpentry Building

Don't forget to bring your own chair

Tablesaw Alignment

...more to it than the owner's manual indicates

Ken DeMarco checked his brand new Unisaw with a dial indicator, and found that with the blade at 90°, it was true to less than .001" run-out checked at several places. However, with the blade at 45°, the run-out increased to .018 to .019, and he asked the Forum how to adjust the table miter slot to the blade. The Unisaw manual describes the procedure as follows:

Place a (good) combination square on the table with one edge of the head in the slot and move the square's blade so it touches one of the teeth on the sawblade. Tighten the lock on the square, and use a marker to colour that tooth. Rotate the blade so that the marked tooth is on the other side. Move the square. The tooth should touch. If it does, it's aligned, and you don't have to do anything. If adjustment is needed, loosen the screws that hold the table to the saw cabinet (4 Hex head machine

screws that thread into the underside of the top through tabs at each corner of the exterior of the cabinet.) Then, through trial and error, shift the table slightly until the square touches the same tooth front and back, and re-tighten the 4 screws.

However, Steve Strickland (Puzzlecraft.com) perceptively noted that the difference between the two readings at 90° and at 45° is caused by front and rear trunnions that are not parallel to the table top. Thus, when the blade is vertical so is all the error and nothing shows on the dial indicator. However, when the blade is tilted to 45°, half the error is vertical and half is horizontal, so the dial indicator does indicate an error. If readings are taken at the locations of the trunnions, the solution is to shim by twice the amount of measured error. If the rear reading is too far to the right, the rear table needs shimming upwards. If the front reading is too far to the right the front table needs shimming upwards.

Steve also noted that an error of 0.018" at the blade is extremely excessive - 10 to 20 times what one might normally expect - and advised Ken to look for other causes as it seems unlikely that the trunnions could have been machined that far out of tolerance. (That much error can be measured with a ruler!) He also suggested that Ken be certain that his measuring tech-

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If you are interested, please contact **Wayne Holmes** at 479 4694 or wgholmes@shaw.ca

nique was not seeing flexure or being influenced by the logo painted on the blade.

Ken later reported the problem to Delta, and on the telephone, the Delta rep diagnosed a cracked trunnion and advised him to exchange the saw.

When I asked Ken and Steve for permission to use their posts, Steve replied with the following caveats and additional information. (I have "bolded" a few specific sentences for emphasis):

"[Misalignment] research is an interesting subject, yet not published in any of the saw manuals that I know of. I developed it independently by studying the problem quite seriously for a very long time while having problems with critical alignment on my Delta Contractor. My woodworking field, polyhedral dissections, requires extreme precision in saw alignment at all angles. I have seen brief reference to this issue in the TS Aligner literature, and have discussed it with certified metrologists. We have identified several areas of uncertainty in the measurements, but after two years and hundreds of emails are still debating how to deal with them. **We all agree on the cause of the misalignment but cannot agree on a procedure to correct it.**

Testing alignment with the blade tilted to 45 is critically dependant on several factors. It is thus a particularly complex measurement to make and it's quite easy to see error where no error exists unless one has a rigorous baseline to measure from. That baseline includes a very precisely aligned saw. That is, the arbor must be at a true right angle to the miter slot.

The readings are extended to the location of the trunnions by use of a straight edge. The saw blade must be assumed to have its own errors, generally a few thousandths of an inch of warp in it. Therefore, changing the orientation of the blade will change the readings in the dial indicator. We can no longer use a single point on the blade like we do for normal alignment so we must now locate an axis on the blade that the straight edge can rest against that is perpendicular to the arbor and parallel to the miter slot.

When we take the alignment measurement of a tilted blade we may be seeing non-parallelism of the tie bars, rotational error of the saw blade or flexure of any of the parts involved. Any of these will mimic a trunnion error.

My current best suggestion is to do a normal alignment and do it as precisely as possible. Then position the straight edge against the blade and rotate the blade until the straight edge is parallel with the miter slot at the two measurement points where the trunnions are located. Then tilt the blade and observe any non-parallelism that develops. If all measurements are taken at the same two spots, the straightness of the miter is eliminated and the quality of the straight edge is eliminated. It's best to use 2 dial indicators and don't move anything other than blade tilt between measurements.

In practice this does not always give the result we desire. If the tie bars are not perfectly parallel, then the tilt axis will never be aligned by shimming the trunnions. We also cannot achieve perfect alignment on a Contractor saw because the tilting of the motor position causes a significant (easily measured) flexure in the table top, which alters the angle of rotation, the very thing we are trying to adjust. This flexure must be eliminated with support brackets or the problem cannot be accurately diagnosed. Naturally, the support brackets must also be used while operating the saw both in the 90 and 45 positions. I would not want an overly brief article to mislead folks into thinking this is an easy adjustment, because it's not. It's quite tricky with a lot of ways to get fooled. **It's quite difficult to diagnose this particular problem** unless you are having consistent problems angle sawing wood using different blades on different sizes and species. If the problem is consistent, then you will already know in which direction the error lies. The measurement will verify what you already know and give you the thickness of the shim to use. However, this measurement must be understood to contain uncertainties. Without a method for taking the measurements directly with specially machined jigs, this is the best procedure for the home amateur to use. It does cure the major problems but actual accuracy can neither be measured nor calculated due to the uncertainties. I would also like to add that this alignment procedure has not been tested on enough different saw designs to make sure that all possible sources of blade tilt misalignment have been identified and dealt with."

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sues from 1978 to mid 1980's. In good (not pristine)
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NEWSLETTER EDITOR : HC "Chico" Sakman 721-4522 sakman@shaw.ca

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