Woodturners Guild of Ontario
Interactive Online Newsletter

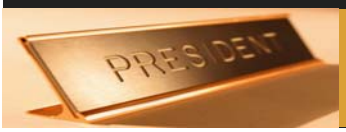
INTERNATIONAL EDITION

LOCAL AAW CHAPTER

Woodturner **n. A person who enjoys the art and process of shaping wood into various forms**

"ask not what your guild can do for you; ask what you can do for your guild— you get back what you put in"

JANUARY 2006 VOLUME 2 ISSUE 2



Message from Richard Pikul, President

It's hard to believe how much tragedy and damage small movements in the earth's crust and a few storms can cause in one year. At the same time it is heartening to see that help is readily given and those who have lost more than one can imagine, immediately begin to rebuild their lives.

This coming year we should all work towards fostering our own very diverse community. The tradition of turners to share contributes to more than our own well being. Sharing touches those we are close to but also influences those outside of our own group that we come in contact with.

The results of sharing in the turning community, just over the past few decades, can be seen in a dramatic improvement of equipment and finished turnings as well as more participation. Within living memory, our craft has changed from production of ***treen*** by a few craftsmen, on very basic equipment to a wide range of modern and traditional utilitarian items and dramatic art forms made by a wider group of people, using specific designed tools. Much of this change resulted from our willingness to share our skills and ideas along with a dramatic improvement in teaching methods and publications. If we continue to build in the future, our craft will earn a more respected place in the public mind.

I wish you a good year of creating, learning and sharing.

Richard Pikul rpikul@sympatico.ca

SHOP SAFETY TIP
DANGERS OF HEARING LOSS LURK IN YOUR WORKSHOP

If you have to shout to be heard when the other person is only a few feet away, you are likely exposed to excessive noise. Repeated exposure to high noise levels leads to permanent hearing loss. If this has not happened yet, it could occur unless you minimize the amount of excessive noise levels that you are exposed to in your shop. Since I live with "tinnitus", I make sure that my woodturning machines and shop equipment do not expose me to constant high levels of noise. Noise is measured in Decibels (dBA). Every piece of equipment you have will (or should) have a noise level rating attached to the technical specifications. If you use a piece of equipment that exceeds 85 decibels (dBA) regardless of duration, hearing protectors need to be used. (or try to buy lower dBA-rated equipment). You should minimize the amount of time that your are exposed to high noise levels.

Typical shop equipment ratings: Wet/DryVacuum: 94dBA, Dust Collector: 95dBA, Band Saw: 104dBA, Table Saw: 93dBa, Vacuum Pump (Oneway): 73dBA, Air Respirator: 65>70 dBA, Grinder: 93dBA, Chain Saw: 110dBA, Compressed Air Motor: 92dBA, Portable electric drill: 92dBA.

Please consider the sound (DB) rating of the equipment you purchase and make an educated choice to protect your hearing!

Resources online: http://www.ehs.ufl.edu/OCCMED/noiselvl.pdf
http://www.ohcow.on.ca/resources/handbooks/noise_damages_hearing/noise_damages_hearing.pdf
http://www.tuc.org.uk/h_and_s/index.cfm?mins=339

Happy & Safe Turning! michaelfinkelsteinwoodturner@gmail.com web: http://geocities.com/michaelfinkelsteinwoodturner

TRITON RESPONDS TO OUR RESPIRATOR REVIEW

To WGO Newsletter Editor:
Triton Workshop Systems would like to clarify one point in the article;
The AS/NZS 1716 for respiratory protection is similar to the NIOSH N95 standard, however Triton has not sought and will not be seeking NIOSH approval for the Powered Respirator.
Regards,
Adam Tilley , Triton Workshop Systems

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Repeatable Grinds for Woodturners

By Rudi Schafron

Many of our club members have been asking me to describe my "repeatable grinds" jigs that I use in my bowl-production process. I make about 150 bowls a year—and I have to make the best use of my time when doing so. I realized that I spent a lot of time keeping four (4) different bowl gouges sharp, so I created these grinding jigs to add to my shop efficiency. Its works very well for me but you can adapt the concept to suit your own specific requirements.!

The bowl gouge grind profiles that I employ in my shop are;

- Fingernail or Long Grind
- Regular bowl gouge profile
- Detail bowl gouge
- Spindle gouge

The bevel angle that you grind on each tool is critical to help you achieve the desired cut while you "ride the bevel" on inside cuts ! I have found that having bowl gouges with a 60° and 70° bevel—works best for me, so I have (for example) Fingernail or Long Grind bowl gouges with a 60° bevel and another with a 70° bevel. Having more than one bevel angle provides me with more options while cutting. I usually cut with the side of the bowl gouge bevel.

The sharpening system that I use is the Oneway Vari-Grind with the Vee-Arm. I keep the grinder height 6¼ to 6½" from the base of the grinder to the center of the grinding wheel. The wood jig templates that I designed will fit into the Vee-Arm. All you have to do is to place the ***Vari-Grind Attachment*** on top of the jig and open-up the leg until it fits snuggly into the curve of the jig. The amount of gouge stick-out is also part of the formula. Basically, the wooden jigs (below) automatically sets the bevel angle and the length of the side grind for you. *Do not grind the gouge with the Vari-Grind in the wooden jig.*

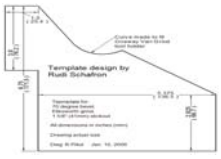
30° Bevel Spindle Gouge— 2¼" Stick-out
45° Spindle Gouge or Detail Bowl Gouge— 2¼" Stick-out
60° Bowl Gouge (Fingernail grind) — 1 5/8" Stick-out
70° Bowl Gouge (Fingernail grind) — 1 5/8" Stick-out

The side of the jig pocket is useful to measure stick-out

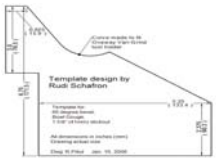
I use the softer M2 steel type gouges for finishing and final cuts and I use the harder powder steel type (i.e ASP HSS 2060) for rough cuts. After grinding or sharpening a bowl gouge, I pass a diamond hone through the bowl gouge' groove to clean-up the ridges inside the flute. You can also use Silicone Carbide electro-coated/waterproof sandpaper (1500 grit) or Micro-finishing film* wrapped around an appropriate wood dowel. *available at Lee Valley Tools

Here's the 5 grinding jigs. The jigs will not sharpen the tools for you—its up to you to know how to get them sharp — there is no magic bullet ! **Click on the image to enlarge**. You can print a copy & trace it over a piece of wood to make the jig.

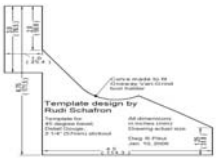
Happy Grinding ! hschafron@rogers.com



70° Long Grind

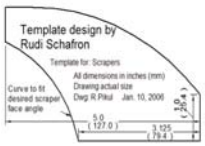


60°Long Grind



45° Detail

30° Spindle



Scraper

Woodturners Guild of Ontario Newsletter is managed and published bi-monthly by Michael Finkelstein.
Text in bold type are url-activated or link to a text file. Some graphics contain 'sound clips' that are activated by clicking on the image!
Deadline for articles & ads is the 5th of the prior month.

Articles and suggestions for future editions are welcome, provided they concern woodturning.
We reserve the right to edit, revise, or reject any articles tendered.

WARNING !

Woodturning is an inherently dangerous active activity. Readers should not attempt any process or procedures without seeking proper training and detailed information on the safe use of tools and machines.

Turning Tools That Facilitate Design
by Fred Klap

I have been turning for close to 20 years, and remember the detailed instructions of Paul Ross who explained and demonstrated the essential cuts with a gouge, skew, scraper and parting tool. The session was impressive. However , when I got home from the three day hands-on session I promptly forgot or misapplied his teaching— and started my own learning curve.

After attending a number of demonstration sessions at the AAW meetings and other venues, I have learned to use traditional tools to make curly shavings with a whole range of alternate shop-made devices.

About six or seven years back I attended a session at an AAW meeting given by an English turner who specializes in 60 foot sailing masts and columns where the tools he used were one quarter inch square and 6 inches long including handles. At the question period we asked him why he used such small tools. He responded if you applied a two inch spindle gouge the pressure of a heavy cut could set up severe vibrations and create catches and or whip the mast or column. Furthermore, he felt he could remove almost as much material in safety with small tools. Tools properly sharpened and positioned will shear cut or scrape like a larger tool.

During the last few years there has been a rapid advance in the use and design of ***trapped tools***; these are tools that are held in a fixed horizontal position allowing internal and external cuts. For internal use an overhead mast can position a laser light to establish wall thickness of a hollow vessel.

Tool &post in captive holder

Recently I have made a miniature version of this tool, mounted on the tool-post which gives me safe cutting access to tight small openings.

Hollowing with straight tool

Hollowing with hook tool

This allows me to continue working small boxes vases, and complex mini hollow forms. The steel I use is 3/8 square stock, and the high cobalt bit is 1/8 square. This type of trapped tool can give new turners a feeling of accomplishment while avoiding many tear-outs and catches. Small scale tools open up huge design options. Many of the top world class turners use trapped tool to create complex objects safely.

In closing I give this word of advice to new turners, and turners that have not explored hollow forms. This relatively new type of tool keeps your cutting surface in the safe zone, and teaches you how to cut external and internal curly sheared shavings. Happy Turning ! Fred Klap e-mail: **fred.klap@gmail.com**

WOODTURNING SHOP & TOOL TIPS

by Michael Finkelstein

Save your sandpaper: extend the life of your sandpaper by slightly praying **WD-40** after each use, then air-blow off the residues. (Tip from Rudi Schafer)

Neoprene EPDM /SBR Sheets with PSA Backing are available in various thicknesses at Able O-Rings & Seals Ltd. Product # SC41 has a tensile strength of 50PSI. Technical specifications and pricing available by calling 416.741.0750 or **http:// www.ableorings.com**.

Uses and applications include; jam chucks, vacuum chucks, etc. Able also sells Silicone adhesive-backed sheets but they are more expensive than the Neoprene EPDM type. (Michael Finkelstein)

Oneway's Vari-Grind Video is very instructive on how to grind a profile on a new gouge. It's a large RealPlayer (File format "RM") about 42MB in size.

You can download the file at: http://www.oneway.ca/downloads/videos/grind_jig/grind_jig_720x480.rm

or call Oneway at 1.800.565.7288. (Tip from Joe Houpt)

On Dressing and Truing Grinding Wheels
By Mike Darlow

It is, alas, all too common to visit a workshop and be able to see one's face in the glazed grains and embedded steel of the grinding-wheel peripheries. There are four inexpensive accessories which you can use to dress and, with various likelihoods of success, true grinding wheels: the dressing stick, the star-wheel dresser, the multi-point diamond, and the single-point diamond. The last leaves the truest and best metal-cutting surface, and is the subject of this article.

Figure 1 shows how the single-point diamond should be presented to and moved across a revolving grinding-wheel periphery. To aid this, the diamond is usually sold held in the end of a shaft about 1/2" diameter and 6" long. This shaft must in turn be held in some form of jig.

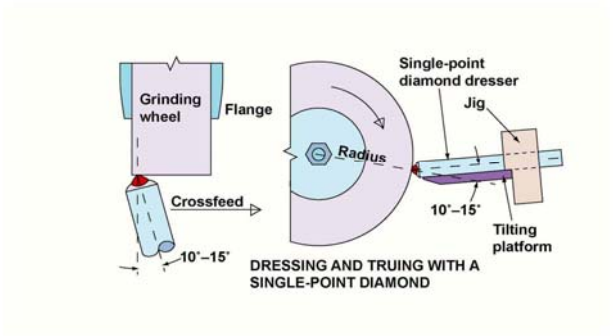


Figure 1

Figure 2 shows a wooden one you can easily make yourself for use with a tilting-platform grinding jig. Set the shaft in the jig so that the point projects about 1/4" over the front of the tilting platform.

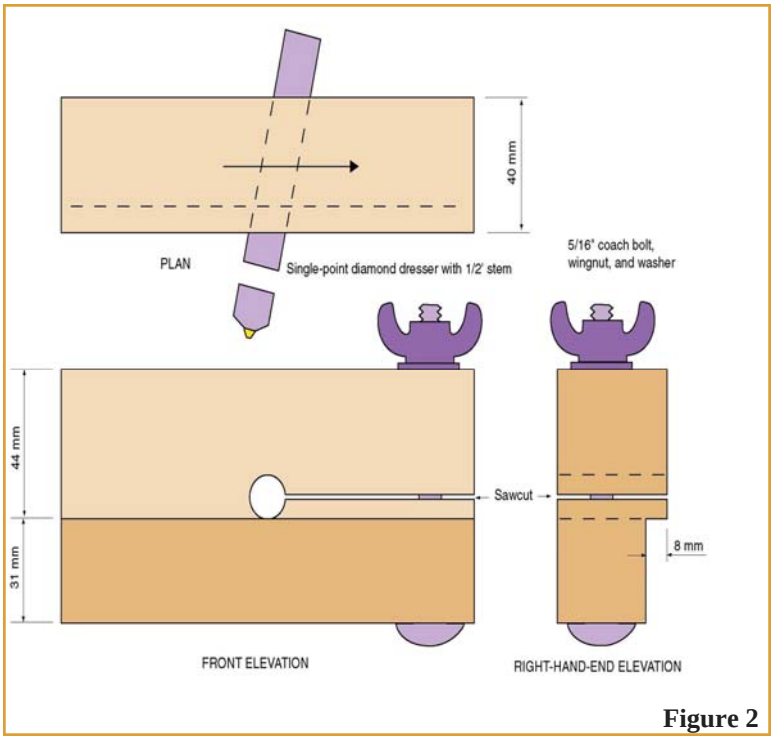


Figure 2

When setting-up your grinder take care that the back edge of the tilting platform is straight and truly parallel with the grinder's spindle. Dressing and truing are then both quick and easy:

1.If the wheel periphery is grossly uneven, dress it reasonably true with a dressing stick.

2.. With the grinder switched off, and the dressing jig pressed against the back and top of the platform, lock the platform with a downwards tilt of about 15˚ and the diamond in contact with the wheel periphery as shown in figure 1.

3. Tilt the platform up about 2˚. Switch the grinder on.

4. Slowly traverse the holder along the platform so that the diamond removes grains to about the thickness of a sheet of paper. Make a couple more traverses in the same direction and with the same settings until traversing removes no further grains.

5. If the wheel is still not dressed and true, tilt the platform a further 2˚, and repeat step 4.

6. In the unlikely event that the wheel is still not dressed and true, return to step 2.

7. Occasionally axially rotate the dresser in the figure 2 jig to equalize wear on the diamond.

Happy grinding, Mike Darlow

Mike Darlow writes many articles and books on woodturning fundamentals, methods, techniques & design. For a detailed insight into his work, please visit his website at; **http://www.hinet.net.au/~mdarlow/**

THE ELEMENTS & PRINCIPLES OF DESIGN
By Marilyn Campbell

When demonstrating their techniques, many turners, myself included, make little or no mention of how the design of their work contributes to its success. The problem with this omission is that some attendees might put the emphasis on the technique instead of how it is used. And thanks to the generosity of our group, a large variety of demonstrations on an outstanding number of techniques gives turners a confounding array of choices. Burning, bleaching, carving, texturing, disassembly, dyeing, and sure, epoxy, to name a few – but there's little guidance as to how to combine them. So, if you're a turner who has mastered the craft, has learned or developed a few enhancement techniques and wants to use them in an effective and individual way (i.e., your own style), now comes the intriguing part - how to put it all together in a way that stands out. To do that, it helps to know a few things about the elements and principles of design.

What makes a really outstanding piece so universally appealing? Whether the maker is aware of it or not, he will have used some, if not all, of the elements of design and applied the principles to come up with a remarkable piece. The elements are the components that make up a work of art. Although there are many variations to this list, I have chosen the factors I think most affect turners. They are the basics; line, colour, texture, space, form and contrast (value). Every time you turn a bowl, you are using some of these elements.

Line refers to all lines within the work, including the lines created by the edge of a bowl, the mouth of a vase or the profile of a form. The eye naturally follows a line and will be drawn around the contours to define the silhouette. Lines close together can create visual texture. An example would be Hans Weissflog's work. Flowing lines suggest nature and feel organic. For an effective use of flowing lines, check out Betty Scarpino's Altared Plate Series. Regular lines are more geometric and can add pattern and rhythm to a design. Think of the work of Harvey Fein. An implied line is one which ends yet causes your eye to continue its trajectory. Radiating lines are often used by turners because they fit in well with the circular format of the lathe-turned object.

"Black Tie Affair" - flowing lines and asymmetry are more informal and organic, emphasis formed by center "ladder" detail, good use of space and texture

Colour is an element which, until recently, was very much ignored by turners yet can make the difference between a ho-hum piece and an eye-popping one. Colour attracts attention, especially if its against a sea of brown turnings. Dyes, paints, markers, bleaching and liming can have a remarkable impact even when used subtly.

Texture is widely used in turning to create interest. It can be tactile, in which the surface quality is altered, or visual, in which shading and line can create the "look" of texture. Areas of texture within a piece will create a focal point as well as a pleasing variety for the eye.

Form describes the "shape" of the 3 dimensional object. Every turner works with form - it is the foundation of the turned object. In my opinion, form has to be "nailed" in order to go it alone successfully. In a turning that is pure form, all that holds the eye is the contour line, so it has to be right. Although no amount of embellishing will make up for a poor form, the added interest can distract the eye and cover for a not-quite-perfect one.

Contrast or "value" is the change between light and dark within a design, with contrast describing the extreme change. It is an element largely overlooked in its importance since both colour and contrast are attention getters.

Space is a less definable element. It refers to the boundaries of the work and to how the space within those limits is used. It also reflects the size and amount of space taken up by an element in relation to the other elements present. For example, a platter may have a pattern burned into it which takes up a certain amount of space within the turning. ***Continued on page 6***

DESIGN
By Marilyn Campbell

Continued from page 5

The placement of these areas of interest in relation to the areas of "rest" is important. The effective use of space also means having certain places where nothing is happening, allowing the eye to relax. Pay attention to negative space (openings) within the design as it becomes an important part of the overall effect.

The principles of design form the guidelines as to how the elements are combined and arranged. The basics are: rhythm, unity, balance, emphasis and proportion. They aren't necessarily rules but they do describe the foundations of our aesthetics.

Rhythm is the repetition or alternation of features, often with defined intervals. It creates movement and establishes pattern. It can make a simple object complex without overwhelming the senses. The repetition present in a platter by Al Stirt flows with a sense of movement; the calm center is a space for the eye to rest. If the intervals and elements are evenly sized and spaced, the work will appear to have a "beat". An example of this would be the work of David Nittman. A regular rhythm suggests order and formality. Look at recent work by Clay Foster for an orderly rhythm that suggests formality and ritual.

Unity describes the relationship between the individual elements and the whole composition. A design with unity has an aura of completeness. A work without unity feels too random. Unity is strengthened when an element that appears in one place is repeated in another (repetition also creates rhythm). For example, if you make a vase of black ebony with a white holly collar, unity will be enhanced if the black is repeated somewhere on the white collar or, conversely, if the white holly was repeated in, say, three accent rings below the collar.

Proportion is the relationship in scale between one element and another. By establishing visual weight, it can affect the balance or symmetry of a piece. Everyone has heard of the Rule of Thirds. This rule finds its basis in the Golden Mean, a mathematical number arising from the basic structures of our cosmos. Most designs can be made more interesting by dividing the whole into thirds horizontally and/or vertically and placing the most important elements either on those lines or where the lines intersect. If you wish to place a decorative ring on an elegant candlestick holder, following the rule of thirds would induce you to place it either 1/3 the way up or 1/3 the way down. Definitely not in the middle, unless you had a reason for dividing the work in two. Most people have an instinctive feel for the use of proportion. They know the candlestick holder would look better and be more stable with more mass at the bottom. Proportion relates strongly to the next principle, balance.

Balance describes an equilibrium resulting from the pleasing arrangement of visual weight within a design. Where you place an element within your composition can create or upset balance. Look at the placement of decorative features on Binh Pho's vases. All are good examples of a fine sense of balance. Symmetrical balance suggests formality and can be very elegant. Asymmetrical balance gives a sense of visual tension and is more informal.

Emphasis, or focal point, refers to the area of the composition that draws the eye first. A component that dominates or is made more prominent has emphasis. Emphasis is what makes a work of art interesting. It can be created by using any of the various elements and principles of design. The convergence of concentric lines will form a focal point. Repetition of a feature will form a focal point. Texture can capture and hold the eye, as will colour. To create a strong focal point, it is a good idea to group the "busy" parts together. Think of a bowl with a wide rim. Say you want to use the elements of texture and colour on it. The bad design idea would be to place a band of texturing in the centre of the rim and the colour in the bottom of the bowl. This creates three areas of interest; the coloured bottom, the line created where the bowl meets the rim, and the band of texture in the middle of the rim. A better idea would be to bring all three together and put the colour on the texture (or at least adjacent to it), and bring the textured band in next to the line created where the bowl meets the rim. This makes a stronger focal point and a more unified and balanced design results. It also simplifies the composition. Simplicity, although it suggests otherwise, is actually difficult to achieve without being boring.

"Passage to the Orient" an example of line, contrast, texture, and symmetrical balance gives a formal look.

So the next time something has you saying "Wow", ask yourself why it is so appealing and try to identify which elements and principles of design are present and what impact they have on your appreciation. Familiarity with design concepts will have you looking at your work differently.

Marilyn's work is online at; **http://marilyncampbell.ca**

Getting Ready to Turn: Embarking on the Journey
By Penny McCahill

It's been several years since I began researching the possibility of buying a lathe; I was very anxious to learn to turn but acting upon that desire is a huge commitment and a number of issues had to be sorted out before I could allow my passion to consume me. These issues could be broadly categorized as issues related to health and safety, physical set-up, and costs. For me, challenges in each of these areas have impacted on my efforts to become a turner. However, for the purposes of this article, I'll single out the health and safety issue of 'keeping breathing'.

When it was finally time for my lathe to arrive (November, 2005), I was (*giant sigh!*) what some might call a 'nervous wreck'. I was overwrought about getting that huge 860-pound machine down my basement steps without someone being maimed for life. (*Gasp! What was I thinking summoning the Trojan Horse?!*) At the same time, my husband and I had worked many weeks getting set up to receive my lathe and we were exhausted. (*Groan! Building my workshop came at a price!*) Finally, I found myself in the position that Bill Grumbine indicated should be expected when you buy a lathe: I had spent more than double the cost of my lathe in getting set up to use it. (*Exhale!)* In fact, many of those costs have related to enhancing the quality of air I breathe in my basement workshop. In the interests of facilitating learning by sharing experiences, I would like to unveil this breathtakingly confounding portion of my development in becoming a turner.

Before I do, however, I would like to tell you that I am breathing more calmly now. Things are moving toward a happily-ever-after conclusion. Oneway's Kevin Clay provided precise instructions (See WGO Newsletter, November, 2005) that allowed Ampco Machinery Moving's Frank Plummer and his crew to get the giant lathe safely to the basement. That my investment was treated with considerable care was much appreciated. A little break from the sawdust and some sleep spoke soothingly to my exhaustion; and my year-end financial statement eventually revealed that I would not be hauled off to debtor's prison after all. So, one breath at a time, here's my story:

In getting me ready to turn, my initial concern revolved around whether or not I would be able to use a lathe if I had one? Once I had resigned myself to back surgery in June of 2005, and once I had healed to a point where I was confident that, indeed, I could exploit the potential of any lathe I bought, I moved on to planning how to stay healthy.

Remembering my bouts of chronic coughing over the years, I knew that I had to look after my lungs. So, that meant learning about dust collectors, ambient air cleaners, and respirators. I learned that some filters were more effective than others and that to be really safe, and in spite of the hefty price tag, I should purchase a respirator. I attended wood shows, read flyers and catalogues obtained from product suppliers, visited showrooms to examine products, listened to sales pitches, carried out Internet searches looking for reviews, asked questions of guild members, visited the shops of fellow turners, and reflected on all that I learned from these sources.

To ensure that I would continue to breathe as I built my shop, I eventually settled on the General International dust collector 10-110 and a General air cleaner system 10-600. Two months after taking delivery of these machines, I am not yet convinced that this part of my pure air system is working the way it should. The super turbo air cleaner is doing its job but that noisy dust collector…&%#*! Okay, I will investigate further. In the meantime, for the purposes of this article, I will focus on the third member of the trio intended to improve the quality of the air I breathe: the respirator.

For a number of reasons, it took me longer to purchase a respirator than I had expected. I needed to learn about claims made by manufacturers and what various products would cost me in Canadian dollars. I needed to consider the initial purchase and future maintenance/replacement costs. I had first used a lathe in the spring of 1999 and my twenty hours of experience that year never brought me into contact with a respirator. A paper dust mask and an open-air strap-top helmet with a clear plastic visor was the most protection anyone seemed to recommend. Even those items were not routinely used by the sole turner I observed in 1999. However, for me with my cough, once I had learned that there was such a thing as a powered air purifying respirator (PAPR), I felt that I should use one.

After talking to fellow guild members, I came close to ordering an American product (Airware America's AS400 - $729.US) over the Internet. However, as I continued to reflect on how that helmet might feel on my head, how the belted battery pack might wear against my back, how the air hose might affect my movement in the shop, and how easily I might obtain replacement parts or repair service from the USA, I became nervous about the cross-border investment. I began to look at other options. For example, see http://www.toolpost.co.uk/pages/Health_Safety/Respirators/respirators.html ***continued on page 8***

http://www.onlinetoolreviews.com/reviews/tritonrespirator.htm
Info.ca@hornell.com

Luckily, my online research directed me toward 3M's Technical Service hotline. (In Canada, call 1-800-267-4414.) Once connected, a patient technician listened to my concerns and helped me decide on the best NIOSH-approved* respirator for my situation: a 3M Airstream AS-400LBC. (*It was explained to me that NIOSH is the organization charged by the American federal government to certify respirators. It was further noted that although the Canadian Standards Association (CSA) maintains that all respirators must be 'approved', because CSA is not set up to approve respirators, they refer to NIOSH as an approved source of approval. The 3M technician noted that a loose-fitting PAPR such as the AS400LBC can be expected to provide approximately 96% risk reduction to harmful particulate when used according to the manufacturer's instructions.

To see this respirator online, CTRL + click here:
http://products3.3m.com/catalog/us/en001/safety/occ_health_safety/node_GS6ZL3KZPPbe/root_GST1T4S9TCgv/vroot_5SDD44F7DZge/gvel_WRBPCLK8SWgl/theme_us_ohes_3_0/command_AbcPageHandler/output_html

When I wanted to handle the recommended 3M product before ordering it, I was directed toward Acklands-Grainger in Concord, Ontario where an AS400LBC was brought in for me to inspect. I saw that this respirator has a NIOSH-approved, loose-fitting facepiece system. The blower and filter are mounted inside the headgear shell and powered by a rechargeable NiCd battery pack, which clips to the user's belt or trousers. (I later learned that although the beltless battery pack only weighs about 1.2 lb. or 544g, jeans are far superior to sweat pants in sporting the battery pack!)

Here's how the respirator works: Ambient air is drawn through the outer pre-filter and passes up through the top of the headgear, where it passes through a HEPA filter cartridge 'sock'. The filtered air then flows down over the user's face and exits at the periphery of the face seal. A head seal, face seal, and temple seals help prevent mixing of filtered air inside the visor with ambient air. Optional ear muffs are also available.

When not in the contaminated area, the visor assembly can be lifted and locked in the up position; however, one has to be careful when lifting the visor. If an excess of fine particulate is on the exterior of the visor or on the surface of the helmet above the forehead, it can sift onto your face when the visor is lifted.

Here are some of the stats related to 3M's headgear-mounted powered air purifying respirator AS400LBC:

- Airflow: Greater than 6 CFM
- Headgear assembly: Approx. 2.2 lb.
- Battery pack: 1.2 lb.
- Headgear shell material: ABS plastic
- Visor dimensions: 47 square inches
- Service time after an initial 8-hour charge: 8 hours *
- Maximum time on continuous charge: Up to 30 days
- Storage time: Battery will lose approx. 25% capacity per month

* According to the 3M technician, once the 3M NiCd battery pack is charged fully for the first time and the respirator is put into use, airflow should be monitored using the airflow indicator. (See the manufacturer's instruction manual. CTRL + click to follow the link below.) http://products3.3m.com/catalog/ca/en001/safety/occ_health_safety/node_GSLW6DNZZBgs/root_VJ3G0N3T7Ngv/vroot_28BTFD0LT6ge/bgel_GSKBBSD5FPbl/gvel_QPT9TPB28Qgl/theme_ca_en_ohes_3_0/command_AbcPageHandler/output_html

When air flow begins to diminish noticeably, as verified with the airflow indicator, it is time to recharge the battery. The 'Single Unit Smart Charger' (Product # 520-01-61SGL) that you must buy in addition to the respirator at a 3M List Price of $196.45 Canadian dollars will terminate the charge cycle once the battery is fully topped up. Although it is advisable to recharge a battery when it has been fully discharged, it is not recommended that one should ever leave the unit running overnight or over the weekend with the intention of discharging it. If you were to continue to discharge the battery beyond the point where airflow had diminished, you could potentially reach a point where damage could occur. The bottom line is that the battery is not likely to be 'deep discharged' while you are wearing the unit**.** ***Continued on page 9***

Note that a NiCd battery may be charged at any time during the discharge cycle, whether it has been used for 30 minutes or 8 hours. So, you can normally expect to use a battery for up to 8 hours before having to charge it. Should the battery be aging or have voltage depression, it can still reach full charge but not have enough capacity to provide sufficient flow for an 8-hour turning spree. Should this happen, 3M Canada Technical Service provides reconditioning and refurbishing services. Batteries may be left on trickle rate mode to maintain optimum capacity for up to 30 days. Without periodic charging, a NiCd battery in storage will lose 1% of its charge each day. Keep in mind, too, that diminished air flow may also indicate a clogged main filter rather than the need to recharge the battery.

For anyone wondering about the impact of facial hair on the effectiveness of the AS400, 3M notes that the respirator headpiece will accommodate limited facial hair without compromising the level of protection. The elasticized face seal that wraps around one's chin is made of a soft non-irritating fabric much like Tyvek. I am also happy to report that I can wear my glasses inside the visor with no problem. I just have to remember not to try to scratch my nose or take a swig of water when I'm wearing my respirator with the visor down.

Upon examination, the workmanship, weight, and assembly of this respirator, with the exception of the cardboard air flow indicator, seemed acceptable/manageable to me. In the end, I ordered the system. However, it was Markham Industrial and not Acklands that ended up supplying this product at the best price which, on the respirator alone, saved me more than a hundred dollars against the next best offer. (3M's list price on this respirator is $1055.50 Canadian dollars. I paid $929., before taxes.)

Like any new piece of equipment, the respirator takes a little getting used to (…like how can I reach around back and turn off the flow of air and lift the visor quickly enough to answer the phone when it rings?! … or how can I keep track of that pesky little air flow indicator? I wish it were attached!) but after about fifteen hours of use so far, I have become more comfortable with the piece. The third time I used it, I wore it continuously for over four hours without ever noticing it was there. That dizzy spinning wood grabs your attention every time!

Besides my back and my lungs, the joy of getting to design my shop from scratch has involved taking a great many other health and safety issues into consideration. However, in the interests of drawing this tale to a swift conclusion, I invite you to call or e-mail me about your own experiences. What concerns have you addressed effectively in your shop? Are there concerns that you're still struggling with? These may include the following:

- concerns related to dealing with an emergency
- concerns related to fire safety
- electrical concerns
- concerns for the safety of shop visitors
- pragmatic concerns, and
- concerns with preserving a healthy environment in the rest of the house, if your workshop is not in a separate building.

As a lifelong learner, I welcome observations and comments from you, my esteemed colleagues! I suspect that there are many important ideas related to woodshop health and safety that I have overlooked. If you have any suggestions for me on how I can further improve the situation in my new shop, or if you have any comments that would help me 'understand and love' my dust collector (or use it more effectively), I would be very glad to hear from you! E-mail me at penny@technolinks.com or call 905-508-2969. Visitors welcome!

WGO MENTORS—HELP DESK

You asked us for technical help… Mentors Respond !

I am a new member of the club. Like all new members I've got all kinds of suggestions. Anyway it would be great to have some kind of a bulletin board where people could post there comments. I know, easy for me to say! Anyway I have a question to ask our club mentors; I have a General International Lathe. I put a big block on (I only have a 12" swing) and forgot to tie in the tailstock. It was affixed to a face plate. It took off and managed to hit the rest and break the cast iron where the cylinder meets the rest. This of course is just plain stupidity on my behalf. I ran around and got a replacement on the weekend. I did another large bowl. Then I mounted another block. It was not perfectly round but I would think close enough. While I might have had my roughing gouge off a little from 60 degrees I was surprised when the replacement rest also broke.

Question: are these cast iron rests defective or are my blocks defective. You can only get so much precision out of band saw.
Alex Shepherd

Mentors' Respond:

Hello Alex,

First take a close look under a magnifier at the broken faces of your tool rests. If there is any rust showing in the cracked area, this may indicate that the tool rest had a flaw. If there is no rust and the faces of the cracks are a clear grey colour, with a rough surface (looking like a field of sharp stones under magnification), then the tool rest was broken by excessive force.

A cast iron rest is excellent in one respect, it's "dead" as far as vibration is concerned - that is to say that it does not vibrate easily when the work is uneven and tending to bounce the cutting tool.

However, cast iron is brittle so can be broken when the right force at the right place is applied (like breaking a glass). A steel tool rest is more resilient and forgiving, but this also means that when used at the end of the rest, it is possible to have vibration from uneven work transferred to the tool rest and returning those forces to your work and to your hands. If you were working near the end of the rest and your tool was 'bouncing', then this could have applied enough of a shock force to snap the tool rest, especially if a catch occurred just as the cutting tool was being hammered down on the rest. The best way to work with a cast iron tool rest when the work piece is uneven is to either use a strong, short (e.g. 4"rest) or to only work inside this dimension on a longer tool rest. This involves moving the tool rest fairly often, but will lower the chances of breakage.

If you want to use a different tool rest than the General supplied rest (which is made of straight cast iron), take a look at the Oneway website for tool rest information http://www.oneway.ca/lathes/toolrests.htm Oneway makes ductile iron, steel and stainless steel tool rests with 3/4", 1" and 1 1/2" posts. Oneway products are available through Woodchuckers. Look a other lathe manufacturer's web sites, they also have tool rests available.

Hope this helped,
Richard Pikul

MEMBERS GALLERY

Joe Werner

Joe made this Christmas Tree "Topper" for the Kawartha Woodturners Guild community fund-raiser "Festival of Trees". The project raised $1500. To donate a piece, please e-mail; **ddeboo@nexicom.net.** Info online; **kawawartha-woodturners.com/index2.html**

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IT's YOUR GUILD - BE INVOLVED !

Share your talent and learn from others at the same time.

Do you have ideas for us ?

Please tell us how you can help - e-mail me at:

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