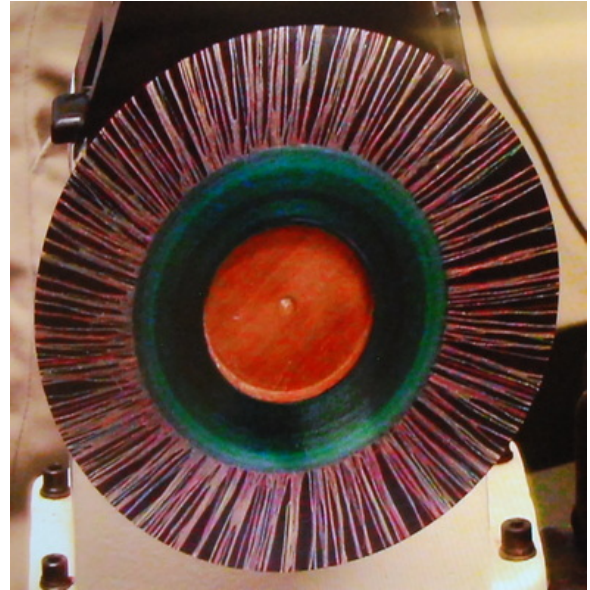


The Turning Point

In this issue:

President's Report	2
November Meeting Notes	3
A Note on Gift Pens	13
Scott Manor House Christmas Open House	14
DaveM's Fireside Chat	15
Using a threaded hex socket cap bolt as a drive center	16
The Electrical Corner	17
Letters to the editor	20
Cover photo	20
Guild Executive	21



The next meeting of the Nova Woodturners' Guild
is at Lee Valley Tools, 150 Susie Lake Crescent, Halifax
Sunday, December 10, 2023. 2:00 p.m.

At the December meeting:
Christmas social gathering
— members, family and friends welcome
— pot luck: bring some pop or finger foods (tea & coffee provided)
— ornament exchange (see November newsletter!)
— wreath and prize raffles
Bring in your recent work for Show and Tell

The President's Report

Gary Landry

Hello and Merry Christmas (just three weeks early).

I think we have started to work the bugs out of our webcasting of our meetings at LV. The webcast went pretty well last month. Remaining issues are the need for better synchrony between the audio and video feeds and the ability of the mic in the camera and/or the laptop to pick up a strong signal. The former may not be easily fixed but in reality it is a minor problem. The latter may require us to purchase lapel mics that transmit their signal(s) to a receiver at the computer and/or the video camera. We will see what happens over the next little while.

The sale at the Scott Manor House's (SMH) Celebration of Lights went well. We managed to sell \$265.50 worth of your donated turnings. That is after we paid our 10% commission to SMH. To put that in context, the profit is equivalent to almost seven memberships. This helps us make up for the reduced membership effect due to Covid. Thank you to all those who donated turnings and those who took a "shift" selling at SMH. There were over 600 people who came through the doors at SMH over two days with a total of 10 hours of selling.

This month is our Christmas Social. Doors at Lee Valley will open at 1:30 PM on Sunday, December 10th. Webcasting will start close to 2 PM, earlier if things go well. There is a lot more to set up when webcasting therefore the nebulous start time. You will be receiving a Jitsi link before the day and you only have to click on it to get it to work. Please bring pot luck snacks and "nibbles" and The Guild will provide Tim's coffee and tea bags.

As this is our Social, there will be no demonstration this month. We will however have a raffle for a wreath decorated with turned ornaments you have donated. Plus we will have an ornament exchange. Bring in turned ornaments, wrapped or in a paper bag, and at the appropriate time you will be able to draw one wrapped ornament for each one you donated. Bring in one pick one, bring in two pick two, etc. There may also be another raffle for a couple of turner's gift boxes from William Wood-Write donated by Dave McLachlan. We will see on the day if that actually happens.

Some really good news to share about Dave McLachlan's medical journey. Dave's operation was successful and without complications. He was released from hospital on the 2nd of December and is recovering at home. He tells me he has some very strong guidelines to follow to make his journey faster and more positive. He also tells me that he has every intention of following each and every one of them to the letter. Our continued best wishes Dave. Well done.

Finally, if you have any pieces for Show and Tell please bring them in.

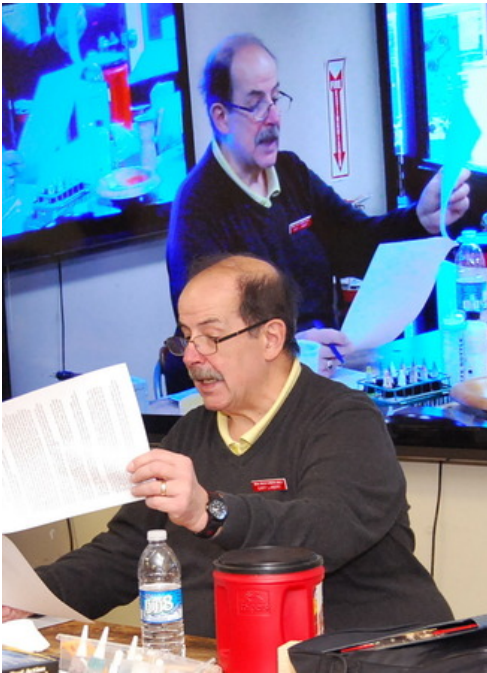
I hope Santa has some really nice turning tools in his sack for each of you.

Notes from the November Meeting

Calum Ewing

The November meeting was the Guild's second attempt at a “hybrid” meeting with the in-person meeting being broadcast live to online participants. President Gary Landry called the meeting to order at 2:06 PM with 13 members present in person and 4 online.

Announcements



All photo captions are by the editor: do not blame Calum!

El Presidente passing on important nuggets of information to the assembled faithful. Or perhaps he is using the marvels of modern technology to show off both side profile views at the same time. Or maybe both. Only the lucky few who attended in person know for certain.



Most of the afore-mentioned assembled faithful.
A small but mighty contingent!

- Membership dues are now due. We can take payment (\$40) by cheque, cash, credit or debit cards at any meeting, or by e-transfer to treasurer@novawoodturnersguild.com.
- This is our second go at a “hybrid” meeting with both in-person and online participants. We have acquired a better laptop to use, thanks to a generous donation by **Richard Ford**. Lee Valley has graciously made their wired internet connection available for our meeting, so we are hoping that the technical and bandwidth problems we experienced last month will be a thing of the past. As always, we are looking for feedback on the meeting experience. As a result, we will not need to be purchasing a laptop for the Guild as approved at last month's meeting.
- **Lee Valley** has asked if we could provide a few turners to demo woodturning in their showroom in the period leading up to Christmas. The time slots are at 10:00–noon and 1–3pm on Dec. 2nd, 9th and 16th. There is also a special evening event at Lee Valley on Dec. 12 from 6–9 PM with many demonstrations and activities in the store. **Bob Earle** has volunteered to demo turning that evening. If you are keen, let Gary know and he can check with LV about a second lathe. Please let Gary Landry know ASAP if you can take on a demo shift or two in this time period.
- We have locked in our booking for an IRD with Jeff Hornung in the US for January 21, 2024. The topic will be on his square plate with beaded foot. Make sure you have upgraded to the newest version of Zoom before the 21st to ensure you have the best experience in this online demo.
- We have been having significant problems with our email forwarding service at HostGator. As a result many emails sent to executive positions are not getting through. Please be patient as our intrepid tech folks **Richard Ford** and **Jim Diamond** work on these issues with HostGator Support.
- **Scott Manor House** in Bedford has invited the Guild to participate in their Festival of Lights craft show event as one of the groups that demonstrated and showed work there during the summer. The dates are Nov. 25 and 26th. We will need a few volunteers to cover shifts: Saturday Nov. 25, 10:00 to 4:00 and Sunday Nov. 26, noon to 4:00.

Main Presentation

The main presentation for the meeting was by **Calum Ewing** on “Techniques for Embellishing Your Turnings”. Calum started out showing several examples of turnings with decorative embellishments, including:

- An off-centre platter in Pao Amarello / Yellowheart with a painted rim and gold leaf applied to the edge of the rim
- A shallow plate in Purpleheart with tree trunk motifs created on the rim using pyrography and coloured with Guilder’s wax
- A shallow bowl done as a collaboration with his artist wife, **Jenni Blackmore**, had drawn a poppy flower using pyrography and coloured it with alcohol-based inks
- A shallow bowl in Beech with a painted rime decorated using interference pigments (acrylics)
- A small lidded box in Maple decorated with dancing figures and motifs in pyrography and alcohol ink by **Jenni Blackmore**.

Any of the decorative techniques Calum will be covering work fine on their own but some truly interesting effects can be had when techniques are combined (e.g., combining metal leaf with inks or paints, or gilder's wax with texturing, etc.).

When to Decorate

Generally any time you feel led to add some embellishment is a good time to do it. Calum often leans towards additional decoration for piece if it is a rather plain looking piece of wood, or has some odd or distracting figure, staining from fungus intrusion, etc. that otherwise spoil the look of the piece.

Preparation



Finish your preliminary turning and initial sanding before applying decoration. It is important to have a smooth surface free of tearout as paint or other decoration will often make any surface blemish more obvious. Do not sand areas to be decorated with too fine a grit of sandpaper as the paint or other pigments will need some “tooth” to the surface to help them firmly attach. Calum typically sands area to be decorated to 240 or a maximum of 320 so that the wood surface does not become highly polished. Very porous woods can be sealed prior to applying decoration.

Paint

The simplest form of decoration is likely simply applying paint or other pigments to all or part of a turning to add some visual interest. Calum uses only acrylic paints. They are relatively cheap, widely available, come in a huge variety of colours and consistencies, and best of all, clean up with soap and water.

Acrylic paints:

- Are available widely in art supply stores, online retailers and even cheap “craft” acrylic paints from Michaels™ or a dollar store will work well for decorating turnings.

- Come in a variety of consistencies from “heavy body” (like toothpaste), “fluid” (like ketchup) to “high flow” (like skim milk).
- Can be thinned with acrylic medium or water. Using an acrylic medium will tend to give better transparency and flowability to the paint than water, but either can be used.
- Mix readily so different colours can be combined to get exactly the desired colour.
- Are available in a vast range of “effects” including straight opaque colour, transparent (will allow wood grain to show through), metallic, iridescent and interference colours.
- Can be applied with many tools including brushes, foam or rubber stamps, airbrushes / sprayers, crumpled paper, balloons, crumpled food wrap,... the list goes on and on.

Calum showed painting a platter rim with a medium brush and fluid acrylic paint then showed application of additional paints using crumpled food cling wrap as an applicator.

Other types of paint (e.g., oil paints) can be used but require more knowledge and practice to get the desired results

Interference Pigments

Interference pigments are a special type of pigment developed for the auto industry that result in reactive paint effects where what the viewer sees depends on the angle of light and the surface. They are made with interference pigment suspended in an acrylic medium. The interference pigment is made with microscopic fragments of the mineral mica which flakes into tiny clear glassy layers of mineral. These mica fragments are then coated with specific compounds that will reflect a specific wavelength or colour of light allowing all other colours of light to pass through.

Interference pigments are available in a range of colours with red, blue, green, violet, gold, turquoise and yellow being the most common. If interference pigments are applied thickly, the acrylic medium will dry white and the overall effect will look white with a hint of the specific colour. If they are applied very thinly (or thinned down with water) the medium dries clear and the specific colour shows through much more clearly.

The strength of the interference colour depends greatly on the colour of the substrate it is on. Using the example of red interference paint, when light hits the surface of the paint it travels through the paint and strikes the mica flakes. The red light is reflected back by the coating on the mica and all other colours pass through. If the substrate is very light coloured (e.g., white) all the colours of light will be reflected back and the viewer will see a primarily white surface with a hint of red iridescence. However if the substrate is dark (e.g., black) all the light passing through the mica will be absorbed by the dark surface and the viewer will see only the red iridescence on the dark background.

You can play with the impact of interference paints by adjusting how dark the background is (i.e., with another dark paint used as a background colour). Calum demonstrated this by dabbing interference paint on a wood surface that was painted half black and half white. This also means that you can get some very interesting effects on woods with very contrasting grain (e.g., Bocote or Zebrano) as the pigment will show up much more clearly on the darker grain and less so on the lighter coloured wood between.

Applying Paint on the Lathe

Calum demonstrated a technique for decorating on the lathe using centrifugal force to “paint” a turning. With a small partly turned bowl mounted on the lathe, the rim was painted a dark blue colour as a background. Calum had prepared three or four colours of iridescent inks in small plastic bottles by thinning the inks with water to milk consistency. These bottles hold about 20mL and have a fine tip applicator, similar to some CA glues, and is available at The Dollar Store in a three pack for about \$2.



With the lathe running at approximately 1000 rpm, hold the tip of the bottle against the surface near the centre of the turning and run a little paint onto the surface as the wood spins. Centrifugal force will cause the paint to fly outward along the surface of the turning until it reaches the edge. At this point the paint will fly off the turning so it is important to make sure that all surrounding surfaces in the vicinity of the turning axis (what turners call the “line of fire”) are protected so they do not also get painted. A small cage or shield can easily be made of cardboard or coroplast to attach to the lathe bed and contain the paint. Different colours can then be added to the turning and repeated to build up a complex pattern of coloured radial lines on the rim or outside of a piece.

Airbrushing / Spraying

Another way to apply paints or other pigments is using airbrushes or sprayers to apply thin even coats of paint or create specific patterns.



Airbrushes come in two forms:

- Siphon-fed: where the paint is held in a small jar below the airbrush. When air passes through the airbrush, the Bernoulli Effect creates a vacuum drawing paint up from the jar into the air stream and then out onto the painted surface.
- Gravity-fed: where the paint is held in a small cup on top of the airbrush and when released runs by gravity down into the air stream and out onto the painted surface.

Airbrushes can also be “single-action” where pressing the trigger released both air and paint (much like a typical aerosol can), or “dual-action” where the trigger gives separate control over both the air flow and paint flow. Typically pressing down on the trigger releases the flow of air, then pulling back on the trigger releases paint. These dual-action brushes give the user very fine control over the amount of paint being applied.

Holding the airbrush close to the surface being painted will give a very fine line and pulling further back will broaden the paint line. Paints typically need to be fairly liquid to work well in sprayers and airbrushes. Many manufacturers make a specific line of colours for airbrushing (e.g., Golden’s “High flow” line), although any paint can be thinned to the correct consistency (whole milk to table cream works best).

Airbrushes run on low pressure air (typically 20 to max. 30 psi) so can be run with a small air pump rather than a large compressor. Both small pumps and compressors will need a pressure regulator to break down the supplied air pressure to the 20 psi needed by the airbrush.

Clean airbrushes well between colours by flushing with a liquid airbrush cleaner. This can be a purchased cleaner or you can make your own by adding approximately 20 drops of Windex™ to 500mL of water. Remember to clean the airbrush thoroughly when you are finished a painting session to avoid paint drying inside the airbrush.

In addition to applying paint freehand with the airbrush, you can also use stencils to create random patterns. A wide variety of stencils are available online and in art supply stores. You can also get stencils of specific shapes if desired. Holding a stencil right against the surface being painted will give crisp edges to the created shapes, while holding the stencil a little off the surface will give softer edges.



You can also create custom stencils using Frisket Film™, a clear peel and stick film that allows you to draw a desired shape, stick the sheet onto the surface being decorated, then cut out the stencil with a hobby knife removing the areas to be painted. Calum demonstrated this process by creating a stencil to create a custom leaf motif on a platter rim. As Frisket Film is adhesive you can use it to create “positive” stencils where the area to be painted is cut out of the film, or “negative” stencils where a shape is cut out and the shaped Frisket is attached to the surface protecting a shaped area while the area around it is painted. When the film is removed the desired shape appears as “negative” (unpainted) space in the painted area.

Pyrography

Pyrography means literally “drawing with fire or heat” and involved using very hot metal to burn or brand the surface of the wood. This can be done lightly to create lines or dark areas of shading, or as deeper burning to create texture on the surface.

To do pyrography, or “wood burning”, you will need either a pyrography pen (similar to a soldering pen), or a more sophisticated wood burner. More sophisticated units have variable heat controls and interchangeable tips to create marks of different shapes or sizes.

Once the tip of the burner has come to temperature, it is applied to the surface of the wood, much like drawing with a pen. Moving the tip more slowly will create a deeper, darker burn than moving more quickly. As harder and softer grain burns at different rates, some practice is needed to get consistent lines as you travel across different grain. Pyrography can be used for shading areas, filling areas with patterns (lines, dots, etc.) or drawing complex images — as your artistic ability allows.

Metal Leaf

Metal leafing is an ancient method for embellishing wood work of all types and is frequently seen on picture frames and other ornamental work. Metal leaf on turned works, especially on the rims of vessels, bowls and platters, gives a very traditional look to the pieces. It involves adhering ultra-thin sheets of metal to the surface of wood using a slow drying adhesive called “size”. Traditionally, precious metals such as gold, silver and copper, were hammered between sheets of leather until they spread out into thin sheets only a few atoms thick. Actual metal leaf is now very expensive and has largely been replaced with very thin metallic coloured plastic; this is available in a variety of forms and colours from most art supply stores or online.

Liquid “size” is applied to the surface to be leafed (the directions on the size will indicate how long it needs to be left before applying the metal. Once the size has “dried” to a clear colour, the sheets of leaf can be placed using a soft brush. Be careful of breathing on the leaf as you manipulate it as even the smallest air currents can give you troubles getting it placed where desired. Once in place it is pressed on with the brush and worked into any surface texture. When the whole area desired is coated, more vigorous rubbing with the brush will remove any excess leaf. The leaf will flake off any areas without size and remain adhered to the areas with the size.

Metal leaf needs to be clear coated for protection from handling (see “Finishing” below).

Texturing

Texturing surfaces or even carving pieces of turnings away all together, is another way to embellish your turnings. Texturing can be done with simple tools like a Dremel™ type rotary tool, die grinders or power carvers. A vast array of carving and texturing burrs and bits is available to provide the user with the desired effect.

One interesting technique involves both painting and texturing and is based on a pottery decorating technique called “Sgraffito”. In this technique paint is applied to a surface (e.g., the rim of a platter or exterior of a vase); then, using a carving burr, the surface is carved away to reveal the wood grain underneath the paint in desired patterns.

Areas of turnings can also be textured, using carving or pyrography, and then painted for dramatic effects contrasting the coloured and textured areas with the smooth wood grain surface areas.

Finishing Pieces

Waiting to turn the interior of bowls or platters until after decoration will help to ensure a sharp clean transition between the decorated areas and the turned and finished wood. However, it is important to have good tool control when starting cuts in a bowl interior to avoid the cutting edge of the tool skating across and ruining the decorated surface. This problem can be alleviated by making a small starting cut at the desired location using the point of a skew chisel or corner of a square scraper or parting tool. This shallow “V” cut gives a solid surface to rest the bevel of a gouge against when starting the cut and will help to prevent the gouge skating outwards as the cut is started.

When sanding next to decorated areas it is important not to let the sandpaper roll over the edge and soften the transition between decoration and bare wood. Soft foam sanding pads, fingertips and sanding disks with wavy edges can be bad for this “roll-over”. You can help avoid this edge softening by using a fairly firm but not hard sanding pad to support the sandpaper. White rubber erasers or the crepe rubber sandpaper cleaning blocks work well for this.

All decorated surfaces will benefit from a few coats of finish to protect them. Spray lacquer clear coat is available in a range of finishes from high gloss to matt. Art supply stores also have a range of spray on surface coatings designed to protect drawings and paintings done on paper and these work well. Once all paints and finishes are fully dried, they can be coated with oil or wax finishes. Solvents in some wax or oil finishes may affect certain paints or inks, though, so it is a good idea to have a couple of test pieces coated with the same decoration to test any desired finishes on before use on your finished piece.

Show & Tell



Dianne Looker showed off

a Pizza Cutter that she had entered in this year’s competition using a hard to acquire cutter set. She found it challenging to get a good fit between the turned handle and the cutter mechanism. After grinding the end of the handle flat a much better fit was achieved.

a magnetic pencil holder made from a small wood blank with rare earth magnets. The magnets allow it to be easily mounted on the fridge, lathe or other tools.

a small blank that she had veneered with highly figured veneer. The surface is rather wavy due to the grain figure and she is looking for suggestions on how she can flatten the surface without removing or destroying the veneer.

a small lidded box, *Out of the Mouths of Babes*, in Cherry that was another competition piece. The lid is decorated with baby teeth set in epoxy. She had a few issues during the turning: the lid got stuck on during the turning of the outside; a catch with a bowl gouge during turning the outside of the lid resulted in some damage from the chuck.





Gary Landry presented
five French rolling pins in White Oak that he had turned for the
show at Scott Manor House.

an icicle ornament in Mahogany, also for the Scott Manor House
sale.

a small bowl with a cavity in the side in spalted Beech from the
firewood pile.



Martin Lachance showed off

a small bowl in Birch.

a very small bowl — as the sides got very thin, there was distinct
flexing of the rim and a small chip was lost from the rim due to
wood failure.

a short vase in Maple. It had a loose knot that was secured with
CA glue.

a tall vase in Maple hollowed with a Forstner bit.



Bob Earle showed off a texturing tool he had made using a small carbide carving burr with brass pipe fittings and bearings. The handle was turned from Tiger Maple and the shank is made from a 4" long ¼ inch brass pipe nipple fitted with ¼" bearings and a rare earth magnet.

Raffle Results

Bob Earle, Gary Landry, Kevin Foucault, Yogi Gutz, Chris Palmer, Martin Lachance and Dianne Looker took home SIA Sandpaper kits.

Chris Palmer won a live edge Cherry board

Dianne Looker added a set of pen bushing storage containers to her collection, and

Martin Lachance took home a Cherry board.

The meeting wrapped up at 4:45 PM.

A Note on Gift Pens

Gary Landry

I recently was asked by family members to make two pens for gifts. Each of the requesting people chose, surprisingly, the same model of pen kit. The pens are Sierra Diverse pens and were turned using acrylic acetate blanks. One blank had an overall green tones and the other had blue tones with the white banding suggesting the action of waves. There were no problems with the turning and these kits are only slightly different from standard Sierra pens so assembly only required a couple of minor variations in procedure. One pen is for my daughter-in-law's former boss and the other is for my sister-in-law who is visiting from Quebec. Both were a hit with the recipients.



Greenish acrylic pen



Blue with white streaks
acrylic pen

Scott Manor House Christmas Open House Bill Maes

A crowd of about 600 people passed through Scott Manor House for their Christmas open house which featured musicians, cider, delectable treats and a craft sale. The Guild was well represented with multiple Christmas decorations made by Bob Earle and a variety of other items turned and provided by Guild members. The total raised for the Guild was approximately \$265.

Some of the Guild turnings at the open house:



DaveM's Fireside Chat

Dave McLachlan

I thought I would begin today with an update for the membership on my current health situation... On November 23, I went in for surgery to remove 70% of my esophagus which included the cancerous portion, and create a new esophagus with a portion of my stomach fashioned into a tube. It was an eight hour long operation which went extremely well. I came out of it with many tubes and lines coming out of me but was relatively pain free coming out of recovery. My surgeon did the operation laparoscopically so it was much less invasive and much easier to recover from.

I did amazingly well in the hospital and spent only 6 days post-surgery in the Step-down ICU unit and then another 3 days in a general care until being discharged on Dec 1, which happened to be my 71st birthday.

I can say I had excellent care from all of the staff at the VG... Before I left Dr. Ednie did a scope of the new esophagus and was pleased with what he saw, no leakages or problems. We now wait for the pathology results from the tissue samples to know for sure we got everything.

My stomach is now half it's normal volume so nutrition is important, also there is no longer any peristaltic action in the reconstructed esophagus so my diet has to change considerably especially initially. Two weeks of high nutrition purees (250ml every hour while awake), then 6 weeks of soft foods, and then we can gradually see what else can be included in the diet and meals 5 to 6 times a day. All worth going through for the added longevity I can expect.

In addition to the surgery, I will be on immunotherapy at the cancer clinic for a year which will help get rid of any stray cancerous cells remaining, this involves intravenous injections every three months.

Anyway, at this point I am home and doing well, relatively pain free, getting the rest and nutrition I need for the next 6 weeks. No lifting more than 10 lbs for 6 weeks, means I won't be in the shop for a while but gives me lots of time to plan my next projects. It also means I will miss the Xmas Social but hopefully I can FaceTime in to the event to share in the festivities. Enough of this update now let's talk shop...

Using a threaded hex socket cap bolt as a drive center

David McLachlan

For small work it is often very useful to use a threaded shaft as a drive center. This becomes especially easy if you have a MT2 ER collet chuck. This becomes especially easy if you have a MT2 ER collet chuck. In the picture below I have an ER25 collet chuck mounted in the headstock with a M10 drawbar. The collet I am using is 1/4", and I use a hardened hex socket cap bolt through the collet so that the head of the bolt rests solidly on the back of the collet and about 14mm extends beyond the face of the collet. I then add an appropriate diameter 1/4" backing plate with a 1/4" center bore over the bolt to protect the collet, the face of the collet nut and my chisels. Small work can be partially bored with a 5.5mm and threaded easily on to the bolt shaft. Longer pieces can be supported using a longer extension protruding from the collet.



In the two pictures you can see a small block of wood threaded onto the shaft and worked up. The inside was hollowed out to 1/16" walls and finished with aniline dye followed by Shellawax friction polish. (Sorry for the poor background of these shots.)



The same principle can be used for 5/16" and 3/8" shafts (or their metric equivalents) if you are using larger pieces of wood, or in the case of bottle stoppers with 3/8" studs.

If you don't have an ER collet chuck, you could also make one of these from a block of wood with a dovetailed stub that fits into your 4-jaw chuck; use the lathe to drill an accurate hole for the bolt to run through the wood. When mounting the block of wood use an allen key to keep the bolt from turning while threading on the block of wood you want to turn. Alternatively, you could thread the block of wood (use your tailstock center to keep the tap lined up and cutting true) and thread in the bolt to the backing block, then you won't need the allen key to keep the bolt from turning while you are attaching the work piece.

The Electrical Corner

Jim Diamond

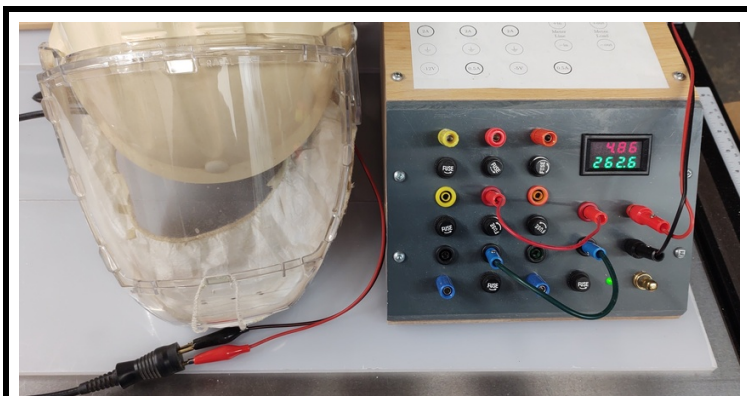
Last month this column discussed the problem of failing batteries in powered respirators (specifically, the Racal/3M Airstream helmet). This month I will discuss an alternative to spending a huge amount of money for four sub-C NiCd cells (in their defence, they come with an explosion-proof can).

*CAUTION: The solution presented here uses a LiIon powerbank (a.k.a. portable charger). Although such devices are sold to the public at large, and thus probably pretty safe, you should not physically damage these devices or short them out. Use the ideas in this article **at your own risk**. If you aren't comfortable with the electrical wiring aspect, but otherwise wish to proceed, talk to a friend who is comfortable with these sorts of things.*

The voltage output by a NiCd cell drops as its charge is depleted, so it isn't entirely accurate to say that its voltage is (e.g.) 1.2 volts. For example, using a voltmeter on a NiCd cell fresh out of a charger might give you a reading of 1.5 V. When “fully discharged” (which means something different to battery people than you might expect) the voltage will be considerably lower (in a quick internet searches I saw claims of 0.9, 1.0 and 1.1 V). However, there seems to be good agreement that 1.2 V is the *nominal* voltage of a NiCd cell.

The Airstream helmet's battery pack uses four NiCd cells in series, giving a nominal output of 4.8 V, and almost 6 V when freshly charged. Conveniently, LiIon powerbanks output 5 V; assuming a given powerbank can deliver enough current, it would provide a convenient, inexpensive and lightweight power supply for the Airstream.

I attached my Airstream helmet to a (home-made) power supply at 5 V DC. The current draw, as seen in the photo on the left, is about 0.26 A, which is quite low. One day in a certain store (which shall remain unnamed) I came across a VARMPFRONT™ portable charger for the eminently reasonable price of \$17.99. The seller claims this charger has a storage capacity of 5200 mAh, which would run my Airstream helmet for over 19 hours, a duration far in excess of my requirements. Further, it is claimed to be able to output 2.4 A, almost 10 times what is needed.

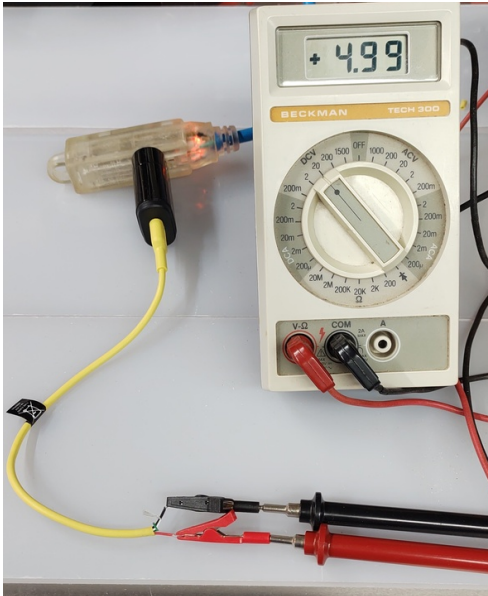


262 mA current draw
on a (nominal) 5 V power supply



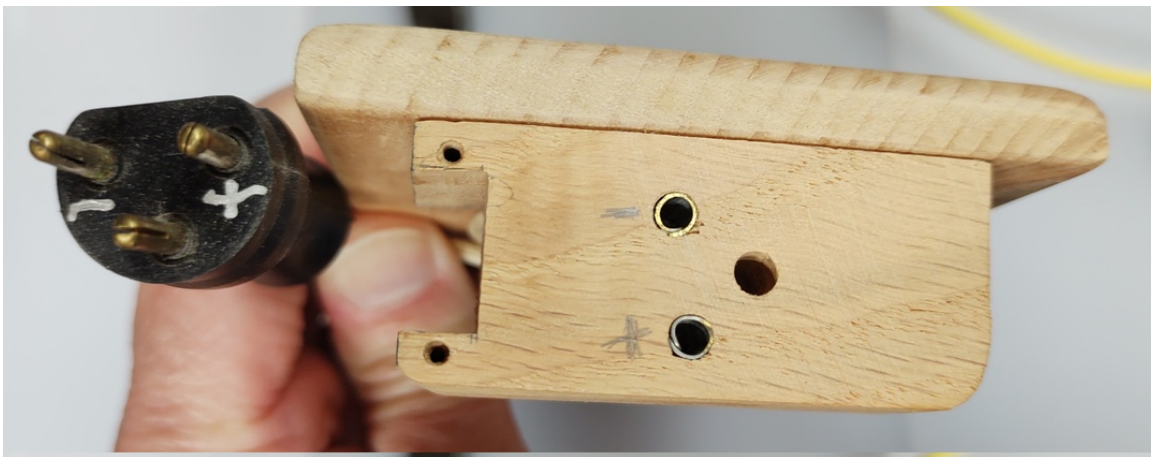
A VARMPFRONT powerbank

To use this, all I needed to do was to make an “extension cord” to connect this to my Airstream helmet. Powerbanks like this have USB-A and/or USB-C connectors, and it seems like the easiest solution is to do surgery on a USB cable. For \$2 I bought a USB cable with one USB-A end and one USB-C end. The pictured powerbank will output 5 V through both sockets, so either end will work.



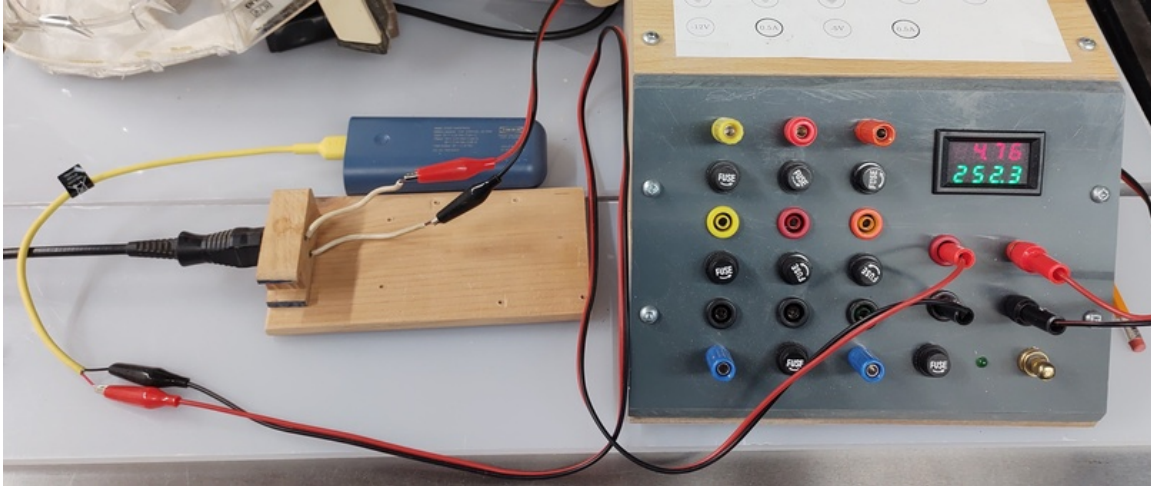
The trickiest part in this product is doing surgery on the USB cable. Many USB cables have tiny wires (26 AWG?) and trying to remove the outer cover and inner insulation without breaking some (or all) of the strands requires a bit of care. The other issue is that there are multiple wires inside a USB cable, and you have to find the ones which carry the power. The USB cable I used conveniently had one wire with red insulation and one with black, and, as expected, the red wire carried the +5 V. I discovered this by plugging the USB cable into a “wall-wart” USB charger after making sure that none of the stripped ends of the four wires inside my USB cable were able to touch each other, and then used a voltmeter to look for the pair reading about 5 V. (In my USB cable, the wires carrying the power are slightly thicker than the others, so you may wish to strip and test the thickest wires inside your cable before fussing with the others.)

Having discovered which wires carry the power, the last thing to do is to connect those to your powered respirator. In my case, the plug on the wire coming from the Airstream helmet is a proprietary plug matching no socket I could find anywhere, so I made my own socket with a small block of wood and some small pieces of brass. (This is something I did many years ago when my originally battery pack lost interest in life.)



It turns out that the fan in my helmet *apparently* doesn't care about the polarity of the power: it happily spins (in the correct direction) regardless of which way the battery is connected. However, in the interest of paranoia, I connected the power with the same polarity as supplied by the original battery pack.

Finally, here is the powerbank supplying power (through a voltage/current meter) to the Airstream helmet. The voltage output of this powerbank sags a bit under the load, but ends up very close to the nominal voltage of four NiCd cells in series (4.8 V). The current draw with this is about 250 mA, which provides a decent air flow through the helmet.



Unlike the original battery pack, USB powerbanks tend not to have belt-clips. A pocket in a turning smock would do the trick, but if you don't have a convenient pocket no doubt you can come up with some clever idea. In any case, you might consider the benefits of keeping dust out of the sockets in the powerbank, but also be mindful that you don't want to wrap it up so well that it gets too warm. In my case, after I permanently connect the USB cable to the socket I made I'll see if I can find some clip to hold the powerbank to the wooden structure — and if all else fails, a rubber band might do nicely.

Happy power-respirated turning!

Letters to the Editor

Once again this month, there were no letters to the editor. On the good side, there was no hate mail. On the bad side, no members were sharing their clever ideas, witty rebuttals, or pithy comments with the Guild at large. Perhaps 2024 will bring some. Maybe one raffle ticket per letter to the editor would motivate people? Let me know what you think (send a letter to the editor!).

Cover Photo



Painting using squeeze bottles and centrifugal force. See the “Main Presentation” write-up for details.

Nova Woodturners' Guild — 2023/24 Executive

All members of the executive, as well as committee chairs, can be reached by using the email address associated with that position. That is, a note sent to (for example) the president will go to who ever is president at that time. The following <address>es should be followed by @novawoodturnersguild.com to send mail to the person holding that position.

A 'C' after a committee member's name indicates they are chair of the committee.

Position	<address>	Incumbent(s)
Executive	executive (sends the message to all executive positions on the list)	
President	president (or) pres	Gary Landry
Vice President	vice-president (or) vp	Bill Maes
Secretary	secretary	Calum Ewing
Treasurer	treasurer	Dave McLachlan
Director at Large	director-at-large	vacant

Committees

Library	library	Jim Diamond Richard Ford	C
Web Site	webmaster	Richard Ford	C
Membership & Promotion	membership	vacant	
Newsletter	newsletter (or) news	Jim Diamond	C
Competition	competition	vacant	
Guild Photographer	photographer (or) photos	Chris Palmer	C
Fund Raising	raffles	vacant	C
Members Group	members	members	

The [members](#) address forwards the email to all members who have signed up to be on the members list. To add or remove yourself from the [members](#) list, email webmaster@novawoodturnersguild.com.

If you wish to send an email to **all** current members of the NWG, send your message to secretary@novawoodturnersguild.com with a request to forward your email to all members.