

2018

Cambium

Feb



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Meetings & Events

2018

6 Feb	Presentation or Demo by Wood-turners Group
6 Mar	Around the Green, something by our green group
3 Apr	Carving it Up Carving Group event
8 May	Joint and Hinges; event by our Furniture group
5 Jun	Wood-turners Group Demo
21 Jul	WWG is Hosting the NAW AGM - TBC

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Update on December Events

With our Christmas Guild meeting in December, our best woodworking efforts were on show, and awards were presented for the best work items. Hence we have a report on this, as well as the Demonstration Day & BBQ lunch at the Menzshed on Sat 9 Dec. For the benefit of those who missed this event, we had Piercing and Air brushing with Graeme McIntyre. Mark Wilkins showed Use of Computer Numerical wood-cutting machine (CNC), while Phil Quinn ran a hands on session on Pyrography embellishment ... them followed by a panel discussion finishing work pieces.

A sincere thank you goes to all involved in organising the event and giving so freely of their time & expertise.

With the mention of awards; we cannot move on without congratulating Joy Cowley, following the New Year honours list, is now a Member of the Order of New Zealand for her good work in the community. See

<https://www.radionz.co.nz/national/programmes/sunday/audio/2018/630644/joy-cowley-stories-of-her-life> for interest; National Radio has a picture gallery, and a replay of an interview.

Our Guild Xmas do

An excellent colourful array of toys appeared - not quite by magic - to be presented to the Salvation Army at our Christmas meeting. A big thanks to all those who made these; or helped others to do so.

Pieces made by members over last year were on show, ready to be judged by voting slips from



those attending. Graeme McIntyre took the award for best turned item with his pierced vase; whilst John Spittal's carved rolling pin saw him take off the Doug Bailey carving award. With yet another inlaid table, that surely must have taken many hours; Malcolm Collins earned the overall supreme award.



Piercing and Air brushing Turned Work

Graeme demonstrated the decoration of a vase with a leaf. The leaf was drawn and the outline and vein detail were burnt with the use of his Pyrography unit. A portion of the decoration was covered with an adhesive film, and with a scalpel, the individual sections of the leaf were removed to enable the Airbrush painting to be applied. Next was the detail of



applying the Butterfly pattern to his work prior to the piercing and decorating for which he well known. The pattern must be on paper using a laser printer. It is taped face down on the wood then rubbed over with a special spirit base pen to transfer the image to the wood. The outlines are then Pyro Pen cut into the wood prior to covering with the adhesive film. Individual sections of the film are then cut away prior to Airbrushing . Graeme described each action as he was performing it and answered many questions. A very popular and successful Demonstration.

Computer Numerical Cutting machine (CNC)

Again at the Menzshed Mark Wilkins had his CNC rig set up to give us a demonstration. Why would you do this, one may ask, aside from curiosity in the technical tool side of this pursuit ?

As well as the ability to produce accurate fine detailed work; some shapes are not so easy by hand (Mark had examples of oval lidded boxes). Once having designed an item - how often do you want to reproduce it by hand. Where does the creativity come in to this or any process ... may be a question for later discussion.

One issue discussed was the need to leave in tags to keep pieces joined to the to the base. There are videos where loose pieces have jammed in the cutter; damaging a large workpiece.

For the technically inquisitive; Mark has lent us his notes

The CNC Machine is the Carve King supplied by an American company Mill Right web site is: www.Millrightcnc.com

They now have 3 models in their range

- Millright CNC M3 (\$US299 for the basic kit)
- The Carve King (\$US699 for the basic kit)
- An have just announced a new machine at around \$US2649

There are a few optional extras available. With my machine I also bought the homing kit and a mount for the De-Walt Router

D26204K-XE which I bought from the Tool Shed (\$536). Will consider the laser module 1 day. Shipping and GST/Duties cost me around \$700 The Software I use to do my designs on is supplied by Vectric ,web site is www.vectric.com

They have several products available Aspire, VCarve, Cut2d, Photo VCarve etc. I opted for VCarve Desktop (\$349US - I was charged GST on this too)

There are other options for creating your designs, not all can generate Gcode - see Fusion 360 (Autodesk), inkscape Millright list several In addition to the design software and the machine you will need a gcode sender

"Universal G Code Sender" is free and can be downloaded from the millright web site. There is a basic version and a graphic version which I am currently using. There are many machine control formats.



The Carve king uses

GCode - I work in metric however there are some issues because tools seem to be imperial and need to be converted - sending imperial GCode caused me a small headache for a while

Materials that can be cut include wood, composites like MDF, plywood, plastics and with the right setup aluminium and I have heard that someone does glass engraving.

Cutters Types

- Straight Router Cutters with carbide tips (Bunnings)
- Solid Carbide cutters in various forms, upcut, down cut tapered etc
- have only tried a few types so far. 1/4 spiral downcut is used the most
- I have had issues with cutter accuracy - some cutters are a nominal size and you have to allow for this (Mitre example and making box lid issues)

Cutting Speeds

Optimum cutting speed for each tool depend on material and tool type.

Tool Library for configuring each tool - Not done this yet

Machine shortcomings

- The design is open loop - explain and demo (with pen) if time
- The frame is MDF and is not entirely flat and does flex
- reasonable accurate and repeatable cuts, backlash can be adjusted for and I need to check everything is tight.

Connect Gcode Sender

Demonstrate Home

Demonstrate Jog

Centre Machine on Ply

After a bit change, setting the tool height needs to be done, to reference the tool to the workpiece.

A sacrificial board needs to be used, then fattened, thus mitigating non-flatness of bed, and doing double sided cutting

CUT OUT JIG

A scrap blank is cut out with open circles to corners. The work piece was glued with hot glue.

Profile - Spiral Upcut

Pocket - spiral downcut

Other toolpath operations

- Profile
- Pocket
- Drilling (Not Tried yet)
- Quick Engraving (not tried yet)
- Inlay (Not Tried yet)
- Engraving
- Fluting
- Texturing(Not Tried yet)
- Prism(Not Tried yet)



- Moulding(Not Tried yet)
- 3D Roughing
- 3D Finishing

Examples of ornate carving to lid boxes - Sign, Skull, Lotus, Heart Mark demonstrated using 2 toolpaths, Engraving and bevelling with leadin/leadout

Reverse Blank these are for fitting or identical negative or positive forms. The example demonstrated Cutting Lid Profile and Pocket to receive this piece

Wrapping up; thoughts on items to deal with

- so far steep learning curve with this tool
- reducing the number of problems based on my little accidents
- good idea to make a chip/dust extractor
- Cut holes to allow me to do box joints / finger joints and dovetails
- Fix machine on a table and make more rigid

A Folding Lounger Seat

As we get older it is relatively easy to get onto a lounger but it is hard to get up and so we have a need for a lounger that is higher off the ground than normal lounge's seen in patio outdoor furniture displays. They can also be difficult to transport because they are so long.

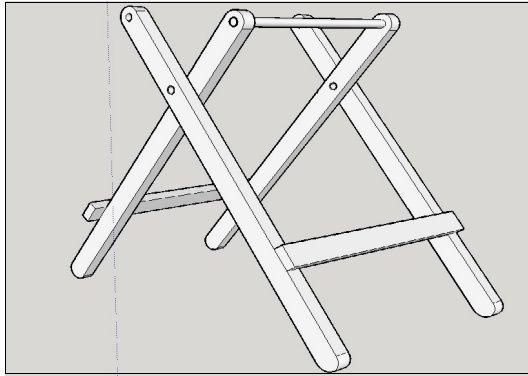
Here is a design for a lounger with the seat at dining chair height and that folds up to go in a car boot or on the back seat.

It is in four parts – the legs, the seat itself and then the back and leg

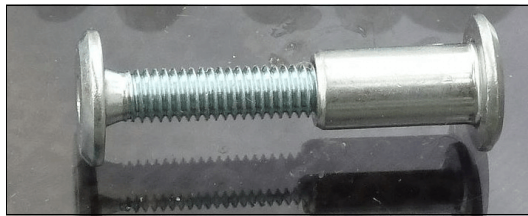


supports. Because it is folding there are some tricky parts to it and it has to be strong. Three prototypes were made, 1:10, 1:2 and finally a 1:1 prototype. Even when making the final version a few more 'adjustments' had to be made.

Part 1: I advise making the legs first. They have to be strong and are made of Kwila, 810mm long (25mm x 45mm).



The combined assembly is 420mm wide and the legs pivot 60mm from the lower end. The distance from the lower end the midpoint of the cross braces is 205mm. The dowel between the top of the inner legs is of 18mm diameter and is centred on the terminal semicircle. The pivoting point is achieved using a sex bolt (!! that's what Wikipedia calls it), also known as a barrel nut, barrel bolt, Chicago screw, post and screw or connector bolt. Because these legs are going to slide inside the outer frame of the seat the external surface of the bolt must be flush with the wood surface.



Similarly with the barrel nuts that will be used to pivot the outer legs to the seat frame.

The male, threaded part of the nut, may need to be shortened so that it can be tightened and remain flush with the surface but note that it must not grip the legs or they will not be able to be folded. The barrel nuts came from Anzor Fasteners in Ngauranga, Wellington; not too expensive. *Michael*

Pyrography Demo

Phil Quin ran a workshop session on Pyrography at the Menzshed, with hands-on exercises for some Guild members. With a brief report on events, and thanks to Phil we have his notes to help those who want the technical bits These follow thanks to Phil's notes.

As the owner of a very old pyrography unit with one clunky tip and no expertise, I was pleased to know that Phil was running a hands on demo at the December demonstration morning. He proved an excellent teacher, patient and accommodating to members with a variety of experience, and also produced superb notes and advice. Another member generously supplied me with two 20cm lengths of NiCr wire, #18 and #22. With the purchase of a set of mini pliers (ridiculously cheap at Bunnings), and watching a YouTube clip on shaping tips, I now have a box of assorted sizes and shapes. And more importantly have recently embellished a bowl with my new pyro tips and old machine - the results are not quite up to the artistic standard of some of the members at the demo but with further practice.....



So thanks Phil, this hands on demo and teaching session is exactly what many of us enjoy. Watching is important, but watching and doing is even better. Any ideas for the future? *David Marshall*

Pyrography pointers:

Common burners are: Burnmaster and Razertip refer to Web site for detailed Info. Burnmaster can handle heavy burning however the tip range is more limited.

Other gear that is useful: Fan, brass wire brush for tip cleaning, Ni-chrome wire to make own tips, methylated spirits for cleaning char/resin off work, pliers, wire cutter, screwdriver, masking tape, 6B pencil, magnifiers, scrap wood for testing tip heat, transfer paper for designs and....

Wood: always use natural, untreated wood. Do not use manmade fibreboards. **Warning:** Fires do happen ... ensure all shavings and wood dust are cleared away from pyro work area!

Burning techniques: Always test on scrap wood (the same as that is being burnt). Lettering: use small round tip or wire tip

Lines: used a skew tip (thin lines) or shaped wire tip (thin to medium lines). Use pull stroke mostly. Hatching: same as for Lines.

Stippling: Round tip – various diameters, shaped round wire – various diameters. Shading: Flat tip, Spoon, shaped wire.

Texturing: Ball, spoon shapes of various sizes are good as are shaped wire of an appropriate diameter ie koru.

Note: all tips will over time crack or break due to metal fatigue. Also hand pieces will get hot with continuous use, so plan burning so you can also use an alternative hand piece.

Handling the burning process: Practice is essential.

Clean tips often – may require to be done for each burn to get a "clean" registration of burn. Tips must burn the line/brand etc, do not "carve" with the tip. Use a hot tip and test on scrap first.

When burning the start of a line with a skew bring the tip down to the wood like a plan landing. When restarting on a continuous line, blow gently on the tip to cool it slightly – practice makes you good at this.

Texturing/branding: How this is to be done must be resolved before starting so a consistent "pattern and flow" is achieved. The eyes can pick up anomalies even if they do not register with the brain at first. (This should be resolved at the design stage.)

My reference book is Pyrography Workbook by Sue Walters and see

also her website: suewalters.com. There are many other good references on the Web

Pyro design: To be successful the pyro embellishment design needs to be part of the overall design. (ie not look like a "stick-on" image unless that is your intention). You may wish to start by drawing the design on paper first.

Draw the design on the wood accurately using a soft lead pencil (6B). On Work that is important to you it's useful to do a full practice mock up to get familiar with any difficulties that may arise.

[attendees were taken through hands-on exercises - repeated here for you to try at your leisure]

Exercise : first flex your fingers to loosen them up. Skew (scalpel) tip for lines – use pen rotation, hatching and shading.

Exercise – first draw using the Skew tip parallel lines the length of the wood test piece or about 100mm. Next repeat the lines but make them curved "s" shaped using the fingers, rather than the wrist.

Next mark out two "about 2 cm squares" on your wood sampler, then in the first square draw vertical lines about 1 mm apart. In the next square try repeat the vertical lines but this time start say 2mm apart and gradually make them closer – so you get a gradual shading effect.

Writer tip for printing of course.

Exercise – draw two parallel lines about 3 mm apart and print your name and the wood name, use mostly pull strokes. Useful for labelling your work. Stippling and branding: Using specialist type tips, Shader, Spoon, Ball, etc, and own shaped wire tips.

Again, mark out two 2 cm squares, in one carefully burn horizontal lines of "dots". Keep them close together so there are no flats between them. Fill the square and then evaluate. Is the pattern uniform?

In a second square burn small circles about 3 mm dia. in horizontal lines, the circles should just about touch each other. Fill the square and evaluate. Is the pattern uniform?

Notes by Phil Quinn, Dec. 2017.
Phil also has notes on Iridescent Painting - which we hope to run another time.

Guild Contacts

SUB-GROUPS

CARVERS - Coordinator: Sam Hillis,	529 7105
Meeting at Naenae Mens' Shed - (3rd Tuesday 7-9 pm)	
HUTT TURNERS - Coordinator: Denis Newton	977 5650
Meet Naenae Mens' Shed, 1st Saturday after Guild meeting 10 am –12 noon	
GREEN WOODWORKERS - Coordinator: Eric Cairns	526 7929
FURNITURE GROUP - Coordinator: Lew Skinner (2 nd Tuesday)	475 7613

Remember - these groups are for you

They provide us with an opportunity for more a like-minded fellowship; and a chance to further develop those skills that you have so far gleaned.

Guild Committee

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Vice President	Alan Berry	560 3661
Membership Sec	Warwick Smith	233 8042
Treasurer	Peter Johnston	476 7942
	Brian Cropp	938 8020
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Remember, if I cannot break it, no-one can!