

TurningTalk

Turning Tomorrow's Treasures

Issue No 219

Newsletter of the South Auckland Woodturners Guild

December 2014

Wednesday 26th November

Tie Dyeing - Alison Smith

Report by Robert Smith

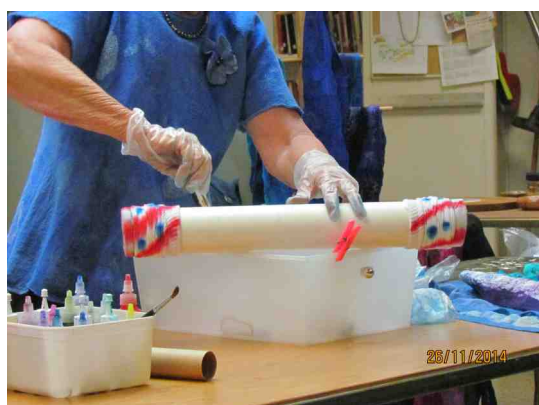
Alison demonstrated a variety of different processes by which fabric can be dyed.

The first was eco dying where natural vegetation was placed on a silk scarf. (Alison buys most of her silk from Sentoso) She used yellow daisy, long leaf wattle and some flax flowers. This was rolled up tightly to be later placed in boiling water left for two days, and then dried.

Next she used non-toxic, eco friendly dyes from Genesis Creations in a variety of ways. - She first wet the silk and then spread it out on a board. On the first piece she put dye on the fabric and then swirled it and sprinkled some salt on it. On the second she put dye on the fabric and crunched it up and then sprinkled some sugar. For the third piece she tied buttons with rubber bands all over the scarf, the dye was applied around each button. These turned out like flowers. For the fourth piece she used the effect of light (Heliography) where after applying the dye she placed leaves, buttons and salt and then left it under the light. There was no colour under the areas where the leaves etc were.

For the next part of her demonstration Alison scrunched up some cotton socks on a piece of down pipe, painted them from the top down with dye and left them to dry.

To show that dyes are useful to woodturners she then used some dyes to paint a wooden spinning top.



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Wednesday Nights 7:00pm
(Doors open 5:00pm)

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**South Auckland
Woodturners Guild**
is a member of the
**National Association of
Woodworkers NZ Inc.**
and the
**American Association of
Woodturners**



Our meetings are held Wednesday evening in our clubrooms in the Papatoetoe Stadium Community Centre, Tavern Lane, Papatoetoe (see www.sawg.org.nz for directions). The official meeting starts at 7:00pm.

For those wishing to make use of the machinery, do some shopping, check out the library, get some advice, or just socialise the doors open at 5:00pm.

Meetings include General Business, Show & Tell, Reports on Club Events and the demo or activity listed below.

Further information and the most up-to-date calendar can be found on our website at <http://www.sawg.org.nz>

Club Meeting Programme

Term 1 2015

	Theme of Platters	
February 11th	Carved Rim	Mike Davies
18th	Inlays round vertical exterior rim	Joe Hosking
	Turn a cube challenge	Colin Wise
25th	CNC Demo	Piet Van Rensburg
March 4th	Feet on Platter	Bruce Wood
11th	Shape and Form	Gordon Pembridge
18th	Textured Rim Platter	Terry Scott
25th	Platter Stand , Term Awards	Dick Veitch
April 1st	Last Night of Term reduced Programme due to opening Easter Show. Bruce will demo hollowed babies rattle	

Upcoming Events

February	21st	Nick Agar Demo all day at South Auckland Woodturners
	22nd	Nick Agar - Masterclass (South Auckland)
March	13th - 15th	Lake Taupo Woodturning Jamboree
	28th	Scrollsaw Workshop - Tauranga Woodcrafters Club
April	17th - 19th	Waioira Turn Inn - Otago Woodturners Guild Inc.

Regularly Updated Calendars of Events can always be viewed at www.sawg.org.nz and www.naw.org.nz (including entry forms)

Macs Maxim

**Dont' be affraid to go out on a limb;
that is where the good wood is!**

- Mac Duane



Club Night Action

Wednesday 19th November

Carvers Mallet - Alan Day

Report by Alan Day

I like the smell of 'Puriri', much better than sneezy Rimu. Both ends had been faced off, with a 50 mm chuck bite to save time, suggested making a pencil line, to use as a replacing mark for the middle of the No. 1 jaw. After roughing it down to almost round, found the Head stock was out of line, with the Tail Stock! President Bruce leapt to the rescue and centred the headstock.

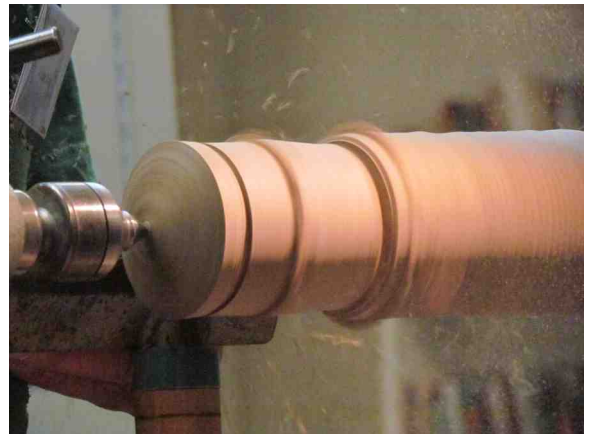
An outside calliper was set to 70 mm the maximum width of the Mallet top, and a parting tool was used to remove the timber down to 70 mm, the callipers were reset to 60 mm and another diameter was made at the bottom of the mallet head, this was removed with roughing gouge with ground back 'wings', the side of which could be used like a skew chisel,

A couple of small dig ins were made from the top of the mallet to the excess timber which was to be removed on the handle, a kind member of the club suggested it was surplus to my requirements, so it was removed before it caused any more hiccups, but as it was being removed too quickly, the gouge slipped onto the head of the mallet and put a 1 mm gouge into it oops!

The top of the mallet was rounded with a 10mm gouge, to whatever shape pleased the eye. The handle is only 30 mm maximum, and the callipers were set to this diameter, and the parting tool took the wood away to 30 mm, the roughing gouge was enthusiastically employed to remove the excess timber, the handle is sort of sausage shaped and the top and bottom diameters go down to 24 mm, but the too quick removal of the timber caused some 'tear out' which took a couple of passes with a gouge to remove, a skew chisel was used to smooth out the head, but evidence of the too quick turning was too deep to remove, so I said enough, and got out the 80 grit sandpaper, shock horror!

I parted the mallet off, and there was much acclamation from the kind members, I have turned better, but tried to hurry too much, I am grateful to Bruce for asking me to do a Demo, as it is only in doing one, do we learn to do better.

Rem pointed out to me afterwards, that I had been holding one of the gouges too near the blade, and more control could be gained from holding it further down the handle, something I never do at home, must be more careful in the future. Bruce asked what speed I was turning at, and it was 800 rpm. and said if I had used 1800 - 2000 most of my problems wouldn't have happened. Thanks for all the positive feedback too, we are a great club.



Club Night Action

Wednesday 17th September

Bowl Saver Tips and Tricks - Trevor Roberts

Report by Mark Johnstone

Trevor delivered a very interesting, interactive and informative demonstration on how to use the Woodcut bowl-saver. Before he started turning, Trevor advised that when wet-turning, the turner has to decide whether the bowl is going to be used for form or function when dry.

Recently the North Shore Woodturners' Guild acquired a large quantity of macrocarpa so this is what Trevor used. His advice to new turners was very simple, "Get friends who have bigger chainsaws and trailers."

The 300mm diameter lump of macrocarpa was fastened onto the lathe with a screw-chuck and 110mm chuck. Trevor explained that he always uses screw-chucks for wet-turning (except when turning Kauri) because it is quicker and holds the wood securely, providing a large chuck is used.

Once the outside of the bowl was turned, he flipped it over and cleaned up the face. Now it was ready to be bowl-saved. As Trevor measured the depth of the cutters there were comments about using a laser depth measurer which is what Terry Scott uses. This definitely saves time but doesn't save money.

Starting with the second largest bowl, he noisily cut it out before flipping it over and turning a 50mm spigot on the bottom. This was the wrong sized spigot. It broke twice. Despite this setback, Trevor turned three bowls out of the 300mm block of macrocarpa.

I enjoyed Trevor's bowl-saving demonstration and learnt a lot. I have since put these skills into practice and finished up with an even wall-thickness.



Club Night Action

Wednesday 20th August

Carbon Fibre Pens - Richard Bootten

Report by Wim Nijmeijer

Richard started by telling us about his background in the boating industry and his involvement with composites.

He then gave us an overview of composites and carbon fibre strands, resins and special equipment needed, etc.

The pen kit used for this demo was based on the Sierra Pen Kit, however other pen kits can be used.

The Process;

As with any project, planning is very important. For carbon fibre pen making, it is very important to consider the total room/thickness available around the pen tube in order to ensure that the carbon fibres are not exposed/touched when sanding/finishing the resin. If you sand through the resin and touch the fibres, they lose their iridescent shine and become flat.

Richard used a pre-painted brass tube. (metallic automotive paints- acrylic lacquer are recommended as they do not react to the solvents in the resin)

As part of the preparation of the tube for laminating, Richard produced some pre-turned bushings and mould dams, laminating guides, etc. The bushings are used to hold the pen tube while laminating the carbon, and the dams are used to seal the ends of the mould for casting the blank.

The tube together with the temporary bushings, laminating guides and slimline bushings are then assembled on the turning mandrel.

30 grams of R4 resin and 9.5 grams of H1 hardener are then thoroughly mixed.

A small amount of the mixed resin is then applied onto the pen tube and temporary bushings.

The fibres are then applied to the pen tube using your preferred pattern; in this case a cross diagonal pattern was used. With all the fibres in place, and prior to casting, the fibres are secured with string wrapped around the fibres on the temporary bushings and tied tightly.

The pen barrel is now removed from the mandrel and together with the casting dams assembled on the casting mandrel. Hot glue is used between the temporary blanks and the dams, to ensure that the joint is sealed against resin ingress. The assembly is then transferred into the casting mould and the ends sealed with hot glue.

The resin was carefully poured into the mould, ensuring that no air is introduced. With the pouring completed, Richard showed us an example of a completed cast blank.

There was also a range of finished pens, including carbon fibre on display.

All in all a well-prepared and interesting demo.

Thank you Richard.

The following link provides the detailed process Native Pens uses to make a Custom Fibre Pen:

<http://www.nativepens.co.nz/instructions/Native%20Pens%20-%20Making%20a%20Custom%20Carbon%20Pen.pdf>



Club Night Action

Wednesday 15th October

Kids First Toys - Tom Pearson

Report by Earl Culham

SPINNING TOP

Tom introduced his demonstration of making a spinning top with the comments that the design was probably 100s of years old and was an old German design. All of the information required is on the SAWG web site under projects.

The Handle

Tom had mounted a piece of wood 33x33x170 on the lathe, with a predrilled hole 20mm through one face and a 12mm hole drilled through the other direction. It is important to ensure that the 12mm hole is located in the centre of the 20mm hole otherwise when the string is wound around the shaft of the spinning top it will bind on the sides.

Turn to round.

Mark the end for the head of the handle.

Shape and sand to finish.

The Wheel

Tom had made a jam chuck to hold the wheel which had been predrilled with a 12mm hole. Tom's tip-use hard wood for your jam chuck, holds better and lasts longer.

Shape the first side, sand and texture if you wish

Remove the wheel and refit into the jam chuck and shape the second side.

Sand and texture if you wish.

The Shaft

Mount the shaft (20x20x100) in pin jaws. One end of the shaft becomes the toggle. Tom then drilled holes for the string.

Mark the length of the toggle

Mark the wheel position and turn to an exact 12mm

Reduce the remainder of the shaft to smaller than 12mm so that it will spin easily in the handle.

Remove the toggle and reposition the shaft in the jaws so that you are able to shape the spinning end. At this stage Tom suggests that if you are going to use a rivet, put that in now and then shape the end.

Remove from the chuck and assemble.

As the instructions on the SAWG web site suggest, a piece of string 300mm long is about right, but in good New Zealand fashion, surely if 300mm works well, a longer piece of string will work even better. Not so, it gets jammed in the head of the handle! Tom suggests that a smear of super glue on the free end of the string will make it last better.

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Club Night Action

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JACK'S CAR

As with the spinning top, the design for Jack's car is on the SAWG web site.

For Tom's second toy demonstration, he had prepared a block of Rimu which would be used to make 2 cars. The block of 50x100 had 7mm holes drilled for the axels, a hole for the driver drilled to about 12mm in depth. Don't drill too deep or you may hit the axle, or when you glue the driver in, the glue may leak through and stop the axle from turning.

The shape of the car was pencilled on to the block as well.

Mount between centres and turn to the shape outlined in pencil, sand to finish. The block would then be cut in half on the band saw. Tom didn't have time for this part of the project.

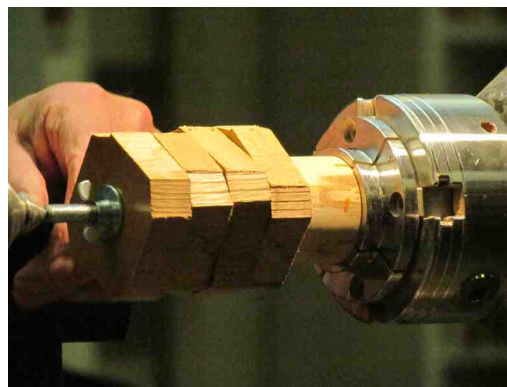
The Driver

The driver was shaped with a helmet, and turned to fit the hole in the car. A touch of red paint on the helmet will increase the value by about \$15, not bad for a small amount of paint.

The Wheels

Tom had departed from the project plan on the website for making wheels and had made a jig to speed up the process. The jig was made out of a piece of 8mm threaded rod held in a block for mounting in the chuck. The rod was long enough to hold 4 pieces of wood. Easy thereafter to turn to round and add grooves for tread.

The axels were then threaded through the holes in the car, the wheels hammered on. Job done.



Club Night Action

Wednesday 3rd September

Lidded Box - Escoulen Chuck - Bruce Wood

Report by Murray Wilton

Resplendent in his turnfest 2014 smock this was going to be a colourful demo, having missed Bruce's last demo with the Escoulen chuck I was looking forward to this one. Now those of you with a nervous disposition to fast and furious turning please turn away now.

A piece of kauri was selected roughly 300*90*90 with a spring loaded centre punch used to find centre. In between centres and down to round with two 30mm long spigots being formed with the bedan.

As the Escoulen chuck is a jam fit spigot size is critical down to 41.01mm by eye and then out with then Vernier's, Bruce recommended 40.3 mm as an ideal spigot size. I understand the manufacturers recommendation is 40mm

Parting off (in rather unique fashion) for the box roughly 100mm it is then jam fitted into the Escoulen chuck. Now those with T60 lathes will have no issue here, as demonstrated at turnfest the tailstock was brought up and then used to jam fit the box blank.

The DVR not carrying quite the same weight meant more innovative means of fitting the rounded blank to the chuck had to be adopted.

Time elapsed just over 5 minutes.

Adjustments made to the chuck to determine required offset the outside shape was formed then Bruce proceeded to hollow out. Spindle Gouge, turnmaster, were used for hollowing. Complete more adjustments to the offset and onto the stem and base, again spindle & skewers were used in rotation with offset adjustments.

Elapsed time just under 10 minutes

The gasps from those assembled could only have been from the admiration at the speed and dexterity being shown here. At this point Bruce mentioned that as you proceed you need to finish each step before changing the offset.

Clearly one needs to have a thorough understanding of how the chuck functions in order to determine offsets required I can see a number of design opportunities when stems may be accidentally turned off.

With the base being parted off this time using more conventional methods the remaining spigot inside the chuck was then turned out. The box lid was then fitted to the chuck using the same innovation and offsets determined.

Elapsed time 10 minutes 30 seconds.

The lid was then cut to size with Bruce suggesting that applying a bead goes some way to disguising the join one must also make sure that the curve should flow from the box through the bead onto the lid. More gasps of admiration from the gallery with a camera shot providing a clear view and appreciation of the actual rotation of the lid and what Bruce was doing in turning the lid. Several more offsets and the lid was parted off.

Clearly this chuck would take me considerable time to come to grips with the basic fundamentals. The more I see Bruce demo the more I come to realise that I should have paid more attention to my maths & tech drawing decades ago. His ability to provide a demonstration on a relatively new piece of equipment or design a jig is I guess in part coming from his solid background in architecture draughting and his ability to translate or visualise this to his final turned piece is a skill worth developing.

Total elapsed time well a little more but given that it takes me all day to turn a basic box the gallery would be fast asleep from boredom if I was to demonstrate - certainly not tonight - thanks again Bruce and I for one am looking forward to your demonstrations at symposium later this year.

For further information on the Escoulen chuck see
<http://www.vicmarc.com/default.asp?contentID=699>



Club Night Action

Wednesday 10th December

Texturing - Andrew Bright

Report by Alan Day

It is always good to see a demo by Andrew, he has brought along a beautiful Maire Platter with Spiral texturing, coloured a mid-dark green to show the texture to good effect, which was passed around, and he says 'It's not hard to do'

Andrew has returned a 300 mm diameter piece of Maire, which he got years ago from 'the Vivian's', he had formed a curved bottom of a Platter, and a 100 mm 'chuck bite',

From a distance the finish looks good, with the lights shining off the hard surface, he puts it in the chuck, and spins it by hand to ensure it's concentric, and not going to 'ding' the tool rest,

He mentions he was driving South to another club, and spotted a trailer load of 'Fire wood' for \$150, on closer inspection, it was all Maire ! and there was some really nice pieces,

He has a Travelling tool kit, with a self turned handle with beautiful figuring, and a hand tightening chuck to accommodate the gouges, he chooses a 12 mm gouge with a 35 deg angle, to face off the chainsawn surface, he sets the revs to ? 1000, the timber appears to be very hard to remove, and Andrew uses a 'draw cut' which gives him a more efficient result, while still removing timber says, as everybody knows, texturing isn't a way to disguise bad turning, it will only highlight it,

He stops the lathe and inspects the surface finish by hand and eye, happy with the turned result, he gets his right angled drill, now converted to a power sander, and chooses 100 grit, to start, Revs 150, he does several passes, changes to 240 grit, ditto 320/400, stops the lathe and checks the surface which is deemed ok. marks the area to be worked on with a soft pencil,

He has a Sorby Texturing tool on the tool rest and leans it to the right at a 45 deg angle, holds it at 90 degs to the work and starts from the inner diameter to be formed. Slowly moves it out with a constant moderate pressure into the timber, stops the lathe to see how the wood is responding, then continues the slow texturing, and checking, eventually moving the tool outwards and inwards at a slow pace, at last the best possible result is achieved, and Andrew brushes the stationary work with a wire brush to remove any loose pieces,

Andrew takes the Platter off the lathe in the chuck and seals the timber with a Shellac sanding sealer, so the FAS Indian Ink from The Warehouse Stationery doesn't 'bleed' into the surrounding wood,



uses a thin brush to get the black colour into the grooves, two coats, there is some good natured banter while it is drying,

The chuck is put back on the lathe and Andrew produces a tin of Liberon Verdigris Wax, tears a piece off a soft towel, (much to the amusement of the onlookers), and loads it with the Green wax, rubbing it in all the grooves, from several directions, then the wax needs 3 to 4 hours to dry/harden before buffing it,

A second chuck appears, with a previously turned & textured piece, timber ex Tree Works, complete with Liberon Verdigris Wax ! the two pieces are swapped over, and the second one which was waxed yesterday, is buffed at ? 1000 revs, another piece of towel is torn off (more chuckles) and bits of cloth are flying into the air, when the lathe is stopped and the work inspected, the result isn't perfect, so Andrew says the wax was too hard and 3 to 4 hours drying time would have achieved better results,

A third platter is produced and put on the lathe at 2000 revs, the textured surface has to be delineated with two grooves inside and out, with a super sharp small shaped diamond part off, this was done then the part off tool was swapped for a bowl gouge, the revs dropped to 1000, and because of the part off groove, Andrew can put his Gouge inside this and turn a bowl shape out, and be confident the gouge can't slip out and remove any of the textured wood,

Andrew, sent around 3 textured platters for the members to examine, one was quite small, but the same heavy texture was used, Terry Scott said you can have the texture tool more vertical and get a finer/smaller pattern, someone asked how much Andrew would sell his bowls for, and the answer was \$100 plus, more questions, what finish does he use, and it is Starwood Lacquer, and the Indian Ink is called Jet Black, and is waterproof,

Thank you Andrew, for the well prepared, informative and entertaining demo,

Club Night Action

Wednesday 3rd December

Embellishment - Terry Scott

Report by Gary McDonald

Watching Terry set up for this evenings demo there were 3 trips to the Toyota returning each time fully loaded. Turned finished items still on their chucks, a butterfly carved item and a couple of blanks just for good measure add a promount, an airbrush a bunch of paint brushes, several storage cases, several containers plus a handful of chisels. The topic for the term is embellishment this evenings demo was applying leaf and verdigris.

Terry kicked off with a brief overview of the types and colours of leaf then applied leaf size to a number of premasked items. At this point it is pertinent to mention that the standard of finish should be at 200% or a pass by Dick's standards as any imperfection will be highlighted. Normally when sizing items an airbrush is recommended or at least a very good quality brush as brush marks from applying the size will be evident when the leaf has been applied. Items should be sealed with sanding sealer beforehand paying attention to sealing the end grain. When masking up items look to a clean crisp line.

A dab of size somewhere on the item that leaf will not be applied to was a good tip, so when checking if size is of a suitable tackiness to apply leaf finger prints are not transferred. There is no hard and fast rule to gauge when size is at a suitable tackiness but a rough guide of fifteen to twenty minutes could be used.

Terry recommends keeping items on chucks this enables them to be mounted on the promount so its features can be used making application easier.

Onto another item this time a verdigris application onto a carved vessel. Picking up the container I did wonder if it was sold on weight or volume. A brief troll on google reveals some interesting facts about its origins. Terry did comment that a similar effect can be achieved by using gilders pastes.

What to do for the intervening period while waiting for the size and verdigris to dry, mount a blank of mahogany on the lathe complete the back with a series of beads effortlessly after roughing out, flip it over leave a 40mm rim and then finish the inside of a small platter. Into a container and out with a tube of acrylic and paint the rim. Fire up a heatgun for expediency and then apply a contrasting colour to the inside rim of the platter, lathe speed at 1100. Stop the lathe admire grab another container more colour to the inside rim Indian ink this time - hmm maybe should have consulted the colour wheel a little further. Cut a bead to picture frame and draw the eye to the inside of vessel job done.

Leaf size deemed now at a suitable consistency it was onto applying leaf to pepperwood vessel a nice piece of turning in its own right. Silver leaf was selected and applied to the bead on the inside of the rim. When applying leaf small sections at a time are recommended using a quality pair of tweezers and overlaying with a quality brush. When rubbing the leaf onto the vessel light pressure and a little talc on the fingers was mentioned. Almost done but not quite out with some copper gilders paste to tone the silver leaf highlighting down. Items need to have a finishing coat applied and thinned 30% was recommended.

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Club Night Action

>>Continued from Page 10

Onto the next item this time the carved butterfly's, gold leaf was selected and a similar process was followed as above, again it was highlighted that it is best to use small parts of leaf as opposed to laying a cut size of sheet right over the whole item. Next up the inside of a small bowl similar to what one would have in a Japanese teaset. As mentioned the leaf is available in various colours and also in a variegated leaf a quality arts supply store is a good starting point to source leaf. When applying the leaf beware of the straight line of the sheet coming together the joins look better if not parallel.

Smoothing the insides takes practice and a soft small brush applying light pressure is recommended otherwise the leaf can move off the size. Cleaning up the edges with a piece of sandpaper left a nice crisp line.

The application of leaf can be a delicate process best completed where the current equinox winds we are experiencing will not distribute leaf around the workshop, excess leaf can be gathered and stored for use in resin inlays. The subject of applying a base colour before the application of leaf was briefly touched on.

Back to the verdigris and an oxidising patina solution was applied, this is the reactive that creates the genuine antique metallic finish – or at least that's what the marketing on the label states. As you are applying the solution Terry has found that keeping the area wet increases the antique style finish. A finish is also recommended and again Terry has used 30% style wood lacquer as a sealer.

Just to wrap up the evening a small bowl was coated on the inside with an acrylic – a darker colour but not black - then a sea sponge was used to dab highlights.

Another informative demonstration – cheers Terry.



Club Night Action

Pepper Grinder - Dave Gillard

Report by James Brown

Pepper Grinder

Dave

Initially started off with the pepper mill on the SAWG website however changed some of the methods as they were considered unnecessary.

Brendon Stemp – Great resource regarding tips and techniques for wood turning. Youtube reference. Has his own channel which you can subscribe to.

Angled pepper grinder sell better at the markets rather than the traditional rounded ends or beaded versions.

Had a bunch of old 4 inch Kauri posts which had nail holes in them. Cuts these into lengths and laminates them using GUILD PASTE which dries rock hard. Dave only deals with recycled timber. Only issue with recycled timber is that nail holes are a common factor.

FIG 1 A specific diameter is not really crucial. After you've made enough of these you try different things and after a while you will know what you like and what works for you.

The Pepper Grinder mechanism is purchased from Terry, he has the ones which you can cut to the required length.

Pepper grinder on the website uses a 45mm diameter FORSNER BIT however Dave prefers to use a 44mm – Doesn't have a gap ???

FIG 2 After truing the piece of wood the hole for the bottom is the next step.

While drilling the holes try a slower speed (300rpm – Brendan Stemp suggests a slower speed) with the Forsner Bit. You achieve a cleaner, truer cut and don't end up with as much heat. Black Maire is especially difficult to drill. A bigger wheel on the tail stock assists in the drilling process by allowing more control of speed and exerted force.

FIG 3 Dave has customized a SPADE drill bit which out does the forsnier bit. Basically welding an extended shaft and attaching an air tube to blow out shavings and material. Uses a rubber "O" ring on the shaft to help with determining the depth of the hole for the bottom.

A hole is drilled 35mm Deep into the bottom of the grinder.

A Jacobs chuck is then inserted into the tailstock. A 6mm drill bit is used to create a 4mm deep Pilot hole to keep the Auger Bit centred.

The hole is drilled $\frac{3}{4}$ of the way up and to what would be halfway into the tenon of the top making sure that the tailstock is re-adjusted often.

FIG 4 A rebate is made in the bottom once the hole has been used using a jig which marks where the rebate needs to be using a custom built scraper.

The hole is then finished with 150 / 180 / 24 grit. Normally Dave would grain seal once done.

FIG 5 A robert sorby LIVE Steb centre is used to remount the pepper grinder using a wooden cone pressed into the newly drilled bottom holes.

Parting tool is used to mark and remove 4mm of material for the top. Dave has made a 6-8mm mortise/tenon tool which he uses to create a 2mm tenon/rebate ?

The lid is then parted off and seperated off with a hand saw.

A 10 mm drill is then used to drill a hole into the top.

Doesn't drill all the way through the top as he can suffer "TEAR OUT"

Top is then finished as desired.

FIG 6 A 23 mm forstner bit is then used to drill a hole in the top. Measurements depend on length of grinding mechanism

FIG 7 Before inserting the mechanism Dave uses a specially made jig which is conicle in shape and makes a groove to fit the lip of the mechanism. There are 2 ends for both bottom and top.

With the mechanisms Dave cuts off 2 of the tabs plus the opposite 2 leaving 2 remaining ... Why ?????

A Dremel is then used to feather out the hole in the top.

When the two pieces are placed together there us usually a fine gap. This can be fixed with a belt sander to achieve a flush finish. A skew is then used to gently cut a small 45° angle where the join meets simply as an aesthetic.

Dave then uses a drop saw to remove the spigot on the top.

FIG 8 Sand and finish with all pieces together.

FIG 1

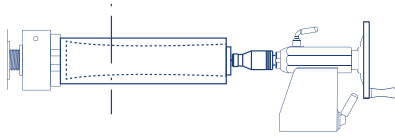


FIG 2

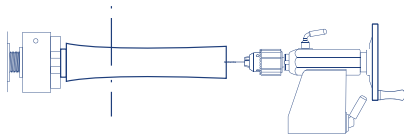


FIG 3

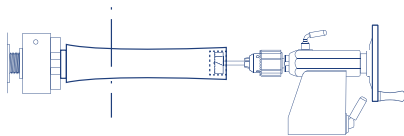


FIG 4

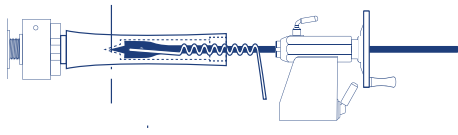


FIG 5

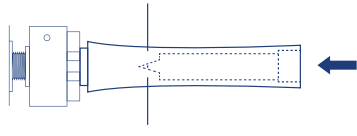


FIG 6

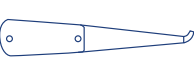


FIG 7

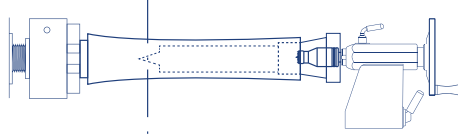


FIG 8

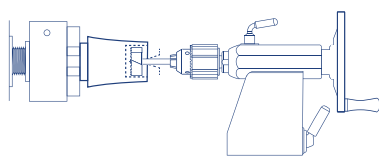


FIG 9

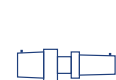


FIG 10



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