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Woodturning

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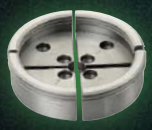

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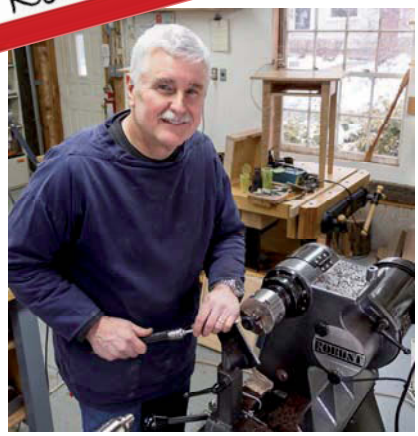

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Turning – a broad church

Quite a few conversations recently have centred around tools, what people have acquired from friends or are buying. It is no surprise that more turners are now 'enhancing' their work and there is a resulting requirement for equipment and accessories to do this.

There is a circular debate as to what constitutes turning, when it is something other than turning and whether 'turning' is dictated by how much of the time spent creating a piece, is on-lathe time or off-lathe time. That is for the person concerned to decide – where their personal boundaries are, what their likes and dislikes are and what they wish to do with their workshop time. We are a broad church as far as who is doing what and why.

There is no doubt that there is a wider variety of items being created by turners than there has ever been and turning is no longer dominated by treen and production spindle work. There is always a desire to excel, learn and if possible, create something personal and different and that is outworked in so many ways that it is certainly creating a visually rich feast of work. You only have to visit people's workshops, craft fairs, exhibitions, galleries and symposia to see what is being created. Here you can see a few examples from the AAW symposium as well as the full feature on page 47.

Enhancement and personalisation of work has been around since the earliest times of man. There is an innate desire to do this and to have something that is individual, different and decorative. The enhancement may have been simple in a form of surface decoration, such as beads, coves, sgraffito and so many more forms of texture, carving and colouring effects. Some ancient pieces I have seen even have finger and thumb prints on them as decoration. I saw one such pottery bowl in a museum – I think it was at the Fitzwilliam in Cambridge – and their display of works was amazing, being some 5,000+ years old. The bowl had beautifully linearly aligned thumb prints running around the top section of the bowl.

'Eccentric Trio 90' by Keith Holt

PHOTOGRAPHS BY GMC/MARK BAKER

Three pieces of work by Clay Foster

As techniques and thoughts developed, shapes become more complex and more decorative and as we moved to more modern times, some pieces moved away from the everyday functional to the highly decorative. These pieces look wonderful and their main function is to be a centrepiece or focal point for a specific area.

Tools are, of course, necessary to help one get to a given end result, but the biggest and most effective tool we have is our brain. If we learn to use it more effectively and we work out what we like, possible routes and solutions and the integrating of our desires in the process means we can better create those pieces we want, whether they be 'pure' turned, functional or purely decorative.

It is a huge learning curve, but oh, it is so much fun – even when I make mistakes. It is all part of the learning process. Have fun and let me know what you have been making.

markb@thegmcgroup.com

Woodworkers Institute website (www.woodworkersinstitute.com) is thriving. It would be great if you took a look and participated in the various discussions and competitions in our community.

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'Rising' by John Beaver. For the full story, see the 2014 AAW Symposium report on page 47

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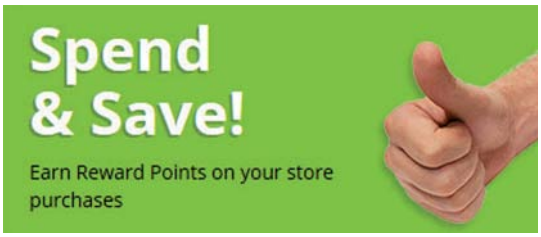

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Opening Times - Monday to Friday 9am to 5pm. Online 24 hours a day, 365 days a year.

Community news

We bring you the latest news from the world of woodturning as well as letters from the Woodworkers Institute forum and important dates for your diary from the woodturning community

Yandles Autumn Show

Yandles is pleased to announce the line-up of demonstrators for its forthcoming show on 5 and 6 September, 2014. In terms of woodturners, Stuart Mortimer, Nick Agar and Mark Sanger will be among the demonstrators who will be appearing at the show, alongside David Appleby and Andy Rounthwaite.

Xavier Haines will be demonstrating furniture restoration and the Japanese Tool Group will once again be demonstrating their skills along with broom maker Terry Heard. As always, there will be an excellent display of stickmaking, marquetry, carving, signmaking, alongside displays from Exeter Woodcarvers, West Country Woodcarvers and Martock Woodturners.

The show is now one of Britain's longest running woodworking shows and attracts thousands of visitors from all over the UK and Europe. Taking place in a traditional 150-year-old sawmill, the show is definitely unique and you can also expect to see the best selections of timbers to be found at a UK-based woodworking show.

Joining the demonstrators will be many woodworking industry manufacturers, including Record Power, BriMarc, Robert Sorby and Triton. All will be demonstrating their products and offering special show prices.

As always, all timber from the self-selection centre will be discounted. There will be lots of show bargains, a sale in the Hobby shop, plus demonstrations, a refreshment marquee and the 303 Gallery to look around. The event also benefits from free entry and free parking. See opposite for further details.

PHOTOGRAPH BY GMC/MARK BAKER

Just one of the marquees at this renowned woodworking event

DETAILS:
When: 5–6 September, 2014
Where: Yandle & Sons Ltd, Hurst Works, Hurst, Martock, Somerset TA12 6JU
Contact: Yandle & Sons Ltd
Tel: 01935 822 207
Web: www.yandles.co.uk

News from The Center for Art in Wood

In 2011, The Wood Turning Center announced its relocation to 141 N. 3rd Street, Philadelphia, PA and changed its name to 'The Center for Art in Wood, formerly the Wood Turning Center'. Over the past three years, this move has proven to be a great decision. They have managed to increase their visitors from an average of 1,500 per year to over 16,000 per year, and this number is ever growing. This visibility has enabled the Center to reach out into the community to further their mission of advancing the growth, awareness, appreciation and promotion of artists and the creation and design of art in wood and wood in combination with other materials.

The success and growth of the organisation since the move has been overwhelming and they say that they are continually thankful for this opportunity.

The Center's website has also recently been updated and here you can find links to the new virtual tour of the gallery space and permanent collection. This was all thanks to an opportunity presented to them and a few other Old City businesses by Google Maps. According to the Center, they had received great feedback from their constituency in regards to the tour and they hope to be able to update the images as they change exhibitions.

DETAILS:
Where: The Center for Art in Wood, 141 N. 3rd Street, Philadelphia, PA 19106
Contact: The Center for Art in Wood
Tel: (001) 215 923 8000
Web: www.centerforartinwood.org

Putting on a show at **G&S Timber**

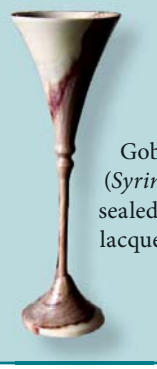
After a break of two years, Cumbria-based timber and tools company, G&S Specialist Timber is once again this autumn putting on a woodworking show and timber sale from 19–20 September. With live demonstrations of some of the woodworking world's most famous brands including Jet, Tormek, Veritas, Lamello, Arbortech and Lie-Nielsen and with support from Chestnut Products and Bessey, the show is aiming to be the best in the North West. Other attractions will include woodturning demonstrations from Art in Wood's Margaret Garrard and Michael Painter, one of the world's most famous and accomplished master carvers. The show will undoubtedly attract visitors from Manchester, Liverpool and Scotland. Local club, Solway Woodcarving Group, will also have a presence at the show.

G&S Specialist Timber is situated next to the Alpaca Centre, which sells alpaca clothing, has a welcoming café and can offer something to keep all the family happy. If you are about to embark on a woodturning project, with the biggest selection of wood in the north of England, a visit to the G&S Show is not to be missed.

DETAILS:
When: 19–20 September, 2014
Where: G&S Specialist Timber, The Workshop, Stainton, Penrith, Cumbria CA11 0ES
Contact: G&S Specialist Timber
Tel: 01768 891 445
Web: www.toolsandtimber.co.uk

PHOTOGRAPH COURTESY OF G&S SPECIALIST TIMBER

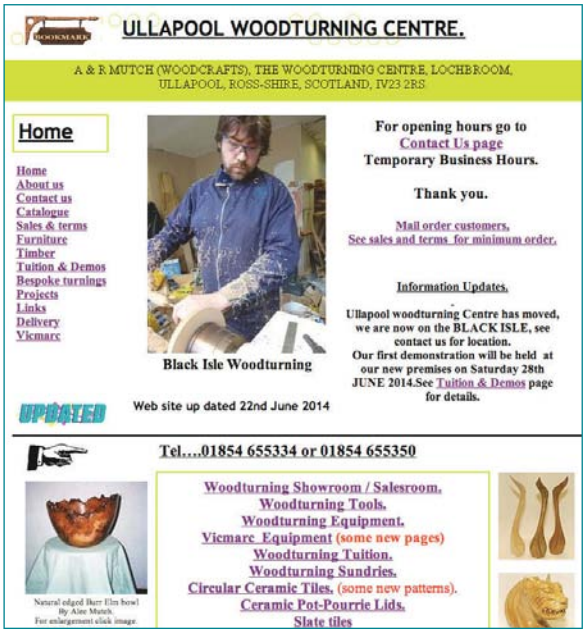
G&S Timber's wood store



Goblet in lilac (*Syringa vulgaris*) sealed with acrylic lacquer, by colinjp

Branchwood bowl with natural edge, by paul finlay

Working replica hunting horn in gonçalo alves *(Astronium fraxinifolium)* and hornbeam (*Carpinus butulus*), by Highland Turner



Ullapool Woodturning Centre's website

Ullapool Woodturning Centre

Alec & Rosie Mutch started business in March 1991 in Alness, Easter Ross. They sold mainly finished products with a little furniture restoration and commissioned work on the side. After attending a number of weekend craft fairs to advertise the business, they still couldn't get enough customers through the door, so they knew they had to move. In 1993 they stumbled on the A835 – the Inverness to Ullapool road – a busy tourist route. Purchasing the premises in December, 1993, the business reopened to the public in the spring of 1995. The first day's trading in the new location brought in more sales than in any day in their previous location. After noticing an emphasis in supplies to other woodturners, they started to cut and sell wood blanks. The woodturners supplies side of the business began.

In 2006 they started the business website and trade still grew. "As business has grown year after year, time waits for no one and it was time for us to retire at the end of 2013," so, Alec and Rosie advertised the business 'for sale'. Having now sold, it means a change in location, but the new owner Andrew Walters has kept the name of 'Ullapool Woodturning Centre'. Alec and Rosie wish the new owners every success in the future with the business and hope they will enjoy running it.

The importance of attending shows

Hi Mark,

With reference to your Leader in the June issue, with any product or service, it is up to the promoter to make sure the show is as attractive as possible. The Axminster Power Tool Shows at Shepton Mallet were the best I have ever been to. They catered for the family on a day out, for the beginner who was just starting out or was thinking of taking up a hobby, as well as serious craftspeople wishing to compete against one another.

It is important that shows continue as it is an opportunity for those who wish to take up a craft as a hobby or profession to explore the possibilities open to them. If I had my way, I would make it compulsory for school teachers to attend shows and seminars.

When I first started out in woodworking in the mid '60s then later into the late '70s when I took up woodturning, there were limited books and I was ignorant of any shows. I have always found that if you go to an exhibition with a positive outlook, you will always come away wiser. Is there a danger that some woodturners have become like twitchers and only go to shows to tick off demonstrators from their list rather than refreshing their knowledge?

There will always be people who buy a lathe on a Friday, turn a bowl on a Saturday and become a world expert on the Monday. Magazines, recommended books and DVDs can offer definitive examples of expertise. The secret in clubs is having someone who can discreetly point the novice in the right direction or have a pre-prepared book list or training courses; this could mean clubs combining or working with the AWGB. I hope this is of interest.

Simon Keen

Conversion chart

2mm (5⁄64in)	35mm (1 3⁄8in)	145mm (5 3⁄4in)
3mm (1⁄8in)	38mm (1 1⁄2in)	150mm (6in)
4mm (5⁄32in)	40mm (1 5⁄8in)	155mm (6 1⁄8in)
6mm (1⁄4in)	45mm (1 3⁄4in)	160mm (6 1⁄4in)
7mm (9⁄32in)	50mm (2in)	165mm (6 1⁄2in)
8mm (5⁄16in)	55mm (2 1⁄8-2 1⁄4in)	170mm (6 3⁄4in)
9mm (11⁄32in)	60mm (2 3⁄8in)	178mm (6 7⁄8in)
10mm (3⁄8in)	63mm (2 1⁄2in)	180mm (7in)
11mm (7⁄16in)	65mm (2 5⁄8in)	185mm (7in)
12mm (1⁄2in)	70mm (2 3⁄4in)	190mm (7 1⁄2in)
13mm (1⁄2in)	75mm (3in)	195mm (7 3⁄4in)
14mm (9⁄16in)	80mm (3 1⁄8in)	200mm (8in)
15mm (9⁄16in)	85mm (3 1⁄4in)	305mm (12in)
16mm (5⁄8in)	90mm (3 1⁄2in)	405mm (16in)
17mm (11⁄16in)	93mm (3 2⁄3in)	510mm (20in)
18mm (23⁄32in)	95mm (3 3⁄4in)	610mm (24in)
19mm (3⁄4in)	100mm (4in)	710mm (28in)
20mm (3⁄4in)	105mm (4 1⁄8in)	815mm (32in)
21mm (13⁄16in)	110mm (4 3⁄8in)	915mm (36in)
22mm (7⁄8in)	115mm (4in)	1,015mm (40in)
23mm (29⁄32in)	120mm (4 3⁄4in)	1,120mm (44in)
24mm (15⁄16in)	125mm (5in)	1,220mm (48in)
25mm (1in)	130mm (5 1⁄8in)	1,320mm (52in)
30mm (1 1⁄8in)	135mm (5in)	1,420mm (56in)
32mm (1 1⁄4in)	140mm (5 1⁄2in)	

Natural-edge bowl in ash (*Fraxinus excelsior*) by KimG1, finished with acrylic lacquer

Roman-inspired pot in Chinese elm (*Ulmus parvifolia*), 330mm dia. Painted with black and red poster paint, by Pete in Welland

Thuya (*Tetraclinis articulata*) and stainless steel shaving set, by mervyn cadman

Can craft fairs be profitable?

Hi Mark,
I have only taken part in one craft fair to date, which was last Christmas. I am hoping to do the same one again plus one the week after in December. I did well last year. It took place at one of the three private schools in the town in which I live.

The pitch was £25 for the whole day and it was full of stands. I think that if you choose carefully, you can make money at craft fairs.

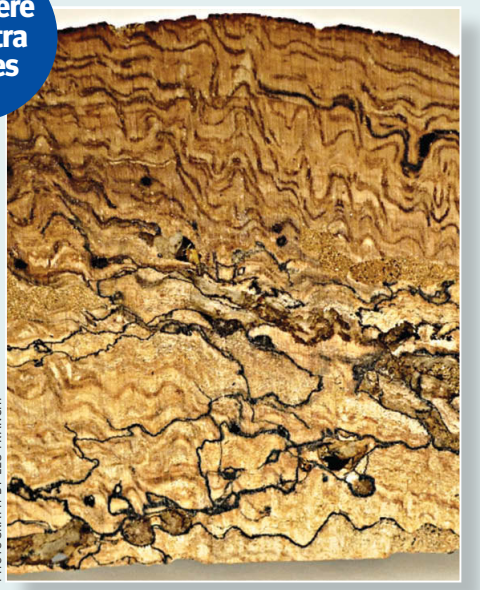
Good luck with the '365 Turnings'.

Cheers,
Duncan

Bizarre wood

Click here for extra images

Dear Mark,
I have a query regarding a wood blank that my son bought for me in Virginia, USA. I wonder if any of the readers could help to identify it? It is very dense wood – I suspect it may be a burr or even a root, with markedly interlocking grain pattern, as shown in the attached photo of a vertical offcut. In addition, there is some spalting and obvious signs of attack by more than one species of wood-boring beetle. Before I attempted turning, I used low power microwave treatment and woodworm fluid to eliminate any active inhabitants. Luckily I found no insect remains, but I didn't want to risk unwelcome visitors in the house. I found the timber very hard and difficult to turn, the tools needing frequent sharpening. After roughly shaping a small vase, the exposed boreholes and other fissures were cleared of loose material and filled with epoxy resin loaded with coarse brass filings. The bizarre figuring and metallic glint from the infilling makes it a conversation piece



PHOTOGRAPH BY LES FRANCHI

Les' spalted blank – does anyone know what timber this could be?

if nothing else! I would like to know if any readers could help identify the timber.

Best wishes,
Les Franchi

Is woodturning really art?

Hi Mark,
I really think that woodturning has moved so far from its roots that it has become irrelevant to many of us. I now see that some woodturners call themselves artists and I wonder whether what they produce really is art? I wonder what Dennis White would have made of being called an artist! Are woodturners artists, are woodcarvers artists, are wood machinists artists? Where does one become an artist?

I produced many turnings up until about 10 years ago. At the time, I stood back and admired them and thought them very beautiful. Now, looking around the house, practically the only turnings left are those which have a use. Most turnings were disposed of after they had lost their initial newly cut colours and became rather plain and insipid. The useful items serve that purpose for which I made them and I still find them beautiful and satisfying.

I now only turn items for which there is a purpose and unfortunately, this means that my skill level is nowhere as good as it was. That is a bit sad but I console myself with the thought that I am no longer wasting wood.

Yes, woodturning can be relevant but it has become so influenced by instructors and businesses, both of whom have a vested interest, that it has lost its direction. For me, when I started, a great part of the learning process was how to turn with the minimum of tools and gadgets. Nowadays, with the amount of equipment available, that part of the pleasure has been removed. I have been to woodworking shows that should have been called wood machining shows and woodturning has gone the same way. I no longer attend shows because of this and suspect many others feel the same way.

I love discussion and hearing other people's views and hope that my views will be relevant to yourself.

Regards
Mr J Lamb

The Worshipful Company of Turners Open Competition 2014: The Fiona Woolf Competition

'The Square Mile's energy to transform lives': is the theme for this year's competition, which reflects Fiona's belief that the City of London has the energy and talent for innovation to meet the momentous challenges that face society – it has 'The Energy to Transform Lives'.

This competition is open to any turner resident in Great Britain and is for a themed piece, namely: 'Energy for Life in the Square Mile'. Prizes of £1,250, £500 and £250 will be awarded accordingly. There will be a separate award for schoolchildren.

Full criteria for entering this competition, as well as others, can be found on the website, as well as the full list of rules for entering. Completed forms must be returned to the Clerk by 21 September, 2014.

DETAILS:
WHEN: 28 and 29 October, 2014
WHERE: Apothecaries Hall, Blackfriars Lane, London EC4V 6EJ
CONTACT: The Worshipful Company of Turners
TEL: 020 7236 3605
WEB: www.turnersco.com

Woodbury Woodturners to host annual show

The biggest woodturning club show in the southwest will have three simultaneous demonstrations running all day with a host of different turners showing you a wide range of turning skills. There will be lots of fantastic items for sale as well as a wide variety of wood and materials. Be amazed at the competition entries and enter the raffle for your chance of winning some great prizes. Exeter Woodcarvers will also be showing off their skills. Parking is free.

WHEN: 20 September, 2014
WHERE: Woodbury Village Hall, Flower Street, Woodbury EX5 1LX
CONTACT: Peter Banks
TEL: 01395 272 070
WEB: www.woodburywoodturners.org.uk

PHOTOGRAPHS BY NEIL SCOBIE

Split-lip form

Neil Scobie turns and carves a birch burl into a split-lip form

Living on the coast of New South Wales in Australia we do not normally see many European woods, but that changed when a woodturner/carver from Norway came to visit. Kjell Kliense's daughter lives in Coffs Harbour and Kjell comes out to visit her every couple of years. On each of his trips he visits my workshop and we share photos of our recent work and talk about our woodworking experiences. Two trips ago I took Kjell out to visit my Australian red cedar *(Toona ciliata)* supplier and also gave him a piece of Huon pine *(Lagarostrobos franklinii)* to take home. Kjell loved working with both timbers.

On his last trip he brought over a piece of birch *(Betula pendula)* burl from which he had painstakingly removed all the bark inclusions in all the crevasses just so he could get it through the Australian customs. I had this burl sitting on a shelf in the workshop where I could see it, waiting for inspiration on what to make out of it that would do justice to the timber and the effort put in by Kjell. I decided to make a carved form that is hollowed out from underneath with a small 'S' shaped incision on the top. The design is meant to look as though it couldn't be hollowed out through the small slit in the top and, if you do a good job on the plug, people will say 'how is that possible?' I have made two of these pieces before in Australian red cedar, the first one was a practice piece or prototype, just to see how the design looked, and the second one was larger, about 350mm in diameter, and is currently in a gallery in Cleveland in the USA.

As the hole in the bottom has to be plugged after hollowing, you need to save a piece of the same timber to make the plug. If you keep the slit opening in the top narrow, then you will not be able to see inside the form from the top as it will be very dark inside. With this project the first step is to work out a logical order of procedures and the best way to hold the piece for each process. Having made a prototype and a finished piece previously, I just had to recall the procedure used last time, even though it was about four years ago.

Click here for extra images

NEIL SCOBIE

About the author: Neil is a full-time woodworker who makes custom-made furniture and woodturned and carved art pieces for private clients and selected galleries. He also writes for a number of woodworking magazines. Neil lives in New South Wales, Australia.
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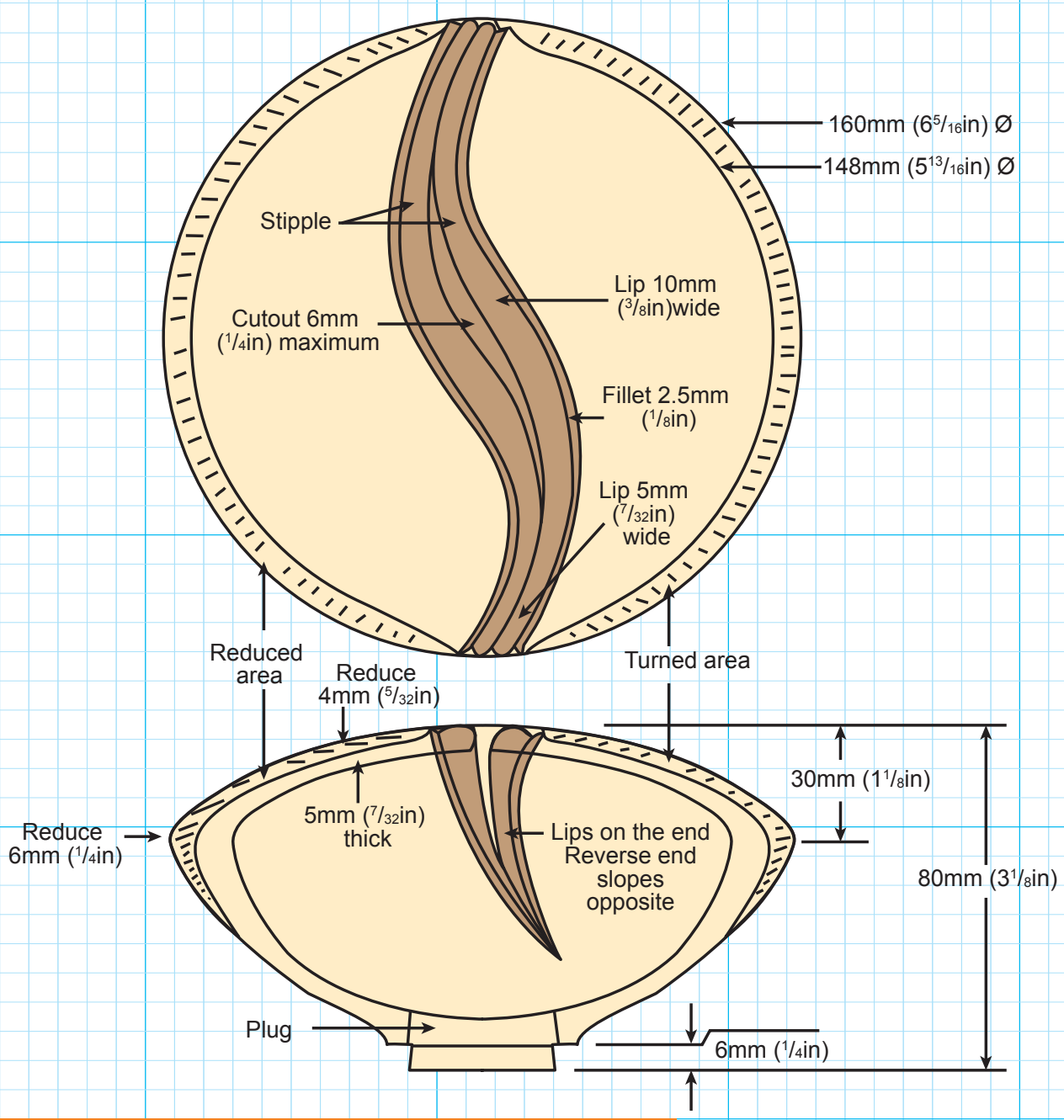
SPLIT-LIP FORM DIMENSIONS



INFORMATION

TIME TAKEN & COST

Time taken: 6 hours

Cost: £8

TOOLS REQUIRED

- 10mm bowl gouge
- Parting tool
- Hollowing tool

ADDITIONAL TOOLS

- Rotary carving tool
- Long neck angle grinder
- Electric drill
- Hand carving tools
- 'V' carving tool
- Small rounded gouge, such as a No.5, 10mm
- PPE: facemask, respirator/dust mask and extraction

1 This is the burl that travelled in Kjell's backpack all the way from Norway. Note the hollows where the bark was picked out. It had just been rough turned to a basic round shape Hold the burl between centres so that it can be readjusted to maximise the final diameter. I needed to turn off the bark hollows and then decide which will be the top and bottom and design the shape to suit what is left. The turning is done with a deep fluted gouge, cutting with the bottom half of the flute

2 As there is no real grain direction in burl timber, you can just reset the toolrest to the headstock side of the blank and cut 'downhill' towards the centre. This will be the top side of the bowl form and will need a chuck spigot to suit your scroll chuck

3 After turning the chuck spigot on the top side, reposition the toolrest again and turn a spigot and plug on the bottom. A parting tool will do this job adequately. Refer to the drawing for sizes. Make sure you allow enough room on the plug for parting off from the main form. Also, place a mark on the plug and base of your form so that you will be able to align the grain when gluing the plug back in

4 Here you can see the finished profile. Note the classical shape, with the widest diameter about three quarters up from the base

5 I find it easiest to use a sawtooth drill bit or Forstner bit to drill out most of the inside. Mark the depth you want to drill to with a marker pen or masking tape

6 There are any number of hollowing tools that you could use to remove the rest of the waste, just use whichever one you are most comfortable with. I used the Vermec hollower for this project. Refer to the drawing to get the wall thicknesses to the correct size. Keep checking the wall thickness in each section with double-ended callipers, or better still, spring-loaded odd-leg callipers. The thicknesses I was looking for with this project were 5-6mm at the base near the plug hole, about 15mm at the largest diameter section and 10mm at the top

7 Not much sanding is needed inside as you will not be able to see through the top slot. I made up a long sander so I could sand under the top section where I was going to cut through. To make the long sanding arbor, glue a round disc of dense foam rubber onto the top of a flat head bolt. These are called demon bolts in many catalogues. After shaping the rubber disc on a disc sander, glue on a piece of hook-and-loop tape. CA adhesive gel works well for gluing the rubber and hooks

8 Here you can see the plug and the hole which it will glue into

9 The hole in the base is slightly tapered, maybe just 2°. To check the angle of the hole you will need to use a sliding bevel and a small ruler. Set and lock the sliding bevel, so you can turn the plug to the same angle

10 It is easier to set the plug in a second chuck, if you have one, then turn the plug and check the angle with the sliding bevel, which was set to the angle inside the hole. The diameter should be so it inserts in the hole with about 1 or 2mm protruding. Use the tailstock to centre the plug and also act as a clamp

11 Glue in the plug with some good quality PVA glue. Spread some on the plug and the hole so that you are sure there is glue all the way around. Put the project aside until the glue has had plenty of time to set

12 Hold the plug spigot in the chuck and turn off the spigot that was on the top of the form. Keep the same curve which is on the rest of the top, not a flat surface

13 Here you can see the finished top shape with some carving lines drawn on. Now you should remove the form from the chuck and finish drawing on the carving shape. Shapes can easily be changed in the drawing stage, but not after you finish shaping. I like to walk around the piece with the shape drawn before carving it

14 As I wanted to reduce the height of the outer top section by 5mm, I set a 5mm diameter straight router cutter in a trimmer router with the cutter protruding 4.5mm out of the base. Rout a series of lines around the outside of the carving area, which will give you a depth to carve to. You can't rout too much material away as the trimmer base needs to be supported. While routing and carving you need to have the piece held securely in a chuck attached to a vice or carving jig. I used the Vermec carving jig for this job; it is very versatile for rotating for different angles

15 For the cutout slit in the top, drill a series of small holes through the top, about 3 or 4mm is good. Now use a small keyhole saw to finish the cutout section. Do not make the slot too wide as you do not want to be able to see inside

16 You now need to remove the waste area where you routed. Chisels or gouges will do this job well, but are just a bit slower than a power carving tool. When I made this piece I had just purchased a Foredom angle grinder head to go on my Foredom power carver. I attached a red rasp cutting disc and slowly removed the waste. This tool is not too aggressive and is easy to control. I knew I had 10mm in wall thickness on the top so if I only removed 5mm then I would still have 5mm left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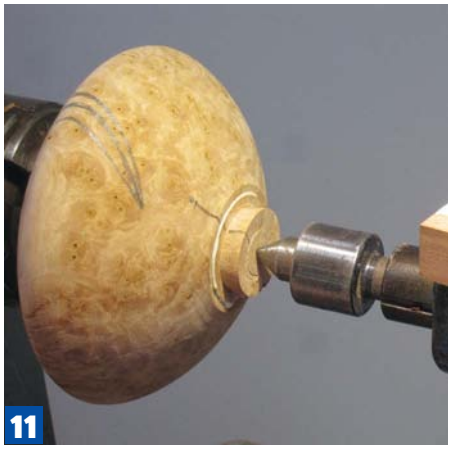
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17 Remove the waste close to your pencil lines, approximately 2mm away, and to the depth so that you can still see some of the router cutter marks

18 Rotate the piece over in your holding jig so you can carve the underside. The Foredom angle grinder head was also good for this job. I had 15mm wall thicknesses on the widest diameter so I was able to pull in the sides of the piece by about 9mm on each side. This gives the piece a more oval look with extended ends

19 On the top side, use a 'V' carving tool to shape the sides and ends of the cutout section. This 'V' will extend all the way around the edge to the underside of the raised parts

20 Use a rounded carving gouge to shape the edges of the raised section. Make sure you are carving with the grain to avoid tear-out. Carve all the way around from the top to the underside of the raised parts

21 For sanding the carved area you need a sanding pad that has soft rubber so it will hug the surface. Sand the whole surface, checking regularly that you do not have any hollows or hills. Sand the surface to 600 grit, followed by hand sanding with 600 grit. To sand the cutout section, cheap nail files are ideal. As I was going to stipple the raised parts they only needed to be sanded to 120 grit

22 For stippling I used a small dentist's round end burr about 1mm in diameter. It is always a slow process, so you might as well be comfortable

23 To turn off the base spigot you will need to make a special carrier. Just turn a scrap piece of wood to match the reverse shape of the top of your piece, hollow like the inside of a bowl. Now carve away the areas where the raised sections are so the flatter parts of the top of your form will be supported. Place a piece of soft foam between the carrier and your piece and turn most of the spigot away. Use a small gouge for the job. You can safely cut towards the centre or away from the centre as long as you are using the bottom half of the gouge. Leave about 12mm in the middle where the tailstock centre is, which can be carved away by hand. Hand sand the base area

24 The final step is to check all the scratches have been removed, then you can apply your favourite finish. This piece was coated with Livos Kunos oil with a rub back between coats with '0000' steel wool. You should find this project to be a good challenge but not too difficult as long as you work accurately to the wall thicknesses that you want ●

PHOTOGRAPHS BY KURT HERTZOG

What you need to know about bending wood

This month **Kurt Hertzog** looks at the topic of wood bending

Bending wood isn't a common need for most hobby turners or even among the professional ranks. Other than furniture makers, the need to bend wood is not that common. Even so, there are several reasons for tackling this topic. It will force anyone learning to bend wood to really understand the material. Knowing the species and the key points about growth rings, grain orientation, moisture content and more are key to being successful. Other things that will lead to success are attention to detail in the resawing, material thickness, machine setup in the shop and sanding technique.

It's not a skill needed by many, so why go into it? Perhaps a bit esoteric, but I think it brings a lot of understanding to the turner. As noted, the material preparation will certainly create a new understanding about the base material we work with. Probably the most important reason is that it is just plain fun. The cost of entry can be from almost nothing to hundreds of pounds. Start with the discount accessories and work up from there as you wish. Pretty soon you'll be finding ways to adorn your turnings with wood 'made' in a different way.

Safety first

We'll be covering steam bending of wood, so the safety issues are hot irons or hot materials. We won't be covering the large steam chambers that a chair maker might use, so open flame boilers and large quantities of contained hot steam won't be an issue for us. That said, the temperatures of the irons that we will be using are certainly hot enough to cause serious burns. Also, using a microwave has its own issues. It is easy to use and safe to do, but common sense and cautions are in order. As usual, don't attempt things you don't understand or are apprehensive about.

KEY POINTS ON SAFETY

1. The irons and materials are hot. Use caution when handling
2. Never leave irons or/and microwave operations unattended
3. Get and use a microwave for the shop. Never use that microwave for food service again
4. Microwave heating should be done on defrost and be monitored continually
5. Gloves for protection can be used if desired

I tend to work bare handed in spite of the hot iron. I can feel the give in the wood better bare handed than with gloves

WOOD PREPARATION

Depending on your end goal, you can use green wood or dry wood that you will remoisturise. While many will suggest that you soak your materials and then heat them, I've found success working with dry wood and adding moisture during the heating and bending process. For our learning process, we'll be steam-bending woods in the thin range, up to about 5mm. Can you bend thicker? Certainly, but for this exercise and the learning process, we can use the thinner material. Preparation begins with material selection. For the most part, I use wood that I select and then resaw to the thickness that I want. This gives me the luxury of picking the species that I want and finding the blank that I can cut appropriately. I've bent many species of woods, but the ones I favour are cherry *(Prunus avium)* and maple *(Acer saccharum)*. They are local woods and finding them in clear and well behaved grain blanks is easy. They resaw well and bend nicely. Just because someone cut your blank from the tree, doesn't mean they paid attention to the grain. It is key that you select or create your bending blank with the grain running perfectly true to the surface. If you need to trim your material prior to resawing, then do so. Failing to have the grain properly orientated will almost always guarantee a breakage with any serious bend. The best time to sand your stock is now. Not only will the sanding provide a better material to bend, but it is far easier now than later on in the process. Resaw marks in your stock are a place for a fracture to begin if you are a bit heavy handed in the steaming and bending process. Sanded smooth material with the grain running true to the surface is the most ideal bending blank for you to work on.

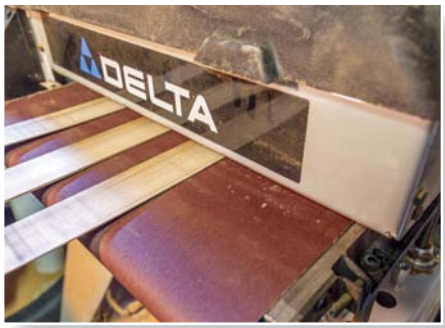
KEY POINTS ON MATERIAL PREPARATION

1. Thicker stock is more difficult to bend
2. The grain should be running true to the surface of your bending blank
3. Sanding the blank prior to bending saves time and increases success rate
4. Selection and preparation of stock is the most important part of the process
5. Just because it was cut that way doesn't mean the grain runs true to the cut edge
6. Almost every species can be bent, but some are more conducive than others
7. Don't invest your time in stock you have doubts about. Get different and more suitable stock. Your time is far more valuable

Material selection will make or break your steam-bending efforts. Here soft maple is selected for resawing because of the straight grain with no figure

While nearly any species can be bent, some bend easier than others. This 100 x 100mm block of cherry is resawn for bending. Cherry and maple bend nicely

They make resawing fences and I have one. I find that with the saw setup and adjustments done properly, I can resaw successfully using the factory fence



Depending on your end goal, it is easiest to sand your stock prior to bending. It bends better and is far easier to sand in the flat state

If you don't have a thickness sander or the stock doesn't lend itself, there is nothing wrong with hand sanding or using a card scraper

With a well adjusted thickness sander, you can easily get to a finished thickness of 0.8mm or less. The thinner the stock, the more successful you'll bend

Good, better, best from right to left. Removing saw marks will reduce the sites where fractures will start. Rough sawn can be bent but requires more care

TOOLS TO ADD MOISTURE AND HEAT

Depending on whom you read and believe, there are many versions of how to bend wood. Some have special concoctions that get added to the water or exotic ways to heat the wood. My method is about as simple as I can make it: add water and add heat. When you have sufficient quantities of both, gentle persuasion will effect a bend. The more aggressive the bend, the more gentle yet persistent the persuasion. Avoiding the boiling kettles and steam boxes, let's focus on three easy ways to add heat to the wood. A spray bottle for spritzing water on the wood surface will be the source of moisture. Because I do more than a small bit of bending, I've invested in a luthier's iron. This electric heating element has a form around which the sides of a guitar are bent. Different forms are available for the different sized instruments where the bent wood is used in construction. You can also use a microwave oven, although you should never use the one in the kitchen. Buy one in the discount houses or charity shop that you can dedicate to the workshop. It can be used for drying wood when you are in a hurry and will also work nicely for steam-bending wood. Do not use a microwave for drying or bending wood and then return it to food service. The smell will permeate the food and make it inedible. Another easy way to add heat is a household iron. The household iron, along with your spray bottle, will allow you to heat the wood along with the moisture. By progressively heating and moisturising, you can make the wood pliable enough to make it take another shape. The pitch and discolouration on the surface of the iron dictates that you get an iron specifically for this application. Don't press your shirts with an iron that has been used for bending. Neither the microwave nor the household iron work as easily as the luthier's iron. They will work and they are certainly far more affordable, especially if they are charity shop or garage sale purchases.

Made for instrument makers, this luthier's iron is made for bending the sides of a guitar. Different versions are made for everything from violins to basses

A household type microwave will work. Do not ever use for food service again once you've used it for drying or bending wood

A spray bottle of plain tap water and a household iron will work to bend wood. Although it doesn't provide form, it can make the wood pliable to work with

THE BENDING PROCESS

A misting spray bottle with plain tap water is all that is needed to wet the wood. I have found that soaking ahead of time didn't improve success at all

Work the wood! This is a progressive process of wetting, heating, wetting, heating, coaxing the form and repeat until it gently yields to your wishes

The thinner the stock, the quicker it can be bent and the tighter the radius. This 815mm length of maple is bent into a coil of 100mm in diameter

If you want to ensure that the coil is perfectly round, use a form of some sort. This jam jar works nicely and creates a perfect circle of 75mm in diameter

The bending process is really quite simple. The wood being bent needs to be wetted in the area of the bend and heated to a temperature where the water steams. If there will be more than one bend, or if it is an extended area being bent, just progress as you are performing the bend. The temperature of the iron needs to be hot enough to literally boil off the water. The process is to wet the wood, heat it to steaming, rewet the wood, reheat it and continue this process as you gently try to spring the wood into the bend you desire. It is a slow process so take your time. You will find that the wood will get to a point where it is very pliable and can be formed easily. The thinner the wood, the tighter the radius and the more quickly it can be bent. If you need a specific radius, use a jar or turn a form of the desired size and wrap your bent wood around it. The coils that I am showing as examples will be resteamed in the microwave and then formed into a shape that is twisted and bent. It doesn't lend itself to a single operation, but rather creating a coil and then a twisted shape secondarily. Steamed as an entirety in the secondary

operation, it can easily be formed, clamped, cooled and then lap joined. The tools of the trade in steam-bending are plastic jawed clamps and rubber bands. Never use anything metal since the wood is wet and the metal will stain the wood. Using plastic jawed clamps or rubber bands allows for shaping and holding in shape without causing any discolouration of the wood. When using a microwave to heat, wet the wood, microwave on defrost, rewet, heat again on defrost and continue until you can begin to form. Start the bend and clamp with rubber bands. Continue the wet and heat process and progressively continue with the desired bend. Do not try on a higher temperature since the defrost cycle is a heat and dwell cycle that works well. Do not leave the microwave unattended. You can get a very nasty surprise should your wood dry out while you are heating it. It is not as fast or as convenient as the luthier's iron, but it is certainly workable. I do my bends on my coils by wetting and heating in the microwave.

This ornament hanger is created by steam-bending a length of wood into a coil shape so it can be completely steamed at once and then twisted into shape

Rubber bands can be used to hold shape once bent but also can be used as a bending aid by tensioning then wetting and heating

KEY POINTS ON BENDING

1. Gloves will protect the hands but deaden the sense of touch for yield
2. It is a progressive process. Be patient. Once a crack starts, it is garbage
3. The iron needs to be hot – just below burn temperature
4. For microwave operation, use only the defrost cycle for a few minutes then repeat
5. Never leave the microwave unattended while it is in operation
6. Tight radius bends are performed slowly and progressively. Don't hurry
7. Use forms or mandrels to create specific radius or perfect curves

TIPS AND TRICKS

The art of steam-bending is just that. Even with the finest and most appropriate equipment, it is a sense of touch that will win out. Go slow and let the heat and moisture work for you. The wood will get to a 'give' point and you'll sense it. Muscling it will not work. The secret tool of steam-bending is the rubber band. Buy an assortment of different lengths, sizes, and shapes. You can create clamping that can't be performed any other way. Additional twists, stretching so that part of the band is stretched tauter than the other part, adding additional bands, and more let you hold your bent work or help bend the material as you work. Bend work with no holes, cut aways or other points where stresses can occur in bending. These stress points are a failure in waiting. Work only with stock that has no stress points for the bending portion. The most important piece of advice is stock preparation with the figureless grain running straight and true with the face of the stock. Failing to heed this will cause failures during the process or somewhere in the future. Do all secondary operations after the bending. Holes, scallops, material cutaway, piercing, pyrography or any other processes that will create stress points in the wood need to be done after bending. Drilling holes need to have a support backup to provide for drilling and breakthrough control. Where you will have opposing bends, you need to put a radius in the interface to prevent breakage and splitting. Twists and curves add interest. Don't make everything look like it was machine made. You are hand crafting, so don't be afraid to have things appear to be hand crafted. Do not forget about the past article on multi-piece assemblies. You can create presentation ideas that not only can be disassembled but also allow for interchangeable parts.

The meagre rubber band is an incredibly versatile clamp. By twisting, stretching and controlling contact points, you can perform clamping like no other

The shapes you can create are almost limitless, especially when you integrate twists to accent the finished shape

Regardless of the material and the ultimate shape, if the grain isn't perfectly orientated to the surface of the wood it is likely to fail, now or later

Steam-bending works best with regular shaped wood. Add contours, holes, scallops and other features after the bending is completed

Wherever you intend to have any bend such as this, you need to create a radius at the interface points to prevent breakage and splits

KEY POINTS ON TIPS AND TRICKS

1. The sense of touch is the key to the process. You can feel when the wood is ready to bend
2. Don't put any stress points into the material prior to bending. Always do this afterwards
3. Selection and preparation of the stock is the highest priority
4. Secondary operations usually require fixing down to provide appropriate support
5. It is handmade. Don't be afraid to let the handmade show, but not showing the flaws
6. Bending adds another dimension to working wood beyond turning
7. Create component parts from your bend material to further explore uniqueness

CONCLUSION

Those who turned off at the beginning when they saw steam-bending have missed a golden opportunity to explore a new area. There are many turners and many things a turner can do to make their work unique. Whether it be the material they use, the special shapes they create, the after-turning effects they can add or other ways to make their own mark. The ability to have your work stand apart from the rest of the turners is something most of us aspire to have. The examples in this article were mainly pen stands and ornament displays, but the goal was to show the process. With the ability to make the wood conform to a non-cut shape you wish, you are free to explore a myriad of presentation ideas. Regardless of what you currently make, you can use steam-bending to create components to be added to your works or help display your work. We've only covered the basics of flat stock bending. You can certainly continue on to work with spindles, thicker stock, more complex bending, or adornment on your bent wood. Dry wood, sawn properly, add some water, add some heat, repeat the water and heat until you can coax it where you want it. Does it get any simpler than that? ●

Perhaps your end goal isn't a unique wooden display stand for an ornament. Your mastery over the material is still a desirable goal

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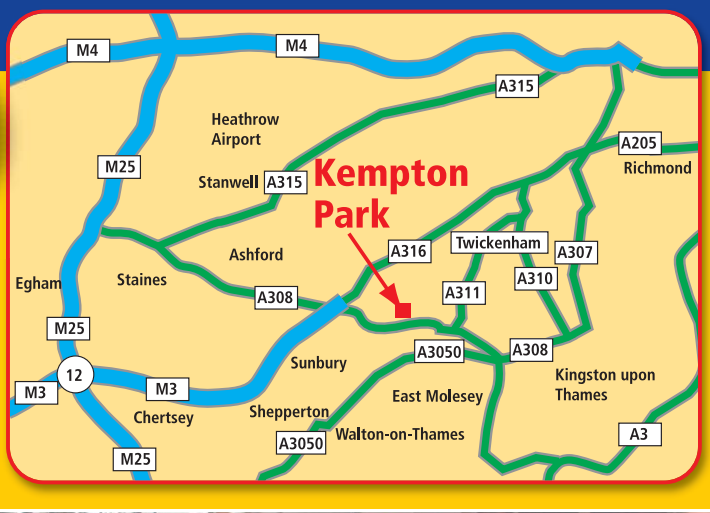

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Battery powered tea-light holder

Mark Sanger shows how to use small spindle blanks to great effect to create this stunning tea-light holder

Every so often, I have a sort through my wood store to inspect each piece for insect infestation as well as to tidy and rotate the stock; this also helps me to keep track of exactly how much of what type I have stored. On doing this recently, it became apparent to me that I needed to use up many of the small spindle blanks that I have accumulated. With the store being full something had to give; it was a choice of using them or throwing them away. With the latter not being an option, I set about coming up with some ideas for a few projects that I could turn to use up some of my overflowing stock. One idea that I had been musing over for some time was garden sculptures inspired by Far Eastern stupas. The stupa is a tall stone structure used to store religious relics; they come in many variations of size and shape, depending upon the region in which they are built. In the main, they include a tall tapering spire-type roof. Scaling the project down considerably allows it to become ideal for using up some of the many spindle blanks collected. Further to this, I decided that it would add interest if there was a light source inside of a section of the stupa that is pierced, thus allowing the light to shine through. Due to the fire risk of enclosing a traditional tea-light candle inside of a wooden project, I opted for a battery operated tea-light; these come in various types with some flickering or changing colour over time. Here I opted for a standard white flickering light – these can be purchased online for around £7 for six, including delivery.

This project lends itself to many variations in terms of size and shape. While I have based this one on a Far Eastern stupa, you could just as easily find inspiration from other buildings, such as churches, cathedrals, stately homes, old world windmills, light houses, etc. So if you like, feel free to change it to suit your preferences or just copy this design, alter the colours or try a segmented version – just have fun. The blanks used are fully seasoned end grain spindle blanks with the grain orientated in line with the spindle axis of the lathe. I selected beech *(Fagus sylvatica)* for the base and finial as I had this available, but you can use whatever stock you have to hand.

PHOTOGRAPHS BY MARK SANGER

MARK SANGER

About the author: Mark is a professional turner living and working in Dorset. He specialises in creative turning that incorporates texturing, colour and mixed media. Mark has written numerous woodturning articles, demonstrates the craft, runs courses and has produced DVDs on the subject.
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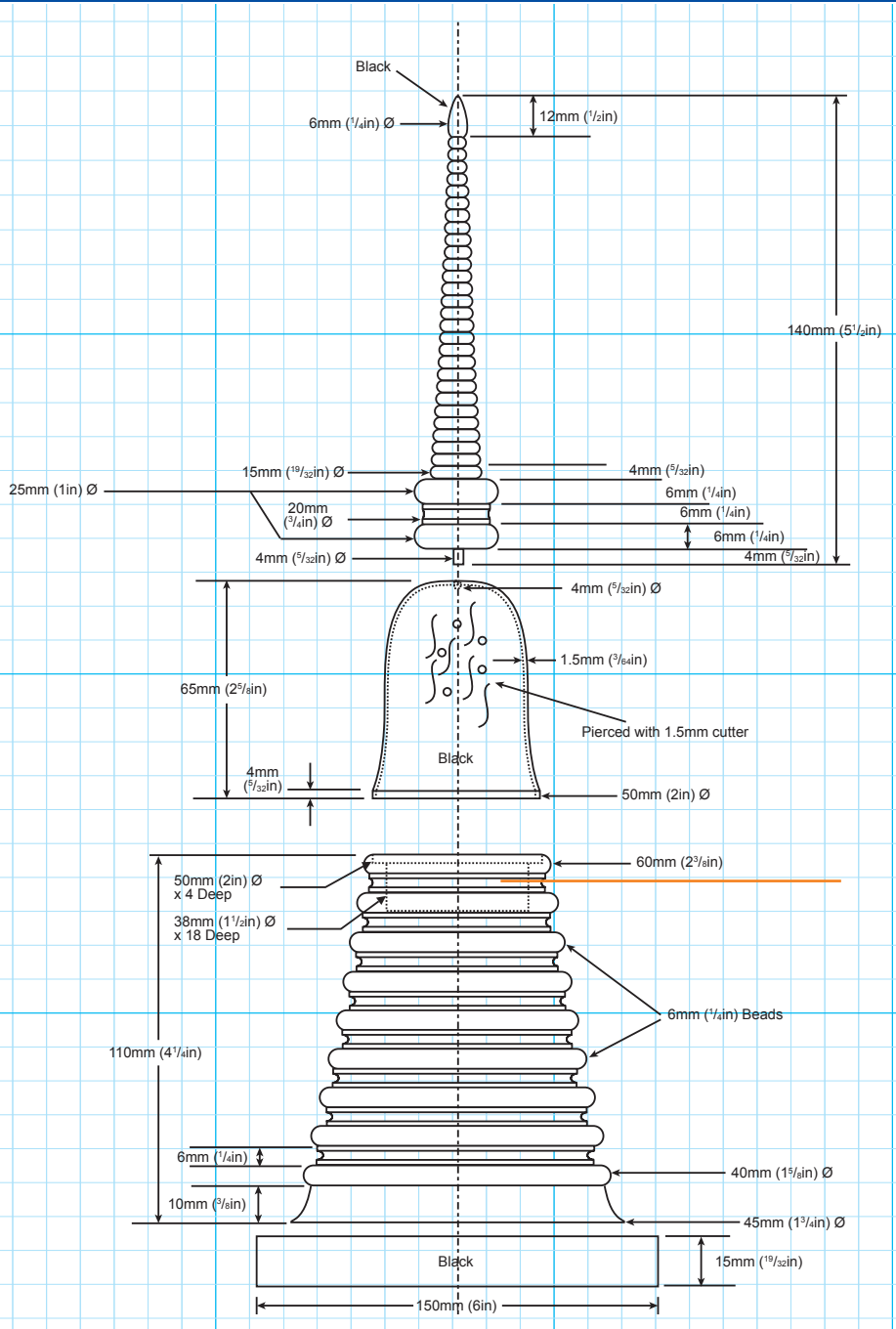
TEA-LIGHT HOLDER DIMENSIONS



INFORMATION

TIME TAKEN & COST

Time taken: 4 hours

Cost: £10

TOOLS REQUIRED

- 25mm spindle roughing gouge
- 12mm skew chisel
- 6mm spindle gouge
- 6mm parting tool
- 2mm parting tool

ADDITIONAL TOOLS

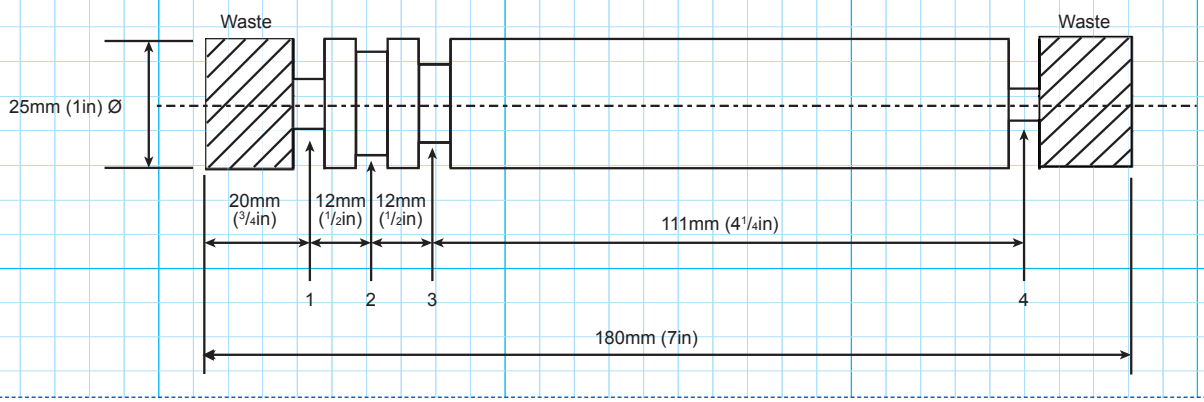
- Fine-bladed hand saw
- Abrasives from 120-320 grit
- Fine wire burner
- Acrylic spray sanding sealer
- Acrylic spray black lacquer
- Acrylic spray satin lacquer
- Rotary carver
- 1.5mm piercing burr
- One battery powered tea-light
- PPE: facemask, respirator/dust mask and extraction

TIMBER REQUIREMENTS

- European sycamore *(Acer pseudoplatanus)*
- **Plinth:** 15 × 150 × 150mm
- **Pierced section:** 55 × 55 × 100mm long end grain blank
- European beech *(Fagus sylvatica)*
- **Base:** 100 × 100 × 120mm long end grain blank
- **Finial:** 30 × 30 x 180mm long end grain blank

Key

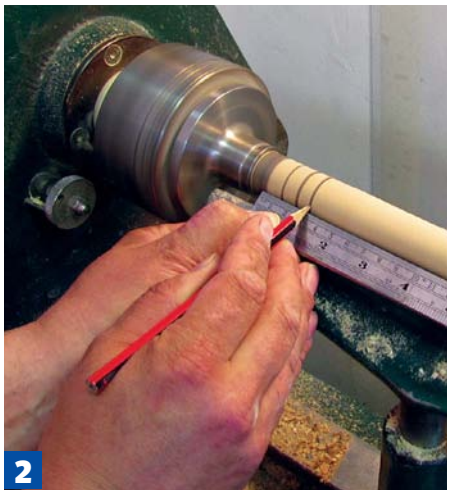
1 - 10mm (3/8in) Ø
2 - 20mm (3/4in) Ø
3 - 15mm (19/32in) Ø
4 - 6mm (1/4in) Ø



1 Mount the finial blank between centres and rough to the round using a 25mm spindle roughing gouge. Produce sizing cuts along the blank with a 6mm parting tool and callipers set to 25mm. Continue to this size using the spindle roughing gouge. Produce a spigot at one end to suit the jaws of the chuck – in this case, pin jaws. If you do not have access to these, then use a larger blank to suit your chuck jaws and step down from this size – reducing the remaining size will give you the same result – you will just have more wastage from your blank


1

2 Mount in the chuck and bring up the tailcentre for support. Mark the overall length of the finial centrally on the blank and leave two waste sections at either end. You can then mark three more lines: these will denote the spigot, the two largest beads and the single cove at the base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3 Using callipers and a 6mm parting tool, produce four sizing cuts from the base up to the top of the finial, as per the sizing diagram


3

4 Using a 12mm skew chisel or spindle gouge, taper the top section of the finial from the 15mm diameter up to the 6mm diameter


4

"You can now finish the beads with a small piece of folded 240-320 grit abrasive..."

5 Using a sharp pencil and rule, mark lines accurately 4mm apart along the tapered section up to and including the teardrop section. Using a 6mm spindle gouge with a fingernail grind, profile the beads working from the tailcentre end towards the shoulder with the 25mm diameter bead. Due to the thin section and low density of the wood chosen here, in this instance, a beading tool, due to the forces of cutting, will more often than not induce excessive vibration and a poor finish, which makes the spindle gouge the best option


5

6 You can now finish the beads with a small piece of folded 240-320 grit abrasive, taking care not to alter the profile of each bead as you progress along


6

7 Using a fine wire burner with the spindle speed set to around 2,000rpm, carefully burn a line between each bead. Apply only moderate pressure to the wire and wait for the friction to build up slowly to burn or you may snap the finial


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8 Continue with the 6mm spindle gouge and produce the two beads and cove of the base section and finish with abrasive as before


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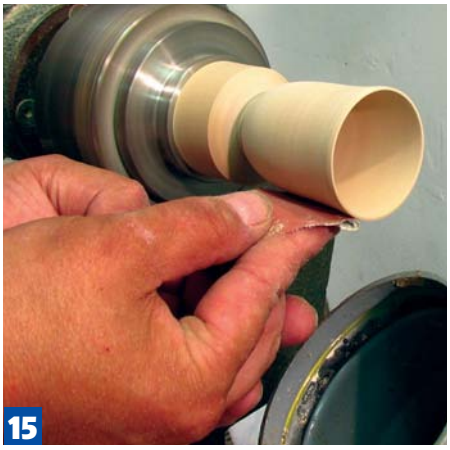
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9 Produce the profile of the teardrop with the 6mm spindle gouge and finish with abrasive. Due to the blank being held in the chuck, you can turn carefully all the way through to produce a point on the finial. Remove the tailcentre and gently finish this section with abrasive

10 Using a 6mm parting tool and callipers set to 4mm, produce the spigot that will fit into the top of the lower section of the project. To do this, reduce the lathe speed to around 500rpm and take your time. Once sized, stop the lathe and cut through the remaining waste with a fine-bladed hand saw to leave a spigot approximately 4mm wide

11 Mount the blank for the pierced section between centres and rough to 50mm diameter as before, using callipers and a parting tool for sizing and the spindle roughing gouge to finish. Produce a spigot at one end to suit the chuck jaws – in this instance 'C' jaws. Mount in the chuck and bring up the tailcentre for support. Use a 6mm spindle gouge to clean up the front face stopping a safe distance from the tailcentre and profile the outside, starting 4mm in from the front face to leave a flat section for fitting into a recess in the base, as shown in the main diagram. Do not reduce the diameter at the top to less than half, as we want to maintain rigidity for the hollowing

12 Use a point tool to produce a fine 'V' groove at the join between the flat section and the start of the profile

"Use a point tool to produce a fine 'V' groove..."

13 Measure the height of the profiled section subtracting 5mm from this and mark on the shaft of a 6mm spindle gouge, as shown here with masking tape. Set the toolrest so the gouge tip cuts on centre when the shaft is horizontal. Set the lathe speed to around 500rpm and drill out the centre halfway to depth

14 Rotate the flutes a few degrees anti-clockwise and peel outwards using the intersection of the tool shaft and toolrest as a fulcrum. Hollow out to a wall thickness of 1.5mm working in stages of 10-15mm in depth as you progress. Stop the lathe regularly to check the wall thickness with callipers, making sure it is equal before proceeding deeper

15 Drill through the top using a 4mm twist drill held in a Jacobs chuck in the tailcentre

16 Finish the inside and outside with abrasive from 180-320 grit. Wrap the abrasive around a piece of dowel; this will help you to reach down inside the form

17 Using the 6mm spindle gouge, continue to profile the top section. The 5mm extra left when hollowing out allows for a small amount of leeway for finalising the shape of the top, but check the thickness regularly as you reduce the diameter. Stop with around 6-8mm diameter waste remaining and finish this section by hand with abrasive from 180-320 grit

18 You can now stop the lathe and cut through the remaining waste with a fine-bladed saw. Refine and blend the top by hand with abrasive from 120-320 grit

19 Using a 1.5mm piercing burr in a rotary tool pierce your desired pattern through the walls. Use 240 grit abrasive to finish the inside and outside surfaces by hand to remove any frayed edges

20 Mount the blank for the base between centres and rough to 100mm diameter as before. Produce a spigot at one end and mount in the chuck. Clean up the front face using the 6mm parting tool and drill out with a 50mm Forstner bit in a Jacobs chuck held in the tailcentre to a depth of 4mm; this will allow you to accept the mid-section of the project. You can then drill a second hole with a 38mm Forstner bit to a depth of 18mm from the front face; this will allow you to accept the light. Check the height of your own battery powered tea-light

21 Check the fit of the mid-section into the base and refine the larger hole if required to suit, using the toe of a 12mm skew chisel. Trail this in scraping mode on the toolrest

22 Using a rule and pencil, draw a 55mm diameter line on the front face. Use a 25mm spindle roughing gouge to taper the profile from the base down to this line

23 Using a 6mm beading tool and a 6mm parting tool, produce a bead and recess alternatively from the rim to the base stopping around 10mm from the base

24 Using a 6mm spindle gouge, produce the final base profile working from large diameter to small up to the last bead produced

Handy hints

1. Keep tools sharp – turning thin finials or hollowing thin wall sections with blunt tools will increase the forces needed to cut, thus raising the chance of breaking the part being turned

2. When piercing use moderate pressure as forcing the tool will often break the burr or cause fracturing of the thin edges


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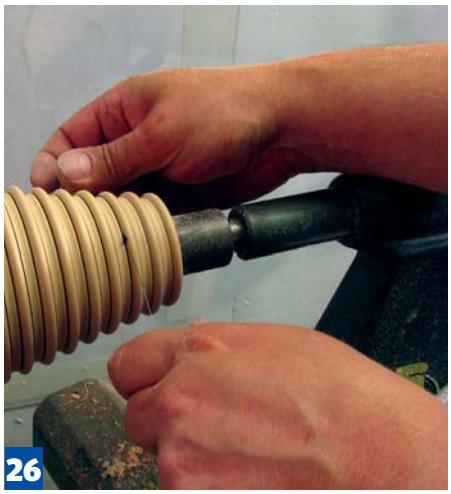
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25 Turn a cove between each bead using the 6mm spindle gouge. Here I use the tool trailing on the toolrest with the handle higher than the cutting edge; this allows you to enter the wood slowly using the profile of the tool tip to produce each cove to an equal depth. Once complete, finish the outside by hand with folded sections of 180-320 grit abrasive, which will enable you to reach into the tight corners

26 Next, using a fine wire burner as before, burn a line at the join with each bead and cove

27 Reverse the base onto a friction drive made from a waste piece of wood held in the chuck. Bring up the tailcentre, apply moderate pressure and clean up the base with a 6mm spindle gouge to a safe distance to the tailcentre. Concave the base slightly so the piece will sit correctly and finish with abrasive as before

28 Stop the lathe and cut through the remaining waste with a fine-bladed saw

29 Blend the remaining waste on the base using a power carver or sharp chisel making sure you always cut away from your body. Finish with 180 grit abrasive attached to a small sanding arbor held in a waste piece of wood in the chuck, then finish by hand using 240-320 grit abrasive

30 Produce a 150 × 150 × 15mm plinth from a close grain wood. Spray each part, including the plinth, with several fine coats of acrylic sanding sealer and set aside until dry. De-nib if required with '0000' wire wool, mask off the finial with masking tape leaving the teardrop exposed for colouring, then colour the plinth mid-section and top of the finial with several coats of black acrylic satin lacquer. Allow to dry and cut back if required with '0000' wire wool or 600 grit abrasive. The next step is to apply several top coats of acrylic satin spray lacquer to all the parts again, then set aside to fully dry

31 Glue the finial into the top of the mid-section using medium viscosity CA glue. Insert the battery powered tea-light into the base, fit the pierced section and finial into this and place onto the plinth. The project is now ready for display ●

HUNTER™ TOOL SYSTEMS HUNTER™ TOOL SYSTEMS HUNTER™ TOOL SYSTEMS

Carbide Tipped Tools - Designed for Woodturning

Osprey #1 & #2 Gouges

Wouldn't it be great to have a gouge that never needs sharpening? A gouge that's really stiff so that it can be used way over the toolrest in deep work? These super-gouges are at home on spindles or bowls, inside or out. Super sharp yet never needing sharpening, these are the tools that turners everywhere have dreamed of owning. Dream no more: the reality is here, the dream made flesh - sort of!

Left: Osprey #1, 3/8" dia. shaft, 6 mm cutter

Right: Osprey #2, 1/2" shaft, 8 mm cutter

Hercules & Mini-Hercules Roughing Tools

The very name Hercules gives a hint of what to expect of this mighty tool and its junior sibling! These tools work effectively in almost any application: roughing, bowl hollowing, deep hollowing and even spindle turning. The Mini is finding great favour as a universal roughing-to-finishing gouge for pen-making. Versatile and so easy to use. The definitive "point and shoot" woodturning tool!

Right: Mini Hercules, 3/8" square shaft, 6 mm cutter. £87.24 handled; £79.30 unhandled

Left: Hercules, 5/8" shaft with 10 mm cutter. £93.47 handled; £84.97 unhandled

Jimmy Clewes Design - #5 Hunter Hollowing Tool

Jimmy Clewes worked with Mike Hunter to develop the Hunter #5, one of the most impressive tools you'll ever use. With its sturdy, 5/8" diameter round shaft the tool can be used to shear a cut to left or right, takes deep hollow forms easily in its long and strong stride and yet is sufficiently agile to make it a delight when turning bowls and creating in-turned rims - almost as versatile as Jimmy himself! Now also available with a swan-necked stem, in both inboard and outboard versions, to make getting into those hard-to-reach spots a whole lot easier- yet losing nothing of the heft and solidity of the original Clewes #5 Tool.

Left: Swan-neck #5 tool £118.98 handled; £110.47 unhandled

Right: Hunter #5 tool with 10 mm cutter. £101.98 handled; £93.47 unhandled

Mark St Ledger #1 Box Hollowers

Now guess what these little beauties are designed for (the clue is in the name!). And "designed" is the operative word: all built on a 3/8" tapered shaft, the straight tool does the main hollowing: the swan neck tool cleans up the base and walls of the box and the brilliant back cut swan neck tool, with its shear skewed tip does a dream job under the shoulders of even the smallest forms.

Upper: #1 Back-cut, skew tip Box Hollower with 6 mm cutter, £76.47 unhandled; Centre: #1 Swan-neck Box Hollower with 6 mm cutter, £76.47 unhandled; Lower: #1 Straight Box Hollower with 6 mm cutter, £76.47 unhandled.
Set of three box hollowers, as above: £212.45 unhandled

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Starting turning – part 6

Mark Baker looks at how to sharpen your turning tools

How to sharpen tools is one of the top three questions asked by woodworkers. It is a vexatious issue as it seems that many turners cannot find a system or way of working that they feel comfortable with, but without sharp tools we cannot cut the wood cleanly. Also, knowing what to do and what angles to use on different tools is a bit bewildering to start with.

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

THE SHARPENING PROCESS

Correctly ground and sharpened tools are easier to use, require less force in use and are the only way you can ensure as clean a cut as possible on the item being turned. Usually there are two stages to sharpening. The first stage is to grind the tools to shape the cutting edge and create the bevel angle required. What is required is typically dictated by the type of tool being ground, what the tool's intended use is and also where it has to reach to cut the work in a controlled manner. Grinding/shaping a cutting edge is usually undertaken using a coarse grit wheel on a wet or dry grinder and or belt on a linisher/belt-type system and can be quite a quick process depending on what tool you are working with. This process is undertaken only when you need to shape a tool edge, bevel or repair a damaged edge. If this is the case, it makes sense to use a coarse grit grade wheel or belt to quickly remove metal without generating too much heat. A 36-60 grit wheel or belt usually works well.

The second stage is to refine the cutting edge, which is done using finer grit abrasives and is carried out very often to ensure the cutting edge is kept at its best. If using a bench grinder, an aluminium oxide wheel of about 80-240 grit will serve you well. With a belt system, 80-400 grit will work well. Modern materials used in manufacturing means that finer grit grades are available, but to start with the grit grades mentioned here will suit your needs.

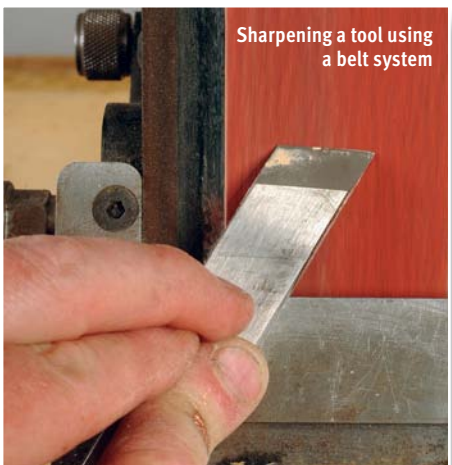
The above grit grades pertain to bench grinders or belt sharpening systems. Wet grinders come with a specified grit grade wheel that can be used to sharpen a tool and with the application of the wheel dresser – usually supplied – to the stone to 'roughen up' the wheel, you can use the same wheel to shape a cutting edge. I take a very simple approach to sharpening and I hope in the following two articles I can help solve some of the problems and questions you may have and I make no value call as to whether you use a bench grinder, a wet or belt sharpening system – all will work for a turner's needs.

I am going to use a rise and tilt/adjustable table with a table size large enough to have a good part of the blade of tools supported at the correct angle while shaping/sharpening them. The belt and wet sharpening systems usually come supplied with a rise and tilt table/platform or an item is available to suit them. Bench grinders, however, do not usually have them supplied or available from the bench grinder manufacturer, instead a small metal table is usually fitted. This will mean you have to buy a suitable one from the retailer of your choice.

One point to bear in mind, if you remove the manufacturer-supplied toolrest/guard – in this case most often done by turners on bench grinders – you invalidate its manufacturer safety certification. The machine is certified to the correct standards when all items supplied with the machine are fitted. The rise and tilt tables used here all fit over the toolrest/guard supplied with the bench grinding unit.

An adjustable rise and tilt table

Cleaning a grinding wheel with a devil stone



Sharpening a tool using a belt system

POINTS TO REMEMBER WHEN USING A BENCH GRINDER OR BELT SYSTEM

Before you start sharpening, make sure you are wearing eye and face protection and wear a dust mask – better still wear a powered full-face protection respirator system. The bench grinder runs at a higher speed than a belt system but both create airborne particles from the shaping/sharpening process. The grinding particle from the abrasives on the belt or wheel and the metal is hazardous to health. Many sharpening units do not have an extraction port, but it is advisable to have an extractor near to your dry-sharpening system to remove airborne particles as close to source as possible. However, there is a snag. Any sparks generated from the sharpening process – affected by the steel being ground, wheel type/belt used, coarseness and speed of rotation – could ignite any dust in your extractor – not a pleasant prospect. See the main image to see the sparks generated during the sharpening process. That said, the risk is small due to the gap between the extraction point and the sharpening face. However, as a precaution, do empty your extractor first. Also, regularly clean the area around the sharpening unit, vacuuming up debris and clean out any buildup from the machines themselves. Remove the cowlings and side shields, etc., to do this properly.

Ensure that all the guards are in place and make sure you keep the toolrest as close as possible to the wheel/belt at all times – but of course without touching it. The wheel/belt must be clean; clogged wheels or belts do not cut, they just generate unnecessary heat. If your wheel or belt is clogged, use the manufacturer's recommended cleaning method – in the case of bench grinder wheels, this will be a devil stone, star wheel or diamond matrix to clean up the surface exposing new grit for you to work with. For a belt, a rubber block or PVC pipe helps, but belts do wear out over time and may not be clogged so keep an eye out and change them when needed.

Note: use a light touch when sharpening; not much pressure is needed. Too much pressure or using a clogged wheel/blunt belt will generate heat and can blue the steel. This, depending on the steel used, may draw the temper of the steel and affect the edge-retention qualities of the tool.

POINTS TO REMEMBER WHEN USING A BENCH GRINDER OR BELT SYSTEM

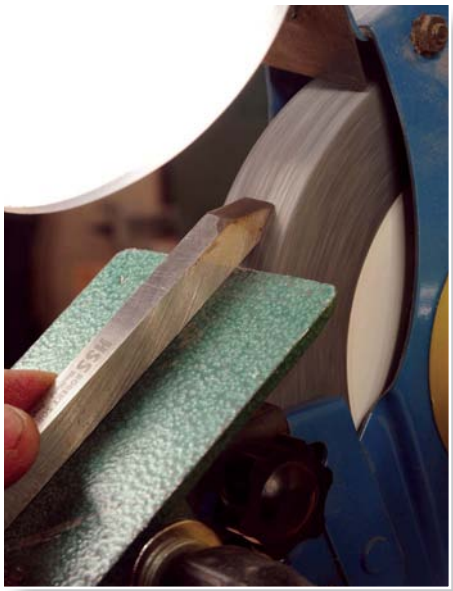
Wet-stone sharpening devices do not suffer the same problems as dry grinders and belts as far as creating dust that becomes airborne from the shaping/sharpening process. Instead the wheel runs at a lower speed than a bench grinder and runs in water. All the particulates are trapped in the water, which in turn is cleared at the end of each day by the user. While you do not have the issue of airborne abrasive and metal particles, you do need to be mindful of the use of water in a workshop regarding electricity, etc.

A wet-stone sharpening system in use

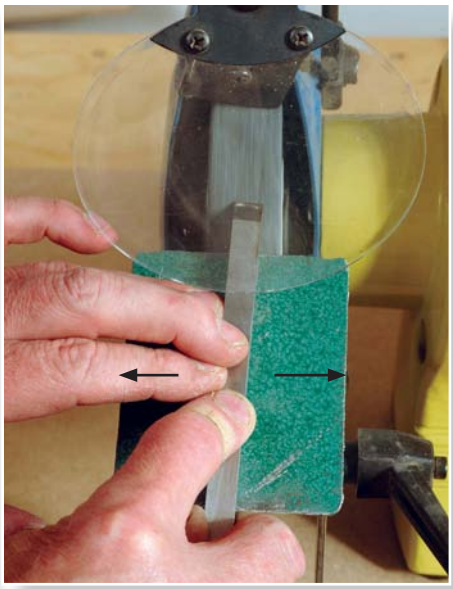
PARTING & BEADING TOOLS

Parting and beading & parting tools are variants of each other and come in various shapes and sizes. The standard forms are some of the easiest types of tool to sharpen. Whether they are thick or thin, set the toolrest to the required angle for the parting tool; the inclusive angle is typically anything between 30° and 45°. The cutting edge on the parting/beading & parting tools is the intersecting line between the two ground faces/bevels that creates the cutting edge.

Parting and beading tools can be sharpened using a rise and fall table. First, with the grinder switched off, place the tool on the table and adjust the angle of the platform until the bevel being sharpened is perfectly aligned with the wheel, or is at the angle you require.



Beading & parting tool being sharpened – side view



Top view of the tool – with movement arrows

"When you have the required angle, switch on the grinder..."

When you have the required angle, switch on the grinder and, holding the blade of the tool against the rest with your fingers, gently push the tool onto the wheel or belt so the cutting edge is square on to the cutting surface. It should only take a second or two to achieve a clean, sharpened bevel.

Remove the tool and check the results. If you are satisfied, turn over the tool and repeat the process on the opposite side. Remember, the actual cutting edge is the flat point that is created where the two ground faces intersect.

Check the cutting edge regularly to make sure it is free of any nicks or flat spots. Beading & parting tools are wider, so don't be afraid to move the tool across the wheel, maintaining the angle square on to it.

Moving the beading & parting tool along the toolrest to access the full width of the wheel or belt

The beading & parting tool on a belt system

SKEW CHISELS

Adjusting a rise and tilt table for the skew chisel – bevel contact required

The skew chisel on a belt system – move from side to side

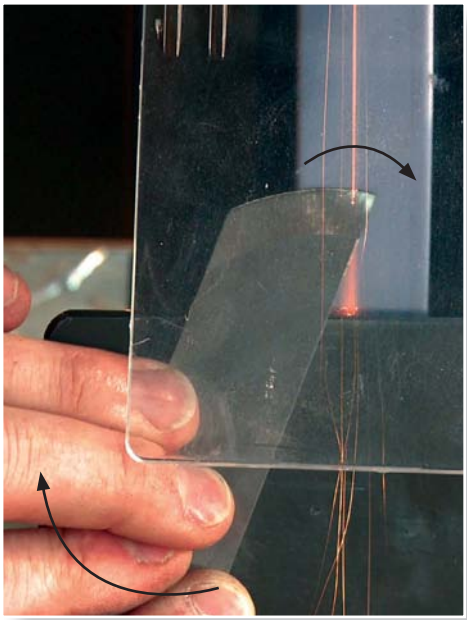
The skew chisel being sharpened on a bench grinder

The standard skew chisel is another easy tool to sharpen. You need to grind a face on both sides of the tool to create an angled edge with a toe – the longest point – and a heel – the lowest section for the cutting edge. The sharpened edge is at an inclusive angle of 25–35°, and – when the blade is viewed from the flat side – it has a canted rake edge of about 25°. To sharpen a skew chisel, set your toolrest to the correct angle, switch on the machine and grind

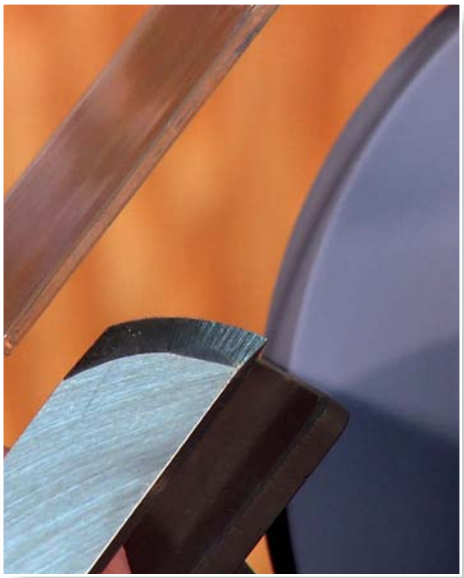
"To sharpen a skew chisel, set your toolrest to the correct angle, switch on the machine and grind one side..."

one side, moving the tool from side to side to make sure the whole edge is sharpened. When you're happy with the results flip the tool over and grind the other side.

Skew chisels can also be sharpened to create a radiused edge. Some claim this is a little easier to use than the standard grind. This profile is fairly easy to make – all you have to do is introduce a swinging action to the grind to create the curve. Again, set the toolrest angle and switch on the grinder. Start with either the long or short point of the cutting edge and arc the edge on the wheel to create the required radius. As with the standard grind, when you're happy with one side, flip the tool over to grind the other face.



A curved-edge skew chisel being sharpened by swinging the cutting edge across the face of the wheel/belt



The edge was rough-shaped on a coarse wheel. Note the grooves on the bevel from this process. The finer the wheel used, the better and more refined the cutting edge will be

SCRAPERS

Scrapers come in all sorts of shapes and sizes. I have mentioned in a previous article a square across grind or an angled edge scraper, a round-nose scraper and a French curve scraper.

Of the round-nose or French curve scrapers, the one called a French curved scraper – in which the cutting edge is ground a little farther down the side of the tool – is much more versatile than a standard round-nose one on internal curves. The square end or angled scraper is used on flat surfaces and outside external curves such as on a bowl.

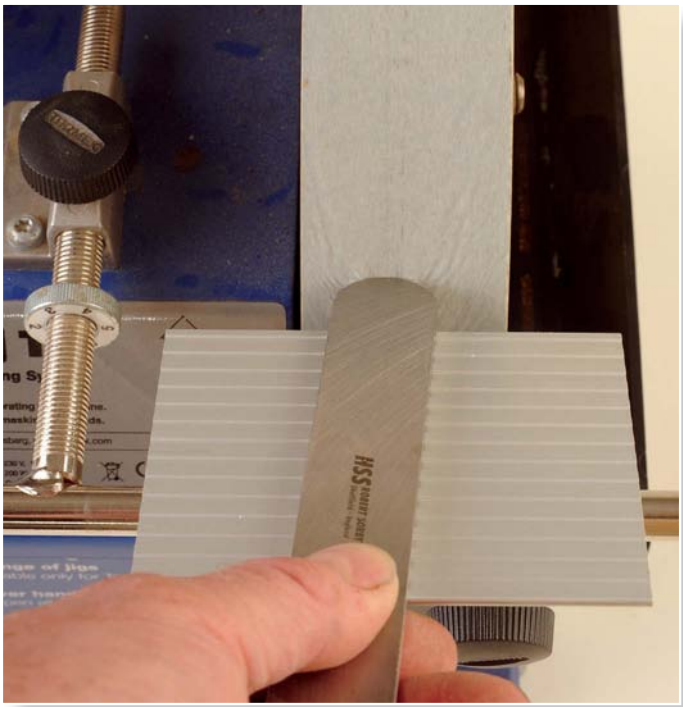
To sharpen a scraper, you need to create a bevel on only one side of the tool. The cutting edge is the intersecting line between the flat top of the scraper and the ground bevel. So you only need to create one bevel of a shape to suit your needs.

First, set your grinder toolrest to the correct angle. This should be somewhere between 45° and 80° – to start with, try one at about 60° and see how you get on.

Next, place the scraper on to the rest up to the wheel or belt at the bevel angle you have opted for. Then push the scraper onto the cutting surface and, in the case of a square end grind, just move the scraper from side to side square to the wheel or belt.

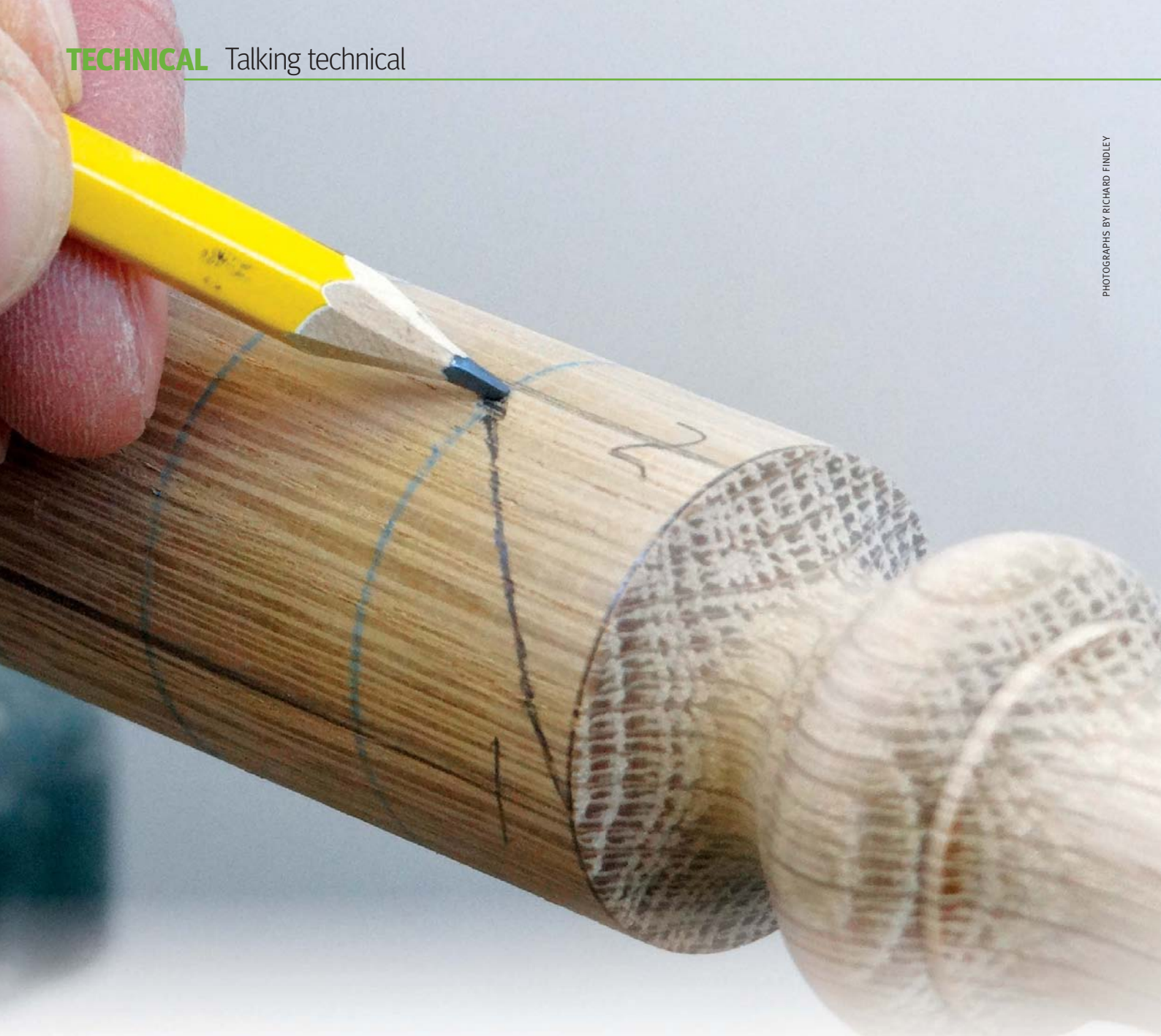
Maintain pressure on the tool keeping it flat on the rest and apply light pressure to the edge on the wheel until the full scraping edge has been sharpened. In the case of a round-end or French curve profile, swing the handle round left to right as necessary to create the front-end shape required. ●

Start with the blade flat on the toolrest with the table set to the right angle. Present the blade to the wheel or belt and...



... depending on the shape of the cutting edge, arc or swing the blade to create a radiused edge...

... or move the blade from side to side if a square or angled edge is required



PHOTOGRAPHS BY RICHARD FINDLEY

Reproducing a twist

Richard Findley looks at reproducing twists on spindle work

With my last two articles covering the topics of 'turning for restoration' and 'producing traditional decoration on spindle work', it seemed a natural progression to take a detailed look at reproducing a twist on spindle work, which could fit into either of the two previous titles.

Industrial copy lathes can produce a range of twists, very quickly, accurately and relatively cheaply, which means when I get an order for a twisted spindle, it is usually because the copy lathe turners can't reproduce it, either because they don't have the right cutters, or because the pitch doesn't match up with the settings on their machine. I don't have a twisting machine, or a copy lathe, all of my work is hand turned, and my twists are hand cut. This does mean that they tend to be more expensive, but has the advantage that I can reproduce any twist, in any timber. The other advantage of handmade twists is their natural flaws. A machine-cut twist will be perfect, every time. Even the most perfect hand-cut twist will have a certain amount of flaws, only

RICHARD FINDLEY

About the author: Richard Findley is a registered UK professional woodturner living and working in Leicestershire. He discovered woodturning while working for his father as a joiner. Richard makes all kinds of work to commission, from replacement antique components, walking canes and stair spindles, to decorative bowls. It is the variety of work that he loves. He also offers demonstrations, tuition and a range of woodturning supplies.
Email: richard@turnersworkshop.co.uk
Web: www.turnersworkshop.co.uk

perceptible with a light touch, but these flaws give character and life to the item and tell a story that only a hand-crafted item can. This is a particular advantage when work is needed in old buildings and has to fit in with other hand-crafted detailing.

I would never claim to be an expert at twists. What I am is a professional turner, which means when a job comes in, I take it with my normal smile and phrase 'no problem!' Only once the customer has left do I begin the head-scratching and research into the best method of reproducing the item.

My experiences over the last few years have each added to my understanding of twisting, so I have a good base and a growing depth of knowledge on the subject, but just occasionally, I still get tested.

Where to start

When I am commissioned to make a twist, there are usually two ways it happens. The first is the client has an original, and needs an amount reproducing. The other is that I am asked to cut a twist on a spindle, they don't mind what, in which case I make a double twist, which is my personal preference. For this article, as I currently don't have any jobs for twists in my order book, I will show how to reproduce a double twist, from an original sample – discussing the other styles along the way.

The original leg, with the turned leg, ready to twist

In my opinion, the key to producing a successful twist – especially if more than one is required – is the setting out. I've been told by a few people that they 'don't bother with all that setting out nonsense' preferring instead to simply wrap a piece of masking tape around the spindle. This is fine if you only want to make one twist, and are not trying to copy an original, but in my experience, you rarely make one twist. Candlesticks and lamps come in pairs, as do pilasters, and stair spindles can require large numbers of duplicates. This means that good setting out is vital, because once you have the setting out sorted, you have control of the twist, you can easily make multiples the same and you can also start making left- or right- handed twists – as a matching pair has one of each.

WHICH FIRST – TURNING OR TWISTING?

I am often asked which to do first, the twisting or the turning. It doesn't really matter, but I normally recommend doing the thing you are best at last. It would be a shame to spend all that time and effort cutting the twist, only to ruin it with a heavy catch. Likewise it would be a shame to have spent time doing the turning only to mess up the twist. The other thing to keep in mind is that sometimes, when working the twist, you can catch details such as beads with the tools, which means they will need reshaping anyway. The best thing is to look at the design of the job in hand, and make a judgement call, knowing your own skill level, to help you decide which part you will do first

START LINES

With the area for twisting turned and smoothed, the first part of the setting out is to draw the start lines. These give a fixed point for the twist to start and finish. For this double twist you need four start lines, running the length of the spindle and equally spaced around it. If you have indexing then you can use that, but there are a number of easier and quicker ways of equally spacing the four start lines:

- A spindle with a square pommel like the one in the photo has four corners
- If you are using a chuck, they have four jaws
- If you use a four-prong centre, they have four prongs

Simply set your toolrest at centre height, position the corner of the pommel or gap between the chuck jaws – or whatever method you choose – level with the toolrest, and draw a pencil line along the area of the twist. Number these lines 1-4.

The only thing to be aware of, if you are copying a master part, is that the start point may not be at the corner, the original maker may have used the centre of the face on the pommel, or even some random point, so study the sample closely.

Drawing the start lines along the spindle, level with the corners of the pommel

PITCH LINES

The pitch is the key element in twisting, so you need to take note of the pitch of the twist. So what is the pitch? Basically, the pitch is the length of one full twist, the distance between the high point and the next high point on the same twist. Usually the twist is positioned evenly along the spindle, so try to identify where the high points are on the spindle, and mark the positions of the pitch lines from there. If you are setting out your own twist from scratch, simply space them evenly along the spindle, starting and finishing on the same start line.

The dividers are positioned to show the length of the pitch, between the crests of one full twist

The pitch lines drawn on the spindle

PITCH GUIDELINES FOR SETTING A TWIST FROM SCRATCH

If you are setting out a twist from scratch, it helps to have some sort of guidance as to how far apart your pitch lines need to be, to look their best. This is a combination of the overall length of the twist, and the thickness of the material.

A properly formed twist should start and finish on the same start line, so you need to divide the length of your twist into equal pitch sections. How many pitches you fit into that space can be guided by the thickness of the material, this ensures the twist looks balanced and complete, rather than being cut randomly on the spindle.

Keeping this in mind, the pitch lengths will look best using the following guidelines:

- Single twist – pitch is roughly the same as the thickness of material
- Double twist – pitch is two times the thickness of the material
- Triple twist – pitch is two-and-a-half to three times the thickness of the material
- Multi-start twist – which have four or more twists. Pitch is four times the thickness of the material

DRAWING OUT THE TWIST

The spindle showing the pitch lines in pencil and pitch dividing lines in blue

Drawing the lines across the grid

The setting out is complete with the valleys drawn in pencil and the bines marked in orange

So far, we have the area turned and ready for twisting. There are four start lines, running the length of the spindle, and pitch lines running around the spindle. In the case of the example in the pictures, there are two full twists or pitches, running the length of the spindle. The next stage is to draw out the lines of the twist, but we need more guidance first. There are four start lines running the length of the spindle, so if I divide the pitch into four with pitch dividing lines, this will give a grid, allowing the twist to be drawn with ease. A left-hand twist runs from left to right, a right-hand twist runs right to left. This example is a right-hand twist, but having the grid drawn out gives full control of the twist. Simply by joining the corners of the grid in one direction or the other, you can form either twist, and remember a matching pair of twists has one of each. Using this setting-out grid removes any guesswork from making the twist.

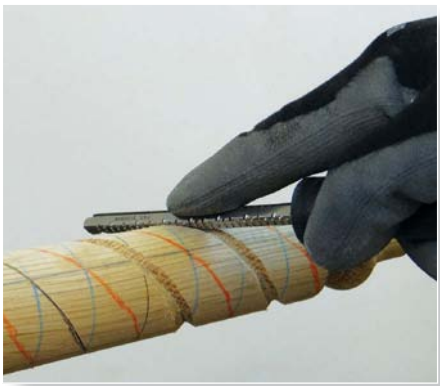
Here I use a pencil line for the valley, and a coloured pencil line for the twist – or bine as it's known. Starting on start line 1, at the right-hand end – for a right-hand twist – draw a line diagonally across the first grid, joining the corners, then the next, and the next. Keep going until you get to the other end, finishing on start line 1. You should have crossed the pitch line on start line 1 as well.

Go to start line 3 and repeat. Then, on start lines 2 and 4, using a coloured pencil, repeat the process. You should now have the twist drawn on the spindle, the high points marked out in coloured pencil and the low points – or valleys – marked in pencil. Lay the original spindle next to your spindle to check it looks right.

FIRST CUTS

With the twist marked out, the next step is to make a cut. I use a small Japanese saw here, but any sharp small saw works just fine. Follow the pencil line that marks the valley, with the saw. People often think that the saw cut marks the depth of the valley, and I have seen examples where blocks of wood have been clamped to the saw blade as a depth stop. The saw cut is not a depth marker, it merely guides the next tool along the cut line. It is possible to work without the saw cut, but I find it does make it easier. With the saw cut made along both valley lines – it's a double twist remember, so everything has to be done twice – I next use a small square Microplane to enlarge the saw cut and form the beginnings of the valley. Because the small Microplane follows the saw cut, it is easy to cut it in the right place. The valley groove now just needs enlarging by swapping to the larger square Microplane. Once again, this simply follows the groove already cut. You can miss out the first two steps and go straight for the large Microplane, but great care needs to be taken to ensure you follow the lines and don't wander off and potentially compromise the design. Because the twist on my original sample is quite a tight twist, the valleys are more 'V'-shaped, so the square Microplane is the best tool to use. If the valleys are more 'U'-shaped, then the round Microplane will suit the job better.

First cuts with the saw



Making a groove with the small Microplane, following the saw cut

The initial grooves complete, and comparing it to the original

Working with the larger Microplane

Comparing with the original again after the groove is cut

MICROPLANE RASPS

Microplane rasps are a revolution in cutting twists by hand. Their laser-cut teeth remove the timber at a very fast rate, while still giving the control of a hand tool. Before Microplanes came along, there was only the Stanley Surform. When choosing tools for twisting you will often find a Surform on the same page in your tool catalogue as the Microplanes, and usually considerably cheaper. Feel free to try it, but I can assure you that it cuts at roughly half the speed of the modern tool. There are times when copying an old twist that a Surform is the best tool to use, because the twist was originally cut with it and so the shape matches perfectly, in which case I will do the roughing work with the Microplane before switching to the Surform to finish off the twist. I also have a collection of other tools that come in handy from time to time for various other types of twisting and detailing work. The only down sides to the Microplanes are the handles, which are plastic and made in a shape that isn't conducive to working for long periods with the tool. The spine of the blade can also be very sharp, so a plaster worn on your forefinger, or even a glove, is a good idea to prevent cuts.

Making a groove with the small Microplane, following the saw cut

HOW DEEP TO CUT?

With the valleys forming, the next question is how deep do you cut? When copying a twist, you will have that information in front of you with the original sample. If you are making your own twist then the guidance is linked, once again, to the thickness of the material:

- **Single twist** – one third to one half the thickness of the material
- **Double twist** – one quarter the thickness of the material
- **Triple twist** – one sixth the thickness of the material

ROUNDING THE TOPS OF THE BINES

The Rigid Microplane blade in use

Comparing with the original once again

ROUNDING THE TOPS OF THE BINES

There are a number of ways of rounding the bines over, and over the years I have tried many options. The best I have found is the Microplane rigid rasp for hacksaws. Designed for use in a hacksaw frame, I found this to be uncomfortable and cumbersome, so I made a handle for it. This was easily turned from a piece of scrap timber, with a comfortable turned handle and a gap to allow the shavings to escape. The rigid blade has rounded edges without teeth, which allows me to work around the bine without damaging or cutting further into the valley. Because it cuts, it leaves a smooth – if faceted – surface, ready for sanding. As with all the cutting using the Microplanes, I find getting into a rhythm is very important, this enables even amounts of timber to be removed, keeping the shape of the twist balanced all the way along its length.

You should now see the twist emerging from the timber. Throughout the cutting process, compare the twist to the original and make changes where they seem necessary, whether it be to open out the width of the valley more, or deepen it slightly, or whatever, until the twist looks as close to the original as possible.

SANDING

The sanding stick in action

The twist is looking much improved in this comparison

Working with the strip of abrasive

Wetting the twist

Final sanding with the lathe running at 200rpm

The twist should now look pretty much the same as the sample, only rougher and more faceted. The smoothing process can now start. I begin by using a sanding stick: a piece of timber, around 10mm thick, with the bottom edge rounded over. Because the abrasive I use is hook-and-loop backed, I fix this on the sides of the stick to hold it in place. I can then work along the twist, cleaning the bottom of the valleys and around the sides of the bines. Generally I start with 120-grit abrasive, but don't be afraid to use 80 grit if you need to.

As with all sanding processes, the aim is to remove all scratch marks from the previous tools, and all facets, leaving a smooth surface, ready to sand through progressively finer grits. I use 120 and 180 grits with my sanding stick, before moving to the next stage of sanding.

I cut or tear a strip of 180-grit abrasive, around 12mm wide and 300-400mm long, and work it around the twist. A good flexible abrasive will flex around the shape of the twist and into the valleys. This process helps to further blend the bines and valleys, smoothing any facets and removing the previous sanding marks. This is repeated with 240 grit as well.

Study the twist now critically. Check for any tool marks or heavy sanding scratches you may have missed and spot sand with 240 grit until smooth. I find it can help to reverse the timber in the lathe and repeat, as the altered angle gives a new perspective. Also check your twist with the original to make sure it still looks right. I then wet the twist, which raises the grain and will often reveal more spots that need further improvement before moving on.

The final sanding stage can be done with the lathe running, and is the only stage where this is appropriate. As long as your lathe goes below about 350rpm, then this will be possible, I find around 200rpm to be ideal, any faster and you have no chance of sanding it properly, so don't bother – simply hand sand the twist instead. I use a piece of 320-grit abrasive and work along the rotating twist, working around the bines and into the valleys with my fingers. Once again, reverse the spindle in the lathe and repeat. I finish off by repeating this process with a red Nyweb pad.

FINISHING TOUCHES

Most twists finish in some sort of hollow detail, such as a cove. This can be cut before the twist is started, but I find that by recutting it right at the end of the job, it tidies up the ends of the twist, leaving it crisp and sharp. The whole of the rest of the spindle will need sanding now – or resanding – as during the twisting process the work normally picks up mucky fingerprints, which need removing.

The final tidying cut in the cove, to crisp the end of the twist

Final comparison on the lathe

The completed leg, ready for staining and finishing

USEFUL TOOLS

The tools used to make the twist on this leg

Assorted tools that can be useful for working twists

POWER TOOL VS HAND TOOL

Today there are a number of power tools that can help to speed up and reduce the physical exertion of cutting twists. The question is, should you?

In my training as a joiner, I was taught to cut joints first by hand, before moving to machines to cut them, this gives the necessary skills without a reliance on machinery. That's why I always demonstrate and write about cutting twists by hand, to pass the skills needed to build a base knowledge. The concern is that the use of power tools has a de-skilling effect. This may be the case for cutting twists on a copy lathe, where the skill is in the machine setting rather than the actual cutting, but, in my experience, using a power tool to cut a twist, such as an angle grinder fitted with a wood-cutting wheel, requires just as much skill to form the correct shapes, as it does by hand. So in my opinion, there is no problem with using a power tool to cut a twist, as long as you can do it safely.

I have tried several different power tools and my preference is for the Proxxon long neck angle grinder, fitted with a Saburr Tooth slitting wheel. This is light weight and smaller than a standard angle grinder, designed for use single- or double-handed, as necessary. It's comfortable to use for longer periods, and speeds up the process considerably. It is also incredibly safe, being easily controllable. Using power tools requires the use of the correct PPE, as they quickly – and noisily – make a lot of dust!

The Proxxon grinder in action

ACKNOWLEDGEMENT

I can't write an article on cutting twists without giving a mention to Stuart Mortimer, who for the last 25 years or so, has been acknowledged as the world authority on cutting twists in wood. It was watching one of his demos several years ago that got me interested in making twists, and I am now fortunate to know the man himself. His book, *Techniques of Spiral Work*, is still the definitive text on cutting twists, and was used as a reference for this article for the guidelines of pitch length and valley depth. ●

AAW 2014 Symposium

Mark Baker reports from the annual AAW Symposium in Phoenix, Arizona

The American Association of Woodturners (AAW) 28th Annual International Symposium was held in Phoenix, Arizona from 13–15 June. The AAW Symposium is the largest turning symposium in the world. The location changes each year, ensuring that turners from across America, as well as from other countries, can attend. Each event is a real visual treat with so many things to see. The Symposium is also a great social occasion where people can catch up with old friends as well as make new ones. Someone said to me that there is something very familiar and friendly about the event even though it was their first time there.

Click here for extra images

'Phoenix', 2014 by Derek Weidman. Multi-axis turned holly *(Ilex spp.)* and pigments, 255 × 230 ×255mm

Demonstrations

Being the largest such event in the world it should come as no surprise that it is not possible to see everything that is happening, so planning is key. There were demonstrations by 59 turners in over 130 demonstration rotations – some were practical, how to do-type demonstrations and others were panel discussions. Whatever your likes and needs concerning turning, there was something there for everyone. In addition there was also the annual banquet, an auction and a lively trade show for people to attend and, of course, plenty of work to see.

A wonderful handout book was provided to everyone who attended that not only listed what was happening and who the demonstrators were, but also included many hints, tips and articles by some of the demonstrators. This meant you could plan to see a rotation of artists, and also get some key points and things to remember in writing for when you get back home, no doubt suffering from visual overload.

Displays

There was the usual delightful display of work in the Instant Gallery Area. This is where both attendees and demonstrators displayed their work. Attendees could also take along their work to an 'Intimate Critique' session, which was a great opportunity to have your turnings critiqued by a team of knowledgeable, respected woodturners, woodworkers and curators.

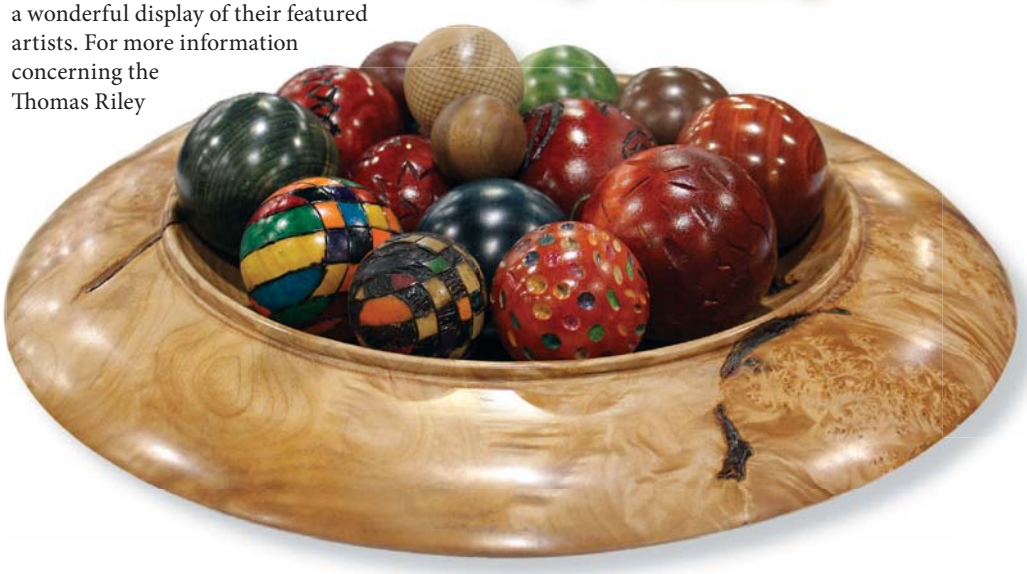
Thomas R. Riley Galleries staged a wonderful display of their featured artists. For more information concerning the Thomas Riley

PHOTOGRAPHS BY GMC/MARK BAKER

LEFT: J. Paul Fennell talking about the techniques he uses to create his work

BELOW LEFT: 'Asian Lantern' by Robert Raess

BELLOW: 'Chaco Passages' in alligator juniper *(Juniperus deppeana)* and turquoise by Jim McLain



LEFT: Bowl full of balls in various timbers by Dick Gerrard

RIGHT: One of the exhibits in the Chapter Challenge titled 'Pueblo Dreams', from the Arizona Woodturners' Association

BELOW: 'Fine Line Vessel' created in 1996 by Clay Foster in wood, lithographic ink and paint. This was part of Clay Foster's Merit award display

BELOW RIGHT: Natural-edge bowl from a mesquite *(Prosopis juliflora)* log, by Tom Peter

BELOW: Burr maple *(Acer campestre)* platter by James Santhon

Galleries go to: www.rileygalleries.com/htm/collections.html.

Another excellent display was the Ceremony International Invitational Exhibition, which featured work by 43 artists from five continents.

Awards

Each year the AAW organise a juried invitational exhibition with a theme that links with the locality. Since the 2014 Symposium was in Phoenix, the subject matter was based on the mythological phoenix – a long-lived fire/sun bird with the ability of obtaining rebirth by rising from the ashes of its predecessor. Two awards were given at the Symposium: Michael Foster received the Master's Award and Hal Metlitsky received the People's Award.

The AAW's Professional Outreach Program (POP) Merit Award went to Indiana-based woodturner Clay Foster. There was a display of 10 pieces of work by Clay that showed the evolution of his work over the last decade and encapsulate his '… abiding respect and admiration for, "things that endure, things that last, ancient voices that speak to our hearts in modern times: these are the things that give us comfort and courage."'

Worth attending

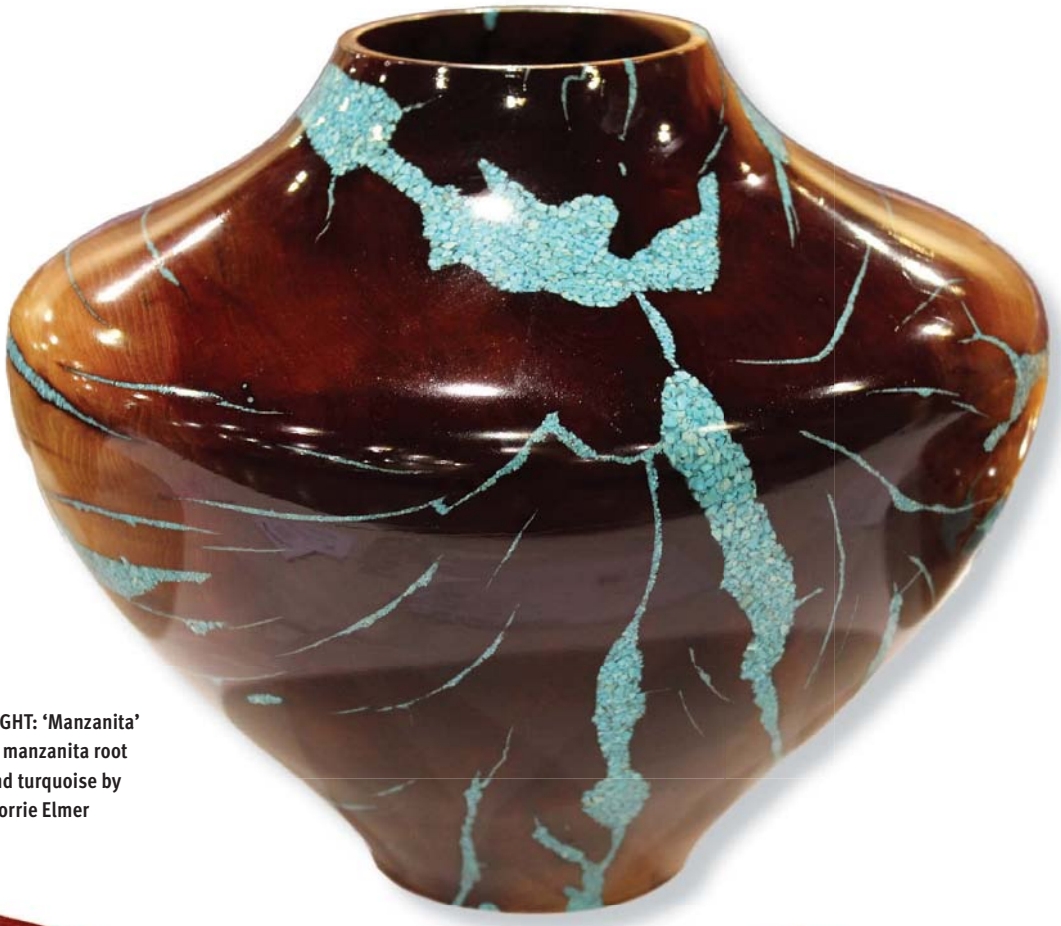
As I have mentioned before, the organisation of such events is a real pain to bring everything together and credit is due to the board, the local turning organisations and the 'army' of volunteers who worked tirelessly to bring about a smooth running event. The fact that I did not hear of any glitches means that they all did a brilliant job. The numbers are in for the amounts raised for the symposium auctions, and according to our sources, the Educational Opportunity Grant raised $39,000 (£22,869) and the POP auction raised $30,850 (£18,090).

Having attended many of these symposiums – some people have attended every one – it is wonderful to catch up with people you have seen before and to meet new people who attend an event because it is closer to them that particular year. Everyone I spoke to had a superb time and were inspired by what they saw and learned and were eager to try out new things.

That is what these events are about and if people have gone away with new knowledge, inspiration and friends, it is a job well done on the part of the organisers. Well done to everyone involved, it is well worth a visit. ●

SYMPOSIUM AWARDS SNAPSHOT

- **Honorary Lifetime Member** – Al Hockenbury
- **POP Merit Award** – Clay Foster
- **POP Excellence Awards** – Paul Hedman, Jay Shepard, Jennifer Shirley, Molly Winton and Lynne Yamaguchi
- **Instant Gallery Youth Awards** – Michael Anderson and Kailee Bosch
- **Rising Exhibition Master's Award** – Michael Foster; **People's Award** – Hal Metlitsky
- **Chapter Collaborative Challenge** — ***Artistic:*** Arizona Woodturners; ***Technical:*** Association of Revolutionary Turners; ***Fantasy:*** Association of Revolutionary Turners; ***Best of Show:*** Arizona Woodturners
- **Chapter Website Contest** – ***first place:*** Mid-South Woodturners/Mike Maffitt; ***second place:*** Massachusetts South Shore Woodturners/ Eileen Walker; ***third place:*** Alaska Woodturners Association/Kristine Chase
- **Chapter Newsletter Contest** – ***first place:*** Mid-South Woodturners/Mike Maffitt; ***second place:*** Central New York Woodturners/Barbara Raymond-LaPrease; ***third place:*** Woodturners of St. Louis/Charles W. Sapp



RIGHT: 'Manzanita' in manzanita root and turquoise by Morrie Elmer

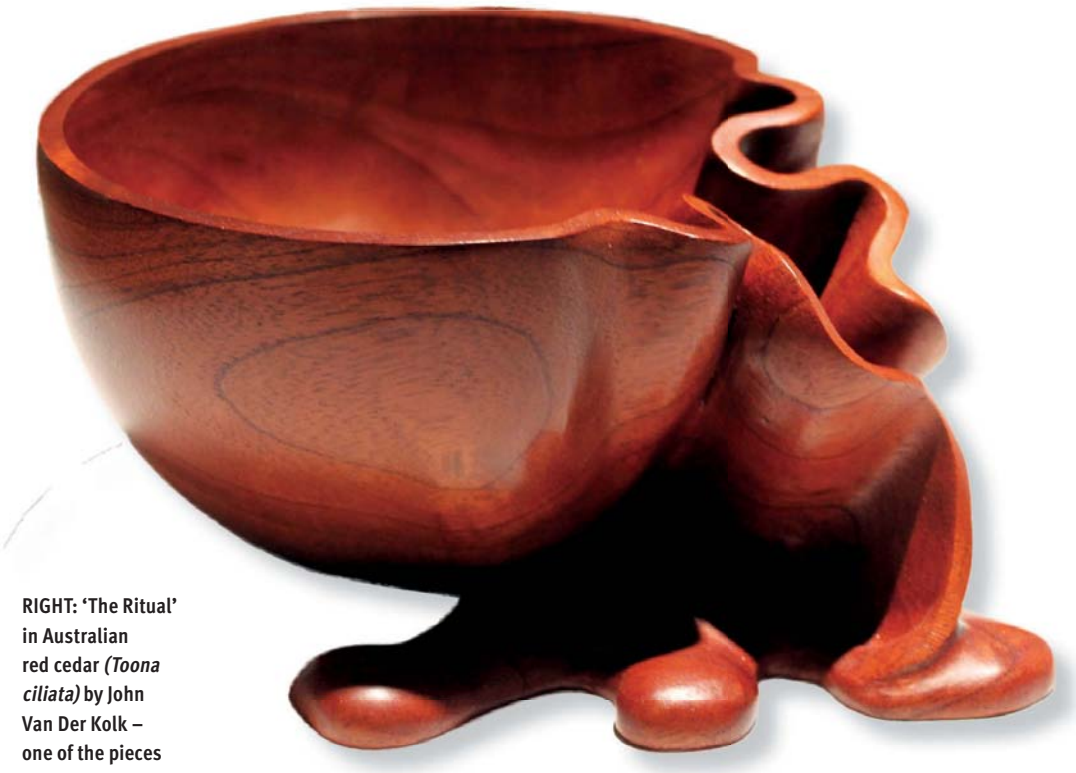
ABOVE: 'Stork' in walnut *(Juglans regia)* by Mark Waninger

CHARITABLE FUNDRAISERS

As with most, if not all of the AAW symposiums, there was support for local charities. This year there were displays and support for Phoenix-based SEEDs for Autism and Beads of Courage.

SEEDs for Autism is a charitable/ non-profit arts-based programme set up for young adults on the autism spectrum. To support this, AAW members donated bowls that were sold for $25 each with 100 percent of the profits going to SEEDs for Autism.

Beads of Courage is an Arizona-based charity/non-profit organisation that provides arts-in-medicine supportive care programmes for children coping with serious illness. To support this, AAW members created handmade boxes that will be given to children for storing their beads.



RIGHT: 'The Ritual' in Australian red cedar *(Toona ciliata)* by John Van Der Kolk – one of the pieces in the 'Ceremony' exhibition

RIGHT: Christian Burchard's bleached madrone *(Arbutus menziesii)* vessels

LEFT: Volunteers busy at work in the youth training area

A SELECTION OF DEMONSTRATORS WHO APPEARED

Al Hockenbury
Alan Carter
Alan Trout
Andi Wolfe
Andy Chen
Anthony Harris
Bill Ooms
Binh Pho
Bonnie Klein
Brian Gisi
Carol Ellis
Christophe Nancey
Clay Foster
David Ellsworth
David Lindow
Derek Weidman
Doug Baldwin
Douglas Fisher
James Santhon
Jason Schneider
Jennifer Shirley
Jimmy Clewes
Joe Fleming
Joe Ruminski
John Beaver
Joshua Salesin
Kevin Wallace
Kip Christiensen
Lee Sky
Les Casteel
Lynne Yamaguchi
Michael Mocho
Neil Scobie
Nick Cook
Pat Bookey
Richard Findley
Rudolph Lopez
Steven Kennard
Theo Haralampou
Todd Hoyer
Tom Eckert
Tom Wirsing
Trent Bosch
Vince Wilson

FURTHER INFORMATION

To see a video of what was shown at the AAW 2014 Symposium, have a look at Jeffrey Schnell's link: http://youtube/NMUsjMWpDB8

For further information about the AAW, its events, what it is all about and membership go to: www.woodturner.org

The 29th International Symposium will take place on 25–28 June, 2015, in Pittsburgh, Pennsylvania. See: www.woodturner.org/?page=2015Pittsburgh for further details

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CR1C

MODEL	MOTOR (W)	PLUNGE (mm)	EX VAT	INC VAT
CR1C*	1200	0-50	£39.98	£47.98
Ryobi‡ ERT1400RV#	1400	0-55	£89.98	£107.98

* DIY # PRO ‡ was £119.98 inc.VAT

evolution 255mm MULTI-PURPOSE TABLE SAWS
FURY 5 ONLY £179.98 EX.VAT £215.98 INC.VAT

MODEL	MAX DEPTH CUT 45°	MAX DEPTH CUT 90°	TABLE SIZE (mm)	EX VAT	INC VAT
FURY5*	54mm	73mm	625x444	£179.98	£215.98
RAGE5‡	55mm	79mm	868x656	£284.99	£341.99

*FURY power: 1500w (110V available) ‡RAGE power: 1800w/230V (110V available) table extensions included

Clarke 1" BELT & 5" DISC SANDER
- 5" dia. circular sanding disc runs at 2,800rpm
- 1" x 30" sanding belt operates at 13.5 metres/sec.

CBS1-5
£59.98 EX.VAT £71.98 INC.VAT

Clarke ELECTRIC POWER FILE
- Variable belt speed
- Includes dust collector

£49.98 EX.VAT £59.98 INC.VAT
CPF13 *Black and Decker

MODEL	MOTOR	EX VAT	INC VAT
CPF13	400w/230v	£49.98	£59.98
KA900E*	350w/230v	£56.99	£68.39

Clarke CONTRACTOR 18V PRO CORDLESS DRILL/DRIVERS
- 10mm chuck size
- 2 Speed, Variable control - 0-350/0-1250rpm
- 21 torque settings

FROM ONLY £69.98 EX.VAT £83.98 INC.VAT
2 Batteries
INCLUDES 12 PIECE BIT SET

MODEL	BATTERIES	EX VAT	INC VAT
CON18Ni	2 x Ni-Cd	£69.98	£83.98
CON18Li	2 x Li-Ion	£89.98	£107.98

Clarke ROUTER TABLE
Router not included
CRT-1
£56.99 EX.VAT £68.39 INC.VAT
- Converts your router into a stationary router table
- Suitable for most routers (up to 155mm dia. Base plate)

Clarke STATIC PHASE CONVERTERS
- For use with bigger woodworking machines inc. saws, planers etc.
- Variable output power to match HP of motor to be run

ROTARY PHASE CONVERTERS ALSO AVAILABLE
CONVERT 230V 1PH TO 400V 3PH
PC60
FROM ONLY £229.00 EX.VAT £274.80 INC.VAT

MODEL	MAX. MOTOR HP	FUSE	EX VAT	INC VAT
PC20	2Hp	10amps	£229.00	£274.80
PC40	3.5Hp	20amps	£269.00	£322.80
PC60	5.5Hp	32amps	£319.00	£382.80

Clarke QUICK RELEASE ALUMINIUM SASH CRAMPS
LIGHTWEIGHT ALUMINIUM
FROM ONLY £6.99 EX.VAT £8.39 INC.VAT

MODEL	SIZE	EX. VAT	INC. VAT
CHT374	600mm	£6.99	£8.39
CHT375	900mm	£7.99	£9.59
CHT376	1200mm	£9.98	£11.98

Clarke DOVETAIL JIG
- Simple, easy to set up & use for producing a variety of joints • Cuts work pieces with a thickness of 8-32mm • Includes a 1/2" comb template guide & holes for bench mounting

£59.98 EX.VAT £71.98 INC.VAT
CDTJ12 Router not included

Clarke POWER PLANERS
Makita
- 82mm cutting width

FROM ONLY £24.99 EX.VAT £29.99 INC.VAT
CON1020

MODEL	INPUT POWER	DEPTH OF CUT	EX VAT	INC VAT
Clarke CEP1	650w	2mm	£24.99	£29.99
Clarke CON1020	1020w	3mm	£36.99	£44.39
Bosch GHO26-82*	710w	2.6mm	£129.98	£155.98

*110v + 230v in stock

Clarke BELT SANDER
CBS2
- Top mounted cable to keep clear of working surface • Two handles for increased control
- Input power: 1200w
- Belt size: 100x610mm
- Belt speed 480M/min

£69.98 EX.VAT £83.98 INC.VAT

Clarke JIGSAWS
BOSCH Power Tools
Makita
CJS380
*DIY #Professional
FROM ONLY £14.99 EX.VAT £17.99 INC.VAT

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EX VAT	INC VAT
Clarke CJS380*	420w	55/6mm	£14.99	£17.99
Clarke CON750#	750w	80/10mm	£29.98	£35.98
B & D KS600*	450w	60/5mm	£33.99	£40.79
Bosch PST700*	500w	70/4mm	£49.98	£59.98

Clarke DRILL PRESSES
- Tables tilt 0-45° left & right
- Depth gauge
- Chuck guards

FROM ONLY £69.98 EX.VAT £83.98 INC.VAT

MODEL	WATTS/ SPEEDS	EX VAT	INC VAT
CDP5EB	350/5	£64.99	£77.99
CDP101B	245/5	£79.98	£95.98
CDP151B	300/5	£106.99	£128.39
CDP10B	370/12	£159.98	£191.98
CDP301B	510/12	£199.98	£239.98
CDP451F	510/16	£239.98	£287.98
CDP501F	980/12	£429.00	£514.80

B=Bench mounted F=Floor standing

Clarke BELT SANDERS
BOSCH Power Tools
BS1
FROM ONLY £29.98 EX.VAT £35.98 INC.VAT

MODEL	WATT	M/MIN	EX VAT	INC VAT
Clarke BS1	900w	380	£29.98	£35.98
Makita 9911	650w	75-270	£94.99	£113.99

Clarke WORK TABLE SUPPORTS (PAIR)
- Ideal if you have your own work top or want to build your own steel or wooden workbench
- Tough steel build
- Dims (HxW): 832 x 580
- Provides a solid under structure

CWTS1
£24.99 EX.VAT £29.99 INC.VAT

TACWISE NAILERS & STAPLERS
A range of professional Nailers from Tac-Wise
DUO 50
FROM ONLY £22.99 EX.VAT £27.59 INC.VAT

MODEL	TYPE	NAIL SIZE	EX VAT	INC VAT
140EL	Nail/Staple	10-15mm	£22.99	£27.59
181EL	Nail	10-35mm	£54.99	£65.99
DUO 50	Nail/Staple	15-30mm	£119.00	£142.80
400EL	Nail	15-40mm	£99.98	£119.98
DUO 35	Nail/Staple	15-30mm	£79.98	£95.98

Clarke 12" CONTRACTORS SAW
INDUCTION MOTOR
CCS12
£239.00 EX.VAT £286.80 INC.VAT
- 1600w motor
- 315/30mm blade / bore diameter
- 90mm max cut depth at 90°

Clarke RANDOM ORBITAL SANDERS
CROS1
£27.99 EX.VAT £33.59 INC.VAT
- For sanding & polishing
- 125mm diameter sanding discs
- 4000-11000 opm

INC 5 DISCS

Clarke ROTARY TOOL KIT
CRT40
£26.99 EX.VAT £32.39 INC.VAT
Kit includes:
- Height adjustable stand with clamp
- Rotary tool
- 1m flexible drive
- 40x accessories/consumables

Clarke DRILL BIT SHARPENER
CBS16
- Suitable for 3mm to 10mm HSS drill bits, one at a time
- Voltage: 230V ~ 50Hz
- Wattage: 70W
- Speed: 1600rpm
- Drill bit guide ensures sharpening at the correct angle

£21.99 EX.VAT £26.39 INC.VAT

Clarke 1000MM VARIABLE SPEED WOOD LATHE
CWL1000V
SUPPLIED WITH ROBUST STEEL STAND
PRICE CUT £259.00 EX.VAT £310.80 INC.VAT WAS £322.80 inc.VAT
- Large 350mm turning capacity
- Variable speed
- Lockable tailstock
- High quality cast iron build

Clarke 13" MINI WOOD LATHE
£129.98 EX.VAT £155.98 INC.VAT
CWL325V
- Ideal for enthusiasts/ hobbyists with small workshops
- 325mm distance between centres
- 200mm max. turning capacity (dia)
- 0.2Hp motor

Clarke BOLTLESS SHELVING BENCHES
- Simple fast assembly in minutes using only a hammer

FROM ONLY £29.98 EX.VAT £35.98 INC.VAT
ALSO EXTRA WIDE INDUSTRIAL UNITS AVAILABLE

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150 KG PER SHELF (evenly distributed) Strong 9mm fibreboard shelves
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MODEL	SHELF DIMS WxDxH(mm)	EX VAT	INC VAT
150Kg	800x300x1500	£29.98	£35.98
350Kg	900x400x1800	£49.98	£59.98

Clarke PLANERS & THICKNESSERS
CPT800
- Ideal for DIY & Hobby use
- Dual purpose, for both finishing & sizing of timber

FROM ONLY £139.98 EX.VAT £167.98 INC.VAT

MODEL	MOTOR	MAX THICK. CAPACITY	EX VAT	INC VAT
CP-6	1100w	*	£139.98	£167.98
CPT600‡	1250w	120mm	£169.98	£203.98
CPT800#	1250w	120mm	£189.98	£227.98

‡ was £215.98 inc.VAT # was £239.98 inc.VAT

Clarke WOODWORKING LATHES
3 PCE CHISEL SET INCLUDED WITH CWL1000
CWL1000
SEE CATALOGUE FOR ACCESSORIES

MODEL	CENTRE TO CENTRE (mm)	TURNING CAP.	TURNING SPEEDS	EX VAT	INC VAT
CWL1000	1016	350mm	4	£114.99	£137.99
CWL12D‡	940	305mm	5	£189.98	£227.98

‡ was £239.98 inc.VAT

FROM ONLY £114.99 EX.VAT £137.99 INC.VAT

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Clarke MORTISING MACHINE CBM1B

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- Accurately creates deep square recesses • Table size 150 x 340mm • Maximum chisel cap.76mm • Robust cast iron base & column ensures stability & accuracy • 95mm depth of cut

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Record WV7

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EX VAT	INC VAT
Clarke CHT152	Bolted	150/152/61	£13.49	£16.19
Stanley Multi Angle	Clamped	72/60/40	£16.99	£20.39
Record V75B	Clamped	75/50/32	£18.99	£22.79
Clarke WV7	Bolted	180/205/78	£24.99	£29.99

10" SLIDING MITRE SAW ON BASE

- For easy, precise and smooth cutting of wood parts • Carbide tipped saw blade • Rotating table for precise angle cuts ranging between -52° and +60°

FROM ONLY £159.98 EX.VAT £191.98 INC.VAT

RT-SM430U *Includes laser guide

INCLUDES SPARE BLADE

ALL MODELS

MODEL	BLADE DIA./BORE	MAX. DEPTH OF CUT	EX VAT	INC VAT
RT-SM305L*	210/30mm	65mm	£159.98	£191.98
RT-XM305U	250/30mm	75mm	£219.98	£263.98
RT-SM430U *	250/30mm	75mm	£239.98	£287.98

Clarke BANDIT AIR COMPRESSOR WITH AIR GUN KIT

- 8ltr receiver • 4.5cfm • 8bar Maximum Working Pressure • Complete with Air Nailer/Stapler Kit, recoil hose & fittings • Air gun capacity: 18 gauge nails up to 50mm and type 90 narrow crown staples up to 40mm

£109.98 EX.VAT £131.98 INC.VAT

NEW

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

FROM ONLY £129.98 EX.VAT £155.98 INC.VAT

METABO ALSO AVAILABLE

- Powerful 750w motor • 56 litre bag capacity • Flow rate of 850M3/h

MODEL	MOTOR	FLOW RATE	BAG CAP.	EX VAT	INC VAT
CDE35B	750w	850 M3/h	56Ltrs	£129.98	£155.98
CDE7B	750w	850 M3/h	114Ltrs	£139.98	£167.98

Clarke QUALITY CAST IRON STOVES

FROM ONLY £94.98 EX.VAT £113.98 INC.VAT

18 GREAT STYLES IN STOCK

BUCKINGHAM

REGAL II

BARREL

POT BELLY

MODEL	HEAT OUTPUT	EX VAT	INC VAT
Pot Belly	6.9kW	£94.98	£113.98
Barrel	11.8kW	£209.00	£250.80
Buckingham	6kW	£249.00	£298.80
Carlton	6.5kW	£229.98	£359.90
Regal II	6.8kW	£349.00	£418.80

FLUES, COWLS & ACCESSORIES IN STOCK

Clarke WHETSTONE SHARPENER

- Produces accurate razor sharp cutting edges on chisels, scissors, tools etc • 120w motor • Grinding disc dims: 200mm dia x 40mm x 12mm bore • Wet bath

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CWS200

Clarke 10" SLIDING MITRE SAW

- For fast, accurate cross, bevel & mitre cutting in most hard & soft woods • 1800w motor • 6000rpm

£129.98 EX.VAT £155.98 INC.VAT

CMS10S2

VAC KING WET & DRY VACUUM CLEANERS

- A range of compact, high performance wet & dry vacuum cleaners for use around the home, workshop,

FROM ONLY £47.99 EX.VAT £57.59 INC.VAT

MODEL	MOTOR	CAPACITY WET/DRY	EX. VAT	INC. VAT
CVAC20P	1250W	16/12ltr	£47.99	£57.59
CVAC20SS*	1400W	16/12ltr	£59.98	£71.98
CVAC25SS*	1400W	19/17ltr	£64.99	£77.99
CVAC30SSR*	1400W	24/21ltr	£86.99	£104.39

* SS = Stainless Steel

Clarke DUST EXTRACTOR CDE1000

- 50 litre tank capacity • 183 m³/h flow rate • 1100W input wattage

OTHER MODELS AVAILABLE

£99.98 EX.VAT £119.98 INC.VAT

airmaster TURBO AIR COMPRESSORS

- Superb range ideal for DIY, hobby & semi-professional use

CLARKE 8MM AIR HOSE FROM ONLY £5.99 EX VAT £7.19 INC VAT

8/250 MASSIVE PRICE CUT

FROM ONLY £79.98 EX.VAT £95.98 INC.VAT

BIG 2HP 7.8CFM

MODEL	MOTOR	CFM	TANK	EX VAT	INC VAT
BT-AC200	1.5 Hp	6.2	24ltr	£79.98	£95.98
Tiger 8/250 ‡	2Hp	7.5cfm	24ltr	£89.98	£107.98
Tiger 8/44 #	2 Hp	7.8	24ltr	£99.98	£119.98
Tiger 8/36	1.5 Hp	6.3	24ltr	£109.98	£131.98
Tiger 11/250	2.5Hp	9.5	24ltr	£119.98	£143.98
Tiger 8/510	2Hp	7.5	50ltr	£139.98	£167.98
Tiger 11/510	2.5Hp	9.5	50ltr	£149.98	£179.98
AM17EC150*	3Hp	14	150ltr	£419.00	£502.80

*Stationary belt driven
‡ was £119.98 inc. VAT # was £137.99 inc. VAT

Clarke MITRE SAW STAND - CFMSS1

£76.99 EX.VAT £92.39 INC.VAT

- Suitable for most sizes/makes of saw • Inc. outriggers & rollers

Clarke BENCH GRINDERS & STANDS

- Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

STAND AVAILABLE FROM ONLY £41.99 EX.VAT £50.39 INC.VAT

FROM ONLY £27.99 EX.VAT £33.59 INC.VAT

CBG8W features 8" whetstone & 6"drystone. # With sanding belt

MODEL	DUTY	WHEEL DIA.	EX VAT	INC VAT
CBG6RP	DIY	150mm	£27.99	£33.59
CBG6RZ	PRO	150mm	£37.99	£45.59
CBG6RSC	HD	150mm	£47.99	£57.59
CBG6SB#	PRO	150mm	£49.98	£59.98
CBG6RWC	HD	150mm	£54.99	£65.99
CBG8W (wet)	HD	150/200mm	£55.99	£67.19

Clarke HARDWOOD WORKBENCH

- Includes bench dogs and guide holes for variable work positioning • 2 Heavy Duty Vices • Large storage draw • Sunken tool trough • LxWxH 1520x620x855mm

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CHB1500

Clarke 6" BENCH GRINDER WITH SANDING BELT

- For sanding/shaping wood, plastic & metal • Supplied with coarse grinding wheel & sanding belt • Complete with tool rest, eye shield & wheel guard

FROM ONLY £49.98 EX.VAT £59.98 INC.VAT

CBG6SB

Clarke CORDLESS DRILL/DRIVERS

BOSCH Power Tools

HUGE CHOICE IN-STORE AND ONLINE

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PSR18

MODEL	VOLTS	BATTS	EX VAT	INC VAT
CCD180	18v	1	£36.99	£44.39
CCD240	24v	1	£46.99	£56.39
Bosch PSR18	18v	1	£59.98	£71.98

Clarke FOLDING SAW HORSES

- Anti-slip top

CSB1

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FOLDS FLAT FOR STORAGE

evolution MITRE SAWS

RAGE3

Makita

Clarke

FROM ONLY £54.99 EX.VAT £65.99 INC.VAT

- Quality Range of Mitre saws and blades available

MODEL	BLADE DIA BORE (mm)	MAX CUT DEPTH/CROSS	EX. VAT	INC. VAT
TH-MS 2112	210/30	55/120mm	£54.99	£65.99
Fury 3	210/25.4	60/200mm	£119.98	£143.98
Evolution Rage 3	255/25.4	75/300mm	£174.99	£209.99
Makita LS1040	260/30	95/130mm	£199.98	£239.98

Clarke RECIPROCATING SAW

£54.99 EX.VAT £65.99 INC.VAT

- 850w motor • 24mm stroke length • Includes 3 wood & 3 metal blades

CON850

Clarke CONTRACTOR CR2 ROUTER

£109.98 EX.VAT £131.98 INC.VAT

INCLUDES 15 PIECE ROUTER BIT SET WORTH OVER £20 INC.VAT

- Powerful heavy duty machine ideal for trade use • Variable speed control from 7,400-21,600 rpm • 2100w motor • 0-60mm plunge depth 1800w **CR3 Router with 15 Piece Bit Set also available only £94.99 £113.99**

Clarke SCROLL SAWS

CSS16V

FROM ONLY £62.99 EX.VAT £75.59 INC.VAT

- 120w, 230v motor • 50mm max cut thickness • 400-1,700rpm variable speed • Air-blower removes dust from cutting area

MODEL	MOTOR	SPEED RPM	EX VAT	INC VAT
CSS400B	85w	1450	£64.99	£77.99
CSS16V	120w	400-1700	£84.99	£101.99
CSS400C*	90w	550-1600	£99.98	£119.98

* Includes flexible drive kit for grinding/polishing/sanding

Clarke PORTABLE THICKNESSER

- Max thickness capacity 130mm • Planing depths adjustable from 0-2.5mm • Powerful 1250w motor • 8000rpm no-load speed

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CPT250

Clarke DRILL BIT SHARPENER

- Suitable for 3mm to 10mm HSS drill bits, one at a time • Voltage: 230V ~ 50Hz • Wattage: 70W • Speed: 1600rpm

FOR HSS BITS 3.0-10mm

EASY TO USE

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CBS16

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NEW CLICK & COLLECT

Sycamore

This month, **Dave Bates of Stiles & Bates** looks at sycamore

A member of the huge Acer – maple – genus, sycamore *(Acer pseudoplatanus)* could easily be a tree with a complex. On the one hand, regarded almost worldwide as an invasive pest plant, harmful to most flora and of little use to most fauna, and on the other, used over the years by furniture makers, wheelwrights, musical instrument makers, pyrographers and of course, woodturners.

In woodturning it is used for all types of work from treen to decorative work and has been documented as being food safe, so along with beech *(Fagus sylvatica)*, is a common choice for food boards and platters. It is interesting that in bygone years, it was the timber of choice for milk pails. They knew a thing or two.

DAVE BATES

About the author: Dave, who is on the Register of Professional Turners, started turning when he was about nine years old but didn't start taking it seriously until he saw three bark edge bowls by Bert Marsh in the early '80s. From a background in horticulture and then tree felling, he took up arable farming in 1979, and in 1987 following the Great Storm, set out to acquire a few trees for his hobby. 50 trees in 17 types filled most of the farm buildings and in 1988 he set about collecting more! By 1990 it was clear that he would have to sell some – reluctantly – and so a hobby became the business of Stiles & Bates, which is now larger than the farm. The business is run by Dave, his wife Janet and their son Pete.

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GRAIN

Sycamore is usually a plain, pale white to beige with a close lustrous texture and a faint grain. Over time, the timber matures to rich honey brown.

The centres of long mature trees can have dark brown, green or even red streaks, which add interest to turnings.

Ripple or fiddleback patches under main branch forks and in the base buttresses are not uncommon but full ripple trees are rarer and usually bought up for the musical instrument market, for the backs of fiddles strangely.

Sycamore also happens to be a favourite for stained veneers and faced ply so the straightest logs are sold into this market. Huge demand for an invasive pest plant!

PHOTOGRAPHS BY DAVE BATES, UNLESS OTHERWISE STATED

TOP LEFT: The early bark of sycamore is smooth and grey. As the tree matures it becomes rougher, breaking up into scales, which sometimes fall away to show the lighter inner bark

FELLING

Most white timbers are better winter felled but with sycamore, it is an absolute rule if clean, white timber is required. If summer felled, the planks – however promptly milled – almost always develop grey or brown stain. This can be ideal if you have an old tree and the end use is decorative vases or large forms but generally, pale and clean is best for most jobs as well as food use.

"If summer felled, the planks – however promptly milled – almost always develop grey or brown stain"

A sycamore plank, fresh off the sawmill

End reared sycamore planks

MILLING

Although the timber is quite soft in texture, sycamore can be a devil to mill. On bad blade days we have another way of describing it!

Smaller trees are often full of tension to the point where the centre planks can almost explode apart through the pith as we mill them, and the areas around forks on the large trees – which we like to include for the wild figure and ripple – can be tough to mill because of the grain running in all directions and tending to fluff and bind the blade. Interestingly, sycamore is listed in all the books as a tough timber to rip when dry. This again is primarily due to its tendency to fluff up and bind the blade.

Immediately after milling, instead of reassembling the planks with sticks between each plank as with most timbers, sycamore planks are end reared – stood on end with top spacers to let the air through – to stop the planks developing stick marks and help faster drying.

If the timber is being dried in open-ended buildings, end rearing also reduces the risk of airborne dust settling and discolouring the planks. We like to pop them in our dehumidifier kiln after the first hot days of May but bigger yards using vacuum kilns dry them straight after milling, and the end results are usually excellent.

TURNING CHARACTERISTICS

Sycamore is an ideal choice for beginners, a kind timber to turn and once dried, usually very stable. Although a little soft compared say to ash *(Fraxinus excelsior)* or beech, sycamore will cut to a fine finish and take fine detail.

For hollowing work, it works easily and with sharp tools on end grain or side grain work will produce long shavings that quickly clog the opening and need frequent clearing.

As with milling, reaction wood – timber that has been under pressure due to a tree leaning or from under horizontal branches – can be inclined to fluff up and be difficult to cut to a good finish.

Shear scraping is without doubt a fine finishing technique in this timber but might not always produce a perfect finish where the soft 'tubes' of timber have been pulled and laid over, then burnished in by the gouge bevel.

These usually appear as pale lines when you get down to the finer abrasives or start applying a finishing product.

Sadly, not many woodturners admit to using 80 grit abrasive and those who do usually have it delivered in a plain brown envelope and use it with the curtains drawn, but on softish timber like sycamore, these problem areas are best removed right after shear scraping with a coarse cutting abrasive before running through to finer grits.

Sycamore vessel, 330mm dia. × 305mm deep. Turned from the fork of a large tree and contains 11 pith knots, which were held with a CA glue during the initial drying process

Figured sycamore hollow form, 330mm dia. × 125mm deep

COLOURED AND SPALTED TIMBER

For all the effort we make to produce clean, pale timber, my personal favourite for larger pieces and vases are coloured and when lucky, spalted blanks. Indeed, most of my work with sycamore is from the ugly blanks nobody wanted to buy!

Sycamore is not a durable timber so exposed to the elements, is soon in the recycling chain.

In six months to a year, the timber can rot beyond easy use but caught right, it can have some fantastic shades of grey, brown and black spalt lines. These lines can sometimes run in parallel pairs, which is not something I have seen so frequently in other timbers.

There are not many timbers we can mill over 100mm-thick without the risk of deep cracks developing as the timber dries and shrinks, but with sycamore, big old coloured trees, those on the way to dying off or rotting through the pith in the first stages of going hollow, are ideal for cutting to thicker sections.

We mill them to 150mm or 200mm squares and call them vase blanks. Being of such heavy section they rarely dry right through so are not ideal for solid forms like, say, a table lamp, but for hollow vases and forms they can produce some nice pieces.

ABRASIVES

Most of the abrasives we use in woodturning today originate in the automotive trade so sanding – as they called it when sand was stuck to paper – is rarely difficult and on sycamore, fairly routine. That said, the timber is liable to burn easily hence its popularity for pyrography.

Excessive friction from abrasives or finishing rags, especially on sharp edges or fine features will quickly generate a black burn mark, so keep the abrasive on the move and use light pressure. Let the abrasive do the work!

FINISHING PRODUCTS

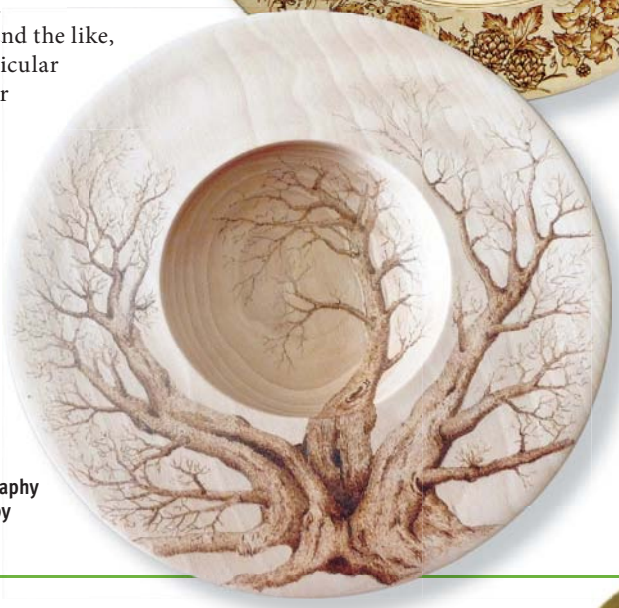
Used in contact with food, say for cutting boards or salad bowls, as with beech, my preference would be to use no finishing product at all. Be aware, though, that sycamore, like all maples, is very receptive to stain so will accept the colours of whatever touches the bare timber very quickly.

If using a proprietary food-safe finish, which is apparently based on paraffin oil, the finish is dull and uninspiring but does prevent the ingress of stains. On plain work, a few sparse coats of cellulose sanding sealer buffed with shavings prior to wax or a coat of melamine lacquer will produce a shine from lustrous to bright shine.

On decorative vases and the like, I have been using a particular brand of finishing oil for over 30 years now but recently tried a newish hard wax oil and have been impressed.

The difference seems to be that this finish has a translucence, which gives more depth to grain and figure. And it still feels like wood.

A pyrography sycamore platter by Dawn Morgan



Another example of a pyrography sycamore platter, this time by Linda Wales

PHOTOGRAPH BY LINDA WALES

Two lamps, both turned in sycamore

A NOTE ON SAFETY

All timbers are liable to cause an allergic reaction to some people so it is sensible to protect your eyes, face and respiratory system at all times by the best means you have available.

Spalted timbers may contain the spores of the bacteria at work and those of fungi, so take special care when working with these, especially when using abrasives. The Wood Database – www.wood-database.com/wood-articles/wood-allergies-and-toxicity – makes interesting and concerning reading, but like the dictionaries, makes no mention of spalted timbers. ●

PHOTOGRAPHS BY DAN TILDEN

In the workshop with...
Dan Tilden

We meet **Dan Tilden** and find out more about his woodturning career

Dan Tilden is a gifted artisan who has developed a signature style using local woods from the Pacific Northwest. He turns green wood and manipulates the drying process to create organic shapes and forms. He uses features of the wood to build character in the work and let the wood speak for itself.

How, when and why did you start turning?

I started turning at Ashland High School in Ashland, Oregon. AHS has an amazing woodshop class for young students, fully equipped with lathes and proper teaching. I started turning because Christian Burchard was giving lessons on the lathe and he made it look fun and easy.

What and who are the greatest influences on your work?

My greatest influence is the natural features that come with a tree. I love incorporating raw features from the tree in my work, letting the piece speak for itself, letting the raw materials tell me where

Apple *(Malus sylvestris)* vessel, 255mm high × 125mm wide

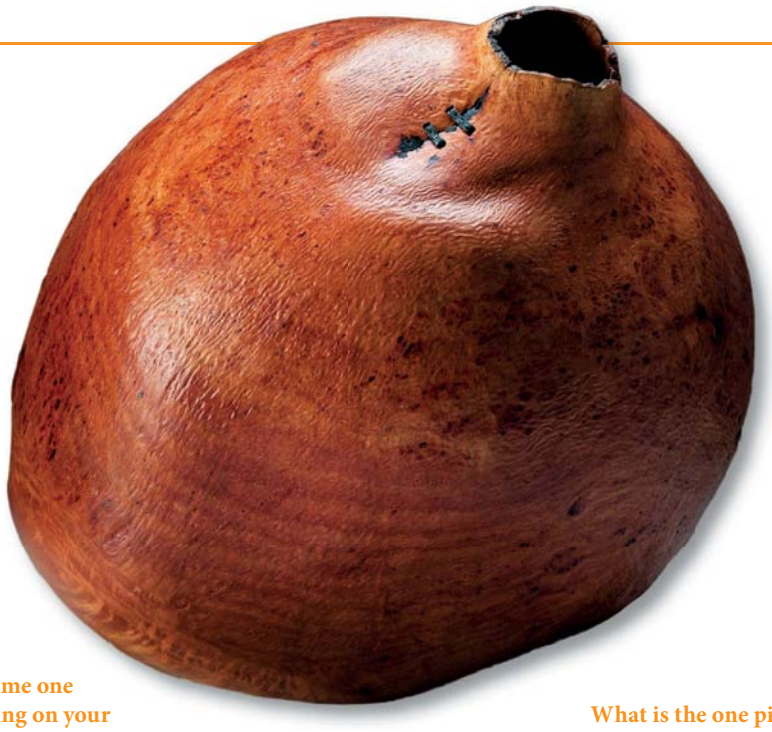
to take it. And Christian Burchard is another major influence on my work; he is my teacher and a dear friend and his artistic visions are amazing.

If you were to offer one sage piece of advice to someone what would it be?
My one piece of advice would be don't let wasting wood or time affect the outcome of your piece. Don't settle for an unsatisfactory shape because you want a bigger piece. And don't avoid a new idea because you think it will take too long.

What music and what book are you currently into?
I listen to a wide variety of music, I can enjoy just about anything. And I am currently a sucker for the *Game of Thrones* book series.

What is your silliest mistake?
My silliest mistake, hmmm, probably forgetting to lift my turning stock with my legs and not my back. I'm sure other woodturners can relate!

What has been your greatest challenge?
My greatest challenge has been getting my name out there in the woodturning world. It really takes applying yourself to every possible opportunity you can. I find that patience helps too.



Madrone *(Arbutus menziesii)* ariel burl, 330mm high × 355mm wide

Name one thing on your turning to do list.
What isn't on my turning to do list? One thing I would love to pursue is a design for a hollowing tool I have been thinking about.

Tell us about the piece you are currently working on.
I am currently working on a madrone *(Arbutus menziesii)* burl legged vessel. I turned the piece green and it's in the drying stages now. It's so exciting to check on it every day and see how much the piece is moving! I love the movement that comes with turning green madrone and that's what I am most interested in.

What is the one piece of equipment or tool you would not be without and why?
My Oneway lathe. I love it. There's only one way to buy a lathe in my opinion!

If you could change one thing what would it be and why?
I wouldn't change much. Maybe getting a bandsaw sooner than I did because it saves so much time on the chainsaw and maximises your material! ●

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Web: www.tildenwoodturning.com

5 THINGS THAT I HAVE LEARNT WITH MY WOODTURNING

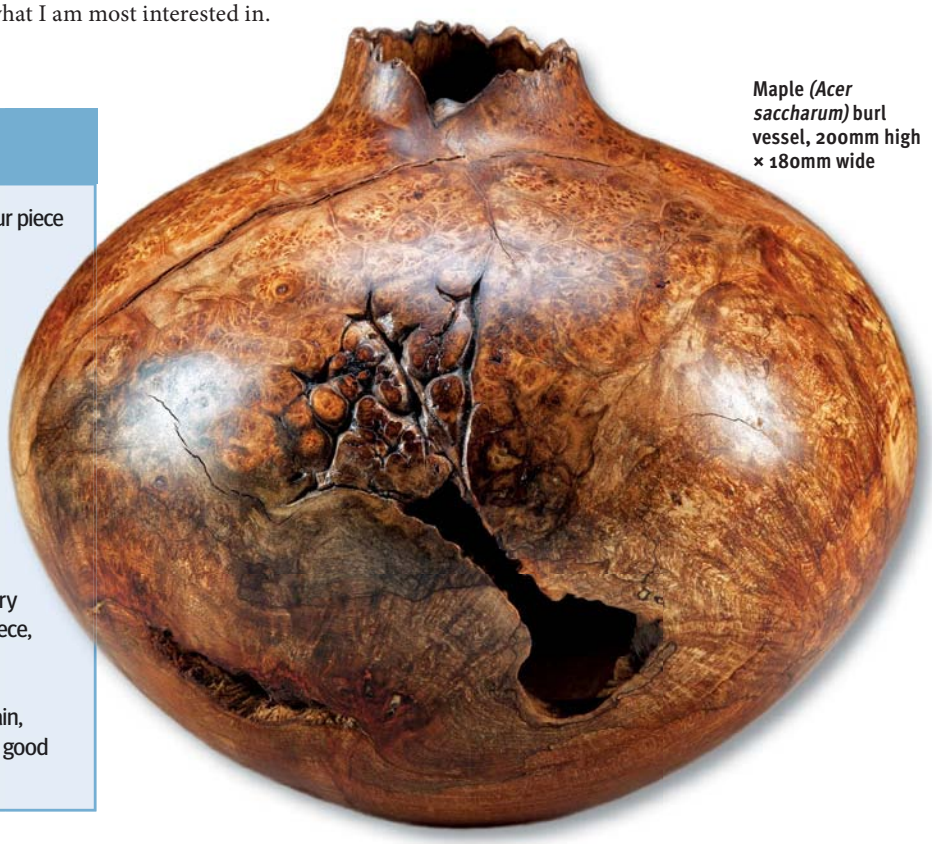
1 When turning, always stop, check and inspect your piece if anything sounds or feels unusual

2 Life is too short to be cutting with dull tools. Cutting with a dull lathe tool or chainsaw chain can jeopardise your work and can be very dangerous. Keep a sharp edge!

3 Put some time into the finishing stage of your work. Your elegant shape and technical turning skills won't be exposed if your piece isn't complemented by a quality finish

4 Learn to ship your work safely. Shipping art is very important. If your work doesn't make it in one piece, then what's the point?

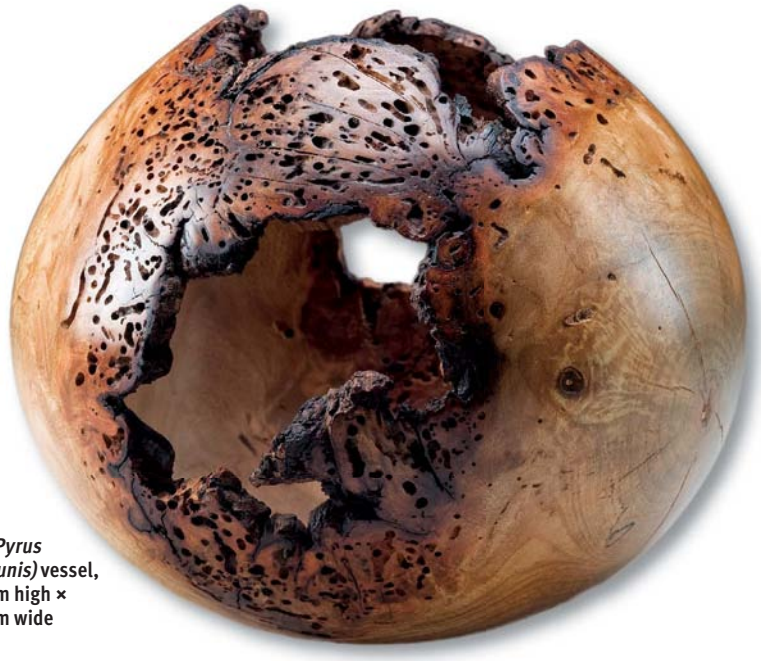
5 Good photographs are extremely important. Again, if your beautiful turning isn't complemented by a good image, it's not representing your hard work



Maple *(Acer saccharum)* burl vessel, 200mm high × 180mm wide

Madrone *(Arbutus menziesii)* burl, 230mm high × 200mm wide

Natural-edge maple *(Acer saccharum)* burl bowl, 255mm high × 280mm wide



Pear *(Pyrus communis)* vessel, 200mm high × 200mm wide

LATEST HOMEMADE JIG

I was considering buying a magnet lamp for my lathe but I decided to make my own. I had an old sub-woofer magnet in my shop and simply CA glued it to my lamp. It holds some of my smaller turning tools and provides great light wherever I want it. I love improvising and making tools instead of buying them.

Handy hints

1. I like to use glue blocks for mounting my turning stock. After you cut your stock with a chainsaw or bandsaw, flatten the bottom of your turning block and fix it to a wood block screwed to a faceplate using CA adhesive. When purchasing expensive burls, you want to maximise your wood and using a glue block mounting method helps with this

2. When drying a green bowl or vessel, I like to use a paper grocery bag to slow down the drying process in order to minimise cracking. The paper bag slowly absorbs the moisture in the wood and dries it slower than if you air dried it. Just change the bag every day or two to prevent mould

3. I have also learnt to really enjoy using an electric chainsaw in my shop for making smaller cuts. In some cases it's more forgiving on my body; I don't have to keep refilling my gas, I have great lighting and I'm closer to my tools. Just elevate your wood off the floor with wood blocks and be careful not to hit the floor with your blade

LIKES & DISLIKES

Likes:

- Trying new ideas and getting out of my comfort zone
- Turning green madrone is probably my favourite thing to do on the lathe

Dislikes:

- I often turn wood that can have a lot of dirt and rocks lodged in the voids, which can be very difficult. Frequently sharpening the tool and scraping out the rock voids can be frustrating!
- There is not much I dislike about woodturning. If there is a problem or flaw in the process of what I'm doing, I don't blame the material or tools, I just try to troubleshoot the issue and fix the problem

Turners Retreat

AUTUMN EVENT

The North of England's Saturday 10am - 4pm

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We carry products from many of today's leading woodworking suppliers. There is a well stocked wood store. We also provide a range of woodworking courses in woodturning, woodcarving and routing.

www.turners-retreat.co.uk

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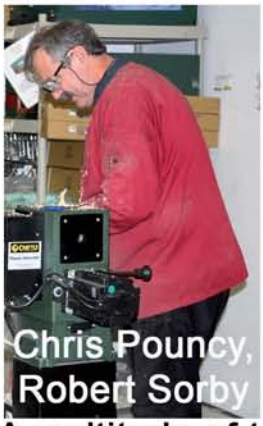
Our star name will be Jimmy Clewes, renown woodturner Jimmy will be performing three turning masterclasses each day. The masterclasses will be limited seating. There will be three different projects which will be repeated each day. Each session will last around 90 minutes with a chance for Q&As after each session. A minimal fee will be charged for each session. In addition there are two one day courses with Jimmy, where you will get the chance to put into practice what you have seen.
These sessions are filling fast, don't miss this rare opportunity to see Jimmy in the UK.



Chris Pouncy, Robert Sorby

For futher enjoyment we also have Mick Hanbury. Mick is a very well known woodturner both here in the UK and overseas. His infectious character and desire to offer tips and advice, make Mick a very popular demonstrator.

A multitude of trade stands will be here with their latest products and giving you the opportunity to ask questions, including Jet Machinery, Chestnut Products, Tormek, Charnwood, Arbotech, Camvac, a large team from Robert Sorby plus many more....

For the budding artists amongst you, be sure to check out Bob Neill and have a go at pyrography

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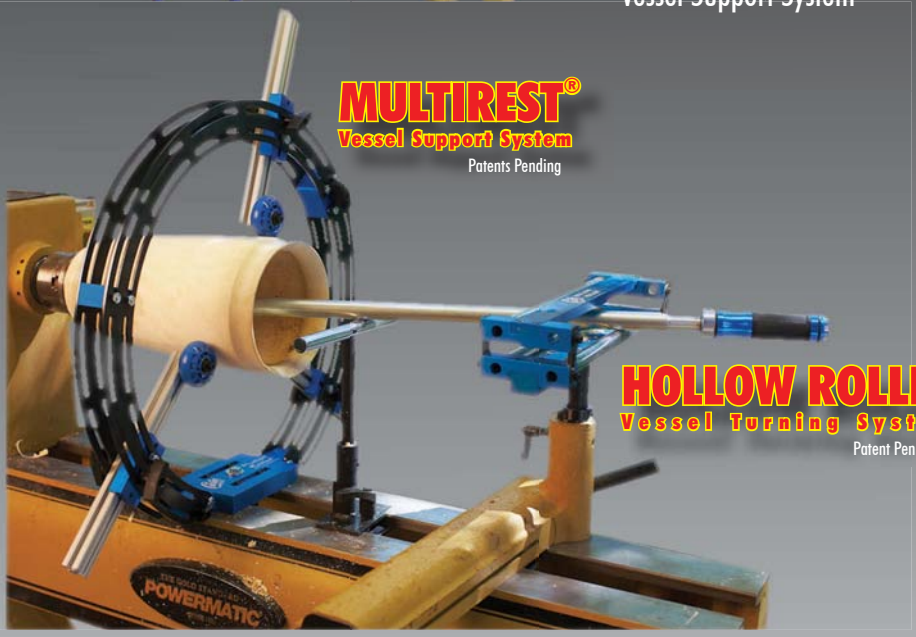

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Decorative goblet

Philip Greenwood shows you how to turn a simple goblet without encountering problems of the stem breaking

PHOTOGRAPHS BY WENDY GREENWOOD

I have been asked many times how to make a goblet by people who have tried, but had problems – mostly with vibration or the stem breaking – so this prompted me to make a goblet in yew *(Taxus baccata)* to show you the steps to reduce the problems encountered. The sequence is the key when you are turning any item that has a thin stem with a cup at the top. Turn this in the wrong order and unfortunately you will have problems, which you may not be able to recover from. This could mean you have to start again right from the beginning, which is a waste of timber and also your time.

For this project, I had a piece of yew that has been in my workshop for a while, so it was fully dry. If this piece had any excess moisture, then the bowl part of the goblet would move and the stem could possibly bend – this is fine if you are looking for movement to produce that unique shape, but for this one we want it to remain stable.

The second consideration with using a piece of branchwood is where the pith is – this needs to be offcentre so it is excluded from the stem; if it is not, it will be a very weak point and will cause the stem to break during turning or when being handled later. This is the last thing you want to happen. This piece will not be used to drink out of, so I am not worried about using yew as the timber. If you are going to drink out of the vessel, then yew is not a good choice due to the potential toxic properties of this timber. You would also need to consider the finish you use if your goblet will be used to drink out of. The one I am making here will not be used to drink and is decorative, so I am using a finishing oil to give it a pleasant shiny appearance.

Again, just a basic tool kit is needed here. Yes, a hollowing tool could be used to remove the waste from the bowl part if you wish. One point to remember is the longer the length, the more vibration you will experience. One way to counteract this is to use a fixed steady, which will

"This piece will not be used to drink out of..."

provide you with support. The length of this one is on the limit without a steady, or you can use gripper jaws on your chuck to give more gripping power. The other consideration is your lathe; a lathe that is very solid and has large bearings will cope better with a longer length of timber.

PHILIP GREENWOOD

About the author: Philip has been turning wood since 1980 and started turning professionally in 1986. He was accepted onto the Register of Professional Turners (RPT) in 2006. He is also a member of the AWGB. He can be seen working in his workshop in North Yorkshire and has demonstrated at the woodworking show at Harrogate since 2008. He runs courses at his workshop.

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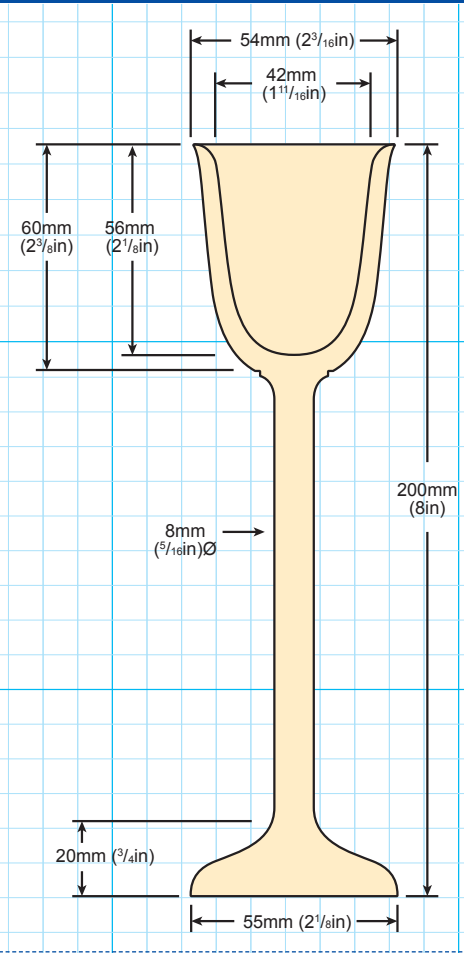
GOBLET DIMENSIONS



INFORMATION

TIME TAKEN & COST

Time taken: 45 minutes
Cost: £3 for timber

TOOLS REQUIRED

- 25mm French curve scraper
- 3mm parting tool
- 19mm skew chisel
- 19mm spindle roughing gouge
- 10mm spindle gouge with a fingernail profile

ADDITIONAL TOOLS

- Chuck
- Drive centre
- Revolving centre
- Callipers
- Abrasives
- Dust extractor
- Air filter
- PPE: facemask, respirator/dust mask and extraction

1 Before you start, check for any cracks in the wood by cutting a bit off both ends. Now, use a cardboard disc 60mm diameter, drawn with a compass to use as a centre finder. Use a bradawl to mark the centre of the branch and carry this out at both ends

2 Mount between centres using a steb centre at the headstock and a revolving centre at the tailstock. Check that the branch will rotate fully and not catch the toolrest, do this by hand before you switch on the lathe. Now use the spindle roughing gouge to true up the outside, starting at one end and truing up before moving on to the next section

3 Use a parting tool to cut the spigot to a size suitable for your chuck jaws – I cut this 6mm wide to give me a better grip in my standard jaws. Use a skew chisel laid flat on the toolrest to cut the dovetail to suit your jaw angle. If you are using gripper jaws, a dovetail will not be needed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Handy hints

1. Look for straight grain timber; this will help you to reduce weak points in the stem

4 You can now place the spigot in the chuck and loosely tighten, then bring the tailstock and revolving centre and line up with the centre hole. Now you can tighten the chuck fully. Place the toolrest close to the cylinder and check for clearance

5 The next step is to finish truing up the branch fully using the spindle roughing gouge. Do this until most of the bark is removed; the rest will be removed later

6 Place a few marks on the piece, starting at the headstock end. The first is the waste area for parting off; the second is the base section, and the last is the line for the base of the goblet cup that is needed later on in the process. The first two are for guidance only

7 Use the spindle gouge to clean the end off. Once cutting, keep the bevel rubbing, which will help to control the cut. The tailstock will be removed to finish the centre off. You can see the heartwood clearly near the edge; this will not cause a problem when we come to turn the stem

"Push the gouge into the timber; keep pulling out to remove the waste every 25mm..."

8 Place a pencil mark about 6mm inside the outer edge; this will be a guide when you come to remove the waste from the goblet. With the lathe switched off place the spindle gouge parallel to the cylinder with the point on the pencil line. Now place a piece of tape around the spindle gouge at the end of the cylinder – this is the depth you need to drill to

9 Now place the toolrest so the tip of the tool is on centre height, then switch the lathe on and hold the gouge horizontal and parallel to the lathe bed. Push the gouge into the timber; keep pulling out to remove the waste every 25mm and keep drilling until you reach the tape on your gouge

10 Use the tip of the spindle gouge and with the flutes around 45° off vertical, start in the hole and pivot the handle away from you to scope out the centre. Take small cuts to minimise any vibration

11 Keep taking the waste out of the centre and check the shape with the lathe switched off. Remove all the waste right down to the bottom of the hole. Try for a flowing curve all the way down. You can then begin to flare out the top

12 Use a round nose or French curve scraper to refine the shape and remove any tool marks from the spindle gouge. Take very light cuts to achieve a good finish and reduce any vibration. One point to remember is the larger the tool surface in contact with the timber, the more vibration you will experience

13 I use a pair of forceps to hold my abrasives to sand with; I do not like placing my fingers in a small opening while the lathe is rotating. Start with a coarse grade and work through to 400 grit. Remember, yew can crack if subjected to heat from the sanding process, so light sanding only, or let it cool between grades

14 Place a wad of paper into the goblet to protect the inside when bringing up the tailstock and revolving centre; this will help reduce vibration when starting to turn the outside and when you turn the stem

15 If using the spindle gouge with bevel contact to start shaping the outside of the goblet, take light cuts to reduce any vibration. Part down a little where the depth of the inside is marked, plus around 6mm so as not to make the bottom of the goblet too thin

"Place a wad of paper into the goblet to protect the inside when bringing up the tailstock..."

16 This photo shows the shape starting to appear at the rim. You want the rim to flare out. Keep looking at the rear of the goblet when turning to see the shape; it is a lot easier to see than looking at the front

17 Stop the lathe to check the wall thickness – I set these to 5mm – and just slide them in and if they become tight, then you know you need to turn more away. Make sure the callipers have rounded ends and are not sharp or they will scratch the finished inside

18 You now need to refine the base portion – stop and check the depth if in doubt. Now sand the goblet and part-finish with 400 grit abrasive. Stop the lathe to check the finish before moving on to the stem. Remember to not overheat the surface when sanding or it will crack

19 Next, remove a lot of the waste from the stem with the spindle roughing gouge. Remove more at the top of the stem; this will leave you a lot of thickness at the bottom and will help to reduce vibration


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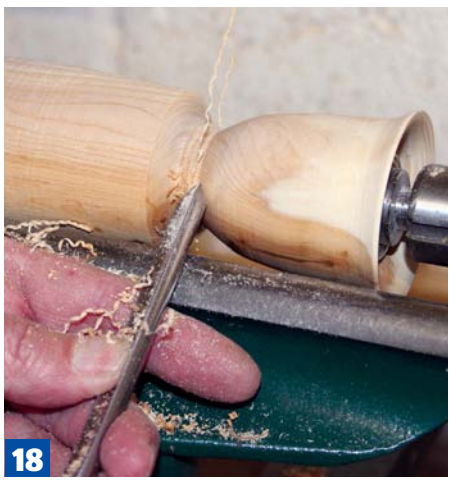
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20 Start turning the stem with the spindle gouge. Turn the stem 8mm in diameter; this is a good starting point if this is your first goblet. Aim for a stem around 4mm when you have turned a few. Turn it about 30mm wide to the finished diameter, then sand to a finish

21 Move the toolrest, which will help to reduce tool overhang. Now go to the next part of the stem and turn down to the finished diameter and blend in to the first part. Once you are happy with this, move on to sanding the stem to a finish

22 We are now down to the last part of the stem to be finished; this is just like before with small, light cuts just letting the tool rest on the stem. Too much forward pressure will just cause vibration. Now sand again

23 I have parted down at the end around 10mm deep to show where it will be parted off. Start reducing the base thickness and blend into the stem. Keep the bevel in contact at all times; this will allow you to maintain a smooth curve, or you may find you have ridges on your turned surface

24 Reduce the base diameter to the finished size and now finish the curve on the base to flow into the stem. Once happy with the curve start sanding the base as before and check the finish as you go through the grits, letting the surface cool if it feels warm

25 Remove the tailstock and the wad of paper, then part off and open the gap if the tool starts to bind. I prefer to hold the parting tool in my left hand and the stem in my right hand to avoid reaching over the chuck with my left hand. Sand the base to a finish, apply several coats of finishing oil and finally, buff to a shine

26 The completed goblet should look something like this ●

Handy hints

2. Always wear a dust mask and safety glasses or respirator when turning
3. Keep your tools sharp; this will help you to achieve a good finish, which will minimise sanding and help with tool control
4. With an item like this, sand as you go along – much easier than sanding the inside of the goblet, after turning the stem thin
5. Start with a goblet with a short stem as a first project. Once you are familiar with the technique, then go for taller and thinner stemmed goblets

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Resin creations

Larry Jensen concludes his series on working with resin by describing some of the pieces he has made

PHOTOGRAPHS BY DAN BRUHN

LARRY JENSEN

About the author: Larry is a turner of timber and other media who enjoys finding inspiration in the work of other turners, ceramicists and glass artists. 20 years of woodturning has led him to bowls with retained defects, lamps with wooden shades, Dymondwood sculptures, Chinese landscape collaborations and, presently, resin and organic sculptures.

Email: larrylarsjensen@gmail.com

In the last issue of *Woodturning* I discussed the basics of working with epoxy resin to create functional and sculptural objects. These rudiments included form, colour, texture, translucence and enhancements. In this issue I will show, by example, how I built on these basic elements to fashion several creations.

PLATTERS

I start my platters either from round moulds – castoff containers or purchased plastic containers – or from home-made square moulds. For the latter I use 6mm plywood for the bottom and thick veneer, 1.6mm, on four sides. I pour resin layers into the mould over several days and, after the resin cures, the square mould can either be turned round on the lathe or the edges trimmed with a radial arm saw and then the mould turned round on the lathe.

A home-made square mould

I especially like to enhance my square moulds with small branches or seed pods. In one of my favourite platters, I used recycled Brazilian cherry *(Prunus spp.)* on the edges and a mixture of resin with green sushi rice and little slippery elm *(Ulmus rubra)* branches in the gap. Luckily, the rice was warmly translucent. Often I pair the wood for the board edges with little branches, all from the same tree.

A translucent platter made from Brazilian cherry *(Prunus spp.)*, slippery elm *(Ulmus rubra)* twigs, green sushi rice and resin

PLATES

I use a similar method for making small plates. You can follow this on the plates turning sequence shown on page 78. Starting from a square turning block, I remove a centre section, fill the gap with a coloured resin mixture and small branches, then turn the cured block on the lathe. Sometimes I have been able to get three plates from one block this way.

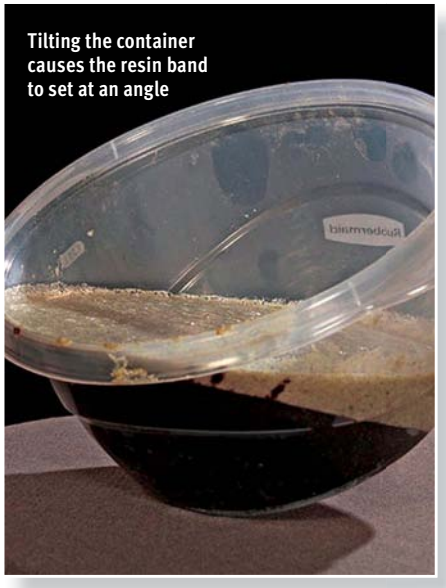
For an upcoming exhibit called 'Tableware', I am making a set of plates, a soup bowl on a plate and a coffee cup on a plate. The plates start in square moulds with inserts of cutoffs. The cutoffs are bird's eye maple *(Acer saccharum)*, either the corners of squares or just short rectangles. Other cutoffs are from resin cylinders, i.e. the disc where the cylinder was held in the lathe chuck. All these have been laid in a square mould in an abstract pattern and a resin-and-coffee-grounds mixture poured in the gaps. The resulting forms will be turned to plates.

Plate made from bird's eye maple *(Acer saccharum)* and a mixture of resin, coffee grounds and pastel powder

SMALL BOWLS AND VASES

Most of my bowls and vases start with castoff plastic containers. Clear containers work best because you can see the thickness of the bands and judge the colour patterns as they develop. For variety, I sometimes tilt the container so the band sets at an angle.

One vase I'm particularly happy with was moulded in a small plastic container using black popcorn, blue corn meal and layers of home-made paper. The latter was made by creating a slush of construction paper shreds in a blender, dewatering the slush on a screen and drying it with felt cloth in the open air. I cut discs from this paper and slipped them into the mould at a few intervals. Nicely, the green sushi rice at the top edge was translucent.



Tilting the container causes the resin band to set at an angle

Vase made from black popcorn, home-made paper, yellow corn meal and resin

LARGE BOWLS

Resin is quite expensive so it behooves one to use it frugally. I have two methods that work for large bowls, both involve moulds that came from a plastic globe that cracked in half at the equator.

For one bowl, I first poured a resin layer in the bottom – as I mentioned in the last issue, a detriment of resin is heat so I never pour a layer deeper than 25mm. Then I cut a thick Styrofoam disc and set it on the centre of the layer. I only had to pour resin around the edge of the Styrofoam. By working up with Styrofoam layers, a rough bowl was developed. The Styrofoam was easy to remove when forming the bowl on the lathe.

For another bowl, I first tilted the mould and poured a small pool of resin with blue corn meal. When it set, I rotated the mould slightly and poured another pool. After about a week, I had resin pools all around the mould perimeter. Then I righted the mould and poured the bottom. For this particular bowl, I initially glued a few short sections of coloured pencils on the mould wall and used a few small pools of resin with ground pastel sticks. The pencils gave distinctive, colourful patterns and the pastels gave more colour. The red and blue pastel sections were translucent.

A resin layer being poured into a large plastic mould

Bowl made from a mixture of blue and yellow corn meal, pastel powder and resin

LOGS

In this instance I created a 'log' that was later used to create two bowls. This is detailed in the log turning sequence shown on page 78. I started with a clear plastic container that used to hold bulk CDs. I put some resin mixed with printer toner in the box and put it on the lathe to turn overnight. Spinning forced the resin mixture out to the container wall. In the morning I had a black hollow cylinder. I did this three times and ended up with 'bark'. Next, I added a resin-and-yellow-corn-meal mixture and let it turn overnight. I did this three times so that I now had a 'sapwood' layer. Finally, for the 'heartwood', I alternated layers of buckwheat and red Himalayan rice until the centre was filled. Off the lathe, the 'log' had the appearance of a wood log.

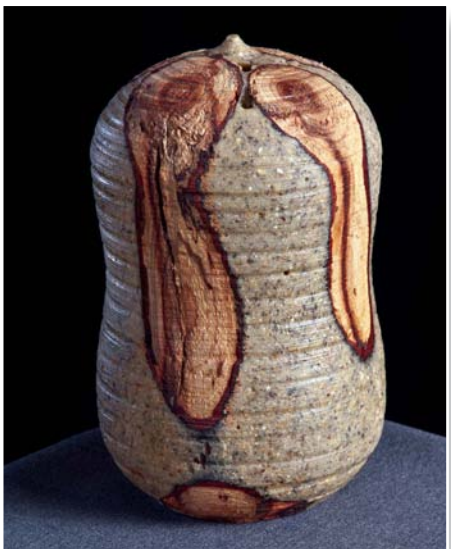
Taking the 'log' off the lathe I cut it in half at the 'pith'. One half, with the opening towards the 'pith', was turned to a natural bowl. The other half, with the opening towards the 'bark', was turned to a 'natural-edge' bowl.

SCULPTURES

Toshiko Takaezu was an extremely influential ceramic sculptor. Most of her work consists of undulating cylinders with somewhat rounded tops and colour streaks on the side. In appreciating her beautiful work, I mimicked her style somewhat in some of my own creations. Starting with a plastic cylinder, I inserted little red bud tree branches, then poured layers of resin mixed with blue corn meal over several days. I turned this cylinder on the lathe to match Takaezu's undulating forms. The result looked like a piece of ceramic.

For another piece, I created my own one-off sculpture with a dry cholla cactus 'skeleton' and a piece of soapstone. I put a short layer of resin mixed with Chinese black rice and Japanese white rice in the bottom of a cardboard mailing tube. When cured, the mixture resembled granite. Then I put the cholla 'skeleton' in the tube and, over several days, poured in a mixture of resin with blue corn meal. When cured, I turned the tube on the lathe until the cholla began to show through. Finally, I glued the cholla and resin cylinder to the soapstone. The result looked like a tree erupting from a rock outcrop.

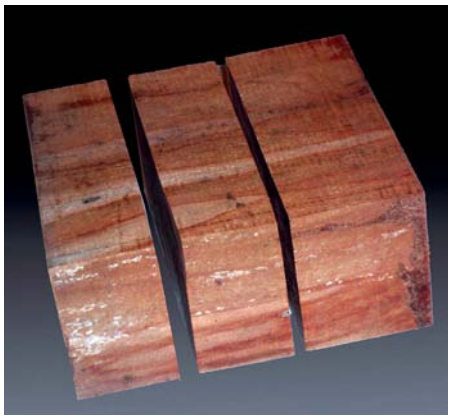
In conclusion, I hope you will use my descriptions to initiate your own experiments with resin. You can follow what I did closely, or you can go a little wacky and invent your own creations. Either way you should have fun!



RIGHT: Sculpture made from Chinese black rice, Japanese white rice, blue corn meal, a cholla cactus, soapstone and resin

LEFT: Sculpture in the style of Toshiko Takaezu made from blue corn meal, red bud branches and resin

TURNING A PLATE USING RESIN

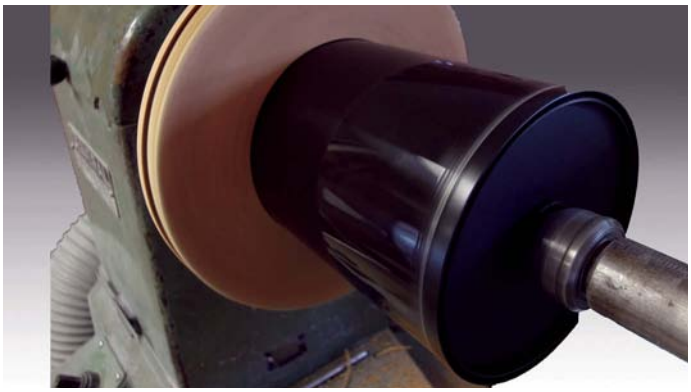


Step 1: the turning block should measure 150mm square × 75mm high. It can then be cut on the radial arm saw to remove the centre. It then needs to be cut so that the centre gap can be removed

Step 2: here you can see the branches arranged in the centre gap. Thin wood sheets are tacked on the ends of the gap and on the bottom of gap; this sets the final block size and keeps the resin mixture from oozing out. The dry blue corn meal will be mixed with resin and poured in the centre gap. Here you can see the blue corn meal plus the branches, which have been set in the centre gap. The block on the lathe will be turned circular

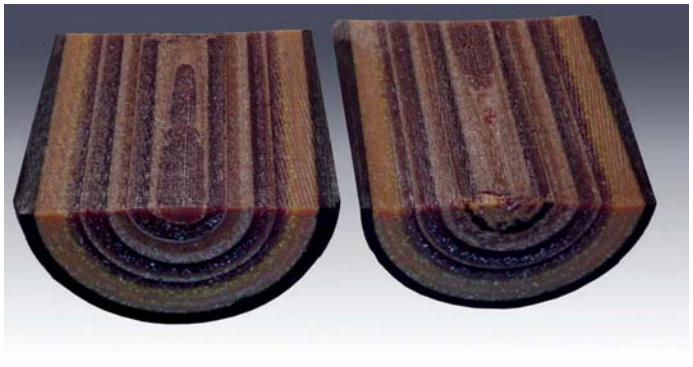
CREATING A LOG-EFFECT CASTING

Step 1: a box of dry coffee grounds. These will be mixed with resin and poured into the plastic cylinder to create 'bark'



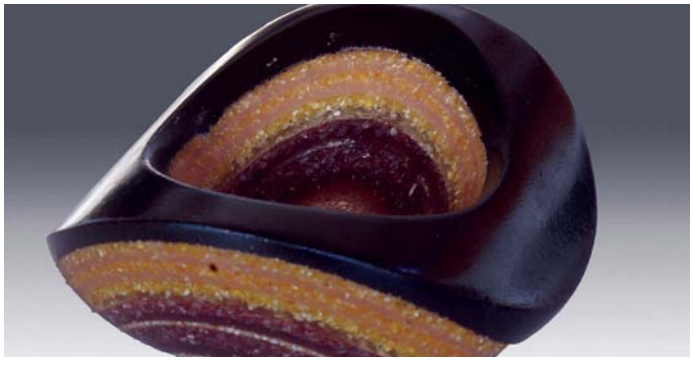
Step 2: cylinder turning on the lathe with resin and coffee grounds mixture being forced to the inner wall, forming 'bark'. Succeeding mixtures will form the sapwood – yellow corn meal – and heartwood – buckwheat or red Himalayan rice

Step 3: the finished 'log' where the end looks much like the end of a wood log with 'bark', 'sapwood' and 'heartwood'



Step 4: the 'log' has been bandsawed along the 'pith' to create two turning blocks

Step 5: the bowl, turned where the open end faced the 'pith'



Step 6: the bowl, turned where the open end faced the 'bark'

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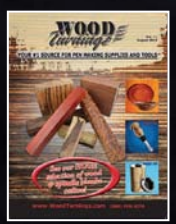

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PHOTOGRAPHS BY SUE HARKER

Art Deco winged bowl

Sue Harker shows you how to make a decoratively shaped Art Deco winged bowl

When designing a decoratively shaped bowl, such as the one shown in this project, it helps to draw outline shapes and patterns in a sketch pad. These shapes give you a visual aid for how your finished item will look. Once the desired shape has been selected, the profile can then be copied onto a length of timber the correct size. To do this, select a piece of paper the same size as the timber, fold the paper in half and then in half again. Draw a quarter of the profile on one side and cut out. When the paper is opened out, an equal pattern will emerge. The shape is then cut into the blank, before any turning is done. The size of the internal bowl will be dependent on the width of timber being used: I chose a piece of sycamore *(Acer pseudoplatanus)* measuring 165 × 296 × 50mm, which allows for a reasonable size bowl. Rather than using a square piece of timber, I have used a rectangular piece, which creates two long 'wings'. This makes the turning slightly more difficult, but produces a very pleasing shape. Should you wish to avoid turning uneven shaped timber, this bowl could be turned from a round bowl blank measuring 295mm in diameter and cut to shape once turned.

The decoration I have applied is called 'sgraffito', which is a decorative technique used in pottery, glass and painting. It is where two layers of different colours are used: the top layer is then scratched in to reveal the underneath colour. For this project I have used a black base colour and gold iridescent paint for the top coat. I have used a rubber 'sgraffito' comb, designed for this technique, to scratch a small straight-lined pattern through to the base coat. To give the decoration an Art Deco feel, I applied some low tac tape in straight lines leading from the edges of the wings to the start of the rim of the bowl, before applying the top coat of paint and creating the pattern. When the tape is removed, solid black lines emerge, which adds to the overall design.

SUE HARKER

About the author: Sue is a member of the RPT and AWGB, teaches woodturning, demonstrates all over the country, writes for *Woodturning* magazine and has produced three DVDs.

Email: sue@sueharker.com
Web: www.sueharker.com

WINGED BOWL DIMENSIONS

INFORMATION

TIME TAKEN & COST

Time taken: 3.5 hours

Cost: Approximately £7

TOOLS REQUIRED

- 3mm parting tool
- 10mm standard-grind bowl gouge
- 13mm standard-grind bowl gouge
- 10mm fingernail profile bowl gouge
- 12mm flat sided, skew chisel
- Three-point tool

ADDITIONAL TOOLS

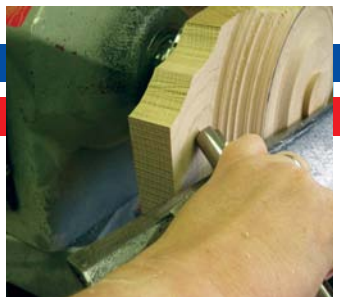
- Jo Sonja acrylic paints and flow medium
- Sgraffito comb
- Finishing oil
- 120-400 grit abrasives
- Rotary sander
- Battery drill with sanding arbor fitted
- Large sanding arbor/block
- PPE: facemask, respirator/ dust mask and extraction

TIMBER REQUIREMENTS

- A piece of sycamore *(Acer pseudoplatanus)* – 165 × 295 × 50mm

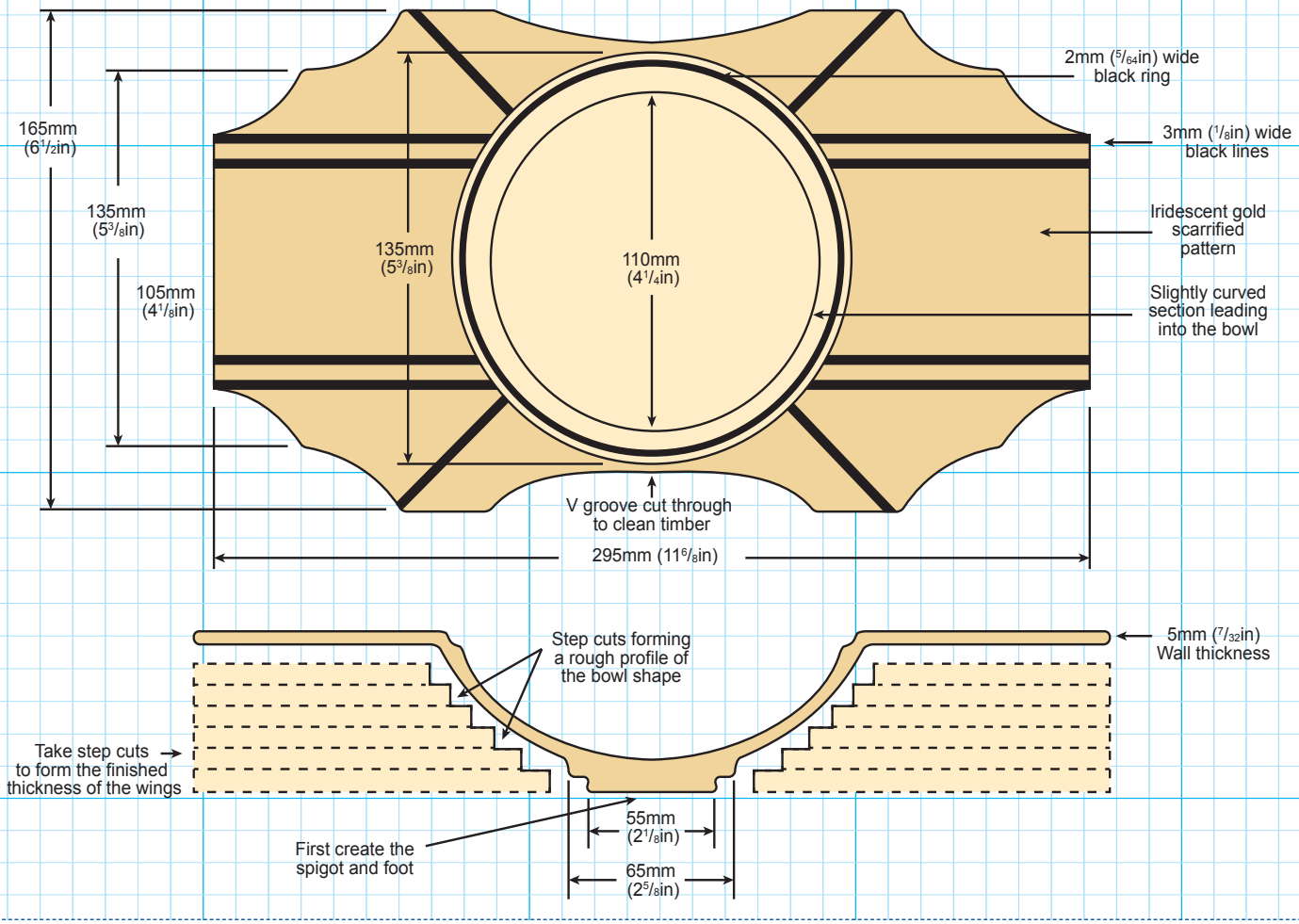
HEALTH AND SAFETY

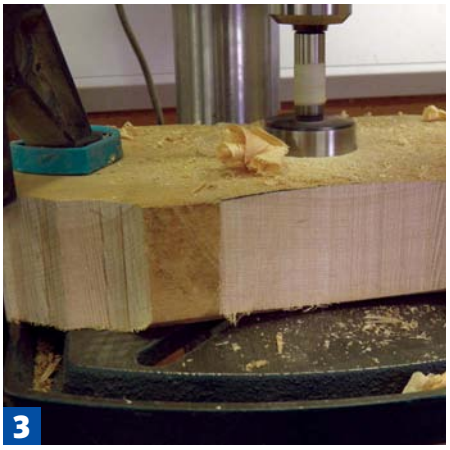
It is very important to be aware of where your hands and arms are at all times when turning a rectangular piece of timber. The toolrest needs to be secured tightly, allowing the wood to rotate freely. Ensure your fingers, hands and arms do not hang over the toolrest at any time. Always rotate the wood before turning on the lathe to check it does not catch the toolrest. The speed of the lathe should be as fast as the lathe will allow for this amount of imbalance: the lathe should rotate the wood without vibration. I ran my lathe at 1,500rpm; however, the speed of your lathe may vary. Always allow the lathe to stop rotating on its own or use a flywheel to stop it, if you have one. You should never try to stop the lathe by getting hold of the rotating wood, especially when the timber being turned is not round.



Safe positioning of the hand and arm

Place a piece of masking tape or similar on the toolrest and draw a reference mark in line with the longest part of the timber. This will help with locating the starting point when taking cuts. Position your bowl gouge slightly to the left of the reference mark and gently feed into the timber. The bevel of the gouge should be gently rubbing along the surface of the wood. Once the cut has started, travel along the toolrest slowly in a smooth movement, this will create a flat surface. If you apply too much pressure to the cut, the tool will bounce and prevent you from cutting efficiently.





1 Place your bowl template on a piece of sycamore measuring 165 × 295 × 50mm. Secure in place using pieces of masking tape. You can then draw around the template using a permanent marker pen

2 The next step, using a bandsaw, with a thin blade fitted, is to cut along the black lines to create the finished shape

3 You can then drill a hole, the correct size for your jaws into the top face of the bowl blank. Clamp the timber to the pillar drill to hold securely in place while drilling

4 Mount the timber on the lathe, position the toolrest and secure tightly in place. Stick a piece of masking tape over the toolrest and mark where the edges of the rotating wood start. This will help for positioning your tools for beginning each cut

5 Cut a spigot the correct size for your jaws. Here I am using a skew chisel laid on its side to create a dovetail

6 Mark where the underneath of the bowl will be and, working from the outer edge, reduce the thickness of the wings leaving step cuts for the bowl to be shaped – see drawing opposite

7 When the desired wall thickness has been achieved along the wings, shape the base of the bowl. Cutting from the spigot, with the grain and towards the wings, remove the step cuts produced earlier. Blend the bowl shape into the wings to form a crisp transition. A long-grind 10mm bowl gouge can be used for this

8 When the shape of the bowl is satisfactory cut a 'V' groove to define the foot. A fingernail-profile spindle gouge is suitable for this and will create a crisply cut groove without torn grain. Sand the bowl section and the solid part of the wings on the lathe working through 120-400 grit abrasives

Handy hints

1. The winged bowl shape proves difficult to sand. When the timber is rotating, there is a lot of 'air' between the solid timber wings. This space makes it unsafe for attempting to sand while rotating, so sanding either off the lathe or with the spindle lock secured will be required. Use a sanding block of some description to help maintain a flat surface and try to avoid rounding over the edges. The inside and outside of the bowl can be sanded with the lathe rotating using your usual sanding method, taking care to stay within the solid sections

SHAPING THE UNDERNEATH

For the underneath of the bowl start cutting from the outer edge and work towards the centre, leaving step cuts where the bowl shape is to be turned. This will allow the wings to be shaped and cut to the required thickness, while still having the bulk of material left for support. When the wings are the required thickness you can start to shape the bowl – a rough profile of the bowl shape should be evident from the step cuts being left, while cutting the wings. To refine the shape of the bowl, start cutting from the centre, removing the step cuts as you go. Blend the transition between the bowl and wings.

A long-grind bowl gouge is used for this. Start at the foot and using a bevel supported cut, work towards the wings. The tool is then rotated to shear scrape the solid section of the wings. This is done by rotating the flute of the tool towards the wing, lowering the handle to bring the swept-back grind of the tool into contact with the solid section of the wings. The transition from bevel supported cut to shear scraping is done in one fluid movement to create a clean cut. Do not shear scrape beyond the solid section of timber; this section will be hand sanded off the lathe using a sanding block.

Bevel cutting the bowl shape

9 Remove the bowl from the lathe and apply masking tape to the sanded bowl section, this will protect it from being scratched when sanding the wings. Using a large sanding arbor or similar, hand sand the wings. This is easier when sat on a flat surface covered with non-slip matting. Sand in the direction of the grain and work through your usual grits ensuring all marks are removed before progressing to the next grit

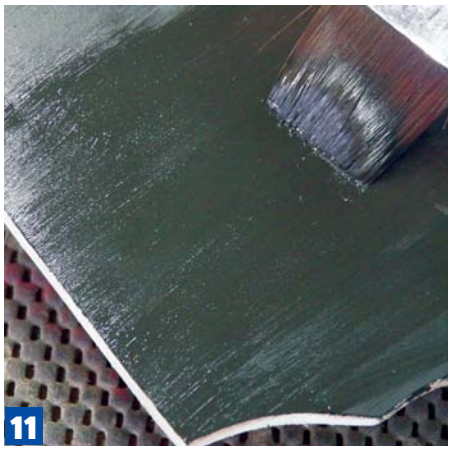
9

10 Mount the bowl on the lathe, using the chucking spigot cut earlier and true up the front face

10

11 Remove from the lathe and hand sand the surface, using the same grits and process as for the underside. Paint with acrylic black paint mixed with flow medium. This will produce a smooth coat, which will only need a gentle rub with 1,000 grit abrasive when dry, to remove any imperfections

"Sand in the direction of the grain and work through your usual grits ensuring all marks are removed..."



11

12 Mount the bowl on the lathe and cut a 'V' groove, through to clean timber, at a diameter of 135mm. A three-point tool is used for this

12

13 Apply strips of 3mm-wide low tac tape running from the outer edges of the wings to the 'V' groove. Stick some masking tape around the 'V' groove to avoid contaminating with paint

13

14 Apply a thick coat of gold iridescent paint mixed with flow medium to the surface and using a sgraffito comb, scribe a crisscross pattern into the paint. This removes the gold paint revealing the black base coat and creates a pleasing pattern

14

COLOURING EFFECT

For this paint effect I have used Jo Sonja acrylic paints. I used black for the base coat and iridescent gold for the top coat. Both have been mixed with flow medium, which 'waters down' the paint without it losing its viscosity. The thinner paint allows you to achieve a smooth, flat finish. Once the base coat is dry, sand gently with 1,000 grit abrasive, this will remove any blemishes. Clean the surface with tac cloth and apply some 3mm-wide low tac tape in straight lines from the outer edges to the cut groove. The tape needs to be securely adhered to the surface to prevent seepage; however, should seepage occur, this can be easily touched up with black paint once the finished pattern is fully dry. Apply some masking tape around the 'V' groove, pushing the edges into the groove; this will stop the gold paint from soiling the groove.

Iridescent paint is milky in appearance, only showing its colour when applied to a dark surface. If applied thickly this milky appearance remains. For the sgraffito technique a thick coat of paint is required and to prolong the working time requires mixing with flow medium. Apply to one wing at a time and create the crisscross pattern with a rubber sgraffito comb. The comb removes the wet paint, leaving the base coat showing through. Allow the paint to dry thoroughly before removing the masking tape to reveal crisp black lines.

When trying a new painting technique it helps to practice on a scrap piece of wood to help you perfect the technique before applying it to your turning. If you don't like the pattern or choice of colours you can black out and try another combination.


15


16


17


18


19

15 When the paint is dry, remove the masking tape to reveal the black lines. If any gold paint has seeped under the tape, this can be touched up

16 Next, remove the centre of the bowl leaving a 2mm wide ring of black paint at the rim. A 10mm standard-grind bowl gouge is used for this. Create a small cove leading from the ring of black to the start of the bowl. Sand the bowl centre using the same grits as before

17 With the bowl still on the lathe and with the spindle locked in position, hand sand the edges of the bowl. This will remove excess paint and also smooth any bandsaw blade marks. Work through all the grits using a sanding arbor for support. Try to avoid rounding over the edges at this stage

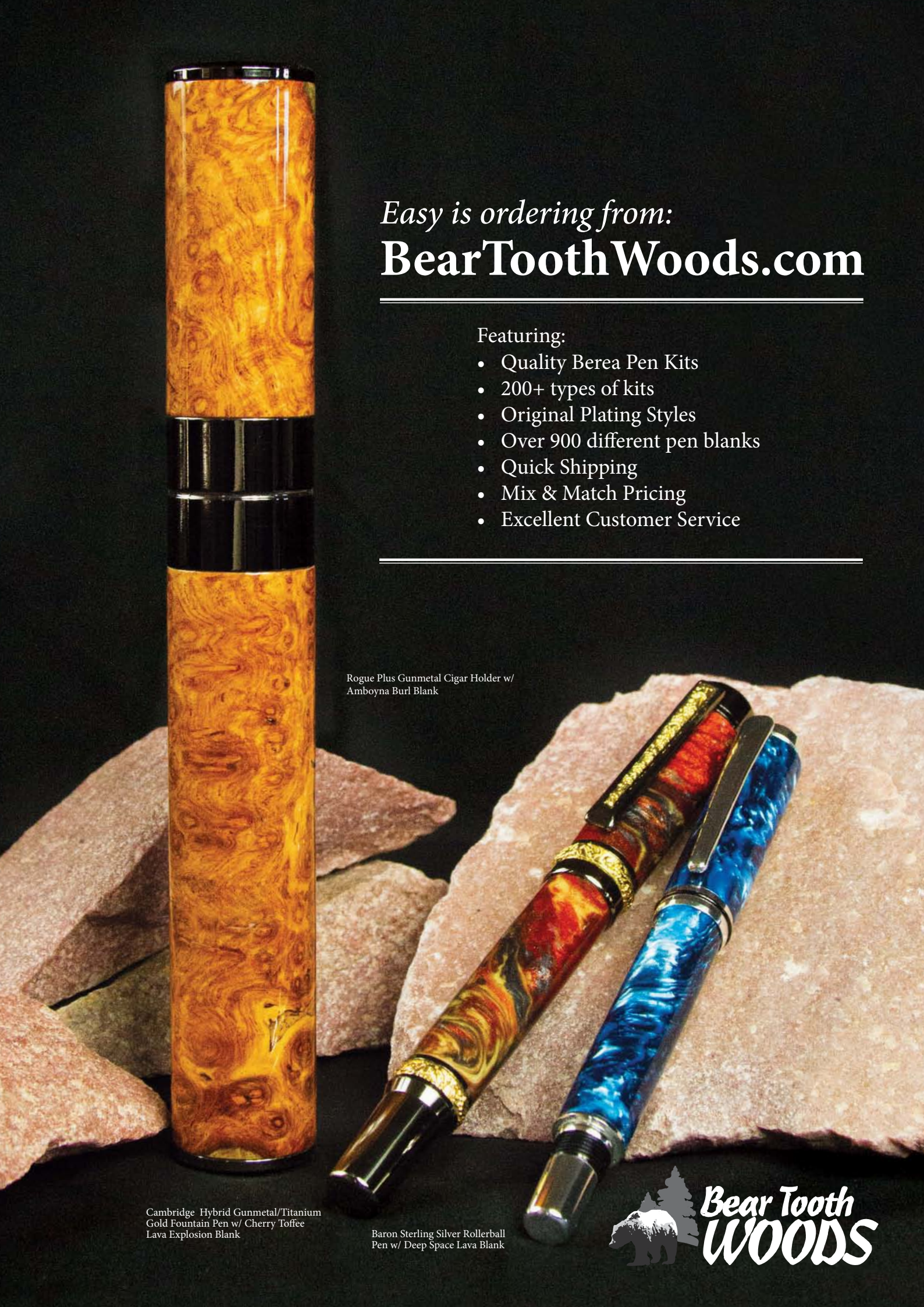
18 Re-mount the bowl using your preferred method and remove the chucking point: Here I am using a vacuum chuck, which allows the taildrive to be removed giving better access to the foot

19 To finish the bowl apply several coats of finishing oil. The finished project should look something like this ●

Handy hints

2. When applying oil to your work, take it into an environment that is as dust free as possible. Coating in your workshop at the end of a turning session will result in the very fine particles of dust in the air settling onto the wet oil and this will create a rough surface, which will require re-sanding before another coat can be applied

3. When sufficient oil has been applied and it is totally dry, the centre of the bowl can be buffed using Tripoli compound on a bowl buffing mop, and the underneath and wings can be buffed using a buffing wheel should you wish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Kit & Tools

A mixture of tests, press releases showing the latest tools and products on the market. *All prices include VAT, correct at time of going to press*

Keith Fenton tests the Kel McNaughton Centre Saver system

Test

PHOTOGRAPHS BY KEITH FENTON

Kel McNaughton Centre Saver system

The Kel McNaughton Mk8 Centre Saver system enables the production of multiple bowls from individual blanks. The entire saver system comprises five configurations: large, standard, small, micro and a combined set of curved and straight blades that allow variable bowl profiles. The thickness of each bowl wall can also vary, depending on the turner's wishes. The five configurations available each include a pin gate, yoke, toolpost, handle and a selection of blades. The new Mk8 features a new toolpost – various sizes of stem size are available – a guide yoke assembly with extended functionality as well as a hollowing gate. There are now two sizes of gate assembly and four sizes of blades, which gives the system even more flexibility. The instructions are also extremely comprehensive.

The blades do need to be maintained and this involves keeping them clean and sharp. I use abrasive paper and a spray intended to keep bandsaw blades free of sap, etc. Used together, they keep the blades free of any residue. The blade tip can be sharpened – but only if absolutely necessary – carefully on a bench grinder but is mainly maintained by a few wipes with a diamond hone.

Saving several bowls from the centre of a blank saves money and allows the maximum use to be made of ever more expensive wood, and can, depending on blank size and blade selected, allow the creation of nesting bowls – bowls that stack inside each other. You can produce at least three bowl blanks from a 100mm-deep blank, depending upon the wall thickness required and blade selected. Advanced McNaughton tool techniques are capable of producing significantly higher numbers of saved bowls per blank.

Unlike other similar systems that can only cut regular hemisphere curves, this system can, through a combination of different blades and operator skill, cut irregular curves and works on both side and end grain projects.

The blades cut like a parting tool and put a lot of stress on the blades, toolrest and lathe itself. The blanks need to be well mounted and the lathe, in my opinion, at least 1hp and preferably more. The larger blade sizes may well need a larger motor size for maximum efficiency.

In use

I picked out a 350 × 120mm piece of dry – 11% moisture – yew (*Taxus baccata*) that had been around for several years. This was first mounted on a 20mm screw chuck, supported by the tailstock and trued up on both the front surface and circumference. Start with truing up the blank, then mount the shaped piece on a chuck in a recess or spigot – both need to be wide so as not to create a weak point to shear across when coring out. The toolpost was fitted into the lathe toolrest holder. The three parts of the toolpost need to be assembled, then the reduced diameter of the column top is inserted into the underneath of the support base. The protruding section of the column is inserted into the bottom of the pin turret and the side set screw is wound into the turret so that it enters the groove on the centre column, but doesn't lock up on it. The turret and support base can now rotate freely on the column.

The tip of the tool should be set at the lathe's centre height and the post locked securely onto the banjo. It's worth mentioning again that the blank needs to be held securely on sound wood as the forces involved may be considerable. The front of the blade is fitted into the appropriate slot and under the gateway bar as this is designed to manage the stresses and vibration that the tool produces when in use. Bring the front of the gate as close as possible to the front of the blank and, after checking for free rotation of the blank, lock up the toolrest and banjo. The blade gateway is free to rotate as the blade is fed into the blank and the set screw and height setting collar allow the blade to be moved as required. The gateway at the rear maintains the blade's cutting height.

Setting up for cutting

There are several different approaches to determining the blade's travel and establishing the final depth of the cut. I set the cutting tip of the blade at the front of the blank to determine the starting wall thickness. I then looked from above at the curve of the blade and tried to move the blade to the position that matched the exterior curve and depth of the required bowl and then locked the banjo into position. Providing that the required bowl curve and the blade curve match, you should achieve the required wall thickness and bowl depth.

With the lathe rotating slowly – around 600/800rpm but of course this is dictated by the blank size and its condition – the cut began and I cut the smallest bowl from the centre of the blank without any issues. When I got down to a diameter of around 25mm I put a screwdriver into the cut and broke

off the core. You need to decide how you intend to mount the cored bowls for future work. In my experience, there are several methods available; I normally use one of the following three options: first, cutting a recess on the inside of the bowl before coring it out, to enable expansion jaws to grip the inside of the bowl while turning a spigot onto the outside base; second, reversing the cored bowl into the curved recess left behind when it was removed and after bringing the tailstock up with a ring centre fitted – to avoid possibly splitting the blank – turn a spigot to enable subsequent mounting; the third method is to simply reverse the cored bowl onto either a vacuum chuck cup or onto a suitably shaped mandrel covered with router mat and again, held in place with a ring centre in the tailstock. With the first core removed, I took a pass over the inside curve with a bowl gouge and tidied up the cut and curve left by the Saver blade. I also cut a small recess in the inside wall in order to be able to mount the bowl subsequently.

Coring cuts

I then set up the blade and toolpost for the second cut in the yew blank, having observed the procedure above, I thought, and started to cut the second core. It's worth mentioning here that the blade tip is always in line with the handle so it is possible to make an estimate of the position of the blade tip while the cut is in motion, even though it can't actually be seen within the blank.

Having stopped the lathe and removed the blade a couple of times to allow the shavings to free themselves, I became concerned that my enthusiasm exceeded my skill and I may be cutting too deeply. The cut needed to be widened slightly as the blade started binding. A few moments later and I found I was right and the second bowl popped free, which left a clear view of the chuck jaws! Bowl three will make a mirror frame. A laser guide is available which, when fitted to the blade, shows exactly where the tool tip is positioned within the blank. It may be a useful addition to the kit.

The second timber used was a piece of spalted beech *(Fagus sylvatica)*. The blank measured 250 × 100mm, it was dry – 12% moisture – and was prepared in the same way as the yew. When mounted on the chuck jaws the Centre Saver was again set up in the same manner and positioned for the first cut. I took more time checking the alignment and potential blade path this time. The first bowl broke out exactly as planned and the process was repeated for the second cut – again I took greater care to try to anticipate the blade's path through the blank. This time things went well and a second core was produced pretty much as intended.

The Kel McNaughton Mk8 Centre Saver System, as it comes from the box

The blade handle needs to be continually pushed upwards against the gate while cutting to maintain the cutting tip on the centreline of the blank. Allowing the blade to move around may cause a dig in that can be quite ferocious.

Please do not forget the safety aspects of turning: always wear eye protection – a visor is ideal – and don't forget dust protection. Keep the tool sharp and the working area clean and tidy. Check that all adjustments are tightened securely, which will help to maintain the tool's position and prevent any unwelcome surprises. And last but not least, wear suitable footwear – having potentially large heavy blanks dropped onto the feet could cause a serious accident.

Verdict

I must in fairness declare that I have owned and used the previous model McNaughton Centre Saver intermittently for several years now and I am a fan. There was nothing in this remodelled kit that would cause me to change that view. The parts, as usual for McNaughton, possibly overengineered, are heavily made, well finished, relatively easy to use with practice and should last several lifetimes.

The system is sold as either sets of comparable sized blades or as individual components so that the buyer purchases only as many or as few as they need. Many turners may only initially require one size set of blade as they may feel, for example, that only large blanks are suitable for using the tool on. I also felt that way initially but over time have also bought a set of the micro blades and a couple of the mid-sized blades as well. The blades offer considerable overlap due to their shape and size and it may not be necessary to purchase full sets.

The handle supplied with the Standard Centre Saver tested is, in my opinion, too small at 250mm in length and doesn't provide the stability required to use the tool confidently. On buying the system, I would expect most turners to need a longer handle. That said, I understand that the current smaller handle is supplied after customers complained that the previous larger handle was too heavy.

As wood blanks continue to increase in price – leaving aside all the potential arguments regarding our responsibility to conserve our timber and the exploitation of the world's natural resources – the use of a coring tool to maximise the potential of each blank arguably becomes more attractive. The additional bowls saved are in effect free and it would not take too many blanks to recover the cost of the tool.

There are many woodturning clubs around that provide book and video/DVD libraries, timber/consumable sales as a service to members – could this tool be bought as a club asset and make a contribution to all the members' timber costs?

I would suggest the viewing of one of the videos/DVDs produced to demonstrate the Coring System in use as a picture does paint a thousand words. Seeing the system demonstrated would shorten the learning curve considerably.

Acknowledgement

In writing this review some of the text was based on the published work of American turner Steve Russell, see www.woodturningvideosplus.com. I would wholeheartedly recommend a review of this site by any users of the system as, in my opinion, it provides the most comprehensive, expert, detailed practical guidance available anywhere. The comprehensive guidance provided in the manufacturer's instructions were also invaluable in expressing my thoughts.

INFORMATION

Scores
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Details
Prices: Various sets are available but so are individual blades, guides, etc. Sets range from £193.79-£405.96 (prices inc VAT)
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Please note that all products from USA to UK are subject to shipping & taxes

Phil Irons – Branching Out

Phil Irons shares this wall-hung piece with us, which is made up of six individual pieces in wych elm

PHOTOGRAPH BY PHIL IRONS

'Branching Out', made up of six individual bowls in wych elm *(Ulmus glabra).* Each bowl in approximately 200mm × 350mm; backboard is 800 × 1,000mm

Click here for extra images

For a long time I have been making what I call 'square natural-edge bowls'. These are cut from the log with two sides natural and the other two straight from the chainsaw. They can be technically challenging but when you get them right, they don't look as though they have been turned – more like they have been vacuum formed. I love creating these and seeing the line of the bowl flowing smoothly without interruption yet making sure the edges are kept as crisp as possible. The cut ends and undersides are subtly textured with an abrasive nylon brush, which helps to contrast the polished upper surface.

Elm (*Ulmus procera*) in all its incarnations is one of my favourite woods, so when I found a wych elm (*Ulmus glabra*) log in my local wood yard that was long and thin – a maximum of 200-230mm diameter and 3.6m long with patches of burr – I knew I had to have it. However, I was not entirely sure what I was going to do with it so I cut it into 0.9m lengths and brought it home.

While I was stacking the logs, I noticed that one of the lengths had a slight bend with a broken off branch at the apex of the bend and an idea began to form.

With the aid of marker pen and the chainsaw, I split it down the centre and into three pieces, giving me six book-matched blanks, which I then turned as individual bowls. I was very pleased with them as a group but to get the full effect, you really need to put them on the floor and stand over them. I knew they should go on the wall but how to do it took some head scratching. I didn't want to just fix them permanently to a board that was hung on the wall but I had a crazy idea of being able to take one off the board and serve peanuts from it and then put it back into its place in the group. So after some experimentation, I inset three small magnets into the foot of each bowl and corresponding larger diameter magnets were inset into the background board. Initially the 1,000mm × 700mm background was a dark green but the collectors who bought it asked me to paint it the same colour as the wall it's hung on in their house, so that the bowls appear to be floating. Whether they serve nuts in the bowls I don't know, but I hope so.

Email: phil@philironswoodturning.co.uk
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