WHAT YOU NEED TO KNOW ABOUT INDEXING

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JUNE 2014
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Woodturning

THE WORLD'S LEADING MAGAZINE FOR WOODTURNERS

20 FREQUENTLY ASKED PEN TURNING QUESTIONS ANSWERED

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Turning a natural-edge end grain bowl in yew

Starting turning: Workholding

An insight into turning large work

Create a boat-shaped bowl with Stephen Hogbin

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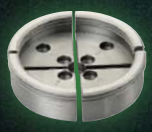

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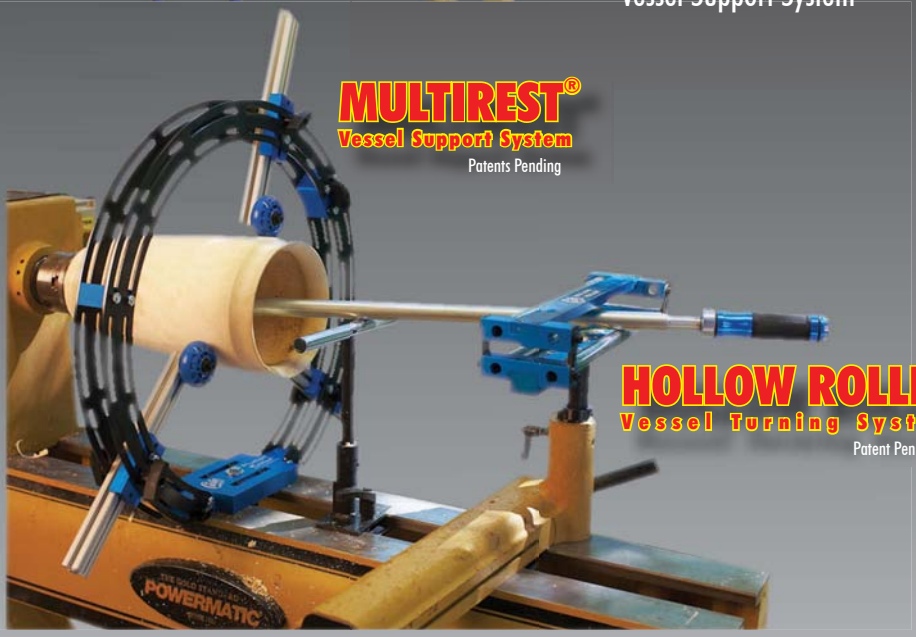

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Vessel Turning System
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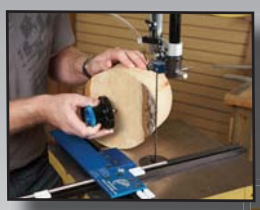

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PHOTOGRAPH BY GMC/ANTHONY BAILEY

Turning a natural-edge piece on the lathe. See Mark Sanger's article on page 56 for some great hints and tips on this subject

Coincidence?

It's funny how conversations can link with thoughts that we are having ourselves. Do we subconsciously guide conversations to cover what we have been thinking about, or is it more that since we are part of a large community of people with shared interests that, at times, many will be having similar thoughts about issues and ideas?

I mentioned in my last leader about the cost and sourcing of timber and a few days after writing it, I was involved in no less than four conversations along the same line, with club members from various groups, discussing the same issues I have encountered.

I also heard a lot about tuition and the varying quality of it, not only from 'paid-for classes', but with the standard of what clubs do for their members and wider audience too. Most of the comments were very favourable, but some people's comments made me shake my head in disbelief regarding what they said they had encountered when being taught. What are your experiences in this area? In addition to the above there were two conversations that occurred that piqued my interest and they were: 'what benefit are shows and symposiums, when they are just the same things over and over again in different locations?' and 'is there any future in woodturning and is it relevant to what people are doing today?'

The discussions concerning shows went along the lines that some people said they enjoyed them and were worthwhile attending. They commented that they went for a social aspect, seeing what was new and seeking help with this or that problem. Others said that the ones they went to recently were not worth going to, from their point of view. They did not, however, elaborate as to why the shows did not suit them them other than saying that there was nothing there for them.

Regarding the conversations concerning the relevance of turning today, many said they enjoyed the process so it was relevant for that and that alone, but as a means of earning money, that was less clear. Many said they did sell items for local charities but that was as far as selling items went, but most agreed that it is was good fun. So, I am going to lob the proverbial hot potatoes in among you and see what you all think. I look forward to hearing what you have to say about these or any other issues that you have been thinking about.

Mark Baker, Editor
email: 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.

Cover image by GMC/Anthony Bailey.
Using a carbide-tipped tool to turn a resin pen blank

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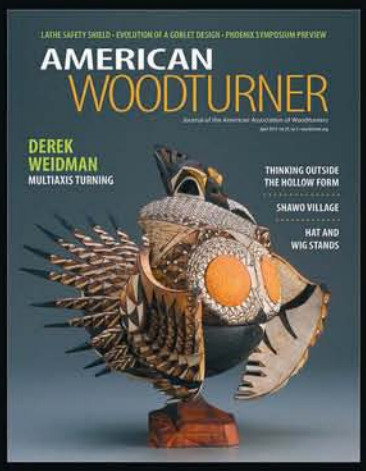
KIT & TOOLS

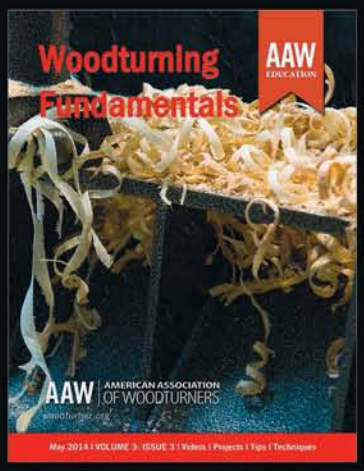
NEWS, LATEST PRODUCTS, MAGAZINE UPLOADS & EVENTS
can all be found on www.woodworkersinstitute.com. These all appear on the magazine homepage and you can see a bigger selection by scrolling down the page and clicking on the individual stories. We also have an extensive online archive for you to browse

FEATURES

COMMUNITY

Join the world's authority on Woodturning





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As an AAW member, you'll receive six issues of *American Woodturner* journal annually. Plus, you get free digital downloads of *Let's Go for A Spin*, a lesson plan series that provides students with a well-rounded set of turning skills, and *Woodturning Fundamentals*, an educational series that offers projects, tips, videos and information on techniques to advance basic turning skills. You'll have access to the single largest collection of woodturning information anywhere in the world. What's more, you'll be able to tap into the expertise of more than 15,000 members globally who share your passion for woodturning.

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Round & about

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

10 Turners wow the crowds at Nuneaton

The '10 Turners Turning' event at Axminster's Nuneaton store proved to be quite a crowd puller and those who visited the store over the two days were not disappointed. Keen turning enthusiasts came from all over the country for the event.

The 'Ready Steady Turn' competition was also a big draw and saw each of the 10 turners step up to the lathe with 20 minutes on the clock to produce something of their own choice. Each of the turners created something very different, ranging from Gary Rance's pendants to Stuart King's chesspiece design and Andrew Hall's decorated platter.

Over the two days the audience was asked to vote as to who was their favourite turner or who they felt turned the best piece of work under close scrutiny. Once the event had finished and the store closed, the votes were counted with first place going to Richard Findley, followed closely by Stuart Mortimer and then Phil Irons. Congratulations to Richard. For more scenes of '10 Turners Turning', visit www.facebook.com/axminstertoolcentre.

Martin Shepheard – Chairman of West Sussex Woodturners

My daughter and I had to set off early from sunny Sussex to get to Nuneaton in time. Neither of us had been to an Axminster shop before so we were not sure what to expect. The shop was full of turning kit, and everything a woodworker could need. As we went through the door, we thought that this was not going to take all day. Well, how wrong we were.

The 10 Turners each had their own little demonstration area as well as the area where we were going to see them show us what they could turn. We had arrived at about 10am and thought we would have a quick look round before the first demonstration. That might have been a mistake, as we missed the first demonstration as there was so much to see and do.

In the end we only saw four of the 20-minute demonstrations as we were so busy talking to the turners. We would like to thank all the turners for their invaluable advice and tips on techniques and tools. It was a great day out and we enjoyed ourselves immensely.

Richard Findley – 'Favourite Turner'

While I do a lot of demos around the country, I don't often do large events, so I was excited to be asked to demonstrate at the Axminster Tools event at their Nuneaton store in March. I was unsure how they would squeeze the 10 professionals into the space, but a clever layout allowed each of us a booth, just big enough for us to perform. We were each given a lathe and chuck and told to demonstrate whatever we felt would best keep the crowds entertained and informed.

There was also the added interest of the competition. Each of the pros was asked to make an item of their choice in 20 minutes. I am very competitive, but considering the competition, I decided I would have very little chance of winning. The visitors over the two days voted for their favourite turner, and imagine my surprise to discover that I had indeed won!

The Friday was incredibly busy, and the day flew by. After a meal and a few drinks with the other pros and the Axminster team, it was back to a hotel for a good night's sleep, before another busy day on the Saturday.

I had a very enjoyable couple of days at the Nuneaton store, and heard very positive feedback from a lot of visitors and from the team at Axminster. Let's hope this will be the first of many of this new event.

DETAILS:
Contact: Axminster Tools & Machinery
Tel: 03332 406 406
Web: www.axminster.co.uk

BELOW FAR LEFT: Richard Findley, who was given the accolade of 'Favourite Turner'

CENTRE: Stuart Mortimer demonstrating

BELOW RIGHT: As you can see, the event drew a big crowd!

PHOTOGRAPHS COURTESY OF AXMINSTER TOOLS & MACHINERY

East Surrey Woodturners celebrates its 20th anniversary

East Surrey Woodturners is a club that promotes the craft of woodturning in the East Surrey and North Kent areas. The club was founded in 1994 and the first meeting was in April of that year, at the Edgecoombe Centre in Selsdon, near Croydon. The founder members included Dave Grainger, who later retired to Cumbria and has done sterling service for the AWGB in that region. Other notable members have been professional turners Colin Simpson, Peter Blake and Ted Newnham, along with Neil Innes and Adrian King, who both have items in the Daniel Collection.

The old venue closed down in 2012 and the club now meets in a scout hut behind the St John the Divine church in Selsdon, close to the Selsdon Park Hotel. Meetings are monthly on the last Tuesday of the month. Activities include professional demonstrations, hands-on evenings, social events and an annual auction. The club raffle has prizes of turning tools and blanks, and one member runs a shop where members can purchase turning accessories at competitive prices.

The club takes part in several local fairs and events each summer, with turning demonstrations as well as sales of members' works. Additionally, it runs its own sales days at a local garden centre twice a year, at both Easter and Christmas. The social aspect is not neglected, either, with coach trips to local woodworking events and an annual dinner.

To celebrate the anniversary, the club has arranged several special events: a coach trip to see wood being milled at Stiles and Bates near Dover; an all-day social turning day at the Scout hut, and a Saturday demonstration by a professional – still to be confirmed. For details of all these events and a lot more information about the club itself, see details below. If you live in the Croydon or Bromley area, why not drop in and take a look at what they do? You will be assured of a friendly welcome!

DETAILS:
Contact: East Surrey Woodturners
Web: www.eastsurreywoodturners.org

An ESW collaboration that was donated to a local charity for sale

PHOTOGRAPH BY RICHARD PEERS

Workshop for heroes

Dear Mark,

Having read the news piece on page 10 in issue 263, I could not help thinking that these people deserve support. I could not help wondering that if every reader of *Woodturning* donated just one pound, how much could we raise to support these people that have given so much. Surely it is worth a try?

Yours sincerely,
Dennis Day

FUNDRAISING IN SUPPORT OF HELP *for* HEROES

Female woodturners in Germany

Dear Mark,

I am a female woodturner from Germany. In issue 261, Andy Crook wrote about the behaviour of male woodturners against his woodturning wife. Sadly, in Germany, it is the same. When I went to a big exhibition, I had the same problem: big men, with broad shoulders pushing themselves in front and, as a result, I could not see anything! My age is not the problem, it is just that I am not male. When I am at a club meeting where most of the visitors know me, however, I can see what a demonstrator is doing.

Best wishes,
Sigrid

Yew *(Taxus baccata)* vase by mark.a, 150mm tall

Purpleheart *(Peltogyne porphyrocardia)* box with African blackwood *(Dalbergia melanoxylon)* finial, by yewbox

'New England Fall' by georg, bleached American white oak *(Quercus alba)* with leaves cut from pressed steel

Galloway Woodturners – awards for all

PHOTOGRAPH COURTESY OF ROGER CUTLER

Galloway Woodturners Club in South West Scotland have a superb new lathe to use thanks to an award of over £6,400 from the National Lottery 'Awards for All' programme.

The award was to enable Galloway Woodturners to update some of their equipment following the move into their own premises 12 months ago.

The money has been used to purchase a new lathe as well as a large capacity bandsaw, two chucks and 30 new chairs. The Lottery grant will also fund new tables, dust extractors, a video camera and a public address system. The Club is grateful to Creetown Community Initiative who helped club secretary Roger Cutler with the application process.

The Club currently has some 45 members from over a wide area of South West Scotland. They meet on the second Tuesday of the month at the Workshop in Castle Douglas, Dumfries & Galloway.

Committee members admire the new lathe, from left to right: Phil Jones, Roger Cutler, David Simpson, Phil Howard and Judith Simpson

DETAILS:
Contact: Galloway Woodturners
Email: phil.howard50@btinternet.com
Web: www.gallowaywoodturners.co.uk

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 (1 1/32in)	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 (7 1/4in)
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 (4 1/2in)	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 (5 1/4in)	1,420mm (56in)
32mm (1 1/4in)	140mm (5 1/2in)	

Rolly Munro to visit UK on demonstration tour

International woodturner, master of the hollow form and inventor of the Rolly Munro hollowing system, Rolly Munro himself, will make a rare visit to the UK this year. Rolly will be demonstrating at AWGB woodturning clubs in England and Wales during July and August.

This is a rare opportunity to see Rolly in action and his exciting programme includes: design and methodology, hollowing box forms, open deep forms, wood types and their reaction to cutters and much more. All clubs welcome visitors, please contact participating clubs for further details.

TOUR DETAILS:

Saturday 26 July – Coombe Abbey Woodturners
Web: www.coombeabbeywoodturners.co.uk

Monday 28 July – Herts & Beds Woodturners
Web: www.hertsandbedswoodturners.org

Tuesday 29 July – East Surrey Woodturners
Web: www.eastsurreywoodturners.org

Wednesday 30 July – Shropshire Association of Woodturners
Web: www.shropshire-woodturners.org.uk

Saturday 2 August – Norwich Woodturners
Web: www.norwichwoodturners.co.uk

Sunday 3 August – Diss and District Woodturners
Email: davies@collings.co.uk

Thursday 7 August – Avon & Bristol Woodturners
Web: www.avon-and-bristol-woodturners.org.uk

Saturday 9 August – Burnham-on-Sea Woodturning Club
Web: www.burnham-on-sea-wtc.co.uk

Sunday 10 August – Mid Wales Woodturners
Web: www.midwaleswoodturners.com

Pepper mill in fake macassar ebony, 200mm dia. × 65mm, by guido512

Nut bowl in rippled olive ash *(Fraxinus excelsior)* and African blackwood *(Dalbergia melanoxylon)*, 220mm × 100mm, by Walter Hall

Sycamore *(Acer pseudoplatanus)* martini goblet with a 'slice' of green ash *(Fraxinus excelsior)*, by colinjp

Experiences of woodturning clubs

Welcome members

Hello Mark,

I read with interest your editorial in the March issue and was reminded of an incident within our club, when our committee received a 'wake up' call concerning this very subject. During our AGM in 2006, one of the newly enrolled members stood up and complained strongly regarding the poor welcome and lack of information he had received since joining. He said he felt isolated and not a part of the club, and let down as a result. This was an embarrassing indictment for the committee and totally alien to the club's intentions. Consequently at the next committee meeting, this situation was given priority and it was decided to elect a member to act as a welcome member. His task would be to ensure that any visitor or prospective new member would be welcomed, introduced to committee members and informed of the club's history, rules and activities.

Since that time, this action has been fully justified and any visitor or prospective new member will be introduced to the welcome member by the door attendants. Also, at the opening address on club nights, the chairman will check if any visitors are present and refer them to the welcome member.

Kind Regards,
Ken Saxton, Kennet Valley Woodturners

Club mentors

Hi Mark,

Plymouth Woodturners' membership stands at just under 90 at present. We have a policy of introducing new members to the club on their first visit. They are also introduced to a couple of members who will look after them and introduce them to other benefits.

The club has a list of mentors with names, contact number and the area where each one lives; this is on the club notice board shown at each meeting. It is also given out that any club member can contact any mentor if he/she needs help with any problems; they can also ask for help in their own or the mentor's workshop.

At present, we are also involved with two local Scout groups, instructing and allowing them to carry out the AWGB/Scout Association badge schemes.

We meet on the third Friday of each month at 7pm at Pilgrim Church, St Leven Road, Plymouth and normally between 50 and 60 members attend. We also have a couple of Saturday self-help workshops for members and two Saturday demonstrations a year with a professional turner. These run from 10am-4pm.

New members are always welcome and details can be obtained from me or our secretary.

Regards,
John Montgomery, chairman
Tel: 01752 894 083

PHOTOGRAPH COURTESY OF JOHN MONTGOMERY

A member of Plymouth Woodturners giving assistance to a Scout

The Dorset Do

This event, which supports traditional crafts, takes place on Saturday 27 September at Ringwood School. As well as continuous demonstrations throughout the day, there will also be four one-hour talks in a separate classroom, which will cover various craft skills. You can expect to see demonstrations in rope making, coppicing skills and pyrography by JC Crafts Bows & Arrows, as well as much more. There will be second-hand tools for sale as well as one of the South's largest collections of stocktaking supplies.

DETAILS:
WHEN: 27 September, 2014
WHERE: Ringwood School, Parsonage Barn Lane, Ringwood, Hants BH24 1SE
CONTACT: Mike Tuck
TEL: 01425 475 129
EMAIL: mftuck@sky.com
WEB: www.dorset-do.co.uk

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

INDUSTRY NEWS

This month, **D&M Tools** share their latest news and products with us, including the new DeWalt DWE7491 portable tablesaw and the Scribemaster Pro scribing jig

News from D&M

New DeWalt DWE7491 portable tablesaw

This new saw from DeWalt weighs only 26.6kg and its optimised footprint makes it the most portable tablesaw in its class. A steel roll cage protects the saw against jobsite drops and impacts and the rack and pinion fence system, front and rear fence lock and large, clear scales combine to give an extremely accurate and easy to use saw.

The 2,000W motor – 1,700W 110V – provides powerful performance in all applications and the fence system provides 410mm of rip capacity in a portable design for cutting large sheet materials to size and the cast iron top ensures accuracy and precision.

The overload protection system ensures powerful performance in hard, wet or frozen woods and the quick bevel lock has a large scale for easy, accurate adjustments. It is available stand-alone or with either a DWE74912 scissor stand or the DWE74911 rolling stand.

The new DeWalt DWE7491 portable tablesaw is specifically designed with ease of use in mind

This handy jig is specially designed for creating skirting and dado rails

PHOTOGRAPHS COURTESY OF D&M TOOLS

Scribemaster Pro scribing jig

The Scribemaster Pro is a professional scribing jig for skirting and dado rails, which can cut precise scribes in just 15 seconds. It's the world's first fully variable jig that allows you to copy any skirting or dado profile and scribe that profile into any workpiece. You can change the profile at any time just by adjusting the stainless steel combs. Now you can have precisely cut scribes in just a matter of seconds rather than minutes.

It comes fully pre-assembled, ready to go straight out of the box ensuring that you maximise productivity gains straight away. Incredibly quick and easy to setup, in just 2-3 minutes you'll have the profile locked in and cutting scribes in just a matter of seconds. Once setup, the jig delivers the same precise cut, delivering you the perfect scribe again and again. The jig can even be adjusted to take into account out of plumb walls. It has a 4.5° back cut built into the setup, overcoming the issue of out of square corners. It even scribes warped boards accurately and can cut both left- and right-hand scribes with no additional setup needed. Able to scribe boards up to a maximum 195 × 32mm, it can be used with either ¼in or ½in routers – although it needs a 30mm guide bush to be fitted – and can be quick mounted onto most mitre saw benches with the 'Quick Mount' accessory kit. See the website for more details and videos showing the jig in action.

Contact: D&M Tools
Tel: 020 8892 3813
Web: www.dm-tools.co.uk

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PHOTOGRAPHS BY STEPHEN HOGBIN

Transition to a boat bowl

Stephen Hogbin shows how to turn a plate into a boat-shaped bowl

The 'Boat Bowl' came about when a client asked for a salad bowl in a boat shape. I had worked with this form many years ago establishing its possibility but had not developed it into a functioning form. The idea was to evolve the bowl structurally rather than decoratively. The results on this occasion have the lines of a boat, not quite a yacht or a canoe, rather a hybrid Boat Bowl.

I had several large blanks stashed away for making the Boat Bowl. The first basswood *(Tilia americana)* slab had 84 annual rings measuring 610mm square × 203mm thick. It made a large bowl but some of the wood had softened and I could not use it for a natural finish salad bowl. The second was a 559mm square by 89mm thick sugar maple (*Acer saccharum*) with 57 annual rings. The maximum dimension I can have inboard on the lathe is 508mm.

Before we begin, a caution when working towards forms that are to be cut up after the turning: avoid excessive use of abrasives on the lathe. It can make the piece uneven as the end grain is harder than the side grain. The plate or bowl goes slightly oval as a result. Many of my bowls are painted on the inside and that reflects not only enjoying the colour but also wanting to keep the integrity of the circle.

STEPHEN HOGBIN

About the author: Stephen lives in Ontario, Canada and is a world renowned woodturner. He is well-known for his groundbreaking techniques. He exhibits his work in the USA and beyond. Primarily a studio artist with an inclusive and multi-discipline approach, he is also an occasional curator and author. His book: *Hogbin on Woodturning*, can be purchased worldwide.

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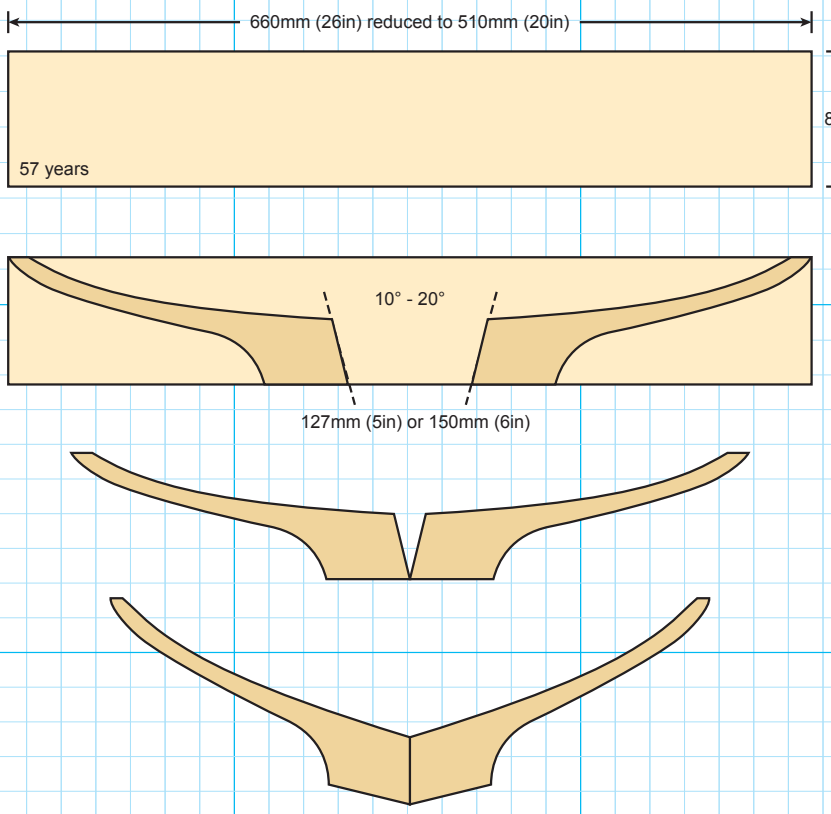
BOAT BOWL DIMENSIONS



INFORMATION

TOOLS REQUIRED

- Bowl gouge
- 12mm or 6mm scraping chisel

ADDITIONAL TOOLS

- A range of abrasives
- Bandsaw
- Double-sided tape
- Waterproof PVA glue
- Sharp small chisel
- Electric plane, hand plane or belt sander
- Salad bowl finish
- Paintbrush
- Paint
- Hard-wearing urethane
- PPE: facemask, respirator/dust mask and extraction

1 After the maple plate is turned it is ready to be cut up. When cut up and reassembled, it becomes a bowl. When cutting a finished turning, understanding the basic shapes helps you to get an accurate cut and reassembly. Use the drawings to assess how much needs to come out of the middle of the turning to give the boat shape. The second sketch considers the size of the maple slab. Should I make a similar piece later on, having a record of the basic dimensions and angles will be a big help

2 From the sketch drawings, make a full-size template to see what happens when the centre of the turning is cut out. I cut out one half of the drawn paper shape, then placed this next to the drawn section. Measuring across the top helps you to see the final size of the piece. It also tells you the depth of the bowl. What was a plate shape becomes a bowl shape transforming into a 'platowl'

3 Be careful not to over-use the abrasives as you will risk turning the circle into an oval. There were some checks in the end grain, which I hoped would be cut out. The faceplate is 89mm diameter with 25mm screws holding it on the lathe. Most of the blank was turned with the tailstock helping to support this large piece of heavy maple


1


2


3

4 With the faceplate removed, view the paper template again and translate its dimensions to the bottom of the turning. This is the difficult part. How much to cut from the centre? You need to consider the footprint of the bowl and how to ensure stability when it's in use. The first line to mark is straight across the bottom of the bowl, then a parallel line, which I drew at 127mm to remove most of the checks. 100mm might have been better as it did reduce the capacity of the bowl more than I wanted. The 3-6mm plywood/MDF float, on which the bowl rests, will ride against the fence on the bandsaw. Mark down to the plywood/MDF square on which the rim of the bowl rests. The angle I first thought to try was 10°, but this was later changed to 20°. Cut out too much and the bowl will not balance on its foot. Cut out too little and it lacks drama. Make two marks on the bowl and plywood/MDF and draw around the bowl. This will help get alignment as the bowl is dropped onto the double-sided tape. It's not a strong connection, so take care when handling

5 Double-sided tape holds the bowl to the plywood/MDF. This could be done before marking out, but I prefer to keep my options open. Laying the bowl on the plywood/MDF has to be done accurately. On the bandsaw, work to the marks laid out on the bowl and the plywood/MDF float

"Double-sided tape holds the bowl to the plywood/MDF"

6 A big bandsaw with a large table helps as you can clamp on a strip of wood to form a fence. On a smaller bandsaw it would be necessary to make a float that runs in the groove or against the table edge. Set the table to the desired angle, starting with 10° for the first cut and then later going to 20°. The next two images, 7 and 8, give some idea of what happens to the mouth of the bowl when changing the angle. My ancient bandsaw likes to wander so I installed a new blade and went slow with the cutting. Hold the work firmly but do not distort the bowl with too much weight or pressure

7 Now is the time to check the angle of the bowl...

8 ... which is done by placing the two parts of the bowl together

9 It's useful to look at other ways the two halves might go back together. Take photographs and make some rough drawings to remind you of the possibilities. Keep the centre section, which can be used for another project ▶

10 Cleaning up the bandsaw cut may be done on the jointer or with a large sanding disc on the lathe or on a board with abrasives attached. To get a perfect rub joint it is necessary to use an abrasives board. As the edge is sanded, apply an even pressure. It's easy to start tilting. Check the two halves frequently by placing them together and holding them up to the light. In theory there should be no light, but in practice you should allow only the slimmest of light through. These forms do not clamp easily as any pressure distorts the form and the gaps get bigger and more uneven. You are most often going for a rub joint with no mechanical connection. Having cleaned up the surfaces of the joint, glue them together immediately. Wood moves and these large pieces are prone to changing


10

11 I use a waterproof PVA glue. On some projects I will use an extend PVA but I prefer something that dries fairly quickly. Coat both surfaces and spread an even coat with a small brush. Place the two halves together and align the surfaces on the inside. The outside is easy to clean up so ignore it and remember it's the inside and the very end that are most critical. A small bead of glue should squeeze out along the length of the joint. If that does not appear, open the joint and add more glue


11


12

12 Clamping the shape is possible on a bowl with a heavy cross-section, although usually it distorts the bowl. With hands spread out across the form, apply gentle pressure to get the fine bead of glue. The pieces may slip around but eventually they will settle down as the glue squeezes out. The final movement must achieve perfect alignment. This is tricky to do so don't be too hard on yourself if it does not work first time. How long to hold the piece depends on the humidity level and warmth of your studio workshop. One to two minutes should be enough, then place the piece to the side in a way that will not stress the joint. Get gravity to help


13

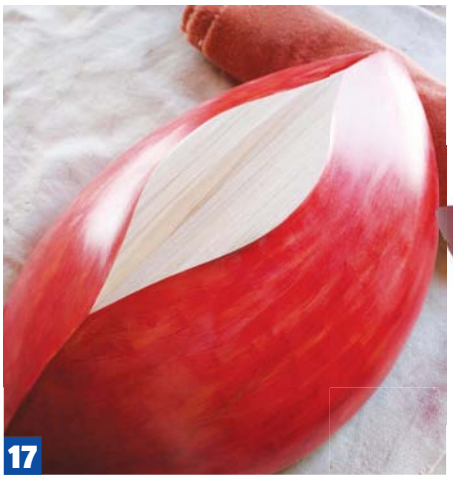
13 When the glue is leather hard remove the bead on the inside with a sharp small chisel. Take great care not to stress the joint until the glue has hardened. However, letting it harden on the inside will make the cleanup frustratingly difficult. The outside should be left until the glue has hardened. Finally, clean up the outside with a broad chisel. Some careful shaping may be necessary. Use abrasives to finish the piece


14

14 The bottom of the bowl will need to be flattened to make a working salad bowl. I used an electric plane to hog away most of the material. A hand plane or belt sander may also be used. Keep a straight edge close by to check that all is flat and true. Later, a shallow hollow is suggested to have the bowl sit flat

15

16



17

18

15 Apply a salad bowl finish on the inside using a brush, fabric or paper towel. It helps keep the interior clean when the painting takes place on the bottom. I like the use of colour against the natural wood. Most of my clients request colour as these characteristics are part of my style. Clean out the interior of the bowl and give the wood a concluding coat of salad bowl finish

16 The underside of the bowl is painted for the contrast between surfaces. Part of the charm of a yacht is the hull with a solid colour and the natural wood detailing on the deck. I could produce a perfect yacht finish but on a bowl it looks too industrial and I prefer to see the hand and work of the artist. For this bowl there are several layers of thin colour. The final coats of finish are hard-wearing urethane. The inside has a salad bowl finish. The foot of the bowl gets sanded to a clear finish. Leaving the wood natural will allow the bowl to mature more gracefully. The thin paint on the underside will eventually get dinged and scratched. That is another good reason to have a textured colour surface on the underside so that in a hundred years it will have matured with dignity

17 After painting, sand the foot of the bowl flat or even better, hollow out the foot so it sits flat on the table. This will help to compensate for the inevitable wood movement

18 The finished 'Boat Bowl' should look something like this

A – using the centre section

The piece cut from the centre will suggest other bowl, dish or plate forms. These forms could be finished with paint, possibly carved or even cut up and reconfigured again

B – basswood variant

The basswood was turned first but the area of soft wood could not be used as a salad bowl. A wood hardener was applied to strengthen the wood bringing it all to about the same density. A few holes were filled but it looked deserving of a coat of paint. When painted it will become a fruit bowl. The cross-section of the bowl is heavier and more appropriate for a larger bowl in a softwood

C – another variant

These two pieces are from the same turning of basswood. The centre section is shown in the foreground. It has been painted and will have a carved section in the centre making a shallow dish. Notice how the centre section looks so much bigger than the bowl. Cutting the turning up may remove, in this instance, a large piece of material. Care in the planning is needed to get the right size for the finished piece ●

PHOTOGRAPHS BY WALTER HALL

The 20 most frequently asked pen-making questions

Walter Hall explores the subject of pen making and answers some of the frequently asked questions that surround this popular topic

One of the things I enjoy most about woodturning in general and pen making in particular is the extent to which makers are prepared to share their knowledge and skills with beginners and those who are developing their skills. I have gained a great deal of knowledge from demonstrations by professionals and from the members of internet forums so few things give me greater pleasure than being able to repay some of that generosity by sharing my own knowledge. As an established pen maker, I am often asked what seem to me to be quite simple questions but which to the beginner can seem like major obstacles in the way of enjoying their hobby. In this article I give answers to 20 of the questions that I am most frequently asked.

"As an established pen maker, I am often asked what seem to me to be quite simple questions"

WALTER HALL

About the author: Walter Hall is a woodturner who has specialised in making pens and pencils for more than 20 years. Based on the beautiful Northumberland coast in the UK, Walter sells his bespoke pens and pencils through local craft centres and via his website, details of which can be found below.

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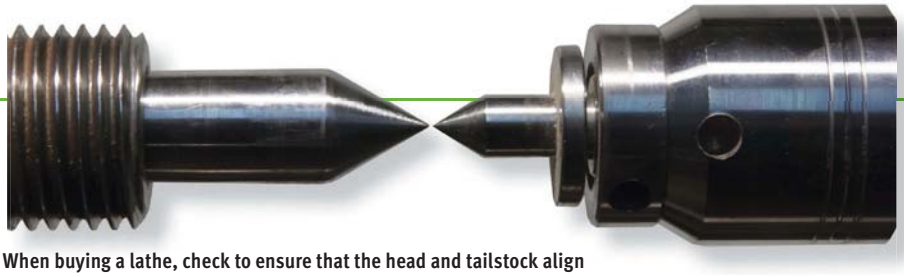
1. WHAT IS THE BEST LATHE FOR PEN TURNING?



When buying a lathe, check to ensure that the head and tailstock align

Try to think ahead when buying a lathe, in terms of the type of work you may wish to progress to in the future and make sure the lathe you buy will meet your needs for many years ahead. While a small lathe is all that is needed for pen making, it is very likely that your interest in turning will develop and you will want to progress to larger work.

A lathe is a major investment and, like most things, the old adage of 'buy cheap, buy twice' applies, so make sure that you buy a lathe that is from one of the mainstream manufacturers and of recognised quality. A second-hand lathe of good quality will be a better investment than a cheaper Far Eastern import. A variable speed lathe, where the speed is controlled electronically, will be more convenient than one where the speed is changed by moving the belt between a set of pulleys, but do not trade convenience for quality. A limited budget would be better spent on a good quality belt-driven lathe than one of poorer quality with variable speed.

Try to see and handle the lathe before you buy it. Check that it runs smoothly, that the head and tailstock align – centres mounted in head and tailstock should align – and that the toolrest and tailstock slide smoothly on the bed. While Morse taper size and spindle thread are not terribly important for pen making, it makes good sense to choose a No.2 Morse taper and a popular spindle size so that, if you do move up to a larger lathe in the future, you will not also need to change all your chucks and drives.

2. WHAT KIND OF MANDREL IS THE BEST?

The key factor in choosing a mandrel is that it runs true. In that respect, there is little to choose between the different brands, so if you are on a budget, selecting the cheapest mandrel is as good a course of action as any. Do avoid cheaply made imported 'fakes' of the known brands, however, as these are often poor quality. If the price looks too good to be true, then it probably is. Adjustable mandrels – where the length of the shaft can be varied to suit the components – are a good choice as they enable the mandrel to be kept as short as possible, thus minimising run out and whip. Those with collet-type chucks are the best and most accurate of all.

When buying a mandrel, make sure that it runs true

3. DO I NEED DIFFERENT BUSHES FOR EACH TYPE OF KIT?

The sizes of the brass tubes and the diameter of the fittings varies considerably between kits, so you will need to use bushes that match the kit you are making. As your skill at turning develops, you will eventually be able to turn without bushes or a mandrel – see question 16 for more information – but using the bushes as a guide is highly recommended, especially for beginners.

There is a wide variety of brass tubes and bushings available

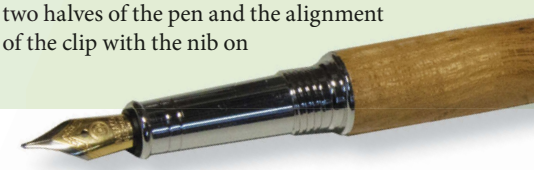
4. WHAT ARE THE EASIEST KITS TO START WITH?

Pens with simple designs and straight barrels are easiest to turn. Most beginners start with the ubiquitous slimline kits, which are cheap and readily available but others, such as the Sierra and Bolt action pen with single barrels, are easy to make too. Try to avoid kits that require you to cut away part of the barrel back to the tube or to turn a tenon in order to fit components until you have mastered the simple types.

When starting pen turning, choose pens with simple designs and straight barrels

5. ARE FOUNTAIN PENS MORE DIFFICULT TO MAKE?

Fountain pens tend to come with more parts and can be complicated to assemble, but most suppliers have now recognised the need to supply instructions. Turning the barrels for fountain pens is no more difficult than for other pens; it is the alignment of the grain of the barrels on the two halves of the pen and the alignment of the clip with the nib on



6. WHICH KITS ARE THE BEST?

The range of kits available now is vast and there is considerable variation in quality. Better quality kits generally have higher-quality platings, such as titanium, rhodium or platinum and can be quite expensive while dubious quality slimlines of Far Eastern origin can be had for little more than £1 each. Do not be fooled into thinking that 24 carat gold is the best quality plating because it is in fact so soft that it will wear away very quickly. 10 carat or those described as 'upgrade' plating will be more durable. When choosing between similar looking kits look out for cheap copies, which will often have poorly fitting parts. Exceptionally low price usually means exceptionally low quality.

Always choose better quality pen kits, as these will yield better quality results

7. WHAT ARE THE BEST WOODS FOR MAKING PENS?

Obviously, the best woods are the ones that make the most attractive pens, but the most attractive woods are often not the easiest to work with. Highly figured burrs can contain voids and variations in texture that require filling. They can also make turning difficult while some exotics such as snakewood *(Brosimum guianense)* and African blackwood *(Dalbergia melanoxylon)* can be brittle and prone to splitting if great care is not taken when working with them. Spalted woods can also be attractive but may have soft punky areas that require stabilising by soaking with CA glue in order to make them usable. When starting off, it is perhaps best to use easier to work timbers, such as fruitwoods, and then experiment as your skills develop. Another thing to be wary of is the risk of toxic timbers and those which can cause allergies. I have an allergy to cocobolo *(Dalbergia retusa)* and need to use respiratory protection if I go anywhere near it. An online search for 'toxic woods' will provide lists of those most likely to cause problems.

There is a wide variety of timbers that are suitable for pen turning, but prior research will pay off

8. WHAT GOUGES AND CHISELS DO I NEED?

Choice of tools is a very personal decision and every turner will have their own preferences. I do almost all my work with a 20mm or 25mm spindle roughing gouge, turning to a skew chisel or parting tool as required. These three tools will serve the beginner well, but you may prefer smaller tools, in which case, tools specially designed for pen turning may suit you better. Try to handle the tools and see what you feel comfortable with before committing to a purchase. For those with an irrational fear of skew chisels, tools such as the skewchigouge or Spindlemaster will do the job well enough, but I thoroughly recommend taking tuition from an expert in the use of the skew as it is capable of producing much finer results. With practice, the skew can produce a finished surface that requires little or no sanding.

I use three different tools when pen turning

9. DO I NEED DIFFERENT TOOLS FOR ACRYLIC BLANKS?

Most man-made materials and blanks that have been cast using polyester resin can be turned with the same tools that are used for timber, but the newer tools with interchangeable carbide tips, such as the Easy Wood Tools and Sorby Turnmaster, are excellent choices for use with these materials. Negative-rake scrapers such as the Robert Sorby hardwood scraper will also work well. It is even possible to turn soft metals, such as aluminium and brass with HSS and carbide-tipped woodturning tools, but if you plan to work with these materials, you would really be better off with a metalworking lathe and the appropriate cutting tools.

Carbide-tipped turning tools are suitable for pen turning

on pens with postable caps that requires the most careful work.

Fountain pens come with more parts and are generally more difficult to assemble

Using a carbide-tipped tool on polyester

10. WHAT OTHER TOOLS AND EQUIPMENT DO I NEED?

Before you can begin turning you will need to cut the blanks to size, drill them to take the tubes and square off the ends. Cutting ready-made pen blanks to length can be done with hand saws or almost any kind of powered saw you can think of, but if you wish to resaw your own blanks from larger stock, then a bandsaw will be a good investment. Drilling is covered in question 15 while trimming the ends square may be done with either a dedicated barrel trimmer or a disc sander and jig. When choosing a barrel trimmer, one with interchangeable shafts to fit different-sized tubes will be a good choice. You will also need a means of pressing the components together to assemble the finished pen – see question 18 for more details.

A range of different pen barrel trimmers

11. WHAT GLUE SHOULD I USE FOR THE BRASS TUBES?

Most pen makers use cyanoacrylate adhesive (CA). I used this myself for many years and it does the job very well. The medium or thick varieties are best. Nowadays, I always use two-part epoxy adhesive as this gives a longer open time when assembling the tubes, has better gap filling qualities and, in my opinion, provides a better and more permanent bond. It is also worth mentioning that polyurethane adhesives will expand to fill any gaps and will work quite well, but care needs to be taken to ensure that the setting adhesive does not push the tubes out of the blanks. Clamping the ends will prevent this.

For gluing the brass tubes, CA adhesive is the best option

12. I HAVE READ THAT I SHOULD SAND THE TUBES BEFORE GLUING THEM. IS THIS NECESSARY?

I had been making pens for about five years before I read that it was absolutely essential to sand the tubes. I experienced no problems in those five years and have never seen the need to change my ways. If you feel the need to do so, then go ahead. It can do no harm, but in my opinion, unless the tubes are greasy and require a wipe with methylated spirit – denatured alcohol – then they require no preparation before gluing. Others will undoubtedly disagree, but I can only speak from my own trouble-free experience with unsanded tubes.

Whether or not you choose to sand your tubes is down to personal preference

13. WHEN AND WHY DO I NEED TO PAINT THE TUBES?

Many acrylics and other manmade materials are translucent to varying degrees and, especially with lighter colours, the brass tubes can show through, thus spoiling the appearance of the finished pen. This can be avoided by painting the tubes with a light coloured paint or one that matches the colour of the blank. With very translucent tubes the glue can still show up as unsightly marks so it may also be necessary to paint the inside of the blank. I also sometimes paint the tubes black when working with burrs that contain a lot of voids. That way, the voids can be filled with CA without the brass tube showing through. You could even use a contrasting colour for a more interesting effect.

The colour of the tube will dictate whether or not it needs to be painted

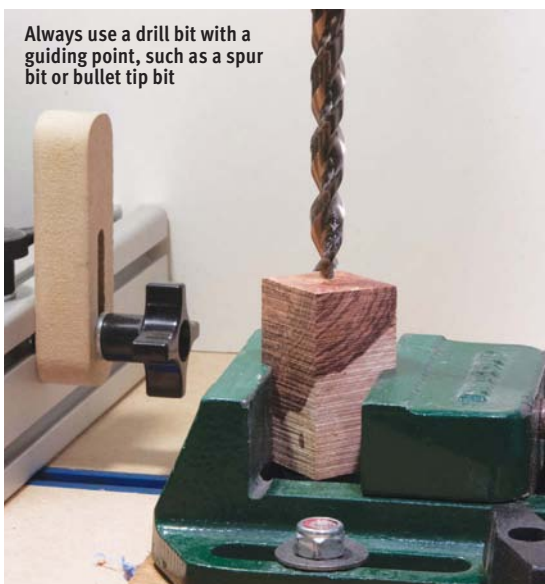
14. WHAT PAINT SHOULD I USE FOR THE TUBES?

I generally use a white acrylic car body primer when spraying the tubes or ordinary artist's acrylics to paint the inside of the blank. A cheap set of children's acrylic paints from the pound shop will do the job just fine.

For painting the tubes, I use a white acrylic car body primer

15. WHAT IS THE BEST WAY TO DRILL THE BLANKS?

The two main types of problem that occur when drilling pen blanks are either that the drill bit follows the grain and runs out of true, or the blank splits or breaks out. Good drilling practice will prevent this. Do not try to drill freehand or with the blank held in a vice. A drill bit with a guiding point will help keep the drill centred, but by far the most important factors are to keep the drill speed low so as not to overheat the work and to regularly withdraw the bit to clear the chippings or swarf that will otherwise block the flutes. This will inevitably lead to splitting or break-out.



Always use a drill bit with a guiding point, such as a spur bit or bullet tip bit

16. WHAT IS 'BETWEEN CENTRES' TURNING?

With a dead centre fitted in the headstock and a live centre in the tailstock, it is possible to mount the blank – either with or without bushes – between the centres and turn without the use of a mandrel. This is the most accurate way of pen turning and many experienced pen makers prefer it. If you work without bushing, you will need a Vernier or digital calliper and the skill to turn to size accurately. Mounting between centres when finishing is also a useful way of preventing the finish from sticking to the bushings.

Turning the pen blank between centres

17. WHAT KIND OF ABRASIVE IS BEST?

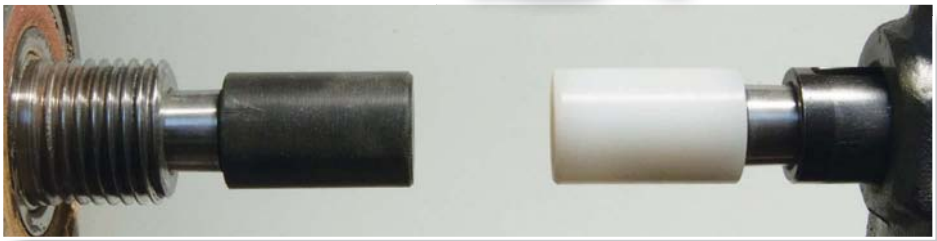
The most frequently used abrasives are aluminium oxide on cloth or foam backings in grits from about 120 to 600, which is best for initial finishing of both timber and acrylics. You can then move on to Micromesh, available in grits from 1,500-12,000, which is suitable for polishing acrylics and hard finishes, such as CA or lacquer.

Just as important as choice of abrasive is method. Work through the grits from coarse to fine – low to high grit numbers – making sure when working with wooden pen blanks, that any rotary scratches are removed along the grain with the same grit before moving on to the next. Neglecting to do this correctly will only make for a poorly finished pen. Whatever material you are using, clear away the dust and abrasive particles with a brush or tack cloth before moving on to the next grit.

There is a wide choice of abrasives available for finishing your pens

18. DO I NEED A PEN PRESS?

You certainly need something to press the components together and a pen press is a very good way of doing this, but it is not the only way. You could use a bench vice or a large engineer's vice, protecting the jaws of the former from being damaged by the metal components with plywood or MDF inserts and the pen components from damage from the jaws of the latter with rubber or fibre jaw protectors. Alternatively, you could make or buy inserts to fit in the Morse tapers of the lathe and press the components together using the tailstock as a press. A pillar drill could be used in a similar way.



A pen press is a good tool to use for pressing the components together

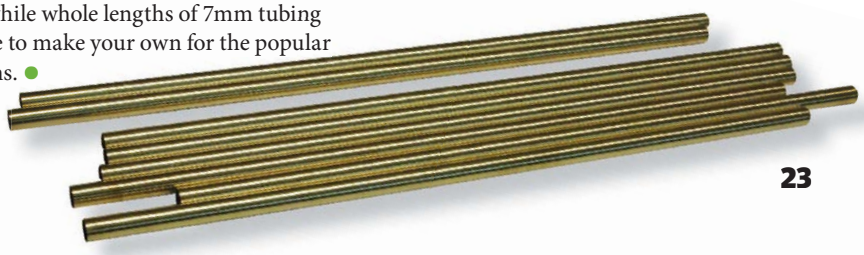
19. WHAT IS THE BEST FINISH FOR PENS?

If you ask 100 pen makers this question, then you will get 100 answers. I covered the range of finishes and their advantages and disadvantages more extensively in my article in issue 264, but the most popular choices are friction polish, CA or a hard acrylic or melamine lacquer. Any of these will do the job, but experiment to see which you prefer. Acrylic and resin cast blanks do not need an applied finish; they are just polished with fine abrasives such as Micromesh or polishes, such as burnishing cream or metal polish.

Experiment with finishes to see which one works best for you

20. I HAVE MESSED UP, WHAT DO I DO NOW?

It is extremely likely that, at some stage, you will end up with a tube glued half in and half out of the blank, a blank that splits as you turn it or as you assemble the pen, or that you will assemble the pen only to find that the fit is poor or you have missed out a vital part, which is usually the clip. There is no need to give up or throw away the kit at this point. Damaged blanks can be returned to the lathe and turned away and the tubes cleaned up and reused while assembled pens can be dismantled with a set of transfer punches and the blanks reworked or replaced and omitted parts fitted. If the worst comes to the worst and the brass tubes are rendered unusable, then replacements are readily available for many kits while whole lengths of 7mm tubing are available to make your own for the popular slimline pens. ●



Replaceable brass tubes are available if you make a mistake and have to start again

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PHOTOGRAPHS BY RICHARD FINDLEY

Turning BIG!

Richard Findley shares his hints and tips for turning on a large scale

This month, I wanted to look at turning large-scale work, but what is considered 'big' work? Well, it all depends on your point-of-view. If, for example, you use a mini lathe with a capacity of 250mm diameter and 400mm between centres, then anything above that – to you at least – will be big turning. If you have a massive lathe and regularly turn 1,200mm long, irregular shaped wall hangings or large bowls that are big enough to sit in, then what I'm going to be describing will sound more like turning miniatures than turning big, but I thought it was an area of turning that was worth exploring a little more.

As a production turner, I am asked to make a very wide range of items, from quite tiny components, to things that are too big even for my lathe, which I pass on to another turner I know with an even bigger lathe than me. 'Big' turning to me, can mean very long spindles such as bedposts, porch posts or roof finials, all of which range from 75mm square to 150mm square, and can be up to 2.5m or longer. 'Big' can also mean large diameter work, from log stools to large bowls or curved architrave sections, for example. These are the things I will look at in this article, the techniques used, things to look out for and avoid, and things that can make life a little easier if you do decide to try your hand at turning 'BIG!'

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.

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THE LATHE

The gap bed removed on my Wadkin

My lathe is a 1950 Wadkin RS8. It was made when machines were designed to do a job and corners weren't cut to achieve that end. It was originally designed for use in a patternmakers shop, where large components were commonplace and is one of a series of lathes designed by the Leicester company. The lathe weighs something in the region of three-quarters of a ton, most of which is cast iron and has bearings, which are more commonly found on cars than lathes. All of this means that it was designed to handle large scale work, but it will equally handle small components too. I can turn 1,700mm between centres and 400mm over the bed. My lathe also has a rather old-fashioned feature of a 'gap bed', which is a section of the bed which can be removed, allowing a diameter of 700mm to be turned. If workshop space would allow – which it doesn't – I could also work on the outboard end, which would give a potential maximum diameter of 2,440mm.

That isn't to say that you can't buy a new lathe capable of turning large work, there are several that immediately spring to mind, which I'm sure could perform just as well – perhaps even better than my old Wadkin.

The point I am making though, is that if you intend to do a lot of large scale work, you need to have a lathe capable of it. Many smaller lathes have features such as swivel heads, which give a greater capacity for bowl turning, this is usually fine for occasional use, but will put strain on the machine and particularly the bearings if done regularly.

The most important features for lathes for large scale turning are:

- **Mass** – a heavy machine that is very stable when in use, to absorb the vibration and forces caused by large scale work
- **Wide speed range** – You need slow speeds for large work, but you will almost certainly want to be able to use it for smaller work too, so fast speeds also need to be available
- **Good bearings** – these are expensive, so many cheaper lathes use smaller or cheaper bearings, which will quickly wear if regularly overworked with large, heavy and off balance work
- **Secure fixings** – all moveable parts, such as the banjo, toolrest and tailstock, need to be capable of being locked down solidly. If they have a habit of creeping or vibrating loose, they will be dangerous for this type of work
- **Power** – my lathe has a 1½hp, three-phase motor, which I have so far found virtually impossible to slow down, even with heavy cuts on the biggest work. Underpowered lathes are incredibly frustrating when you are tackling large work.

HEALTH AND SAFETY

It goes almost without saying, that this kind of work can be dangerous, so extra care needs to be taken. As with all turning-related accidents, things can go wrong very quickly, but because of the size and weight of the pieces of wood involved, the potential hazards need checking and double checking.

- **Mounting** – check and double check that the wood is held securely on the drive, whether that is a chuck, faceplate or a drive centre. It is worth checking this a few times during turning too
- **Timber** – check for faults before and during the turning process. In large logs cracks can develop and foreign bodies, such as wire, bullets and knots can be hidden beneath the surface
- **Personal protection** – a full-face shield is a must for this kind of work, along with sturdy shoes – ideally steel toe caps
- **Emergency contact** – keep a mobile phone or some kind of personal alarm close at hand – just in case
- **Help with lifting** – often large turnings are incredibly heavy, don't be afraid to ask for help to get the wood in and out of the lathe. Turning with a bad back is no fun!
- **Speed** – start slow and increase it gradually
- **Use all of your senses** – if anything changes during turning, usually the sound, or feel of the cut, or even if something just doesn't seem right, stop the lathe and investigate. The first sign of splits and faults is usually a slight 'tick, tick, tick' noise as you turn.


My Jetstream powered respirator, a system built around a builder's helmet

LONG WORK

For large spindle work, I will usually use a 25mm, four-prong drive. This needs driving into the end of the timber with a mallet before mounting it on the lathe. Because the prongs bite into the end grain, the drive you get is usually very secure and positive. It is important to ensure the prongs are kept sharp though, as a blunt drive centre won't bite so well and will often end



Turning softwood bunk-bed legs

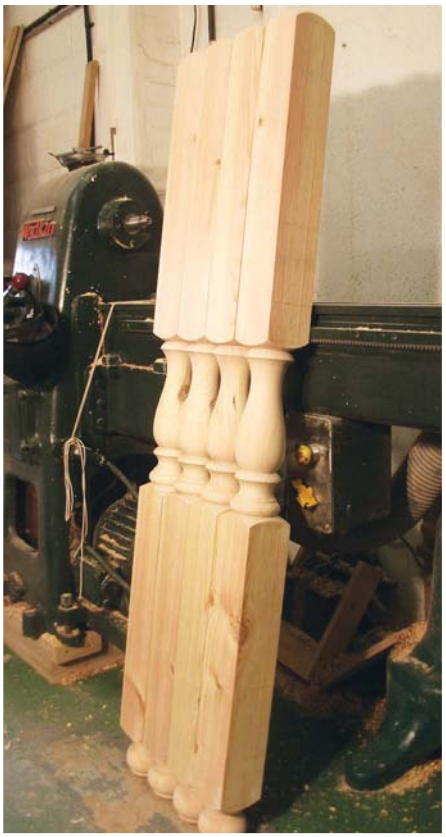
up spinning and damaging the wood, rather than driving it. To sharpen I simply touch the bevelled side of the prong lightly on the grinder.

Vibration can be a problem with long work, even when the diameter is quite large. Generally speaking, a slower speed and a lighter touch with sharp tools will reduce the vibration, or eliminate it entirely. As with any type of turning, it is important not to force the tool into the wood, allow the wood to come to the sharp tool and things work much more smoothly. If you are going to apply extra supporting pressure to the tool, apply it tool to toolrest, rather than tool to wood.

My lathe will take 1,700mm between centres, which is quite long enough for most work, but it is common practice to join sections to make long turnings, when even longer lengths are required.

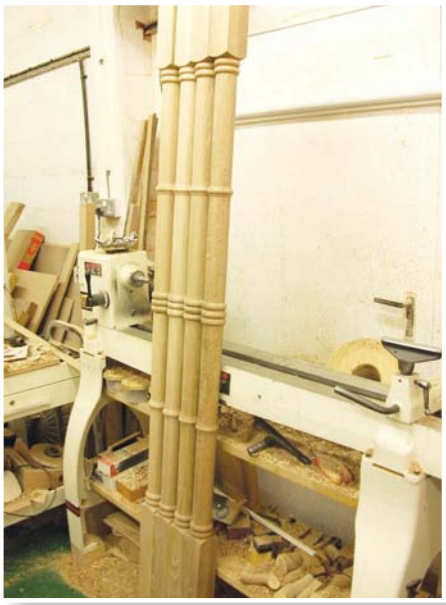
The photo below/right shows a set of oak *(Quercus robur)* bedposts that were made in 2011 using my old Jet lathe, which had a capacity of 1,500mm. The posts were, if I remember correctly, around 2,200mm long, so had at least one invisible joint. Joints can easily be hidden at any point where a detail is used, so on these posts it could be at the point where the round meets the square pommel, or at one of the points where there is a set of beads. I must admit I forget now where the joint actually was on this job.

These joints are like a turned mortise and tenon, so the end of one section will have a round spigot or tenon, usually between one-third and one-half of the overall thickness of the timber, which fits into a drilled hole, or mortise, in the end of the next section. The length of the hole depends a little on the length of the drill bit you use, but I find around 70mm gives a good strong joint. The holes are drilled with either a large spur drill or a Forstner bit. For large work like this, it is best to support the work in a pair of 'V' shaped cradles when drilling to ensure the hole is straight and true and the timber can't grab and be thrown out of the lathe. When you are gluing up the joint, it is best to apply the glue around the top of the mortise – that way the glue is pushed into the hole, which then covers the tenon, rather than being squeezed out of the joint and all over the work.



The completed bunk-bed legs

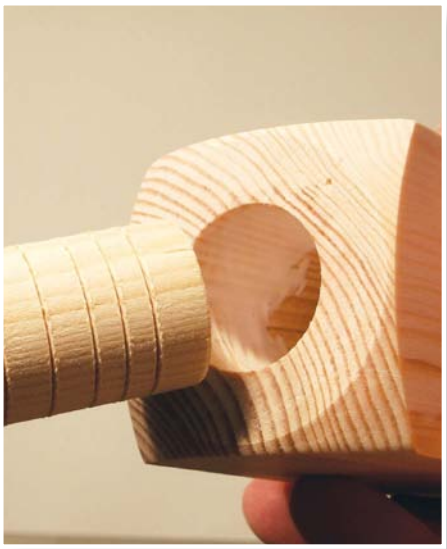
Sharpening a four-prong drive



Oak bedposts made with my old Jet 1442

The drill bits used to form a turned mortise and tenon joint

Drilling a long spindle using the pair of cradles for support



Gluing the joint properly, by spreading the glue at the mouth of the mortise

HEAVY WORK

I have one client who orders log stools from me three or four times a year. The design is simple, but effective. The stools are simply an ash *(Fraxinus excelsior)* log, which is turned round to a set diameter, with a curved edge and slightly dished top. They are then stained and lacquered. The naturally occurring splits are a desirable feature in these stools that furnish executive homes and apartments, mostly in London, I believe.

These logs can be incredibly heavy. Out of interest I have put the odd one on a set of bathroom scales I keep at the workshop, for weighing parcels. The heaviest one yet was 11 stone, which equates to a hefty 154lb! When a small section of log weighs this much, it is no wonder that such damage is caused when trees blow over in storms!

Unsurprisingly, I find it best to get a lift up to the lathe with sections like this, although I have managed it myself when there has been no-one else around, although this isn't advised! Great care needs to be taken in lifting heavy logs like this. Large companies send employees on 'heavy lifting courses' to train staff how to do it properly, presumably with the aim of covering themselves in case of an insurance claim. My general rule is that if I can't lift it, then I won't turn it, although I have heard of turners using engine hoists mounted above the lathe, and car jacks to position timbers between centres.

I mount these logs between centres, once again using my four-prong drive. It is important to make sure the log will rotate over the bed and if not, to remove any sections that cause it to stop. Loose bark needs removing and splits need examining to ensure they aren't structural. Start the lathe at its slowest speed and stand to one side, close to the 'off' switch, just in case anything should go wrong.

For large diameter and heavy work like this I start with my big 12mm bowl gouge, which has its wings ground back and a long handle. This allows me to remove a heavy cut, while keeping total control throughout. Once it is round, I will switch to my large spindle roughing gouge to smooth it and take it to final size. Detailing is done with my 12mm spindle gouge.

Turning the log stools

The finished log stools

LARGE BOWLS

I have often heard new turners say that they want to turn large bowls. In my experience, I found it was nice to try, but not so much fun that I'd want to do it regularly!

The techniques for turning large bowls are much the same as for turning small bowls, the main differences being that they take much longer and are far more hard work. Because of increased tool overhangs and forces, a larger gouge may be useful to keep to hand.

From experience and past conversations with a number of bowl turners, the most popular bowl sizes, as far as sales go, are in the 300-400mm range. Lets face it, there's not many people with a dining table large enough to display a massive 500mm fruit bowl or platter. That said, a well made example can make quite a statement in the right place.

The largest bowl I've made was around 500mm and 125mm deep, made to commission out of the most beautiful burr oak. For this I needed to remove my gap bed section, but otherwise, the turning was pretty straightforward. The main advice I would give to anyone wanting to attempt making large bowls, would be to first make sure you can make a range of basic bowls to a high standard, and have a good level of technical ability with the tools. If you regularly suffer from heavy catches while bowl turning, get your technique sorted on smaller bowls before attempting big stuff. You really don't want a large bowl blank, or worse, a bent or snapped bowl gouge, flying across the workshop!

The other issue when turning large bowls is that the timber will most likely be unseasoned, or at best, only partly seasoned. This presents a whole raft of potential issues, which will need addressing:

- **Best turned in one session** – a wet or part seasoned bowl left part-turned on the lathe overnight, will most likely be ruined by the morning, either having split by the sudden drying or having warped so much it is difficult or impossible to rescue, so it's best to turn them in one session
- **Green timber is full of water** – this water and sap will cover your tools and lathe bed, most likely turning everything it touches black and then potentially rusty. Protect your metal surfaces with WD40, oil or a lubricating and protective wax product
- **Part-turn your work** – if the timber you are using is too wet, it is best to part-turn the work and set it aside to season further, before fully finish turning it

The subject of turning green timber is a large one and there have been a number of books written on the subject. I would highly recommend researching this further before embarking on turning a large bowl from unseasoned timber to avoid disappointment and frustration.

I must confess, I am probably the only turner I know that prefers working with seasoned timber as opposed to green wood. I can deal with dust using my extraction equipment and PPE, but wet all over my lathe and tools is just horrible. Give me a good piece of air-dried timber any day!

Turning the large burr oak bowl

The completed bowl

MOULDINGS

A recent job that came in was for some African mahogany *(Khaya ivorensis)* curved architrave sections, which were turned to a diameter of 634mm. For this I bought a board of 25mm timber, prepared it on my planer/thicknesser and drew sections of the curve onto it. These were cut out on the bandsaw and fixed with screws into the back of the mouldings, to an MDF disc, mounted in my chuck. Fitted like this they formed a complete ring around the edge of the MDF disc.

Once again, the gap bed had to be removed and, because it was quite a flat moulding, the standard toolrest wouldn't reach across the gap, so I had to dust off my freestanding tripod toolrest for the first time. This was made for my lathe by Wadkin and so is typically heavy cast iron. I found it incredibly solid in use. It allowed easy access to the work and, once again, with the timber mounted up and spinning, the actual turning was relatively straightforward.

On the same order were some 284mm rings of the same moulding, a little like picture frames, which I did first, allowing me to familiarise myself with the cuts needed to form the design. The only thing to be aware of on such large diameter work is that the forces involved are considerably higher, so there is less room for error. If you present a tool wrong on smaller work, you might get a slight warning before a catch. On big stuff, there is no warning and the force of the catch is a lot more.

The completed mouldings will be mitred around the arch of a door frame, and stained and polished to match the rest of the mahogany fittings in the room. ●

Turning the large moulding

Setup to turn the moulding

Completed mahogany mouldings

PHOTOGRAPHS BY GMC/ANTHONY BAILEY UNLESS OTHERWISE STATED

Starting turning – part 3

In the next part of this new series, **Mark Baker** explores the subject of workholding and gives you some hints and tips on the wide range of items available

In the latest part of this new series on starting turning, we will look at the subject of workholding, which is a natural progression from the two topics we have covered previously. In the last two articles, we covered the subject of timber, so hopefully I have taught you what to look for when selecting wood, what types of timber suit certain types of turning, etc. In the second article, we looked specifically at the lathe as well as its various components. We will now move on to mounting and holding work on the lathe and the important points you need to consider when doing this.

As I will go on to show you, holding the work securely when turning is vital for safety reasons, but a secure hold on the work also means a cleaner cut is possible, which in turn means that you will produce a better quality of work as a result.

There are numerous ways to hold work of various types and there are so many items available that cover specialised turning aspects. In fact, there is such a plethora of items that it can be confusing when working out what you need to get started. This article is a basic introduction to workholding with information and tips to help you make informed decisions. As mentioned in the previous issue, there are two fundamental types of turning, which you are likely to tackle. I will look at these next.

TWO TYPES OF TURNING

Spindle turning

This is also known as between-centre turning, where the grain of the wood runs parallel to the lathe bed. Typically, this type of turning is used to produce items such as chair and stair spindles, balusters, support columns, goblets, boxes, spoons, etc.

Faceplate turning

Faceplate turning is where the grain of the timber runs at 90° to the axis of the lathe when the headstock is in-line with the tailstock. Bowls, dishes and platters are typical faceplate projects.

The name faceplate turning derives from a time when most bowls and platters were typically fixed to a faceplate in order to hold the wood while turning such items. Things have developed quite a bit and there are many ways to hold such work securely, but the common term faceplate turning is still valid, although a faceplate is only one such method to use. Once again, the key thing to remember is to hold the work securely and in a manner that allows you access to the wood in order to shape it safely.

Let's look at the items to hold work for faceplate turning.

Spindle blank mounted on the lathe ready for turning

Faceplate blank mounted on the lathe ready for turning

FACEPLATES

A faceplate is a machined piece of metal, which has a threaded female section at the back. This either has a threaded boss which locates onto a lathe spindle – various thread sizes are available – of your lathe, or it has something called a faceplate ring. This type does not have a spindle threaded boss; instead, it is designed to be gripped in chuck jaws – we will look at chucks later on in the series.

The top section of a faceplate is a flange – available in varying widths and thicknesses – in which is drilled a serious of holes. The faceplate is placed on the timber and then screws – of an appropriate length and thickness – are placed in the drilled holes and used to secure the faceplate to the wood. Faceplates are best used on wood with a flat face; this prevents any rocking from occurring. The bigger the work, the wider and thicker the faceplate you need to secure it and prevent it from wobbling.

The screws used will depend on the work thickness, length and diameter. Again, the bigger the work, the thicker the screw diameter needed to hold things securely in place.

The faceplate can be used to hold the work for the entire turning process, but you have to bear in mind the length of screws used to hold the wood securely while turning, as well as how far they penetrate into the wood, the implications of the screw holes in the design of the piece and potential wastage of timber.

The faceplate can also be used as an initial mounting and shaping method for the wood before using another holding method later on, which will allow you to carry on working and finish the piece off.

A range of faceplates

SCREW CHUCK

There are typically two types that you are likely to encounter when starting turning. One is similar to a faceplate but has a screw in the centre of it and the flange of this type may also have screw holes in it too. When the work is located on the screw fully the flange butts against the work – like a faceplate – and provides support. The other type is a scroll chuck with a screw, which fits in the centre of the jaws. The work is secured on the screw and the top rim of the jaws acts like the faceplate section, thus supporting the work. In each case, a hole of the correct size is drilled into the wood on the top face of the work and the wood

SCREW CHUCK

is then tightened onto the screw. This type of chucking is only to be used if the face of the wood is flat. If not, the wood will wobble and you will not get a secure hold. This could also be potentially dangerous. Again the larger the work, the wider/bigger the faceplate or jaw section of the chuck needs to be to provide proper support.

In all cases, a hole of the appropriate size needs to be drilled into the work first before affixing the work onto it. Typically, the hole size drill corresponds to the inner screw shank diameter. This is the solid inner section that is just smaller than the overall diameter of the screw itself.

There is a wide range of screw chucks available

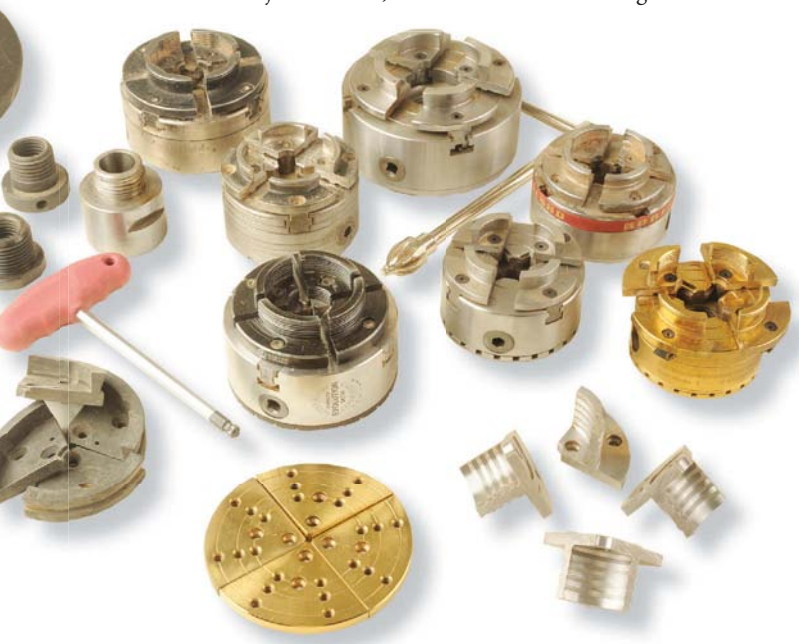
A bowl blank about to be mounted onto a screw held in a chuck

GEARED/SCROLL FOUR-JAWED CHUCKS

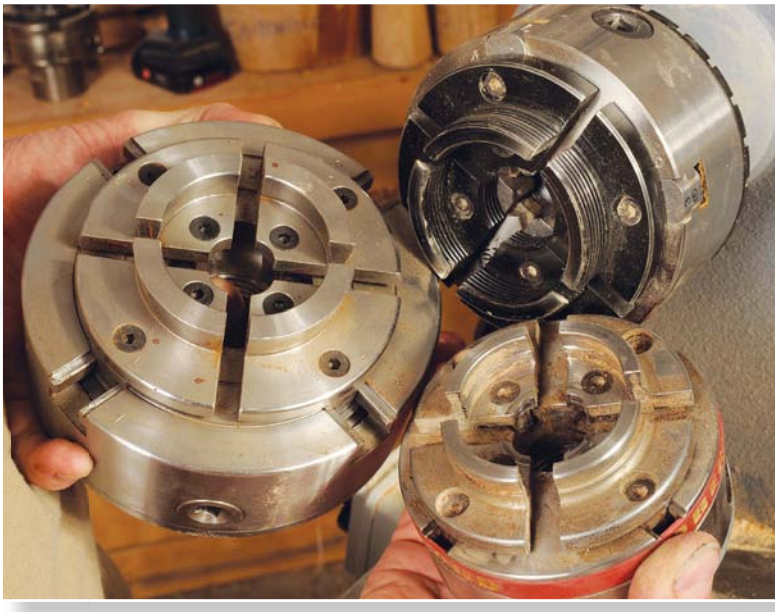
These come in various makes, shapes and sizes and are modern reworkings of engineering chucks to suit the needs of woodturners and designed to suit all types of lathe. Many turners have one of these chucks which, depending upon the size of the chuck and the jaws chosen, can be used to mount a variety of both large and small workpieces. Most turners find that these chucks help to make holding work and the turning process easier.

A rough rule of thumb is the larger the lathe, the larger the diameter and heavier the weight of chuck that can be fitted on it. In turn, this will allow it to cope with the larger work that can be created on the lathe.

Four-jaw chucks are fitted onto the headstock spindle – they have either a direct threaded back – and various thread options are available. Alternatively, they have an insert that is threaded to suit a lathe's spindle



Chucks of various makes, jaws and inserts



Three different chucks with three different jaw shapes

Bowl blank with a recess being fitted in the chuck

Bowl with a spigot being fitted in the chuck

Chuck jaw travel

A spindle project: a candlestick held in the chuck via a spigot

◀ GEARED/SCROLL FOUR-JAWED CHUCKS

thread that fits in the back of the chuck, which is handy if you end up having more than one lathe with different spindle sizes. The beauty of this is that it allows you to change the insert to suit the lathe without buying a whole new chuck.

Each chuck has precision-machined jaws and there are various types and sizes available to suit different types of work. Two very common jaw patterns are the dovetail cross section and those that have serrations/teeth. All jaws for these chucks are secured onto jaw carriers that in turn can be opened and contracted via the use of two removable levers or, more commonly, a removable single key that is inserted into the body; this can be rotated one way or other to get the jaws to open or close.

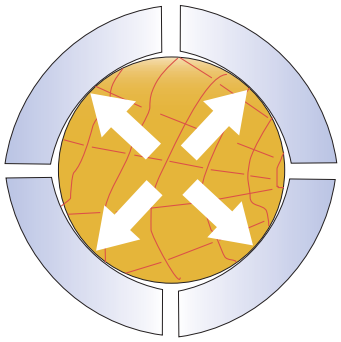
When opened up, the outer section of the jaws can be locked into a recess in the work – this type of fixing is commonly used for wide work, such as platters. Conversely, when the jaws are closed down they can be used to clamp onto a spigot, which is effectively a round tenon. Using the chuck to clamp down onto a tenon is probably the most commonly used method. It is important to ensure that the recess or spigot is of a size that will allow the jaws you have to secure nicely and allow as much jaw contact with the wood as possible. However, it is also vital to make sure that when cutting the tenon and recess, you cut it to the right shape to suit the jaws. The larger the work, the larger the diameter of jaws you need to provide proper support.

A point to remember is that the larger the diameter of work you tackle, the larger the spigot or recess you need to lock into or hold onto to ensure a secure hold. Typically, as a rough guide, you should have a spigot or tenon size of at least 33% of the overall width. We will look at the practicalities of this in a later issue. But a word of caution: some chucks can open up a long way and do not have a stop to prevent the jaw carriers from coming off the chuck. Check with the manufacturer's instructions and find out how much you can open the jaws if yours do not have a stop to prevent the jaws from being extended too far, and potentially coming out. Even with a stop to prevent the jaw carriers from coming out of the chuck, some allow the carriers to project some way from the chuck, so always keep your hands, clothes, fingers and body away from it when turning. Catch these spinning carriers and it hurts!

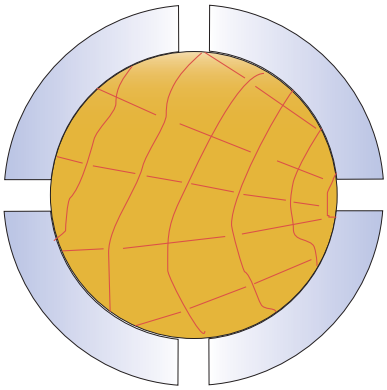
A scroll/geared chuck can be used to hold both faceplate and spindle work, but because of the grain alignment being different to faceplate work, they are liable to slip if you try to grip it in a recess. This type is most commonly used to clamp down on spigots if being used on spindle work. Work such as goblets and one-piece candlesticks are such examples where a scroll chuck can be used to good effect. In this case, it allows you to hold one end while shaping the end opening.

Let's look at the items to hold work for spindle turning.

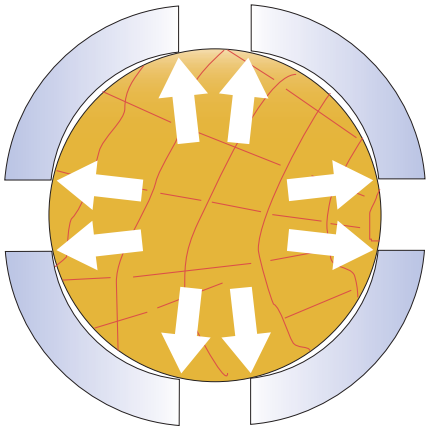
GEARED/SCROLL FOUR-JAWED CHUCKS



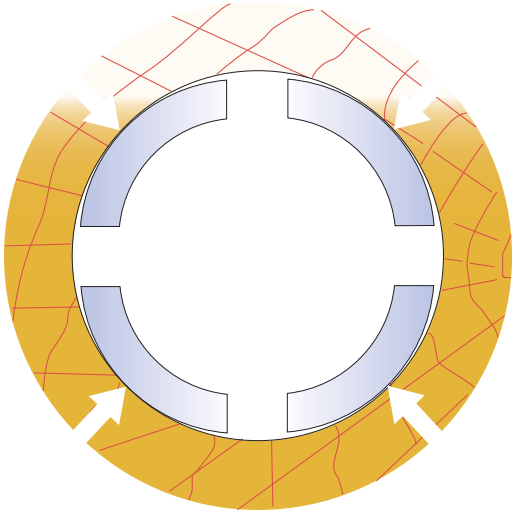
Tenon/spigot too small to have full contact with the jaw section and only gripped on the four sections indicated



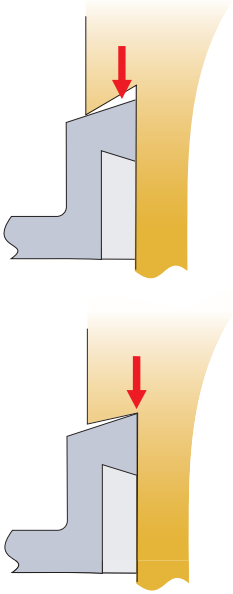
A correctly sized tenon for the jaw size used, offering maximum security of hold



Tenon a little too big. The eight sections of the jaws indicated will bite into and mark the tenon gripped



A recess that is too small for the jaws used – the piece of work is only gripped by a small fraction of the bowl



Dovetail jaws being used in expansion mode where the dovetail cut in the recess is the wrong shape for the jaws, thus compromising the security of the wood. It is also worth noting that it is advisable for the bottom of the recess that is in contact with the jaws to be flat so the top of the jaws sits squarely against it, thus preventing rocking

SPINDLE TURNING

Headstock accessories

These are items that fit on the threaded spindle, in the Morse taper in the spindle or in a chuck. As mentioned in the faceplate turning section, you can use a scroll chuck, which is versatile and allows you to insert various fitments in it to hold and drive the work as well as gripping the wood directly.

Drive spurs and ring centres

Drive spurs – also known as prong drives – are usually preceded by a number relating to the number of prongs on the drive – so two or four-prong drive – and are designed to bite into the wood so it can drive the wood around. The drives come in a range of sizes and types, but they all are designed to do a similar job – bite into and drive the wood. Typically

A selection of headstock drives, spurs and ring centres

◀ SPINDLE TURNING

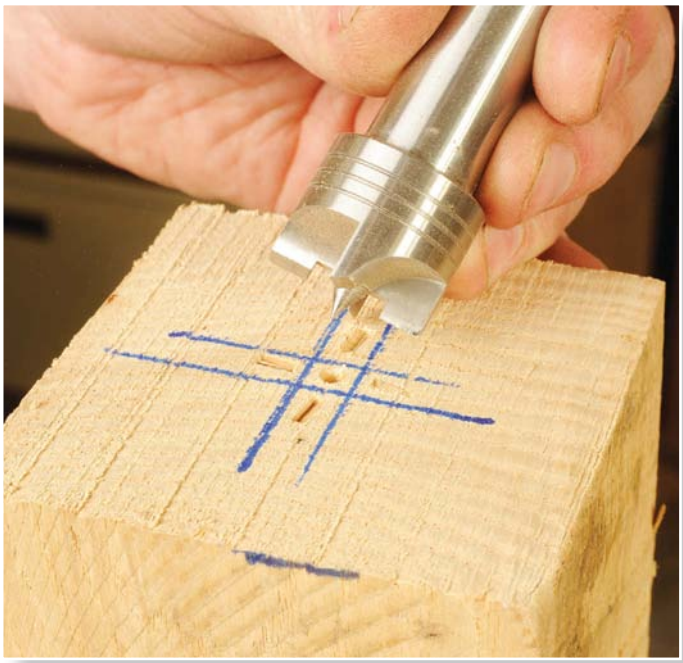
you mark the centres of the blank and then use a wooden mallet – I use a cylinder of timber so as not to damage a good mallet – to knock the drive into the wood, which in turns creates an indent of the drive spurs. The drive is then mounted on the lathe as required and then you can locate the timber nicely onto the drive.

They will bite into wet or dry timber but do rely on the teeth to bite into the wood, which may be problematic for very dense timber or man-made materials, such as acrylics, etc. where they might be likely to split if the drive is hit to bite into the material. Do not use a steel metal hammer or you will burr over the end of the drive spur and it will not fit properly in the Morse taper, chuck or onto the spindle thread.

Ring centres do a similar job to the drive spurs, but instead rely on a machined ring or ring of teeth to bite into the wood. Many prefer these for use on the denser materials and laminated work. If you use a standard ring drive with no teeth to bite into the material being held, they rely on the pressure of the tailstock to maintain 'friction' to drive the wood. The toothed versions bite into the wood a small way. Both have the advantage of allowing the material to slip a little if you get a catch or take too big a cut with a tool. This is something that may help when practising cutting wood in your early development in turning. We will look at this later on in the series.

It is worth noting that bowl blanks and natural-edge work can also be mounted between centres. I will cover this later on and look at the hows, whys and the implications of doing so.

A drive spur being knocked into the centre of a spindle blank



The indented location marks for the spur

TAILSTOCK ACCESSORIES

It's all very well having the drives, but if you use these then you need to have something at the tailstock end to support the work and allow the wood to run freely and in a controlled manner.

For this, revolving centres that are fitted in the Morse taper hole in the tailstock quill are typically used. They too come in various shapes and sizes, are designed to support the wood while it is being turned and run on bearings to revolve freely. They typically penetrate a small way into the end grain of the work to lock into the wood. The basic revolving centre is usually a pointed conical shape, although there are other profiles available. Another common profile is a ring centre shape – again, either a machined ring or a toothed ring. Other shapes are available, but these are the ones to concentrate on when starting out. You may find that some revolving centres have interchangeable tips; these are worth considering too when starting out as they give you more options. The point centres can be 'driven' quite a way into the wood and this is not always a good thing. Ring centres, as with ring drives, will limit the depth of bite into the wood and provide a bigger surface contact area on the work.

Ring centres also work well on thin

A variety of revolving centres

TAILSTOCK ACCESSORIES

spindles, fractious or dense material with less likelihood of causing splitting.

To mount a spindle fully between centres, mark the centre of the wood. Various tools are available to help you find the centres of a piece of wood, but a pencil and finger can work well too. Once the centre positions have been marked at both ends, align the headstock end of the wood, then the tailstock end and bring up the tailstock so that the revolving centre is almost touching. Lock the tailstock in position, use the handwheel to wind the revolving centre into position, locate it and just give the handwheel a little bit more of a turn, which will provide a bit of pressure and lock it off. Be careful not to apply too much pressure from the tailstock or you can cause a small diameter spindle to bend. Now with the toolrest clear, check the piece for security of hold.

Mounting a spindle project between centres

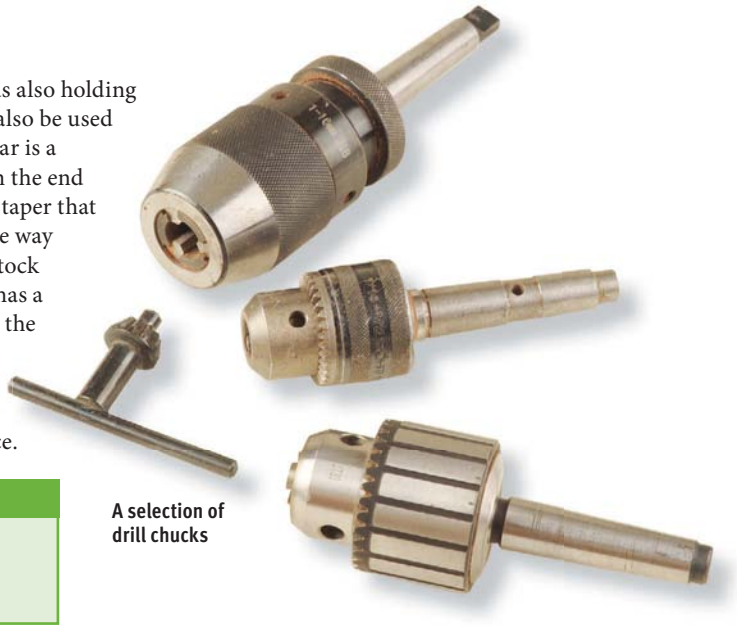
REMOVING MORSE TAPER ACCESSORIES FROM THE LATHE

Morse tapers are precisely machined to fit as a male and female joint. Most modern lathes have a hollow tailstock quill and hollow threaded headstock spindle. These allow a narrow round bar – usually supplied with the lathe – that can be inserted in the far end of the tailstock quill, or headstock spindle, and knocked against the Morse taper accessory. This will tap the accessories out easily. Some lathes on the market also have self-ejecting tailstock quill Morse tapers.

A knock-out bar being used to knock out a revolving centre held in the tailstock quill Morse taper

DRILL CHUCK

An accessory which is very useful is a drill chuck. This is similar to the chuck on a cordless or corded drill, hence its name, but it has a Morse taper fitting to slot in the headstock or tailstock Morse taper. This can be used to hold drill bits, etc., which in turn can drill a piece of work absolutely in-line with the lathe bed. It can also be used in the headstock to hold very small work, such as finials, but, it does not provide a very strong hold when running at speed and the chuck, if used this way, can work loose unless you use the tailstock to support the work, and thus also holding the chuck in place. It can also be used with a draw bar. A draw bar is a threaded rod, which fits in the end of the drill chuck's Morse taper that is long enough to go all the way through the hollow headstock spindle, at which point it has a threaded tapered bung on the end; this locks up against the outer end of the headstock spindle and secures everything in place.



A selection of drill chucks

NEXT MONTH

In the next issue, building on our knowledge so far, I will look at a basic set of tools and other equipment you need for starting to turn ●

Recycled pallet wall sculpture

Andrew Potocnik tells us what he does when faced with a pallet challenge

PHOTOGRAPHS BY ANDREW POTOCNIK

I was presented with a challenge to reuse some pallets that were sent on a one-way journey from somewhere out there, to here. Pallets are made of the most cheaply sourced timbers available locally, that carry bits and pieces to their destination without any thought of how they will be used once the one-way journey has been completed.

The journey, in this case, leads them to Melbourne in Australia, where a local recycling company converts as many pallets as possible to be reused. Unfortunately, many pallets cannot be converted due to overseas configurations. Hence about 500,000 tonnes of pallet wood is pulped annually into garden mulch, much to the disappointment of company director, Ward Petherbridge, who instigated this challenge and a consequent exhibition. Provided with two pallets, nails, bolts and all – including some really degraded and cracked timber – we were invited to create what we could from these materials.

Although I'm not 100% certain, I'm pretty sure my pallet was made mostly of pin oak (*Quercus palustris*), which according to inked stamps on the bearers, originated from the US.

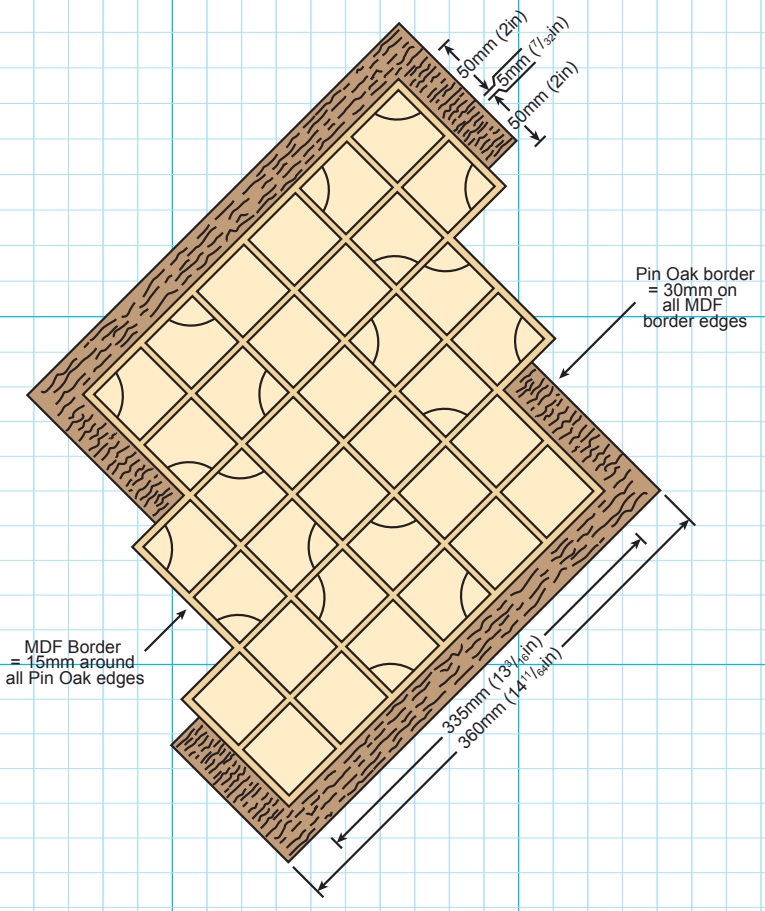
From my perspective you can approach this challenge from one of two avenues: either you begin with a concept and source material that will suit your needs, or alternatively, you can look at what your material offers and develop a design that makes the most of what's available. For this project I took the first option.

ANDREW POTOCNIK

About the author: Andrew sees inspiration around him every day. He 'arrived' on the Australian woodworking scene in 1983, and since then, his work has developed into areas of sculpture, furniture making and the odd bit of cabinetwork.

Email: andrewpotocnik@telstra.com

WALL SCULPTURE DIMENSIONS



INFORMATION

TIME TAKEN & COST

Time taken: 8 hours – over several weeks

Cost: N/A

TOOLS REQUIRED

- 12mm gouge
- Round-nosed scraper
- Half-round scraper

ADDITIONAL TOOLS

- Masking tape
- Double-sided adhesive tape
- Pencil
- Drill
- Self-drilling screws
- Glue
- Saw
- Wire brush
- MDF
- Paint
- PPE: facemask, respirator/dust mask and extraction

1 To begin with, all the material was tidied up and nails removed. They were then stacked and ready for selection of appropriate pieces

"...all the material was tidied up and nails removed"

2 With the best timber selected, it was time to cut away anything that had rust from the nails, seeing as I was keen to use mostly clean material for this project


1


2

Handy hints

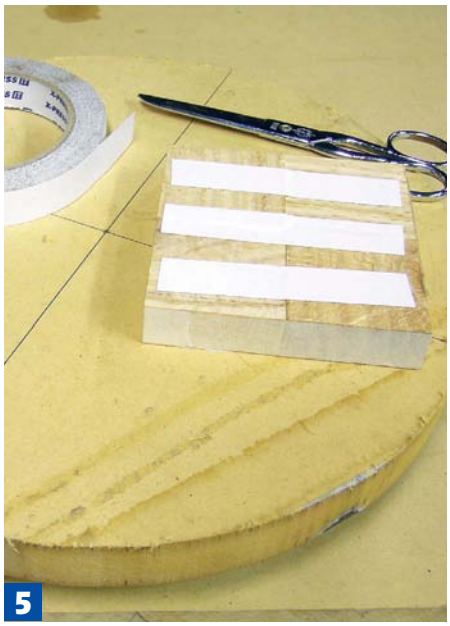
1. Although I sanded surfaces on all turned faces, I thought about burning some squares and wire-brushing soft charred material away to leave a blackened, textured surface that exposed and highlighted the pin oak's structure

2. Likewise, alternating between back-sawn and quarter-sawn squares can highlight diferences in the timber's grain and growth ring patterns

3 After a considerable amount of time machining timber into 20mm thick pieces of 50 × 50mm squares, bundling material together with masking tape and pushing it up to a stop-block on the saw helps to ensure resulting blocks are of consistent size

4 To prepare the squares for turning I taped four of them together with the grain running at right angles to each other, giving me larger squares of 100 × 100mm

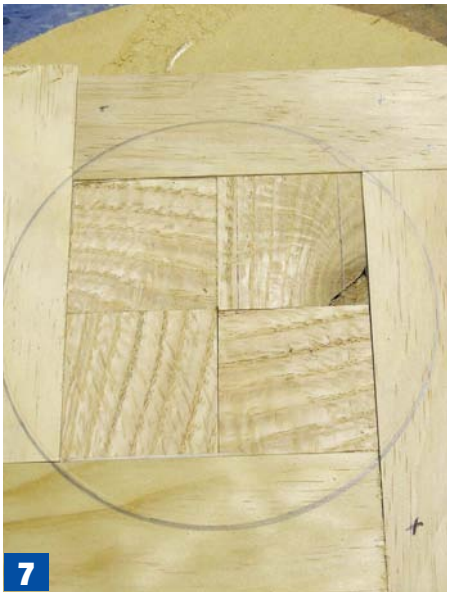
5 I applied double-sided adhesive tape to the back of the larger square...



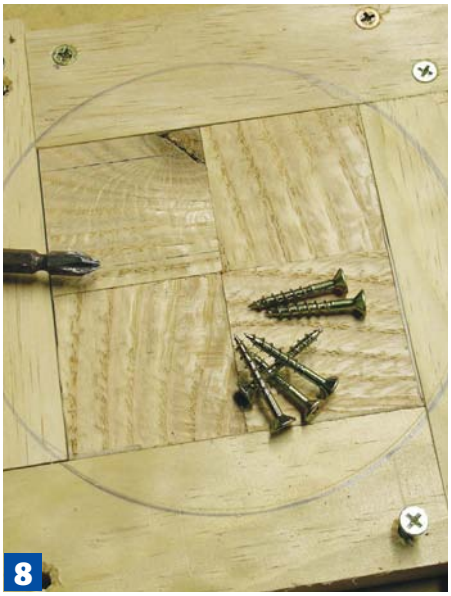
6 ... and positioned it in the centre of an MDF carrier plate while attached to a faceplate. I'd already marked out two lines that intersected at right angles running through the centreline of the carrier, to ensure the timber would be as close to centred as possible when mounted on the lathe

"To prepare the squares for turning I taped four of them together with the grain running at right angles to each other..."

7 Extra sacrificial material, Monterey pine (*Pinus radiata*) was fitted snugly around the pin oak blocks, firstly, to hold them in position and secondly, to provide support for outer edges of the squares as they were shaped in the turning process. A pencil line was drawn with a pair of compasses, so I could determine where screws could be located to secure the pine supports



8 Countersunk pilot holes were drilled and self-drilling screws were driven into place ▶



Handy hints

3. Another method of exposing the timber's structure and using texture to your advantage is to sand-blast surfaces of all squares, some squares or a selected few squares, then mix them with others treated in other ways

4. Cutting material to use end grain patterns can open new directions and effects determined by timber stucture. Quarter-sawn end grain can be distinctly different to back-sawn material

9 The shaping of the piece was just simple faceplate turning and sanding, which was repeated on nine sets of squares – and a few more spares

10 It was now time to experiment – firstly with the wood positioned just as it had been on the carrier...

11 ...then with a small gap between each of the individual pieces...

12 ... once this was done, I then had to reverse it on the lathe...

13 ... I then had to separate groups with a small gap...

14 ... before arriving at the final combination. This process took several days because I needed time for my mind to process patterns I developed and to find a balanced overall shape. Initial possibilities had already started while I was turning the squares, so this was really a project that evolved as I was making it

Handy hints

5. Again, treatment of end grain can reveal all sorts of different results if burnt, sand-blasted or treated in any other way

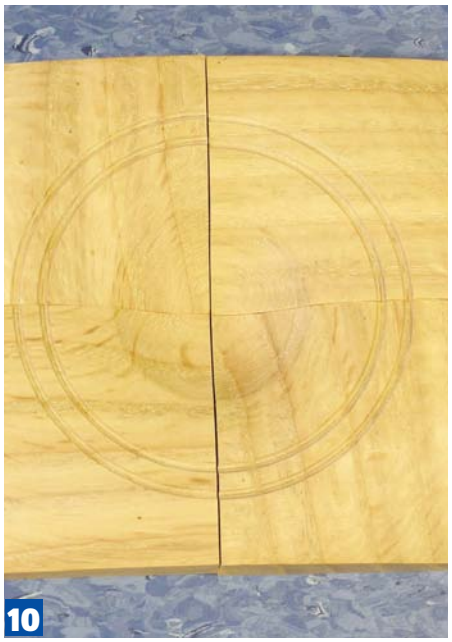
6. Hand texturing individual squares with carving burrs could create contrasting surfaces

7. Contrasting timbers could be used to add interest, as could paint, or even gold leaf... all it takes is imagination and the willingness to experiment. Remember, don't be scared of failure, as it is a way of learning as much about what works as what doesn't

8. When working with square material you need to be careful with sharp corners – not just because they can seem invisible as the wood spins at a high speed, they can also cause some nasty injuries if you accidentally catch your finger on them. You want to end up with crisp corners on the finished squares, not torn grain or bits of missing wood

9. Different species of wood will behave in a variety of ways. For example, some softwoods are likely to chip if corners and edges are not correctly supported, as will some harder more brittle timbers. I used tape around the edges of my blocks as well as sacrificial timber, but working on a larger scale may require you to come up with some other solutions


9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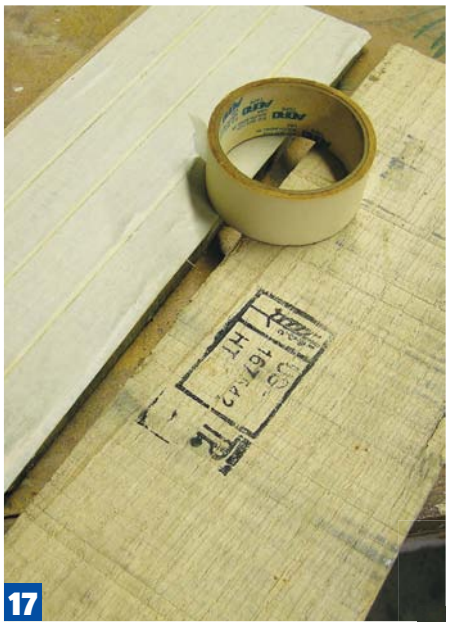
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15 Once satisfied with my decision it was time to glue all the squares onto a backing board. Background paint was applied to a sheet of 6mm MDF then 6mm spacers were used to ensure all gaps were even as I glued each square into position

16 Once the glue had dried, I marked a 15mm border around the pin oak pieces, cut excess material away, filed, sanded and painted the edges, then stood back to assess the piece. I realised more was needed, so over the next few days I pondered how to resolve the problem and eventually decided to add some raw pallet wood behind the MDF. Solution found, I selected a pallet that still had the ink mark from its makers and set off again

17 Sawn to size, the wood needed to be 'thicknessed', so a protective layer of masking tape was applied to what was to be the exposed surface to prevent damage while machining

18 This surface was then wire-brushed to remove any dust or grit and to 'rough it up' a bit before...

19 ... gluing to the MDF backing, ensuring both pieces were positioned correctly – hence the rulers – and held in place with spring clamps

20 Once dry, I simply needed to attach a hanging wire and the project was complete. Sounds simple? No, there were many moments of lingering doubt where I needed to think long and hard about how to resolve a concept that evolved as it was made – not to forget that the initial idea changed drastically between conception to completion, leaving plenty of avenues for future evolutions. But after all, isn't that what making is all about? You begin with a seed of an idea in your mind, let it grow and at the most unpredictable moments, it will evolve into something you may have never imagined right back at the moment of germination. I'm looking forward to seeing where this idea will lead me... ●

Handy hints

10. You could take a completely different approach to turning decorative wall pieces and slice through a turned square and then flip each slice on its side to reveal a sequence of profiles. Turning both faces of the squares could add even more intricacy, much like the work that Stephen Hogbin has explored so brilliantly

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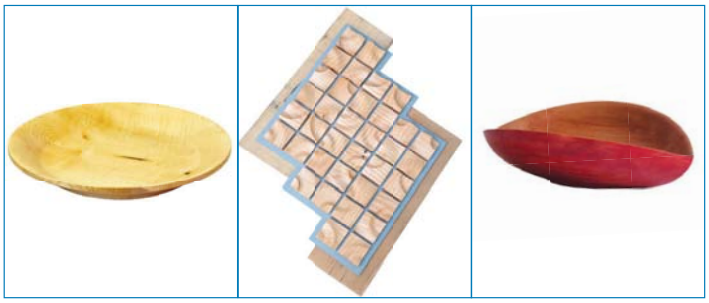

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Andy Cole in profile

Briony Darnley finds out about **Andy Cole**, his history in woodturning, inspirations, his highs and his lows

Andy Cole was born in the US Northeast in the late 1950s, growing up in the Finger Lakes area of Upstate New York. His early career was in the bicycle retail business, which Andy found very enjoyable due to the enthusiastic customer base. After falling in love with and marrying a girl from Hawaii, it became obvious to Andy that moving to paradise was a better option than staying where winter was the predominant season.

Andy has now been living in paradise for over 25 years and loves it!

Getting into woodturning

Throughout his life Andy admired anything finely crafted from exotic woods. About 15 years ago he saw an advertisement in the newspaper for a bowl turning class at a newly opened Woodcraft store and he immediately signed up. At the conclusion of the class, Andy purchased a mini lathe along with some basic turning tools, assuming that was all he would need. Needless to say, the list of necessary tools has continued to grow. Andy soon learned about a local organisation called the Honolulu Woodturners Club – an affiliate of the AAW – which held bi-monthly meetings for turning enthusiasts. He attended the first meeting and was hooked: "There were a lot of really skilled turners in the islands, eager and willing to share their skills." And with that, he was off and running.

Andy loves the natural beauty of wood and anything else created in nature. In turning, bowls with the natural-edge bark intact seem to be what Andy is continually drawn to. The more unique and gnarly the piece of wood, the more he likes it. Often, the shape that Andy is intending to turn is altered as characteristics in the wood are revealed in the turning process. He tries to find a balance between showcasing the natural beauty in the wood's character, while maintaining a form that is pleasing to the eye. Once the outside of the piece is determined, Andy then sets out to maximise the use of the inside by coring multiple nested sets, which he often keeps together like a family. He feels that nested natural-edge sets have become his signature work.

Inspiration and change

When looking at what inspires him, Andy says: "It may not have much to do with woodturning, but I've got to go with the wonders of nature. Whether it is the serenity of the morning dew hovering over a glassy lake or the impending violence of an approaching storm, it's those types of things that awaken my senses." He feels that we live in a world that was created with such amazing beauty and power that he continually marvels at the God who made it all. "To be able to bring out

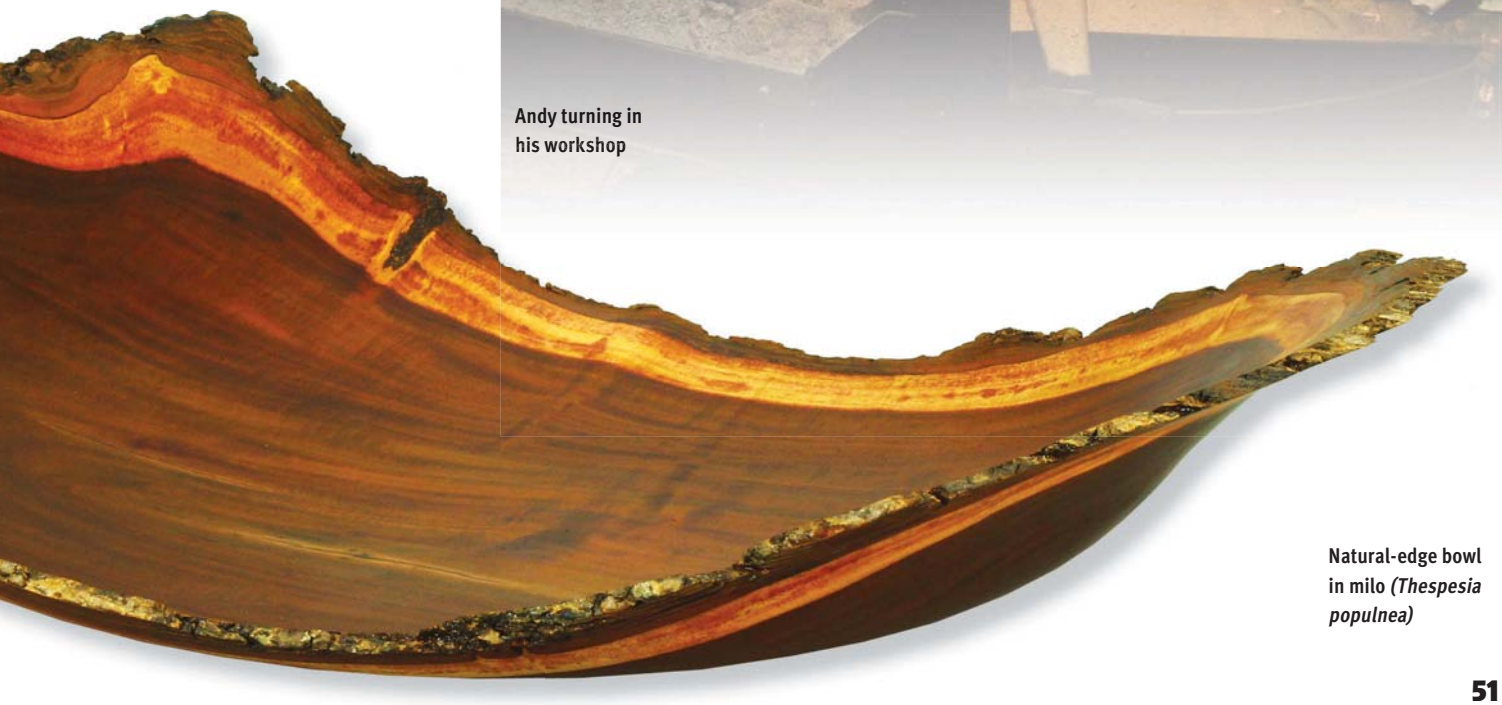
Natural-edge vase in hau *(Hibiscus tiliaceus)*

just a little of that beauty with each piece of wood I touch is such a reward," he says.

In regards to how his work has changed, Andy finds it interesting seeing some of his earlier pieces. He sees that there are a number of shapes and styles that he no longer seems to do and he thinks that his current shapes tend to flow a little better than some of his older works: "It is fascinating to see the evolution of style and it's refreshing to look back once in a while," he tells me.

Andy feels strongly that he learns and gets inspiration from almost every turner he encounters: "One of the great things about woodturners is their willingness to share their techniques." Andy's woodturning group has three or four professional demonstrators who go through the islands each year and he always tries to learn as much as he can from them. Andy tells me: "It is always enlightening to see someone whose work is very different than my own and being pushed out of my comfort zone can be one of the best things." Andy also travels as much as he can to turning symposiums, where there is a plethora of information available to him. Andy tells me: "I learn in a variety of ways. For the most part, I am a do-it-yourselfer, but I have gained a tremendous amount of knowledge from watching others and picking up little tips and tricks along the way. I have little patience for reading or watching instructional videos, so I'm much more likely to just pick up some tools and give them

Andy turning in his workshop



Natural-edge bowl in milo *(Thespesia populnea)*

Click here for extra app pictures

a try. A few pointers from others now and then can be most invaluable though, so I am always looking to get ideas from others when the opportunity arises."

Andy's workshop

Andy's studio is located in the lower portion of the family home on a hillside overlooking Waikiki and the Pacific Ocean. The primary work area has three lathes, two bandsaws and almost anything else needed for turning. He has a large dust collector in another room with ductwork going through the walls to minimise the noise. Andy tells me that people always marvel at the homemade flexible vent hose that he draws right up to surfaces he's working on. The main window of his workshop gives him a postcard view of Diamond Head Crater and living in Hawaii lets him work with the windows open all year! The stockpile of logs to be turned and the stacks of roughed out bowls make it hard for Andy to define where the workshop ends and the living area begins, but his wife lovingly reminds him when he sometimes loses track.

"It's great when a person can work at what they love doing and do that with all of their heart," Andy says of his work ethos. The term 'good enough' doesn't work for Andy. He is not finished with a piece until he can no longer see any room for improvement on it. Andy finds it amazing how he can get mostly finished with a piece in a short period of time, but how it takes so long to get the final touches just right. In business Andy's motto has always been 'the job is not done until the customer is satisfied' and that same value holds true in Andy's turnings.

There are certain things that Andy couldn't do without in his workshop, such as: "The creative brain, a little ingenuity and a couple of functioning hands would probably top the list." After that he thinks the list could get pretty long, but he sure does like his VB-36 lathe! If electricity were considered a tool, he says he would have to be pretty appreciative of that. Andy has a myriad of tools offered by various venders, along with quite a few that he has fabricated himself out of necessity.

In his working day, Andy is not sure there is any such thing as a typical day for him, but if there were, it wouldn't have anything worth remembering. Like pieces of wood, no two days are quite the same for Andy. He needs adventure and variety in life, which makes each new day something to look forward to.

Highs and lows

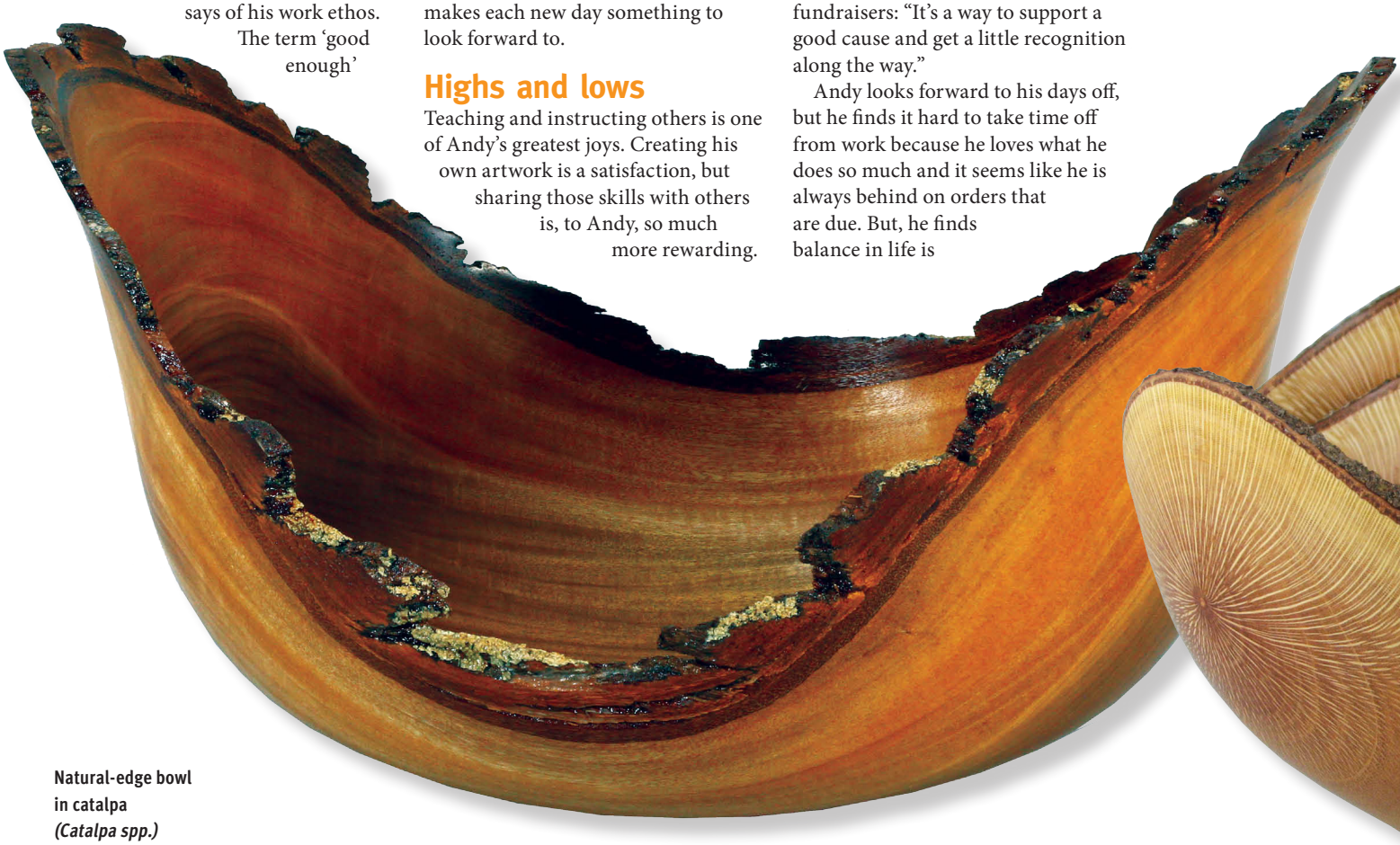
Teaching and instructing others is one of Andy's greatest joys. Creating his own artwork is a satisfaction, but sharing those skills with others is, to Andy, so much more rewarding. Andy expects that his own work will continue to evolve as he learns and experiments, but his goal is to find ways of sharing those things with other turners who are eager to learn.

"I'm assuming that I haven't reached the highs of my career yet and just figure that the best days are still ahead." There are times when Andy makes a great sale or gets rave reviews from a demonstration he's done that gives him a morale boost. Periods of slow sales can bring some reality to Andy, to whether turning is more of a hobby or a business for him. Broken bowls are always a momentary downer for the turner, but any accident that he can walk away from is a good learning experience.

Andy feels that the satisfaction that comes from transforming 'road kill' – fallen trees – into works of art can't be matched and that there's just something about converting a piece of firewood into a living room masterpiece that's hard to beat.

Jumping at any opportunity to demonstrate at public events, Andy feels it is always amazing to see a crowd gather around as he gets his lathe going in a shopping mall or public park. Andy is also happy to donate finished work for charity fundraisers: "It's a way to support a good cause and get a little recognition along the way."

Andy looks forward to his days off, but he finds it hard to take time off from work because he loves what he does so much and it seems like he is always behind on orders that are due. But, he finds balance in life is



Natural-edge bowl in catalpa *(Catalpa spp.)*

important, so one of his favourite escapes is to take a hike up the hill from their backyard: "We have a hiking trail right behind our house, which goes for miles and leads all the way to the summit of the Koolau Mountains without ever crossing a road. If the weather is a little inclement, then picking up one of my guitars and playing a little is another great form of relaxation." For some culinary excitement, Andy will put together some snacks, using one of the many varieties of hot peppers that he grows in the garden.

Making a piece

With regards to his favourite woods to turn, Andy tells us: "Each type of wood has a unique aroma, which adds to the tantalisation of the senses when turning. Macadamia *(Macadamia integrifolia)* wood is one of the ones I love, because of the stunning beauty, but it sure is a challenge to work with due to splitting and warping along the way. Koa *(Acacia koa)*, being one of Hawaii's treasured woods is always a joy to turn as well." While there are some woods that Andy gets really excited about working

Five-piece nested set in milo *(Thespesia populnea)*

Nested macadamia *(Macadamia integrifolia)* bowls and a large macadamia bowl

Six-piece set of nested bowls in milo *(Thespesia populnea)*

with, it is the amazing variety of timbers available that really amazes him. Andy says that he has probably worked with well over a hundred different species of wood and each seems to have its own unique characteristics: "Some are a dream to work with and some are an absolute nightmare, but often times with amazing results when finished. To be honest, I never time myself," Andy tells me. Estimating about a year is his usual answer when asked how long a piece takes, due to the process he's developed. He tends to do things in batches so he will do up to 50 pieces at a time. "Things are a little more efficient when I focus on a particular skill repeatedly for a couple of weeks at a time," he says. Andy's work is broken into stages consisting of roughing out green wood to the basic shape, after which he will let the pieces sit for a year or longer while they complete the drying stage. Following that, Andy will re-chuck the pieces and finish the upper sections on a whole batch and then proceed to doing all of the bottoms, etc. "Right now, I have been roughing out some of the logs that have been taking up automobile space in my garage, and have been doing so for about the past month. After having roughed out a couple hundred bowls, I will move on to the next phase. I am about ready to finish a batch of 50 or so pieces that have been drying for over one year. Once the finish turning is done on those pieces, I will move on to oiling and then buffing the whole batch of work," he explains. "People still want to know what I refer to as 'stopwatch time' when asking how long it takes. I always assume they want to divide the retail price by the number of hours required. I just don't really know how long it takes, and that is not my top priority."

The future

Andy feels that it's too easy for him to spend his time in the studio turning wood, which of course he loves, but there are other things that need working on. He has some ideas for new tools that he would like to pursue developing. There are also good opportunities to produce educational videos on such things as bowl coring techniques that will benefit others. ●

Email: andycolewood@gmail.com
Web: www.andycolewoodturning.com

Handy hints

1. Use sharp tools
2. Make tools if you need them
3. Stop when you're tired
4. Laugh when you fail
5. Celebrate when you succeed

LIKES & DISLIKES

Likes:

- Woodturners are awesome people
- Wood is usually free
- The varieties of wood are amazing
- I love going to work in the morning
- My own collection of turned artwork

Dislikes:

- What is there to dislike?

"It's great when a person can work at what they love doing and do that with all of their heart"

'Dragon Eye'

Another stunning piece in macadamia *(Macadamia integrifolia)*

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PHOTOGRAPHS BY MARK SANGER

Natural-edge turning – part 1

Mark Sanger explores the subject of natural-edge turning and shows us how to create a bowl with the bark intact

In the following articles, I am going to look at the processes I use when turning natural-edge vessels, starting here with an unseasoned end grain bowl in yew *(Taxus baccata)* branch wood that was harvested from a churchyard after the tree was brought down in the storms early this year. The techniques for turning natural-edge vessels vary slightly to standard turning in that we initially cut against the grain in order to retain bark and prevent damage to the natural edge at the rim. Branch wood, burrs and other interesting sections, seasoned or unseasoned, can be turned with the latter requiring a thin wall that is turned in stages to finish from the rim to base, which will be covered later in the project.

To start, we need to select suitable wood; this is especially important with unseasoned wood as any resulting movement will either enhance or detract from the final piece. Having an idea of how a particular section will react as it seasons will help to maximise the success of the project, as any movement in the cross grain blank will be greatest, and after a short time, may result in a gap appearing at the join with the bark as both sections settle, which we do not want.

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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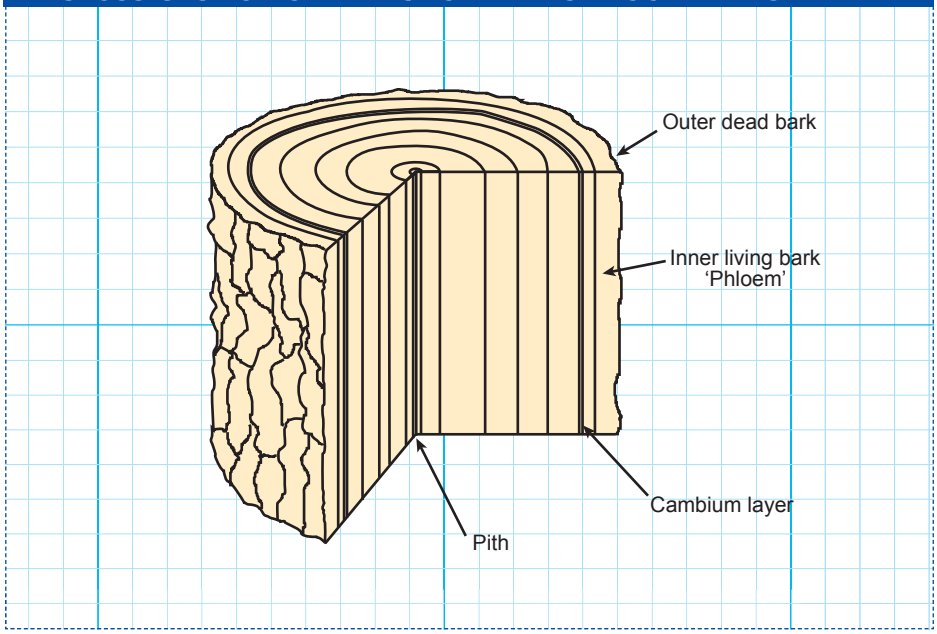
WHAT IS NATURAL-EDGE TURNING?

Here a slice from the end of a branch is used and orientated on the lathe with the grain parallel to the spindle axis; this is often referred to as 'end grain' or 'spindle turning'. Most woods can be turned for a natural edge but some are easier to deal with than others. Here, diagram 1 shows a cross section of a tree listing the separate parts, the outer hard – dead – bark layer wrapped around a softer – living – inner bark layer, which is known as 'phloem'. Here, nutrients are fed to the roots of the tree from the leaves. This layer only lives for a short time, dies and becomes part of the outer protective bark with new inner bark forming, and so the cycle continues. Below the 'phloem' layer is the 'cambium' layer that produces the growth rings and often the point from which the bark will delaminate from the wood. The thickness and strength of these layers differs from species to species as well as age with woods such as European walnut *(Juglans regia)* and ornamental cherry *(Prunus spp.)* having a relatively thick inner bark layer, compared to that of much slower growing species of yew or blackthorn *(Prunus spinosa)* to name a few in which the structure is compact and less susceptible to weakness when turned. The time of year a tree is harvested also has an effect. Wood that is harvested during the growing season includes a higher content of sap with the bark being much easier to remove compared to that of stock which is cut in the dormant season. As such, we have two options: to include the bark as with the project shown later, or to remove it completely, as shown in the photo here. Deciding to include the bark or not is a personal choice but at times it may come away when not planned. However, the undulating surface of the wood will remain and the project will not be lost in its entirety.

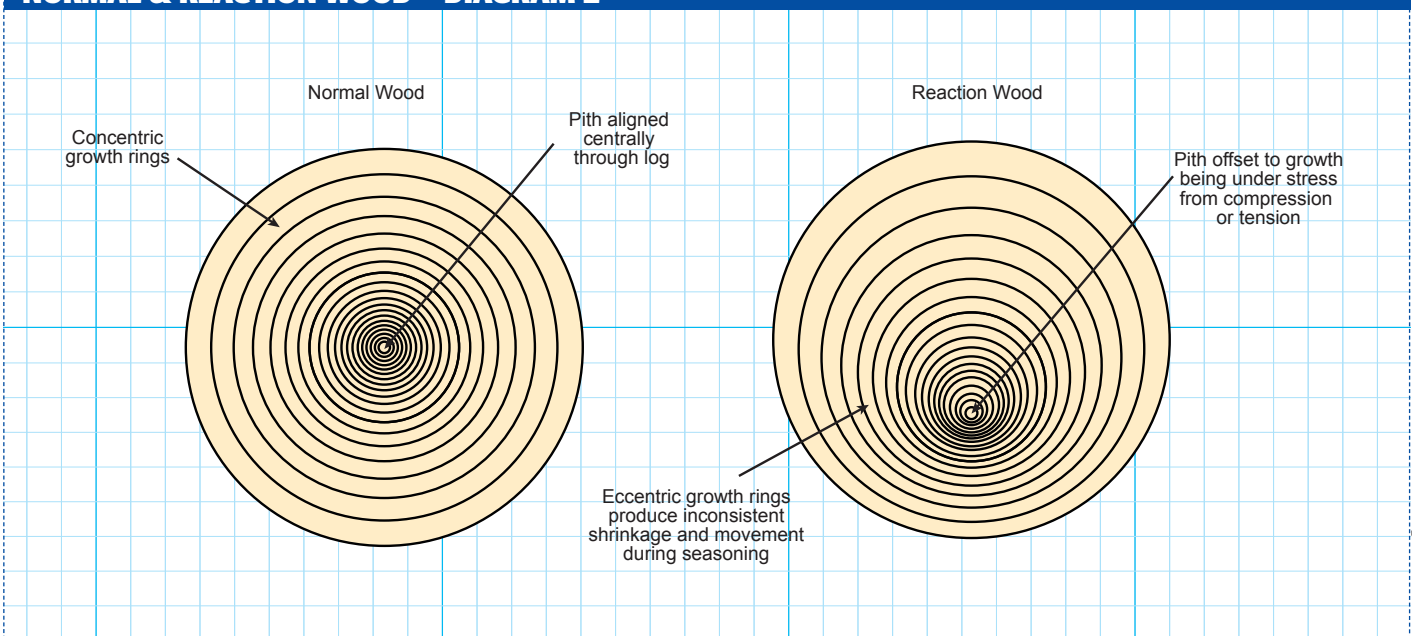
A CROSS-SECTION OF A PIECE OF BRANCHWOOD – DIAGRAM 1



A natural-edge burr elm *(Ulmus procera)* bowl made by George Watkins

SELECTING WOOD

NORMAL & REACTION WOOD – DIAGRAM 2



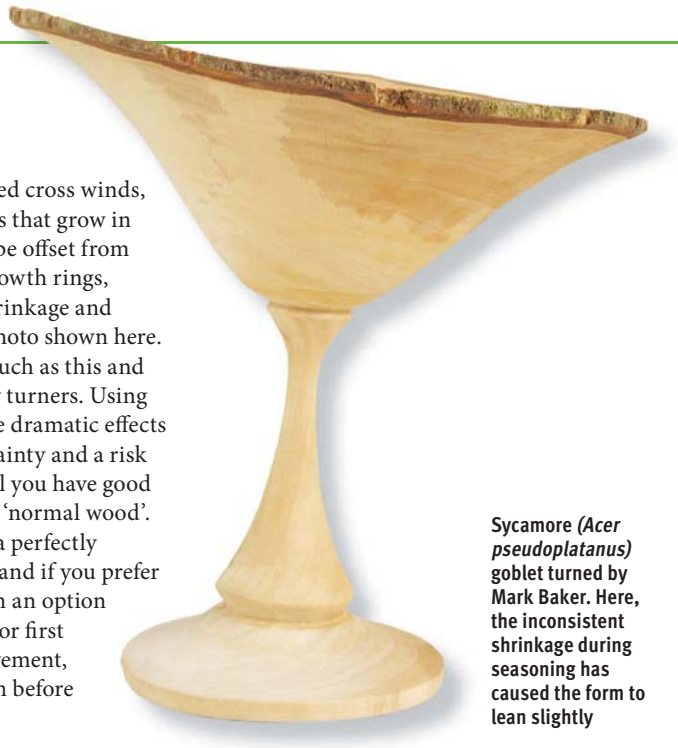
SELECTING WOOD

A solid foundation is essential: choose a substandard piece of wood and you are setting yourself up for failure from the start. On this note, we will look at 'normal' and 'reaction' wood, as shown in diagram 2.

'Normal' wood is wood that has grown in a vertical plane in low stress, which is consistent with its growing conditions. As such, the pith runs centrally through its length with the growth rings being concentric and when turned and seasoned will result in consistent shrinkage greatly reducing the chances of failure through excessive movement and cracking.

'Reaction' wood is wood that has grown under stress. For example, more horizontally growing branches or the trunk of a tree that has been subjected to continued stress conditions, such as continued cross winds, which are often seen in trees that grow in coastal areas. The pith will be offset from the centre with eccentric growth rings, resulting in inconsistent shrinkage and movement, such as in the photo shown here. I enjoy organic movement such as this and it is often intended by many turners. Using 'reaction' wood can produce dramatic effects but comes with far less certainty and a risk of failure, so is best left until you have good experience in working with 'normal wood'.

Of course, there is never a perfectly symmetrical piece of wood and if you prefer a perfectly round form, then an option is to use a seasoned section or first rough turning to allow movement, which will stabilise the form before finish turning.

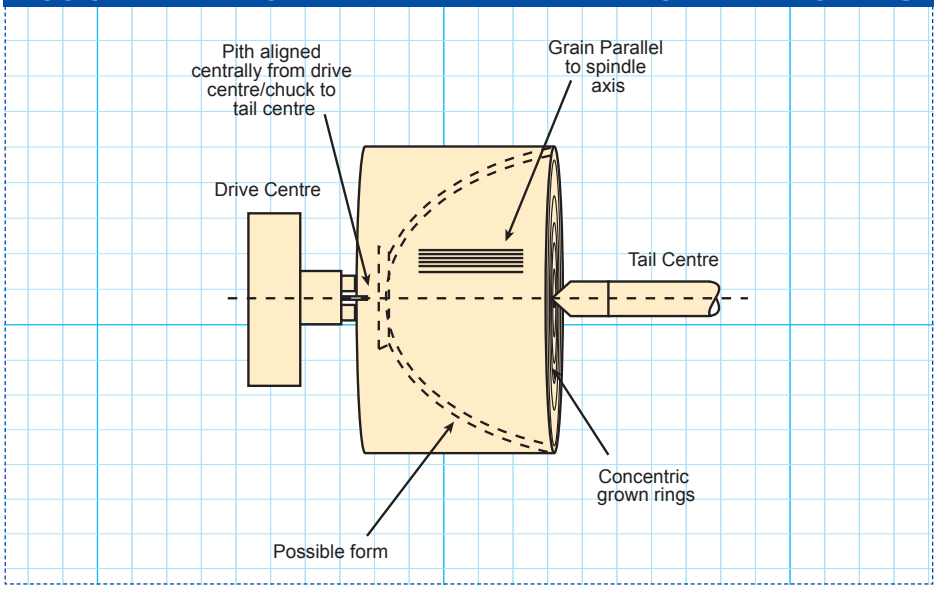


Sycamore *(Acer pseudoplatanus)* goblet turned by Mark Baker. Here, the inconsistent shrinkage during seasoning has caused the form to lean slightly

PITH – CENTRAL OR OFFSET?

Generally, aligning the pith centrally in 'normal wood' on the lathe, as shown in the diagram here for end grain bowls and vases, will give consistent results while thin stem goblets or similar require good strength in the stem. Woods that include a large pith, such as ash *(Fraxinus excelsior)* should include an offset pith within the log to start, so the pith is not included within the stem of the project. An offset pith of up to 25mm will induce minimal movement as long as the growth rings are consistent in the original stock. It is, however, better to select a wood that is suitable for this type of project, such as a slow-growing fruit wood or slow-growing exotics, where the pith is minimal and the dense fibres provide adequate strength for the stem, most of which can be purchased as fully seasoned.

LOG ORIENTATED ON THE LATHE WITH PITH ALIGNED – DIAGRAM 3



KEEPING THE BARK ON

Keeping the bark on requires sharp tools, the correct cutting sequence being followed and the use of a moderate spindle speed. Excessive spindle speeds induce greater centrifugal force, which often causes the bark to delaminate from the rim. Always check your tools are sharp, always wear a full-facemask and take your time. It is far better to take fine cuts than to ruin the project by being overzealous. On occasions, the bark will pull away no matter what we do; you can either remove it altogether or fix and stabilise the bark using CA glue, as shown in step 7 of the main project. Glue, however, will often stain/darken the bark especially in porous inner barks of mature stock, such as that of ash and oak *(Quercus robur)* to name a few. There are two ways I use to get around this problem: either apply a general finishing oil to the area to be glued, which fills the pores and allows the glue to set without staining. It is not foolproof and relies on the final finish to be an oil, but it works more often than not. The other is to carefully apply glue to the entire bark of the rim, which helps to produce a consistent colour throughout.

WALL THICKNESS

Wall thickness for a vessel turned to finish from unseasoned wood must be thin enough for the wood fibres to move without cracking as it seasons. A wall thickness between 3-6mm is adequate for this to occur. There is no need to go any thinner than this for a successful project, although you may choose to do so. Whatever thickness you choose, it must be constant through the piece from rim to foot. If the wall is 6mm at the rim, this must continue all the way down into the foot. If not, then the

WALL THICKNESS

inconsistent thickness will season and move inconsistently, which greatly raises the chance of failure through cracking.

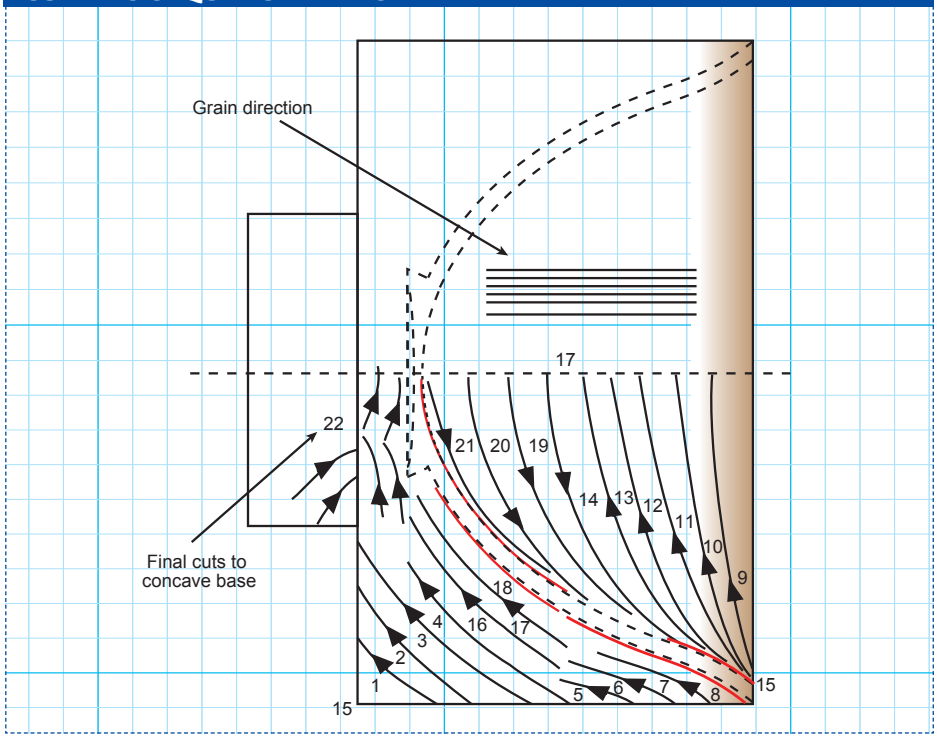
Wall thickness is measured by using callipers – see step 6 – or by using a light positioned close to the vessel, which is turned to shine through the wall when it becomes thin. The thickness of wall the light penetrates varies from species to species so a little experimentation is required. The type of light used should be a cold LED workshop light. These are robust and often housed in impact-resistant plastic or rubber and are designed for workshop environments. All trailing cables must be kept well clear of the moving parts of the lathe with best practice being to use a battery-powered version. Never use a domestic desk-type light with a filament bulb or similar. Not only do these get hot, which can crack the thin wall being turned, but also, if accidentally smashed, live contacts are exposed, which can cause serious injury but more often than not, kill if touched. Always think safety.

Using a light positioned close to the vessel, which is turned to shine through the wall when it becomes thin

CUTTING SEQUENCE FOR AN END GRAIN NATURAL-EDGE FORM

In natural-edge turning the cutting sequence differs slightly to that of standard turning. In this instance, with an end grain form we would normally turn from large to small diameter for the outside, and from small to large diameter for the inside. However, if we adopt this standard practice with a natural-edge form, then we will end up producing break-out at the rim and lose the bark in the process. Here, we hollow out by cutting from large to small diameter directly into the end grain until we are past the bark line and cambium layer – generally around 25mm is a good distance. Once clear, we revert to hollowing from inside out to the area previously finished at the rim – see step 8 – and shown later in the project. Due to the flexibility induced in the wall, thin wall turning requires us to work progressively from rim to base, finishing as we go. If we consider size and depth as with a seasoned form prior to finishing, the wall will often move out of shape, which often renders it useless for any further work, such as refinement with a scraper, to be carried out. This sequence is shown later in the project.

CUTTING SEQUENCE – DIAGRAM 4



FINISHING

Finishing with abrasive depends upon the form. If a round branch section is turned, then the piece can be finished as standard, using either power sanding or hand finishing. Where the cross section of the branch is inconsistent and it results in an undulating rim with voids, it would be dangerous to finish by hand and power sanding will often round over the edges of the voids. In this instance, it is best to finish with the lathe stationary using a sanding arbor to refine the surface with abrasive, which is shown later in the project. Whichever methods you choose, always think safety and never stick your fingers in a spinning form that has voids, as you could lose a finger or two.

MAKING AN END GRAIN NATURAL-EDGE BOWL

INFORMATION

TIME TAKEN & COST

Time taken: 2 hours

Cost: £2

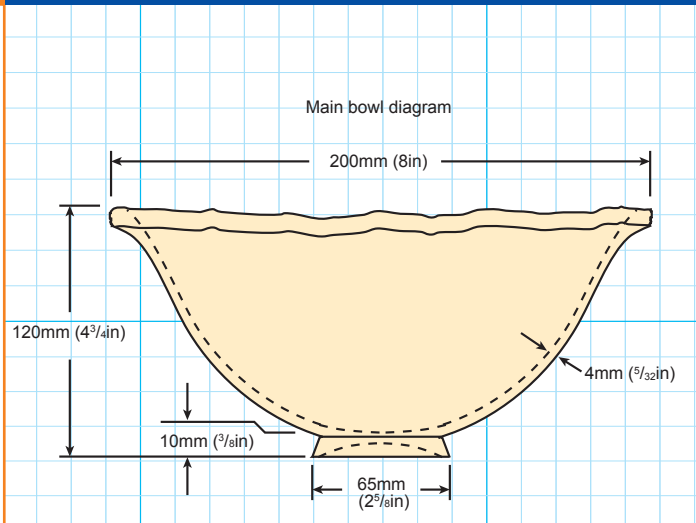
TOOLS REQUIRED

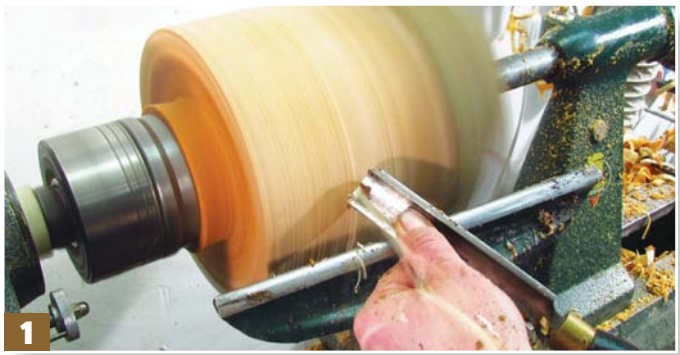
- 25mm spindle roughing gouge
- 12mm bowl gouge
- 10mm spindle gouge
- End grain hollowing tool

ADDITIONAL TOOLS

- Fine-bladed hand saw
- Abrasives from 120-320 grit
- Finishing oil
- PPE: facemask, respirator/dust mask and extraction

NATURAL-EDGE BOWL – DIAGRAM





Step 1: place the blank between centres and using a 12mm bowl gouge, clean up the base to a safe distance from the tailcentre. Produce a spigot and waste area to suit the jaws of your chuck, then reverse and tighten into the chuck. Using a 25mm spindle roughing gouge, balance the log leaving approximately 50mm of bark remaining. Reduce the area below this and start to rough the basic shape for the bowl

Step 2: clean up the front face using a 12mm bowl gouge to a safe distance from the tailcentre

Step 3: continuing with the bowl gouge, produce the outside profile working from large diameter to small. Do not reduce the waste to less than half the diameter, as you need to maintain strength for the hollowing process

Step 4: start hollowing out the inside using the 12mm bowl gouge, cutting from the rim to centre. This means cutting into and against the grain, which stops the bark and natural edge breaking out from the rim. Take your time and continue to a depth of around 50mm checking the wall thickness as you progress, using either a pair of callipers or an LED light as previously shown. The wall thickness should be between 3-6mm. Keep your tools sharp as this will produce an excellent surface finish, which requires little if any refinement with a scraper

Step 5: using a 25mm square-end and round-nosed scraper, refine the outside and inside if required. If you do this, then make sure the cutting edge is trailing with the handle held higher than the cutter. If, however, there are large voids in your form, then it is safer to leave out the scraper and go straight to finishing with the lathe stationary, as shown in step 9. Here I went straight to finishing the outside with 120-320 grit abrasive attached to a foam pad with the inside being left at this stage

Step 6: continue to hollow using the bowl gouge until you are 25mm below the bark line. Change to a 12mm end grain hollowing tool and hollow 25mm deeper, but this time cutting from inside out to the section previously hollowed. Check the wall thickness regularly and refine until it is consistent through both sections. If it is safe to do so, refine with a scraper followed by finishing with abrasive from 120-320 grit, but only if it is safe. Here I left out the finishing process due to a void in the wall of the bowl and decided to finish with the lathe stationary later

Step 7: on my bowl, the bark at the bottom of the void had started to delaminate, so with the lathe stationary, I applied a general finishing oil. If this happens on your form, apply medium viscosity CA glue to the gap putting moderate pressure on the bark until set

Step 8: continue to produce the base profile of the bowl working from large to small diameter, reducing the waste as you progress to allow for good tool access. Continue with the hollowing tool and gouge working alternatively inside and out in stages as you progress deeper. Refine with a scraper and abrasive as before, if it is safe to do so

Step 9: as you near the final depth, check regularly with a depth gauge, remembering that the wall thickness has to be equal all the way into the base. Refine using the gouge and hollowing tool until the final depth is reached

Step 10: stop the lathe and finish the inside and outside of the bowl using a power drill and abrasive attached to an arbor, working from 120-320 grit abrasive

Step 11: using a 10mm bowl gouge, reduce the waste section further to produce the foot. The amount of waste included in the blank allows access for the gouge to concave the foot. Work into the foot by taking small cuts. A small round-nosed box scraper could be used to profile the underside of the foot or part in at an angle with a 3mm parting tool, as leaving the base solid will almost always result in it cracking. Reduce the waste to around 10mm and stop the lathe

Step 12: cut through the remaining waste using a fine blade saw

Step 13: using a power carver or sharp chisel, cut the pip underneath away, making sure to work away from your body. Blend and finish this with 120-320 abrasive attached to a small sanding arbor held in a waste piece of wood in the chuck of the lathe

Step 14: apply a liberal coat of finishing oil, allow it to soak in, then wipe away any excess. Store in a cool draught-free location within your workshop. Alternatively, if your workshop is prone to draughts, then place in a plastic bag and leave the top open. A thin wall form should be seasoned within a couple of weeks. To check, weigh using digital scales and make a note of the weight and date. Continue to weigh and record every week until the weight stabilises for a couple of weeks, at which time the moisture content will be in equilibrium with its environment

Step 15: once seasoned, take the bowl into a cool location within your home and allow it to settle, at which time it can be finally buffed or oiled depending upon your preferred finish. The project is now complete

Next issue

Woodturning

THE WORLD'S LEADING MAGAZINE FOR WOODTURNERS

Andrew Potocnik experiments with bonding twigs and resin to create a hollow form

Nikos Siragas turns a winged bowl

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Learning turning – part 4 – tools and other equipment

PHOTOGRAPH BY ANDREW POTOCNIK

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'Black Magic', 200mm dia. × 130mm high, ebony *(Diospyros spp.)*, bubinga *(Guibourtia demeusei)*, afzelia *(Afzelia spp.)* and root from apple *(Malus sylvestris)* tree

PHOTOGRAPHS BY LUC BOEYE

In the workshop with...

Luc Boeye

Click here for extra app pictures

Belgian turner **Luc Boeye** shows us around his workshop and tells us more about his work

How, why and when did you start turning?
I started woodturning by visiting a woodfair in Antwerp, Belgium. An attentive woodturner gave me a flyer. That was the beginning of a long membership of the Flemish Guild of Woodturners. Probably now more than 20 years ago. I'm obsessed by wood.

What and who have been the greatest influences in your work?
To increase my knowledge of the English language, I read every magazine on woodturning. I suppose there will be an influence from that corner, but also from professional woodturners, such as Cindy Drozda and Jimmy Clewes. The one I admire the most is the club member who has great woodturning skills, who is willing to share every secret, who encourages other members and who participates in the survival of our Guild.

If you were to offer one sage piece of advice to someone what would it be?
I still have two eyes and want to keep it that way; always wear eye protection!

What music and which book are you currently into?
I lost my heart in the '80s in my workshop. The radio always plays songs from that period. I'm working as a head of a psychiatric section in a hospital in the north of Antwerp. I'm now reading *100% psychosis*. Woodturning is an issue I work with, together with psychiatric patients.

What is your silliest mistake?
Thinking people are not interested in the art of woodturning.

What has been your greatest challenge?
Participating in an art event as the only woodturner.

Name one thing on your turning 'to do' list.
I have to make bracelets for my daughters before they finish school this year.

Tell us about the piece you are currently working on.
I am participating in an art event. The subject is World War I. I created 12 typical English helmets:

5 THINGS THAT I HAVE LEARNT WITH MY WOODTURNING

1 The more you turn, the more you learn. I want to keep on turning and keep on learning as a result

2 Using my imagination sometimes works wonderfully, but sometimes it turns out to be a complete disaster! Sometimes I don't like what I've made, but other times I do

3 Sharing your knowledge in a club, discussing woodturning items and giving demos are the best ways to increase your woodturning skills

4 Wood talks: sometimes I have to change the form because of the hidden pattern in the wood

5 Every piece is unique. I treat it with care and respect and find it is a pleasure to produce a superb finish

LEFT: 'Indefinable Desire', 140mm dia. × 250mm, cherry *(Prunus spp.)*, pine *(Pinus spp.)* and beech *(Fagus sylvatica)*

RIGHT: 'Hunger', 250mm dia. × 450mm high, afzelia *(Afzelia spp.)* and unknown timber

LATEST HOME-MADE JIG

Luc's home-made jig was made especially to support his light during turning

I made this jig to support my light, so I can see exactly what I'm doing while turning. This is very important from a health and safety point of view, and it is also good to see what you're turning! I always had problems with lighting my work and the lamp often stood in the wrong position. I turned a cylinder, sawed it in two halves on the bandsaw and cleaned the two sides with abrasive. This simple jig works really well.

I drilled a hole in both of the half cylinders approximately 1mm wider than the pin on the lamp base. I then stuck one half cylinder on my tailstock and one half on the headstock of the lathe. Now I can position my lamp in four positions: two in the jigs I made and two in the attachments which were delivered with the lamp. Now there is always one suitable position! I made them from hardwood hoping they will last a lifetime.

'the Brodie' helmet. Separated by a plexi plate, there are 12 faces. The title will be 'lost souls'.

What is the one piece of equipment or tool you would not be without and why?

I had always had problems with light. As you can see in the photo of my home-made jig on the previous page, I turned a 150mm cylinder, cut it in two, drilled a hole in it and stuck one half on my tailstock and the other one on the headstock. Now, I'm able to put my lamp in four different places. Two in the half cylinders and two in the attachments supplied with the lamp, which allows me greater flexibility with my work.

If you could change one thing what would it be and why?

I should ask every woodturner to make an art piece and decorate it on the outside of their house. It would be nice to see how many woodturners there are. Street view should be one great art event.

Email: luc.boeye@zna.be

Bird bath in oak *(Quercus robur)*

Handy hints

1. Buy good equipment; it is a pleasure to work with high quality tools

2. Tell your wife/husband that you are so happy doing woodturning and sometimes give them a wooden jewel. It is always good to say how you feel about something

3. I use plastic gloves to hold fresh finished work. They never leave marks, even when your piece isn't totally dry

4. I've got three lathes: two of them are mounted on a wheel base. When the weather is good, I just roll them outside and turn in open air – a real pleasure

LIKES & DISLIKES

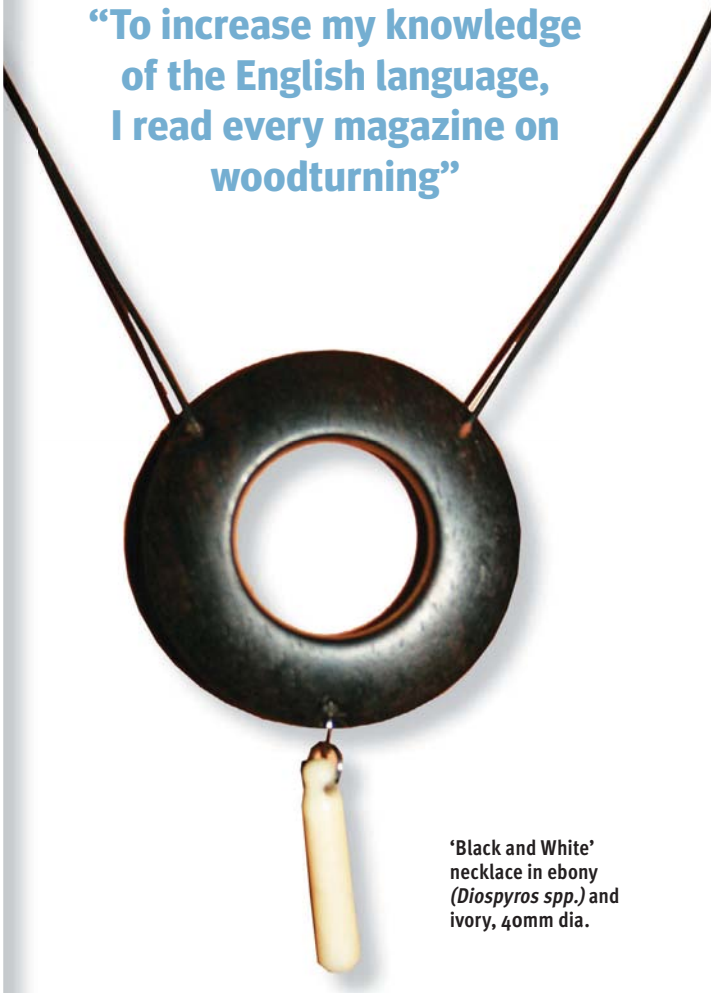
Likes:

- Creating something unique
- Turning wet wood and making shavings fly around
- Visiting other woodturners
- Making something on demand

Dislikes:

- Having to transport all your woodturning equipment – lathe, wood, pieces of work – when you do a demo at a club
- Where can I buy time?
- I'm addicted to woodturning!

"To increase my knowledge of the English language, I read every magazine on woodturning"



'Black and White' necklace in ebony *(Diospyros spp.)* and ivory, 40mm dia.

You'll be Mad if you Miss the

ToolPost Open House

The in-house show that is fast becoming the "must see" event of the thinking woodturner's year!

Saturday 7th & Sunday 8th June

at our Didcot Showroom & Shop

This highly regarded free show enables woodturners to watch, meet, talk and interact with some of the greatest woodturning talents from around the globe, as they work

This year we are proud to feature, from Ireland

Seamus Cassidy

Free Admission

Learn & Turn

Free Demonstrations

Free Refreshments

and from the Czech Republic by way of Germany

Petr Hromek

Plus: Carving demos by Peter Berry & Simon Clements

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£84.99 EX.VAT £101.99 INC.VAT
- Dust extraction facility
- 4" x 36" belt tilts & locks 0-90°
- 225mm x 160mm table, tilts 0-90°
- 370w, 230v motor

Clarke 6" BELT/ 9" DISC SANDER
CS6-9C
- Includes stand
- 1 Hp/ 230v/ 1ph motor

£219.00 EX.VAT £262.80 INC.VAT

Clarke TABLE SAWS
CTS10D

LEG STANDS AVAILABLE FOR CTS11 & CTS10D £22.99 EX VAT £27.59 INC VAT

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

INCLUDES LEFT & RIGHT TABLE EXTENSION

*Moulded base

MODEL	MOTOR	BLADE	EX VAT	INC VAT
CTS800B	600w	200mm	£69.98	£83.98
CTS11*	1500w	254mm	£139.98	£167.98
CTS10D	1500w	254mm	£149.98	£179.98

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT
- Great for sawing, cutting, sanding, polishing, chiselling & much more
- 230-240v, 250w motor
- Variable speed 15,000 – 21,000 strokes/min

£36.99 EX.VAT £44.39 INC.VAT

CMFT250

Clarke BANDSAWS
FROM ONLY £119.98 EX.VAT £143.98 INC.VAT

HUGE RANGE IN CATALOGUE & ONLINE

CBS250 INCLUDES STAND

MODEL	MOUNT	MOTOR	THROAT	EX VAT	INC VAT
Clarke CBS190	Bench	350w	190mm	£119.98	£143.98
Clarke CBS250	Floor	370w	245mm	£179.98	£215.98

Clarke ROUTERS
RYOBI

FROM ONLY £39.98 EX.VAT £47.98 INC.VAT

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 JIGSAWS
Makita BOSCH Power Tools

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 LIGHTWEIGHT ALUMINIUM QUICK RELEASE ALUMINIUM SASH CRAMPS
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 CONTRACTOR 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 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 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

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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

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ALSO EXTRA WIDE INDUSTRIAL UNITS AVAILABLE

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150 KG PER SHELF (evenly distributed) Strong 9mm fibreboard shelves

350 KG PER SHELF (evenly distributed) Strong 12 mm fibreboard shelves

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

£144.99 EX.VAT £173.99 INC.VAT

- 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

"It is fast and accurate with a good solid feel...Excellent value for money, I'm really pleased with it." See www.machinemart.co.uk

CHISELS AVAILABLE FROM £7.99 EX VAT £9.59 INC VAT

Clarke WOODWORKING VICES

FROM ONLY £13.49 EX.VAT £16.19 INC.VAT

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 CARBIDE TIPPED 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	£359.98
Regal II	6.8kW	£349.00	£418.80

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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

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

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

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 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

£49.98 EX.VAT £59.98 INC.VAT

CBG6SB

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

£129.98 EX.VAT £155.98 INC.VAT

CHB1500

Clarke CORDLESS DRILL/DRIVERS

BOSCH Power Tools

HUGE CHOICE IN-STORE AND ONLINE

FROM ONLY £36.99 EX.VAT £44.39 INC.VAT

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

PER PAIR £29.98 EX.VAT £35.98 INC.VAT

FOLDS FLAT FOR STORAGE

evolution MITRE SAWS

Makita Clarke

RAGE3

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

£179.98 EX.VAT £215.98 INC.VAT

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

CBS16

ONLY £21.99 EX.VAT £26.39 INC.VAT

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PHOTOGRAPHS BY WENDY GREENWOOD

Deep rim dinner plate

Philip Greenwood shows you how to make a simple deep rim dinner plate

I have made plates for customers in the past and have eaten off timber plates myself. The plate I have turned for this article is a deep rim dinner plate, which is the shape I personally prefer. This project is as much about understanding that timber can move when cut, as the technique involved in turning the plate. The time from start to finish will be two to three weeks, even if using kiln-dried timber – more if using unseasoned timber. It is all about stresses being released when you cut through the timber fibres and then letting the plate move, before you finish to size. I start by part turning the plate to rough shape and then letting this rest for two weeks. If the plate has not moved very much I will turn until completion, or if there has been significant movement I will turn more of the waste away and rest again for a further two weeks before turning to completion. The piece of timber that you use will have an effect on this as well; if the timber is quartersawn – that is if the rings of the tree are running vertically through the plate – it will move less than if the rings run horizontally through the plate.

The timber used needs to be thought about as it will come into contact with food. Closed grain is best for food use, such as sycamore (*Acer pseudoplantanus*) as I used, or beech (*Fagus sylvatica*), which is one more of my favourite timbers. Avoid spalted beech, which has spores in the timber. Ash (*Fraxinus excelsior*) I would say is too open grain for contact with food.

How thin you turn your plate is up to personal choice. I have gone for a medium thickness for this article. One point to remember is: the thinner you turn the plates, the more flexing you will have when turning, so it is essential when turning the top side to start at the rim and thin to the finished thickness in 50mm sections at a time. Keeping more material in the centre will help with vibration and flexing, so keep turning in 50mm sections until you reach the centre of the plate. The type of finish that you will apply to the plate also needs to be considered and not forgetting the necessary after-care that must be taken by yourself or the customer. It is best to use a food-safe oil, given that the plate will come into contact with food. When in use, wipe over or quick wash in water and leave to dry. I would recommend a quick wipe with a food-safe oil every week or so if used all the time.

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.
Email: philip@woodturningintoart.co.uk
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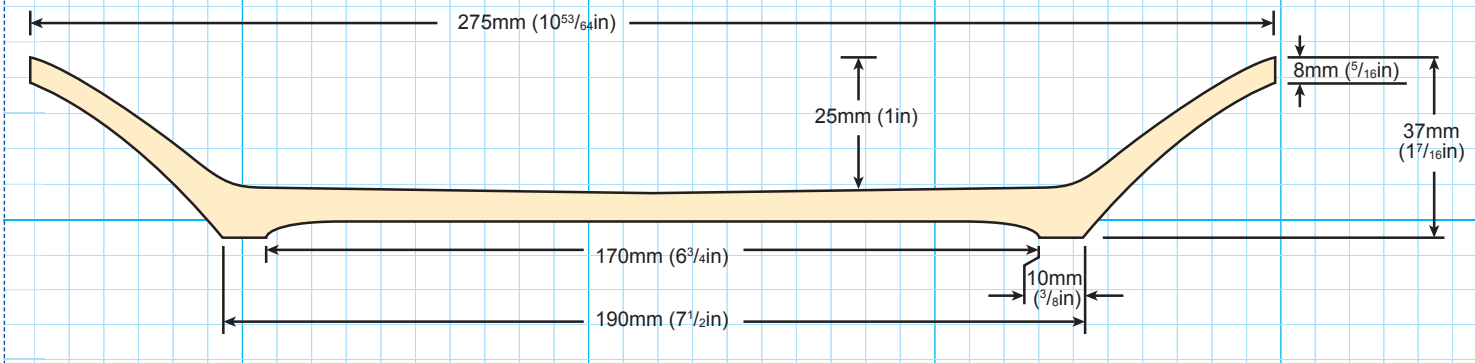
DINNER PLATE DIMENSIONS



INFORMATION

TIME TAKEN & COST

Time taken: 1hr 40mins

Cost: £10

TOOLS REQUIRED

- Bowl gouge
- Parting tool
- Skew chisel
- French-curve scraper

ADDITIONAL TOOLS

- Chuck
- Sawtooth bit
- Pillar drill
- Range of abrasives
- Double-ended callipers
- Food-safe oil
- PPE: facemask, respirator/dust mask and extraction

1 To find the centre of the disc use a pair of odd legs, one leg sitting on the outer surface of the blank, while the other leg draws a line. Move this round the blank four times to find the blank centre

2 Use a sawtooth bit held in a pillar drill to make a hole the same size as your chuck jaw. This method is very useful if you use a thin blank. As you can see, the blank is clamped to the drill table, this is more important with a large drill bit due to the torque, which could cause the disc to spin

"Use a sawtooth bit held in a pillar drill to make a hole the same size as your chuck jaw. This method is very useful if you use a thin blank"

3 Use a bowl gouge to true up the outside. Start in the centre and work both ways to the outer edges. If the blank is not round, it will be out of balance, which can lead to vibration. Continue until the blank is round

4 Still using the bowl gouge, take a pull cut from the centre to the outer edge of the blank. Make sure that the gouge flutes are facing the direction of cut, which should be around 45° from vertical. Take a few cuts until the surface is clean

5 Place two pencil lines on the base: the one near the centre will be the spigot diameter, while the outer one is the foot diameter. Use the gouge to start removing the waste from the edge, which will form the underside of the rim of the plate

6 Remove any waste between the foot and the spigot pencil line to make the spigot stand proud. Use a parting tool to size the spigot diameter, which is 5mm larger than normal to allow this to be turned to the correct size when we come to return the plate. Then, use the long point of the skew chisel to cut the dovetail and place a small dimple in the centre for later

7 Hold on the spigot you have made on the base in the chuck, do not overtighten at this stage. Now, place the toolrest close to the underside and rotate by hand. Check if you have an even gap all the way round, if not, adjust in the chuck until the gap is even, then tighten the chuck fully

8 You can now start to remove the waste on the inside of the plate using the bowl gouge. Leave the rim wide at this stage, you are looking for a uniform thickness of around 25mm. This will allow you to return to this later. Leave a raised area piece in the centre for the next step

9 Use a pencil to mark the diameter of the chuck jaws – again add around 5mm to the diameter to allow this to be turned to the correct size later

10 Now mount the base in the chuck holding on to the spigot. Use the bowl gouge to clean the face of this until it's flat at the outer edge

11 Remount on the spigot on the topside of the plate; bring the toolrest up to the plate and adjust until it is running as true as possible. It will not run perfectly due to the movement that has taken place. Next, fully tighten the chuck

Handy hints

1. Try to use timber that has fully dried; this will help you to reduce movement
2. Always wear face protection when using any machinery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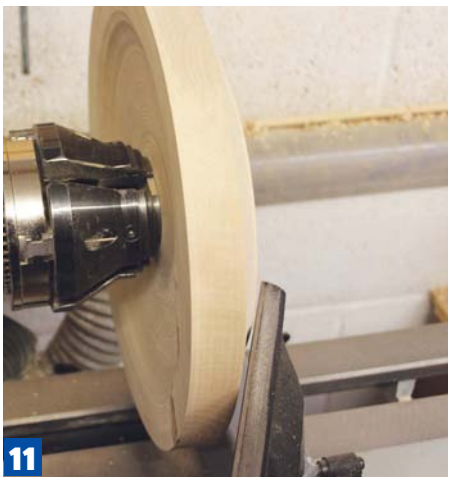
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12 True up the outside to the correct diameter for the plates you are turning. Keep the bevel in contact for a controlled cut, which will mean a better surface finish and will reduce the amount of sanding necessary

13 Next, turn the underside of the rim, starting near the foot and working towards the edge. Take several light cuts with a sharp bowl gouge, which will reduce any grain tear-out in the timber. You are looking for a concave shape on the underside, this will give you more grip when carrying the plate

14 Mark the inside foot diameter – this is 10mm wide – with a pencil. Do this with the lathe turned off. The outside of the foot is around two-thirds the plate diameter for stability, just giving you a guide to work to

15 Turn the waste away, but leave sufficient material near the spigot, which we turn next. Look for an even surface, you could use a scraper to even any ridges out. The depth is 4mm below the rim: this will reduce heat transfer to the table

16 Return the spigot to size to fit your jaws. Use a parting tool to turn the diameter first, then use the long point of the skew chisel to cut the dovetail – make sure it is held horizontally. Always ensure that the corner at the base of the dovetail is clean, to be able to fit nicely in the chuck jaws

17 You are now ready to sand the plate, starting with 120 and working through to 400 grit. Make sure you have a dust mask on and the extractor is running. With larger diameter work on a lathe, be careful how close your work is to the lathe bed when sanding. Do not sand near the gap

18 Holding the underside spigot now, check for any run out and adjust if needed. This will ensure an even thickness. Use the bowl gouge to thin the rim down to 8mm and follow the outside curve. Take this down in stages to reduce any vibration

Handy hints

3. Don't add fine detail on an item that will be used for food use, this will only harbour food deposits

4. Only use a finish that is food-safe. Make sure you check the label on your finishing products for 'food use'

5. Use sharp tools to cut the timber cleanly this will reduce sanding

6. Make sure you remove any traces of abrasive dust before applying the finish

19 Switch off the lathe and check the thickness: here I am using double-ended callipers to check this. Look for an even thickness from the top to where it changes direction for the bottom of the plate. Never attempt this with the lathe running

20 Turn the plate bottom to the correct thickness using the bowl gouge and keep checking the thickness with the callipers, finish with a scraper to remove any remaining ridges. Sand to a finish and check the finish, as this is the last time this can be sanded on the lathe

21 Mount a plywood disc with anti-slip matting on the chuck. Now, place the plate against this and bring up the tailstock with the revolving centre and line up with the dimple in the spigot. Be careful when tightening the tailstock as the plate is only thin and overtightening could crack it

22 Take small cuts to reduce the spigot to a small size – reduce this to around 10mm. Now, blend in with the previous surface and sand this small area

"Take small cuts to reduce the spigot to a small size – reduce this to around 10mm"

23 Use a skew chisel, or a carving chisel, to remove the small pip left in the centre. Always work away from yourself

24 Sand this small area by hand, going through all the grits

25 You can now finish the project with a food-safe oil. Apply a liberal coat all over and allow this to soak in. Remove any excess and leave for a few hours, then repeat two more times

26 This is how your plate should look. Now, enjoy eating off it! ●

Handy hints

7. Only use timbers that are safe for food use, if in doubt check with the relevant authority
8. Use dust extraction when sanding and don't forget that dust will still be in the air hours after sanding
9. Be careful when sanding larger items on your lathe that is close to the lathe bed – be careful not to trap your fingers in between


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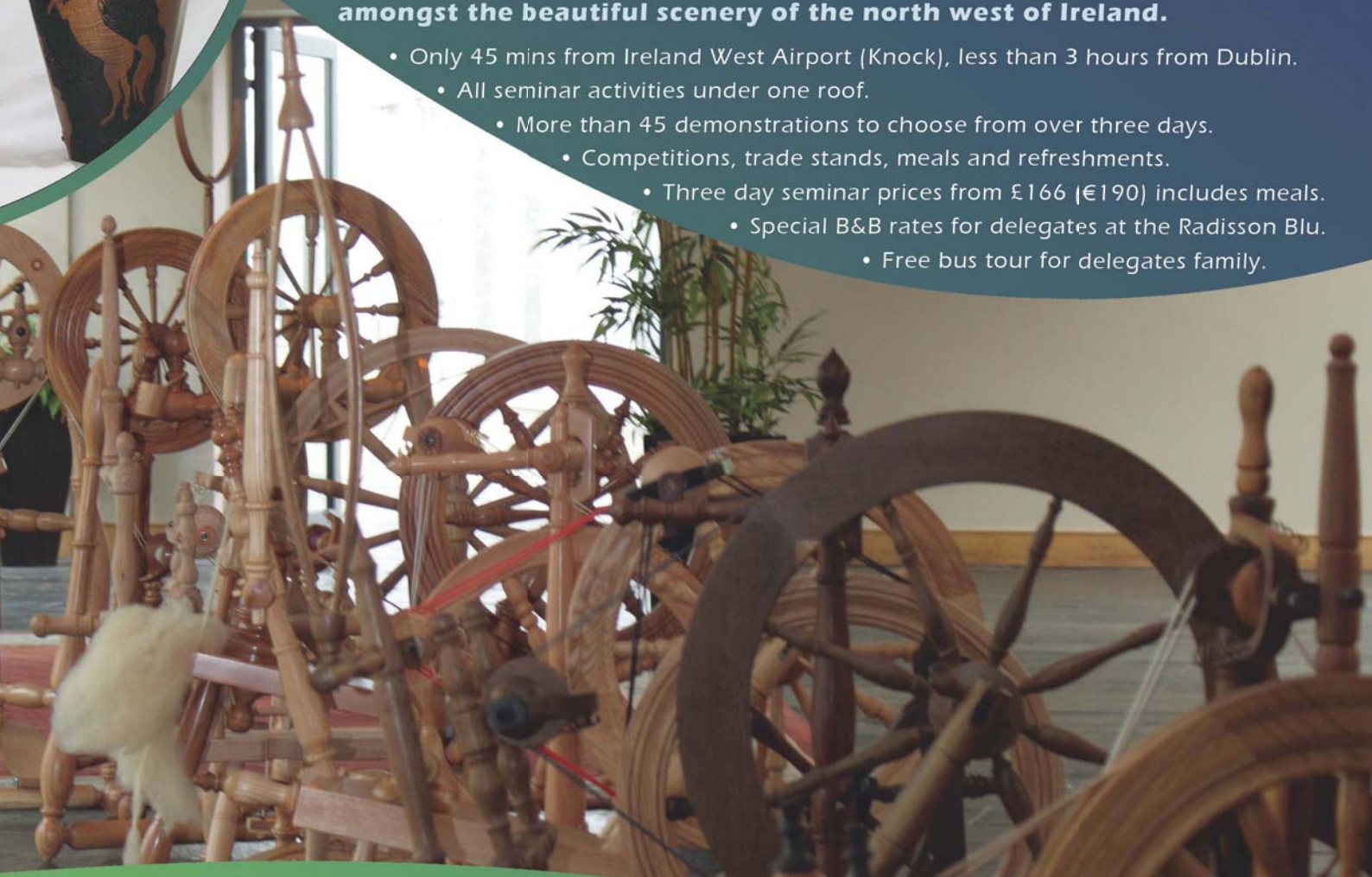



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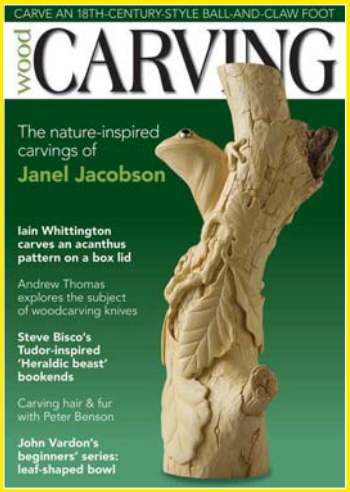

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PHOTOGRAPHS BY KURT HERTZOG

What you need to know about indexing

Kurt Hertzog explores the subject of indexing systems

With all of the niceties that come with modern lathes, the two that jump to the very top of the list for me are variable speed and indexing. For those who have variable speed, you know what I'm talking about – especially when the speed will go to zero. Don't confuse a locking spindle with indexing: locking the spindle will allow you to wrench free that stuck faceplate or chuck.

So, what is indexing? And why is it so great? Indexing also allows you to lock the spindle, not for the brute force wrenching, but for the precise orientation of the spindle. If your lathe is equipped with an indexing head, you not only know it, but probably know the number of positions available. Indexing is simply dividing a full rotation into a number of equal parts, with the ability to lock the spindle at any of those positions. As delivered from the manufacturer, the full circle rotation of the headstock is usually divided by even numbers, such as 12, 24, 36, or more. Each of these positions has a detent of sorts to allow you to lock the headstock at that particular position.

This month, let's explore indexing systems, delve into the ways to create one if your lathe isn't equipped with one and look at some of the useful things you can do with an indexing system.

KURT HERTZOG

About the author: Kurt is a professional woodturner, demonstrator and teacher and writes for various woodturning and woodworking publications in the United States as well as writing for *Woodturning* magazine. He is on the Pen Makers' Guild Council and is a member of the Board of Directors of the American Association of Woodturners (AAW).

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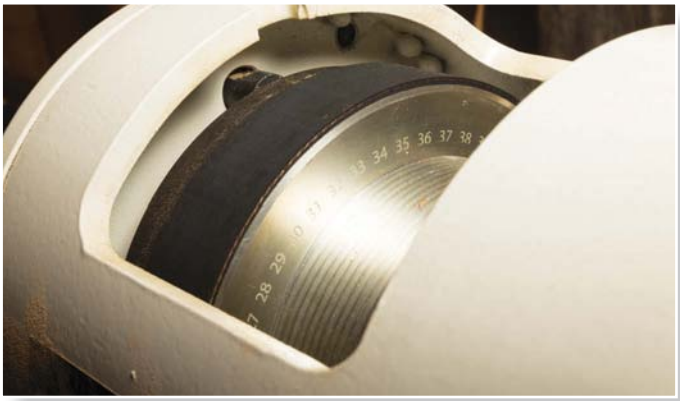
FACTORY BUILT INDEXING SYSTEMS

When you order your lathe, or pick one from an inventory, you'll often have the option of an indexing system. It is an added cost, but is usually modest. The manufacturer will usually offer several different indexing arrangements called out by number of positions or degrees of rotation. The mechanisation is holes on an internal pulley or wheel, fastened to the spindle shaft, that a pin can be advanced in to. The more holes, the more resolution you have around the circle. Cost is based on the number of holes they need to put into the pulley. Most of the locking pins are quite sturdy, but the manufacturers will caution you about applying too much force when the spindle is locked. The indexing pulley will be marked to indicate the relative position of each of the locking points. Since these indicators are sometimes out of sight, you normally count 'notches' as you step around the circle.



Factory built indexing is ordered based on the number of divisions desired. The accuracy is superb and there is usually zero slop or backlash

The engagement pins on my lathe represent two different measurement methods. While sturdy and well built, it is good practice to not stress the locking mechanism

COMMERCIALLY AVAILABLE INDEXING SYSTEMS

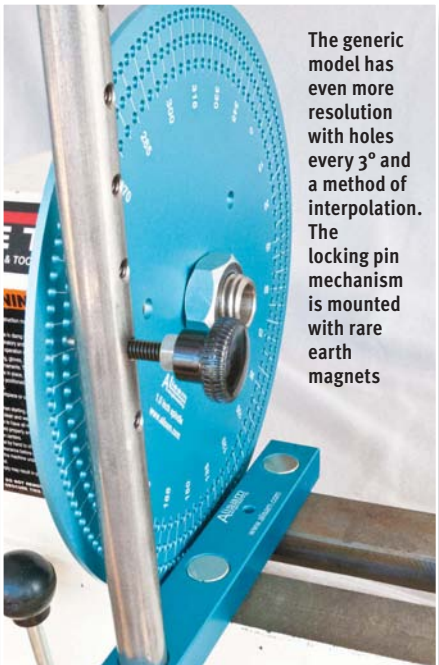
For the most part, if you don't get your indexing system installed at the factory, there isn't a way to add the factory version afterwards. If you didn't get it, or it isn't available upfront, you'll need to add the aftermarket versions of an indexing system. Depending on whose you buy, the wheel can be mounted on the inboard or outboard side of the headstock. It all depends on what the locking pin arrangement is and where it is mounted. Like the factory versions, aftermarket comes with varying numbers of holes dividing up the circle into that many pieces. Made from steel, aluminium or plastic, these aftermarket versions are pinched between the spindle shoulder and a nut, or sometimes the workholding device you are using.

KEY POINTS TO REMEMBER

1. When buying an indexing system, the upfront cost difference is minimal for more resolution
2. Use the 'locking' positions gingerly, marking is in order. Not brute force
3. Develop your own method of counting skipped positions to reduce error
4. Do all of your marking in one session as repositioning or remounting introduces positional errors

Aftermarket indexing systems can be made for the specific model or be generic. This setup is specifically made for the Jet mini lathe

The locking pin mechanism mounts to existing hardware and provides precision locating and locking. The rotation is broken into 72 positions or 5°



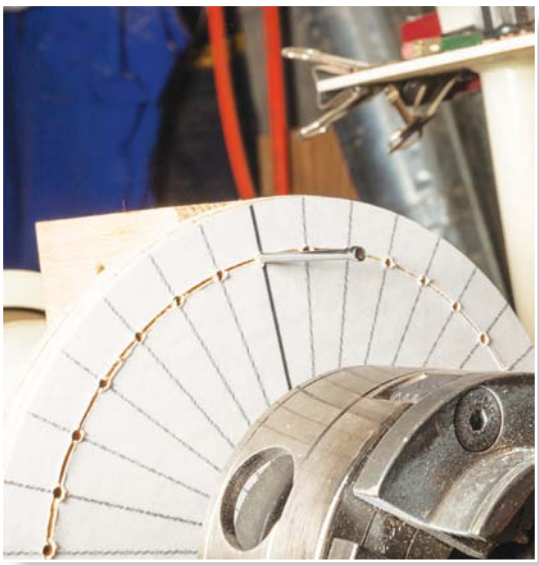
The generic model has even more resolution with holes every 3° and a method of interpolation. The locking pin mechanism is mounted with rare earth magnets

The indexing wheel can be mounted on the inboard or outboard side of the headstock spindle. The locking pin arrangements vary from quite simple to complex

Depending on your skills and the equipment available, you can work with a variety of materials. A reclaimed gear and some metal parts silver soldered make the indexing system

Rotating the washer from the ground flat to the original outer diameter locks this indexing system in position. Far stronger than needed but made from scrap parts

Your home-made indexing system can be built around a protractor glued to a board or a computer print, attached to a board with spray adhesive



A tool cut to assist locating the drill makes the plywood and paper indexing system easy to make and certainly inexpensive. A nail and a hole in a wooden block complete the system

The indexing wheel has holes or slots for whatever 'latching' mechanism you use. Double-sided tape holds the wood block in place with the nail located on top of the block

Even easier and cheaper, a piece of cardboard with the pattern glued to it. A plastic clamp located on the line and resting on the wooden block provides the indexing

MAKING AN INDEXING SYSTEM

Making an indexing system for your lathe can be a fun project on its own. Depending on whether your intention is a one-time, quickly made indexing system, or a long-term, built-to-last system, your design and materials will vary. It would be a pretty serious undertaking to create an indexing system similar to the manufacturer after the fact. Permanently fastening to the spindle shaft and locating inside the headstock casting are well beyond the capabilities of the home hobbyist. That said, very effective indexing systems can be added to the inboard or outboard ends of the headstock spindle. The easiest method to add an indexing system is to pinch a graduated wheel between the spindle shoulder and the workholding hardware – that can be a faceplate or chuck. Either those, or a nut that is threaded onto the spindle thread to lock the wheel in place.

Creating your graduated wheel can be as simple as spray mounting a computer generated pattern print on to a scrap of wood. Finding or making your pattern gives you complete control of diameter and number of divisions. In practice, larger diameters are more forgiving of layout and drilling errors. You need to consider your lathe swing and the space you'll need to have access to your work. Since the wheel will fit onto your spindle shaft, you'll need to be able to drill – or turn – your centrehole to a close fit dimensionally. Any slop in this diameter will introduce error into your indexing, as well as be prone to slippage. Your material can be anything that you can drill through or cut slots into. Depending on your available equipment, you can work with metal, wood, plastic or even cardboard. Making your indexing wheel from cardboard is fast, low cost and, by using a simple clamp, allows you to make a fully functional indexing system in a matter of minutes. Your pin mechanism can be as simple as a nail pushed through the wheel into a woodblock, fastened to the headstock with double-sided tape. This very temporary method allows for quick use and easy removal. Whether you use plywood with a nail pushed through the various holes into a stop block taped to the headstock, or have a replica of the various aftermarket offerings with so many different measuring opportunities, your tool is now in place to get creative.

KEY POINTS TO REMEMBER

5. The larger the diameter you make your wheel, the easier it is to make an accurate indexing system

6. Your wheel needs to be thin enough to allow for meaningful engagement of threaded workholding mechanisms

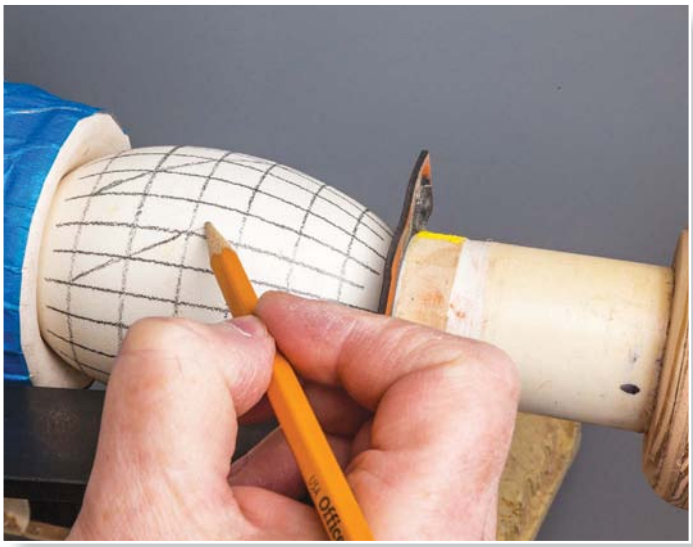
7. Once setup, do all of your indexing operations without repositioning your work. Accuracy always suffers on remounting

8. Do not overtax your indexing locking mechanism. Use the indexing system to mark things or for light duty. Do the heavy lifting elsewhere after marking

◀THINGS TO DO WITH INDEXING

When I think of the things you can do with indexing, I'm at a loss to list them all – there just isn't the space available here! You've always had a method to mark radially. Now, add the ability to mark axially in as fine a resolution as your indexing system will allow. While many, including myself, will work on the turning while using the indexing system lock to hold things in place, I recommend that you use your indexing system to mark things. Once you've done your layout, you can do your painting, carving, drilling, pyrography or other work with whatever workholding method best suits that task. With the ability to do radial and axial marking, you can create whatever twist you'd like for spirals. You can precisely locate holes, pockets, markers, inlay positions or any other pattern that begs for equal spacing or repeatability. For those making pieces of furniture, it is far more accurate to drill chair legs at the proper angles whether 90° or something else. Even drilling the holes in the seat of a three-legged stool will benefit by the ability to position the seat precisely at each 120° position using a drilling jig mounted in the toolpost hole. The segmented turners doing open pattern segmenting rely on indexing for the precise positioning for gluing up their blanks. From the scientific standpoint of being accurate in positioning for clock face mountings or drillings to compound angle drillings for furniture legs or chair backs, indexing allows for proper measurement. If you are only interested in the artistic aspects, you can easily rotate your turning 15°, 30°, 40° or whatever number of degrees to sand in scallops in your plates, platters or other form.

While many of the indexing systems will support the use of tools and cutters, I favour using the indexing system to do marking. Once marked, the heavier work is done without stressing the lock



Adding the axial marking at proper positions along with the already available radial marking opens new opportunities. An entire spectrum of precision spirals can now be explored

Drilling spindles at precise angles is now very easy. Whether 90° or some other angle, the spindle can be marked for drilling or simply drilled when positioned

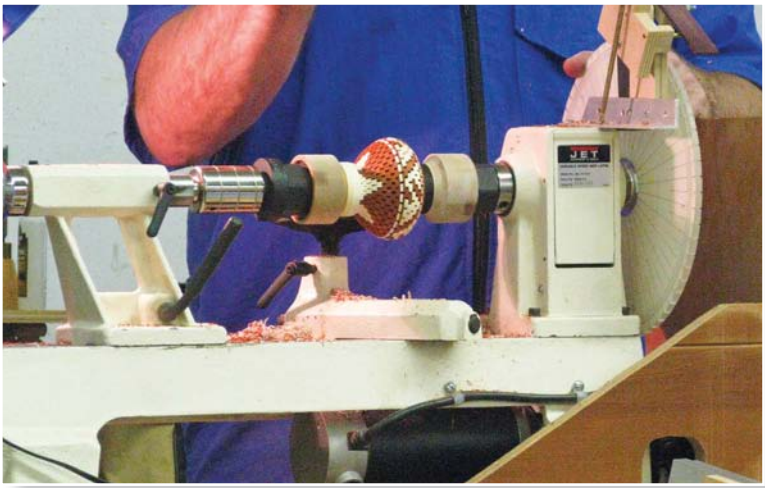
When there is no need for precision, parts can be indexed as needed for sanding, grinding or other processing. The candy dish rim scallops are sanded with an air die grinder

THINGS TO DO WITH INDEXING

The accuracy isn't really needed, but it came for free. Easily done as the components were mounted on the lathe with no stress to the locking pin

There is a host of tools that can be brought to bear on turnings while they are mounted and indexed on the lathe. From the router article, a bowl being scalloped on the outside

The beginnings of a glue up of an open segmented hollow form. The indexing plays a key part in the precision needed for a successful open segmented turning

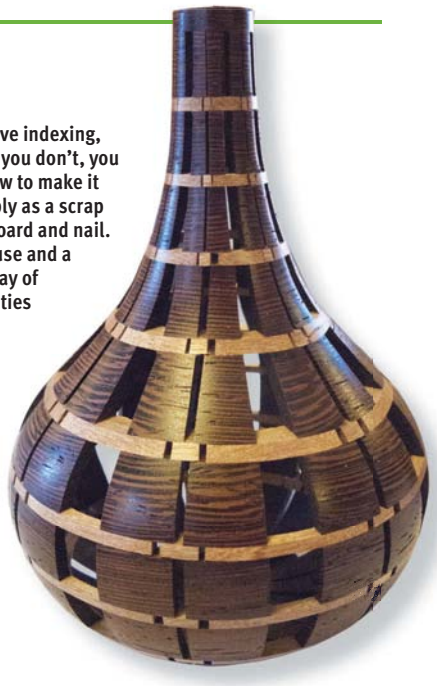


Glued up and turned in two-halves, the final form is assembled into a single finished turning. Note the large indexing wheel used in the two blanks creation

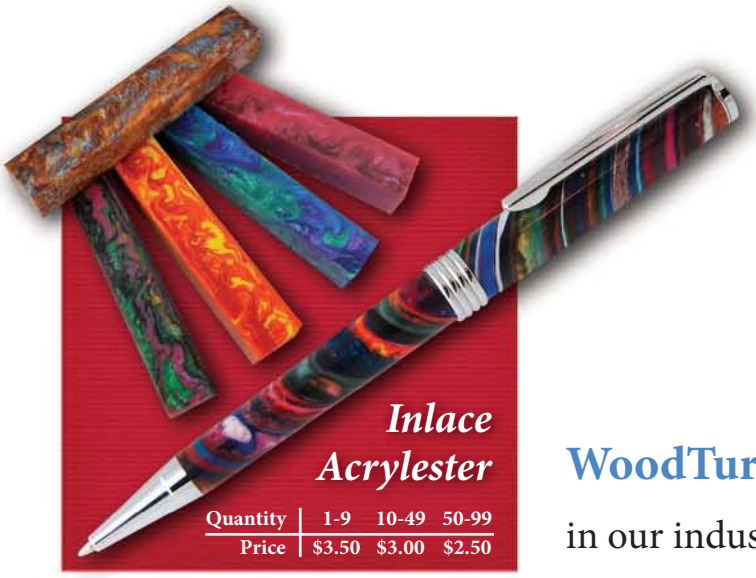
There is little room for error in any segmented turning much less an open segmented form. The eye is drawn to the minutest irregularity in the final product

CONCLUSION

Most of the aspects of woodturning don't involve precise measurements. While the numbers aren't terribly important, the visual appearance is. If you try to make a pattern of any sort, you need to be certain that if you try to be perfect, it must be. If not, the eye will be drawn immediately to any error. If you intentionally make it sketchy, then there isn't the need for absolute perfection. Other than the perfection of fit needed by some turnings, such as the angles in the drillings of chair spreaders and rails, the artistic can be close or hand done. That said, it doesn't hurt to be able to mark things accurately and then decide how accurate you'd like them. The segmented turner doing an open segmented form will desire absolute perfection to keep the pattern perfect throughout the entire form. The flutes sanded into my multi-tier candy dish couldn't care a bit about absolute accuracy, only needing to be visually close. If you have indexing on your lathe, why aren't you using it? There is a whole world of opportunity it brings. If you don't have indexing on your lathe, what are you waiting for? A piece of cardboard and a plastic clamp will get you going. Imagination is your only limit. ●



If you have indexing, use it. If you don't, you know how to make it as cheaply as a scrap of cardboard and nail. Easy to use and a huge array of possibilities



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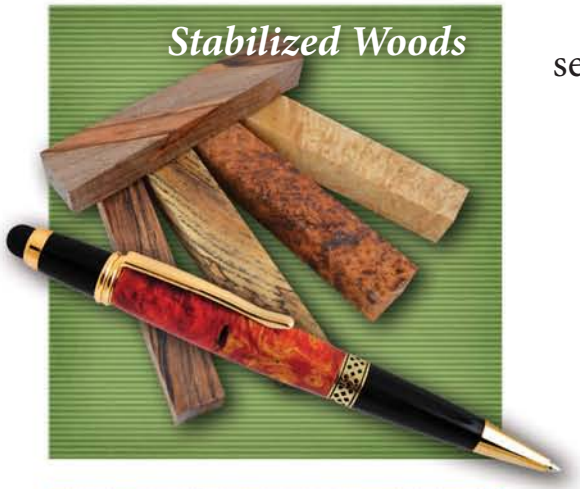

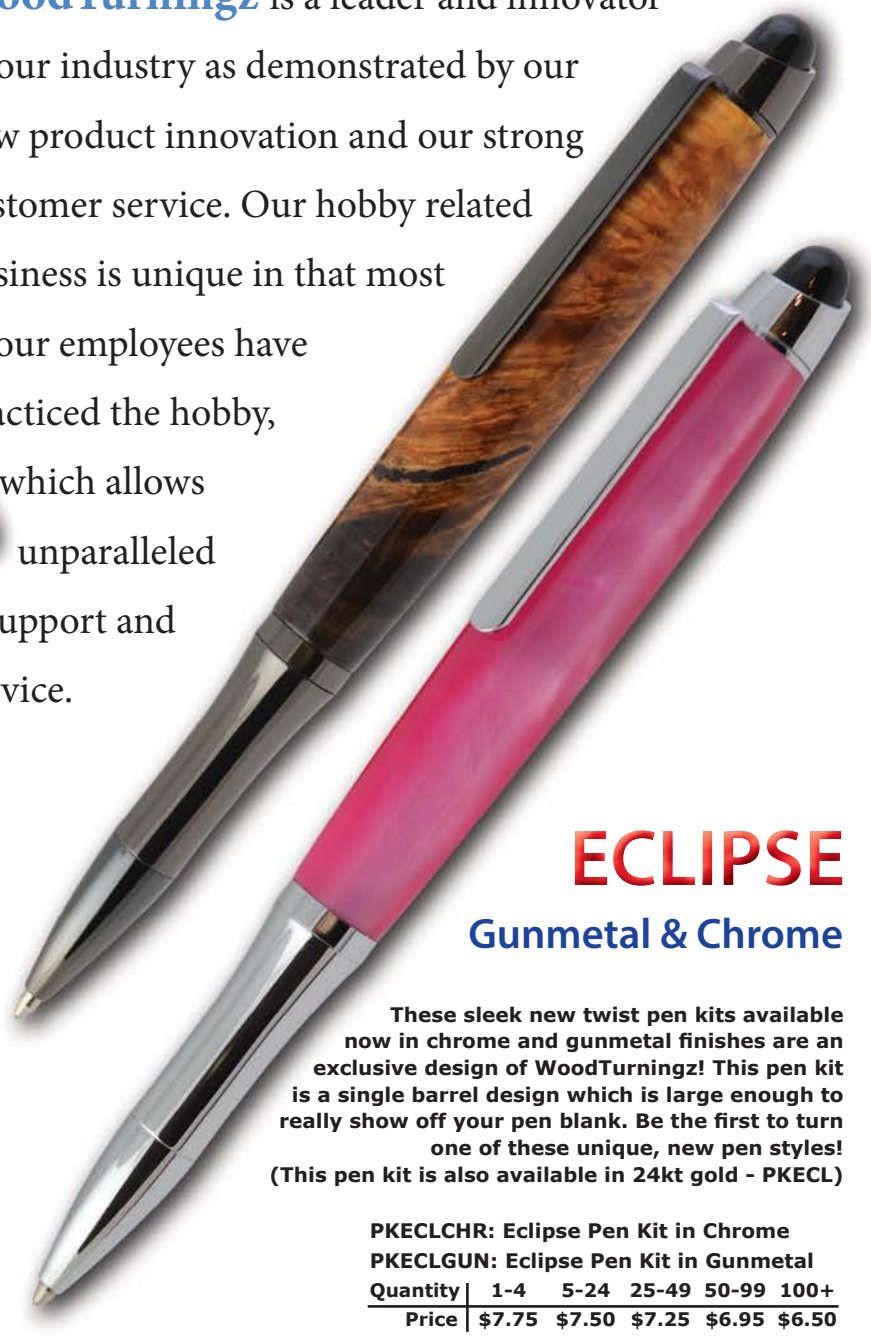

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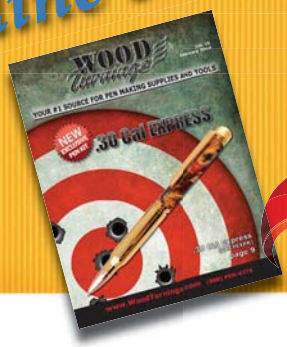

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Glossary of terms – Part 2

In the next part of this series, **Mark Baker** looks at a variety of terms linked to grain and figuring

Before we get to everything being alphabetically listed, we need to start with the two elements that cause a lot of confusion and clarify what they are, namely – grain and figuring.

Figure or figuring

Any decorative pattern on the surface of the wood created by colour variations, faults and defects, growth abnormalities and irregularities, and orientation of the grain. Figuring can be determined by the way the wood is cut, but also by pigment colouring and growth anomalies.

Grain

The arrangement of the fibres in the wood relative to the longitudinal axis of a tree or piece of wood. Many types of grain pattern are distinguished, such as fine, coarse, interlocked, wavy, etc. The word 'grain' tends to refer to the regular pattern of the wood, whereas figure refers to interesting irregularities.

Bird's-eye figure

Figure on the sawn surface of wood that shows many small, rounded, lustrous areas resembling birds' eyes: common in hard or rock maple *(Acer saccharum, A. nigrum)*. This is caused by localised grain irregularity, probably due to damage to the cambial layer.

Bird's-eye figuring in American maple *(Acer saccharum)*

Blister figure

Figuring, caused by irregularities in grain direction, which resembles billowing clouds, or sometimes bubble-like forms. If the bubble is ovoid in shape, the term used is quilting.

Carbuncle-like burr growths on an ancient walnut *(Juglans regia)* tree

European maple *(Acer campestre)* burr bowl

Tightly packed burr in this goldfield burr bowl

Bowl in burr Chilean laurel *(Laurelia sempervirens)*

Burr

Burr – burl – a lumpy, carbuncle-like growth resulting from parasitic attack or damage to the tree, which causes numerous small shoots to develop in that location as the tree grows over the damaged area. The grain orientation in burrs is extremely erratic, yielding some fantastic figuring, which varies enormously from piece to piece. Variants include loose, dotted arrangements of small pippy – pip-like – knots amongst contorted, swirling grain: tight, swirling, cloud-like groupings of larger knots: and more tightly packed groupings or clusters of small pippy knots.

Crotch

The crotch is the area where a branch or trunk forks. The junction of the two stems creates a localised distortion of the grain which, when cut through along the grain, reveals a very distinctive figure pattern. The method of cutting has a major effect on the appearance of the figuring. If it is cut in the centre, it will reveal the normal crotch figure, if cut towards the edge, the figure shown will be what is called swirl crotch.

Crotch of a standing tree

Curl/curly
Contortions in grain direction that give the appearance of undulating waves as they reflect light differently. Maple *(Acer campestre)* and birch *(Betula pendula)* are prone to forming this figure.

Extractives
Substances such as metallic oxides and other chemical compounds deposited in the wood that give it its distinctive colour and resistance to decay.

Flame figure
Figuring in certain species of timber that resembles a flame in appearance.

Fiddleback
This is a figuring caused by wavy grain, in which the fibres of the wood continuously change direction in a regular manner. Fiddleback European sycamore *(Acer pseudoplatanus)* is traditionally used for making the backs of violins, but the figuring can occur in other species as well. A good example of this can be seen below.

Fiddleback figuring on a sycamore veneer

Interlocked grain
A configuration in which the fibres formed in successive stages of growth are laid down in different orientations. Certain combinations can produce a distinctive figure, such as ribbon figure.

Medullary rays
Sheets of tissue formed at right angles to the annual rings of the tree. In some species, such as oak *(Quercus robur)*, they are very distinctive; in others, they are barely visible. How the wood is cut will have a big bearing on how these show on the cut timber. Quartersawing displays the medullary rays to great visual effect on oak and other timbers.

Mottle
Ripple figuring that has been broken up by interlocking grain. It is in effect a broken stripe figure with irregular interruptions caused by the wavy grain.

Pigment staining
Not all figuring is caused by irregularities within the grain. Colours within wood, such as the stripes in ebony *(Diospyros spp.)*, are caused by extractives within the heartwood which have coloured the wood.

Pippy
A term used to describe a burr pattern, in which numerous small knots – 'eyes' or 'pips' – are present in a clustered or loosely spaced arrangement.

Ray fleck
Part of a medullary ray showing on a radial surface: usually regarded as a decorative feature, especially in oak, but not exclusive to this species.

Conspicuous ray fleck in European oak

Ripple figure
Another name for fiddleback figure.

Ripple figuring on a maple blank

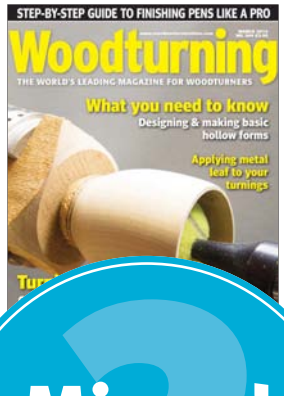
Ribbon figure
A type of figuring produced as a result of interlocking grain. It only shows when the wood has been cut radially.

Roe or roey figure
Short, broken stripe or ribbon figure in certain quartersawn hardwoods, arising from interlocked grain interrupting a ribbon figure.

Silver grain
The figure created by lustrous ray fleck on quartersawn timber, especially oak.

Spalted wood
Wood that has been invaded by fungi, which produce various colour changes as they progress. When the colour changes occur without drastically reducing the inherent strength of the wood, the material is said to be spalted. This wood is, in effect, in the primary stages of rot. The same term is sometimes used for timber that is in a more advanced state of decay. ●

Spalting on a beech canister



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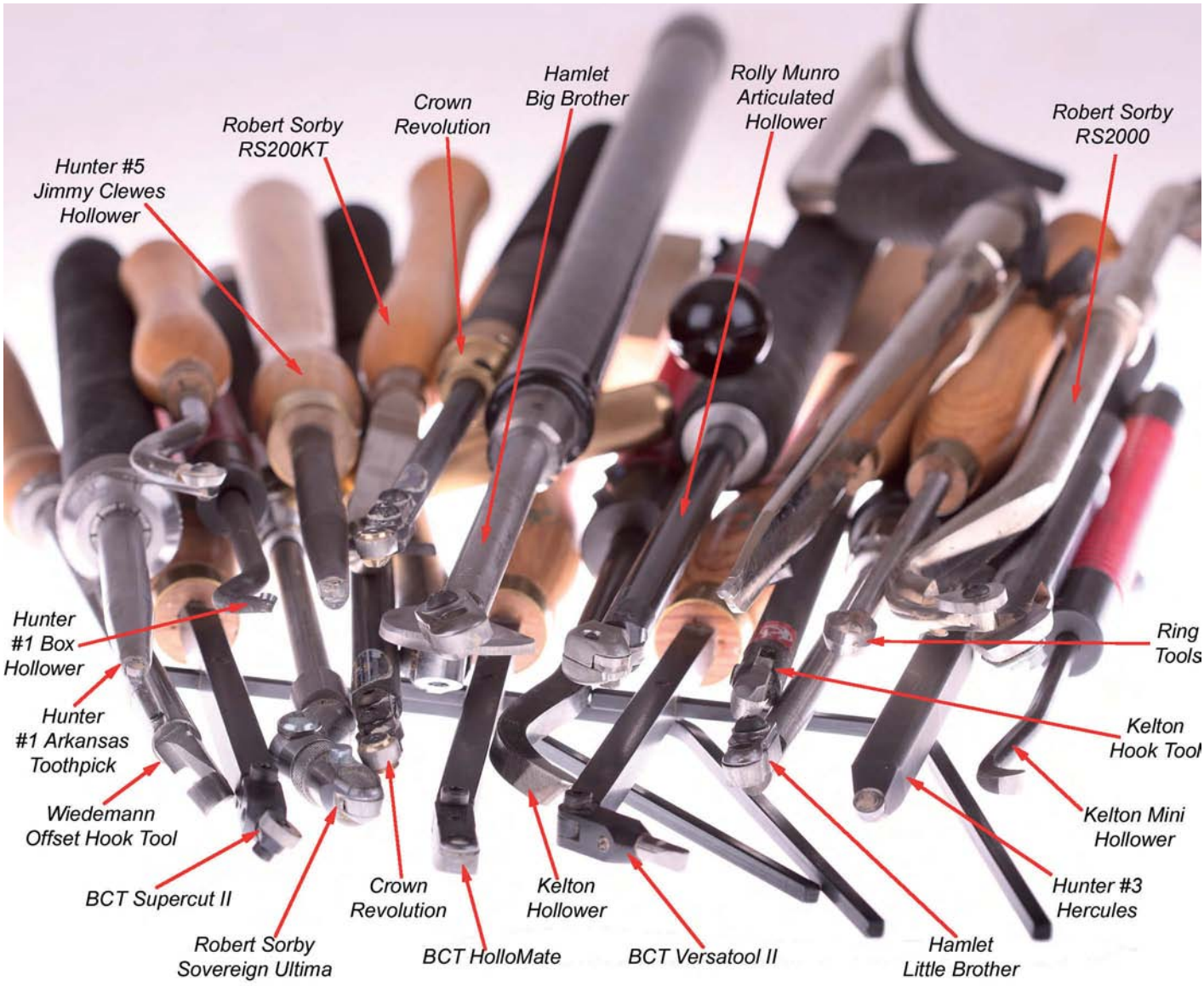

Buying A Hollowing Tool?

Then prepare for the hollow laughter!

Buying a hollowing tool is an interesting task - but it can hardly be described as unremitting fun for most woodturners. The available range is huge - and they can't all be the best.

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The picture above isn't of pristine tools in the showroom: it's a selection from our demo stock of hollowing tools.

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sharing expertise

Kit & Tools

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

GLOW-IN-THE-DARK ACRYLIC PEN BLANKS

We recently came across these very unique and interesting acrylic pen blanks with a difference, the difference being that they glow in the dark. Available from www.mywoodencreations.com there is a range of 13 colours to choose from, including red and black, military, yellow, dark green, brown, red with white and blue, blue, black, red, light green and multicoloured. The blanks are all handmade in the seller's workshop and measure 19mm.sq × 140mm. According to the website, these blanks glow for hours and last a lifetime with only 10 minutes of charge from any light source. As well as the traditional acrylic series, there are also acrylic maple blanks, duck blanks and the 'flaky' and 'hidden treasures' series available.

Contact: Michael Thomas
Email: michael@mywoodencreations.com
Web: www.mywoodencreations.com

HANDY LIGHT

This Handy Light from Woodart Products is a great little gadget for enabling you to be able to see much more clearly inside your woodturnings. Although it works at low voltage for safety purposes, this is a high intensity LED light that has a regulated DC supply for a flicker-free glow. Again, on the safety side of things, the light safely disconnects if the cable is snagged or pulled and tucks away nicely on a versatile magnetic mounting, for either the gouge, tailstock or toolpost. It also has a low heat output. There are various accessories available too, such as additional lights, splitters and extension leads. One power supply can drive up to four lights.

Contact: Woodart Products
Tel: 07770 226 640
Web: www.woodart-products.co.uk

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These popular and versatile air movers can be easily moved to any location where improved ventilation or cooling is required. They are ideal for factory workshops, garages, warehouses, etc. where natural air movement is inadequate. Ideal for maintaining a good atmosphere. Machine Mart stock both a 610mm and 760mm version of this model, both providing high output and variable speed. Both have a durable all-steel construction with protective stove enamel finish and can tilt through 360° within frame and operate at any required angle.

Contact: Machine Mart
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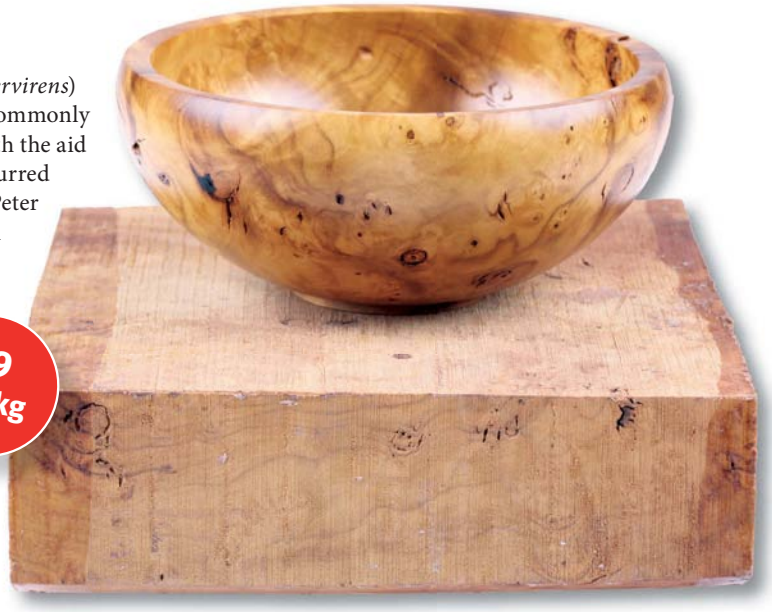
CHILEAN LAUREL BLANKS



Available from The ToolPost, these Chilean laurel (*Laurelia sempervirens*) blanks are rarely traded commercially as they are usually only commonly used for veneering. However, this timber finishes beautifully and with the aid of an oil, the golden colour of the blanks shows up a treat. This is a burred and figured timber with a low density, which is perfect for turning. Peter Hemsley of The ToolPost advises that these blanks need to be seen in person rather than being bought online, he therefore urges you to come and select your blanks in person. The sizes available are 200 × 20 × 100mm and the blanks are sold by the kilogram. Telephone now for further details.

£9 per kg

Contact: The ToolPost
Tel: 01235 511 101
Web: www.toolpost.co.uk

EZ WOODTURNING JIGS

There are two new jigs available from Kevin Young: the EZ Threading Pro jig and the EZ Ball XL Radius Cutting jig. The EZ Threading Pro jig is a new style threading jig with a unique design, which provides you with a very easy way of cutting perfect threads using your woodturning lathe. Compared to other available jigs the EZ Threading jig is simple to setup, easy to use and represents good value for money. It comes with a 16tpi spindle and nose piece and supports additional spindles: 20, 16, 12 and 10tpi.

The second jig is ideal if you are looking to turn balls on your lathe. According to the manufacturer, it is very affordable and takes around five minutes to set up. It requires no complicated calculations and features a robust, heavy-duty dovetail design. It can be quickly removed for storage and a single jig can be used on all lathes. Cuts up to a 100mm diameter ball using a HSS cutting bit.

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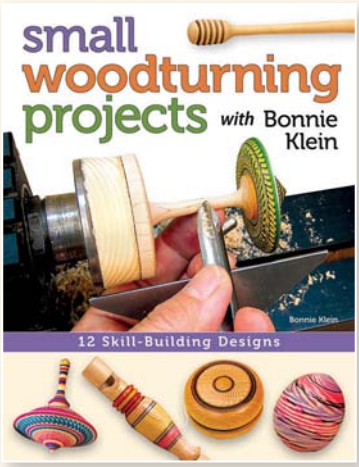
Contact: Kevin Young
Tel: (001) 267 888 6216
Web: www.threadingjig.com

Book review

SMALL WOODTURNING PROJECTS WITH BONNIE KLEIN



Price: £9.99 (plus P&P)
Contact: GMC Publications
Tel: 01273 488 005
Web: www.gmcpubs.com

Small woodturning projects with Bonnie Klein is a 72-page book, which contains 12 skill-building small wooden project designs. Author Bonnie is an award-winning and internationally recognised woodturning expert, who gives tips, advice and step-by-step instructions on her 12 projects, all of which are accompanied by clear, colourful photographs to help guide you along the way. The guide is aimed at enthusiastic beginners to experienced turners, who may be looking at doing something new – smaller turnings, perhaps. The projects are all fun-to-make and practical and include an acorn box, carrot pen, sunburst earrings, spiral chatter eggs, a letter opener, stir-fry spatula, spin top, tool handle, whistle, a yo-yo, a honey dripper and finally, a purse mirror. Bonnie claims that "they will ultimately improve your woodturning expertise on any lathe," giving useful techniques for both mini and full-size lathes.

The guide doesn't particularly go into much detail in terms of background information, although it does provide a short introduction to Bonnie, a section on 'woodturning basics', 'resources', 'glue block preparation' and 'safety tips'.

Each design in the guide is a Bonnie Klein 'classic' and is easy-to-make with her clear instructions. Great for beginners who want to start with small turnings.

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Michael Foster – Euclid's Phenix

Michael Foster shares this award-winning turned and carved piece with us, which was recently chosen as part of the AAW's 'Rising' exhibit

I have a keen interest in maths and the sciences; both provide ample inspiration for my woodturned art. I have entered a piece for consideration in the last four special shows that the AAW curates for the annual symposiums. This year the theme selected was 'Rising', a nod to the host city, Phoenix, and the myth from which the name derives. Nothing came to mind for quite a while that would fit the theme. I decided to let it brew and slowly my unconscious mind developed the idea for this piece.

Here a perfect globe rises on the ashes of an imperfect, one-sided Möbius strip. This Möbius strip is a bit more complex than the most simple as there are three twists in the strip. Möbius strips are interesting to mathematicians, as they appear to have multiple surfaces but really only have one. The igniting globe has flares arranged symmetrically based on the points of a dodecahedron superimposed on the globe.

The Möbius strip was turned from a 610mm length of a sugar maple *(Acer saccharum)* log. The centre was hollowed and the outside and inside profiles were turned on the lathe. The rest of the shaping was done using rotary carving tools. The surface was coloured with airbrushed acrylics.

I wanted to turn the globe out of cherry *(Prunus serotina)* because it carves so well using pyrography. To keep the wood from splitting and lighten the globe, I decided to hollow the sphere. The sphere was turned in two halves from wet cherry with a standard turned box joint. The two pieces were glued together and dried in a microwave. The result was then re-turned to a hollow sphere. The detail in the globe was accomplished by carving the surface using a pyrography pen similar to a scalpel. India inks and dry-brushed acrylics were used to colour the sphere.

I was honoured to have this piece selected for the 'Rising' show. It also recently won the Rich Pagano award – best in show – at the Totally Turning Symposium in Saratoga Springs, New York. ●

Email: mfoster.vt@gmail.com
Web: www.breezyhillturning.com

'Euclid's Phenix', 430mm high × 190mm dia. sugar maple *(Acer saccharum)* with a cherry *(Prunus serotina)* sphere

PHOTOGRAPHS BY MICHAEL FOSTER

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