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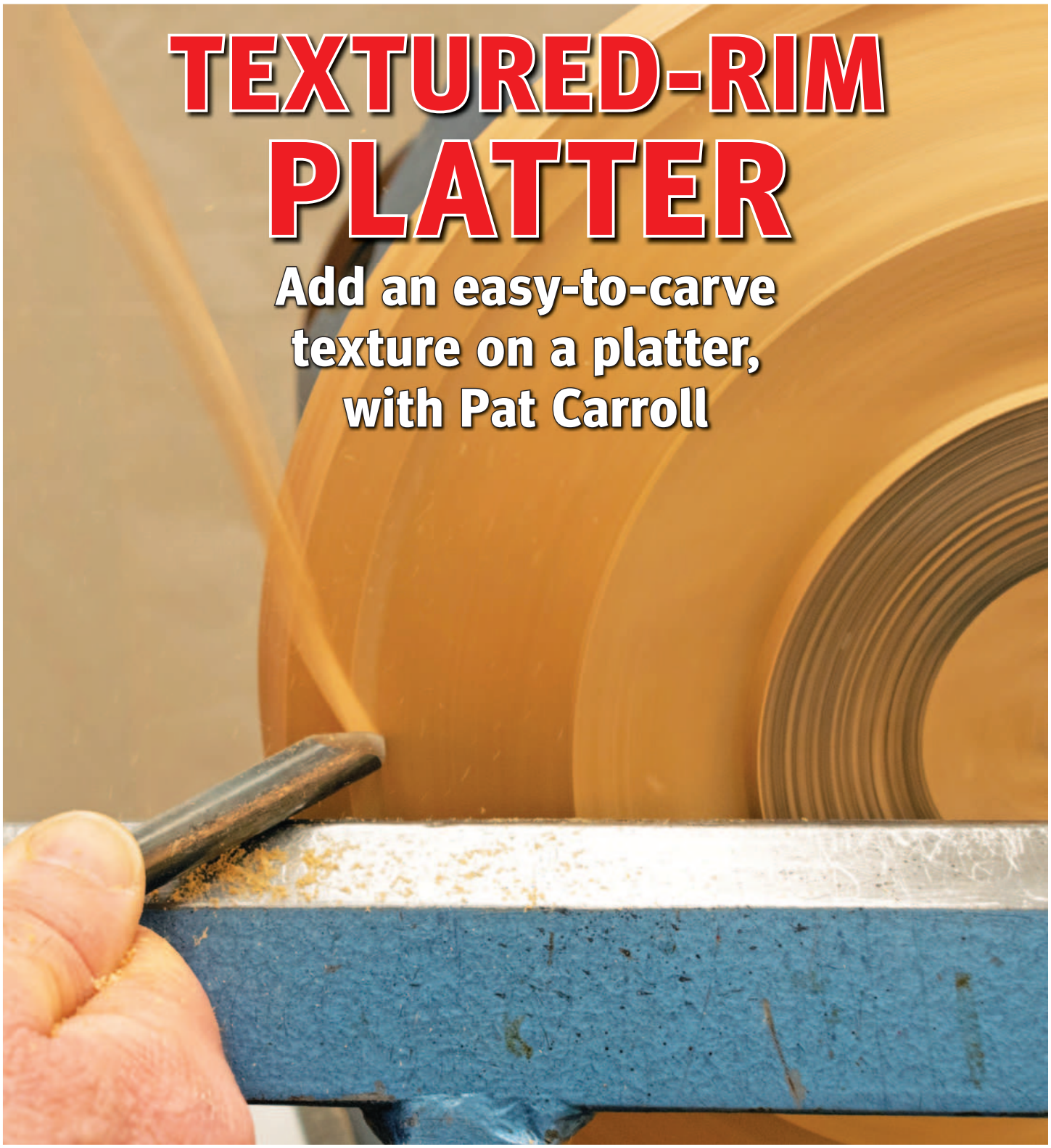

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PROJECTS Off-centre box • Twine holder • Singapore ball

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Woodturning 317

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PHOTOGRAPHS BY MARK BAKER/GMC PUBLICATIONS

I have often commented on how fortunate we woodworkers, and especially turners and carvers, are. We can been ferreting about in timber piles looking for that next fabulous piece of timber, but we can also be seen in woodlands, parks and forests looking at the living trees about us. I took the picture of the cherry tree blossom you can see in the photo recently. I love seeing trees in their early years of growth but also their winter sleep, waiting for that burst of growth in spring, the full glory in summer then the slow withdrawal and preparation for winter and back to sleep again. Of course, as this cycle is repeated many times, the trees mature and gradually go into senescence and decay. The process is fascinating and beautiful.

I am fortunate to visit woodlands and parks near me I can enjoy, I love the sensory pleasures of what I see, hear and can feel as I walk among the trees. I am mindful of how lucky I am to work with such a wonderful material that continues to amaze me in the diversity and how it throws challenges at me.

Many, like me, do not have the space, facilities or equipment to work with a cut-down tree, dimension it into sections, dry it then work it to finished items. Most people buy pre-dimensioned blanks or sections given from cut-down trees. Many, though, buy slabs or through and through cut board and then cut sections they want.

However you obtain sections of timber there is an anticipation in seeing it. It is like a mental game of risk as you try to work out what will make best use of the timber and show it to its fullest. We study it, ponder what could be made out of it and make best use of it then we go for it. Then, after we spent so long pondering, we make a mistake during turning and have to do something else with it. Another scenario is where someone close to us, who we cannot say no to, spies that bit of wood and we have to make something that is not of our choosing and doesn't do justice to that timber blank. Don't ask. It has happened many times to me and I still wonder what my original thoughts for that piece of wood would have looked like. Oh those lost opportunities for greater success. But, then again, I could have fouled them up completely with what I wanted to make from them.

It is interesting that imagination, aspiration and skills do not always match up and come to create that perfect piece we envisaged. I have many foul-ups in a pile and can only imagine the monetary loss, but look at what I have gained in experience. That is priceless.

Have fun and let me know what you have been making.

Mark

markb@thegmcgroup.com

We are now on Instagram. Follow us on @woodturning__magazine and share your work with us using #woodturningmagazine

COVER IMAGE: Pat Carroll (see page 7)

Techniques

Projects

Community

Features

HEALTH AND SAFETY

Woodturning is an inherently dangerous pursuit. Readers should not attempt the procedures described herein without seeking training and information on the safe use of tools and machines. All readers should observe current safety legislation when turning and wear appropriate personal protective equipment (PPE) and respiratory protective equipment (RPE).

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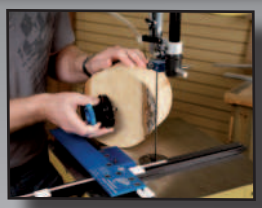

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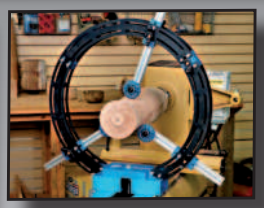

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Carved rim platter

Pat Carroll makes a platter with a difference

PHOTOGRAPHS BY PAT CARROLL

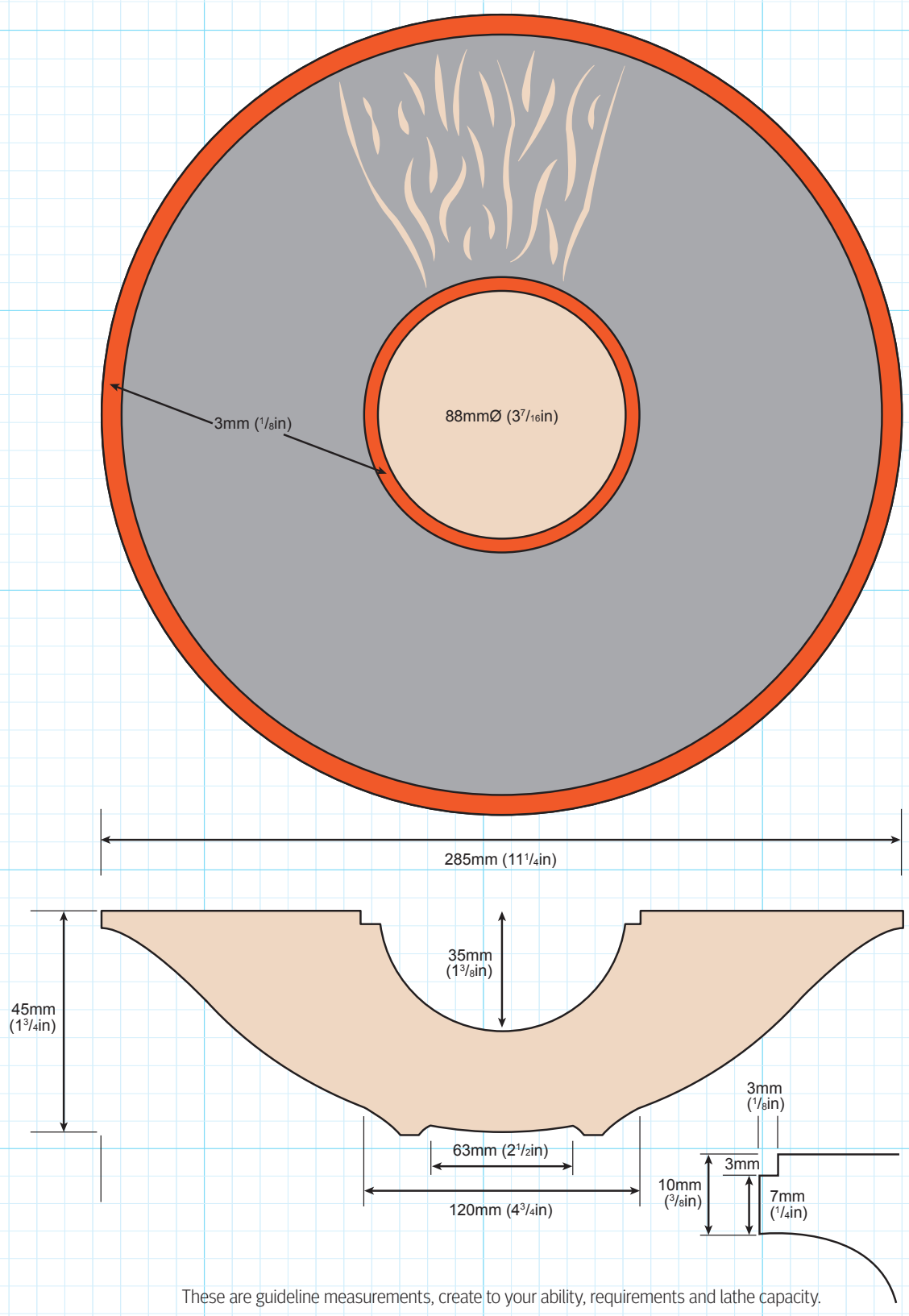
The enhancement of any piece of woodturning is always a consideration of different factors. Does this piece need to be enhanced? Is the wood just good enough as it is? How will colour impact the shape and design? These questions could be applied to any piece. This platter was based on a demonstration I saw Mark Baker deliver on one of his many trips to Ireland. I decided to do a variant of my own, taking inspiration from Mark's work. Using a piece of sycamore with very little figuring, my thoughts were that this wood should take light carving easily and not cause any issues. Once the back is given an ogee shape, the top is trued up and, very importantly, sanded to a fine finish prior to painting. Several light coats of black ebonising lacquer form the surface to be carved. Scratch marks and radial lines from poor sanding tend to show easier on black. Using a reciprocating carving tool, the main lines are carved freehand from the rim to the centre. Designated areas are pencilled in to give guidelines at the inner and outer perimeter. Pencil lines will show through the black and are not easily removed from the surface of the black, so be careful where you plan to carve. Chalk could be used to map out the carving lines if necessary, as the chalk can be easily removed.

TOOLS AND MATERIALS

- Personal and respiratory protective equipment (PPE & RPE)
- Bowl gouge
- Parting or beading & parting tool
- Beading and parting tool
- Curved-edge scraper
- Screwchuck or faceplate
- Chuck
- Revolving tailstock centre
- Reciprocating or rotary power carving unit with suitable bits or hand V-chisel
- Sanding arbor

MATERIALS

- Sycamore (*Acer pseudoplatanus*)
- Abrasives down to 400 grit
- Spray black lacquer
- Red permanent marker pen
- Black marker pen
- Satin lacquer



These are guideline measurements, create to your ability, requirements and lathe capacity.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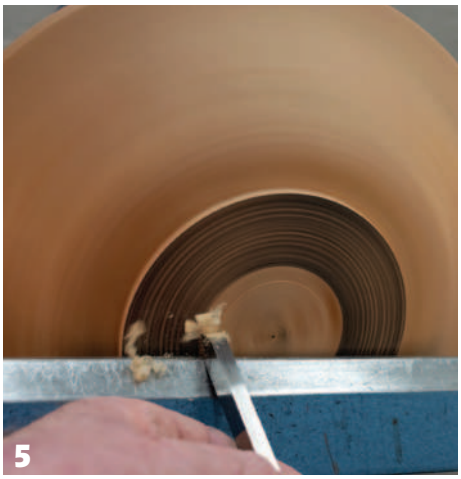
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The back of the bowl

1 Mount the sycamore on a faceplate ready for turning. As a rule I always use the revolving tailstock centre for support on any piece I can. I believe you cannot overdo safety. Remember also to use all PPE & RPE necessary to be safe during the process. From the harvesting of the wood to the finishing of the piece, pay attention to all safety issues.

2 Attention must always be paid to when the lathe is turned on with a new piece of work. Always start at a slower speed and only increase when fully sure it is safe to do so. When you are working at a safe speed, use a bowl gouge to true up the edge till it is nice and square.

3 With the blank to be held on a recess, define and then mark the recess size for your available chuck size. Then, use a bowl gouge to do the initial shaping of the ogee on the underside of the platter. A 5mm step at the base is left to be shaped once the ogee is completed.

4 When the initial shaping cuts have been made, refine the ogee further with a French-curve scraper used in a trailing mode, the handle higher than the tip of the scraping edge, make very light passes to gently refine the ogee. Heavy scraping causes unwanted torn grain and can damage the piece.

5 Use a parting tool to create the recess for your chuck. A depth of 5mm will give adequate support to the piece when chucked to turn the top. Always make recesses that are adequate to the size and quality of the timber. Remember to take into consideration the depth of the recess when removing the inside of the platter for the bowl shape.

6 With the recess cut, create a radius on the outside 5mm-deep step. Note the centrepoint mark from the revolving tailstock centre from the initial shaping the of underside This will help when finishing the top layer. Now sand the bead by hand then power sand the rest of the bowl. Go through the grits down to 400.

The main face of the bowl

7 Once sanded remove it from the lathe, take off the faceplate and fix it to the chuck in the recess just cut. Using a gouge, clan up the face. This needs to be flat. Once cut, sand the face and rim.

8 The surface is now ready to be mapped out. Create a defining line on the outside edge of the rim for a reference for where the carving will start, just inside of the drawn line. Now lightly draw lines on the inner section, which will be the bowl area. This helps you see what ratio will suit this piece if the marks are too far out and the decision to make the centre smaller, or larger, is taken. Any lines outside the bowl must now be sanded out as they may show through the black.

9 Apply several light coats of ebonising black lacquer, leaving ample time between coats for each application to dry.

10 Use a reciprocating carving unit, a rotary carving unit or a hand carving V-tool to create the first of the carving lines freehand, using only the reference lines for a start and stop point. As stated in the introduction chalk can be used to map out the piece and then easily removed later.

11 Whatever carving method you are using, try to get as clean a cut as possible. The grain direction in which you are cutting makes a big difference. Cutting with the grain yields a much cleaner cut than cutting across the grain.

12 The internal pattern between the main carved lines can now be started. The cuts this time are smaller. Work from the outside towards the centre, always leaving the cut behind. This means if the tool overshoots it won't over run into an existing cut. Always work into a blank space.

13 Alter the angle of the cuts so the pattern is random and continue until the whole area is carved.

14 With all the carving complete use a 0.5mm tip black marker to touch up any areas where the carving tool caused break out.


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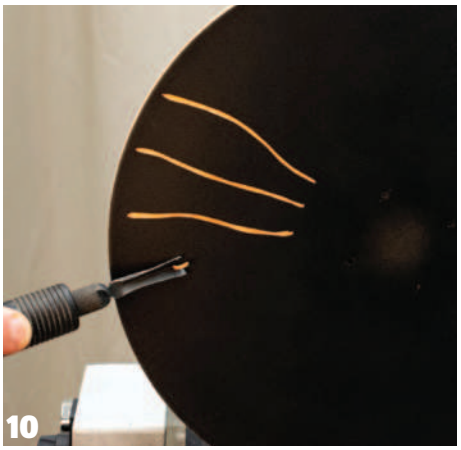
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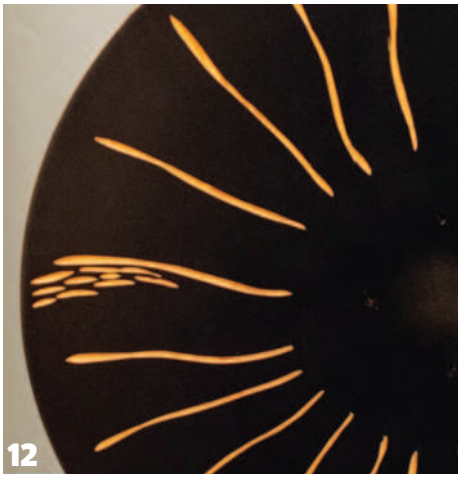
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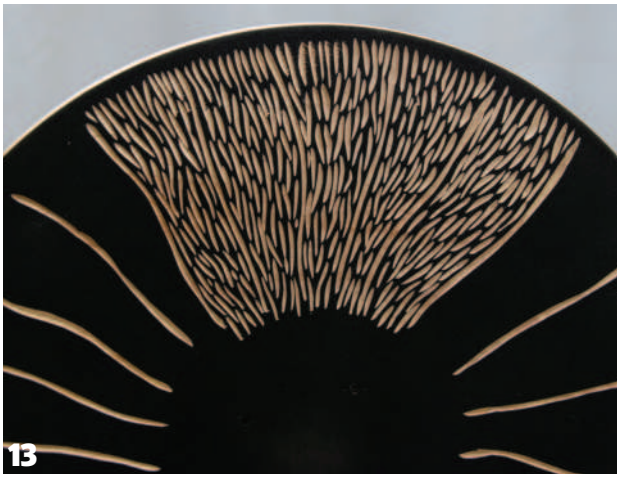
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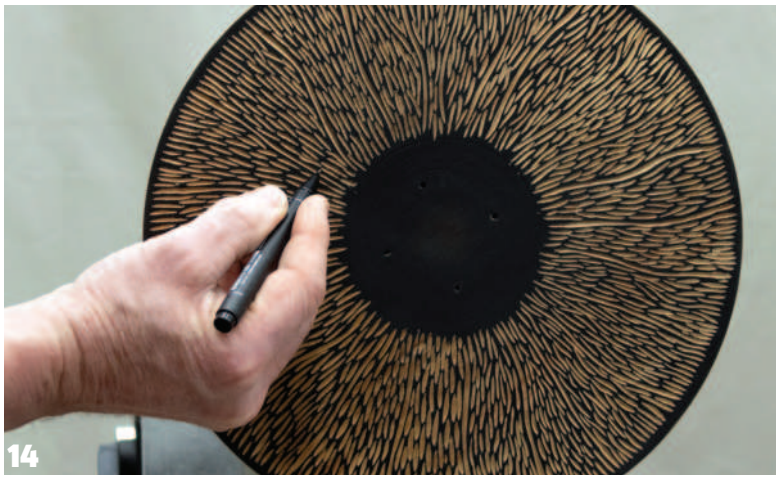
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15 With the carving complete, apply several coats of satin lacquer, allowing ample time between coats for the lacquer to dry. Always follow manufacturer's instructions as this will help with the finish.

16 Once the lacquer is dry, use a bowl gouge to hollow out the marked centre section. Given the tight radius of the hollow, a short-bevelled gouge works best where there is a small arc in the bowl. Or grinding the heel back on your existing gouge. Take light gentle cuts and until you reach the defined boundry marks created earlier.


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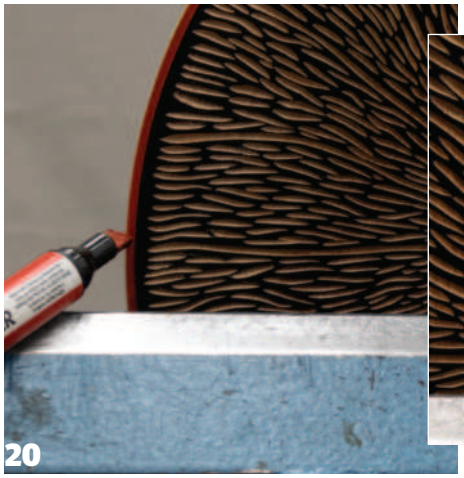
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17 Once the hollow of the bowl is completed, sand through the grades down to 400 grit.

18 & 19 Using a parting tool on the outer rim. a small rebate is made to frame the outer edge of the piece. Cut a rebate to define the boundaries of the rim and carved area and also the inner area to define the boundary outer area of the internal bowl section and carved area. Use light, clean cuts to help ensure a clean surface.

20 & 21 Now, use a red felt tip marker to colour the just-cut rebates. Pay careful attention not to colour other areas. The lacquer helps if there are any mishaps. The red can be wiped off if seen as soon as the mishap occurs. Once done, apply a light coat of lacquer to seal the red.

Refinement and finishing off

22 & 23 Reverse the bowl onto a waste-wood friction drive with soft cloth placed on the face of it to avoid any damage to the interior of the bowl. This is where the centrepoint which was shown in step six comes into play to centre the platter correctly. So bring up the revolving tailstock centre and centre it into the marked centrepoint and hold the bowl in place. Refine the base then sand and apply a lacquer coat.

Here is the finished piece, on the left after several coats of satin lacquer, sanded back to 320 grit in preparation for the next coat. The piece on the right has an optional gold centre. ●

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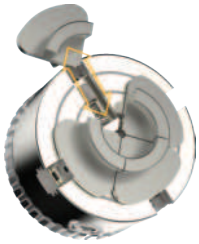

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Turning alternative ivory

Richard Findley's Editor's Challenge this month is to try turning alternative ivory

Ebony and Ivory knobs restored using alternative ivory

PHOTOGRAPHS BY RICHARD FINDLEY

As he has for the past few months, the Editor rang me to check in and leave this month's challenge. 'I've been thinking about alternative materials,' he said. 'Have you done any of that before?' 'Not really...' is my slightly hesitant response. 'Great, see what you can do then. There are lots of different materials out there to try, but if you get hold of a stick of alternative ivory or something like that, it'd be ideal. One thing though, don't make a box, I've got lots of articles about boxes at the minute, otherwise, whatever you like.'

Well, the truth is I have actually turned alternative ivory before but only as inset buttons in some antique ebony and ivory drawer pulls I restored, and as a lid insert in a box that I occasionally demonstrate – usually with cast pewter but with alternative ivory in a shorter demo format. However, I have never actually turned a complete item from it, so while I have an idea about how it turns, I have never fully experienced it.

The material

I do keep a couple of rods in stock, just in case a restoration job comes in that needs ivory in it, so I have a couple of pieces of 25mm diameter and a rod of 50mm diameter. They come in at 150mm long and they really do look like ivory once polished. The drawer pulls I restored had several ivory buttons missing and by the time I'd replaced them with alternative ivory, even I couldn't tell which were which.

There are lots of different materials out there for woodturners to try these days. Many variations fall under the umbrella term 'acrylics', I have also turned hybrid blanks on a number of occasions. These use stabilised, natural-edged burr combined with coloured resins to create some quite stunning effects. The alternative ivory that I have is a thermoset polyester resin, according to the website of its manufacturer, GPS Agencies, which sells all sorts of different colour combinations of these resin rods. Its 'natural collection' includes alternative ivory, tortoise shell and horn, which are ideal for restorers, but it also has a range which resembles semi-precious stone and a colourful range called 'abstract'.

I have the alternative ivory in stock so it makes sense to use it. To compare it to actual ivory, I do have a small piece which was given to me years ago by an old turner. As the trade in ivory is rightly banned, it is of no use to me, but I can't bring myself to simply discard it – that doesn't seem right either. So I keep it safe and might one day use it for something for myself. With both materials in their raw state it is clear to see a close resemblance in colour and the natural swirls in the 'grain', although I suspect the actual structure of them will be quite different.

Alternative ivory rods

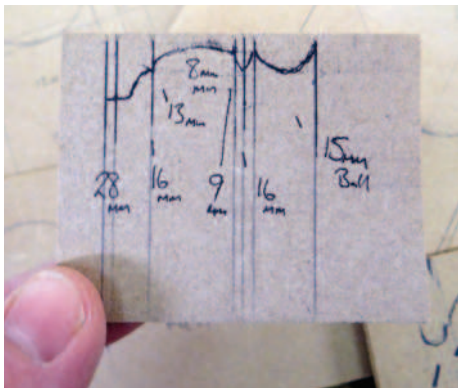
Alternative with real ivory

The project

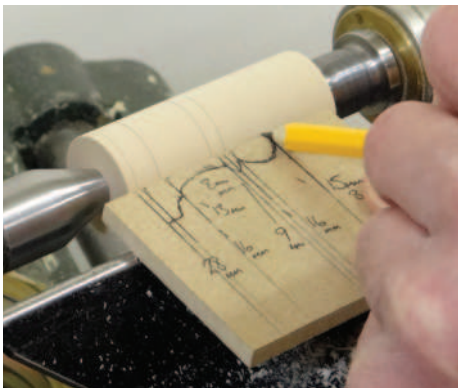
What should I make though? Anything but not a box is the brief. I mull on what is usually made in ivory and one thing immediately springs to mind: chess pieces. The best-known ivory turner was the late Bill Jones and, although he made a huge range of different items, like most professional 'jobbing' turners, he is probably best known for his, often ornate, ivory chess pieces.

I haven't made many chessmen – a few boxwood pawns and a couple of ebony bishops to replace those missing in sets – but nothing more complex and certainly nothing close to a full set. You'll know, though, that when I do need to make more than one of something, I make a template, or storyboard, for it and I tend to keep the best and most interesting ones, which I happen to know include the template for a Staunton-style pawn that I'd previously made.

I work out that I have just enough to make four pawns, so I should be able to experiment a little and try out a few different techniques.



The template for the Staunton-style pawn



Marking the positions of details on the wooden blank

Turning the wooden pawn

The finished wooden pawn

WOODEN PAWN

I decide, before cutting into the alternative ivory, I should familiarise myself with the shape by turning a wooden version using my usual process. I pick a piece of dense maple from my wood pile, which should look good as a pawn, trim it to size on the bandsaw and mount it between my small ring centre drive and live ring centre. I turn it to diameter with my spindle roughing gouge and mark the details from the template. I size the major parts with my beading and parting tool and Vernier callipers. Where the original had a 28mm base, I turn it to 25mm so it matches the alternative ivory material, which is in 25mm diameter rods. I then shape using my 10mm spindle gouge for the long, flat cove shape that forms the body and my beading and parting tool, used as a skew, to turn the tall pointed bead and the ball shaped 'head' section. I sand with 320 grit and an abrasive pad and it is done.

Alternative ivory

Without giving it too much thought I pick up a short piece of alternative ivory and mount it in the same way, or at least I try too. The centres bite into the blank and there is the slightest of sounds, almost like a cracking noise. I inspect it and there's no sign of a fault, so I turn the tailstock wheel once more to ensure I have it held tightly between centres and CRACK! It was indeed a cracking sound and now I only have enough material to turn three pawns.

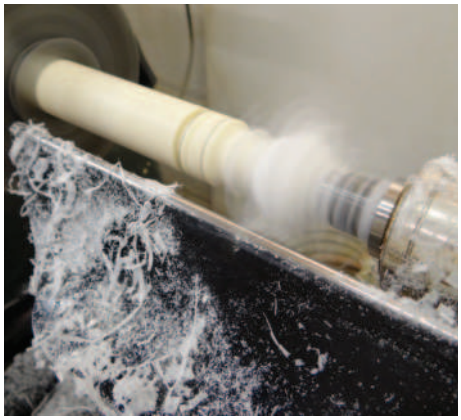
Where wood – even dense wood – has enough 'give' in it for the centre points to sink into the end grain, the polyester resin apparently doesn't and it showed its objection to this with a large crack running through ¾ of the blank, rendering it completely useless and teaching me my first lesson: mount alternative materials in a chuck and not between centres.

For my second attempt I use F jaws in my Axminster chuck, which happily grip a spindle of this diameter, and bring up my revolving tailstock centre for a little support, being careful not to over-tighten it this time.

It runs true on the lathe, which means I can jump straight into shaping it. I mark the details from the template and decide to start using exactly the same method as I had for the wooden pawn. I am slightly cautious after the previous incident but I am amazed that I achieve clean cuts with my standard turning tools, albeit taking lighter cuts than I might with wood. I even manage to turn the ball-shaped head with the tip of my beading and parting tool, used as a skew, which is a complete surprise to me.

The cracked alternative ivory blank

Turning the first alternative ivory pawn



The shavings need clearing regularly

I even manage to roll the ball with my 'skew'

MESSY

The most challenging aspect of turning this material is the mess it makes. Obviously woodturning is a messy job – we all know this and, probably in some sort of childish way, making a mess is part of the fun. But with wood the shavings just fall away, or are removed by the flute of the tool, so rarely cause issues close to the area being turned. However, the shavings that come from turning alternative ivory, especially with the spindle gouge and scrapers, are long, lightweight, stringy things that wrap around the work.

Because they are lightweight they do largely fall away easily with just the touch of a trailing finger, although some do wrap round the work, sometimes tightly, and need the lathe to be stopped so they can physically be pulled off. Never attempt to grab/remove the wrapped-around shavings while the lathe is running. They also seem to be slightly static and cling to everything, making it hard to get rid of them entirely.

Sanding to 1200g on the alternative ivory

Parting off the first pawn

Clearing these shavings away has to be done regularly and does make photographing my progress for the article difficult, as many of the photos are just blurred bundles of shavings with the tool sticking out of them.

With the turning largely done, I pull back the tailstock assembly and finish the top of the ball with a couple of light cuts with my spindle gouge. I then sand from 320 grit to 1200 grit, which leaves the surface smooth but matt. I will need to buff the surface to bring it to a high shine, but I'll do that later after turning a couple more.

Negative rake scrapers

Having turned the first with conventional spindle turning tools, I thought I'd try the next using scrapers. From my experience and from talking to others who have used them, I am aware that these alternative materials will often turn better with scrapers than with cutting tools – that is certainly the case for hybrid blanks. Having read many of Bill Jones' articles I am aware that he used many different scrapers in his work with real bone and ivory. He even turned alternative ivory occasionally, although I remember reading a comment that he didn't want to work in a plastic factory.

One of the tools most associated with Bill Jones, apart from his thread chasers and armrest tool, is the point tool, a strange-looking little tool which is mostly used by turners just to make fine V-grooves, but in the right hands it can be incredibly versatile. John Berkeley once showed me how to properly use it and it can be quite impressive on dense materials – John would favour it over a skew for forming beads and chamfers. With its three bevels, it is actually a negative rake scraper, so I use this, a 12mm curved scraper (which was once a skew chisel) and a 6mm beading and parting tool sharpened as a scraper.

If you look up 'negative rake scraper' online (often referred to as NRS) you will find lots of apparently contradictory information about bevel angles and grinds. The difference between a standard and a negative rake scraper is the top bevel. Both types cut using a fine burr, so I'm not sure if one would theoretically cut better than the other, but the top bevel allows the tool to be presented to the turning at almost any angle, rather than just pointing down as you need to with a standard scraper. Negative rake scrapers are also far more controllable and less likely to catch and pull, making them a very versatile and user-friendly tool.

Personally I grind both bevel angles at 35° as I see no point in adjusting the toolrest on the grinder twice to sharpen the same tool. I lightly grind the top first, which removes the old burr, I then lightly grind the lower bevel, which raises a new burr. Finally I rub a HSS burnishing rod along the edge a couple of times, at just a few degrees higher than the lower bevel, which rolls the burr over slightly and strengthens it, making it last much longer in use.

The negative rake scrapers I use, including a side view of the curved scraper

Pawn number two

I mark out the second pawn and, once again, size the major parts, this time using the beading and parting tool as a scraper rather than a cutting tool. The shaving is quite different and the sound of the cut is also subtly different. The sizing cuts with my beading and parting tool had been shorter, slightly chippy shavings, but with the scraper they are much smoother and longer. The real difference is when I switch to the curved scraper to cut the cove shapes. This produces masses of long, fine shavings, which need constantly clearing away, but the cut itself is as smooth as silk.

I'm satisfied with the two cove shapes, the point where they intersect just needs crisping a bit with a touch from my little square beading and parting tool. As I touch it to the pawn it suddenly shatters.

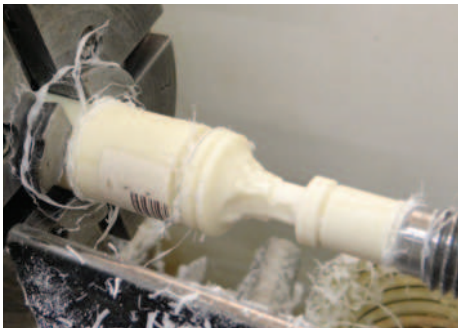
As with most catches, it is unexpected and it takes a while to get to the bottom of what went wrong. When you get a spiral catch with a skew in wood you can literally trace the point of the catch back to where it started and work out what happened, but with only a shattered surface left it is difficult to work it out.

The conclusion I reach is that this material can be cut like wood – albeit more gently – or it can be scraped like a dense wood or soft metal, but there is a point, somewhere between the two, where the tool isn't quite cutting or scraping and it really doesn't like it.

Pawn number three

I seem to be quickly getting through these pawns, although not quite in the way I would like. I have just enough left to make a third (hopefully second successful) pawn. There is enough material to hold in the chuck – just – but not enough to allow for the centre point from the live centre, so I leave it off. I figure it is now short enough that it shouldn't be a problem.

As before, I use my scrapers to shape the material, being careful to keep the presentation well on the scraping side of things and not straying anywhere near that dangerous in between area that I believe had resulted in the previous mess. Without the grain of wood to deal with, I find working 'uphill' with the scraper works best to produce the shape I'm after.



The shattered pawn

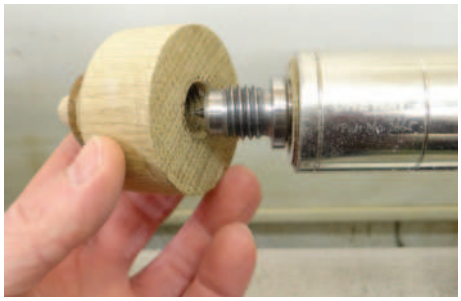
Having successfully negotiated the cove shapes, I can move to the tall pointed bead and ball shape, and for these I need to use the point tool. I begin with the bead, using the tool to create the curved chamfer, but I find there is a surprising amount of vibration. It seems that the structure of the material is such that, although it is quite dense, it doesn't have a lot of strength or rigidity. I can't bring up the live centre, so what can I do to support it? The usual solution would be to use the fingers of my front hand to support the work, but my fingers don't seem to be able to offer enough support to dampen the vibration.

I have a shelf next to the lathe on which I store a variety of wooden blocks that I use for driving odd-shaped items. One of these blocks is a piece of oak, which is tapped to screw onto the threaded portion of my live centre. I've used it in the past for supporting various things and it is perfect here, giving just the support I need to continue turning without a problem.

The point tool works well forming the pointy bead and onto the ball. In the right hands the point tool can be drawn in a smooth rolling motion from the base to the crest of a ball and back down the other side. In my less experienced and slightly over-cautious hands it takes a little more than this, but I end up with a pretty good ball shape. I work down to the wooden centre support, cutting into it to get as close to a complete ball as I can with support, only pulling back the revolving tailstock centre to finish the very top at the last minute. As before I sand from 320 to 1200 grit and part it off.

Turning with the curved negative rake scraper

Support from my fingers can't prevent vibration



The wooden centre I use to support the work screws onto the live centre

Using the point tool to roll the ball

Buffing

Alternative ivory, like so many of these resin and plastic-based materials, looks best when polished to a high gloss. Unlike wood, however, they aren't porous and so my usual oil finish is pretty useless. An oil finish, as you will know, absorbs into the wood and protects from below the surface, so it simply wouldn't work here. The best treatment is to buff with a fine abrasive compound and then, if an even higher shine is needed, buff with a little wax.

I mount my buff on the lathe and add a little white buffing compound to it, running at 1440rpm. Keeping the pawn at around 8 o'clock (if you imagine the buffing wheel is a clock) I work over the surface of the pawn until it is an even gloss. There is a visible difference between the finish left by 1200 grit abrasive and the buffing compound. I then switch to my softer buffing wheel and add a little carnauba wax, giving them a final polish. I also wax the wooden pawn in the same way, just to give it a little shine for the article. I think I would oil them if I were to make an actual wooden chess set, although carnauba wax applied like this does seem quite hard wearing.

Buffing to a gloss sheen

The left-hand pawn is sanded to 1200 grit, the right-hand one is buffed

Conclusion

I've always wanted to make a chess set and this gives something of a taste of it. The alternative ivory is a fantastic product and very realistic looking. I've learned that, despite its density, it is brittle and prone to shattering if the tool presentation isn't just right. Either a light, conventional cut or a scrape both work well, producing long, fine shavings, which wrap around the work. The surface, once buffed, is lovely and has a genuine ivory grain look to it.

Interestingly, as I look at the finished pawns, I notice a slight difference between the one I turned with conventional tools (which matches the wooden on) and the one I made with scrapers. This says two things to me: First, I should have checked it more carefully before I parted it off, but mostly, that changing the tools I used affected the shapes that I made.

While turning this material was an interesting experience and nice for a change, I think I'll stick with real wood for now.

The finished set of three pawns

The wood and alternative ivory pawns

With the shattered pawn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Foot design and simple decoration

In part two of this series on turning cross-grain bowls, Mark Sanger explores developing the simple bowl form further

In the previous article I covered the foundation of turning cross-grain bowls, including wood orientation, work holding, tools required and the techniques used to produce a simple form bowl. In this article I am going to expand on how we can develop this simple form further through looking at the options available to us, such as design of the foot and simple turned detail, to add variation and interest. While I am continuing on the theme of a simple bowl as in the first article, I also want to briefly discuss how the intended utility of the bowl can and often has to dictate the bowl's design, with the adding of detail and foot design coming second to utility. Of course, if the bowl is intended purely as an aesthetic piece then the foot needs only to provide suitable stability for the height and form and detailing comes second only to this.

Bowl turning is a favourite among turners as it is so satisfying to turn a beautiful, useful item. Certainly when I started, almost from day one of plugging in my lathe I was turning bowls. It is a vast subject, as are all other turning disciplines, and as such I am only able to scratch the surface within this series of articles. There are books solely dedicated to bowl turning and the design thereof, with it being a subject we could study without end. But there are many recourses available to us for bowl design, such as books from the local library and, not least, the internet, which is a vast, rich source at our fingertips. Tap into these and look not only at wooden bowls but the many other media in which they are made, the cultures from around the world and the designs including decoration that have been adopted – wood, pottery, ceramic, glass, metal and even, originally, gourd vessels. There is so much to explore.

Through building up our own ideas from research we can produce a plethora of designs with just a few simple alterations. Eventually texture, colour, mixed media to – name a few – can be added to the originating pure bowl taking it into a sculptural form. In this series of articles I hope to expose you to the beauty and diversity that the humble bowl offers us as turners as a canvas, as the bowl's pure beauty as a utility form.

PHOTOGRAPHS BY MARK SANGER

Proportion

If we consider the bowl purely as a utility item, then proportion and design can, for the major part, be discarded. If a functional bowl is stable in use then it has fulfilled its purpose and we need consider little else other than the finish to be applied, here a food-safe finish. Design from an early age in bowl making has been included if only initially with the addition of simple texture and colour as a way of maker or tribal identification. Later proportion and design played a significant role and so came the introduction of various systems of proportion, such as the golden ratio, closely followed by the much-used rule of thirds. Proportion and design is a huge subject and here I am only going to touch on the rule of thirds, which is the method of proportion I adopt when visually setting out my projects if they are to include specific design aspects such as a foot or position of a texture. Please research some of the many books on the subject of design, such as *Woodturning Design* by Derek Hayes, GMC Publications, for a comprehensive look at the many aspects of woodturning design.

Rule of thirds division of two

The rule of thirds is a simple method in which we can mark out or visualise the projects we make at the lathe, so they have a natural proportion and appeal to the eye when viewed. It is used in photography and within graphic design where the points of interest or significant parts of what is being viewed or is wanted to be viewed is placed at the intersection of or on one of the lines of thirds grid. This can be used in constructing the proportions within our project, as here in a bowl. Illustration 1 shows an example of how a simple functional bowl can be proportioned by the foot being a third the diameter of the bowl.

In illustration 2 we can see that a functional bowl requiring good stability could have be proportioned to two-thirds of the bowl diameter. This, you may or may not agree, can look overpowering and draw the eye, taking away from the overall aesthetics of the bowl. So I personally do not believe that the rule of thirds is a 'rule' that must be adhered to, but for me a guide/foundation to be aware of and not a slave to. We could here decide to divide the width of the base to half of the diameter of the bowl as in illustration 3, using another method of proportion which is known as division of two.

Dividing proportions by two is also an option but is only touched upon here within illustration 3 for the width of the foot but it can also be used in the proportioning of 'squashed sphere' hollow forms' which is not covered here. Division of two can look bland and is rarely used by me for this reason other than for stability of vessels when needed as discussed in 3. Only you should decide how you want to produce your own projects.

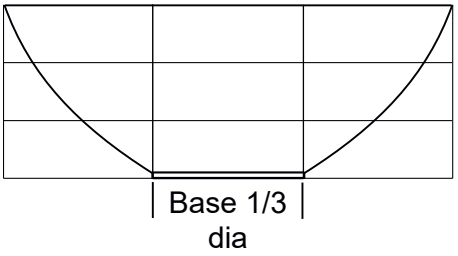


Illustration 1

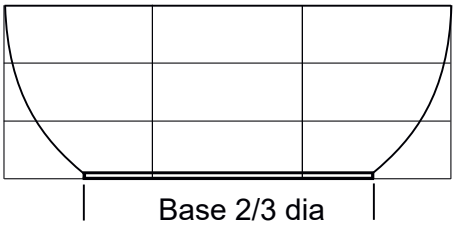


Illustration 2

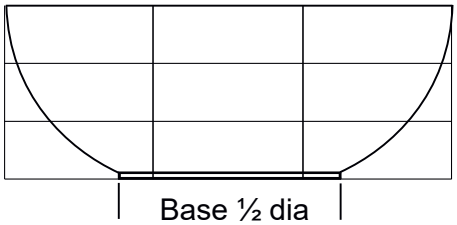


Illustration 3

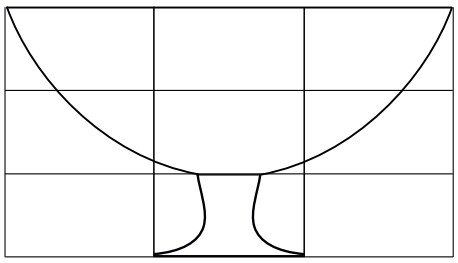


Illustration 4

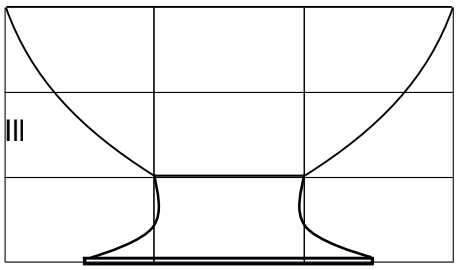


Illustration 5

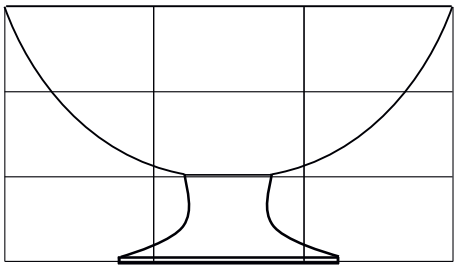


Illustration 6

APPLYING THE RULE OF THIRDS

Illustrations 4, 5 & 6 show how the rule of thirds can be applied not only through the width of a form but also the height of the separate components. Here a pedestal/foot for a bowl has been added as an example to give lift and a variation to the bowl design. Again, here you may decide that the foot looks overpowering in relation to the project, so again in illustration 6 the same option is shown proportioned by division of two, with the foot being half of the diameter of the bowl. This is a limited, simplistic look at proportion and be aware that an object will appear different depending upon the place it is displayed and viewed from. So I urge you not to stick rigidly to these examples of proportion but be mindful of them and use them as a foundation to starting point and be mindful of the proportion – but do not be a slave to these 'rules'.

Forms to experiment with

There is a plethora of forms and styles for us to experiment with. Books, internet or museums are huge resources with thousands of shapes, styles, forms and ideas to work with. When I go to a museum, I get quite excited, rather akin to a child in a sweetie shop, and always take my camera with me. I always ask before taking pictures or check signage as well as considering other people. I use the flash but take a monopod/stand to keep it steady in low light situations as I am after archive pictures, not clarity or high quality. I show a few examples that I have taken over the years as reference for my bowl turning. We can use our reference pictures for ideas but remember not to get too locked into them. Experiment with size, change the height, width and other aspects of the reference piece/picture. In illustration 10 we have a simple bowl which is then stretched taller, as with a vase or drinking vessel in illustration 11, with Illustration 12 showing how Illustration 10 could be altered through its width for a fruit type bowl. Illustrations 13, 14 and 15 show an ogee bowl alternative to the simple bowl. Here a slight change to a flowing out curve toward the rim of the bowl produces a subtle but classic alternative to work with.

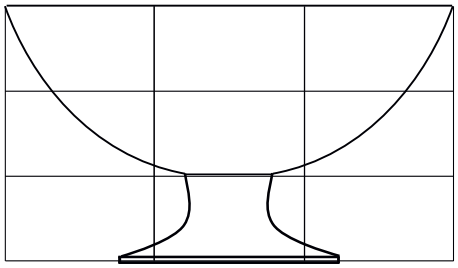


Illustration 7

Interior of a bowl

Classic oriental form

SIMPLE BOWL FORM VARIATION

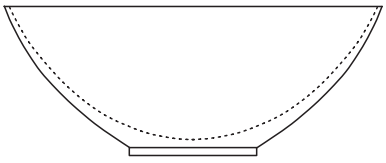


Illustration 10

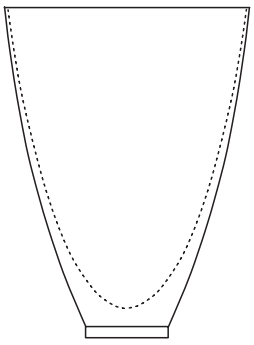


Illustration 11

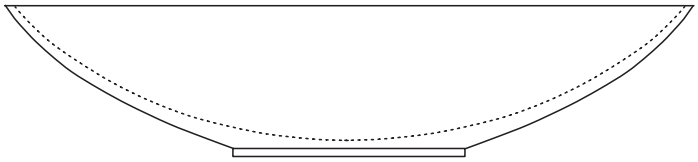


Illustration 12

TRADITIONAL OGEE-TYPE BOWL VARIATIONS

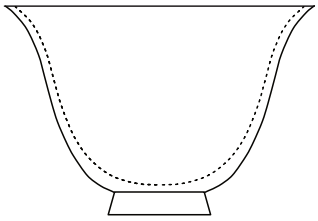


Illustration 13

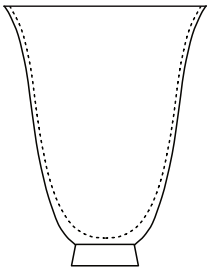


Illustration 14

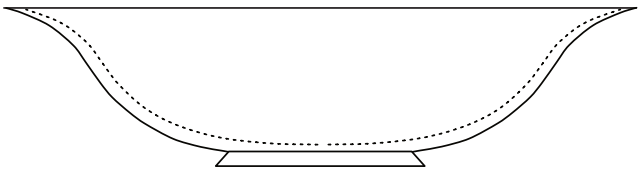


Illustration 15

Detail and foot design

Often the foot of a bowl is an insignificant oversight above and beyond providing the stability required. Often a slight lift via a small foot is all that is needed without detracting from the main form. A foot can, however, be as much a focal point as the main form, adding interest, and can be designed to connect with another detail within the bowl such as the rim or a bead to give a balanced composition. We can choose to utilise the thickness of the blank for inclusion of the foot, leaving it natural as shown in the picture below, whereby fine burn marks produced with a burning wire were included near to the rim of the bowl and at the join of bowl and foot, showing the same bowl with these parts stained black. Is it too much? That is for you to decide.

DETAIL

The detail in the images below was produced by first creating fine grooves for the burn wire to sit into. These were produced when the bowl was still on the faceplate or screw chuck to remove the issue of any small amount of movement when tightened in the chuck, which can be seen on such fine turned detail. To do this we can use standard tools, in this case the toe of a skew chisel placed on the toolrest, trailing with handle higher than the cutting edge presented to the wood in scraping mode to produce the grooves. Or use the same method but arc the skew from the groove around to the centre of the section to produce a bead if you are not confident rolling a bead with a spindle gouge. After this a wire burner with toggles/balls to hold onto is utilised to burn lines into the grooves. This not only serves as colour and detail on its own but also as a barrier to stop any paints or stains from bleeding into the adjacent areas. If we wish we can add them as shown later in a beech bowl with oak beaded, scorched, stained foot.

Defined burnt lines on the band and transition of bowl to base

Colour applied between the burnt lines

Forming grooves with a skew chisel in scraping mode

Forming a bead with a skew chisel in scraping mode

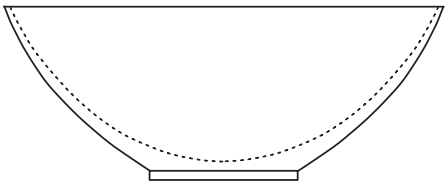
Burning lines wire with ball-shaped handles each end

Foot design

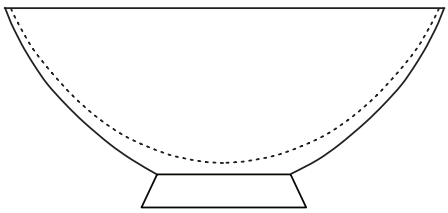
In this article I am using basic methods of work holding as shown in my previous article in *WT343* as it is the normal way I do it unless I am using a vacuum chuck, which is really not needed unless you are production turning. For finishing integral bases, I simply hollow the foot while the bowl is sandwiched between a friction plate and cone revolving tail centre (see pic 18), reducing the waste down to the minimum, the area being finished with abrasive and then finally blended with a small sanding arbor as shown in my previous article.

Illustration 19 shows five possible designs of foot, the first three being turned integrally within the bowl blank and the final two turned from a separate blank or offcut.

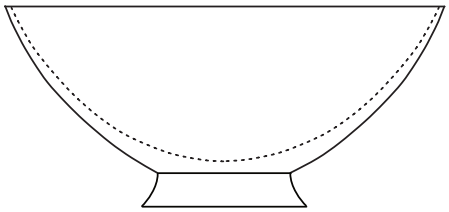
Finishing the base with spindle gouge



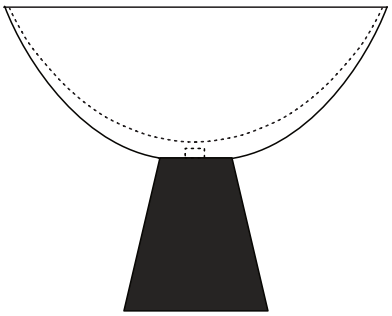
Simple minimal foot



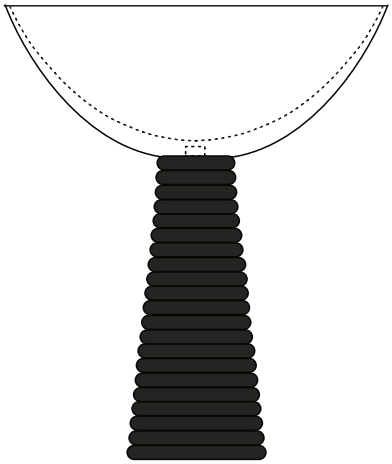
Shallow taper foot to give lift and ease of picking up for snack bowls and similar



Shallow curve foot variation of taper foot



Taper pedestal foot division of two



Beaded taper pedestal foot using rule of thirds

Illustration 19

TWO-PART DESIGN

Turning a pedestal-type foot or a foot design that requires turning away a sizeable amount of the blank can be wasteful, especially if we are turning a particularly beautiful or exotic piece of wood.

Here we have the option of turning a foot from two separate blanks, a contrasting wood or an offcut, which is then stained or coloured like the one shown next. This greatly reduces the waste being turned from the main blank.

To achieve this and while the bowl is fixed to the faceplate or screw chuck with spigot and waste section turned, a hole is drilled into the base of the bowl through the spigot, using a twist drill and Jacobs chuck. Here I simply measured the thickness of the spigot and waste section so the hole was drilled approximately 5mm into the base of the bowl once through the spigot (see left-hand image below).

The bowl was mounted in the chuck, hollowed and finished with abrasive before being reversed between a friction plate and revolving tail centre, shown in the image below, finally stopping a short distance from turning all the way through the waste. The revolving tailstock centre was removed, remaining waste cut off with a fine blade saw and blended with abrasive by hand.

Drilling a hole

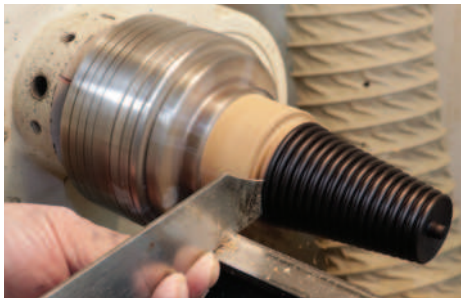
Cleaning up the bottom

Turning the foot

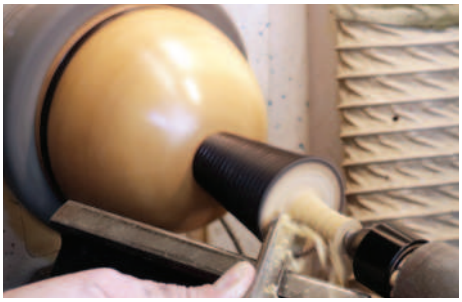
Next a foot was turned from an end-grain seasoned oak blank between centres, mounted into the chuck, marked to length, shaped, and beads produced using a beading tool. The front face was hollowed using a spindle gouge to match the base profile of the bowl and a central tapered section turned to the same diameter as drilled into the base of the bowl and finally stained with black spirit stain.

There are two options in relation to finishing the base of the foot. The first is that it can simply be parted form the waste using a thin parting tool. Alternatively, the foot can be glued into place with the bowl being reversed between a friction plate and revolving tail centre as previously described, with the bottom of the foot being finishing and slightly hollowed using a small bowl or spindle gouge, stopping short of turning all the way through the waste. The lathe was stopped and waste carved away and blended using a sanding arbor as shown in the previous article.

Applying stain



Using a thin parting tool



Using a gouge

Two finished examples of the designs discussed here to include both an integral foot and a foot turned from a separate piece of wood. The options available to us really are limitless. Have fun experimenting and see what you can come up with or copy the designs here. Above all, stay safe and have fun turning.

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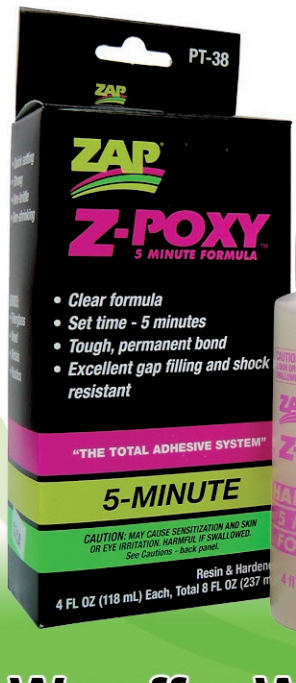

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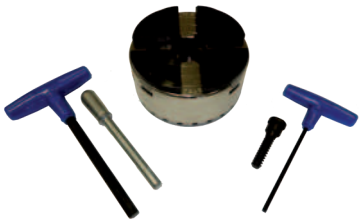

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Understanding the spindle roughing gouge

Les Symonds progresses through his in-depth look at the tools we work with, continuing with the spindle roughing gouge

PHOTOGRAPHS BY LE SYMONDS

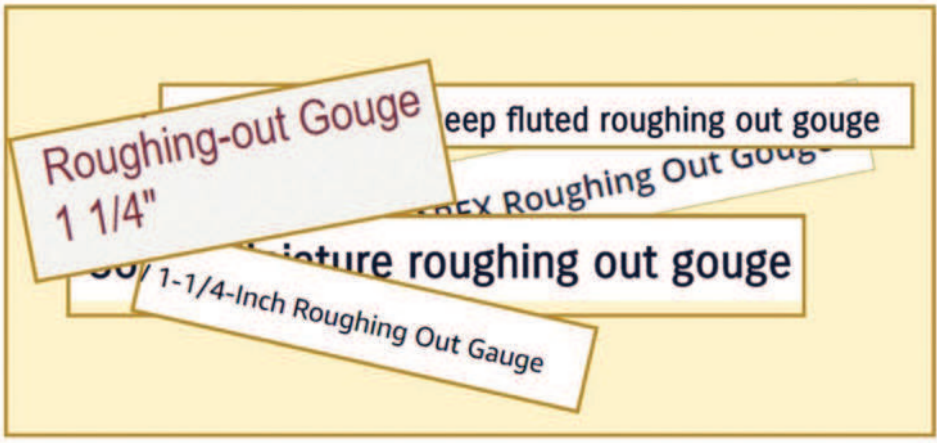
In this series of articles, which started last month when I looked at the parting tool, I aim to give turners a better understanding of their tools, so this month I will be looking at the spindle roughing gouge. This is a tool with a single function yet with several different ways in which it can be safely used. There will be an emphasis on understanding the dynamics of what makes it work well and what can therefore make it fail but, essentially, I aim to give you a level of understanding of the tool that will enable you to avoid the pitfalls and use your tools to your best advantage.

The series is aimed at those turners who are beginning their journey into the craft and at those who have intermediate skills. There will be many experienced turners who may well know other patterns of tools and other ways in which to use them, but it is not my intention to offer a comprehensive list of these. Indeed, the subject is so vast that many books are available covering it. Rather, I will cover those tools which all of us use regularly and similar versions of them that some of us will be familiar with.

Thus in this, the second article in the series, I will take a close look at the spindle roughing gouge, at the various names that turners, manufacturers and stockists may have given it, at a few variations on its standard pattern, and at what can be achieved with it. But, and most importantly, I will look at a possible misunderstanding regarding its use, which is fraught with dangers and which has caused injury for some turners who failed to restrict the use of this tool to its intended purpose.

So what's in a name?

Let's be clear about this from the outset – throughout this article I will be using one name for this gouge, and that is 'spindle roughing gouge'. However, a quick trawl of the internet, searching for this tool, reveals that many, many manufacturers and stockists of both leading and secondary brands refer to this tool as the spindle roughing-out gouge, some even drop the word 'spindle' from the name. Does that matter? Well, many of us in the woodturning fraternity, use the term '... roughing-out' to refer to the process of rough turning faceplate-oriented grain, green-wood bowls to shape and this is an operation for which this tool must never be used – an issue which I will cover in more detail later in this article. Thus, I wish to avoid any misunderstanding, or any false impression that might be given to novice woodturners that a spindle roughing gouge might be used for the roughing-out process of bowls – it must not. While on this subject, the spindle roughing gouge is not to be used to rough out the internal hollows and shapes of end-grain/spindle grain-oriented work either.



A few cropped headings from internet sales for spindle roughing gouges

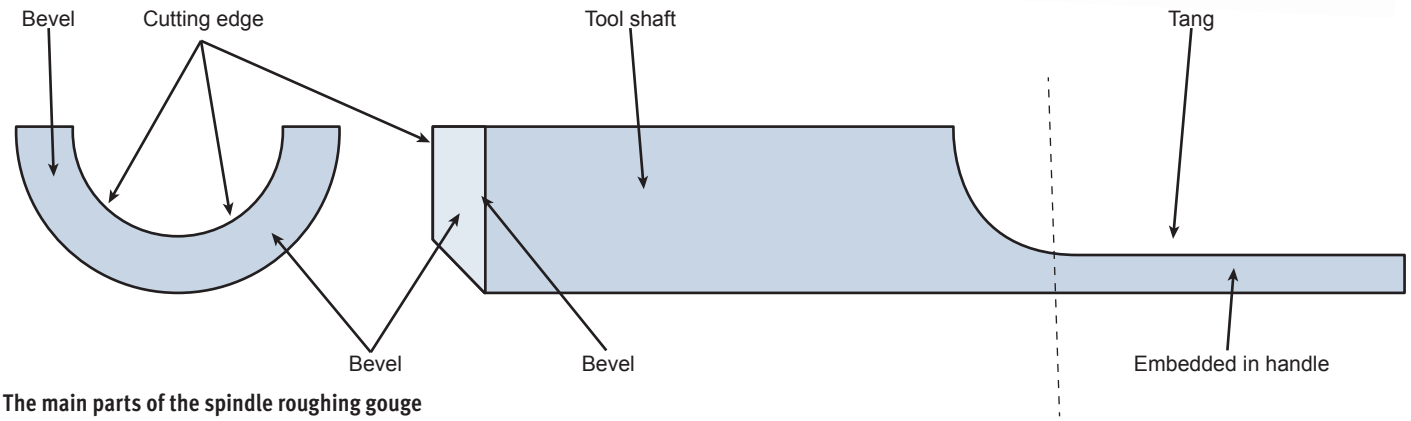
The basic shape of the gouge and some of the pattern variations available

In essence, the spindle roughing gouge is a flat steel bar, forged into a half-round section (or similar), with the handle end cut and forged or ground back into a tang. At the business end, which is generally ground square across, it is ground on the outer face only, at an angle of about 45°, although 5° either way of this is quite normal. The blade is usually embedded into its handle at the point where the long, pointed tang suddenly flares out into the full, half-round-section of the blade and it is pertinent to note here that this is the tool's weakest point.

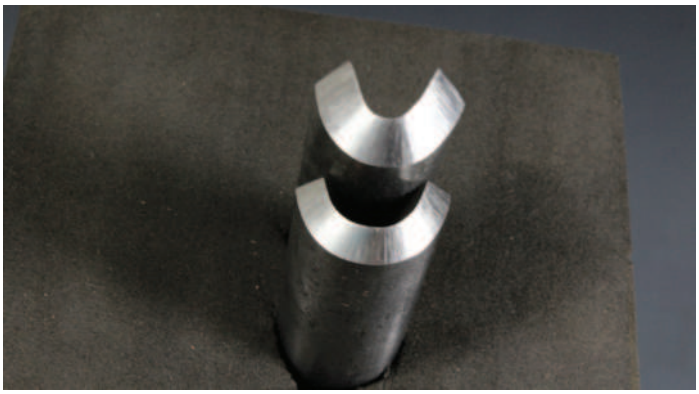
The majority of turners will own a 25-32mm tool, its measurement being taken across the flats, at the top of the half-round shape, from one outer face to the other. Many professional turners, and those others who work with large section spindles, may well use a much larger tool and they can frequently be found in sizes up to 50mm wide, while there is also a 'micro' version available, aimed mainly at pen-turners and the makers of very small spindles (such as hair-sticks and lace bobbins), which is just 8mm wide, but whichever size you use, the dynamics of the tool will be much the same

As for profile, in the UK this rarely varies from the half-round section mentioned above, although some older tools have a flatter, more gently rounded curve and the Draper tool company used to make one which had a deep U-section with the bottom of the U rounded over while the walls of the U are both quite flat and flared outwards at an angle of about 35°. I have one of these and find it to be an excellent tool for spindle roughing, especially as the flats, while in the process of making the last few roughing cuts, can be used almost in the same way that a skew chisel can be used, leaving a very fine surface from which to begin the more detailed profiling of the work with standard spindle gouges.

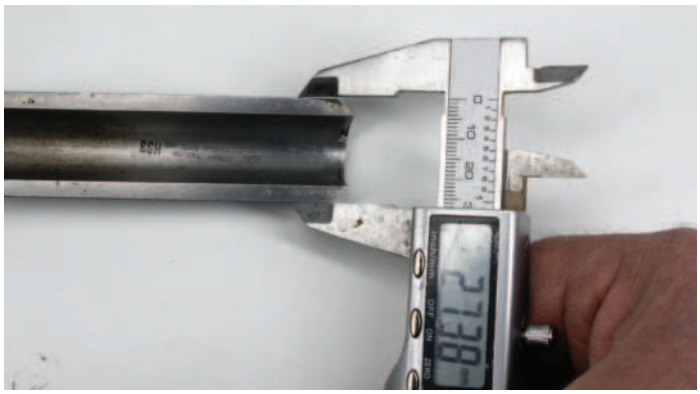
A few variations in the pattern



The main parts of the spindle roughing gouge



The section of the Draper pattern (above) compared to the standard gouge (below)

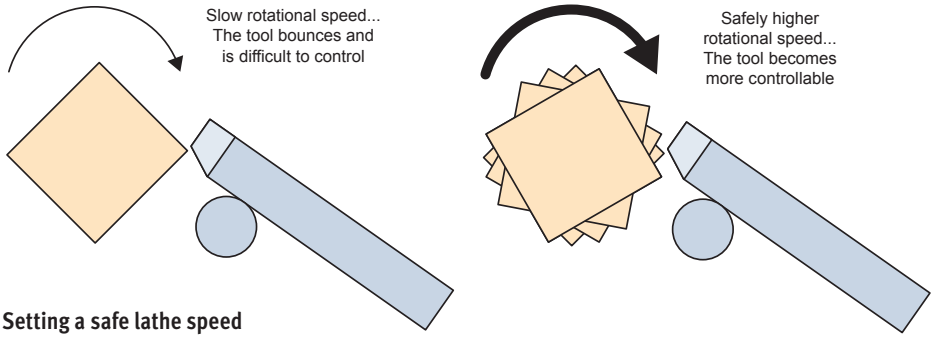


Measuring the gouge

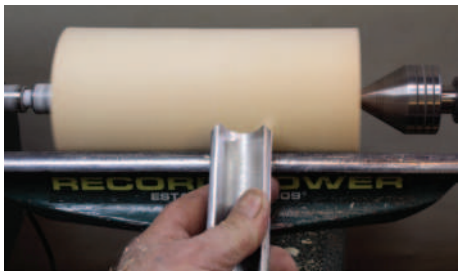
The basic spindle roughing cuts

This gouge is used in the very same manner as all true cutting tools, that is, with the bevel rubbing, but its orientation in relation to the workpiece can give quite varied results.

First, though, when setting your lathe's rotational speed, consider this: when irregularly-shaped or square section timber is being worked, the tool is inclined to bounce forward off the toolrest when a projection such as a corner strikes it. At a very slow rotational speed, the tool gets ample time to return towards the workpiece and its projection, reacting to it every time that it passes. If too much pressure is exerted on the tool, against the workpiece, the tool might even slip back to a position where it lies underneath a projection, which then strikes the bevel hard. This all causes loud rattling and bouncing of the tool, which will clearly be difficult to control. However, if the rotational speed is increased to a higher, safe level, the projections on the workpiece pass the tool more rapidly, such that the tool gets considerably less opportunity to bounce back into them. Thus a safe higher rotational speed and a firm grip on the tool with gentle pressure against the workpiece will result in a gentle chattering rather than the pronounced rattle formerly mentioned.



Setting a safe lathe speed



The basic cut, square to the toolrest

The improved cut with gouge angled and rotated just a little

Two different cuts with two different types of shavings and finishes on the surface of the timber

Let's start with one of its principal uses, that of reducing square section stock to a rounded, cylindrical shape, and herein lies our first problem, in that with square stock there is not yet a true surface on the workpiece that the bevel can rub on. Rest the gouge on the toolrest, square to the workpiece, flute pointing directly upwards and handle deliberately low. Advance the gouge until the heel of the bevel just touches the workpiece, using minimal pressure to hold it there, and this will give a gentle, but quite clear, chattering sound as the heel of the bevel makes contact. Lift the handle slowly, keeping the heel tapping away and before long the sound will change slightly, becoming more muffled. This is your signal that the whole of the bevel is now rubbing, but the cutting edge has not yet engaged. Lifting the tool handle by a few more degrees will bring the cutting edge into contact with the workpiece. Initially, a little dust and then light chips of timber will run down the gouge's flute and this is your signal to move the gouge from side to side to commence your cut.

Once the cut is well under way, the main projections cut away and some semblance of a cylinder taking place, try changing the presentation of the tool a little. Starting in the centre of the workpiece, swing the handle to the left by about 10° and roll the tool anti-clockwise, such that the flute is no longer upright. Take care not to roll the tool so far that the top-left corner of the cutting edge makes contact with the timber, then slide the tool along the toolrest, from left to right, until it passes clear of the workpiece. For the next cut, return to where you just started this cut, but this time reverse the

procedure, swing the handle to the right and roll the tool a little clock-wise, then slide the tool from right to left, cleaning up the rest of the surface.

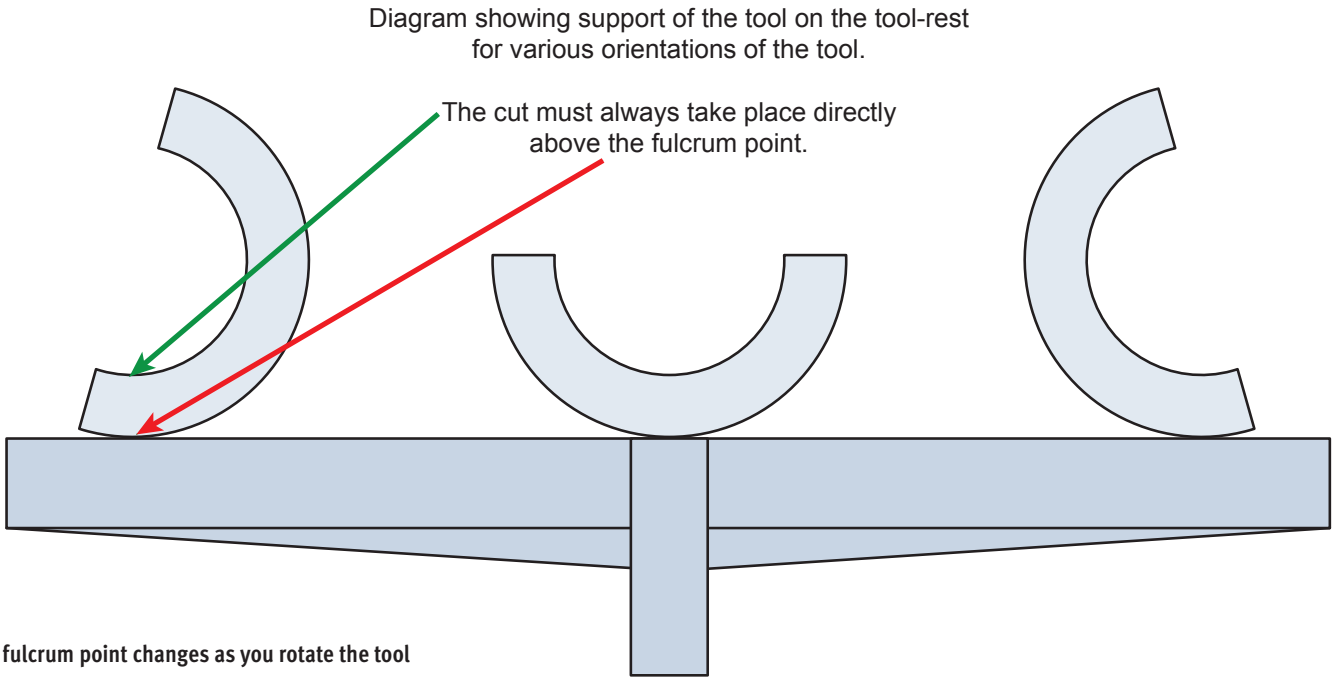
What you have just achieved is a shearing cut. In our initial cut with this tool, when it was square to the toolrest, the cutting edge lay directly across the face of the workpiece, effectively just chopping dust or chips off as the timber passes it. Now look closely at the point inside the flute where the shavings leave the workpiece with an angled presentation of the tool and you will notice that the cutting edge meets the workpiece at quite an angle, shearing the surface rather than chopping away – this will achieve a much better finish.

You might also take a close look at the shavings you produce. With the square-on 'chopping' you will probably achieve a mixture of woodchips and dust, whereas with the shearing cut you should be producing finer, more continuous shavings. It is always worth recalling the old maxim that the finer the shavings, the finer the finish.

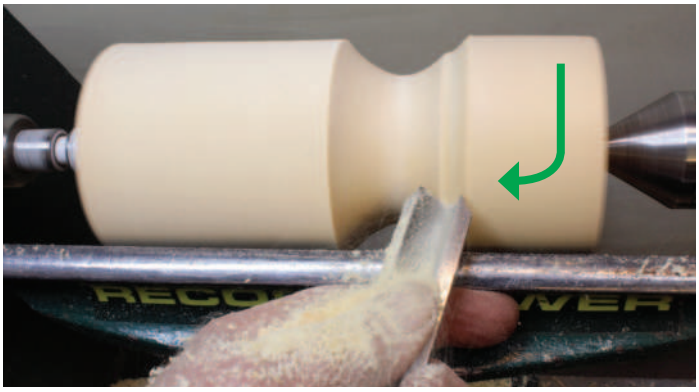
Avoiding spin-off in coves

The work of the spindle roughing gouge is not restricted to achieving a cylindrical workpiece; it can also be used to rough turn the beginnings of a profile that is then refined with the skew chisel or standard spindle gouges. However, there is one distinct type of cut which simply does not work, and that is attempting to run the gouge uphill, when cutting a cove, or even on a steep taper.

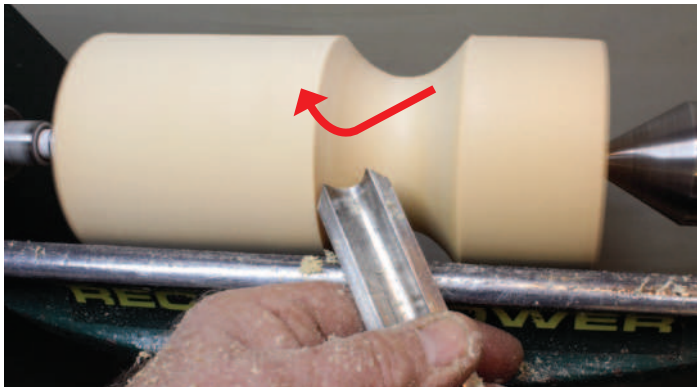
Take a look at the diagram entitled 'The fulcrum point changes as you rotate the tool' and you will see that, no matter how you roll this tool, its fulcrum point tends to lie directly beneath the part of the cutting edge which is performing the cutting action. Thus, to understand the issues of spin-off in coves and tapers, rough out a deep cove in a piece of scrap wood, deep and wide enough for your gouge to move freely within it, but taking care only to move the gouge downhill, into the bottom of the cove, coming in from both left and right to achieve this. Now switch the lathe off, place the gouge in the bottom of the cove and move it to the left, effectively uphill. Note that if you were to try this with the lathe running, the gouge would now be attempting to cut over to one side of its fulcrum point (the point at which it is supported on the tool-rest). The inevitable result is that the tool is drawn towards that side, where the increasing diameter of the timber results in its increasing linear speed. The tool now accelerates out of the cove, hopefully not twisting to the left so much that its top corner catches the timber! Thus the golden rule in coves and on steep tapers is: Always work downhill.



The fulcrum point changes as you rotate the tool



Safe cutting down into a cove....

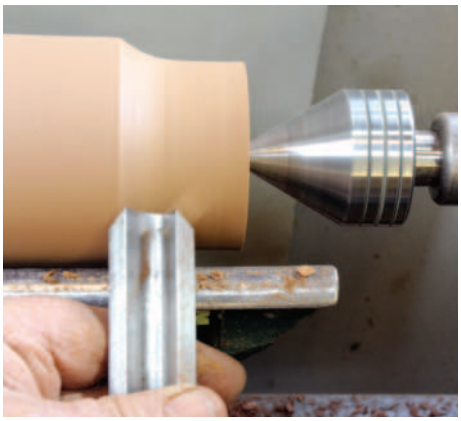


...but avoid cutting uphill

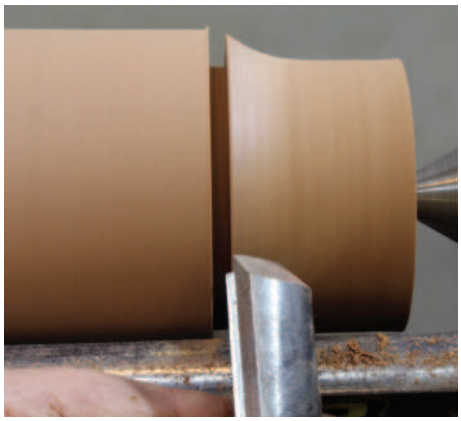
Getting into a tight corner

We sometimes need to form a shape on a spindle in which there is a sudden, sharp change of diameter, effectively leaving a corner; for example, at the bottom of the upright shaft of a table or standard lamp, where a tenon is formed to slot into a mortise in the lamp-base. Looking at the photograph, you will see that the problem with roughing this sort of shape with this gouge, is that it simply doesn't fit into the corner, so try this.

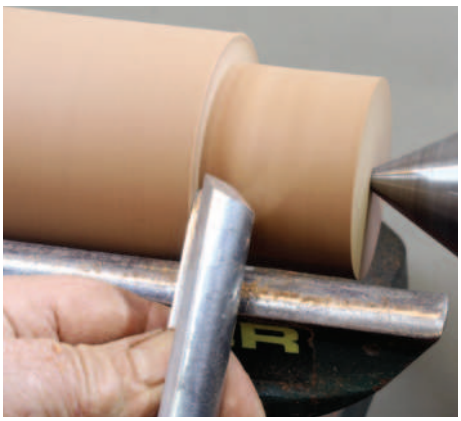
Use a parting tool to clearly mark the point on the workpiece where the sudden change of diameter will be – remember to use a second, relieving cut with the parting tool if this means you have to cut a deep groove. Now use the gouge to rough turn the waste away and you will be left with a radiused corner next to the groove that you just cut. Place the gouge on the toolrest, square to the workpiece, and roll it anti-clockwise until the flute points to the left and is almost horizontal. Drop the tool handle and present the gouge against the surface, with the bevel rubbing, and the tool will happily cut away the corner. Just be careful that you don't roll the tool any further than needed, especially not so far that its flute starts to point below a horizontal line. It is also important that you don't attempt to use the gouge in this orientation to continue the cut away from the corner; if you do, you may well cause the gouge to cut at a point well to one side of its fulcrum point on the toolrest, resulting in a catch or spin-off.



An unwanted, radiused corner



Define the corner with a parting tool



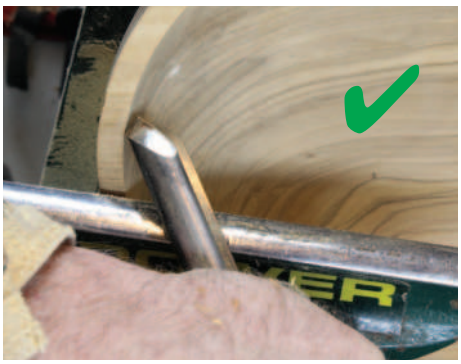
Roll the gouge on to its edge to clean the corner

Never use a spindle roughing gouge when hollowing a bowl

As I mentioned earlier, this gouge must not be used for hollowing bowls, and there are two reasons for this. First, and crucially, when working inside a concave shape there is a high risk of a corner of the cutting edge making contact with the bowl wall, resulting in an immediate catch. The business end of the gouge will be dragged downwards at considerable speed, then it will be drawn into an anti-clockwise path. The handle will instantly kick upwards, then follow a hectic path as it gets dragged along by the blade, only for the whole gouge to be thrown out of the bowl, sometimes still in one piece, but quite possibly in two pieces. Do you really want to risk this?

Second, consider the shaft of the gouge, compared with that of a bowl gouge. In the latter, the shaft will be a heavy, solid, round bar and it is made like this to resist the leverage force incurred in bowl hollowing, as well as the impact forces associated with a catch in a bowl. Now think about the spindle roughing gouge and recall that I mentioned early on in this article that the tang is the tool's weakest point – if it is going to break, this is where it will happen. Its blade is designed to cut across the run of the fibres in a spindle, not along the fibres on the side of a cross-grain bowl, and not across the end grain (where the fibres present as being somewhat harder). If you try to use your spindle roughing gouge to cut even the outside of a cross-grained bowl, you will be putting the tang under considerable stress.

Take a look at the three images here. With the lathe stopped (this is crucial – it must be stopped), a bowl gouge is put into place at the start of what would be a typical cut, bevel rubbing and the cutting edge about to start its cut. The wing, being swept back, is well out of the way and therefore not at risk of making contact with the bowl wall. Next, we take the bowl gouge away and put the spindle roughing gouge in its place – this very clearly highlights the risk of a corner of the gouge digging into the bowl wall. When the roughing gouge continues its cut down into the bowl (if it ever gets that far), its path is more difficult to see, the wings obscuring the view of the cutting edge and a dig-in is now even more likely.



A correctly placed bowl gouge ready for turning the inside of a faceplate-oriented grain bowl

NEVER use you spindle roughing gouge in this way...

...nor in this way

Roughing a convex shape

We have dealt with how we cut a concave shape and we saw how allowing the cut to move to an unsupported area of the cutting edge results in a catch or spin-off, so now let's apply this understanding to cutting a convex shape. There is little point using this gouge to rough our small beads as the standard spindle gouge will cope perfectly well and give a better finish. However, there is a case for roughing larger convex shapes, such as when rounding over the ends of apples or pears, and in this case we must follow the basic rules.

There is a simple way of practising a safe cut on a convex shape, so set up a workpiece, such as the one in the image, and set the toolrest as shown. Smear the whole of the gouge's bevel with ink from a brightly coloured felt pen, give it a moment to dry, then commence your cut.

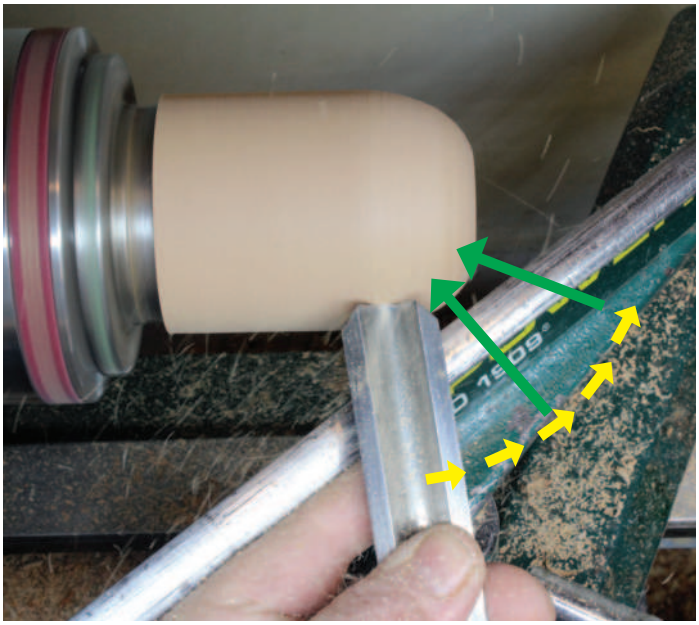
With the flute upright and the gouge square to the toolrest, start the cut and pay attention to where the dust or shavings are running into the flute. You will see that this happens in the very bottom of the flute, confirming that this is a safe cut, because it is happening directly over the tool's fulcrum point on the toolrest.

Smear the whole cutting edge with ink

Starting the cut

As the cut progresses and the convex shape develops, you will need to swing the end of the handle through an arc of 90° to keep the cut going, and keep your eye on the point at which the shavings enter the flute – it must always be at, or very close to, the same point in the bottom of the flute. At the beginning of each cut, if you are in any doubt about how to orientate the handle, switch off, put the gouge in place on the toolrest and observe where the cutting edge is contacting the workpiece. If that contact has moved off to one side, away from the bottom of the flute, swing the handle to one side or the other until you correct this. Before you switch on, you might even try moving the gouge around the curve, as though you were making the cut, checking for correct orientation of the tool at all points.

Continue until you have cut the desired shape, then switch off, roll the gouge over and look at the bevel. You will see that the ink has been rubbed away where the bevel has been making contact with the wood and, if you have made this cut correctly, there will be just a small patch of steel showing through the ink, adjacent to the bottom of the flute. If this is not the case, it suggests that the orientation of the handle has been incorrect.



Tool orientation as the curve develops

...a single scuff mark on the gouge

Conclusion

So, there's more to the spindle roughing gouge than an inexperienced turner might imagine, and as I have mentioned, it is generally considered to be one of the safer tools on spindle work to use. For this reason, it is often the first tool that a learner is given to experience cutting with the bevel rubbing. If you stick to the rules and use this for the sole purpose that its true name suggests, it will live up to its reputation as a safe tool, but break these rules and you may well discover a different characteristic of this tool. Just follow the safe practices mentioned in the text, especially regarding lathe speed, restricting the tool to its proper use and switching off if you follow my suggestions about seeing what can go wrong.

I trust that you found a few facts and ideas in this article. Next, we'll be looking at the bowl gouge.

Take care, be safe!

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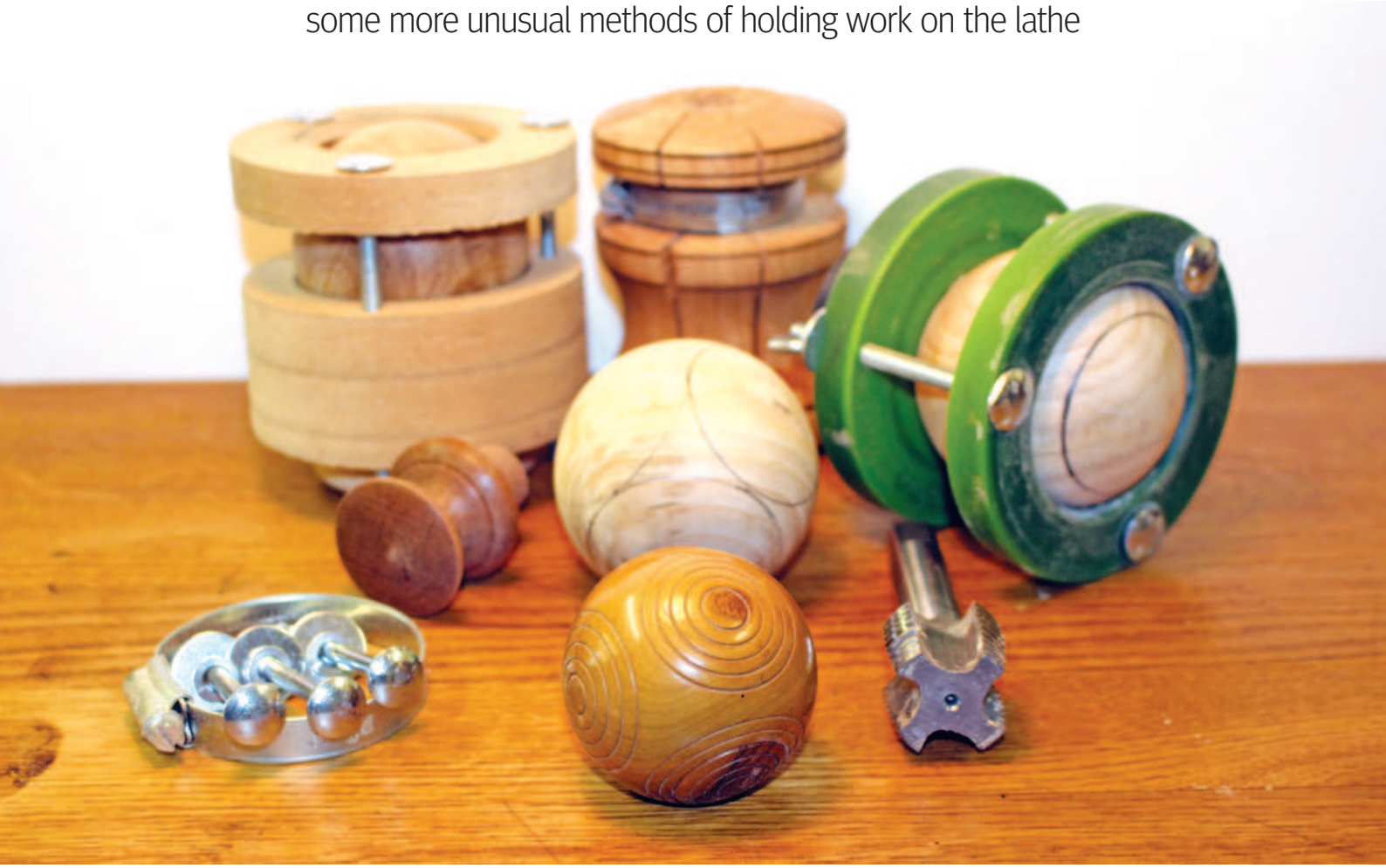
Alternative chucking

In Part three of this series Andy Coates looks at some more unusual methods of holding work on the lathe



Making your own chucks and holding devices can be exciting and addictive. Having a shiny, new, independent four-jaw scroll chuck is also exciting, and the world suddenly seems open to any and every possibility; but making your own chucks is something a little more. You can't really be proud of just handing over a credit card, but you can be proud of making a lump of wood into a functional holding device. And you will be.

As previously stated, many of these chucks can be used in the absence of an actual scroll chuck, as a necessity, preference, or as a tide-over, but they can even be a permanent solution. The ideal situation, for me, is to have them as additions to a scroll chuck, for those tricky jobs that require something the scroll chuck and available jaw sets cannot manage to hold.

In the previous part of this series I made a set of sphere-holding fixtures to enable finishing and abrading a turned sphere between centres, and these can be a useful addition to your holding capabilities, but what if you want to do further work on a sphere after completing it? How do you hold a sphere without damaging it? You could use a vacuum chuck system, providing you had an appropriately sized chuck, but what if you do not have a vacuum system?

Another common problem that can require the purchase of seldom-used specialist jaws is small objects, especially those with an integral mounting tenon, such as drawer knobs. A simple wooden collet chuck is the perfect solution to this problem – easy to make and use, and once again can usually be made from scraps and offcuts from the workshop. I made the version here to be mounted in conventional C jaws of a scroll chuck, but it might be even better to drill and tap the blank to mount directly onto the lathe mandrel as for the sphere chuck.

Making a sphere-holding chuck is not difficult, and the materials can often be found around the workshop. The version I make here is from MDF, but it could just as easily be made from other resistant materials, notably plastics such as Delrin, but MDF is more likely to be found to hand.

I started off with a glued-up block of three layers of 18mm MDF 110mm square, a single square of 18mm MDF, a glued-up block of three layers 70mm square, and three domed bolts, washers and wing nuts. And the result is something you can use not only for spheres, but also other objects.

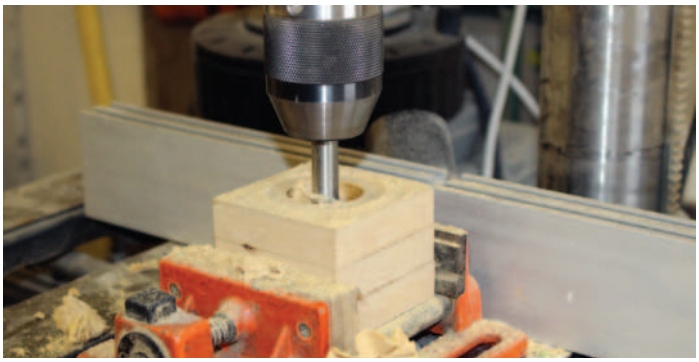
PHOTOGRAPHS BY ANDY COATES

The makings of a sphere chuck

Making a sphere mounting chuck: first step

I decided to make this sphere chuck directly mountable on the mandrel, so for my particular chuck/lathe combination a register ring is required to keep the homemade chuck true. The smaller block of laminated MDF was drilled out to 37mm, which is the OD of the register on the lathe mandrel. There was no need to drill all the way through as only 15mm depth is required, but several register rings can be made at the same time; these can be used in the future.

The block is then held on engineering jaws in expansion mode, and trued to a cylinder. Two of the layers are parted off, leaving one ring on the chuck. The face of the ring is trued and abraded and then removed from the chuck for later use. The parted off section will provide two rings for future chucks.



Drilling the blank for mounting on engineering jaws

Truing the block and parting off a ring

Making the body

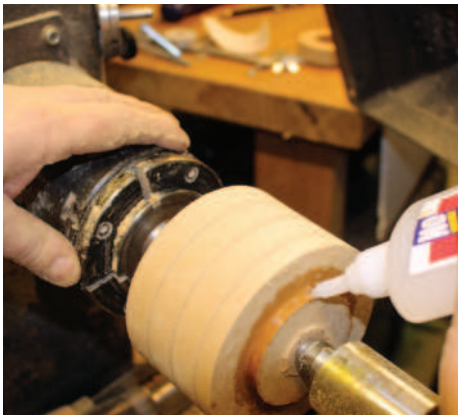
The 110mm square of laminated MDF is laid flat and double-side tape affixed to the surface. The single square is then clamped down onto it. This allows for perfect alignment later on and provides a hold sufficient to work the material. Mount the blank with the single board at the headstock end. The block is then roughed down to a cylinder and a tenon is cut at the tailstock end of the blank. MDF can have a tendency to shear off under pressure, so the tenon and surrounding area is soaked with thin CA glue and left to cure. Once cured a light cut will true the surface of the tenon edge.

I wanted this sphere chuck to mount directly, so I will be tapping it with the M33 x 3.5mm tap that makes a thread suitable for my lathe. Your lathe may have a different thread size. The block is mounted on the tenon into the scroll chuck. Next, drill a pilot hole suitable for the tap – in this case a 30mm hole – all the way through the block.

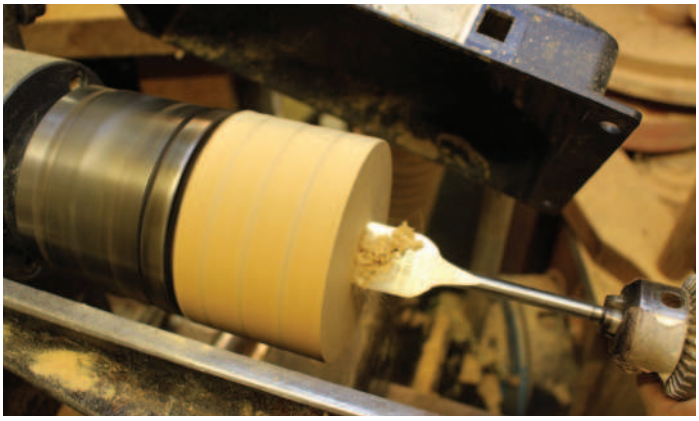
Prior to threading, apply CA glue over all the inner surface of the hole. Allow this to fully cure. Do not use accelerator.

Applying double-sided tape

Truing up



Firming up with CA glue



Drilling the pilot hole

Firming up the wall of the hole with CA glue

Cutting the thread

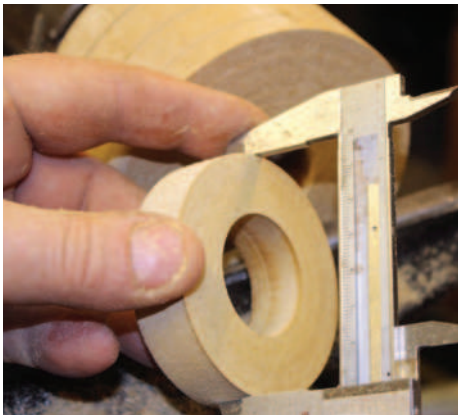
Take the register ring you made earlier and measure the diameter accurately. Transfer this to the face of the block and cut a recess, 4-5mm deep, to take the ring tightly. Put the ring to one side.

Cut a slight chamfer on the inner edge of the pilot hole entry. **N.B:** The next stage is carried out with the lathe turned off and the headstock spindle locked. This process was fully covered in the previous article.

Using the point of a cone centre in the end of the tap, bring the cutting head up to the pilot hole and gently wind in the tap at the same time as rotating the tap clockwise with a spanner or adjustable wrench. Withdraw the tap frequently to clean out the swarf. Tap the thread all the way through the block. The thread should be clean and crisp when finished. At this point you can, if you wish, coat the whole thread with thin CA glue and allow it to cure before running the tap through one more time to clean up any excess glue. This will significantly strengthen the thread and increase durability. A spray of silicone glue will ease the thread in use.

Use the lathe indexing system, if you have one, to mark off the face at 120° divisions. Mark a line approximately 10mm from the edge to intersect at each of these divisions. Now take the block to the pillar drill, and using a piece of scrapwood under the block, drill three 6mm holes at these points all the way through the block.

Now you can carefully split the single layer board from the block using a paint scraper or something equally thin but strong.



Measuring the diameter of the register ring

Starting the threading process

The completed thread

Marking the 120° divisions

Drilling the 6mm holes

Parting off the single layer board

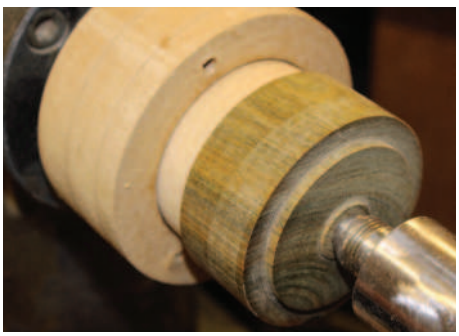
Finishing the sphere chuck

Mount the chuck on the lathe mandrel using the tapped thread, and lock the mandrel off. Now glue on the register ring. You can use CA glue, or wood glue if you have the patience to wait for it to cure. Bring a block of scrapwood and the revolving tailstock centre up to clamp the ring while the glue cures. This will also ensure the ring is centrally located.

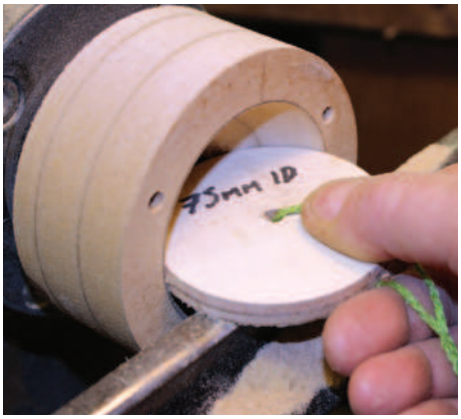
Now reverse the chuck onto the mandrel and turn out a hemisphere to suit the sphere you wish to work on. I used a template for a 75mm sphere. Make the hemisphere a little less deep than the diameter of the sphere.

Mount the single board using the bolts and wingnuts. Turn a shallow curve that matches the sphere dimensions. Remove the single board and reverse it before refitting the bolts and wingnuts. This is the outside face of the sphere chuck's out plate. Mark a safety line a little in from the inside edge of the domed bolt heads. Now open up the hole to provide access to a sphere mounted in the chuck. Check this by bringing a sphere up to the hole. You need to ensure that you have sufficient area available to allow you to work safely.

Now your chuck is complete and you can mount a sphere in it, and once the wingnuts have been uniformly tightened up you can safely work on the front face to add texture or decoration to your spheres.



Gluing on the register ring



Turning out to a 75mm hemisphere


Turning the inside curve on the outer chuck face


Checking the outer curve on the outer chuck face

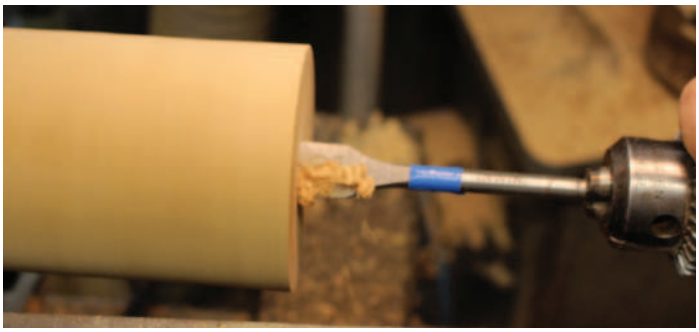
Wooden collet chucks

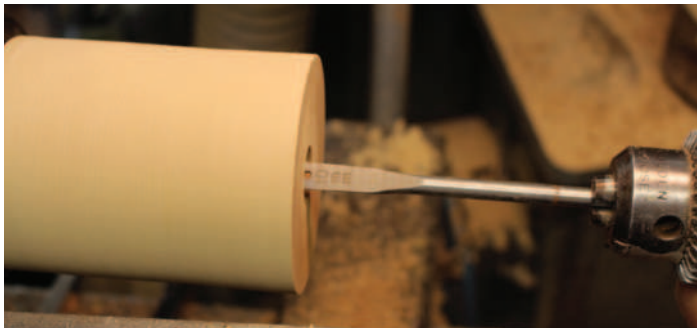
Small items such as drawer knobs and finials are often difficult to hold unless you have dedicated chuck jaws to suit. A wooden collet chuck can solve that problem. Many people are put off by the commonly made versions due to the potential danger of having a Jubilee clip spinning around waiting to catch unwary knuckles and fingers. My version solves this problem by recessing the Jubilee clip out of harm's way.

Start with a block 110mm long by 95mm square. This is based on a Jubilee clip that operates from 46mm to 60mm. You can adjust all sizes appropriate to the size of chuck you require. Or make a set.

Mount the blank between centres and true to a cylinder. Turn a tenon on the tailstock end and remount in the scroll chuck. Using a spade bit and a Jacobs chuck drill a 20mm hole 50mm down the blank. Now take a 10mm spade bit and drill all the way through the blank. This is the relief hole and will allow for the use of a knockout bar should a workpiece become jammed in the collet chuck.

Use the indexing system to mark off 45° divisions to give you eight 'jaws'. Mark the divisions across the top face and down the side of the blank to around 10-15mm from the headstock end. The slots required to make the flexible jaws can be cut on a bandsaw with a suitable holding sled, but I prefer to use a pullsaw with the chuck held in the bench vice. Cut down to the marks.


Drilling out the trued-up cylinder


Drilling the relief hole


Marking out the divisions


Cutting the jaws with a pullsaw

Completing the collet chuck

Measure the inside diameter of the Jubilee clip at close to its maximum expansion. Set callipers to this dimension. Cut a recess 20mm in from the face of the chuck to a depth slightly in excess of the depth of the screw retainer on the Jubilee clip. Unscrew the Jubilee clip and test fit. The clip should be fully recessed, including the tail of the clip, once tightened down.

It is far safer to use this design of wooden collet chuck than the more common style, but should your nerves or sense of self preservation require further help then you can tape over the clip with duct tape while in use.

From 20mm back from the front edge turn a chamfer on the front face to the outside of the 20mm centre hole. This will provide a relief area for turning the workpieces.

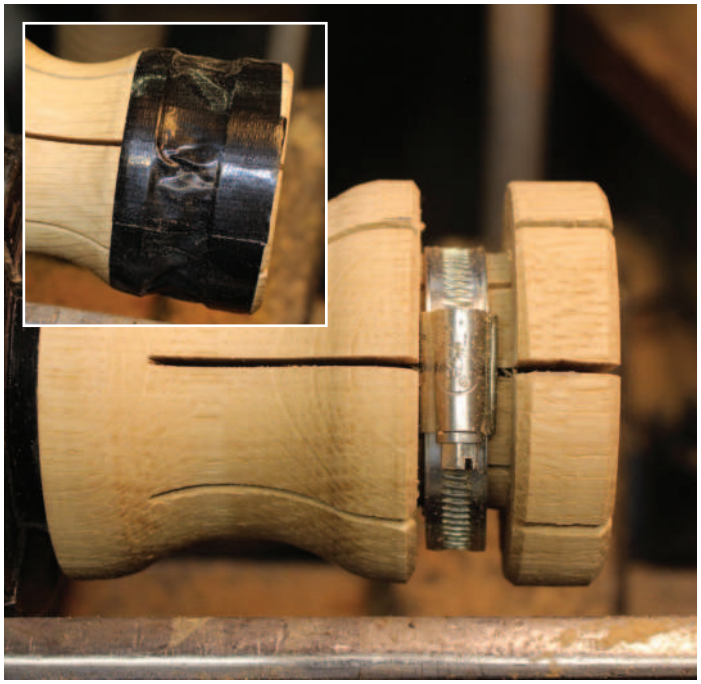
A waist can be turned into the chuck to make it a little lighter and provide a little extra spring in the jaws, but strictly speaking I am not convinced this is always required. Give the chuck a good soaking in oil and keep it oiled so that it doesn't dry and cause cracking and checking.

Blanks can be trued conventionally between centres and a 20mm tenon cut onto them. The blanks can then be mounted on the collet chuck for more stable turning. It provides a more stable hold then turning the knobs in a scroll chuck, and means that knobs can be turned from smaller dimension stock than is required for holding in a scroll chuck. Or you might want to simply finish turn the pip away; either way I am certain you will find it a useful chuck to have to hand.

Measuring the internal diameter of the Jubilee clip

Cutting the recess

Test fitting the clip



Clip set in recess and taped for extra security

A small drawer knob turned in the collet chuck

Conclusions

Unconventional chucks are for unconventional projects, and these are the types of project that you are least likely to want to spend money on, and it is here that shop-made wooden chucks come into their own. I also made a more durable version of the sphere chuck, because I make a lot of spheres, and found the plastic Delrin was perfect for this purpose. The plastic turns easily and is far more likely to last than wood or MDF. I may also make a collet chuck out of Delrin and see how it compares to wood. It is surprising just how satisfying it is to make these pieces of kit ●

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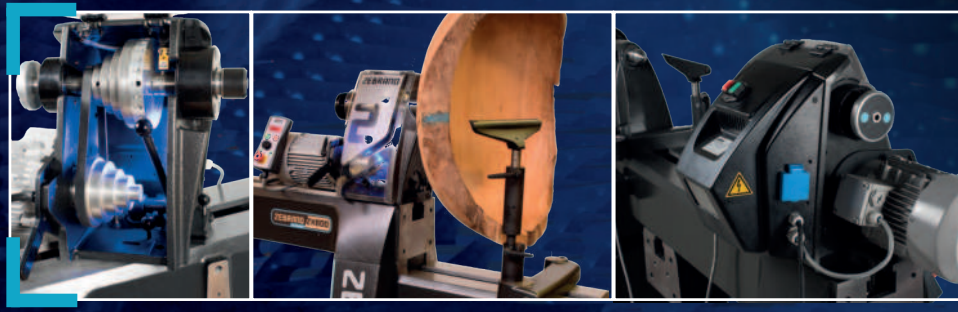

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Singapore ball

In this extract from *Woodturning Wizardry*, David Springett shows how to create an intriguing turned novelty

Of all the pieces I have made, this is one of my favourites. It has a wonderful look and feel, like a gentle medieval mace head where the points don't really want to cause any damage: they drop back into their holes on contact. When the ball is moved, the spikes on the underside fall forwards point-first, while those on the upper surface retreat into their holes and are almost hidden.

John Jacob Holtzapffel, in his book *Hand or Simple Turning* (London, 1881), describes these balls as being made by the Chinese in ivory and porcelain, and suggests that their shape was derived from the lotus nut. He goes on to explain that although it appears that points have been turned and undercut in place, having forced one of them he found that the grain direction did not match that of its surroundings. He surmises that the points were made separately and simply pushed into the prepared hollows (Fig 11.1). He finishes his discourse by stating that the Singapore ball's manufacture requires no special instruction!

I feel that it is important to maintain the illusion that the points were turned in place, so be very careful in your choice of wood. If there is darker grain in the area of the hole, the point you make for that hole should match the darker grain; if there are a few pin knots close by, try to turn a point with a pin knot in it. Do your best to leave people guessing by making the piece as convincing as possible. That, in this case, is where the skill lies.

TOOLS AND MATERIALS

- A 62mm (2⁷⁄₁₆in) diameter sphere turned from a close-grained hardwood (I used castello boxwood)
- Twelve 75mm (3in) lengths of hardwood 12mm (½in) square, matching the sphere as closely as possible
- A 62mm (2⁷⁄₁₆in) diameter hemispherical chuck and a 12mm (½in) thick collar
- A drill chuck, a 9mm (⅜in) drill, and a 3mm (⅛in) drill to act as a pilot (for greater accuracy you may wish to use an engineer's centre drill in place of the pilot drill)
- A 9mm (⅜in) gouge
- A profile tool ground from a 6mm (¼in) wood chisel to the shape shown in Fig I 1.2; grind back a 30° cutting angle on the front and left side of the tool
- A fine parting tool
- A small skew chisel
- A pair of vernier callipers
- A card and scrap wood for templates

Preparation

1 Make the hardwood sphere as described in Chapter 4, and polish it. Mark out the 12 primary points and 20 constellation points (32 points in all).

2 Prepare the profile tool, being careful to quench it regularly when grinding so as not to overheat the steel. Using typists' correction fluid, make a depth mark 15mm (⅝in) away from the front edge.

3 Set the lathe speed to around 1000rpm.

Making the holes in the sphere

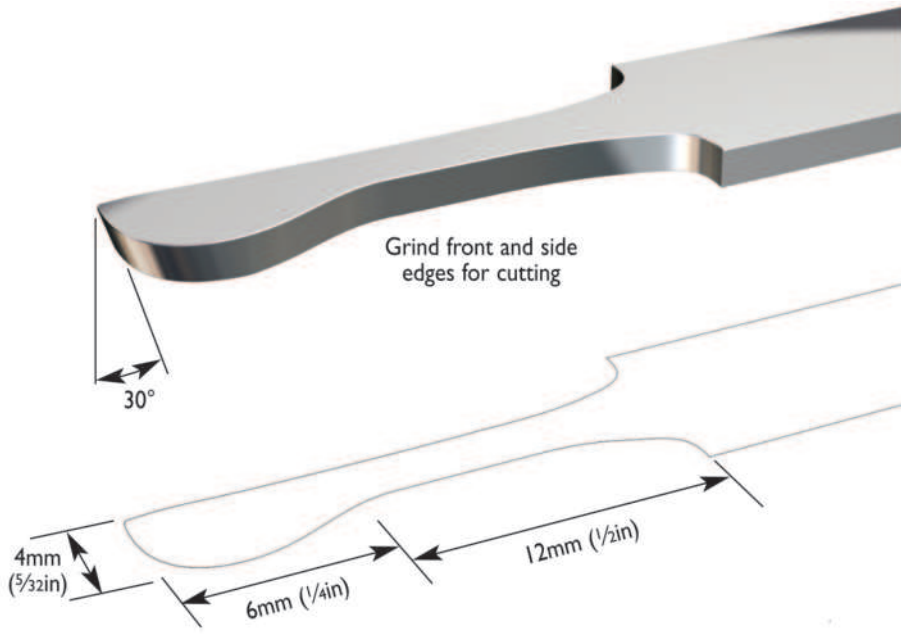
1 Begin by placing the sphere into the chuck, fitting the collar loosely.

2 Bring any one of the points marked on the sphere's surface to the front. Fit the revolving centre into the tailstock and push it gently towards the chuck until it touches the chosen point. Lock down the tailstock and tighten the revolving centre onto the point, pushing the sphere against the back of the chuck (Fig 11. 3).

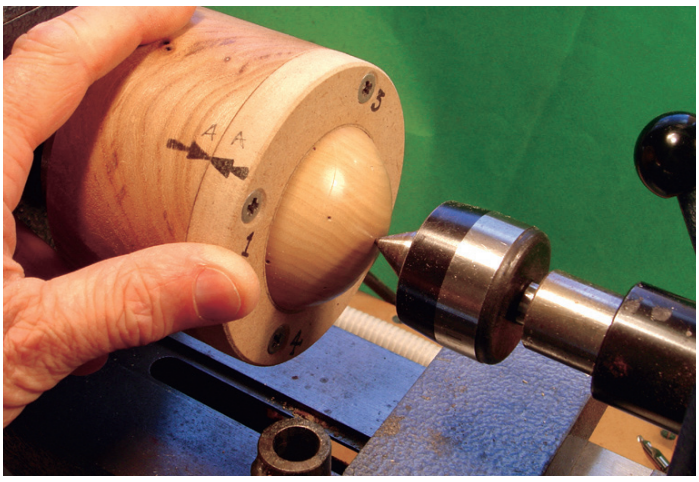
3 Now that the sphere is held firmly, with one point facing front and on centre, screw the collar down evenly. Make sure that the sphere is held firmly by the collar, then withdraw the tailstock from the work.

4 To drill the pilot hole, change the revolving centre for a drill chuck. Fig 11.4 shows the chuck holding an engineer's centre drill, also known as a Slocomb drill, but you may prefer to use an ordinary 3mm (⅛in) drill. In either case, make a depth mark with typists' correction fluid 15mm (⅝ in) away from the tip, then drill to the required depth.

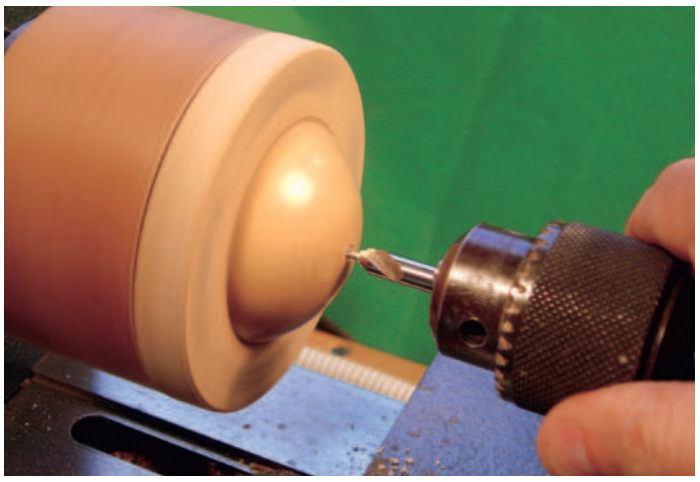
11.1 Two finished balls are shown with a spare set of 'teardrops', the specially shaped profile tool, template and callipers



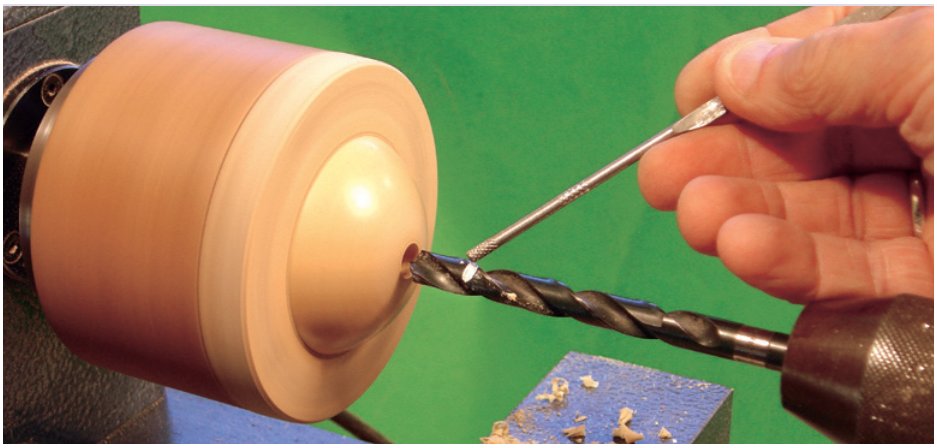
11.2 The profile tool



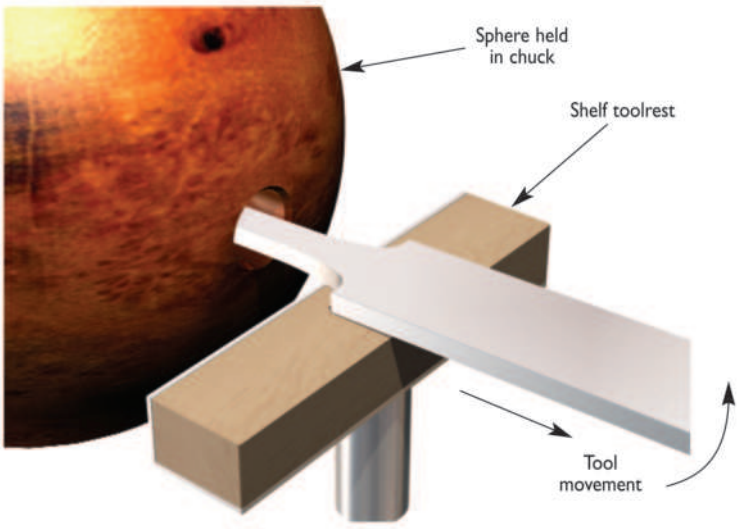
11.3 Holding the first point on centre while locking down the collar



11.4 Drilling an accurate pilot hole



11.5 Drilling out the hole to the marked depth; the pointer indicates the depth mark on the drill



11.6 Using the profile tool to produce the internal pear-shaped hollow

Fig I I.7 Beginning to cut with the profile tool

I 1.8 Moving the profile tool to the left as it approaches the entrance of the hole

5 Having drilled the pilot hole, replace that drill with a 9mm (11/32in) drill. Mark a point 15mm (5/8in) away from its tip, again using correction fluid. Using the pilot hole as a guide, drill to the marked depth (Fig 11.5).

6 Withdraw the drill and move the tailstock away. Bring the toolrest across the face of the work and position it so that the ground edge of the profile tool is at lathe-centre height. You will notice that I am using a 'shelf' toolrest (Fig 11.6).

7 Turn on the lathe and carefully push the tool into the drilled hole, making light contact with the hole's base. Move the curved cutting edge of the profile tool to the left so that it begins to cut the wood inside the hole. Steadily draw the tool out of the hole, reducing the amount cut as it approaches the opening. The arrows in Fig 11.6 show the desired cutting motion. Do not make contact with, or enlarge, the opening of the hole, which is already the correct size. Try to imagine the shape being cut inside (Figs 11.7 and 11.8).

8 Repeat the cut until the inside is approximately pear-shaped; this can only be judged by feel, so turn off the lathe occasionally and decide whether the hole is the correct shape. The internal shape of the hole does not need to be exact, but it does need to maintain a similar shape in all 32 positions.

9 The hole has a small opening which, when partially filled by the tool, will quickly fill up with wood shavings. To remove these efficiently, take a straw – preferably a flexible one – place one end in the hole, close your eyes, and blow.

10 When satisfied that the hole is the required shape, move the toolrest away, loosen the collar of the chuck and bring another point forward. Again use the tailstock centre to hold the point on centre while tightening the collar. Repeat the hole-cutting operation for each of the remaining 31 holes.

Preparing to turn the points

1 Prepare the 12 lengths of wood to the dimensions given; this will allow enough for an occasional mistake.

2 Turn these pieces, between centres, close to 12mm (½in) diameter, using a fine driving dog. These pieces will be held in a drill chuck secured in the headstock, so if your drill chuck only opens to 9mm (11/32in) you will need to turn a short spigot of that diameter at the headstock end of each length.

TOP TIP

When undercutting, at no time should the cutting edge of the tool make contact with the front opening of the hole, which must remain at 9mm (1/32in) diameter.

3 To act as a guide, mark out the shape of the teardrop full size on a piece of card; the length of the teardrop is 15mm (11⁄32in).

4 Drill a 9mm (11⁄32in) hole in a piece of scrap wood. This will act as a gauge to test the size of each teardrop.

5 Set the lathe speed to 1500rpm.

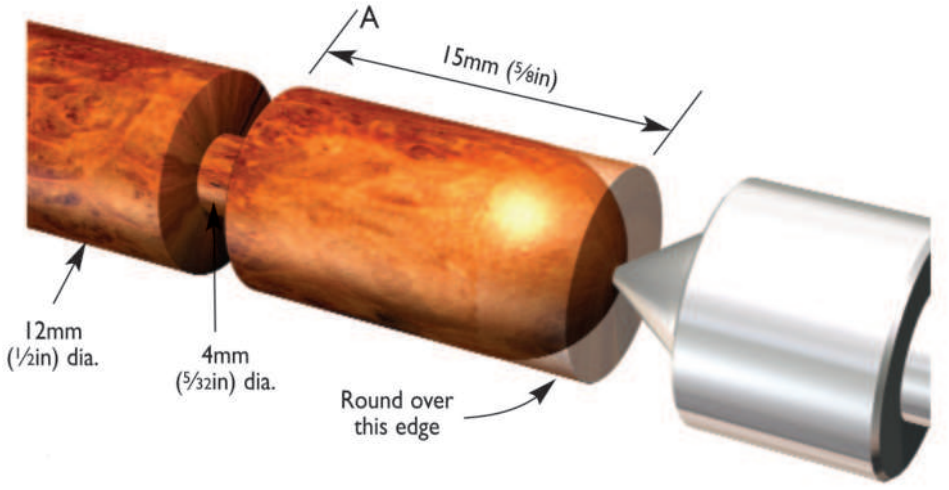
As these teardrops show only their points and a little of their sides through the opening, it will be quite acceptable to leave the mark of the tailstock point on their rounded ends (Fig 11. 9).

Turning the teardrop points

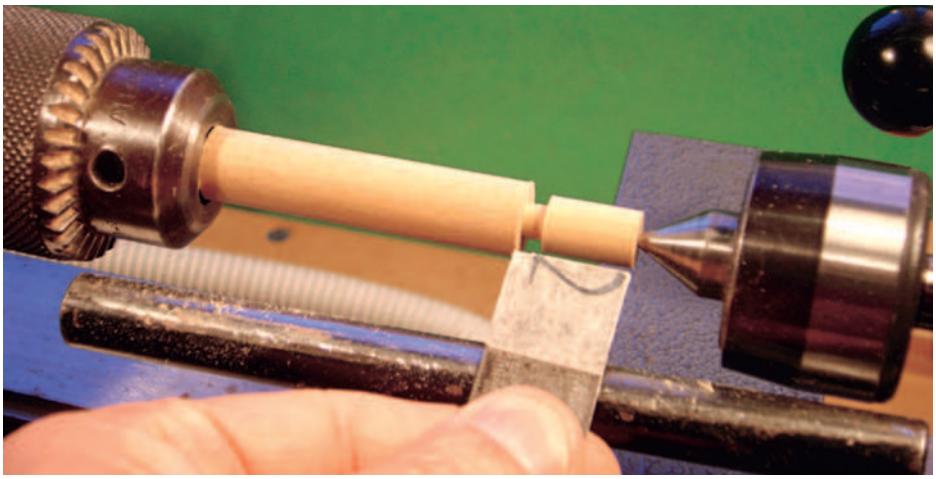
1 Using the card template shown in Fig 11.10, mark the length of the teardrop shape on the boxwood rod held between the drill chuck and the revolving centre. Cut down to 4mm (5⁄32in) at the point marked A in Fig 11.11, cutting on the headstock side of the line with a fine parting tool.

2 Turn this 15mm (5⁄8in) length down to 9.3-9.5mm (around 23⁄64 – 3⁄8in); this size will be decided by trial and error, but it needs to be just over the diameter of the drilled hole, so that once the teardrop has been pressed into the hole it is too large to fall out. The exact diameter of the teardrop depends upon the size of the hole (these might vary slightly) and the density of the wood being used, but the guide sizes shown in Fig 11.12 should be of help. Turn one teardrop first and test it in the gauge hole (Fig 11.13); if the fit is satisfactory, set a pair of callipers to that size and use them to measure each teardrop as it is made.

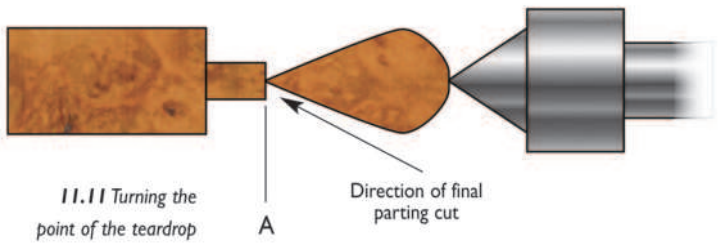
3 Round off the end of each teardrop at the tailstock end with a skew chisel, producing a natural curve. Then cut down from the top edge of that natural curve towards position A, the point of the teardrop. The outside diameter of the teardrop at the junction of the curve and the slope must not be reduced, otherwise the teardrop will be too small and may just fall out of its hole.



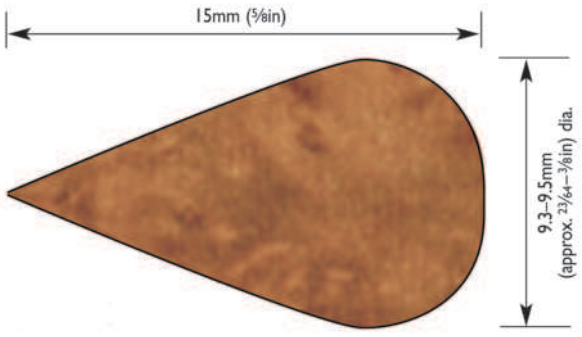
1.9 Turning the teardrop; the mark left by the revolving centre on the rounded end need not be removed



1.10 Using the template to judge the shape of the teardrop

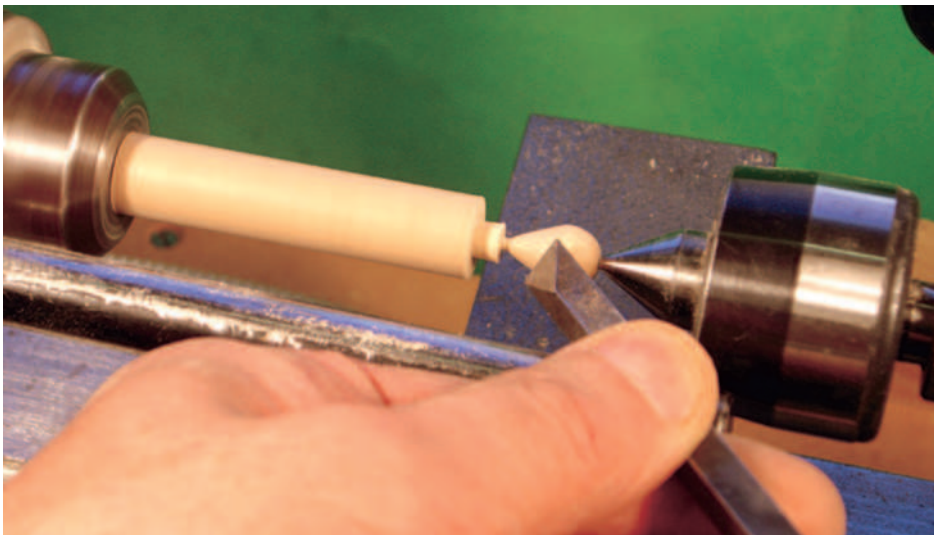


1.11 Turning the point of the teardrop



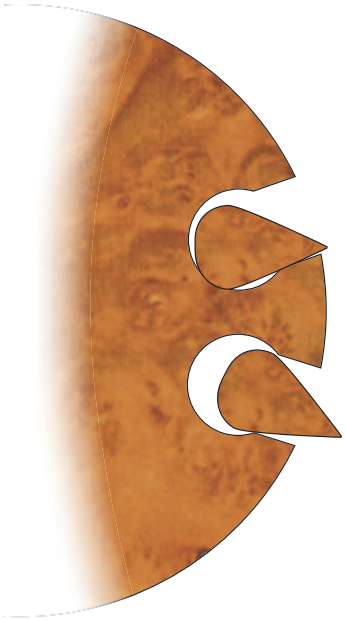
1.12 Approximate dimensions for a teardrop

1.13 Testing the teardrop in the drilled hole



11.14 Parting off the teardrop to a point

11.15 Pushing the teardrops into their holes



1.16 How the teardrops fit into the cavities

1.17 The finished Singapore ball

4 Still using the skew chisel, clean up the shape so that the slope is straight and clear, finally skimming down and parting off to a point at A in Fig 11.11. Fig 11.14 shows the last stage.

5 Once it is parted off, check the teardrop in the gauge as you did the first one.

6 Choose an area of the sphere which matches the colour and grain of each teardrop, and push it firmly into the hole (Fig 11.15). It should be moderately tough to push in – not so hard that it risks splitting or bruising the opening, but not so easy that it can simply fall out (Fig 11.16).

Fig 11.17 shows how the points emerge and retract as the ball is turned over in the hand. ●

TOP TIP

If one hole breaks into a neighbouring hole during turning, do not be too worried. However, you should worry that if you make the base of every hole too wide, they may all join up – causing the centre to break loose.

Community news

We bring you the latest news from the world of woodturning and important dates for your diary

We try to give accurate details on forthcoming events. Please check with organisers for up-to-date information if you are planning to attend any of the events mentioned.

2020 SHOWS AND EVENTS

Turners Retreat Open Day
When: 18 April 2020
Where: Unit 2 Faraday Close, Harworth, Doncaster, DN11 8RU
Web: www.turners-retreat.co.uk

Les Forgaxes Woodworking Festival
When: 24-26 April 2020
Where: Pravia, Asturias, Spain
Web: www.forgaxes.com
www.tornyfusta.com

Makers Central
When: 2-3 May 2020
Where: North Ave, Marston Green, Birmingham B40 1NT
Web: www.makerscentral.co.uk

Woodworks@Daventry
When: 15-16 May 2020
Where: Daventry Leisure Centre, Lodge Road, Daventry, NN11 4FP
Web: www.tudor-rose-turners.co.uk

AAW Symposium 2020
When: 4-7 June 2020
Where: Kentucky Exposition Center, 937 Phillips Lane, Louisville, KY 40209, USA
Web: www.woodturner.org

Doncaster Woodturning Club
All-day event featuring Sue & Graham Harker
When: 6 June 2020
Where: Finningley Village Hall, Finningley, Doncaster, DN93DA
Web: www.finningley.org/woodturning

The Midlands Woodworking Show
When: 19-20th June 2020
All tickets previously bought will still be honoured for this date.
Where: Newark Showground Nottingham NG24 2NY
Web: www.nelton.co.uk

Sheffield Woodturning club
All-day event with Les Thorne
When: 20 June 2020
Where: Wood Lane Countryside Centre, Wood Lane, Stannington, Sheffield, South Yorkshire, S6 5HE
Web: www.sheffieldwoodturningclub.org

Handmade Oxford
When: 25-28 June 2020
Where: Waterperry Gardens, Waterperry, Oxford OX33 1LA
Early bird tickets available until 31 March 2020
Web: handmadeinbritain.co.uk/oxford

Kent Woodturners exhibition and sale
When: 27 June 2020
Where: The North Barn, Aylesford Priory, Kent, NE20 7BX
Web: www.kentwoodturners.com

Saskatchewan Woodturners Symposium 2020
When: 17-19 July 2020
Where: Regina Trades & Skills Centre 1275 Albert St, Regina, SK, S4R 2R4, Canada
Contact: James (Bryan) Milne
Email: jbmilne@accesscomm.ca

Turn-On! Chicago 2020
When: 23-26 July 2020
Where: Crowne Plaza Chicago-Northbrook, 2875 North Milwaukee Avenue, Northbrook, Illinois 60062 US
Web: turnonchicago.com

Woodturning Weekender 2020
When: 1-2 August 2020
Where: Orchards Event Venue, New Road, East Malling, Kent, ME19 6BJ
Web: www.chestnutproducts.co.uk

SWAT 2020
When: 28-30 August 2020
Where: Waco Convention Centre, 100 Washington Ave, Waco, Texas, USA
Web: www.swaturners.org

Yandles Woodworking Show
When: 11-12 September 2020
Where: Hurst, Martock, TA12 6JU
Web: www.yandles.co.uk

WoodFest at Hatfield Forest
When: 4-6 September 2020
Where: Bush End Road, Takeley, Bishop's Stortford, Essex, CM22 6NE
Web: www.nationaltrust.org.uk

AWGB Seminar
When: 9-11 October 2020
Where: Yarnfield Training & Conference Centre, Yarnfield, Stone, ST15 0NL
Web: www.awgb.co.uk

Wizardry in Wood
When: 14-17 October 2020
Where: Carpenters' Hall, 1 Throgmorton Ave, London, EC2N 2JJ
Web: www.turnersco.com/turning/wiw

Virginia Woodturning Symposium
When: 7-8 November 2020
Where: Expoland, 277 Expo Rd, Fishersville, VA 22939, US
Web: www.virginiawoodturners.com

North of England Woodworking Show
When: 13-15 November 2020
Where: Great Yorkshire Showground, Harrogate, HG2 8QZ
Web: www.skpromotions.co.uk

DIARY

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Ray Blake in profile

Ray Blake shares his woodworking journey with Mark Baker

Ray in his workshop

I had been renovating cane-seated chairs for about a year before I retired, in late 2015, as the after market marketing manager for a large European engineering company. As time progressed and more chairs arrived in my shed, I realised it would improve things if I could turn replacement spindles on a wood lathe, rather than try to do it manually. So, I eventually bought my first lathe in late 2017, but it was woefully underpowered. I should have worked that out as the seller only turned eggcups.

It was on this lathe that I turned my first piece, a tiny bowl from a waste piece of lime from my carvings. I still carve pieces from time to time and regularly buy *Woodturning's* sister magazine *Woodcarving*.

Realising I needed to take advice on this woodturning malarkey, I joined the Lincolnshire Association of Woodturners, a wonderful, inclusive and very helpful bunch of folk, especially the committee and their chair, John Ingamells.

He and I hunted round for a more powerful lathe and I ended up buying a new 1hp lathe, which unfortunately had the on/off switch fail within 15 minutes of first use, followed up five days later by a scary overspeed failure of the vari-speed unit.

John suggested we visit J Carr & Son of Boston, Lincs., the local Record Power dealer, where I bought my Record DML320, a cracking little lathe which I now use virtually every day!

What especially interests me about woodturning, even over woodcarving, is that I find the wood dictates the shapes I turn as I rarely have a preconceived design in mind. I do not follow trends as such, but enjoy adapting the techniques rather than copying the designs on show in this superb magazine. Maybe that is the engineer in me.

But then there are the mistakes or, as John puts it, the 'learning opportunities', such as one particular catch inside a bowl, when the piece went off like a bomb, with bits of bowl going every which way. That

was due to a lack of concentration and not being aware of where the point of the tool was. Or pushing the tool too aggressively, resulting in tearout. I need to be wary of that issue to try to get a better finish straight off the tool.

I still consider myself to be a complete novice, even though I will be moving up to the Open class in 2020. I am somewhat in awe of both the skill and creativity of the work that the guys in the Open class turn out, but most have been turning for a good number of years.

An old chair I had in need of restoration

The chair restored to glory

PHOTOGRAPHS BY RAY BLAKE

More at ease with tool use

One thing I have become aware of, as with my carving, is that I am now much more at ease with using the various tools, including the skew, helped by watching videos of Steve Jones, a pro-turner from the West Midlands who is an absolute master with the skew. I would say that Steve, apart from John, who has been more a staunch supporter than influence, is a person who I would regard as being a real influence, from being able to closely watch how he presents the tool and the ease, speed and accuracy he works to.

The skew is now a tool that I genuinely enjoy using but the two go-to tools I use most are my homemade 6mm and 8mm fluteless gouges – they are just such useful, no-catch tools. I was first introduced to them by one of our senior turners, Tony Maddox, who leant me his fluteless gouge to turn the undercut on a mushroom, without getting a catch. I was sold, went home ordered the HSS steel online that night and, for less than £10, had two indispensible tools days later.

The internet has its place and is a great resource, but that is one of the great things about being a member of an active turning club, where you can have face-to-face discussion and get sound, positive advice when a turning is causing you problems.

My carved swan

A small cherry bowl

A finial box I turned from three timbers

Natural-edge birch bowl

Don't give up

Which leads me on to my likes and dislikes. A dislike that too often occurs on internet woodturning forums is where some contributors seem only too ready to tell the turner to throw a troublesome turning on the firewood pile and move on. Few, if any, say 'don't give up on it'. I've learnt so much from finding ways to 'rescue' a project. The first instance for me was a spalted beech bowl that was so soft in the base I was going to park it in the fireplace. Taking advice from John (remember him, our chairman) it was sorted out and won that month's Novice class. I also learned from him how useful a pyrography pen can be on re-marking spalting veins.

A principal like is that I have rekindled a boyhood passion for woodworking, but now with much expanded skills compared to my school projects, a number of which I still have and are in daily use, such as the bedside cabinet, seagrass stool and bookshelf. So those basic skills were well taught all those years ago, it is such a shame that so few schools now seem to have the budget or resource to teach woodwork.

'Don't give up on a project' would also be the best advice that I, with my relative inexperience, could give to any turner, especially new turners – that and make sure your tools are kept sharp, a lesson quickly learnt if you ever take up carving.

So, after two years of woodturning, do I have favourite type of turning? I love turning bowls, especially if they are challenging like the one resin-filled one I'll cover in more detail later. Turning deep, narrow, thin-wall hollow forms is a real challenge with only basic hollowing tools, especially when they get too thin and just sort of give up on me. I've got a couple of those quitters on my shelf as a reminder.

A tip I've found for applying a high shine comes from our American cousins, who call it 'shine juice'. This is to mix one part DNA (methylated spirit), one part shellac (I use shellac sealer) and one part boiled linseed oil. Use a paper towel to apply it with the lathe running at around 500rpm then, to really buff it, turn the speed up to 1500rpm and, using the same paper towel you applied it with, buff it until you feel the friction heat coming through the paper. Apply a couple of coats and then let it rest for 20-30 minutes to allow the shellac to harden. You can apply numerous coats in this way to suit your requirements.

I like turning fruit and bowls

A thin -stemmed goblet

A chalice I recently turned

The tale of the walnut bowl

It's said you should never look a gift horse in the mouth. When I got this piece of walnut, a gift from John, our club chairman (CC), back home, and had dug out all the soft areas, it looked less like a gift and more like a very rotten lump of firewood. When I later showed it to him he laughingly said, 'Well, there's a challenge.'

The piece of walnut

Two-part resin and vacuum pot system. It was left in the pot for four days

This was back in September 2018 and for the first three months it sat around on the workshop floor while I summoned up the required enthusiasm. I did dose it regularly with 50/50 cellulose sanding sealer and cellulose thinner, until I was happy that it seemed stable enough to work on. How wrong I was, poor, novice woodturner. Under the bark was even more rotten wood, which left me with no solid wood to cut a tenon. Would this lump of wood ever give me a break? I screwed a faceplate to it (wherever I could make sufficient contact) and aimlessly started turning a sort of bowl shape, with the germ of an idea about attempting my first resin fill.

As you can see from the photo, there wasn't much wood left but, strangely, it fitted almost exactly into a Christmas pudding bowl purloined from my wife's store of such containers.

The CC – you've heard me mention him before – then suggested I did the resin mix and pour at one of our workshop nights. I reckon he was lining me up as the comedy turn, however he did bring his pressure pot,

The roughly turned walnut bowl

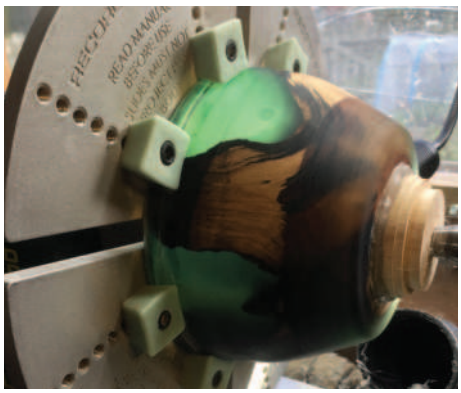
Ready for resin filling

so maybe he wasn't jesting. The resin did leak into the bowl so we had to top it up. This meant trying to match the pale green colouring I had applied to the main resin mix, it was just slightly off and when set there was a distinctive line showing in the resin.

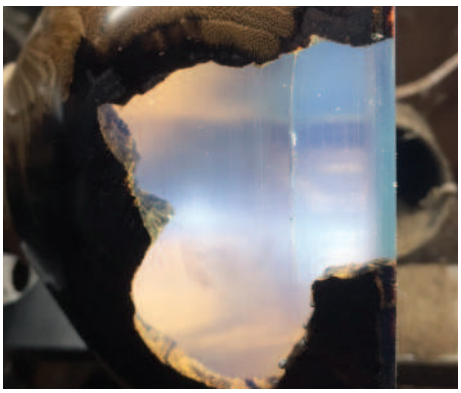
Having turned it to shape in my Cole jaws and remounted the bowl on a dummy tenon, the CC suggested I turn a bead where the line was showing so, after more expense buying a 5mm bead-forming tool, I literally took the plunge and, holding my breath, cut the bead!

I'll let you be the judge of how it has turned out! So John, you were right about being persistent and to not give up, it was truly a gift horse! I eventually finished it at the end of October 2019!

The bark removed and also the rot



Truing up the bowl exterior



The resin join line which was hidden by a 10mm bead

Off-centre ball box

Jason Breach makes a challenging and unusual-shaped box

I've made wooden balls for years; I enjoy the challenge they pose, and their appeal in terms of handling. I like the fact that timber has natural imbalances, and the balls will roll and rest in different positions. This got me thinking – could I make a box using a sphere, hollowed off centre, which would result in the box sitting at a position, and roll and settle to the same position? So, the challenge was set – turn the ball, re-hold it, create a flat then, without changing the orientation of the work, move it off centre to be hollowed and fit a lid.

This box is a challenging exercise. I will say that with a project like this I never make just one. If I am going to the trouble of making the holding method to create a project, then I set out to make four or five. You can use various materials and timbers for the sphere. I have used Japanese cedar. It is not easy to work with as it is a little soft. I then chose African blackwood (*Dalbergia melanoxylon*) for the lid, which is inlayed with two discs from the same material as the ball.

THE OFF-CENTRE CHUCK

The major part of this box is the making of a chuck that can then be moved off centre. The best material for making this kind of chuck is birch-faced plywood. I like to use 18mm or 20mm thick, but it is expensive so contact the local joinery shops and see if they have any offcuts.

Ideally, to be able to make this the lathe will need some form of indexing to be able to lock the spindle, and be used to mark out and set the locations to drill the holes. I made up a drilling block that can be positioned within the banjo to ensure the holes are drilled square to the face of the work. A pillar drill will work, but you need to mark this out accurately.

The chuck can be broken into three parts;

- The larger backing disc has a faceplate attached to this, allowing easy and accurate loading onto the lathe.
- The main body is made from plywood and glued and screwed together to create the depth that is required and allows this to be made accurately. Within the base there needs to be a location method, which allows this to be positioned on and off central and also have a method of holding this onto the backing disc. There also needs to be a way of clamping the fixing ring in place that holds the workpiece. Since this must be hollowed to accept the ball, it is important that screws are not positioned where this will be hollowed.
- The last part involves the retaining rings that clamp the ball into position within the main body of the chuck. It is worth having a few of these to fit the chuck to allow different sizes of ball to be held, accurately and securely.

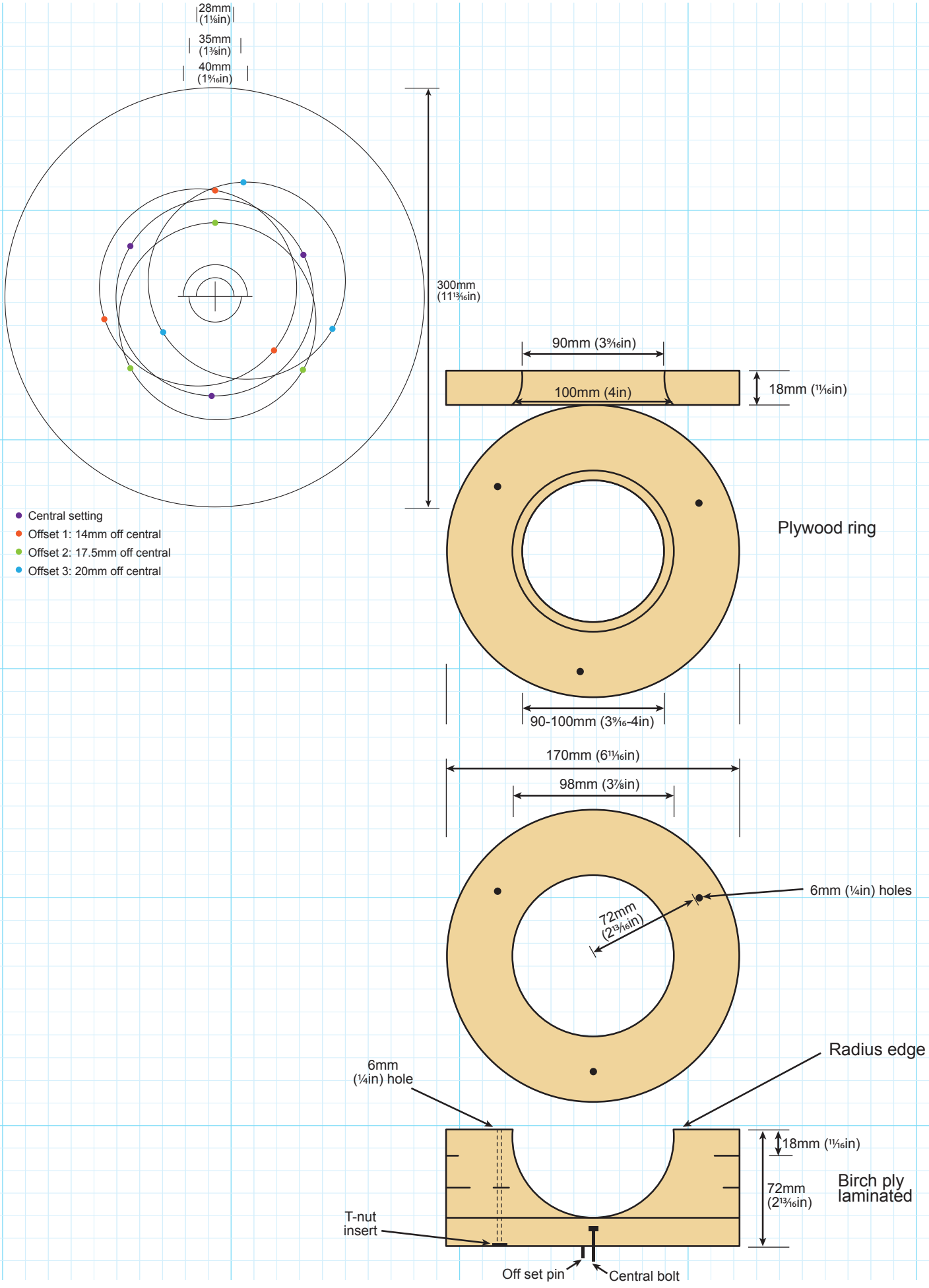
The aim when doing this was to make an offset chuck that will hold the ball in place while being adjustable, accurate and safe. On the underside of the main chuck body there are two threaded pins that protrude. The one in the centre is fixed in position (silver bolt in the pictures), the other is black in colour and can be removed and positioned in any of the three offset holes. The spacing between the holes on the backing disc and the chuck are drilled at the same time as this results in the spacing between these holes being the same, allowing the location of the pins to be reversed. When moving the work off centre the black bolt becomes the central bolt and the silver bolt locates in correct offset location.

Within the base of the main chuck body are three-pronged T-nuts that allow the clamping of the ball within the chuck, but then also allow this section to be removed from the main backing disc. The threaded Allen key bolts then protrude through to the back of the main backing disc and are held in place with washers and nuts firmly tightened. The use of Allen key bolts is safer as these are flat across the top. Threaded rod and nuts will work, but you need to be aware the nuts are higher and not easily visible when spinning off centre on the top face of the securing ring. It is possible to use 6mm threaded rod and cut this to lengths. Standard 6mm nuts and bolts are also used as location pins and to temporarily join the ply disks together.

THREAD CHASING

The cutting of the internal and external threads is a skill that takes time to practice. Good materials that will hold a thread are important, boxwood (*Buxus sempervirens*) or blackwood probably being the best, but you could also try resins and cast materials too.

PHOTOGRAPHS BY STEPHANIE SNOOKS

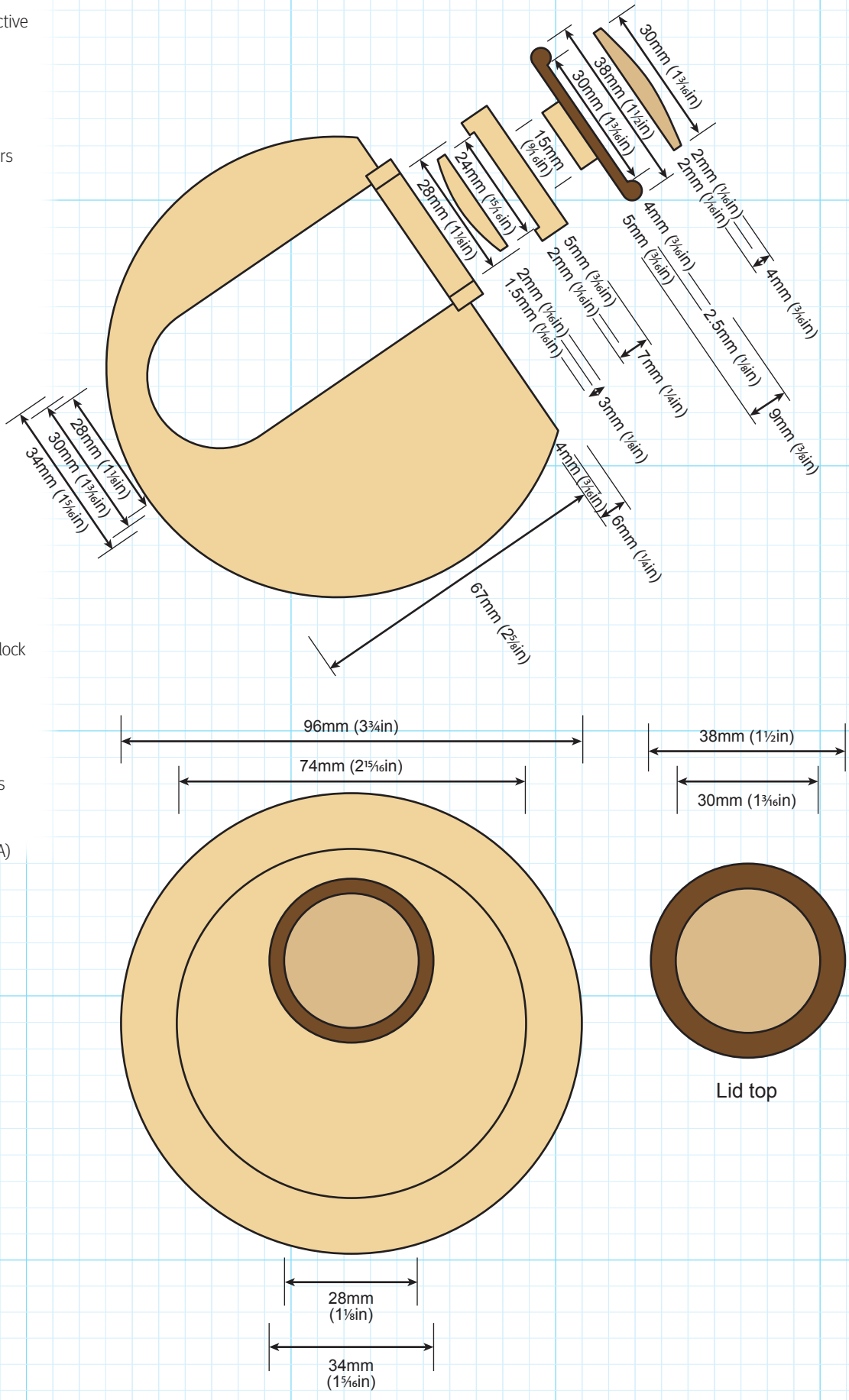

28mm (1⅛in)
35mm (1⅜in)
40mm (1⅝in)
300mm (11¾in)
Central setting
Offset 1: 14mm off central
Offset 2: 17.5mm off central
Offset 3: 20mm off central
90mm (3⅝in)
100mm (4in)
18mm (¹¹⁄₁₆in)
Plywood ring
90-100mm (3⅝-4in)
170mm (6¹¹⁄₁₆in)
98mm (3⅞in)
6mm (¼in) holes
72mm (2¹³⁄₁₆in)
Radius edge
6mm (¼in) hole
18mm (¹¹⁄₁₆in)
72mm (2¹³⁄₁₆in)
Birch ply laminated
T-nut insert
Off set pin
Central bolt

TOOLS & MATERIALS

- Personal and respiratory protective equipment (PPE & RPE)
- Spindle rouging gouge
- Bowl gouge
- Beading/parting tool
- Skew chisel
- Round nose and square scrapers
- Parting tool
- Thread chaser
- Bead forming tool
- Callipers and dividers
- Chuck
- Faceplate
- Drive spur
- Revolving tailstock centre
- 75mm faceplate
- Tailstock drill chuck/pillar drill
- Drill bits
- Button jaws or similar
- Cordless drill

MATERIALS

- Timber for ball 115mm long by 100mm square
- Plywood disc 300mm diameter by 25mm
- Plywood disc 170mm by 18-20mm thick x 6 to 7 bits
- Timber to make banjo drilling block
- 6mm drill bits longer length is important
- 3-pronged T nuts M6
- Allen headed T bolt 120mm long M6 and Allen key
- M6 nuts and bolts and washers
- Spanner
- Screws
- Gel Cyanoacrylate adhesive (CA)
- Abrasive and finishes



The ball

1 Cut to size your sphere timber, which needs to be dry and about 10-15mm longer than the required diameter of the ball. Mount the timber between the centres with spindle grain parallel to the lathe bed, turn it down to a cylinder, measure the diameter, and use this to mark the length. Cut to length with a beading/parting tool and turn this to a ball shape with a bowl gouge.

2 To be able to remount the timber properly, make up a set of cup centres. I used two small discs of birch-faced ply. The tailstock disc is held by attaching a small faceplate that screws onto the revolving tailstock centre. If you don't have such a revolving centre, you can overfit a suitable carrier onto a suitable revolving tailstock centre. The headstock piece is held in the chuck jaws.

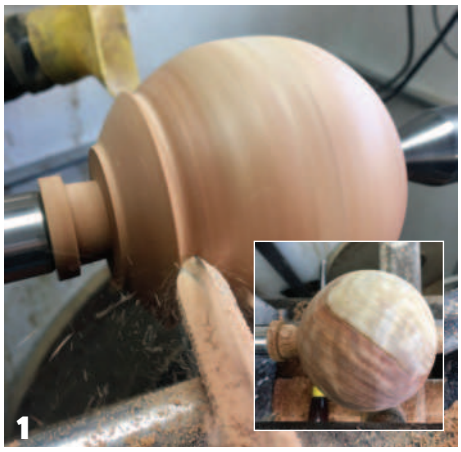
3 Both cup centres can now be held in the jaws of the chuck and hollowed on the surface to create a dished surface that will allow the part-turned ball to locate within them. I use a negative rake round-nose scraper to create this shape. The hollow was then lined with router mat to stop any marking and to provide grip. Once done, remount the ball with the drive centre stubs at right angles to the lathe bed. Ensure that the sphere is located and seated within the hollows of the headstock drive and tailstock cup and provide enough pressure to hold it in place. Now, rotate the work by hand to ensure the toolrest does not foul the stubs of wood.

4 & 5 Using a bowl gouge, turn away the stubs. Take light cuts and, when close to the ball form, stop the lathe and move the position of the sphere within the drive cups to change the orientation of the grain. Then, lightly skim the surface of the sphere with a gouge or scraper to remove any high spots. When close to a true sphere repeat this process a few times until you have the perfect sphere. Sand to a finish with 150 down to 400 grit, remembering to change the orientation of the sphere when doing this. Here are some finished spheres ready for working with.

A chuck to hold the sphere

6 & 7 The material for the chuck is birch-faced plywood. Cut the required pieces to size and shape and centrepoint mark them. It is worth having more of the smaller discs, these are used for the clamping collars and a range of sizes is needed depending on the size of the balls, these need drilling at the same time to ensure accuracy. Fix the large plywood disc onto a 75mm or similar sized faceplate – use all the fixing points, and the longest screws that can be used without coming through. Attach this onto the lathe. Use the long point of the skew to cut a V in the centre and then, using a 6mm drill bit held in a tailstock drill chuck, drill a hole through the board.

8 The smaller discs also need a 6mm hole drilled all the way through the centre. I use a set of button jaws to hold these. I then use a skew to cut a V that then aligns the 6mm drill bit held in the drill chuck ready for drilling.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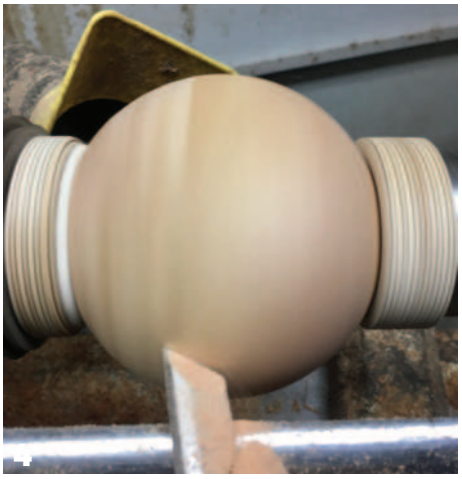
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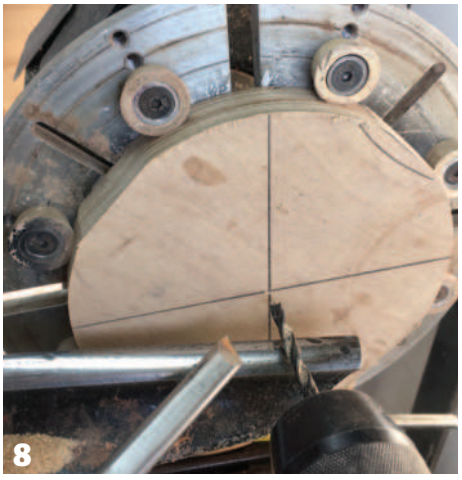
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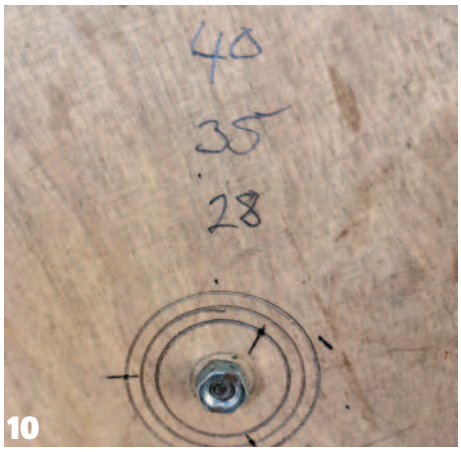

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9 With all the plywood discs drilled and prepared with a 6mm central hole, it is worth truing up the outer edge of the larger disc and sanding the edge as this will be used to rotate the workpiece.

10 On the large disc, push a bolt through the hole from the faceplate side, load two of the smaller discs onto this and attach and tighten the nut to hold the two discs together central on the lathe. I then marked out three circles – this creates the offset (the sizes are diameters in millimetres) – then, using the indexing on the lathe, divided them into three equally spaced locations. These marks are to create three offset positions.


11


12

11 A 6mm hole needs to be drilled on the three index location points – I used a wooden banjo held drilling block. This hole needs to be parallel and does not need to go all the way through the larger disc. The major point with this is that the two holes are in line. When the first hole is drilled insert a bolt to ensure the two discs do not move, and drill the three location points. Use the lathe index to hold everything still while drilling.

12 On the small disc draw a line about 15mm from the outer edge, then divide this into three, either using the indexing on the lathe or using the dividers, taking the centrepoint to the circle and marking six points, in the same way as marking a hexagon. Then use every other point to create the three locations required.

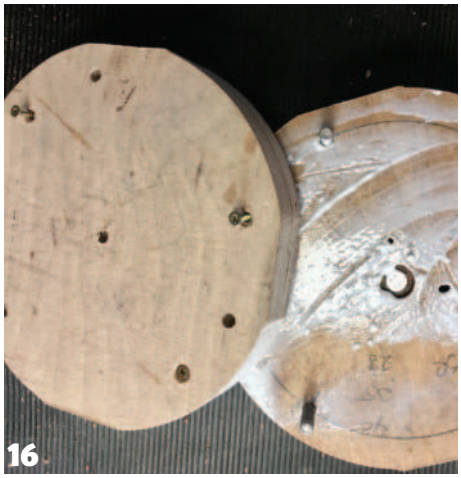

13


14

13 Using the banjo-held drill block and indexing to hold everything secure, drill all the way through the two smaller discs as well as the larger disc. With the first hole drilled use a bolt pushed into the hole to ensure that this all stays in line. Use the indexing to hold in place and ensure even spacing.

14 With the three outer holes drilled use a marker pen to show the alignment and drilled position of the larger and smaller disc. This will allow these to be line up quickly in use.


15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15 A central location pin is required. I used a nut and bolt. The bolt head will need to be recessed so that the discs can be glued together. Cut or drill a recess in the centre of one of the smaller discs. When done, separate the discs and on the other side of the disc with a recess for the bolt head carefully drill the hole out so that a nut can be pulled into place. Use the bolt to pull this in. The thread needs to protrude 10-15mm.

16 The two small discs need to be glued and screwed together. Spread the glue on the base board so that the glue covers the bolt head, and using a bolt in the three 6mm holes and the marker pen mark to align the disc carefully, drill five-six holes around the edge of the next disc. Once done, clamp in place and screw together.

17 To build up the height of the chuck body, spread the glue on the layer just fixed, line up the next section, use a bolt in the central hole as a locator, clamp to hold this in place, then drill and screw this together. Ensure that the screws around the edge are not going to make contact with the three 6mm holes in the lower sections.

18 Turn the blank over, using the drilled 6mm holes, drill through the added section, drill out one of the 6mm holes and insert a bolt or threaded rod to ensure this stays in position. Then drill the other two holes. The two layers of ply will ensure that this is accurate and in line. Leave to dry. The holding rings will also need to be drilled. Use a bolt in the central hole to locate and clamp in place and drill out the three 6mm holes.

19 Cut a short length of threaded rod and insert into one of the offset holes (black). Using the central bolt (silver) line this up with the central hole position on the backing disc. Ensure that the marker pen mark is aligned. It should be possible to mount and locate the laminated chuck onto the larger disc, and insert T-bolts or threaded rod all the way thought the holes, including the larger disc. Remount the laminated chuck so that the black pin locates into the central hole and the silver locates into one of the offset holes. Clamp this in place then, using the 6mm holes as a drilling guide, drill through the larger board backing board. Repeat this for each of the settings. To get the three offset the central silver pin will need to be positioned in each of the three numberd locations on the backing board, each time the three holes will need drilling out throught the backing board. These I colour coded for the pictures and numbered one to three.

20 & 21 Into the base side of laminated chuck the three-pronged T nuts need to be located into three outer 6mm holes and need to be set in flush with the base. These allow the holding rings to secure the ball in place. Load the laminated section so that it is central (silver bolt in the centre), screw the T-bolts through the T-nuts so that they protrude out of the back of the larger disc, fix this into place with nuts and washers and tighten up. True up the outer edge of the laminated section and replace the black pen line.

22 -24 Hollow out the recess to accept the ball using a bowl gouge and round-nose scraper. The black line around the edge creates a guide to where the T-nuts are. Checking to see how the ball will fit, cut a radius on the front edge, a hard corner will mark the ball. Undo the nuts and washers, remove the T-bolts, load one of the plywood discs to use as a holding ring, line up the pen mark, insert and secure the T-bolts. Load this on to the larger disc on centre and secure this with the washers and nuts. Ensure these are tight.

With a bowl gouge, starting in the centre, cut a hollow. Open out the diameter – the diameter of this opening reduces in size, and has a soft edge. The side that is being shaped will be reversed to face the laminated block, This will need light adjustments and testing with the ball positioned within the hollowed area.


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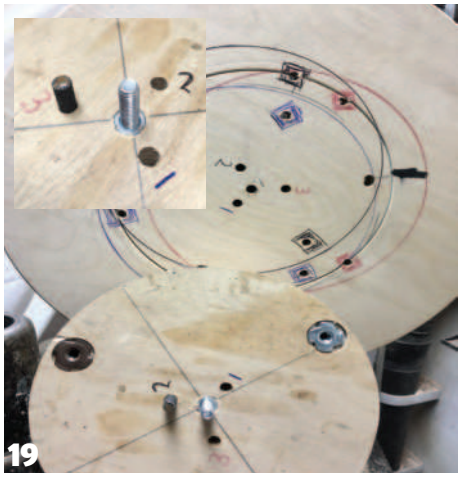
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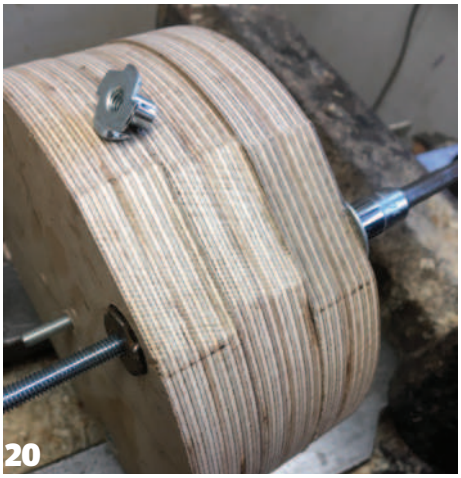
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TOP TIP: Before the ball is mounted within the plywood chuck, make a note of its size, as this is important for the hollowing.


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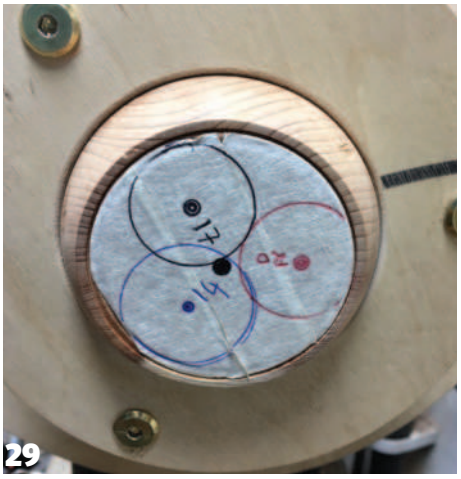
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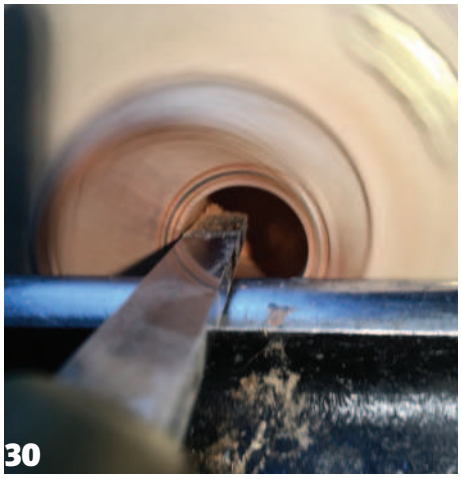
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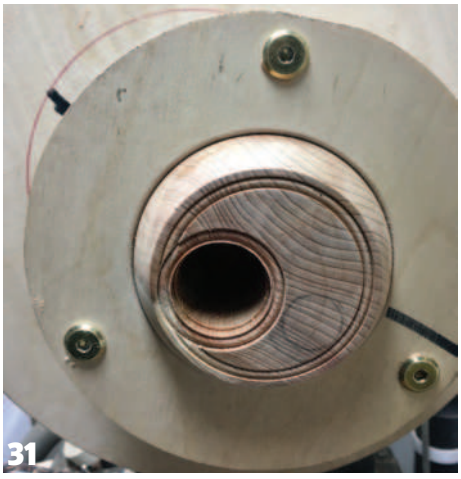
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25 Now, remove the nuts and washers from the larger disc then the T-bolts. Load the ball into the hollowed section and secure the holding ring. Measure the gap between the laminated block and fixing ring and even out – the ball should hold in place firmly. Determine where the hollowed-out section within the ball needs to be when doing this.

Turning the sphere & internal hollow

26 Mount the laminated chuck onto the larger disc so that the silver bolt is central, and the black pin is in one of the three offset positions. Hold this in place with the washers and nuts and tighten these up.

27 Using a bowl gouge create a flat section on the ball. Take light cuts, resting the bevel cutting with the tip of the gouge. Using a sanding block sand this to a flat finished surface. I added a small bead around the edge.

28 Undo the nuts and washers but do not undo the T-bolts. Remove the laminated chuck, replace this onto the larger disc but with the silver pin in one of the offset holes. The black pin will be in the central hole.

29 I have lined this up to show the three offset positions. Masking tape helps show this and is worth doing. The three colours show how much off-set the ball is from centre. When turning offcentre work, it is vital that any turning is done at a much lower speed than normal turning. Try 350rpm or just a bit higher if safe to do so.

30 Hollow the inside of the box. As a guide to the depth I measured the ball, then measured the flat section and drew this out on paper – this provides a guide to how deep this can be hollowed. Hollow this like any of the other boxes, drill a depth hole, then bulk remove with a gouge, and clean-up with the scrapers.

31 Having sanded this to a finish, carefully cut a straight recess at the opening to accept the threaded insert. This needs to be about 6mm deep, and parallel. I also added a bead around the edge of this. When happy with this remove the whole assembly off the lathe.

Thread chasing and final elements

32 Patience and a light touch all come into thread chasing, as does a little bit of soft paste wax that will help the thread screw together. Lathe speed is important, 300-400rpm is good, too fast and you will not have time to react when cutting the threads. To make the threaded insert I use some blackwood. Turn this down and hold in a chuck, cut a length of this to fit into the opening recess of the ball, this needs to fit securely, and then hollow the inside so that the section is parallel, leaving a wall thickness of about 4mm.

33 Lower the lathe speed to about 300-400rpm. Using an armbrace (optional) and the internal chaser, strike the thread on the inside. When presenting the chaser, start by brushing across the opening corner, using the third tooth in on the chaser. As this starts to cut move the handle out to engage the first two teeth, making repetitive light cuts.

34 Check that the thread is parallel, ensuring that the tailstock end is clean and level, and double-check that it will fit into the recess in the ball. Finish shaping the external section of this then part this off and remount the ball still held in the offset chuck. Insert the threaded section and clean up the front face.

35 For the external thread, turn the blackwood section down to 2mm over the diameter of the internal opening of the internal thread. Cut a small chamfer on the end of the timber and present the handle so that the third tooth will engage and gently brush along the work. As the thread picks up start to engage and cut the thread, pull the handle around to engage the first few teeth.

36 Check that the two parts will screw together, and adjust as needed. I drilled out the centre of the external thread so that this can be glued onto a piece of larger diameter timber to make the lid. I also turned a small decorative button from the same material as the ball to glue into the underside of the lid.

37 Turn the material for the lid to a cylinder, hold this in a chuck and cut a spigot to match the diameter of hole in the centre of the external thread section. Shape as much of the lid as possible at this stage then sand to a finish.

38 Part off the lid section and remount, holding on the straight spigot in a chuck. Shape the front of the lid – I cut a recess and glued in a decorative disc of the same timber as the box body. Finish shaping this and sand.

39 The components of the box ready to be assembled and glued together. Double check that they all fit together and carefully glue together using CA adhesive. I use a thick/gel type, with a cocktail stick to apply it.

40 Seal and polish the parts. As with most of the boxes I use a cellulose sealer and then a buffing wheel set-up, with carnauba wax as the final stage. This finish provides a high gloss shine that is hard wearing and long lasting while looking natural. ●


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Twine holder

Ian Woodford shows how to make this useful household accessory

I started making these purely by chance when I happened to be in the right place at the right time. I was delivering some of my work to a craft shop when the owner asked if I could repair or make a new twine holder, which was used on their packing shelf. It was a simple bit of both faceplate and spindle work and they supplied the twine and scissors. This led to repeat orders as they sold well in the shop.

The balls of twine can be obtained from hardware stores and the scissors from haberdashery/craft centres. Balls of twine come in different sizes so you can alter the dimensions of this project to suite.

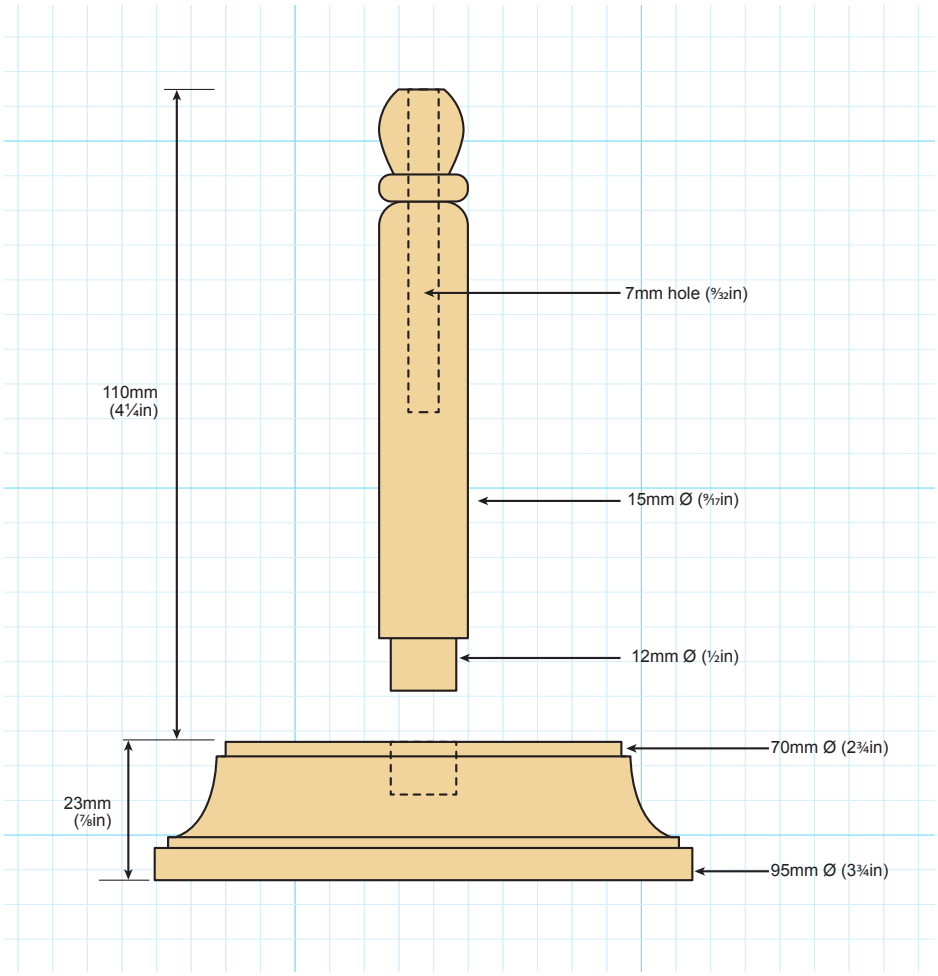
PHOTOGRAPHS BY IAN WOODFORD

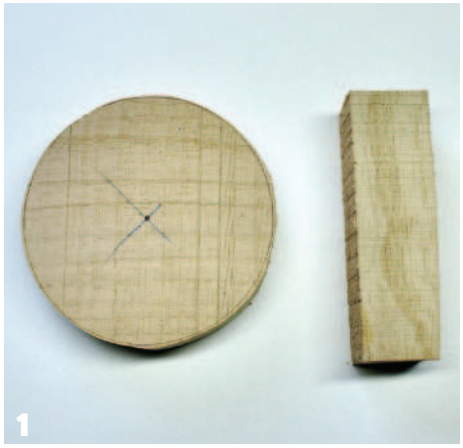
TOOLS AND MATERIALS

- Personal and respiratory protective equipment (PPE & RPE)
- Spindle roughing gouge
- Spindle gouge
- Narrow parting tool
- Chuck
- Drive spur and revolving tailstock centre
- Tailstock drill chuck
- 13mm drill bit
- 7mm drill bit
- Callipers

MATERIALS

- Timber of your choice, but oak (*Quercus* spp.), ash (*Fraxinus* spp.) or sycamore (*Acer* spp.) work very well.
- Base – 110mm diameter by 30mm thick
- Spindle – 130mm long by 20mm thick
- Abrasives
- Sealer
- Lacquer
- Glue

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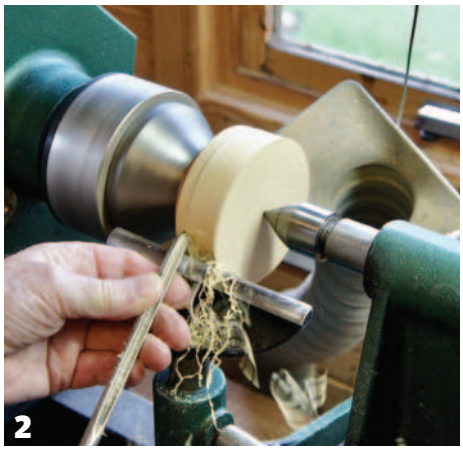
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1 Here are both blanks cut to size. Although I have used a West African timber for this article, I normally prefer to use local timber such as oak, sycamore or ash, as they are easily obtainable and priced OK. The base blank is 110mm by 30mm in depth while the spindle blank is 130mm long by 20mm wide.

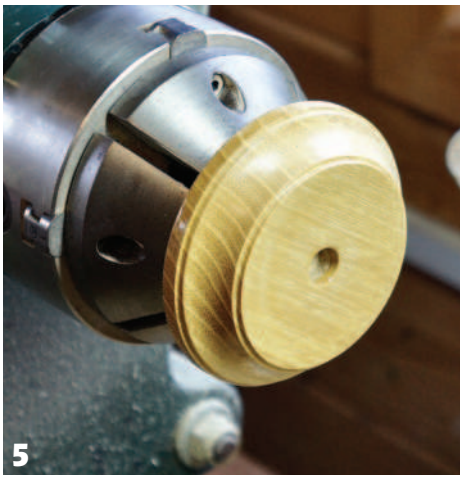
2 I mount the base against a scrap wood friction drive covered with 60 grit, as in my article on page 67 of issue 341. This then requires the revolving tailstock centre to be brought up to hold it tight. When secure, true up the edge and form a spigot to suit your chuck jaws.

3 The blank now needs to be reversed and held on the spigot just turned. True the face and turn a recess to suite your chuck jaws then sand, seal and apply a finish of your choice.


3


4

4 & 5 Reverse the blank and secure it on the chuck in the recess just turned. Turn the profile required then mount a 13mm drill bit in a tailstock drill chuck and drill a hole about 10mm deep. True up the face, making sure it is flat or slightly concave. Now sand, seal and apply a finish. Step 5 shows the base totally finished.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6 Mount the spindle blank between centres and, using your roughing gouge, turn to round, then mount it in the chuck. Insert a tailstock drill chuck into the tailstock and drill a 7mm hole down the blank long enough for the scissors selected.(about 60mm my case). The drill bit may have to be a different size depending on the scissors you have, but most haberdashery scissors are quite slim.

7 & 8 The spindle is now turned down to size with the support of a revolving centre in the tailstock. Now sand, seal and finish. Then glue the spindle section into the base and, when dry, place the cord and scissors in place. ●


7


8

Kurt's clinic

Kurt Hertzog offers some answers to readers' questions

Abrasive storage

Question: My sandpaper is always a mess around my lathe. There are small bits of sheet paper I've cut, used, then set down because they still have life. They wind up in a jumble on the lathe and often fall down in the shavings pile. Suggestions?

Answer: I think most turners and woodworkers struggle with this issue. Quality sandpaper is expensive and most want to get their full utilisation from it. How to store it, keep it readily available, and use it wisely without being overwhelmed with any burdensome system is the issue.

I have a system that works for me. It may or may not be your answer but even with my system's shortcomings, I've not found anything I like better. I have a standard manila office file folder that I use for my working stock of sandpaper. My excess paper is left in the original packaging and is stored elsewhere in the shop. The working file folder has a sheet of every grit in numerical order at the front. At the very back of the folder are a couple of full sheets, again in grit order, being the handy resupply material in my working folder.

A cheap pair of scissors, purchased for and dedicated only to cutting sandpaper, is in the folder. Laid on the bed of the lathe when needed, I have all that I need in convenient order. I open the folder, flip to the needed starting grit, flip over that starting grit, and cut off a slice of sandpaper thought to be sufficient. The cut piece is folded in thirds, used, and then discarded, whether completely spent or not. By cutting off only what is needed, there is little waste. If more is needed, another estimated slice is cut off, used, and discarded. That grit having been folded over in the folder presents the next grit and so on.

Organised, easy to use, frugal to an extreme, and easily set aside. I've not found a more convenient way to work through the grits and not be burdened by saving scraps

The process is repeated until I get to the maximum grit needed for that application. When any particular grit runs out, the proper replenishment sheet from the back of the folder is moved forward and put into the proper place.

When sanding is completed, the folder is closed with the scissors inside and it is moved aside until needed. Is this ideal? It is the best I've found. I have my sandpaper handy, quickly brought to bear efficiently, waste little, and have a workable process stepping through the grits until I've achieved the desired sanding results. This being the best I've been able to come up with. I certainly welcome criticism, suggestions, alternate methods, or any more effective alternatives.

Lathe belt tension

Question: I have a question. No matter how tight I tension the belts, they squeal or slip under heavy load. How do I keep the belts in my lathe from slipping?

Answer: Several things come to mind pondering your question. If you have squealing belts or are experiencing slipping, perhaps you are trying to trade off low-end torque for using the appropriate speed. Turning your stock at a higher rpm and using lighter cuts, you can accomplish the same end goal without trying to 'muscle' things through. While there are commercially available belt dressing spray products, I avoid them, opting for trying to find and solve the root cause. Providing you have the proper belt(s) installed as the designers intended and haven't altered the correct alignment in any way, your slipping or noisy belt might simply be beyond its useful life. As belts age, their flexibility decreases and their engagement surfaces often harden or polish smooth. With the reduced gripping ability, continuing to increase the tension usually doesn't solve the problem. If anything, it just stresses the entire system, adding wear to the motor and other shaft bearings, along with continued polishing of belts and pulleys.

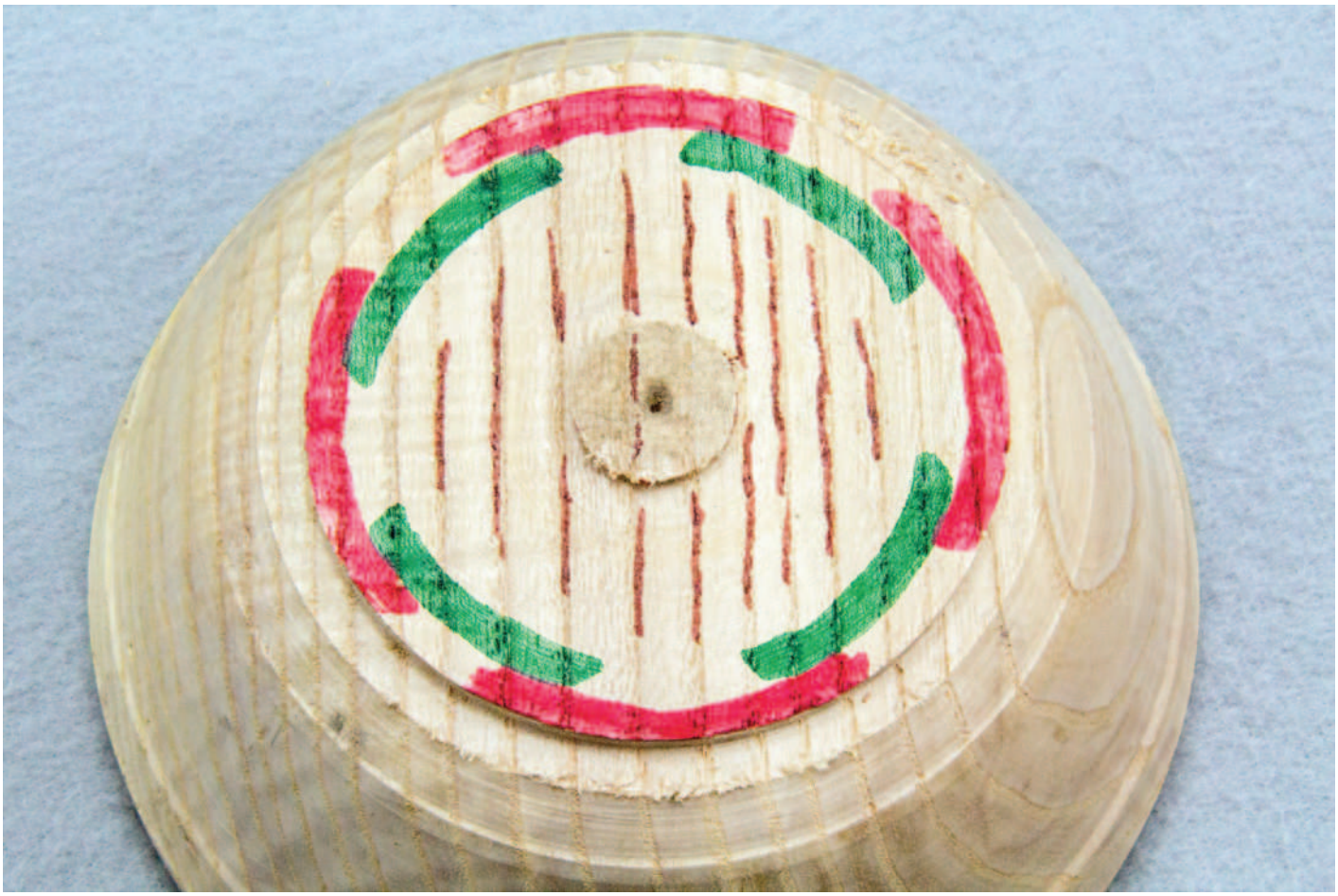
Replacing the belt(s) with new stock of the proper design and length should help the situation. A properly tensioned belt shouldn't be bow-string taut but rather have some finger, easy push deflection mid-belt. Take a few moments to clean the pulleys with a chemical cleaner prior to installing the new belt. One or all of these suggestions should solve the problem and allow you to have a noise-free, properly tensioned belt system on your lathe.

PHOTOGRAPHS BY KURT HERTZOG

Whether regular V or poly V belt, there needs to be a bit of flex. Finger pressure mid-belt should deflect it slightly when tensioned properly

Tenon problem on a bowl

Question: I was turning a 250mm diameter bowl out of very dry cedar last night and while I was hollowing it the tenon broke completely off. The tenon stayed in the jaws. The exciting part was ducking and watching the spinning bowl/projectile shoot across the shop. My question is: should I try to glue the tenon back on or is there a smarter way to re-chuck the bowl?



The best strength and durability for clamping on a tenon is with the chuck jaws angled to the grain (green) as opposed to on axis and across the grain (red)

Answer: Based on your comments, a couple of things come to attention quickly. It may not be ideal to hold a 'very dry bowl' clamping on a tenon. Also, your bowl blank, being very dry, may have had visible or internal cracks and checks weakening the structure. If you had sufficient stock, a faceplate might have worked better for the work you were doing. You can hollow and shape on the faceplate and then reverse friction mount using the left in place centrepoint to remove the stock ruined by the screws. Very sturdy and secure mounting – in my opinion, far more secure than very dry stock being hollowed on a tenon mount. If you had to clamp on a tenon, what was the orientation of the grain? If you haphazardly clamped the bowl without paying attention to the grain orientation or without cutting a crisp, sharp corner in your tenon to bowl interface, you may have doomed yourself to a failure. A radius in the tenon corner will not allow a proper jaw seating and poor orientation of the grain to jaws invites a weaker clamping, prone to shearing off. At this point, I suggest you hit the burn pile with this bowl and start fresh. If you feel you have to continue, my suggestion is to avoid trying to reattach the tenon for use as a workholding method. It is broken and reattaching it invites another potentially dangerous situation. If there is sufficient stock, you can try to cut a new tenon on the bottom, however if you were

Good practice for chuck mounting is to mount flush on the tenon shoulder with a good tenon depth, without touching the bottom of the chuck

at the hollowing stage, you'll have some difficulty reorienting the bowl properly to cut a new tenon on axis, even if there is enough material. You may wish to visit *Woodturning* issue 242 – July 2012 – Workholding Aids and Chucking, Part 5. It has quite a bit of information on chuck mounting jaws and tenons. ●

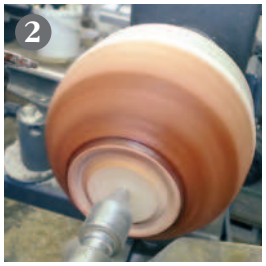
Send your questions to Kurt's email: kurt@kurthertzog.com

CHESTNUT
PRODUCTS
FINISHING SCHOOL

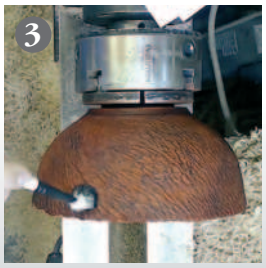
Coloured and Textured Bowl

WITH STEWART FURINI

1 Turn and texture the outside of your bowl in a random pattern. A power carving tool makes this much easier. Smooth back as necessary.



2 Apply Spirit Stain with an airbrush to the outside of the bowl while it's spinning on the lathe at about 500rpm. (If you don't have an airbrush, the stain can also be applied with an ordinary artist brush while the bowl is stationary).



3 Lightly load a soft brush with black acrylic paint, then brush off most of the paint on a piece of card or paper. The brush can now be used to 'dry brush' across the top of the texture.

4 Finish the inside and outside with Microcrystalline Wax. Use a brush to buff the wax on the outside of the bowl to get into the deepest parts of the texture.

5 A close up of the texture on the outside of the bowl, showing how the dry brushing technique has provided a contrast for the raised areas against the stained background.

See our YouTube channel for more tips!

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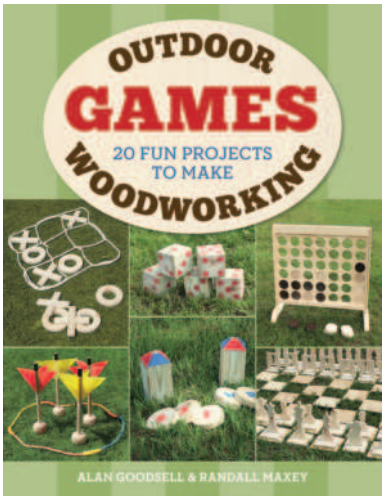

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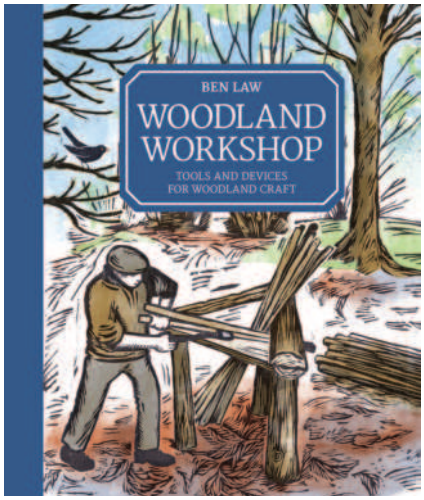

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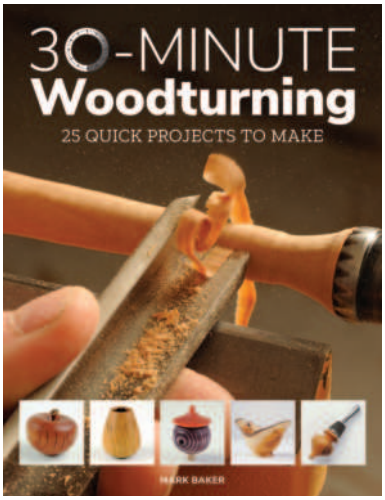

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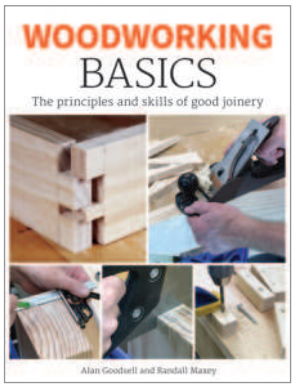

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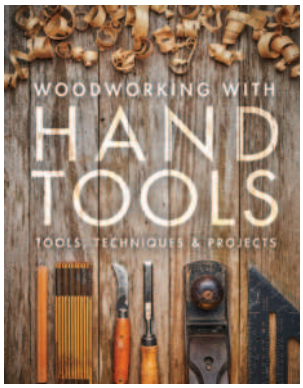

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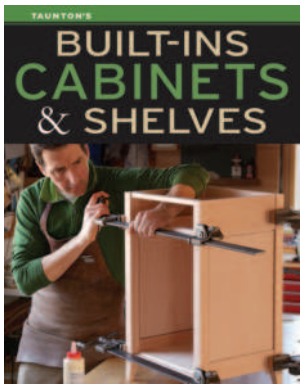

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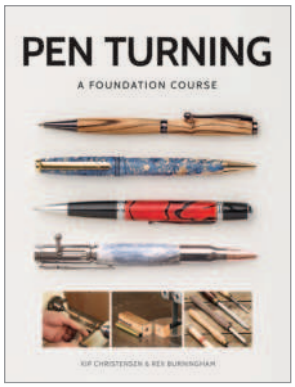

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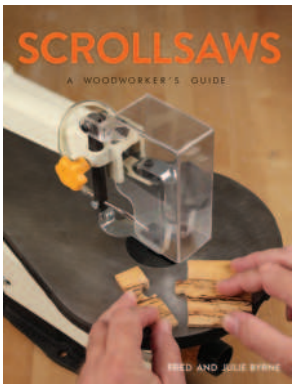

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Sharing Expertise

Out of the ordinary

Guilio Marcolongo shows Emiliano Achaval how to create his signature box with off-centre turned lid

Woodturning is a never-ending journey of learning and discovery. It is one of the things that attracted me to the lathe – the possibilities are endless. I have found my niche, and I tremendously enjoy being a bowl maker. At the same time, I look forward to the visiting travelling professional woodturners who come to the Hawaiian Islands to teach and demonstrate new and different techniques.

As president of the Maui chapter club, I have hosted some of the world's most talented and famous lathe artists and the latest one who I have the privilege to call my friend is Guilio Marcolongo.

Consulting with our Editor, Mark Baker, we agreed that, with Guilio's consent, I should write an article about him making one of his signature pieces of work: his box with an off-centre lid. To enable this, I would be watching and photographing all of the key stages while Guilio turned his box.

We could then sit down and write up the process of making it.

To create the offset turned lid of the box, Guilio uses a commercially available eccentric chuck made by Vermec, but other makes are available. For those who do not have one, at the end of the article there is a section on how to make a homemade eccentric chuck that works well. I hope you enjoy making his signature box as much as I did writing about it.

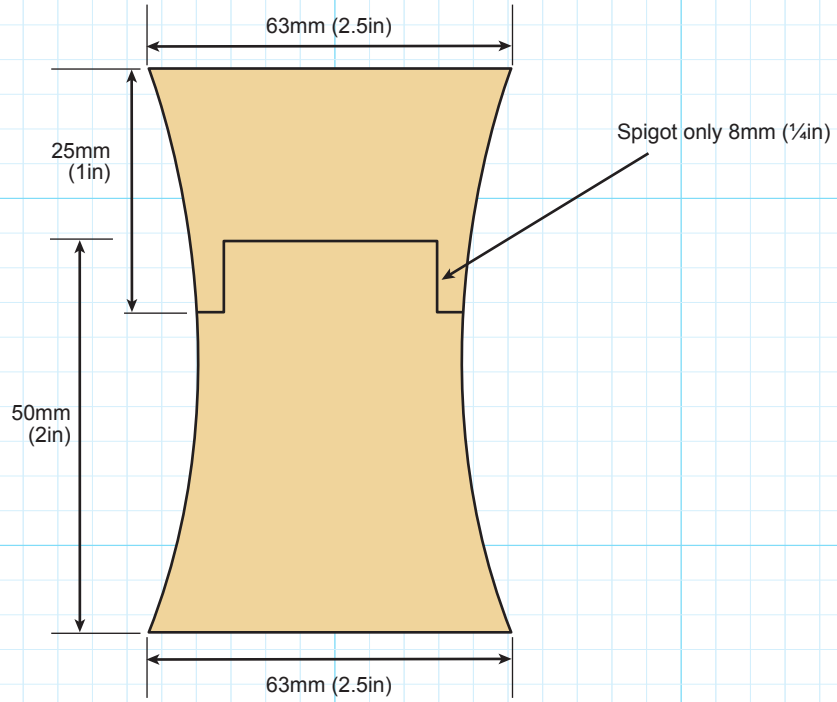
PHOTOGRAPHS BY EMILIANO ACHAVAL

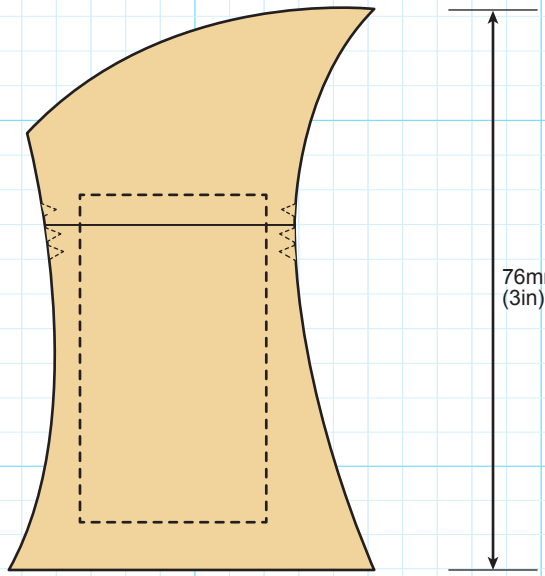
TOOLS AND MATERIALS

- Personal and respiratory protective equipment (PPE & RPE)
- Bowl gouge
- Spindle gouge
- Thin parting tool
- Skew chisel
- Point tool
- Round-nose or square-end side-cut scraper
- Knurling tool
- Chuck
- Eccentric chuck
- Drive spur
- Revolving tailstock centre
- Callipers
- Pillar drill
- Drill bits
- Screw chuck

MATERIALS

- Timber for the box
- Cabochon or decorative infill button
- CA Adhesive
- Abrasives
- Finishing wax



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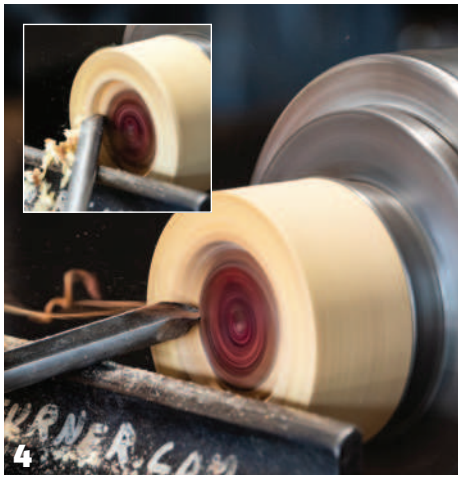
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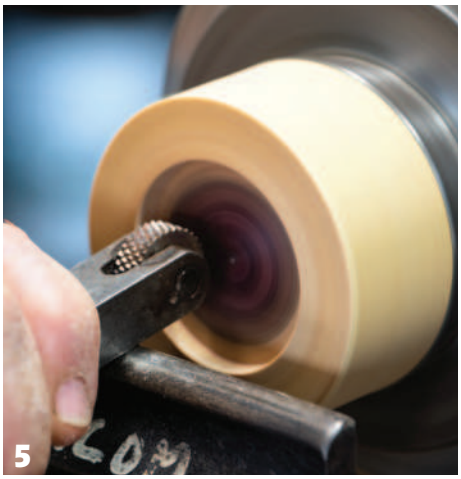
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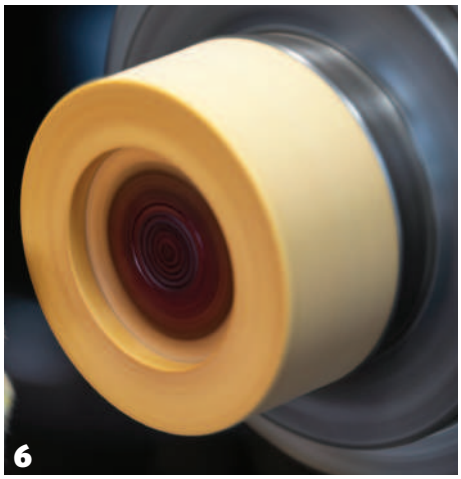
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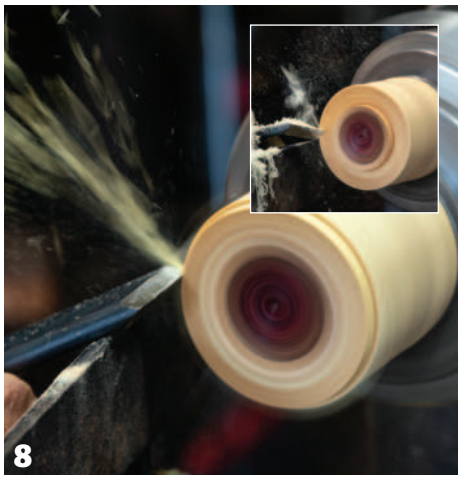
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Initial box form

1 For his signature box, Guilio likes to use a native Australian wood, in this case dead finish (*Acacia tetragonophylla*). That being said, any close-grained, dense hardwood that you have available would suffice. Since Guilio brought it with him, it was already turned into a box blank. To catch up with him you need a piece of wood about 100mm long by 75mm wide. Mount it between centres and cut a suitably sized tenon on each end of the blank to suit your chuck jaws.

2 Now, using a thin parting tool, separate the lid, which is at the chuck end, from the main body section. You can part all the way through and catch the body being parted off, or cut almost all the way through then stop the lathe and saw through the stub of wood to separate off the body section.

3 Leave the lid on the chuck. Guilio is a big fan of negative rake scrapers (NRS). If you tell him you don't have one, he will ask you to bring him your skew. Whether you use it or not, we all have a skew in the shop. That's all you need – a skew laid down in scraping mode and properly sharpened becomes a NRS. Whatever you use, true up the face to remove all marks and leave a clean surface. You can slightly undercut the face if you choose, as this will make a clean join with the meeting point of the lid and the body rather than you having to worry if everything is absolutely square to each other.

4 Now you have to mark the width of the hollow on the lid. Once done, hollow the lid to the required depth and width. You can use a bowl gouge. You could also use a spindle gouge. Notice how the gouge flute is almost on its side pointing in the direction of travel. This minimises the risk of a catch. When hollowing, you could also use a suitably shaped scraper. Once you have the main shape done, refine it with a suitable scraper then sand.

5 Guilio likes to add a little surprise on the inside of the lid. Here he's using a texturing tool. If you use one, remember to add a groove with a point or thin parting tool to encase the texturing. An alternative would be to use a chattering tool – likewise, encase the work with lines. Some simple circles or beads will also work if you don't have the tools mentioned above.

6 Apply your choice of finish.

7 & 8 Mount the body back on the chuck. The box lid to body requires a very snug pressure fit lid. Using callipers, measure the opening of the lid and transfer that to the body. Now turn a spigot with a parting tool or skew for the lid. Patience pays off here. You can go from a tight fit to a non fit in a split second. Make light adjustment cuts stopping often to check for a proper snug fit. You want to hear a pop sound when you remove the lid.

9 This comment is crucial. To shape the box, you may choose to trust the snug fit of the lid while you turn it and form the body and lid shape. Guilio had a very tight-fitting lid. If you have any doubt about the hold of the lid on the body, bring the revolving tailstock body up for support until you have to remove it to finish off the lid top. When you are happy with the security of the lid/lid support, use a spindle roughing gouge, or a bowl or spindle gouge, to create the curved box profile. Then, if required, clean up any tool marks with a scraper. Guilio finished off with a negative-rake scraper as they are gentle in use and leave a superb finish on dense, close-grained woods.

10 Sand the main profile just cut. Use hand or powered techniques as you choose. Here, Guilio is using an inertia sander.

11 To disguise the joint between the body and lid, you want potential customers to have to guess where it is, add a small line/V-cut on each side of the join. A point tool or the tip of a scraper used in scraping mode works well here. Once sanded, apply your finish of choice.

12 Now you have to remove the lid and hollow the base. There are many tools and techniques to do this. Guilio chose to start with a thick skew used in scraping mode. This leaves an excellent finish going straight into end grain, finishing with a thick scraper at the bottom. The internal form at the bottom of the body can be rounded or square in form, it is your choice. Once shaped, sand and finish the inside. At this stage micro-adjust the box tenon where the lid fits so the fit is not quite very tight – a nice, gentle pull fit is ideal.

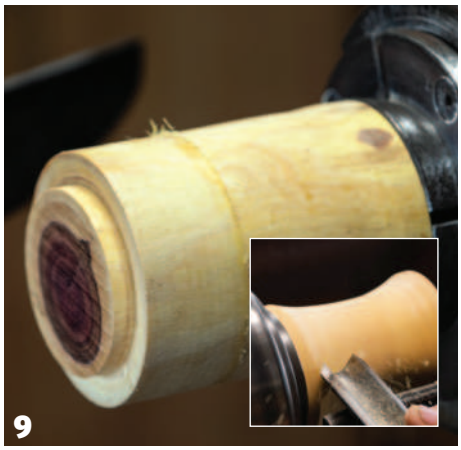
Offset turning the lid

13 To offset the lid Guilio uses the first generation of off-centre Vermec chucks. But, as mentioned, other makes are available. If you do not have an eccentric chuck, we show you later how to make a homemade off-centre chuck using a screw chuck and a plywood or timber carrier.

Start by mounting a scrap piece of wood, the jam chuck, in the central inline position on the chuck. Then turn a spigot that will be a tight fit to hold the lid. Make sure that it is a tight fit so the lid cannot come off in any way when turning the top.

Once you have the right sized tenon, fit the lid onto it. If you are in any doubt about the security of fit, use some tape on the join of the lid to the waste jam chuck or use some dabs of hot-melt adhesive across the join as a form of weld. These are easily removed later. You need a tight, secure fit.

14 The first step, once you have the piece safely on the little jam chuck, is to finish the top in the true centre position. Use a bowl or spindle gouge to do this.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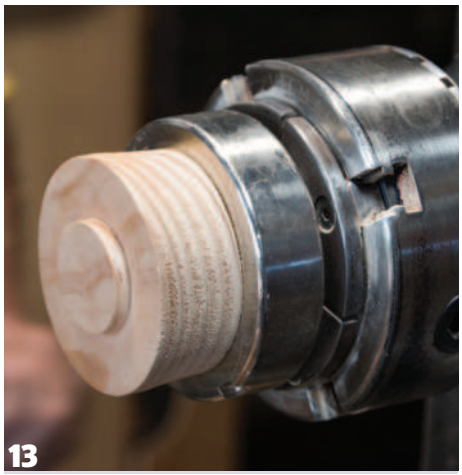
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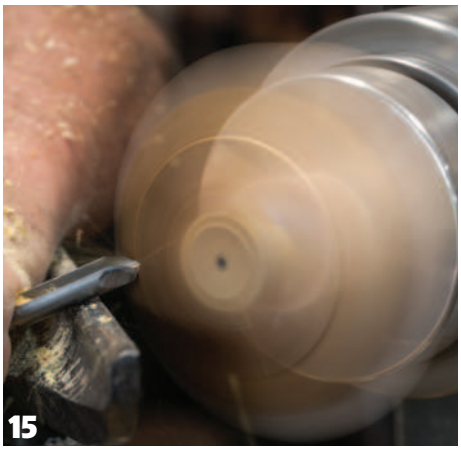
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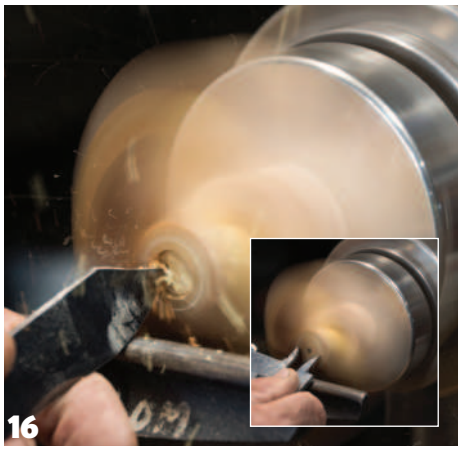
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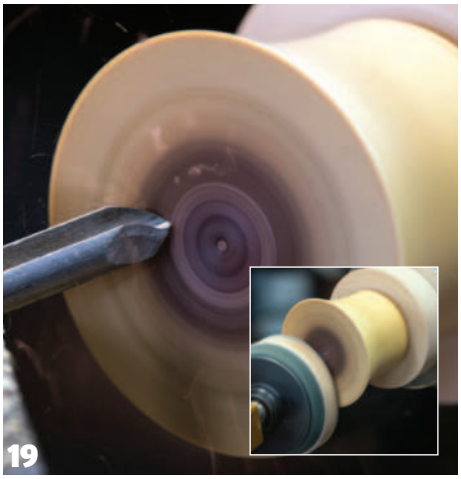
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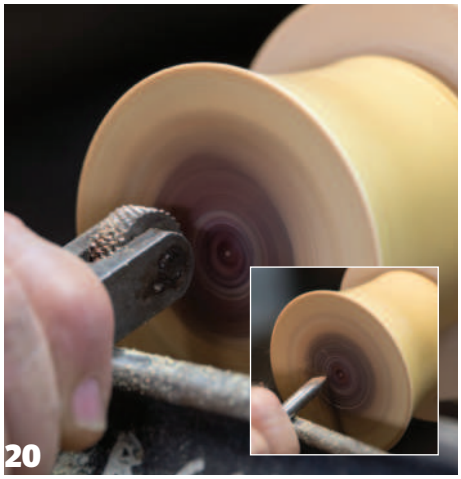
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15 The chuck features 5º offset increments, 5º, 10º, 15º, 20º. For his box, Guilio uses a 10º offset position. Remember, we show how to make an off-centre chuck set-up later if you do not have one.

When using any offset positions and before starting the lathe, check the security of the lid, then rotate the work by hand to check the box section clears the toolrest. Once you know everything is clear turn on the lathe and increase the speed slowly until you can clearly see the 'ghost' image, then stop increasing the speed. Using a gouge and maintaining pressure on the tool so it sits securely on the rest, enter into the edge of the work and, with the flute pointing in the direction of travel at about the 2.30 o'clock position, take a light cut while looking up to where the cut is going to be required in the ghost image of the work.

Make a nice, steady push cut. It should take many light passes to complete the curve on the lid. **Note the arm position.** The arm and other body parts are usually kept behind the toolrest whenever possible to minimise the risk of touching the work or being in the line of fire if something comes off. Due to the angle of the cut required to create the curved offset, the initial cuts for the lid offset curved form, you will have to cut against the grain of the wood, which is not suitable, or have to move the body around the lathe a bit. The arm you can see in this picture is actually over 300mm away from the work.

16 While the lathe is switched off, sand the lid. Guilio likes to add a small paua shell insert as decoration. You can buy paua as flakes or crushed, and add CA over it to create an insert, but you can also buy it in cabochons and glue this in place. Guilio used a cabochon. You could use other materials too. To fit the cabochon, measure it using Vernier callipers and, using only the left-hand point, transfer that measurement to the lid. Then, with a thin parting tool, cut the recess to width and depth where the shell is going to be inset.

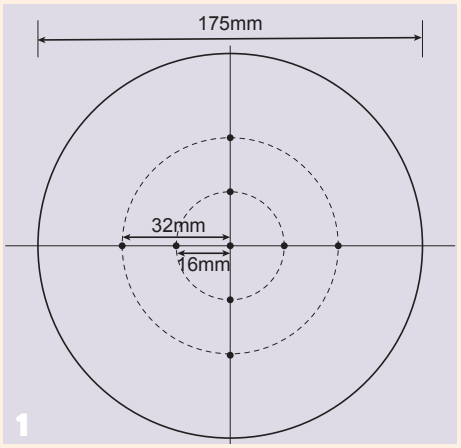
17 With the hole cut and the lathe stopped, check the fit of the insert. Once happy apply a small amount of CA glue, insert cabochon and let it dry. Now, remount the chuck on the lathe and turn two small grooves/lines to act as a frame. With the lathe switched off, sand it and apply a finish then remove it from the chuck.

Finishing the bottom of the box

18 To finish the bottom on the box, cut a new tenon on the waste wood on the jam chuck of a size to create a secure fit to hold the inside of the box body. Once done secure the main body on it.

19 & 20 Remove the tenon on the bottom with a bowl gouge, creating a very slight curve on the base. Once done, sand the bottom. If you want to texture to match the inside of the lid, do so now. Guilio did, then framed the decoration with two V-lines added with the point tool.

21 Congratulations – you almost are done. Sand the bottom and apply a finish of your choice. Now remove it from the lathe and admire.



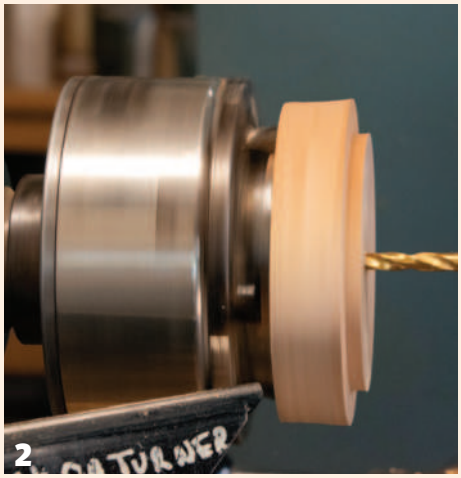
Making your own offset chuck

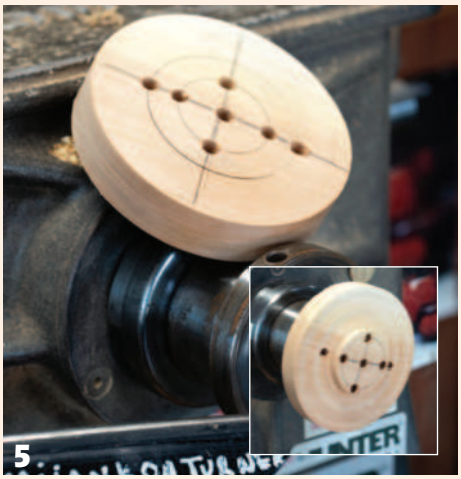
1 & 2 Guilio's sketch for a simple wooden offset chuck carrier to fit on a screw chuck. Select a piece of wood for a disc about 175mm diameter. If you do not have a piece like we had, hold a piece between the chuck jaws and the revolving tailstock centre, turn it to a true circle and cut a small tenon on the tailstock end. Remove the piece off the lathe and hold the tenon in the chuck. Now, partially start to clean up what will be the meeting face to seat against the screw chuck, We cut this to the correct width, creating a small tenon, and slightly undercut this face so it seats properly. We had a separate screw chuck rather than a screw that fits in a chuck to make a screw chuck. Now use a tailstock drill chuck, fitted with a bit to suit your screw chuck thread, to drill a perfectly centred hole all the way through.

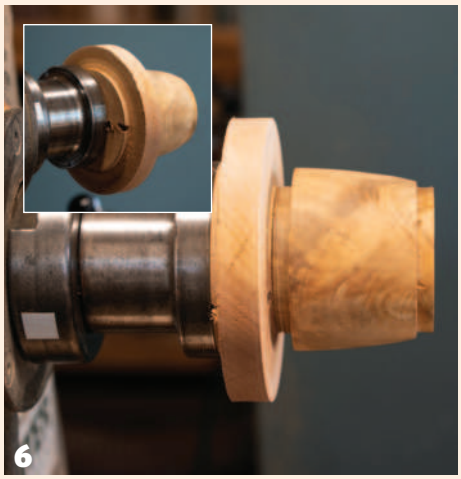
3 & 4 Now, fit your chuck in your screw chuck and clean off the tenon. Trim the total width of the disc to 125mm. Create four quarters on the disc. Now mark the following settings on the first circle, which is 16mm from the centre, then mark another 32mm from the centre. In truth, you can set the offset holes where you like. You can mark these measurements and drill a screw chuck hole on each line on the marked points, or you can mark different offset positions on each line. Just remember to mark the measurements on them if you use different hole positions on each line. Now, using a pillar drill and appropriate holding support for the disc, drill holes of the correct size needed for your screwchuck where the circles meet the straight lines.

5 & 6 Put the disc in your screw chuck through the centre hole. Measure the size of the box lid and transfer that to the disc. Turn a small tenon to create a tight fit. Put the lid in the tenon. For safety, if your fit is a not tight, use tape or hot-melt glue welds to secure it. Remove the disc from the centre hole and screw it back in on the closest hole to the centre, shown in the inset picture.

7 Turn the speed slowly up until you see a well defined 'ghost image'. Now, using a bowl gouge, go in at the entry angle that you need, making small cuts to create the shape required. ●







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Since retiring from the pharmaceutical industry Ian has enjoyed concentrating on his love of woodturning. As well as belonging to two Hampshire clubs he has written articles for both *Woodturning* and an American magazine.

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Mark believes turners are the most thoughtful and sharing people he has ever met. Over his 15 years of turning, teaching and writing he has found many friends and acquaintances on his journey with the lathe.
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Mark pursued woodturning full time in 2004, making one-off sculptural pieces that include colour and texture as well as pure woodturned forms. He demonstrates and teaches in the UK and abroad.
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Turning better plates

Mark Palma shares tips on improving plates

Families and friends of turners should enjoy food on hand turned plates. The warmth of wooden treen just makes food taste better. But not all plates are as easy to use in daily life. So let's explore what makes a better wooden plates.

1 Timber matters

Choose a slightly softer, knot-free hardwood with tight grain (to avoid trapping food particles). If the timber also has interlocking grain, so much the better. Timbers can be kiln dried or air dried. Since small lengths are all that is required 'shorts', cut offs, and lower grade boards (if you are willing to cut out knots and bad areas) of better timber types can yield fantastic stock for turning plates. Try for timber at least 22mm thick, although 25mm is better. Plates get dropped, banged around cabinets and tables, and must survive interaction with utensils and, well, life.

2 Avoid fussy details

Embellishment has its place, however daily wear treen may be an area in which to exercise restraint. Grooves, pyrography, beads, coves and other decorative elements can be fun, but they may collect food and be hard to clean properly. Remember, treen needs gentle washing after use, so avoid areas where either food or water can collect. Use timber, rim width, and design elements in lieu of small, hard to clean details.

3 Design for daily use

Plates should be shaped, well, like plates. Potters and china manufactures are well ahead of turners on designing a plate for use, so look at plates that have design cues to assist you in developing daily use plates. Pretend you are shopping for a gift and go touch a few dozen plates in some china shop if you want to find a few ideas.

4 Intended use

Plates should make sense for the intended use, and the storage space available in the cupboard. Here are some generally accepted size ranges for plates of different uses:

Dinner plate	250-275mm
Lunch plate	230-240mm
Salad plate	180-190mm
Dessert	180-215mm

Plates generally have a base of 40-50% of the overall diameter. Smaller bases are 'tippy' and bigger bases make the plate harder to pick up and seem to make a plate look heavy.

A durable, rounded rim helps with the natural knocks that plates receive. The overall thickness should feel like, well, a plate. Have some lift at the edges so that your fingers can slide underneath and allow the user to pick up, handle and set down the plate with one hand.

5 Test your design

Theory is great, but for daily life the design must actually work for the intended user, in their home and with the types of food they eat. Turn a plate in what you think your final design will be in your chosen timber. Now drop the plate from waist height onto the floor. If it doesn't survive that test, revise the design. Will a stack of some logical number of plates fit in the cabinet or cupboard? If it passes those tests, then go put food on it and eat (don't worry about finish yet, eating off bare wood will not harm you). Is it tippy, can you lift and carry a full plate comfortably with one hand? If it passes these tests make a few, put a finish on them and repeat the test, being more critical of small changes that you can make to the rim, foot, flat area and curves to enhance the design – you don't want your sandwich to tip over.

6 Choose a renewable food-safe finish

A better plate deserves a finish befitting its function. We have three basic alternatives in finishing a plate – leave it unfinished, use a food-grade surface finish, or a food-grade oil finish. Do not discount leaving a plate unfinished. Most of the treen used on the globe isn't finished and it works fine. Yes, the plate will discolour from use, but with patina currently in vogue but that is fine.

7 Surface finishes

Surface finishes may hold initial appeal as they act as a physical barrier between the food and the wood. However, if water finds a path below a surface finish it will be trapped there, causing the wood to deteriorate and the finish to possibly flake off. Surface finishes are also subject to scratching from contact with utensils. Ironically the initial appeal to these finishes rarely makes a great daily use finish.

8 Oil finishes

Oil finishes offer less physical protection to the plate, and do not prevent staining from certain foods. However, oil finishes are easily renewable and repairable. In my life oiled plates survive multiple washings and hold up well in daily use. Whether you're using the plates and dishes for personal use or you are selling your work, make sure the oil you choose is certified food safe and is labelled accordingly. ●

When making plates try to make them as similar as possible

A plate ready for completion

PHOTOGRAPHS BY MARK PALMA

A recently finished platter

Make sure you use a certified food-safe finish on work designed for use with food

Woodturning

Issue **345** on sale **11 June**

Andrew Potocnik shows how to create a tall vessel with carved base from she oak

PHOTOGRAPH BY ANDREW POTOCNIK

Richard Findley's Editor's challenge is to turn a chess set

Colwin Way starts a two-part series on using resin in turned work

Emiliano Achaval on creating feet in turned items

Mark Sanger looks at bowl design, focusing on rims, internal forms and simple turned texture

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Community letters

Here are some letters the Editor has received from readers

Too many tools

Mark,
I know you have commented on people collecting more tools than they use, but I wonder if there is a real medical condition connected with having to buy a new tool or something new whenever I, and many others, go to an event connected with their chosen hobby? I know I get a sense of pleasure when I do so and am sure others do. When I see the stands at a show I just have to look at all the bits and pieces on display and always find a need and justification for another new tool and I never seem to be able to leave with only one thing either.

I only have a small workshop and trying to re-jig everything to find space for the new things is getting silly. What is sillier is that, realistically, I only have a big bout of turning when making soon-to-be Christmas presents. The rest of the year I do different types of woodworking and other hobbies.

I will be intrigued as to others' thoughts on this often talked about matter.

Jim

An all too unfortunate event

Hi Mark,
A friend of mine recently passed away and the family, after sorting out what they wanted to keep, asked me to sort out the rest and try to find a home for my friend's workshop items. As with many workshops it contained many things and it was a hard task poring over everything my friend had and working out what might be done with it.

Having eventually sorted though everything and placed things in boxes etc., I was able, with the family's permission, to sort out a full turning set-up for someone who wished to start turning. The family did not want any money for it as long as it went to a good home. I have heard of other organisations/clubs doing this and lending out a set-up and think it is a great idea to help others start off their venture into turning.

The remaining items were sold off to fellow turners at reasonable prices, rather than the all-too-often seen very low prices, and the money raised went to charity.

It was a fitting tribute to a friend and a great way to help others.

Allan Jones

From the forum

Here is this month's selection of postings and work from the Woodworkers Institute: **www.woodworkersinstitute.com**

TULIP POPLAR FLOWERS

https://bit.ly/3cA2nE2

Pete in Welland posted: Tulip poplar is quite a common tree around my neighbourhood so it seemed appropriate to do some flowers with some branch logs I picked up after a storm last summer. They are around 11in (28cm) high, still pretty wet and just sanded. Bark is starting to come off in several places but I will wait and if I have to I'll replace the bark with some burned edges instead. Turned between centres with a roughing gouge. Then on to a chuck and tailstock live centre and some intense work with a detail spindle gouge. The one with the black stem has the bulb hollowed as well. The black is a natural feature in tulip poplar and is thought to be caused by minerals in the soil. Inspired by a YouTuber but his are just wee little things.

Dalboy responded: I like them, Pete. For me, the two with the bulb type base are the ones I prefer and especially the one where the stem has deformed, it just adds to the piece as it has that natural look to it.

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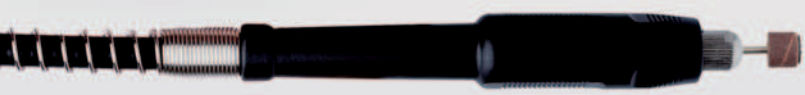

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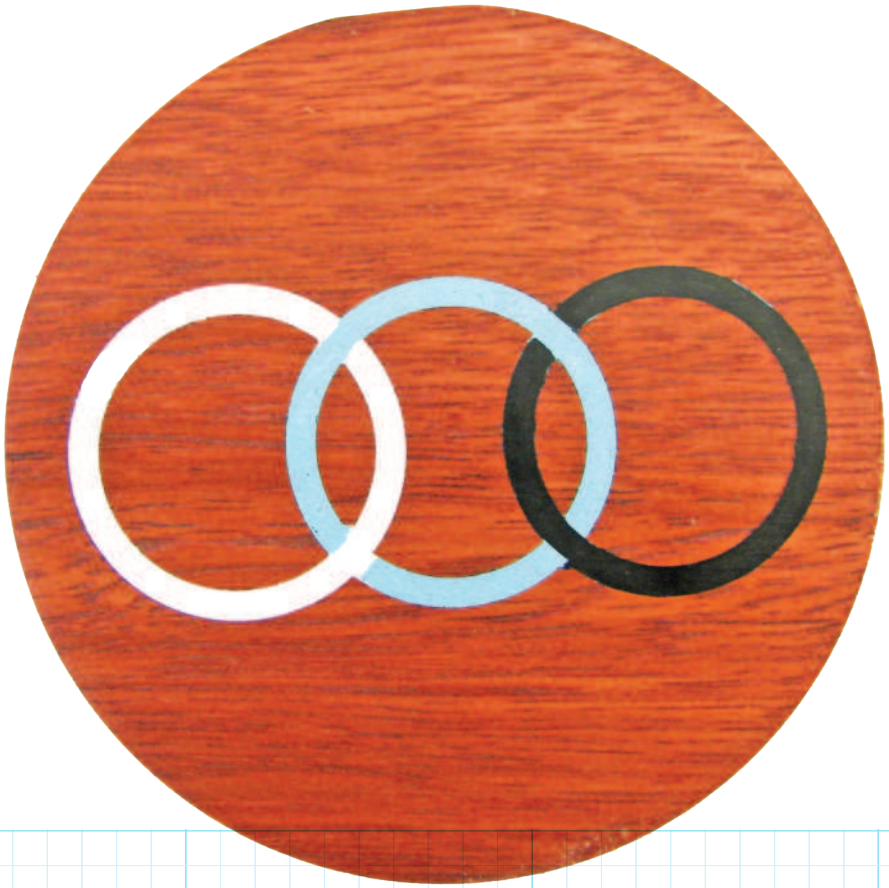
Chain link inlay design

Chris West explores a challenging and interesting decorative technique

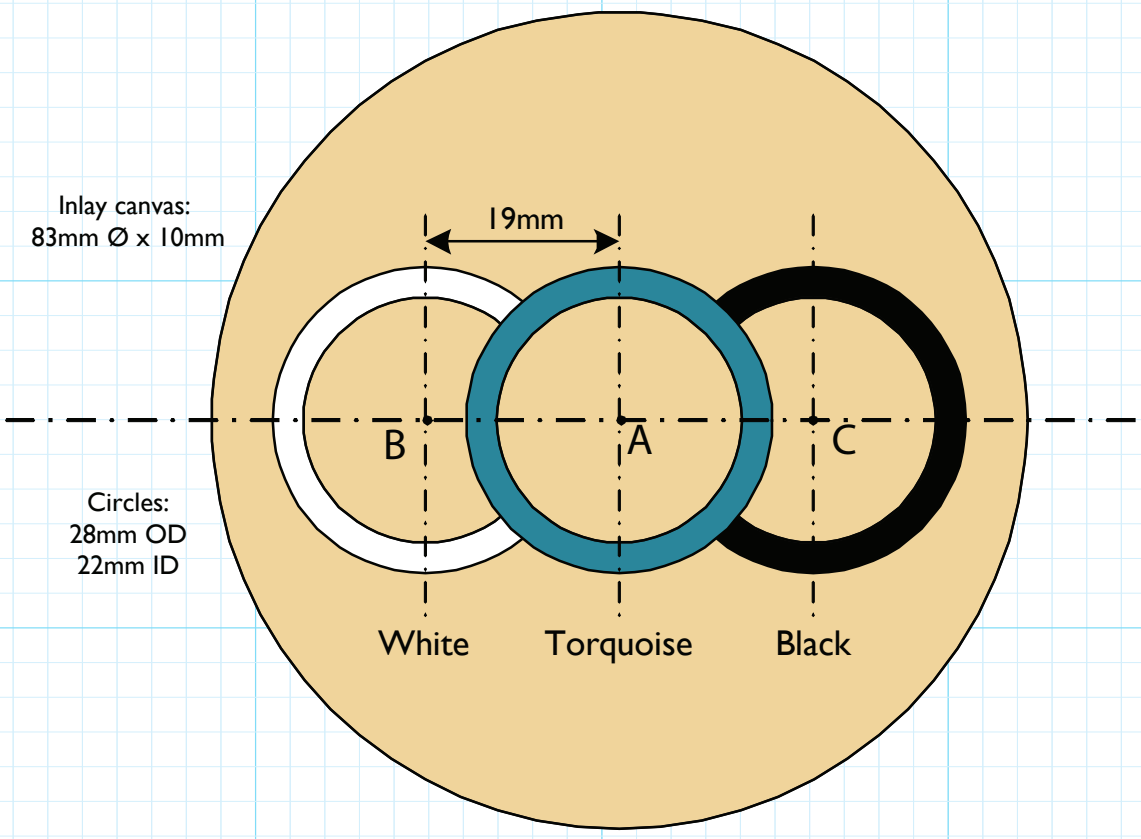
Being a woodturner who likes a challenge, I wanted to turn a chain of circles from wood. I know that the conventional ways of turning will not allow this. To achieve this I have used Milliput, a two-part epoxy putty. However, there are limitations on the colours available.

Milliput has been in use for a number of years for a wide variety of crafts. Woodturning has arrived at the party late, hence the restrictions on colour.

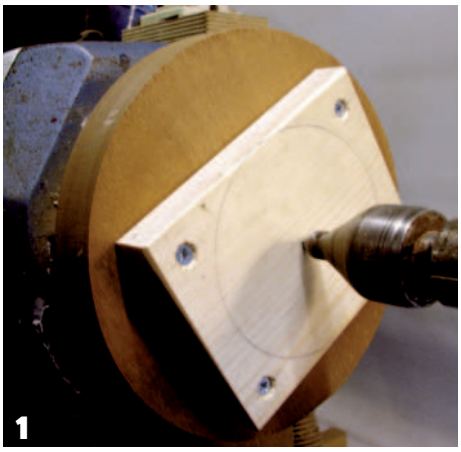
First, the three inlayed circles are turned and to achieve the chain link effect the Milliput is placed in one circle at a time with a gap where the link will appear to be behind the next link. Filling the next circle will include filling the previously left gap. It will become clearer very soon.

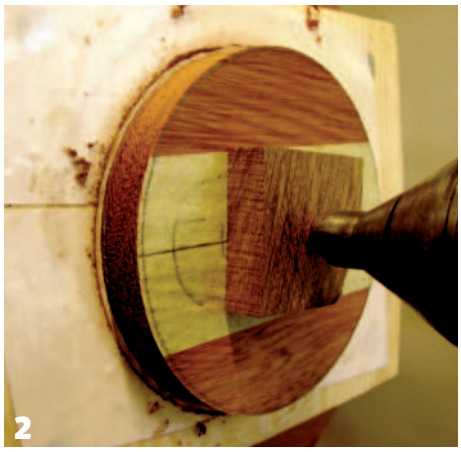


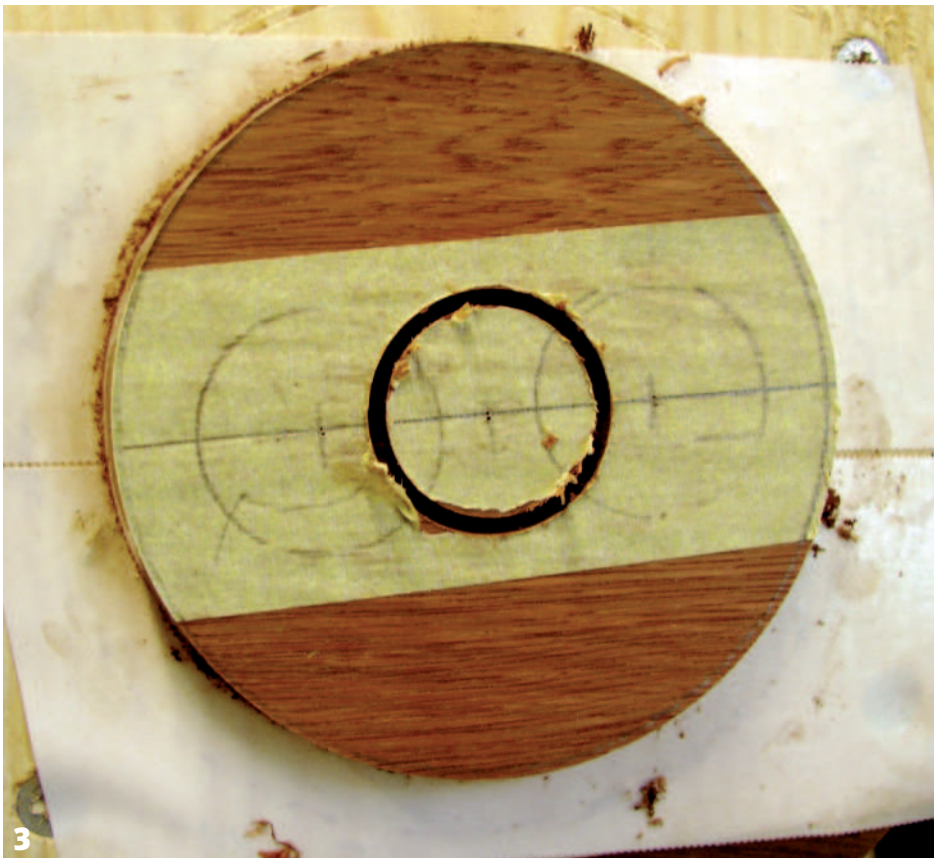
PHOTOGRAPHS BY CHRIS WEST

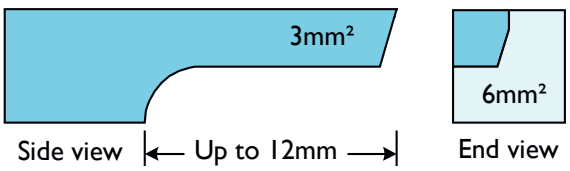


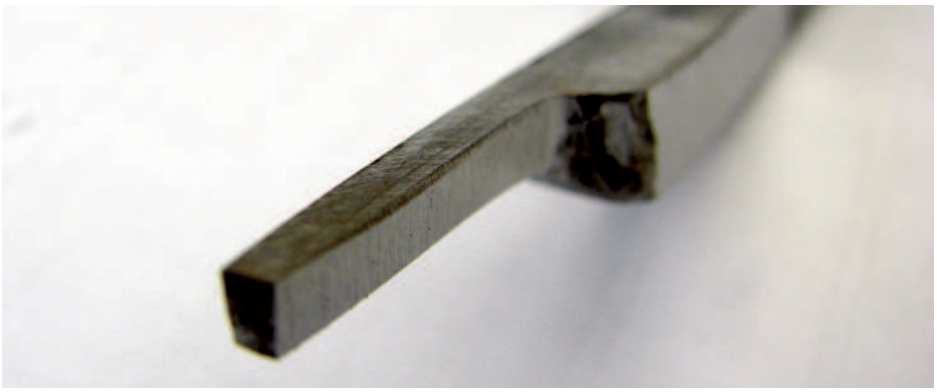
The offset-turned chain link circle design











1 A piece of 175 Ø x 25mm hardwood was screwed to a 150mm diameter faceplate. A scrap block 130 x 110 x 20+mm was cut out, its centre punched and four screw holes drilled. Both sides of the scrap block should be flat and parallel. The centre was lined up using a live centre and screwed to the faceplate wood. Doubled-sided tape was applied to the scrap block to cover the area where the 80mm Ø inlay blank will be fitted.

Cut a square inlay canvas 87 x 87 x 10mm in a wood of your choice – mine was a piece of jarrah (*Eucalyptus marginata*). The wood should be tight grained and sawn to show the side grain. Ensure that one side is flat all over. This is the side that will be on the double-sided tape. Lay a piece of masking tape along the centreline of the blank. Locate the centre and, using a compass and pencil, draw an 87mm Ø circle. Measure and mark the three circles as shown in the drawing. Bandsaw the corners off the blank.

2 Place the inlay on to the scrap block. A revolving live centre is placed into the tailstock quill. Line up Point A with the live centre and slowly wind in the tailstock. Note: the live centre should NOT touch the inlay. As they come together and are lined up, the inlay is pressed with your fingers against the double sided tape. Turn the blank to 83mm Ø. As can be seen a piece of flat scrap wood was placed between the live centre and the blank for extra support.

HINT

Remove the live centre from the tailstock before beginning to form the circle recesses. Leaving it on offers the opportunity for you to stab your arm in it when leaning over the bed to cut the circles.

3 Circle A is in place to have a 3mm wide groove put in it. The tool used is a homemade 3mm bedan-end scraper. The scraper is lined up on the inside of the drawn circle and pushed into a depth of 5mm. The blank is removed. Replace the double-sided tape. When you turned the outside of the inlay blank down to 83mm Ø you may well have damaged the tape. The 3mm bedan tool is formed from 6mm square x 300mm tool steel (HSS). I don't have the machine shop equipment to grind away the steel not required. A fixed grinder and a rotary carving tool with a small grinding bit were used. A 1mm flat surface can be seen in the diagram. This is to avoid any side cutting of the circle or arc's recess.

4 Line up circle C as in Step 2 and form the circle's recess.

5 The inlay is again removed from the scrap block and lined up with B this time, using the live centre. Circle B is cut 5mm deep. If the three circles do not have clean edges where they cross, reject the inlay and start again. If there is a nick that can be cut away or be sanded out after filling, go with it. Large chips are a no no.

6 Cut two 10 x 40mm strips from the tub of your favourite low-fat spreadable butter. Given the thickness of the material of the tub I used, folding two pieces filled the 3mm gap I had created. Place the shiny inside of the tub strip against the putty. The putty adheres to paper. For the rest of the article this will be known as the 'tub strip'. If the faceplate and the inlay are off the lathe, replace them. Start with circle B. Decide which of the crossing circle points will have the gap left putty free.

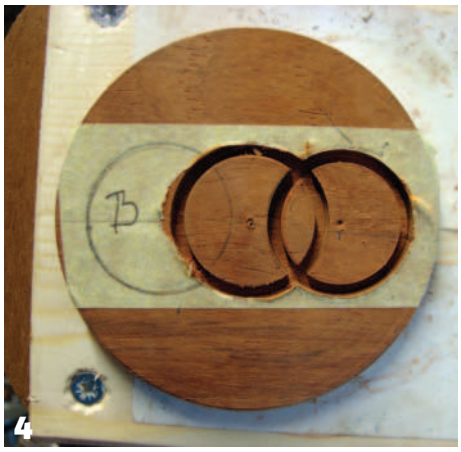
7 Place the tub strip in the appropriate places. Fill in circle B with white putty, less the gap. Remove the faceplate from the lathe. Leave to harden, ideally overnight.

8 Replace the faceplate on the lathe and move the inlay such that circle B is back in line with its centre. If necessary change the tape. The excess white putty is removed using a skew on its side and sandpaper, taking as little of the wood away as possible. The white putty seen in recess A is at the bottom of the groove and will be covered with the turquoise putty.

9 Repeat Step 7, placing the tub strip as required and filling circle A with turquoise putty. Remove the faceplate from the lathe. Leave to harden ideally overnight

10 Replace the faceplate on the lathe and move the inlay such that circle A is back in line with its centre. If necessary change the tape. The excess turquoise putty is removed using a skew on its side and sand paper, taking as little of the wood away as possible. Repeat step 7, placing the tub strip as required and filling circle C with black putty. Remove the faceplate from the lathe. Leave to harden, ideally overnight.

11 Replace the faceplate on the lathe and move the inlay such that circle C is back in line with its centre. If necessary change the tape. The excess black putty is removed using a skew on its side and sandpaper, before being waxed. It can now be fitted into whatever project you wish. The proportions can be adjusted to suit your project. ●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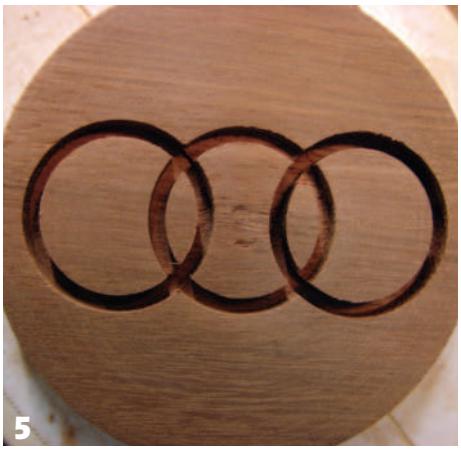
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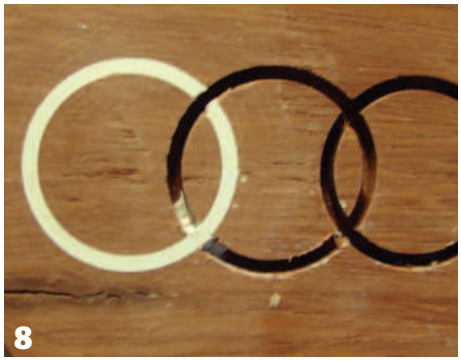
HINT

To clean up the gap between the fills of, say, the white putty and the edges of the white putty where the turquoise will butt up to, it use a sharp craft knife.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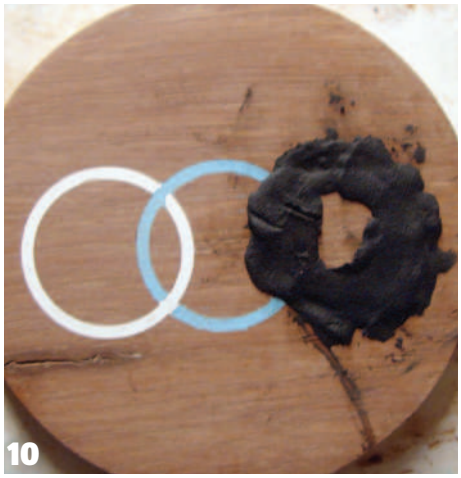
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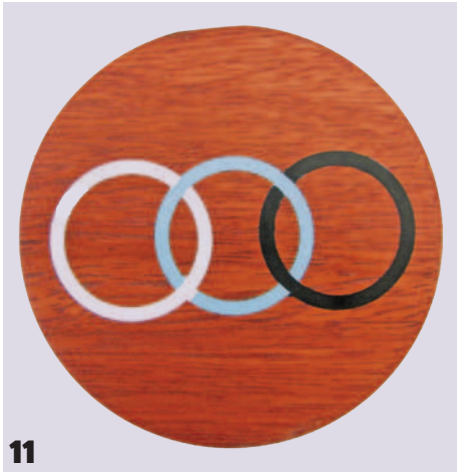
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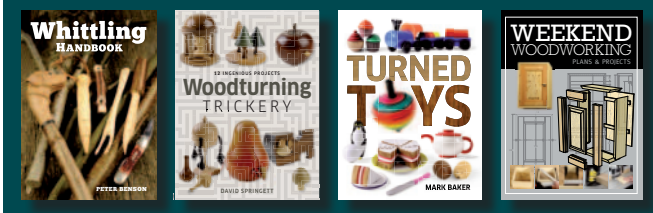

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To criticise or not to criticise?

Pete Moncrieff-Jury explores the subject of commenting on other people's work

How often, I wonder, are you shown a piece of work on social media, in the club etc. and asked your opinion. It is terrible – sanding and tool marks, bad finish, terrible design. What do you do? To make matters worse the person is a new turner who is pleased as punch with their work. You often see this, especially on social media, and there will be a list of people proclaiming the amazing quality of the work and one or two who try to point out the faults only to be shouted down or criticised for being picky. What should you do? What is the best way to offer critique? It's a difficult one to answer isn't it?

Does it actually help the person to praise the work, proclaiming it to be the best thing you have seen for ages? Agree with me or not, I don't believe it does, but then nor do I personally think it helps to just rip it apart with a lot of negative comments. There is a much better way in my opinion.

First, unless the person actually asks for a critique, stay quiet. If you feel impelled to say something negative at least do it privately, not publicly. Ripping someone's work apart in public is not clever and just makes the person feel bad. Critique should be offered with the sole intention of helping someone improve. The same applies to raving on about how wonderful something is. It doesn't help much. In fact, it can have the adverse effect of making the person assume that poor quality work is fine. I am sure we have all seen the piece that is badly made and badly finished that people have showered with comments such as 'oh how wonderful', while you sit there thinking 'actually it is terrible'.

So, what should we do? How should we approach critiquing a work? First, look for the good things in it and focus on them. Think of how long the person has been turning and if you don't know, ask. If you want to point out faults do so by explaining what is wrong and how to improve, don't just tell them how bad it is. Experience has taught me that a lot of people simply look for fault. I see it at shows, clubs and on social media. I often say that if you ask 10 turners a question you will get 12 different answers and they could all be right. In other words, don't assume that you are right and someone else is wrong. Many years ago I did a lot of turning using really bad wood, full of splits and cracks, and I was often told it was a waste of time and effort – yet now I see a lot of similar work around.

Remember that design and form are, to some extent, very much a personal thing and one man's art form is another's rubbish. By all means share your personal preference but make it clear that is what it is.

So, you are asked your opinion on a piece of work that is, shall we say, less than perfect. Praise where praise is due – look for something to compliment the maker about. If you point out faults do it by explaining how to do better, not with a blunt 'that's bad'. Your aim should be to make the person feel good about what they have made, but at the same time look forward to improving. A blithe 'oh that is wonderful' isn't going to help them improve any more than pure negativity. Always remember that, whatever you may think, you aren't perfect and don't get things right all the time either.

All this is especially true on the main source of critique, social media, where tone of voice, expression and body language are all hidden and all the maker can see is the words. To summarise, think before you speak – or type.

PHOTOGRAPHS BY PETE MONCRIEFF-JURY

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